PORT of SAN DIEGO
Waterfront of Opportunity

March 29, 2022

California Regional Water Quality Control Board San Diego Region
2375 Northside Drive, Suite 100 San Diego, CA 92108-2700
Attn: Mr. Wayne Chiu

Subject: Submittal of the 2021 Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load Monitoring and Progress Report

Dear Mr. Chiu,

Please find enclosed a digital copy of the 2021 Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load Monitoring and Progress Report. This report satisfies the Port of San Diego's reporting obligations as set forth in Investigative Order R9-2011-0036. Per Regional Board correspondence on March 22, 2022, it was indicated digital submittal is preferred. If you would like a hard copy, please do not hesitate to request one.

The Port and the Shelter Island Yacht Basin stakeholders look forward to continued discussions about the final compliance expectations for the TMDL.

If you have any questions on the information provided above, please feel free to contact Kelly Tait at (619) 686-6372 or via email at ktait@portofsandiego.org, or Karen Holman at (619) 725-6073 or via email at kholman@portofsandiego.org.

Respectfully,

Karen Holman
Director, Environmental Protection
San Diego Unified Port District

Attachments: 2021 Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load Monitoring and Progress Report

CC: Jason H. Giffen
John Carter

KH;KT/aa

March 2022

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Karen Holman
Director
Environmental Protection
San Diego Unified Port District

FINAL
2021 SHELTER ISLAND YACHT BASIN DISSOLVED COPPER TOTAL MAXIMUM DAILY LOAD MONITORING AND PROGRESS REPORT

Submitted to:
California Regional Water Quality Control Board
San Diego Region

Prepared by:

wood.

Wood Environment & Infrastructure Solutions, Inc.
9177 Sky Park Court
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Prepared for:

PORT of SAN DIEGO

Port of San Diego

March 2022

Wood Project No. 2015100111

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ACRONYMS AND ABBREVIATIONS

303(d) list	Clean Water Act Section 303(d) list of water quality impaired segments
AB	Assembly Bill
AFP	antifoulant paint
ASTM	ASTM International
Basin Plan	Water Quality Control Plan for the San Diego Basin – Region 9
BMP	best management practice
CCC	criterion continuous concentration
CCR	California Code of Regulations
CMC	criterion maximum concentration
COC	chain of custody
COVID-19	Coronavirus Disease 2019
CTD	conductivity, temperature, and depth
CTR	California Toxics Rule
CWA	Clean Water Act
DO	dissolved oxygen
DOC	dissolved organic carbon
DPR	California Department of Pesticide Regulation
DPR Rule	Section 6190 of Title 3, California Code of Regulations
EC_{50}	median effective concentration
ELAP	California Environmental Laboratory Accreditation Program
ER	equipment rinsate
FAQ	frequently asked question
FB	field blank
HCl	hydrochloric acid
HPD	Harbor Police dock
Hull Cleaning Pause	eight-week pause in in-water hull cleaning of copper-based AFPs in SIYB
Investigative Order	Investigative Order No. R9-2011-0036
IWHC	in-water hull cleaning
J-flag	estimated value
JRMP	Jurisdictional Runoff Management Plan
LC_{50}	median lethal concentration
LCS	laboratory control sample
LID	low-impact development
LIMS	Laboratory Information Management System
MAR	marine habitat beneficial use
MIACC	Marina Inter-Agency Coordinating Committee
Monitoring Plan	SIYB Dissolved Copper TMDL Monitoring Plan
MS	matrix spike
MS4	Municipal Separate Storm Sewer System
MSD	matrix spike duplicate
N/A	not applicable
Named TMDL Parties	the parties named in the TMDL, namely the Port, marinas and yacht clubs, hull cleaners, boaters, and the City of San Diego
ND	non-detect
NELAP	National Environmental Accreditation Program
NOEC	no observed effect concentration
NPDES	National Pollutant Discharge Elimination System
NT	not tested
OAL	Office of Administrative Law
PDF	Portable Document Format
PMSD	percent minimum significant difference
Port	San Diego Unified Port District
QA	quality assurance

ACRONYMS AND ABBREVIATIONS (continued)

QAPP	Quality Assurance Project Plan
QC	quality control
REF	reference
Regional Board	San Diego Regional Water Quality Control Board
SB	Senate Bill
SBE	Sea-Bird Electronics
SCCWRP	Southern California Coastal Water Research Project
SD	standard deviation
SIML	Shelter Island Master Leaseholders
SIYB	Shelter Island Yacht Basin
SM	Standard Method
Socal SETAC	Southern California Society of Environmental Toxicology and Chemistry
SOP	standard operating procedure
SPAWAR	Space and Naval Warfare Systems Command
SUSMP	Standard Urban Stormwater Mitigation Plan
SWAMP	Surface Water Ambient Monitoring Program
SWQMP	Stormwater Quality Management Plan
SWRCB	State Water Resources Control Board
TAC	test acceptability criteria
TIE	toxicity identification evaluation
TMDL	Dissolved Copper Total Maximum Daily Load
TOC	total organic carbon
TSS	total suspended solids
TST	test of significant toxicity
USEPA	United States Environmental Protection Agency
Weck	Weck Laboratories, Inc.
Weston	Weston Solutions, Inc.
WILD	wildlife habitat beneficial use
Wood	Wood Environment & Infrastructure Solutions, Inc.
WQO	water quality objective
YSI	YSI Incorporated

UNITS OF MEASURE

~	approximately
%	percent
±	plus or minus
°C	degree(s) Celsius
<	less than
>	greater than
≤	less than or equal to
≥	greater than or equal to
$\mu g/cm^2/day$	microgram(s) per square centimeter per day
µg/L	microgram(s) per liter
µm	micrometer(s)
µS/cm	microSiemen(s) per centimeter
kg/yr	kilogram(s) per year
m^2	square meter(s)
mg/L	milligram(s) per liter
mL	milliliter(s)
ppt	part(s) per thousand

EXECUTIVE SUMMARY

This report is the annual Shelter Island Yacht Basin (SIYB) Dissolved Copper Total Maximum Daily Load (TMDL) Monitoring and Progress Report for 2021, which has been prepared by the San Diego Unified Port District (Port) in compliance with Investigative Order No. R9-2011-0036 (Investigative Order), issued to the Port by the San Diego Regional Water Quality Control Board (Regional Board) on March 11, 2011. The report includes information on the following:

1. Best management practice (BMP) planning and implementation conducted by the Port. The report also includes information provided by the SIYB marinas and yacht clubs related to their BMP efforts.
2. The progress on the number of vessels that have converted from using copper-based hull antifoulant paints (AFPs) to using alternative AFPs (low- and non-copper based). It should be noted that this effort relies primarily on third-party data provided by the SIYB marinas and yacht clubs from the annual vessel tracking census.
3. Water quality monitoring conducted by the Port to assess dissolved copper concentrations and toxicity in the water column.
4. An assessment of the trajectories of dissolved copper load and water quality measurements to evaluate progress toward attaining the TMDL and water quality objectives (WQOs).

The 2021 monitoring period is the fourth year in the final phase of the TMDL compliance period. Per the TMDL implementation, the continuation of a 40 percent (%) load reduction is required. Looking ahead, a 76% load reduction is required to meet TMDL compliance by the end of 2022. Per the requirements of the Investigative Order, the *SIYB Dissolved Copper TMDL Monitoring Plan* (Monitoring Plan) describes the monitoring program that is used to track the progress of implementing the SIYB Dissolved Copper TMDL and achieving the required dissolved copper load reductions.

This report is an annual requirement of the Investigative Order that was issued to the Port. The assessments of water quality, BMP implementation, and loading analysis follow the approach described in the Monitoring Plan in compliance with the Investigative Order. It should be noted that the Port works collaboratively with the marinas and yacht clubs to review the vessel hull paint data used to assess dissolved copper load reductions and evaluate progress toward attaining the final TMDL load reduction requirement. While the vessel data collection is a collaborative effort, the findings, data interpretations, and conclusions made in this report are those of the Port and are not intended to represent all TMDL parties. Other TMDL parties may identify alternative data interpretations related to data included in the report or other data that were collected separately from this Investigative Order effort. In such instances, the other TMDL Parties may choose to independently provide alternative data interpretations and conclusions to the Regional Board.

Best Management Practice Implementation

A variety of BMPs intended to reduce dissolved copper loading and improve water quality have been implemented in SIYB and throughout San Diego Bay. Highlights of the Port's copper reduction efforts in 2021 included the following:

- Continuing to keep all Port vessels copper-free by painting with non-copper hull paints, which contribute no load to SIYB;
- Addressing data gaps related to effects of in-water hull cleaning on water quality through implementation of an eight-week Hull Cleaning Pause of copper-based AFPs in SIYB and concurrent water quality monitoring;
- Coordinating with the Regional Board and Port Marina Working Group on development of the Hull Cleaning Pause, discussion of TMDL strategies, and other copper-related items;
- Providing ongoing education and outreach, such as regular meetings with stakeholders and up-to-date web content, surveys of the boating community, and newspaper articles;
- Pursuing alternative methods for copper reduction and removal in marine waters through the Port's Blue Economy Incubator, which supports research and development of pilot projects aimed at solving environmental issues; and
- Collaborating with the California Department of Pesticide Regulation (DPR) and Los Angeles County Department of Beaches and Harbors to stay engaged on state and regional copper-related initiatives, TMDL issues, and progress.

Vessel Conversions and Reduction of Dissolved Copper

Based on the vessel tracking assumptions discussed in Section 2.2.3 of this report, the transition of a vessel from a high-copper to non-copper hull paint was assumed to reduce annual loading by 0.9 kilogram per year (kg/yr), and the transition to DPR Category I or low-copper hull paints was assumed to reduce loading by 50% (i.e., 0.45 kg/yr). Vessel tracking indicates that, in 2021, there has been a reduction of 45.3% (approximately 952 kg/yr) in annual dissolved copper loading to SIYB from vessels when compared with the SIYB TMDL assumed baseline load of 2,100 kg/yr[1].

The 2021 load reduction of 45.3% indicates the continued achievement of the required 40% load reduction. Several notable points from the 2021 vessel tracking data are as follows:

- A 92% response rate was accomplished for the 2021 vessel tracking dataset. This response rate may be attributed to continued invested efforts by marina and yacht club representatives in vessel tracking from year to year.
- The transition to DPR Category I paints is slowing, with no increase in use of DPR Category I paints between 2020 and 2021.
- The use of confirmed high-copper paints has decreased over the past 10 years and started to level off in 2021, as high-copper paints can no longer be sold or applied to vessels in California under the DPR Rule.
- Of the remaining vessels classified with "high-copper" paints in 2021, 75% of vessel hull paint types are unknown or unconfirmed and are conservatively assumed to be copper under the original TMDL assumptions.
- The number of vessels with non-copper alternatives has remained relatively consistent since 2013.

[1] The total dissolved copper load per the SIYB TMDL equals 2,100 kilograms per year (kg/yr) from vessel paints (the total includes contributions from passive leaching and in-water hull cleaning). The estimated load contributions from background sources, urban runoff, and atmospheric deposition are not included in this total.

Water Quality Monitoring

Monitoring of water column dissolved copper and toxicity is required to track progress toward WQOs. In August 2021, water quality was sampled at six stations in SIYB and at two reference stations[2] (located adjacent to SIYB in the main San Diego Bay navigation channel) to determine dissolved copper concentrations in the basin, test for acute and chronic toxicity, and assess water quality trends.

Results from the August 2021 monitoring event showed that the basin-wide average dissolved copper level was 4.9 micrograms per liter (µg/L), which was the lowest concentration measured in SIYB since 2013. However, dissolved copper concentrations at four of the six SIYB sampling stations still exceeded both the California Toxics Rule (CTR) criterion continuous concentration (CCC) WQO of 3.1 µg/L and the CTR acute criterion maximum concentration (CMC) WQO of 4.8 µg/L, as observed in previous years.

For the first time since the TMDL monitoring program began in 2011, no chronic toxicity was observed in SIYB in 2021. Historically, a chronic toxic response was observed at Station SIYB-1 during all monitoring events from 2011–2020 and at Station SIYB-2 periodically from 2011–2017. No acute toxicity to topsmelt was observed in SIYB in 2021, which is consistent with previous monitoring events.

Continuing Actions for the Final TMDL Phase

Since the initiation of the TMDL monitoring program, multiple copper load reduction strategies have been developed and implemented. Although these strategies have resulted in copper load reductions that have met TMDL interim compliance targets, the annual load reduction has leveled off. In addition, this leveling off can be attributed to the fact that there has been no measurable increase in the use of non-copper paints. While loads have decreased since the inception of the TMDL, the relationship between dissolved copper load reduction and water quality remains unclear.

Based upon the current TMDL's loading assumptions and loading trajectory, the full transition to DPR Category I paints alone will not be enough to achieve the final target load of 567 kg/yr. Meeting the final TMDL compliance point and CTR WQOs will likely require additional direct load reductions (e.g., more conversions to non-copper alternatives) coupled with the continued load reduction associated with the full realization of the DPR Rule. Through the final year of the TMDL, the Port will work with the Regional Board to evaluate data from the Hull Cleaning Pause, using this information to guide future actions. The Port will also continue to monitor dissolved copper levels in SIYB (in both summer and winter) to evaluate whether further load reduction efforts from DPR Category I paints will change the trajectory of copper levels in the water.

The Port remains committed to working with the Regional Board, the DPR, and the other Named TMDL Parties to develop and implement strategies to improve water quality and attain beneficial uses in SIYB.

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2 To supplement the TMDL compliance monitoring, a second reference station (SIYB-REF-2) was added to the sampling locations starting in 2020 (further described in Section 2.3.1).

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1.0 INTRODUCTION

This report is the annual Shelter Island Yacht Basin (SIYB) Dissolved Copper Total Maximum Daily Load (TMDL) Monitoring and Progress Report for 2021, which has been prepared by the San Diego Unified Port District (Port) in compliance with Investigative Order No. R9-2011-0036 (Investigative Order), issued by the San Diego Regional Water Quality Control Board (Regional Board) to the Port on March 11, 2011 (Regional Board, 2011). The Investigative Order, issued under Section 13325 of the Porter-Cologne Water Quality Control Act, requires that the Port provide technical reports on the progress of implementation of the SIYB TMDL. To evaluate progress, the annual monitoring program is composed of three components: (1) best management practice (BMP) planning and implementation to reduce dissolved copper loading, (2) tracking of vessel hull paint use to assess the number of hull paint conversions from copper-based antifoulant paints (AFPs) to non-copper or low-copper alternatives, and (3) water quality monitoring to measure dissolved copper concentrations and toxicity in the water column. Data collected annually through the monitoring program are then used to assess trajectories of dissolved copper load and water quality measurements to evaluate progress toward attaining the TMDL and water quality objectives (WQOs).

The assessments of BMP implementation, loading, and water quality follow the Port's *SIYB Dissolved Copper TMDL Monitoring Plan* (Monitoring Plan) prepared in compliance with the Investigative Order. The Port works collaboratively with the marinas and yacht clubs to review the vessel hull paint data used to assess dissolved copper load reductions and evaluate progress toward attaining the final TMDL load reduction requirement. The annual vessel tracking is conducted both by the Port and the SIYB marinas and yacht clubs. However, the SIYB marinas and yacht clubs' data are collected independently from the Port and provided to the Port for review and inclusion in the annual report. Data from the SIYB marinas and yacht clubs are included, as received, in the appendices of this report. The loading analyses provided in the report incorporate these third-party vessel hull paint data with other Port datasets using the methodology identified in the Monitoring Plan.

It should be noted that this report is an annual requirement of the Investigative Order that was issued to the Port. While the vessel data collection is a collaborative effort, the findings, data interpretations, and conclusions made in this report are those of the Port and are not intended to represent all TMDL parties. Other TMDL parties may identify alternative data interpretations related to data included in the report or other data that were collected separately from this Investigative Order effort. In such instances, the other TMDL Parties may choose to independently provide alternative data interpretations and conclusions to the Regional Board.

1.1 Background

Shelter Island Yacht Basin is a recreational yacht basin near the mouth of San Diego Bay, California, and is composed of marinas and yacht clubs, an anchorage, a fuel dock, and other facilities that support recreational boating (Figure 1-1).

Copper is commonly used as a biocide in vessel AFPs because of its effectiveness in reducing fouling of vessel hulls. In California, the Department of Pesticide Regulation (DPR) regulates the use of copper in vessel paints; it is currently legal to use copper-based paints that are registered with and meet the DPR's registration requirements for pesticide usage. However, these paints leach copper into the water column. Copper is toxic not only to the targeted fouling organisms on vessel hulls, but possibly also to other non-targeted organisms that inhabit the basin.

SIYB waters contain dissolved copper concentrations that have exceeded numeric WQOs, as well as the toxicity and pesticides narrative WQOs, and may threaten and impair the wildlife habitat and marine habitat beneficial uses in the basin. Because of this exceedance, SIYB was placed on the list of impaired water bodies compiled pursuant to federal Clean Water Act (CWA) Section 303(d) (the 303(d) list). The SIYB TMDL was developed to address and resolve this impairment by requiring reductions to the loading of dissolved copper into SIYB waters.

Figure 1-1. Location of Shelter Island Yacht Basin Within San Diego Bay

1.2 SIYB TMDL Compliance Schedule

Under Resolution R9-2005-0019, the SIYB TMDL requires that the parties named in the TMDL, namely the Port, marinas and yacht clubs, hull cleaners, boaters, and the City of San Diego (Named TMDL Parties), reduce loading of dissolved copper into the water column by 76 percent (%), from 2,163 kilograms per year (kg/yr) to 567 kg/yr over a 17-year period (Regional Board, 2005). This period extends to 2022, based on the official SIYB TMDL approval date[3] of February 9, 2005. No reductions in dissolved copper loading were required during the initial two-year orientation period (2005–2007). The subsequent 15-year period requires incremental reductions of dissolved copper loading by 10% within 7 years (2012); by 40% within 12 years (2017); and by 76% within 17 years (2022) (Table 1-1).

Table 1-1.
Loading Targets for SIYB TMDL Attainment

Stage	Time Period	% Reduction from SIYB TMDL Estimated Loading	Reduction to be Attained by End of Year	Estimated Target Loading (kg/yr of Dissolved Copper)
1	2005–2007	0	N/A	N/A
2	2008–2012	10[a]	2012 (7 years)	1,900
3	2013–2017	40[b]	2017 (12 years)	1,300
4	2018–2022	76	2022 (17 years)	567

Notes:
a. Loading calculations presented in the *2012 SIYB Dissolved Copper TMDL Monitoring and Progress Report* showed that a 17% load reduction had been achieved. Compliance with the 2012 load reduction goal of 10% or greater was confirmed by the Regional Board in a letter to the Port dated July 26, 2013 (Appendix E).
b. Loading calculations presented in the *2017 SIYB Dissolved Copper TMDL Monitoring and Progress Report* showed that a 40% load reduction had been achieved. Compliance with the 2017 load reduction goal of 40% or greater was confirmed by the Regional Board October 10, 2018 Executive Officer's Report (Appendix E) as part of the monthly Regional Board meeting.
% = percent; kg/yr = kilogram(s) per year; N/A = not applicable; SIYB = Shelter Island Yacht Basin; TMDL = Total Maximum Daily Load

For the first SIYB TMDL compliance year (2012), loading calculation estimates presented in the 2012 Monitoring Report (AMEC Environment & Infrastructure, Inc., 2013) indicated a 17% reduction in dissolved copper loading to SIYB, thus exceeding the 10% requirement. In a letter to the Port dated July 26, 2013, the Regional Board stated, "*Based on the data submitted and information provided in the Report [2012 SIYB TMDL Monitoring and Progress Report], the 10 percent reduction in dissolved copper loading required to demonstrate compliance with the SIYB TMDL by the December 1, 2012 compliance date was achieved*" (Regional Board, 2013). This letter is provided in Appendix E.

Similarly, loading calculation estimates presented in the 2017 Monitoring Report (Amec Foster Wheeler Environment & Infrastructure, Inc., 2018) indicated a 45% reduction in dissolved copper loading to SIYB, exceeding the 40% compliance requirement for the third stage of the SIYB TMDL (2017). In a letter to the Port dated September 11, 2018, the Regional Board stated, *"The Port District's 2017 Report marks the end of Stage 3 of the interim loading targets, and suggests that overall the Yacht Basin is meeting the 40 percent reduction target as a result of improved use of best management practices and vessel conversions to less toxic hull coatings"* (Regional Board,

[3] For a TMDL to be incorporated into the *Water Quality Control Plan for the San Diego Basin – Region 9* (Basin Plan; Regional Board,1994), it must be approved by the Regional Board, State Water Resources Control Board, Office of Administrative Law (OAL), and United States Environmental Protection Agency (USEPA) Region 9. The official TMDL approval date is the OAL approval date.

2018). At the October 10, 2018 Regional Board Monthly Meeting, the Executive Officer's Report confirmed and memorialized that the SIYB TMDL efforts had successfully achieved the 2017 compliance requirement. The letter from the Regional Board and the October 2018 Executive Officer's Report are included in Appendix E.

The fourth and final stage of the TMDL began in 2018. The TMDL requires a 76% reduction in loading of dissolved copper into SIYB by the end of 2022.

1.3 Sources of Dissolved Copper

Based on the Regional Board's source analysis, the total mass load of dissolved copper to SIYB was estimated to be 2,163 kg/yr, of which 98% of the inputs were attributable to passive leaching of copper from copper-based hull paints on vessels and to hull cleaning activities (Table 1-2). The TMDL identifies the Port, marinas and yacht clubs, hull cleaners, and boaters as responsible for reducing loads in their respective areas, operations, and activities. The total copper load from the SIYB TMDL equals 2,100 kg/yr from vessel paints. The estimated load reduction resulting from background, urban runoff, and atmospheric deposition (which equates to approximately 63 kg/yr) is not included in this total. This report evaluates the dissolved copper loading based on the vessel-related contribution, totaling 2,100 kg/yr, originating from the Harbor Police dock, transient dock, and weekend anchorage, as well as marinas and yacht clubs, where boats reside and hull cleaning activities occur.

Table 1-2.
Sources of Dissolved Copper per the SIYB TMDL

Source	Estimated Mass Load to SIYB (kg/yr)	Contribution to SIYB (% Dissolved Copper)
Passive Leaching	2,000	93
Hull Cleaning	100	5
Urban Runoff	30	1
Background	30	1
Direct Atmospheric Deposition	3	<1
Sediment	0	0
Total	2,163	100

Notes:
< = less than; % = percent; kg/yr = kilogram(s) per year; SIYB = Shelter Island Yacht Basin; TMDL = Total Maximum Daily Load

1.4 Water Quality Objective Criteria

The WQO for dissolved copper in SIYB is equal to the National Recommended Water Quality Criteria for Aquatic Life of the United States Environmental Protection Agency (USEPA) and the California Toxics Rule (CTR) water quality criteria for dissolved copper in marine environments (USEPA, 2000). Continuous or chronic exposures may not exceed 3.1 micrograms per liter (µg/L) over a 4-day average; acute exposures may not exceed 4.8 µg/L over a 1-hour average. In addition, numeric WQOs must not be exceeded more than once every three years.

In addition to numeric WQOs, the *Water Quality Control Plan for the San Diego Basin – Region 9* (Basin Plan) established narrative WQOs for toxicity and pesticides (Regional Board, 1994) as follows:

Toxicity Objective – *All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.*

Pesticide Objective – *No individual pesticide or combination of pesticides shall be present in the water column, sediments or biota at concentration(s) that adversely affect beneficial uses. Pesticides shall not be present at levels which will bioaccumulate in aquatic organisms to levels which are harmful to human health, wildlife or aquatic organisms.*

Two beneficial uses within SIYB are threatened by elevated dissolved copper concentrations: marine habitat (MAR) and wildlife habitat (WILD). The Regional Board indicated that if numeric WQOs are met for dissolved copper, then narrative WQOs will also be considered to be met. However, because current numeric WQOs are not site-specific, direct assessments of toxicity, as well as SIYB biota, also directly indicate basin-wide attainment of beneficial uses and narrative WQOs.

1.5 Monitoring Purpose

The Investigative Order requires the Port to complete an annual evaluation, interpretation, and tabulation of vessel information, BMPs, and water quality sampling results. Because of the proportional contribution of copper loading to SIYB from copper-based hull paints, tracking of vessel conversions from copper to non-copper or lower copper hull paints is the primary method used to assess compliance with SIYB TMDL load reduction targets. Water quality monitoring is required because it assesses long-term trends in the basin and provides comparisons with the numeric and narrative WQOs, as measured by surface water dissolved copper concentrations and toxicity. Monitoring is a necessary component to evaluate whether the trajectory of water quality measurements will meet WQOs. By conducting both vessel tracking and water quality monitoring on an annual basis, the program may eventually be able to evaluate the relationship between load reductions and water quality. Additionally, this approach will provide the data needed to assess the overall effectiveness of the SIYB TMDL implementation in attaining both loading reductions and numeric WQOs to protect the basin’s MAR and WILD beneficial uses.

1.6 Revision of the Monitoring Plan

The Monitoring Plan (Revision 7) (Wood Environment & Infrastructure Solutions, Inc. [Wood], 2021b; Appendix A) was updated for the 2021 monitoring year to reflect the 2021 monitoring period dates. In addition, the following components were added to the TMDL vessel tracking and water quality monitoring program to supplement compliance monitoring, as described further in Section 2:

- Addition of a dissolved copper loading estimate scenario for unconfirmed or unknown hull paints, assuming the phase-out of Non-DPR Category I paints (Section 2.2.3)
- Addition of a Phase I toxicity identification evaluation (TIE) for surface water samples collected from Station SIYB-1 to be conducted concurrently with compliance toxicity tests (Section 2.3.7.4)

1.7 Implementation of Best Management Practices

The Port has developed a comprehensive copper reduction program and is implementing BMPs to reduce copper loads at the Harbor Police dock, transient dock, and weekend anchorage, as well as supporting the other Named TMDL Parties with their load reduction and BMP implementation efforts in SIYB and throughout San Diego Bay. The five elements of this program are as follows:

- Testing and research
- Transition to non-copper hull paints and DPR Category I paints (i.e., paints with leach rates less than or equal to (≤) 9.5 micrograms per square centimeter per day [μg/cm²/day])
- Policy development and legislation
- Education and outreach to boaters
- Monitoring and data assessment

The marinas and yacht clubs in SIYB also implement BMPs and compile vessel information from boat owners to assist in the preparation of this report.

Over the course of the SIYB TMDL program, multiple quality control measures have been integrated to build on previous knowledge and to help effectively implement the SIYB TMDL program.

Additional measures include:

- Meetings between the Port and other stakeholders in SIYB about the SIYB TMDL
- Increased scrutiny of water quality data and analytical methods
- Ongoing reassessment of field sampling techniques, including additional oversight of field procedures
- Review of methods used to track the types of hull paints used on vessels in SIYB
- Updates and improvements to modeling of copper loads, including assessments of in-water hull cleaning

These measures have been implemented to collect relevant useful data and to enhance communication among the marinas and yacht clubs and other Named TMDL Parties. The intent of this iterative and collaborative process is to provide transparency and provide a known and scientifically defensible dataset to support the SIYB TMDL compliance requirements.

1.8 New Initiatives and Adaptive Management

The following new program initiatives were implemented or planned during the 2021 monitoring year:

1. The Port conducted a winter monitoring event in February 2021 to supplement the annual compliance monitoring, which occurs in the summer. Water quality monitoring was conducted using the same sampling and analysis methodologies as those employed for the summer compliance monitoring, as discussed in Section 2.3. The purpose of this winter monitoring event was to provide a better understanding of the seasonal variability

of dissolved copper levels in SIYB and at the reference stations during a period of cooler water temperatures and lower frequency of hull cleaning and vessel usage relative to the summer months.

The findings from the February 2021 winter monitoring event are summarized in Section 4.2.3 and reported in full in Appendix F. A second winter monitoring event will be conducted for the 2022 monitoring program, and findings will be presented in the 2022 monitoring report.

2. The Port added a Phase I TIE component to the 2021 toxicity testing program. From 2011–2020, the SIYB Monitoring Program has consistently observed a toxic effect to bivalve larvae at the innermost station in SIYB (Station SIYB-1). In 2005, a Phase I TIE conducted by Southern California Coastal Water Research Project (SCCWRP) indicated that the toxicity observed in samples collected from SIYB was largely due to trace metals. The study identified copper as the most likely cause of toxicity because increasing dissolved copper concentrations correlated with increasing toxicity and copper concentrations were high enough to account for virtually all of the observed toxicity (Schiff et al., 2007).

   To evaluate whether the effect observed in the recent toxicity testing in SIYB is still due to trace metals, or some other toxicant, a Phase I TIE was initiated concurrently with the 2021 summer compliance chronic toxicity testing on water collected from SIYB-1 to re-evaluate the likely class(es) of contaminants causing toxicity should an effect be observed again. However, there were no toxic effects to bivalve larvae observed at SIYB-1 during the 2021 summer monitoring event. Therefore, the TIE could not be fully executed.

3. In 2021, the Port created, distributed, and shared results of in-water hull cleaning surveys of the San Diego Bay boating community. Surveys were distributed to boaters, in-water hull cleaners, and marina and yacht club managers to help the Port better understand hull cleaning behaviors (e.g., cleaning frequencies and tools) in SIYB and San Diego Bay. Information gathered from the surveys may inform potential next steps in collective efforts to improve water quality. Survey results and summaries are included in Appendix G.

4. A recommendation was made in the *2020 SIYB Dissolved Copper TMDL Monitoring and Progress Report* (Wood, 2021a) to fill data gaps associated with the effects of in-water hull cleaning on water quality. To address this recommendation, the Port partnered with the Regional Board and SIYB stakeholders to evaluate how dissolved copper concentrations change throughout SIYB before, during, and after an 8-week pause in in-water hull cleaning (known as the Hull Cleaning Pause). While the Hull Cleaning Pause was initiated during the 2021 reporting period, the majority of the field effort and water quality monitoring occurred in 2022. Hence, the information is not presented in this report, as results were not available. The results of the Hull Cleaning Pause will be reported later in 2022.

1.9 Content of Report

This TMDL Monitoring and Progress Report for SIYB presents the monitoring results for 2021 and includes the following:

- BMP implementation, including those BMPs implemented by the Port in SIYB and throughout San Diego Bay, as well as those implemented by the Shelter Island Master Leaseholders (SIML) TMDL Group, marinas, and yacht clubs in SIYB

- Methods to assess, estimate, and reduce copper loads
- Evaluation, interpretation, and tabulation of data collected by the Port, marinas, and yacht clubs on vessel tracking and hull paint conversions
- Water quality monitoring data, including results from chemical and toxicological evaluations of surface water samples collected in August 2021
- Discussion of the 2021 TMDL monitoring program findings, including findings from the winter monitoring event conducted in February 2021
- Conclusions and continuing actions for the remaining TMDL timeline

The report also includes several appendices with additional supporting information and data. Appendix A is the *2021 SIYB Dissolved Copper TMDL Monitoring Plan*. Appendix B contains BMP plans for the Port, as well as marinas and yacht clubs. Appendix C includes vessel tracking data (including information for each available slip) for the entire SIYB. Appendix D contains the water quality monitoring results for the August 2021 sampling event, including field-collected data, the analytical chemistry report, and the toxicity testing report. Appendix E includes SIYB-related correspondence between the Port and other agencies and other pertinent information. Appendix F contains a technical memorandum detailing the methods and findings from the winter monitoring event conducted in February 2021. Appendix G includes results from the Port's in-water hull cleaning online surveys of the San Diego Bay boating community.

2.0 METHODS

This section describes the BMP plans in place to reduce copper loads, methods used to estimate load reductions, sampling methods to assess dissolved copper levels and toxicity in SIYB, and associated project-specific quality assurance (QA) and quality control (QC) procedures.

2.1 Implementation of Best Management Practices in SIYB and San Diego Bay

The Port has developed a copper reduction program and maintains a cumulative list of its copper reduction BMPs implemented in SIYB in support of the TMDL (Appendix B). The report also describes BMPs or other actions implemented by the Port to reduce dissolved copper discharges from vessel hulls into harbors or marinas bay-wide within San Diego Bay and beyond, including actions with statewide or national applicability (Appendix B).

In addition, the marinas and yacht clubs submit specific BMP plans to the Port annually to detail the BMPs and actions that marinas and yacht clubs have implemented to reduce dissolved copper loads to SIYB. The marina and yacht club BMP plans are also provided in Appendix B.

2.2 Dissolved Copper Load Analysis

This section describes the methods and procedures used to track vessel hull paint use and estimate dissolved copper loading into SIYB during the 2021 monitoring period.

2.2.1 Tracking Hull Paint Use: DPR Product/Label Database

The DPR Rule (3 California Code of Regulations [CCR] section 6190) went into effect on July 1, 2018, establishing a maximum leach rate for copper antifouling paints that is protective of aquatic environments. Under this regulation, paint manufacturers are no longer allowed to import or sell copper-based paints with leach rates greater than 9.5 $\mu g/cm^2/day$ for use on recreational vessels in California. It should be noted that any existing stock could be sold until June 30, 2021.

Since implementation of the DPR Rule in July 2018, many copper-based AFPs have been reformulated to meet maximum allowable copper leach rate requirements. To assist with vessel tracking efforts, the DPR California Product/Label Database Application[4] was used to determine whether copper-based AFP products are actively registered (i.e., DPR Category I paints with leach rates ≤9.5 $\mu g/cm^2/day$). This database identifies the registration status of AFP products, as well as relevant product information such as paint name, copper content, and USEPA registration number. Copper-based AFP products that exceed the maximum copper leach rate of 9.5 $\mu g/cm^2/day$ (i.e., non-DPR Category I paints) can no longer be registered through the DPR and are classified as "Inactive" in the DPR Product/Label Database registration status.

In addition to copper-based AFPs, the DPR Product/Label Database was used to track other non-copper biocide AFPs (e.g., zinc, Irgarol, etc.) that are registered through the DPR. Non-biocide paints and products (which do not require registration through the DPR) were tracked using information obtained from the product manufacturers' websites.

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[4] The DPR California Product/Label Database can be accessed at: https://apps.cdpr.ca.gov/docs/label/labelque.cfm

2.2.2 Vessel Tracking

Annual reduction of copper loading was assessed by tracking conversions of hull paints from copper to non-copper or lower copper products (i.e., either by leach rate or copper content) for vessels moored in SIYB. The annual vessel tracking is conducted both by the Port (for the Harbor Police dock, transient dock, and weekend anchorage) and the SIYB marinas and yacht clubs. SIYB marinas and yacht clubs' data were collected independently from the Port and provided to the Port for review and inclusion in this report, as described below.

Yacht club and marina operators collect vessel data by surveying their boaters for vessel-related information listed in Table 2-1. A standard survey form has been made available to all marinas and yacht clubs in SIYB and is included in Appendix B.

Table 2-1.
Vessel Survey Data Collected in 2021

Vessel Tracking Data Fields	
1.	Name of Marina or Yacht Club
2.	Slip/Mooring Reference Number
3.	Slip/Mooring Occupation (percentage of time occupied)
4.	Vessel Type (power or sail)
5.	Vessel Length
6.	Vessel Beam Width
7.	Paint Type (copper, DPR category I, low-copper, or non-copper)
8.	Paint Product Name
9.	Paint Product Number
10.	USEPA Registration Number (when applicable)
11.	Boatyard Name or Purchase Date
12.	Painting Date (month)
13.	Painting Date (year)[a]
14.	Copper Content

Notes:
a. Aged-copper paints are determined by the painting date. To be considered an aged paint for the 2021 hull paint census, the vessel would have had to be painted on or prior to December 31, 2018.
DPR = Department of Pesticide Regulation; USEPA = United States Environmental Protection Agency

If no response was received initially or if the vessel tracking survey form lacked pertinent information, yacht clubs and marina operators made follow-up efforts to obtain missing or incomplete records. Vessel information was then submitted to the Port in mid-January 2022 for review and inclusion in this report. Data from the SIYB marinas and yacht clubs are included, as received, in Appendix C.

Since 2018, the Port has also required all marinas and yacht clubs as Named TMDL Parties to provide a self-certification statement to the Port with their vessel tracking data submittals. For each facility, the signed self-certification statement states that the data were prepared under the signatories' knowledge and direction, and that the data represented truthful, accurate, and complete information. Self-certification letters are provided in Appendix E.

Once the census results were received by the Port, annual hull census data from marinas and yacht clubs were reviewed to confirm paint types. Hull paint types were confirmed if the required supporting data that were provided for a given paint (e.g., product name and/or registration number) were consistent with the DPR Product/Label Database (biocide paints) or the product manufacturer's website (non-biocide paints or products). Vessels stored out of the water (e.g., on HydroHoists®) or in slip liners, or reported to have no bottom paint, were also confirmed to have non-copper paint. If the vessel owner did not know the paint's registration number or product name, or if information provided was inconsistent with the DPR Product/Label Database (biocide paints) or the product manufacturer's website (non-biocide paints or products) (e.g., paint name and/or registration number provided were for different paints), hull paint types could not be confirmed and were conservatively assumed to be copper-based. For vessels to be considered to have hulls with aged-copper paints, the painting date submitted must have been on or before December 31, 2018 for the 2021 monitoring year. Following vessel tracking data review and confirmation, vessels were classified into the paint type categories outlined in Table 2-2.

Vessel tracking data from SIYB also included the percentage of time that slips were unoccupied or were occupied by vessels with copper, lower copper (DPR Category I and low-copper paints), aged-copper, non-copper, or unknown hull paints, as required by the Investigative Order. The annual percentage of time that the slip was occupied was determined by dividing the total number of days occupied by 365 days. Hull paint data and percent occupancy information were compiled for each paint type and used to estimate the annual dissolved copper load to SIYB.

Table 2-2.
Vessel Tracking Data Reported for 2021

Vessel Tracking Data Fields	
1.	Total number of slips or buoys in facility available to be occupied by vessels
2.	Number of unoccupied slips or buoys and length of time unoccupied during each year
3.	Number of vessels confirmed with copper-based hull paints and approximate length of time occupying a slip or buoy in facility each year
4.	Number of vessels confirmed with aged-copper-based hull paints[a] and approximate length of time occupying a slip or buoy in facility each year
5.	Number of vessels confirmed with DPR Category I or low-copper paints[b] and approximate length of time occupying a slip or buoy in facility each year
6.	Number of vessels confirmed with alternative hull paints, by hull paint type, and approximate length of time occupying a slip or buoy in facility each year
7.	Number of vessels with unconfirmed information regarding hull paints and approximate length of time occupying a slip or buoy in facility each year
8.	Estimate of the dissolved copper load reduction achieved for the year (kg/yr and percent)

Notes:
a. Per Regional Board letter dated July 26, 2013.
b. Per Regional Board email dated October 21, 2015.
DPR = Department of Pesticide Regulation; kg/yr = kilogram(s) per year

2.2.3 Annual Dissolved Copper Load

To estimate dissolved copper loads attributed to vessels for the SIYB TMDL monitoring program, the in-water hull-cleaning load (100 kg/yr) and passive leaching load (2,000 kg/yr) identified in Appendix 2 of the SIYB TMDL were combined to form a total vessel-related load of 2,100 kg/yr. This vessel-related baseline load was divided by the total vessel population identified in the TMDL (2,363 vessels), which resulted in an annual per-vessel load of 0.89 kg/yr (rounded to 0.9 kg/yr).

The dissolved copper load attributed to in-water hull cleaning was identified in Appendix 2 of the SIYB TMDL (Regional Board, 2005) as approximately 100 kg/yr. As part of the Regional Board's load estimation, it was assumed that all SIYB vessel hulls were painted with copper paint, all hulls were cleaned approximately monthly, and in-water hull cleaning BMPs were used during half of the cleaning events. The remaining dissolved copper load identified in the TMDL (2,000 kg/yr) was attributed to passive leaching. Based on these assumptions, the total annual per-vessel load of 0.9 kg/yr is composed of the load from in-water hull cleaning (approximately 0.04 kg/yr) and passive leaching (approximately 0.86 kg/yr).

The following assumptions were used by the Regional Board to derive the baseline copper loading identified in Appendix 2 of the SIYB TMDL (Regional Board, 2005). Calculations of loading reductions were based on comparisons with these baseline conditions:

- All 2,363 SIYB slips or buoys were occupied by a number of vessels (N_v).
- All 2,363 recreational vessels moored within SIYB have copper-based paints 100% of the time.
- Annual loading from passive leaching basin wide (L_p) equals 2,000 kg/yr.
- Annual loading from hull cleaning (L_h) equals 100 kg/yr.
- Average annual loading per vessel (L_v) with copper hull paint equals 0.9 kg/yr, where $L_v = (L_p + L_h)/N_v$.

The SIYB TMDL copper load reduction is assessed by tracking the number of vessel hulls with copper paint, lower copper paint (DPR Category I or low-copper), aged-copper paint, or non-copper paint, as well as by counting the number of vacant slips in SIYB. In accordance with the SIYB TMDL, this loading reduction analysis assumed a loading reduction of approximately 0.9 kg/yr for every vessel in SIYB that converted from copper-based (i.e., non-DPR Category I) to non-copper-based paints. The use of lower copper hull paints was also recognized in the SIYB TMDL as a viable means of reducing copper loading to the basin. Lower copper paints are identified as DPR Category I paints and paints with a copper content of less than 40% (i.e., low copper). This loading reduction analysis assumed that each vessel that transitioned to lower copper hull paints reduced annual dissolved copper loading by 50% (0.43 kg/yr for passive leaching + 0.02 kg/yr for in-water hull cleaning). Aged-copper paints were also considered to contribute a 0.45 kg/yr load if they were applied on or prior to December 31, 2018.

The vessel tracking program estimates loading reductions conservatively. If the most recent painting date is unknown, the vessel is assumed to be painted recently, and if the occupancy time of a slip or mooring is not reported, the slip or mooring is assumed to be occupied 100% of the time (i.e., 365 days per year). In addition, if the hull paint name and type are unknown or cannot be confirmed, the paint is assumed to be copper-based. The DPR Rule went into effect on July 1, 2018, establishing a maximum leach rate of 9.5 $\mu g/cm^2/day$ for copper-based antifouling paints registered through the DPR and sold in California. As a result of the implementation of the DPR Rule, a majority of vessels painted since July 2018 should have DPR Category I paints. However, it should be noted that the existing stock of paints with leach rates exceeding the DPR maximum leach rate criterion were approved by the DPR for sale until June 30, 2021. To account for the potential availability of non-DPR Category I paints during a portion of the 2021 monitoring period, estimated dissolved copper loading for any unknown or unconfirmed paints is calculated using two different approaches:

1. Original Conservative Approach: Any vessels painted with unknown or unconfirmed paints are conservatively assumed to have high-copper paint (0.9 kg/yr/vessel; Scenario 1 in Section 4.1.3).
2. Loading Approach Assuming Unknown or Unconfirmed Paints are DPR Category I: Any vessels painted with unknown or unconfirmed paints are assumed to have low-leach copper paint (0.45 kg/yr/vessel) as a result of the implementation of the DPR Rule (Scenario 2 in Section 4.1.3).

Annual loading was calculated for each slip by multiplying the reported dissolved annual loading for a given hull paint category by the percentage of time a slip was reported to be occupied (e.g., the product of 0.9 kg/yr for copper hull paints and 90% occupancy results in an annual loading of 0.81 kg/yr). In the case of the weekend anchorage and transient dock, data on the length of stay indicated by each permit issued were used to calculate annual occupancy and loading. Because no hull paint data were collected, all vessels at the weekend anchorage and transient dock were assumed to have copper-based paints. All assumptions used to calculate annual dissolved copper loading are summarized in Table 2-3.

Table 2-3.
Dissolved Copper Loading Calculation Assumptions

Dissolved Copper Loading Assumptions	
1.	All vessels moored in SIYB at the enactment of the TMDL had copper hull paints.
2.	Average annual dissolved copper load from a vessel with copper paint equals 0.9 kg/yr.
	a. The passive leaching load from a vessel with copper paint equals 0.86 kg/yr.
	b. The cleaning load from a vessel with copper paint equals 0.04 kg/yr.
3.	Annual dissolved copper load for vessels with unknown or unconfirmed hull paints is calculated using two different approaches:
	a. Original Conservative Approach: Any vessels painted with unknown or unconfirmed paints are conservatively assumed to have high copper paint (0.9 kg/yr/vessel; Scenario 1 in Section 4.1.3).
	b. Loading Approach Assuming Unknown or Unconfirmed Paints are DPR Category I: Any vessels painted with unknown or unconfirmed paints are assumed to have low-leach copper paint (0.45 kg/yr/vessel) as a result of the implementation of the DPR Rule (Scenario 2 in Section 4.1.3).
4.	Slips/moorings for which occupancy data are not provided are considered to be 100% occupied.
5.	Annual dissolved copper load from a vessel with non-copper hull paint equals 0 kg/yr.
6.	DPR Category I paints are paints with leach rates ≤9.5 μg/cm²/day. These paints are considered as lower copper.
7.	Low-copper hull paints are paints with less than 40% copper. These paints are also considered as lower copper.
8.	Average annual dissolved copper load from a vessel with lower copper paint equals 0.45 kg/yr
	a. The passive leaching load from a vessel with lower copper paint equals 0.43 kg/yr.
	b. The cleaning load from a vessel with lower copper paint equals 0.02 kg/yr.
9	Vessels determined to have aged-copper paint (i.e., copper paint applied to a vessel hull prior to December 31, 2018[a]) will have an annual dissolved copper load equal to 0.45 kg/yr.
10.	Annual loads will be normalized by the percent of time vessels are docked in SIYB.

Notes:
a. December 31, 2018 is the cutoff date for vessels to be considered to have aged-copper paint for the 2021 monitoring program load calculation. This cutoff date will advance by one year for each subsequent annual load calculation.
μg/cm²/day = microgram(s) per square centimeter per day; ≤ = less than or equal to; % = percent; DPR = Department of Pesticide Regulation; kg/yr = kilogram(s) per year; SIYB = Shelter Island Yacht Basin; TMDL = total maximum daily load

2.3 Water Quality Monitoring

Water quality samples were collected to measure the average concentration of dissolved copper and toxicity in the basin. The monitoring methods used were consistent with those of prior studies conducted by the Regional Board in SIYB, as reported in Appendix 6 of the SIYB TMDL Technical Report (Regional Board, 2005).

2.3.1 Sampling Station Locations

From 2011 through 2019, the annual compliance monitoring program was conducted at six stations within SIYB and one reference station (SIYB-REF-1[5]) in the main channel of San Diego Bay. These station locations were similar to those sampled by the Regional Board in prior studies and met the Investigative Order requirement of spatially representing dissolved copper concentrations in SIYB, as described in the original Monitoring Plan and most recent update (Weston Solutions, Inc. [Weston], 2011; Wood, 2021b). Starting in 2020, a second reference station (SIYB-REF-2), located farther from the mouth of SIYB, was added as a sampling station to provide a better understanding of the gradient of dissolved copper levels in San Diego Bay moving away from the mouth of SIYB, as well as a better understanding of the background conditions within San Diego Bay outside of SIYB. Station locations are provided in Table 2-4 and Figure 2-1. To the greatest extent possible, samples were collected within approximately ±3 meters of the target coordinates.

Table 2-4.
Sampling Station Coordinates

Station	Target Coordinates		Actual Coordinates	
	Latitude	Longitude	Latitude	Longitude
SIYB-1	32.71821	-117.22601	32.71821	-117.22601
SIYB-2	32.71412	-117.22921	32.71411	-117.22921
SIYB-3	32.71550	-117.22989	32.71548	-117.22994
SIYB-4	32.71683	-117.23203	32.71689	-117.23197
SIYB-5	32.71217	-117.23297	32.71215	-117.23297
SIYB-6	32.70858	-117.23514	32.70857	-117.23514
SIYB-REF-1[a]	32.70406	-117.23232	32.70405	-117.23232
SIYB-REF-2[b]	32.70926	-117.22544	32.70928	-117.22518

Notes:
a. SIYB-REF-1 was identified as SIYB-REF in prior reports.
b. SIYB-REF-2 was added as a second reference station beginning in 2020 to supplement the TMDL compliance monitoring.
REF = reference; SIYB = Shelter Island Yacht Basin

[5] Previously identified as "SIYB-REF."

Figure 2-1. Shelter Island Yacht Basin TMDL Sampling Stations for the 2021 Monitoring Program

2.3.2 Sampling Date

Surface water at the eight sampling stations (six SIYB stations and two San Diego Bay reference stations) was sampled on August 24, 2021. In accordance with the Monitoring Plan (Appendix A), water sampling bracketed slack high tide during the summer[6], as depicted in Figure 2-2.

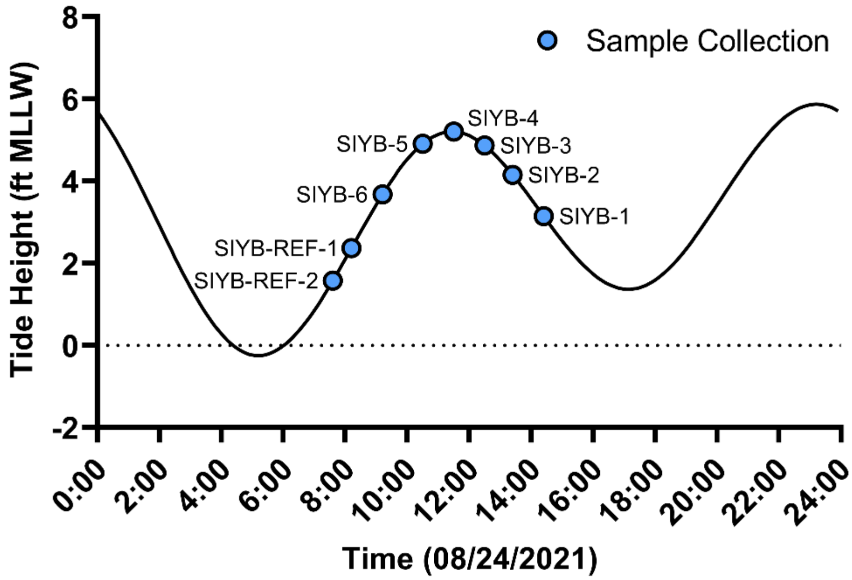

Figure 2-2. August 24, 2021 Sample Collection Times Over Tidal Cycle

2.3.3 Sample Collection

Discrete surface water samples were collected from a depth of 1 meter using a Niskin bottle deployed from a research vessel. “Clean-hands” sampling techniques were used, consistent with the project-specific and approved SIYB TMDL Quality Assurance Project Plan (QAPP) (Wood, 2021c). After collection, water samples were transferred to labeled containers for analysis of total and dissolved copper and zinc, total organic carbon (TOC), dissolved organic carbon (DOC), total suspended solids (TSS), and toxicity[7].

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[6] To supplement the annual TMDL compliance monitoring, an additional water quality monitoring event was conducted in February 2021 using the same sampling and analysis methodologies as the compliance monitoring event performed in the summer. Results from this winter monitoring event are summarized in Section 4.2.3 and presented in full in Appendix F. The goal of the supplemental winter monitoring event was to assess the basin-wide dissolved copper levels during a second seasonal index period. While the summer compliance monitoring is conducted at a peak time of higher water temperatures, vessel usage, and hull cleaning, the winter monitoring event was completed when these site characteristics were presumed to be lower compared with those during the summer. This information is useful when evaluating potential seasonal effects on the dissolved copper levels in SIYB.

[7] Because the sample from SIYB-REF-2 was collected only to assess variability in dissolved copper levels at the reference stations, this sample was not tested for toxicity.

Field water quality measurements of temperature, conductivity, salinity, pH, dissolved oxygen (DO), and light transmittance were also taken at each station, including surface readings and top-to-bottom profiles[8]. In situ analytical methods and detection limits are listed in Table 2-5.

Table 2-5.
In Situ Analytical Methods and Detection Limits

Water Quality Measurement	Method	Instrument Sensitivity
Temperature	SBE CTD and YSI ProDSS	± 0.1 °C
Specific Conductance	SBE CTD and YSI ProDSS	± 1 µS/cm
Salinity	SBE CTD and YSI ProDSS	± 0.1 ppt
pH	SBE CTD and YSI ProDSS	± 0.1 pH unit
Dissolved Oxygen	SBE CTD and YSI ProDSS	± 0.1 mg/L
Light Transmittance	SBE CTD	± 0.1%

Notes:
°C = degree(s) Celsius; µS/cm = microSiemen(s) per centimeter; % = percent; ± = plus or minus; CTD = conductivity, temperature, and depth; mg/L = milligram(s) per liter; ppt = part(s) per thousand; SBE = Sea-Bird Electronics; YSI = YSI Incorporated

Detailed field notes (Appendix D) and photographs (Figure 2-3) were taken during sample collection at each station. All samples were logged on a chain-of-custody (COC) form, and then placed in a cooler on ice. Samples were stored at 4 degrees Celsius (°C) in the dark until delivered to the appropriate laboratory for analysis. Water chemistry analyses were conducted by Weck Laboratories, Inc. (Weck) in City of Industry, California; toxicity tests were conducted by Wood Aquatic Toxicology Laboratory in San Diego, California.

2.3.4 Equipment Decontamination and Cleaning

The Niskin bottle was cleaned prior to sampling with clean, soapy water and thoroughly rinsed with deionized water. Upon deployment, the Niskin bottle received a thorough site water rinse at each station prior to sample collection. After collection, water samples were transferred using the clean-hands method from the Niskin bottle to laboratory-certified, contaminant-free sample bottles.

[8] Due to field collection schedule limitations, no CTD water quality profile was captured at station SIYB-REF-2.

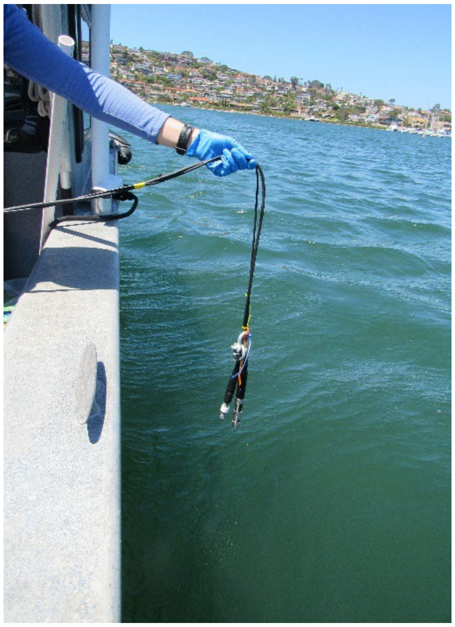

Photo A. Water quality readings of temperature, conductivity, salinity, pH, and dissolved oxygen are taken before, during, and after sampling using a YSI water quality meter.

Photo B. Recording of weather conditions, activities such as boat cleaning, and any other observations that may have an impact on water quality is an important component of the field monitoring program.

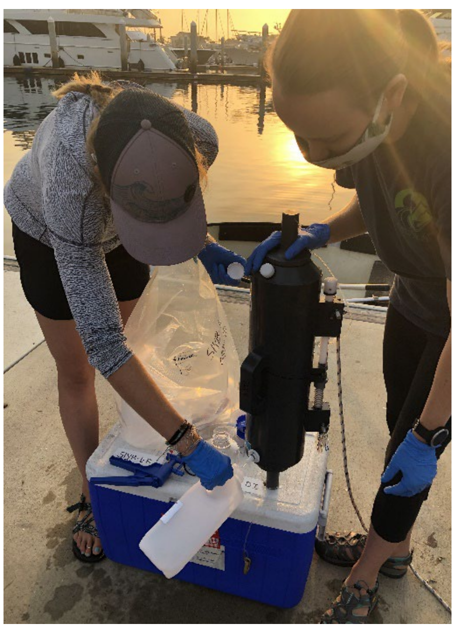

Photo C. Water samples are collected using a Niskin bottle and following clean sampling techniques.

Photo D. Water samples are filtered in the field immediately after collection for analysis of dissolved metals.

Figure 2-3. Field Sampling Photographs

2.3.5 COVID-19 Safety Protocols

Field

Field efforts were conducted in accordance with local, state, and federal Coronavirus Disease 2019 (COVID-19) guidelines. The project-specific Monitoring Plan (Wood, 2021b) and Health and Safety Plan (Wood, 2021d) were revised in 2021 to include additional safety protocols to prevent the spread of COVID-19.

Field staff were required to drive to the field site in separate vehicles to allow for social distancing. Prior to sampling, field staff were required to certify that they had no known exposure to persons with COVID-19 within the past 14 days and had no symptoms of COVID-19 (e.g., fever, cough, sore throat, or breathing difficulty). Face coverings were worn by all personnel for the duration of the field operations. In addition, field staff distanced and remained on the rear deck of the vessel in the open air to the maximum possible extent. Typically, a Port representative is present on the vessel during the sampling activities; however, because of the COVID-19 restrictions, the field team was limited to Wood staff to allow for social distancing when possible. While Port staff were unable to participate in field activities, the Wood Field QA Officer was present to oversee the sample and data collection process, as described further in Section 2.4.1.

Laboratory

Additional COVID-19 safety protocols were also implemented by chemistry and toxicology laboratory staff, including, but not limited to, the following:

- All personnel were required to check their temperatures prior to entering the laboratory and review questions related to personal health before starting work.
- All personnel were required to wear masks or face coverings at all times while in the laboratory.
- In-house personnel were required to maintain a safe social distance (i.e., a minimum of 6 feet) from each other as much as possible.
- All client meetings and communication were performed through digital media (i.e., no in-person communication).

There were no changes to standard laboratory procedures, and all samples were analyzed in accordance with the test methods, as described in Section 2.3.6.

2.3.6 Chemical Analyses

After collection was completed, samples were transported to the laboratory under customary COC protocols. Samples were analyzed for total and dissolved copper, total and dissolved zinc, TOC, DOC, and TSS, following certified USEPA or Standard Method (SM) test methods. Test method selection was based on the best available combination of sensitivity (low-level detection limits), accuracy (minimum susceptibility to bias or matrix interference), and precision (reproducibility), in accordance with the QAPP.

Natural water quality parameters such as DOC are well known to affect the bioavailability and toxicity of copper in marine environments (Delgadillo-Hinojosa et al., 2008; Rosen et al., 2005;

and Zirino et al., 2002). Zinc was also included for testing because it can be used as an alternative biocide in AFPs. Both total zinc and dissolved zinc were measured to determine whether concentrations are increasing as vessel hull paints are converted from copper-based to non-copper-based paints.

The laboratory analytical methods and target detection and reporting limits are specified in Table 2-6. Actual method detection and reporting limits are provided in Appendix D.

Table 2-6.
Laboratory Analytical Methods

Water Quality Measurement	Method	Target Method Detection Limit	Target Reporting Limit
Total Copper	USEPA 1640	0.0038 µg/L	0.010 µg/L
Dissolved Copper	USEPA 1640	0.0038 µg/L	0.010 µg/L
Total Zinc	USEPA 1640	0.036 µg/L	0.20 µg/L
Dissolved Zinc	USEPA 1640	0.036 µg/L	0.20 µg/L
TOC	SM 5310B	0.016 mg/L	0.10 mg/L
DOC	SM 5310B	0.016 mg/L	0.10 mg/L
TSS	USEPA 2540D	1.0 mg/L	5.0 mg/L

Notes:
µg/L = microgram(s) per liter; DOC = dissolved organic carbon; mg/L = milligram(s) per liter; SM = Standard Method; TOC = total organic carbon; TSS = total suspended solids; USEPA = United States Environmental Protection Agency

Analysis of water quality data included comparison of dissolved copper levels with numeric WQOs. In addition, basin-wide average dissolved copper concentrations were compared with the surface water baseline level of 8.3 ± 1.4 µg/L (mean plus or minus standard error). This baseline value was calculated using surface water quality data collected from 2005 through 2008 from stations in the vicinity of the Regional Board monitoring station network (Weston, 2011).

2.3.7 Toxicological Analyses

Toxicity testing consisted of a 96-hour acute bioassay test to be consistent with the SIYB TMDL guidance (Regional Board, 2005) using Pacific topsmelt (*Atherinops affinis*). Additionally, a 48-hour chronic bioassay test using mussel larvae (*Mytilus galloprovincialis*) was performed. Previous studies have used the 48-hour mussel larvae chronic test as their primary indicator of toxicity because *Mytilus galloprovincialis* is considered one of the most sensitive species used in the calculation of the water quality criterion for copper in marine environments (USEPA, 1995a). However, both tests were used to assess compliance with the narrative toxicity objective.

2.3.7.1 Topsmelt 96-Hour Acute Bioassay

Topsmelt acute toxicity tests were initiated on August 25, 2021 following the procedures described in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA, 2002). Juvenile topsmelt were exposed for 96 hours to three sample concentrations (0.5 dilution series) and a control. Each concentration was tested with six replicates and five topsmelt per replicate. Water quality measurements of DO, temperature, pH, and salinity were conducted daily. Test conditions are summarized in Table 2-7. After 96 hours, percent survival was calculated. The test was considered acceptable if mean survival was greater than or equal to 90% in the controls.

Table 2-7.
Conditions for the 96-Hour Pacific Topsmelt Bioassay

96-Hour Acute Fish Survival Bioassay Conditions	
Samples Tested[a]	SIYB-1, SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, SIYB-REF-1
Date Sampled	August 24, 2021
Test Dates	August 25–29, 2021
Test Species	Pacific topsmelt *(Atherinops affinis)*
Test Protocol	USEPA Acute Manual, 2002 (EPA/821/R-02/012)
Test Acceptability Criterion	≥90% mean survival in the laboratory control
Test Type and Duration	Acute survival/96-hour static-renewal (48-hour water renewal)
Organism Supplier	Aquatic BioSystems, Fort Collins, Colorado
Control Water Source	Scripps Pier seawater
Acclimation Time[b]	5 days
Age at Test Initiation[c]	13 days old
Test Concentrations	0 (laboratory control), 25, 50, and 100% sample
Replicates per Sample	6
Organisms Exposed per Replicate	5
Exposure Volume	250 mL

Notes:
a. Because the sample from SIYB-REF-2 was collected only to assess variability in dissolved copper levels at the reference stations, this sample was not tested for toxicity.
b. There is no USEPA method requirement for acclimation time (USEPA, 2002). However, the toxicity laboratory recommends a minimum 1- to 2-day acclimation time prior to testing. The topsmelt batch used for testing was acclimated for at least 2 days, as recommended by the laboratory.
c. The USEPA method requires topsmelt to be 7 to 15 days old at test initiation (USEPA, 2002). The topsmelt batch used for testing was within this age range.
≥ = greater than or equal to; µm = micrometer(s); % = percent; mL = milliliter(s); REF = reference; SIYB = Shelter Island Yacht Basin; USEPA = United States Environmental Protection Agency

A 96-hour reference toxicant test using copper chloride was conducted concurrently with testing of the project samples to evaluate the relative sensitivity of test organisms to a single known chemical, as well as the laboratory's proficiency with the test procedure. The topsmelt reference toxicant test was conducted with copper concentrations of 0, 25, 50, 100, 200, and 400 µg/L. The reference toxicant test was conducted concurrently with the SIYB acute toxicity test and used test organisms from the same batch. Following test termination, the median lethal concentration (LC_{50}) was calculated and compared with historical laboratory reference toxicant test data for this species. Test organisms are considered appropriately sensitive when the test LC_{50} is within two standard deviations of the historical laboratory mean.

2.3.7.2 Bivalve 48-Hour Bioassay

The 48-hour bivalve larvae tests were initiated on August 25, 2021 for all samples collected in SIYB and followed the procedures described in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (USEPA, 1995b).

Bivalves were exposed to five sample concentrations and a control. Each concentration was tested with five replicates, and approximately 150 larvae were targeted for inoculation into each replicate. Daily water quality measurements included DO, temperature, pH, and salinity. Test conditions are summarized in Table 2-8.

Table 2-8.
Conditions for the 48-Hour Mussel Development Bioassay

48-Hour Chronic Bivalve Survival and Shell Development Bioassay Conditions	
Samples Tested[a]	SIYB-1, SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, SIYB-REF-1
Date Sampled	August 24, 2021
Test Dates	August 25–27, 2021
Test Species	Mediterranean mussel *(Mytilus galloprovincialis)*
Test Protocol	USEPA 1995 West Coast Manual (EPA/600/R-95/136); ASTM, 1998
Test Acceptability Criteria	USEPA Criteria: ≥50% survival in the laboratory control; ≥90% proportion normal development in the surviving embryos; and <25 percent minimum significant difference (PMSD) ASTM Criteria: ≥70% combined survival/proportion normal in the laboratory control
Test Type/Duration	Bivalve larvae survival and development (endpoint reported as normal development of surviving embryos) – Static/48 hours
Organism Source	Mission Bay, San Diego, California
Control Water Source	Scripps Pier seawater, 20-µm filtered
Age Class of Mussels Exposed	<4 hour-old embryos
Test Concentrations	0 (laboratory control), 6.25, 12.5, 25, 50, and 100% sample
Replicates/Sample	5
Initial Density of Organisms Exposed per Replicate	~200
Exposure Volume	10 mL

Notes:
a. Because the sample from SIYB-REF-2 was collected only to assess variability in dissolved copper levels at the reference stations, this sample was not tested for toxicity.
~ = approximately; ≥ = greater than or equal to; < = less than; µm = micrometer(s); % = percent; ASTM = ASTM International; mL = milliliter(s); PMSD = percent minimum significant difference; REF = reference; SIYB = Shelter Island Yacht Basin; USEPA = United States Environmental Protection Agency

After test termination, the percentage of surviving embryos with normal development was calculated to determine whether normality had been significantly reduced. The test was considered acceptable if (1) at least 50% of larvae survived in the controls, and (2) an average of 90% of surviving larvae developed normally in the controls. In addition, the percent minimum significant difference in the test must be less than 25. A combined endpoint of normal surviving embryos is reported.

A 48-hour reference toxicant test using copper chloride was conducted concurrently with the project sample chronic toxicity tests to evaluate the relative sensitivity of test organisms and the laboratory's proficiency with the test procedure. The bivalve reference toxicant test was conducted with copper concentrations of 0, 2.5, 5.0, 10, 20, and 40 µg/L. The same batch of test organisms was used for both the reference toxicant test and the project samples. At test termination, the median effective concentration (EC_{50}) was calculated and compared with historical laboratory reference toxicant test data for this species. Test organisms are considered to be responsive and appropriately sensitive if the test EC_{50} was within two standard deviations of the respective historical laboratory mean.

2.3.7.3 Toxicity Statistical Analyses

Determinations of toxicity using the 96-hour topsmelt and 48-hour mussel bioassays were statistically assessed using the Comprehensive Environmental Toxicity Information System™, Tidepool Scientific Software. Survival of topsmelt fish and normal development of surviving mussel embryos in each test dilution from SIYB were compared with organism performance observed in control exposures to filtered clean seawater collected from the end of the pier at Scripps Institution of Oceanography in La Jolla, California. Results were used to determine LC_{50} and EC_{50} values. If fish survival and normal embryo development in the controls did not differ significantly from those of the treatments, then conditions were considered nontoxic at the station. The test of significant toxicity (TST) method was used to identify any samples that exhibited a statistically significant difference from the control (USEPA, 2010).

2.3.7.4 Toxicity Identification Evaluation

The SIYB Monitoring Program has consistently observed a toxic effect to bivalve larvae at the innermost station in SIYB (Station SIYB-1). As discussed in Section 1.8, a study performed by SCCWRP in 2005 indicated that the toxicity observed in samples collected in SIYB was largely due to trace metals (Schiff et al., 2007).

To evaluate whether the effect observed in the recent toxicity testing in SIYB is still due to trace metals, or some other toxicant, a Phase I TIE was initiated concurrently with the compliance chronic toxicity testing on water collected from SIYB-1 to re-evaluate the likely class(es) of contaminants causing toxicity should an effect be observed again. The site-specific TIE approach is outlined in the Monitoring Plan (Wood, 2021b; Appendix A) and in the toxicity laboratory report (Appendix D).

2.4 Quality Assurance and Quality Control

This section describes the QA/QC procedures for all field activities and laboratory analyses. Specific QA/QC procedures are provided in detail in the SIYB TMDL QAPP (Wood, 2021c).

2.4.1 Field QA/QC

Sampling process QA/QC included preparation prior to, during, and after sample collection to minimize the possibility of compromising sample integrity. The sample collection team was trained in and followed field sampling standard operating procedures (SOPs), as described in the SIYB QAPP (Wood, 2021c). The Wood Field QA Officer was onboard the sampling vessel at all times to review each step of the sample and data collection process. Additionally, Port-approved field checklists were used throughout the sampling event to ensure that all procedures were consistent at each station, all samples were collected in exactly the same manner at every station, and all required field data were recorded properly (see Appendix D).

Field staff members were careful to avoid contamination of samples at all times, wore powder-free nitrile gloves during sample collection, and used the clean-hands technique. All samples were collected in laboratory-supplied, laboratory-certified, contaminant-free sample bottles. Field measurement equipment was checked for operation in accordance with manufacturer specifications and was inspected for damage prior to use and when returned from use.

As required by Surface Water Ambient Monitoring Program (SWAMP) protocols, the monitoring program also included the addition of a field replicate. The field replicate sample consisted of a second complete set of samples collected at one of the sampling stations (SIYB-1 in the 2021 monitoring program). The purpose of the field replicate is to assess variability in sampling procedures as well as ambient conditions.

Chemistry and toxicity samples were uniquely identified on sample labels with the project title, appropriate sample identification, date and time of sample collection, analysis type, and preservation method. Sample labels were inspected by a QA reviewer before and after bottles were filled at each station to ensure that every sample was labeled correctly before moving to the next station. All samples were kept on ice from the time of sample collection until delivery to the analytical laboratory for analysis within method-specified holding times (Table 2-9). Wood delivered toxicity samples on the same day as sample collection to Wood Aquatic Toxicology Laboratory; chemistry samples were delivered by courier to Weck the following day (August 25, 2021). Both Weck and Wood Aquatic Toxicology Laboratory are accredited by the National Environmental Accreditation Program (NELAP) and/or California Environmental Accreditation Program (ELAP) for the specific tests that were performed at the time they were conducted.

COC procedures were used for all samples throughout the collection, transport, and analytical process. Each Wood employee who had custody of the samples signed the COC form and ensured that the samples were always attended unless properly secured. Completed COC forms were placed in a plastic bag and kept inside the cooler containing the samples. Upon sample delivery to the analytical laboratory, the COC form was signed by the person receiving the samples. COC records were included in the final reports prepared by the analytical laboratories. Following completion of the analytical analyses, remaining sample material was stored until the holding time expired (Table 2-9); samples were then disposed of properly.

Table 2-9.
Sample Holding Times

Analyte	Holding Time
TOC	28 days
DOC	28 days[a]
Total Copper	180 days
Dissolved Copper	48 hours[b]
Total Zinc	180 days
Dissolved Zinc	48 hours[b]
TSS	7 days
48-hour Chronic Bioassay	36 hours
96-hour Acute Bioassay	36 hours

Notes:
a. The holding time is applicable to preserved sample. The sample is filtered in the field into a bottle with HCl preservative for DOC analysis.
b. The holding time for metals after preservation is 180 days. The dissolved fraction is filtered in the field through a 0.45-μm glass fiber filter using a bottle top vacuum filtration system. Samples are preserved at the laboratory immediately upon receipt from the courier, within 24 hours of sample collection.
μm = micrometer(s); DOC = dissolved organic carbon; HCl = hydrochloric acid; TOC = total organic carbon; TSS = total suspended solids

2.4.2 Laboratory Analytical QA/QC

The QA objectives for chemical analysis conducted by the participating analytical laboratories are provided in their individual laboratory QA manuals. The objectives for accuracy and precision involved all aspects of the testing process, including:

- Methods and SOPs
- Calibration methods and frequency
- Data analysis, validation, and reporting
- Internal QC
- Preventive maintenance
- Procedures to ensure data accuracy and completeness

Results of all laboratory QA/QC analyses are reported in the laboratory reports in Appendix D. Any QC samples that failed to meet the specified QA/QC criteria in the methodology or QAPP were identified, and the corresponding data were qualified appropriately. Furthermore, in cases where laboratory data were not within control limits, follow-up testing was performed by the laboratory to verify results wherever applicable. All QA/QC records are kept on file for review.

2.5 Data Review and Management

After each sampling event, field data sheets were checked for completeness and accuracy by the field staff and the QA reviewer. In addition, all COC forms were checked against sample labels at the end of the day prior to sample transport to the laboratories.

In the laboratory, technicians documented sample receipt in laboratory logbooks, and samples were logged into the electronic Laboratory Information Management System (LIMS) for sample tracking purposes to ensure that holding times were met and samples were efficiently analyzed. Logbooks were maintained at each instrument to provide hardcopy documentation of analytical runs, and data generated by each instrument were directly uploaded to the LIMS system for data review and processing. Data validation was performed within the LIMS and included application of both performance-based and project-specific QC criteria to reject or accept specific data. Data for laboratory analyses were entered directly onto data sheets. The technician who generated the data had primary responsibility for the accuracy and completeness sample description and analysis information, results, and documentation.

All data were subsequently reviewed and verified by each section supervisor and released to the laboratory project manager to determine whether data quality objectives had been met for final reporting, and whether appropriate corrective actions had been taken when necessary. Any necessary corrective actions were coordinated with the laboratory project manager, the laboratory QA/QC director, and the Wood project manager for resolution.

After completion of the data review by the laboratories, laboratory results were forwarded to Wood as Portable Document Format (PDF) files for review and reporting. All laboratory records and data received are maintained in the project files and included in Appendix D.

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3.0 RESULTS

This section provides details on the Port's dissolved copper BMP implementation activities; the marinas and yacht clubs' dissolved copper BMP implementation activities; results of the vessel tracking census; estimates of copper load reduction; and results of the ambient water quality and toxicity monitoring performed in SIYB in 2021.

3.1 BMP Implementation

All Named TMDL Parties have obligations to implement BMPs and meet the copper loading reduction requirements outlined in the SIYB TMDL (i.e., a 76% reduction in copper loading by the end of 2022). The Port continues to address copper loading at the Harbor Police dock, the transient dock, and the weekend anchorage, and continues to support the load reduction efforts of the other Named TMDL Parties. The Port has implemented or is in the process of planning and implementing several categories of BMPs and other actions to reduce dissolved copper loads to SIYB, including:

- Hull paint transition
- Hull-cleaning BMPs
- Education and outreach
- Grant funding and incentives
- Alternative hull paint studies
- Agency-wide activities
- Monitoring
- Reporting
- Policy/regulation
- Testing and research
- Structural and mechanical BMPs

Marinas and yacht clubs have also indicated to the Port that they are implementing BMPs. Sections 3.1.1. and 3.1.2 describe specific BMPs used during the 2021 monitoring year. Section 3.1.1 was provided directly by the Port. Section 3.1.2 was provided directly by individual marinas and yacht clubs and the SIML TMDL Group.

3.1.1 Port of San Diego BMPs to Reduce Copper Loading

The Port has taken the lead in developing a program to reduce copper in SIYB and throughout San Diego Bay. A critical "launch" component of the program was the adoption of the Board of Port Commissioner's Resolution 2009-230 in 2009. This resolution memorialized the strategies and commitments the Port would employ for the Copper Reduction Program to reduce dissolved copper in and around San Diego Bay. As part of its Copper Reduction Program, the Port has initiated, and is in the process of planning and implementing, a number of BMPs and other actions to reduce discharges of dissolved copper into harbors and marinas within SIYB, throughout San Diego Bay, and statewide. The Port's program is a pragmatic approach that complied with the TMDL's interim goals and is currently implementing strategies aimed at achieving the final goal of the SIYB TMDL. The program focuses on the largest source contributions of copper, identifies a strategic approach for implementing projects over the short and long term aimed at copper reduction, and seeks to effectively achieve regulatory compliance for loading and improved water quality while balancing economic and public interests.

The projects implemented by the Port since the Regional Board adopted the SIYB TMDL have reduced dissolved copper discharges to SIYB and also have supported the load reduction efforts of the other Named TMDL Parties, including the SIYB marinas and yacht clubs, hull cleaners, and boaters. The Port's Copper Reduction Program began in 2007 and identified over 30 key initiatives, many of which enabled the Port and the other Named TMDL Parties to comply with the SIYB TMDL's first and second interim targets.

During the 2021 reporting period, the Port continued to focus on policy and regulation approaches aimed at improving water quality as well as reducing copper loading. The Port also focused on addressing remaining water quality-related data gaps, specifically to better understand the effects of in-water hull cleaning (IWHC) on water quality. Feedback from stakeholder engagement sessions in 2019 identified this data gap and also suggested the frequency of cleaning and types of tools used vary from vessel to vessel and between divers and IWHC companies. This highlighted the need to better understand IWHC behaviors and how those behaviors associated with copper levels in the water.

In February 2021, the Port released public surveys that aimed to inform Port staff on current IWHC behaviors. In December 2021, the Port implemented an eight-week temporary pause to the IWHC of copper-based antifouling paints in SIYB. While data are still being analyzed at the time this report is published, much of 2021 was spent planning, scoping, and launching the project, as well as conducting stakeholder outreach to inform the boating community and hull cleaners of the Hull Cleaning Pause.

The Port Marina Working Group, established in 2020, continued to engage stakeholders and interested parties, especially with information pertaining to the Hull Cleaning Pause.

Lastly, the Port continued to support and encourage the other Named TMDL Parties (i.e., boaters, in-water hull cleaners, and SIYB marinas and yacht clubs) in copper reduction efforts within their leaseholds and operations/activities.

In addition to continued focus on policy and regulation, the Port made progress across all focused areas of the Copper Reduction Program:

Policies and Regulation: A variety of separate initiatives were completed, including submitting a comment letter to provide input on the California State Water Resources Control Board (SWRCB) Draft 2020–2022 Integrated Report for the 303(d) list; participating in monthly conference calls with the Los Angeles County Department of Beaches and Harbors to stay engaged on regional TMDL issues and progress; and partnering with the San Diego Regional Board to implement a temporary Hull Cleaning Pause of copper-based antifouling paints in SIYB and conduct water quality monitoring during the temporary pause to better understand the relationship between IWHC and water quality.

Testing and Research: Under the Port's Blue Economy Incubator, an agreement continued with the Rentunder Boatwash company and the Port for Phase 2 testing of the Rentunder Boatwash Pilot project. Additionally, Port staff met with representatives from several alternative coating companies to discuss product development.

Implementation and Facilitation of Hull Paint Transitions: All Port vessels continue to be painted with non-copper hull paints, contributing no load to SIYB.

Education and Outreach: All interested parties were exposed to water quality and copper reduction program activities via outreach efforts such as TMDL status updates to stakeholder groups, information dissemination through digital efforts, conference presentations, newspaper articles, and other outreach initiatives.

Companion Programs: Construction site inspections, commercial business inspections, and Standard Urban Stormwater Mitigation Plan (SUSMP) implementation continued.

Monitoring and Reporting: In addition to annual TMDL monitoring, the *2018 Revised Regional Harbor Monitoring Program Core Monitoring Final Report* (Wood, 2020) was completed. This report takes an in-depth look at water and sediment quality throughout San Diego Bay, including SIYB.

The main elements of the Port's 2021 Copper Reduction Program efforts are described below. A complete list of the Port's BMPs, the status of each, and brief effectiveness assessments are in Appendix B.

3.1.1.1 Policies and Regulation to Reduce Copper Loading

Policies, regulations, and legislative efforts to reduce copper loading are instrumental to the Port's Copper Reduction Program, not only to help meet regulatory compliance requirements, but also to work toward reducing copper throughout San Diego Bay.

When the Port adopted Resolution 2009-230 in 2009, the objective was to detail specific strategies for reducing copper throughout San Diego Bay, including the following:

- Complying with the provisions of regulatory requirements and achieving reductions in copper levels within or in advance of the time frames specified in the SIYB TMDL;
- Identifying viable options for reducing copper levels in San Diego Bay;
- Supporting regulations on hull paints at a state or federal level;
- Developing, as necessary, policies, ordinances, procedures, and/or programs to achieve load reductions;
- Working with tenants and stakeholders to identify and implement copper reduction strategies; and
- Maintaining the Port vessel fleet as 100% non-copper.

Strategies outlined in Resolution 2009-230 have resulted in the Port's approach toward implementing policy, regulation, and legislative efforts to date, all of which are in place to assist in copper reduction throughout San Diego Bay.

<u>DPR Copper Paint Rule: Implementation and Coordination</u>

Throughout the TMDL, the Port has actively pursued state actions and the DPR involvement in appropriately regulating paint use. During adoption of the TMDL in 2005, the Port coordinated with the State and Regional Boards to incorporate a provision requiring DPR to take action to address water quality concerns associated with copper AFPs (SWRCB Resolution 2005-0071; Appendix E). The Port has also promoted legislative initiatives to prompt the DPR to make state-level changes to copper AFP use. Such efforts included Senate Bill (SB) 623 (Kehoe), a legislative initiative in 2013 to eliminate copper hull paint. SB 623 (Kehoe) was ultimately pulled from the legislative docket, and a second initiative, Assembly Bill (AB) 425 (Atkins), was adopted requiring the DPR to set a copper AFP leach rate to address protection of aquatic environments from the effects of exposure to that paint.

The DPR Rule (3 California CCR section 6190) went into effect on July 1, 2018, establishing a maximum leach rate for copper antifouling paints. This regulation is the result of joint efforts by the Port and state legislators with the passing of AB 425, requiring the DPR to adopt a leach rate protective of aquatic environments. Starting on July 1, 2018, paint manufacturers were no longer allowed to import or sell paints in the state of California with leach rates greater than 9.5 $\mu g/cm^2/day$. However, it was noted that existing stock could be sold until June 30, 2021. While this point-of-sale regulation is expected to assist in TMDL compliance, it is unknown when and how the effects of the regulation will translate to improved water quality. Further, the DPR has cautioned that additional mitigation measures may still be required for some water bodies.

For the 2021 reporting year, the grace period for all high-copper paints that were in stock at stores and boatyards expired on June 30, 2021. It is expected that that any recreational vessel painted in California after this date with copper-based AFPs will be painted with the lower-leach-rate paints.

The Port continued collaboration with the DPR on their statewide special study to evaluate whether Category I paints are improving water quality in impaired basins over time. **Port and DPR staff held several conference calls, continuing their ongoing collaborative partnership that promotes consistency in copper paint-related regulations across the state. This partnership enables long-term copper reduction planning to align with state efforts.**

Also, the DPR published a report titled *Study 319 Report: Monitoring of Dissolved Copper in California Coastal Waterbodies* during this reporting period. The DPR Report included sites in SIYB and other California coastal waterbodies. The DPR Report found that dissolved copper concentrations in all eight waterbodies were higher than their respective reference sites. The DPR Report also confirmed that copper-based AFPs on vessel hulls are the source of dissolved copper in marinas and boat basins. The DPR is using the results of this study as a baseline to evaluate future trends in dissolved copper reductions upon full implementation of the DPR Rule. The study is anticipated to be conducted again in 2022 and on a biannual basis for the next several years, if DPR funding is available.

Correspondence with State and Federal Agencies

Regular communications with state and federal agencies, policy makers, and legislators promote consistency in requirements being developed across the state. They also provide a valuable networking mechanism to discuss strategies for implementation of activities and lessons learned and to build upon successful activity models. In 2021, the following correspondences occurred:

State Water Resources Quality Control Board

The Draft 2020–2022 Integrated Report for the 303(d) list was prepared by the SWRCB. The draft report provided background on the methods used to compile and assess the data and also presented new listings and delistings of impaired waterbody-pollutant combinations recommended for the 303(d) list. In June 2021, the SWRCB released the draft report and solicited feedback from the public. **The Port provided comments that were associated with San Diego Bay-specific listings.**

Marina Inter-Agency Coordinating Committee

One Marina Inter-Agency Coordinating Committee (MIACC) meeting occurred during the 2021 reporting year, on June 22, 2021. Topics of discussion for the June 2021 meeting included an update to the Marina del Rey Harbor In-Water Dry Docking Systems, an informational item on the Coastal Sediment Management Workgroup, a presentation on the Marina del Rey Harbor Water-Effect Ratio Study, and an overview of dredged materials management by the Los Angeles Regional Water Quality Control Board. **The Port's participation in this working group remains valuable as it serves as a venue for discussion of copper impairment issues across the state, acting as a conduit to address said issues at the state level.**

Coordination with Other Regions on Copper TMDLs and Impairments

In 2021, Port staff continued to hold monthly "Copper Catch Up" calls with the Los Angeles County Department of Beaches and Harbors to discuss both agencies' TMDL programs and share lessons learned for copper reduction efforts. Staff from both agencies discussed alignment in regional approaches to copper reduction, where applicable, that greatly strengthen both programs, such as discussing special studies and findings that each agency is currently pursuing. **Eight meetings were held in 2021.**

<u>In-Water Hull Cleaning: Ordinance and Permit</u>

Since October 2011, the Port's IWHC regulations have been in place requiring hull-cleaning businesses to obtain Port-issued permits to conduct hull cleaning on tidelands, develop BMP plans, and implement BMPs during all cleaning activities, and ensure that all hull cleaners are trained on the BMPs. The regulations also require marinas to check each hull cleaner for proof of a valid permit and to prohibit non-permitted divers from working in their facilities. At the end of 2012, the Port began issuing identification cards to all permitted hull cleaners to facilitate check-in at the marinas, a process that continued into 2021. For the 2021 reporting period, key permitting statistics are as follows:

- 108 permits have been issued since the onset of the regulation.
- 58 hull-cleaning permits are active (as of December 31, 2021)
- 6 hull-cleaning permits were issued in 2021.

Validation of the permits continued in 2021 via collaborative efforts made by the Port, marinas, and yacht clubs to continue implementing the check-in process. Port staff conducted inspections of the Harbor Police and transient docks, marinas, yacht clubs, and hull cleaners that were conducting business in these areas.

The Port conducted 82 inspections for In-Water Hull Cleaning activities and 55 marina and yacht club inspections bay-wide in 2021. This count does not include inspections conducted as part of the Hull Cleaning Pause.

IWHC Ordinance Update and Related Activities

In September 2019, the Port started a review of its IWHC Ordinance, Permit, and BMP requirements. In 2020, Port staff reviewed comments received during 2019 public engagement sessions and developed next steps to appropriately respond. Addressing data gaps such as the relation between IWHC and water quality was a common theme.

Actions to address these data gaps were taken in 2021, which included (1) a survey of the boating community regarding cleaning behaviors and practices, (2) amending the Port's IWHC Ordinance to implement a temporary Hull Cleaning Pause of copper-based AFPs, and (3) conducting water quality monitoring before, during, and after the pause. These efforts, which continued into 2022, are briefly described below.

Boat hull before and after cleaning

IWHC Surveys

Feedback from the 2019 outreach efforts suggested the frequency of cleaning and types of tools used vary greatly from vessel to vessel and between divers and IWHC companies. As such, the Port developed an online survey to learn more about current IWHC behaviors in San Diego Bay. The surveys covered topics that included hull paint usage, cleaning frequencies, and IWHC tools.

The online survey was distributed to the boating community via e-blast and was also accessible via hyperlink on the District's Copper Reduction Program website[9]. Surveys were open to the public from February 5, 2021 through March 21, 2021.

The Port received 450 survey responses across all categories of targeted respondents, including 401 boaters, 32 in-water hull cleaners, and 17 marina and yacht club managers. For perspective, within the Port's jurisdiction, there are currently 35 marina and yacht clubs and 58 permitted IWHC companies. The responses provided diverse and representative perspectives on a range of IWHC information including vessel hull paint, current management procedures, vessel cleaning practices, and IWHC tools utilized for cleaning. The survey responses were made available to the public on the Copper Reduction Program website, using a public-friendly format of figures and graphs to represent the summaries of each target audience. Survey results and summaries are included in Appendix G.

Temporary Pause to In-Water Hull Cleaning in SIYB

During this reporting period, the Port adopted an amendment to its IWHC Ordinance, Article 4.14 of the District Code, requiring that IWHC of boats with copper-based AFPs be temporarily paused in SIYB. The purpose of the Hull Cleaning Pause was to reduce copper inputs into the basin and thereby improve water quality, and to assess the relationship between IWHC activities and water quality conditions in SIYB. The Ordinance amendment included prohibitions for the cleaning of copper-based AFPs and set a minimum penalty of $1,000 for any party found cleaning a copper-based AFP in SIYB during the Hull Cleaning Pause.

[9] The District's Copper Reduction Program website can be accessed at: https://www.portofsandiego.org/environment/environmental-protection/copper-reduction-program.

Stakeholder engagement was a large focus of the Hull Cleaning Pause. Port staff held frequent meetings with SIYB marina tenants, in-water hull cleaners, boatyard operators, and regulatory agencies. Emails and posts to the Port's website also disseminated information to the boating community. The Port also took public input during a series of Board meetings that occurred over the summer (June, September, and October 2021), with adoption of the Ordinance amendment at the October 12, 2021 Board of Port Commissioners meeting. In addition, the Regional Board closely collaborated and partnered with the Port on this effort.

The Hull Cleaning Pause began on December 19, 2021 and continued through February 9, 2022. Weekly water quality monitoring was conducted as a companion program for four weeks prior to the pause, weekly during the pause, and continued for four weeks after the pause. To ensure compliance with the Ordinance, District staff conducted frequent inspections in SIYB during the pause period. Water quality results are expected later in 2022 and will be shared with the public.

3.1.1.2 Testing and Research

The Testing and Research component of the Copper Reduction Program was developed to assist all Named TMDL Parties in finding solutions to reduce their copper loads, conduct detailed assessments of water quality, and identify new or innovative solutions that may result in water quality improvements. Testing and research strategies evaluated in 2021 included the following:

Copper Removal Approaches

The Port's Blue Economy Incubator was established in 2016 to support entrepreneurship, foster sustainable aquaculture, and help drive blue tech innovation. Ideal candidates for the Port's Blue Economy Incubator include technologies that may help improve sediment and water quality in San Diego Bay.

In 2017/2018, a Sweden-based company, Rentunder, initiated a multi-year pilot project to demonstrate their drive-in boatwash technology, a new approach that offers an alternative to current in-slip hull-cleaning practices, which can reduce copper particulates released into San Diego Bay. Using this technology, vessel hulls are cleaned in an enclosed basin: a gate is opened and allows for boats to enter prior to cleaning; the gate is then raised for the duration of cleaning and lowered again after cleaning to allow the boat to exit. In addition, particulate matter resulting from the cleaning is captured in the basin floor and removed via vacuuming. The Boatwash Pilot Project was implemented in two phases. Phase 1 was conducted from 2018 through 2019, and results were published in a Phase 1 Technical Memorandum in June 2019 (Wood, 2019). In 2020, a Phase 2 concept was submitted by Rentunder to the San Diego Regional Board and stakeholders. In 2021, an agreement was finalized with Rentunder and the Port for Phase 2 testing. **While Phase 2 was scheduled to begin in 2021, COVID-19 delays and other related issues have delayed the start until later in 2022.**

3.1.1.3 Hull Paint Transitions

The transition from copper antifouling paint to non-copper alternatives is one of the most direct approaches to reduce copper loading. By transitioning to the available non-copper alternatives, load reduction is achieved by removing both the loading associated with in-water hull cleaning and passive leaching. The Port remains active in researching and coordinating with manufacturers of alternative non-copper paint technologies. **In 2021, Port staff held several**

meetings with representatives from three alternative hull coating companies (SeaCoat, CeRam-Kote, and Coval) to learn about progress in bringing their respective products to the recreational boating market.

The Port continues to support efforts to assist other Named TMDL Parties in reducing their copper loads by encouraging hull paint transitions and assisting individual boaters in finding alternatives, in addition to its proactive efforts to keep the Port fleet copper-free.

Conversion of Port Fleet

During the first interim compliance phase, the Port completed the transition of its fleet of boats to non-copper paints. Boats were painted with various alternatives, largely depending on their use patterns. In 2021, the Port continued to maintain a copper-free fleet, therefore eliminating any copper loading contributions from both in-water hull cleaning and passive leaching from its fleet of vessels.

All 15 of the Port's boats continue to use non-copper paints, resulting in a 13.5-kg/yr copper load reduction, and zero copper loading to SIYB.

3.1.1.4 Education and Outreach

The Port has developed an extensive education and outreach program to educate Named TMDL Parties and other stakeholders on the use of alternative hull paints and increase their awareness of the environmental impacts of copper paints. The education and outreach program also serves to engage stakeholders in the TMDL issues at the local, regional, state, and federal levels.

Audiences Reached in 2021

The Port continued to ensure that frequent and consistent messages were delivered through multiple media avenues. Outreach efforts continued via email and phone-call responses to public inquiries, regular meetings with marinas and yacht clubs, "one-on-one" meetings with SIYB marina and yacht club managers to discuss the Hull Cleaning Pause, and continued hosting of web-access to brochures and information. A significant effort in the 2021 reporting year included the creation, distribution, and sharing of results of the In-Water Hull Cleaning Online Survey. Additionally, the Port Marina Working Group, which was formed in May 2020, continued to hold meetings as-needed throughout 2021.

The efforts under the Education and Outreach component of the Copper Reduction Program were designed to reach different stakeholders and audiences, depending on the outreach mechanism (Table 3-1). While each component was designed for a primary audience, secondary audiences may also benefit from the information. In 2021, the Education and Outreach component of the Copper Reduction Program was affected by the COVID-19 pandemic in terms of audiences reached; however, several efforts could still be undertaken, with most transitioning to virtual platforms. The 2021 outreach efforts are summarized in Table 3-1.

Table 3-1.
Target Audiences Reached by Outreach Events

Outreach Component	Audience Reached							
	Regulators	Academics	Government Agencies	Boaters	Marinas	Boatyards	Paint Manufacturers	General Public
Booths at Events[1]	-	-	-	-	-	-	-	-
Conference Attendance	P	P	P	S	S	S	S	S
Guest Speaking Engagements	P	P	P	P	P	P	S	S
Workshops[1]	-	-	-	-	-	-	-	-
Printed Outreach Material	S	S	S	P	P	S	S	P
Dedicated Web Address to Copper Reduction Program	P	P	P	P	P	P	P	P
Peer-Based Testimonials	S	S	S	P	P	S	S	P
Newspaper Articles	P	S	P	P	P	P	P	P
"One-on-One" Meetings	-	-	-	P	P	-	-	-
Public Engagement Sessions[1]	-	-	-	-	-	-	-	-

Notes:
P = Primary Audience, indicating the most likely audience reached with the associated outreach effort.
S = Secondary Audience, indicating audiences that could be potentially reached with the associated outreach effort.
[1]Efforts under these initiative topics were did not occur in 2021 due to COVID-19.

SIYB TMDL Stakeholder Meetings

In 2018, Port staff began a series of one-on-one meetings with marina and yacht club managers to personalize outreach efforts and to foster collaborative relationships. The Port fostered these efforts with the goals of improving vessel tracking data, re-engaging other Named TMDL Parties on TMDL progress, and discussing the additional copper reduction efforts needed to reach full TMDL compliance.

One-on-one meetings continued in 2021, where Port staff met with marina and yacht club managers to discuss the Hull Cleaning Pause and other TMDL updates. **Port staff met with ten of the eleven SIYB facilities during this effort.**

Port Marina Working Group

In May 2020, representatives from the marinas and yacht clubs in SIYB, Port staff, and a Port Commissioner formed the Port Marina Working group to collaborate (where applicable) on efforts aimed to improve water quality and achieve TMDL compliance**.** The Working Group established the following vision and mission:

> **Vision**: Water Quality First
> **Mission**: A working group between the Port and Shelter Island Yacht Basin Marina Tenants to ensure close coordination on management strategies that meet TMDL compliance and preserve, protect, and enhance water quality in Shelter Island Yacht Basin and San Diego Bay.

These meetings fostered discussions on topics including existing data gaps and how to address them to better understand the connection between in-water hull cleaning and water quality, current copper loading models, annual TMDL monitoring and reporting, and state-level discussions on the TMDL. **In 2021, the Regional Board began attending these meetings on an as-needed basis to discuss progress to date and challenges remaining. The Regional Board will continue to be an integral part of these meetings for the final year of the TMDL.**

Workshops, Seminars, Conferences, and Public Engagement Sessions

Ongoing public education and outreach can occur in the form of conference attendance and invited speaker opportunities. In addition to providing information on the Port's Copper Reduction Program and TMDL status, staff in attendance may also gain valuable insight from other presentations that discuss regulatory framework and project examples. Further, seminars and workshops allow for more focused topics to be discussed in depth and at length, thus providing the opportunity to both disseminate proper information and provide additional learning experiences for Port staff.

Conferences

In 2021, Port staff attended one virtual conference, in which content focused on sediment and water quality and regulatory updates as related to local, regional, state and federal water quality issues.

Staff attended:

- Southern California Society of Environmental Toxicology and Chemistry (SoCal SETAC) virtually (April 26–28, 2021).

Guest Speaker Invitations

In 2021, Port staff were invited to present at one speaking engagement at the state level. It should be noted that this meeting was held in a virtual format due to COVID-19 social distancing protocols.

The following guest speaker appearance was made:

- *California Clean Boating Network Meeting, Virtual* – Port staff presented the status to date of the SIYB TMDL. The California Clean Boating Network consists of a collaboration of government, environmental, business, boating, and academic organizations working to improve clean boating in California (November 4, 2021). Approximately 73 people attended.

Dedicated Web Address

The Port has developed a dedicated web address, www.sandiegobaycopperreduction.org, that links viewers to all elements of its Copper Reduction Program. The link, which was started in 2010, provides information on hull paint conversion efforts such as the 319(h) grant project, hull-cleaning regulations, and general paint research information. The site also contains downloadable materials such as frequently asked questions (FAQs), applications to obtain a hull-cleaning permit, data relevant to copper impairment, and recent press releases relevant to copper reduction. Monitoring studies are also available on the website.

In 2021, the Copper Reduction Program website was routinely updated with information pertaining to current Copper Reduction Program initiatives (e.g., boater surveys, documents, and updates associated with the Hull Cleaning Pause), as well as updated lists of permitted hull cleaners as new information became available. In addition, a dedicated email address, hullcleaning@portofsandiego.org, continued to remain available to facilitate information transfer among interested parties. Staff also ensured that the website was readily available and that information remained current and easy to find. **In 2021, the Port's dedicated website had 2,774 page views. The average time a user spent on the page was 6 minutes 38 seconds.**

Peer-Based Testimonials

Another media tool is peer-based marketing, with local boaters discussing their experiences using alternative paint products. During 2012, video testimonials were developed and displayed at the 2012 expo. In 2013, the video was posted on the Port's website. Additional written testimonials were also included so that readers could learn about other local boaters' experiences***. As of December 31, 2021, the video had been viewed 1,173 times.***

Newspaper Articles

The Log newspaper has a 52,000-person readership in southern California and is available at more than 500 boating-related locations throughout the region. **In 2021, four articles appeared in *The Log* related to the Port's Copper Reduction Program, and specifically SIYB. *The Log* publication reaches many in the local boating community and has served as an important vehicle for informing the public about the Port's efforts regarding copper reduction in San Diego Bay:**

- March 10, 2021: This article, "Port of San Diego Invites Boating Community to Participate in In-Water Hull Cleaning Survey," discussed the Port's release of In-Water Hull Cleaning Surveys to the San Diego Bay boating community.
- May 6, 2021: This article, "Dissolved Copper: A More Than Decade Long Battle With More Efforts on the Horizon," discussed copper issues at the state level, progress to date, and potential regulations on the horizon.
- July 1, 2021: This article, "Commissioners Approve 8-Week Pause for In-Water Hull Cleaning in Shelter Island Yacht Basin," discussed the Port's June 2021 Board of Port Commissioner Meeting presentation that introduced the In-Water Hull Cleaning Pause and companion water quality testing program.

- November 30, 2021: This article, "Port of San Diego Suspends In-Water Hull Cleaning of Boats with Copper-Based Paint Starting in December," discussed the Board of Port Commissioner's adoption of an Ordinance Amendment.

Port of San Diego Survey Seeks Your Assistance

The Port of San Diego is currently collecting information regarding in-water hull cleaning activities in San Diego Bay.

They are asking boat owners, marina and yacht club operators/managers, and hull cleaners to please take a *brief survey*.

Information collected may help Port staff better understand cleaning strategies used in San Diego Bay and inform potential next steps to reduce sources of dissolved copper in the bay.

The deadline for the survey is March 21. Thank You!

Additionally, in March 2021, an advertisement ran in Blue Sky News encouraging boaters to participate in online surveys. Blueskynews.com is an internet marketing company specializing in the boating and yachting maritime industry.

Internal Education

Increasing Port-wide awareness about the Copper Reduction Program, alternative paint use, and status of water quality regulations is vital to a successful program. A solid understanding of the program attracts support by the Port's decision makers, such as the Board of Port Commissioners and executive team, and so enables projects and policy decisions to move forward. An informed executive team can also ensure that adequate funding is available to implement the program. As such, Port staff continually seek opportunities to provide information on key items of the Copper Reduction Program. The following information was provided to the Port Board and executives during 2021:

- February 4, 2021: A Port Board memorandum provided a notification of the IWHC Online Survey Launch.
- April 15, 2021; A Port Board memorandum provided a notification of the submittal of the SIYB 2020 Annual TMDL Compliance Report to the Regional Board.
- May 6, 2021: A Port Board memorandum provided notification of the availability of results for the IWHC Online Surveys.
- June 10, 2021: A Port Board memorandum provided notification of the availability of the DPR report evaluating dissolved copper in California waterways.
- June 15, 2021: Port staff appeared before the Board to provide a status update on the SIYB Dissolved Copper TMDL and sought direction to staff on initiating the Hull Cleaning Pause.
- September 14, 2021: Port staff appeared before the Board to provide an informational update on the Hull Cleaning Pause and sought direction to staff on a proposed amendment to the District IWHC Code.

- October 12, 2021: Port staff appeared before the Board to conduct a public hearing and adopt an Ordinance amending Section 4.14 to implement a mandatory eight-week pause of IWHC of vessels with copper-based AFPs.

Long-Term Vessel Planning Committee

In September 2020, the Harbor Police department created a committee to strategically plan for long-term vessel acquisitions for the Harbor Police fleet. **In 2021, Port staff who work with the Copper Reduction Program continued to participate in the committee to ensure vessels added to the fleet remain copper-free.**

Partnerships and Collaboration

Since the inception of the SIYB TMDL, the Port has been working to identify opportunities with other Named TMDL Parties, academia, and other agencies to develop and provide outreach, testing opportunities, funding opportunities, and policies. **In 2021, the Port continued to participate in multiple collaborative opportunities with groups within San Diego and throughout the California boating and regulatory communities.** These activities and groups include:

- Coordination with the SIML TMDL Group and other SIYB marinas on SIYB TMDL annual reporting;
- Regular participation in state-led MIACC meetings for antifouling and marina-related topics;
- One-on-one meetings with SIYB TMDL listed tenants (i.e., marinas and yacht clubs); and
- Collaborative discussions with Los Angeles County Department of Beaches and Harbors to discuss Copper Reduction Program efforts and lessons learned from the SIYB TMDL to date.

3.1.1.5 Additional Efforts (Companion Programs)

Several other Port programs directly or indirectly support the Copper Reduction Program's efforts. The Blue Economy Incubator (discussed above) continues to be instrumental in identifying potential pilot studies that may assist in continued efforts to reduce copper concentrations and improve water quality throughout San Diego Bay.

The Port's Stormwater Program incorporates BMPs to decrease copper loading from landside activities bay-wide and specifically into SIYB. These efforts, described below, are primarily related to compliance requirements set forth in the Municipal Separate Storm Sewer System (MS4) Permit. Information related to the implementation efforts for these programs can be found in the Port Jurisdictional Runoff Management Plan (JRMP) Annual Report at:

https://pantheonstorage.blob.core.windows.net/environment/JURMP-2020-2021-Annual-Report.pdf

Construction Site Inspections

Construction inspections ensure that sites undergoing development or redevelopment control pollution and prevent discharges. For construction sites and facilities that do not comply, the Port takes enforcement action.

Commercial Business Inspection Program

Per the requirements of the Municipal Permit, the Port inspects commercial facilities in SIYB and bay-wide. One component, the Port's marina inspection program, provides opportunities to educate boat owners about pollution prevention, focusing on visual observations to identify sources of pollution and the pollution prevention practices implemented at the marinas and yacht clubs, including over-water work and boat maintenance. The goal of the inspections is to help implement behavior changes that will help reduce pollution (including copper) in bay waters.

Stormwater Quality Management Plan and Development of Regulations

The Port incorporates Stormwater Quality Management Plan (SWQMP) requirements on applicable development and redevelopment projects bay-wide. Depending on the type and size of the projects, SWQMP requirements could include site design, source controls, and treatment controls such as low-impact development (LID). All efforts help reduce copper loading into San Diego Bay. Since 2009, 34 bay-wide projects overall with metals as priority pollutants have been implemented, treating a total of 114.25 acres. In SIYB, there have been five existing projects overall with metals as priority pollutants, treating a total of 9.19 acres.

3.1.1.6 Monitoring and Reporting

The main goal of the Monitoring and Reporting component of the Copper Reduction Program is to assess long-term improvements in water quality. Several special studies have been implemented to address data gaps in basin water quality dynamics and copper loading. The data collected for the annual monitoring program and through various special studies have all contributed to a better understanding of basin water quality dynamics in SIYB.

Regional Harbor Monitoring Program

This bay-wide monitoring program assesses the ambient conditions in San Diego Bay and other southern California harbors on the basis of comparisons with historical data and comparisons of contaminant concentrations with known surface water and sediment thresholds. The program samples water, sediment, benthic infauna, and a variety of fish species in San Diego Bay. Upon completion of the study, a comprehensive report is generated. The Port is the lead agency on this project.

The core monitoring program was conducted at 58 stations in San Diego Bay from July through September 2018, with 10 of these stations in marina strata. Each station was sampled for water quality, sediment quality, and benthic community health. **In August 2021, the revised 2018 San Diego Regional Harbor Monitoring Program Final Report was published and can be found at:**

https://pantheonstorage.blob.core.windows.net/environment/San-Diego-Regional-Harbor-Monitoring-Program-2018-FINAL-REPORT-REVISED.pdf

3.1.2 Marina, Yacht Club, and SIML TMDL Group BMPs to Reduce Copper Loading

The SIYB marinas and yacht clubs implement BMPs annually to reduce copper loading from their respective facilities and operations. The marinas and yacht clubs' BMP manual and summary of marina and leasehold vessel tracking was provided to the Port and is included in Appendix B. Section 3.1.2 has been provided directly by individual marinas and yacht clubs and the SIML TMDL Group. This information is being included by the Port to comply with the requirements of the Investigative Order. Questions pertaining to the BMP selection or descriptions of information within this section should be directed to the Named TMDL Parties, as applicable.

<u>SIML TMDL Group BMPs to Reduce Copper Loading</u>

The Shelter Island Master Leaseholder Group is committed to adopting and implementing best management practices (BMPs) to effect copper load reduction. Numerous BMPs, over the past ten years, have been developed, applied, modified and assessed for effectiveness.

We measure the success of these BMPs by estimated load reductions; extensive tracking of load reductions is used as feedback to effectiveness of instituted programs. Additionally we weigh strive the effect of regulatory developments, and product choices as effectors of programmatic construct.

Accordingly, we have as in improvement of the process; we have reviewed the method by which load reductions are estimated.

1. Profound changes in the types of paints available have been made. With recent regulatory actions altering the formulation of paints, all paints applied in California are destined to become low copper paints. This development alters the categorization of older paints because the recognized reduction applied only to high copper paints, which are no longer legally applicable. The off shot is that deferring recoating of hulls is no longer considered a load reduction stratagem.
2. Adapting load reduction estimates to recognize actual paint leach rates rather than a generic value was evaluated. Copper paints vary by 300% in their leach rates, a factor not considered by the current loading formula. A model was assembled to assess consequential programmatic developments from such an evaluation
3. Recognizing the number of boat hulls with paints exhausted of copper may lead to BMPs programmatic developments. More than 15% of hulls have not been painted in the last six years. Maintaining these hulls free of growth is accomplished by in-water cleaning; a cleaning process does not liberate copper because these paints are exhausted of copper content.

We are encouraged that additional load reductions can be accomplished by refining both the BMPs and the methods to evaluate BMP effectiveness.

Retaining achieved load reductions is accomplished through a continuous program of education and outreach. Ad hoc group meetings, meetings with Port Staff, meetings with technical and regulatory professionals, complement monthly meetings of group members in an effort educate and outreach. A wok group inclusive of Port Staff was assembled this year to explore additional measures to ward address TMDL compliance.

These and additional BMP actions are described in more detail in Appendix B.

Program Improvement

- **Assess and Improve-** Adapt to scientific findings and adopt independent model for load calculation
- **Collaboration–** Participate in meetings and coordination with Port staff and Port consultants on new and ongoing scientific studies
- **BMP Subcommittee –**conducted 4 meetings in 2020
- **Consultancy and Guidance –** retained an environmental professional
- **Seek Alternative Methods -** Facilitation of dry storage on land and support of inter-club sailing regattas using dry storage boats reduce copper load

Technical Improvement

- Fish and wildlife Consults
- Developed advisory groups with scientists and experts in field

Outreach

- **Hull Surveys–** 95% of boaters holding slips in member organizations were contacted about antifouling paint usage.
- **Communication –** email blasts and were sent to boatowners with information on TMDL

  Across Companies- Reached out to boatyards and paint manufacturers.

Education

- **Meetings –** Participation and attendance at SIYB TMDL Group meetings since 2005 including 12 group meetings in 2020
- **Training -** Ongoing staff trainings for existing and new marina employees
- **Procedures –** Ongoing procedures for verifying and monitoring Port Diver Permit
- **Signage-** Posting diver BMP signs at marinas and yacht club entrances

Posted sign informing hull cleaners and boat owners about BMPs

Bay Club Marina BMPs to Reduce Copper Loading

In addition to the BMP information mentioned above, the Bay Club Marina revised its wharfage agreement in 2019 to include a number of environmental conditions, including those related to copper loading and the TMDL. These facility-specific BMPs are included as part of the Bay Club Marina contract for private wharfage that is signed by the owners that berth their vessels at this facility. The portions of the Bay Club Marina Hotel contract with its vessel-owner tenants that specifically address copper reduction are summarized below.

- Posted sign informing hull cleaners and boat owners about BMPs.
- “Owner also understands that he/she will be required to provide an annual bottom paint questionnaire to the marina office by November 15 each year that includes the following information: paint name, color, product number, brand, copper percentage, boatyard name, and date of paint was applied.”
- “Marina recommends the use of non-toxic, biocide free bottom paints.”
- “Hull cleaning must utilize Best Management Practices to minimize discharge of bottom paint into the water.”
- “Vessel Owners are required to use environmentally friendly hull cleaning companies who are licensed by the Port of San Diego and use Best Management Practices and monitor their divers.”

3.2 SIYB TMDL Vessel Tracking

Vessel tracking data collected in 2021 are presented in this section. Through continued efforts by marina and yacht club managers to survey boaters, approximately 92% of boat owners responded and reported information regarding their hull paints in 2021. Figure 3-1 illustrates the changes in response rate over previous surveys.

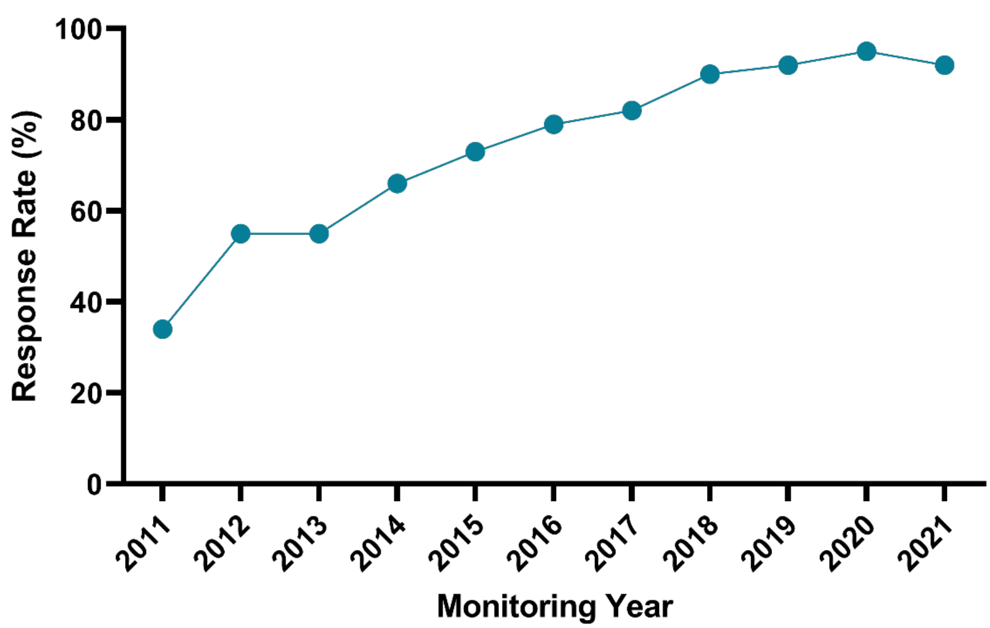

Figure 3-1. Vessel Census Response Rate by Monitoring Year

3.2.1 Vessel Counts by Hull Paint Type

Vessel conversion calculations were based on data provided by SIYB marinas and yacht clubs, in addition to data from the Harbor Police dock, transient dock, and weekend anchorage.

The 2021 census of the hull paint types reported by all SIYB marinas and yacht clubs is as follows:

- A total of 2,158 vessels were included in the 2021 census of hull paint types in marinas and yacht clubs.
- 586 vessels have copper or unknown (assumed to be copper) hull paint. This includes:
  - 149 vessels with confirmed copper paints (i.e., non-DPR Category I paints).
  - 437 vessels with unconfirmed or unknown paints that are conservatively assumed to be copper.
- 990 vessels have paints considered as lower copper. These vessels consist of the following:
  - 978 vessels have paint that is listed as a DPR Category I (low-leach) paint.
  - 12 vessels have low-copper paint (non-Category I with less than 40% copper content).
- 466 vessels have aged-copper hull paint.
- 116 vessels have either non-copper paints, no bottom paint, or are stored in slip liners or HydroHoists® (112 vessels confirmed and 4 vessels unconfirmed).

The 2021 census of the hull paint types reported from the Harbor Police dock, transient dock, and weekend anchorage is as follows:

- 15 Port vessels berthed at the Harbor Police dock have non-copper paints or no bottom paint.
- There are 66 spaces in SIYB where transient vessels can be berthed (26 slips at the transient dock and 40 mooring locations at the weekend anchorage). All vessels that were berthed at these two locations in 2021 are considered to have unknown (assumed to be copper) hull paint.

3.2.2 Slip Count and Occupancy

Based on the 2021 hull paint census, 2,314 slips[10] were available to be occupied by vessels in SIYB, including 40 moorings at the weekend anchorage, 26 transient dock slips, and 17 slips at the Harbor Police dock. This slip count is consistent with that observed in SIYB in the past few years. However, there was a decrease of 49 slips in 2021 compared with the baseline of 2,363 slips and moorings identified in the SIYB TMDL.

Of the 2,314 slips and moorings in SIYB during 2021, 75 slips (73 slips in the marinas and yacht clubs and 2 slips at the Harbor Police dock) were reported to be vacant year-round, leaving 2,239 slips that were occupied for at least a portion of time in 2021. Slip occupancy rates for each

[10] At several locations in SIYB, single slips can be occupied by more than one vessel. In these cases, the slip count may include each vessel within the slip. For example, if two vessels occupy a single slip, the slip count for this location may have been reported as two slips, not one. Efforts to improve consistency on this issue remain ongoing.

hull paint type are also shown in Tables 3-3 through Table 3-6. On average, slips and moorings in SIYB were occupied 93% of the time.

3.2.3 Vessel Dimensions

Based on reported hull lengths and beam widths, the average vessel in SIYB in 2021 was 11.6 meters (38.1 feet) long by 3.7 meters (12.0 feet) wide (Appendix C). The average wetted hull surface area was 36.2 square meters (m^2), which is slightly larger than that identified in the SIYB TMDL assumptions (35.2 m^2). Figure 3-2 depicts the average wetted hull area from 2012–2021.

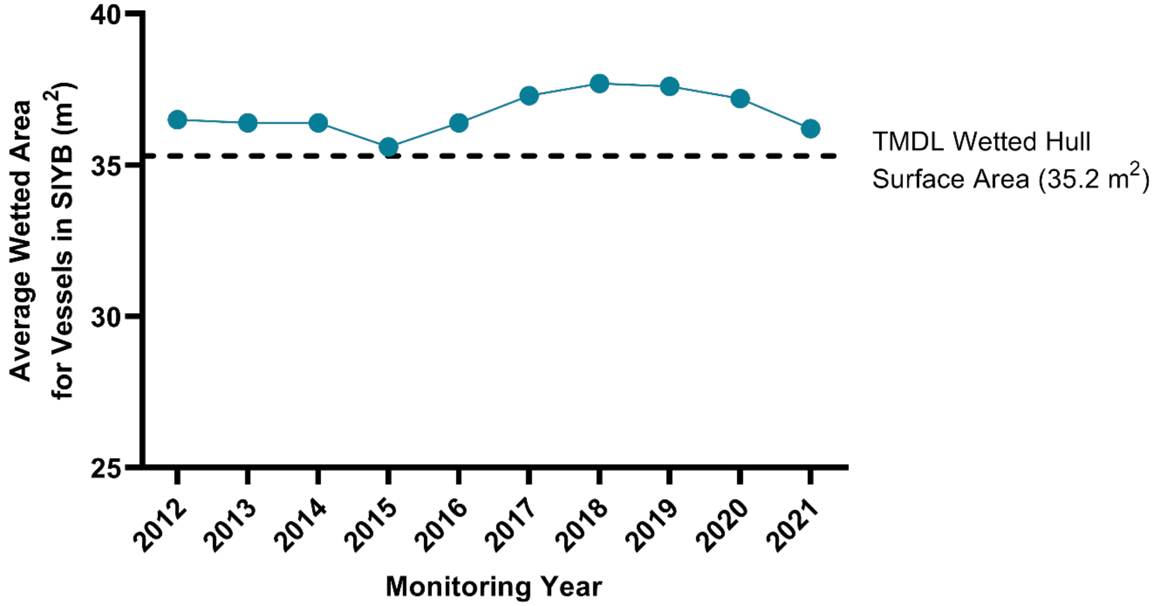

Figure 3-2. Average Wetted Hull Surface Area in SIYB by Monitoring Year, 2012–2021

3.2.4 Estimated Copper Load and Load Reduction

Estimates of the dissolved copper load and load reduction for 2021 are presented in this section first as a total combined load and then parsed out to show loads attributed to passive leaching and in-water hull cleaning separately.

The total 2021 dissolved copper load estimates from passive leaching and in-water hull cleaning sources combined are summarized in Table 3-2 and as follows:

- Vessels with copper (or assumed copper) paints contributed a load of 531 kg/yr. This total includes 503 kg/yr from vessels in yacht clubs and marinas and hull cleaning activities occurring in those facilities, roughly 95% of the loading from this paint type category, and 27.6 kg/yr from vessels at the transient dock and weekend anchorage and hull cleaning activities occurring in those locations, roughly 5% of the loading from this paint category.
- DPR Category I paints in marinas and yacht clubs contributed a dissolved copper load of approximately 415 kg/yr.
- Low-copper hull paints in marinas and yacht clubs contributed a dissolved copper load of 5.28 kg/yr.

- Aged-copper paints in marinas and yacht clubs contributed an annual dissolved copper load of 194 kg/yr.
- Vessels that were reported to have unconfirmed non-copper paints contributed an annual dissolved copper load of 2.70 kg/yr.
- No dissolved copper load was contributed to SIYB by 127 vessels with either confirmed non-copper paint, vessels in slip liners or HydroHoists®, or vessels that were unpainted. This includes 112 vessels in marinas and yacht clubs and all 15 Port vessels berthed at the Harbor Police dock.
- A total of 73 slips within the SIYB marinas and yacht clubs and 2 slips at the Harbor Police dock were reported to be vacant year-round, and therefore did not contribute a dissolved copper load into the basin.

In summary, vessels painted with copper-based paints contributed a combined passive and in-water hull cleaning load of 1,148 kg/yr of dissolved copper to SIYB in 2021. This total dissolved copper load is composed of approximately 1,120 kg/yr (98%) for vessels in yacht clubs and marinas and hull cleaning activities occurring in those facilities plus approximately 27.6 kg/yr (2%) for vessels at the Harbor Police dock, transient dock, and weekend anchorage and hull cleaning activities occurring in those locations.

Table 3-2.
2021 Estimated Copper Load and Load Reduction from TMDL Baseline

Copper Loading Category	Total Copper Load (kg/yr)
SIYB Vessels in Yacht Clubs and Marinas with Copper or Unknown Paint (Assumed Copper)	503
SIYB Vessels in Yacht Clubs and Marinas with DPR Category I (Low Leach Paint)	415
SIYB Vessels in Yacht Clubs and Marinas with Confirmed Low-Copper Paint	5.28
SIYB Vessels in Yacht Clubs and Marinas with Unconfirmed Low-Copper Paint	N/A
SIYB Vessels in Yacht Clubs and Marinas with Aged-copper Paint	194
SIYB Vessels in Yacht Clubs and Marinas with Confirmed Non-Copper Paint or No Paint	0
SIYB Vessels in Yacht Clubs and Marinas with Unconfirmed Non-Copper Paint	2.70
Port HPD Fleet	0
Transient Dock and Weekend Anchorage in SIYB	27.6
SIYB Yacht Club and Marina Year-Round Vacancies	0[a]
Port HPD Year-Round Vacancies	0[b]
Grand Total Load	1,148
Load Reduction from TMDL Baseline[c]	***952 (45.3%)***

Notes:
a. 73 slips within the SIYB marinas and yacht clubs were reported to be vacant year-round and therefore contributed no dissolved copper load to SIYB.
b. 2 slips at the Harbor Police dock were reported to be vacant year-round and therefore contributed no dissolved copper load to SIYB.
c. The total copper load from the TMDL equals 2,100 kg/yr from vessel paints (passive leaching and in-water hull cleaning, combined). The estimated load due to background, urban runoff, and atmospheric deposition is not included in this total.
% = percent; DPR = Department of Pesticide Regulation; HPD = Harbor Police dock; kg/yr = kilograms per year; N/A = not applicable; SIYB = Shelter Island Yacht Basin; TMDL = Total Maximum Daily Load

In addition to combined total dissolved copper load estimates presented in Table 3-2, load estimates are presented separately for passive leaching and in-water hull cleaning for the 2021 monitoring year. Estimated dissolved copper loads in 2021 attributed to the TMDL-derived passive leaching load allocation are shown in Table 3-3 (yacht clubs and marinas) and Table 3-4 (Harbor Police dock, transient dock, and weekend anchorage). Estimated dissolved copper loads in 2021 attributed to the TMDL-derived in-water hull cleaning load allocation are shown in Table 3-5 (yacht clubs and marinas) and Table 3-6 (Harbor Police dock, transient dock, and weekend anchorage).

Table 3-3.
2021 Copper Load by Vessel Hull Paint Type and Reported Occupancy at Yacht Clubs and Marinas as a Result of Passive Leaching Using TMDL Assumptions

Vessel Hull Paint Category	Number per Category	Average Time Occupied[c]	Copper Load per Vessel (kg/yr)[d]	Total Copper Load (kg/yr)
Copper or Unknown (Assumed Copper)	586	95.4%	0.86	481
DPR Category I (Low Leach)	978	94.3%	0.43	396
Low-Copper (Confirmed)	12	97.8%	0.43	5.04
Low-Copper (Unconfirmed)[a]	0	N/A	0.86	N/A
Aged-Copper Paint[b]	466	92.4%	0.43	185
Non-Copper (Confirmed or Not Painted)	112	95.9%	0	0
Non-Copper (Unconfirmed)[a]	4	75.0%	0.86	2.58
Vacant Slips (Yacht Clubs and Marinas)	73	--	--	0
Total ***(Yacht Clubs and Marinas)***	***2,158[e]***	***--***	***--***	***1,070***

Notes:
a. Low- or non-copper paints that were not confirmed are counted as high-copper paint (0.86 kg/yr load for passive leaching), per the Monitoring Plan.
b. Calculations for aged-copper paints are similar to those for low-copper paints (0.43 kg/yr load for passive leaching).
c. The average total occupancy was derived by the count within each vessel hull paint category multiplied by the average percent occupancy for that category; values are presented to three significant figures.
d. Based on per-vessel load identified for passive leaching in Appendix 2 of the SIYB TMDL.
e. Note: Vacant slips are not included in this total.
% = percent; DPR = Department of Pesticide Regulation; kg/yr = kilogram(s) per year; N/A = not applicable

Table 3-4.
2021 Copper Load by Vessel Hull Paint Type and Reported Occupancy at the Harbor Police Dock, Transient Dock, and Weekend Anchorage as a Result of Passive Leaching Using TMDL Assumptions

Vessel Hull Paint Category	Number per Category	Average Time Occupied[b]	Copper Load per Vessel (kg/yr)[c]	Total Copper Load (kg/yr)
Port Fleet (Confirmed Non-Copper)	15	93.3%	0	0
Transient Dock[a] (Copper or Unknown and Assumed to be Copper)	26	69.6%	0.86	15.6
Weekend Anchorage[a] (Copper or Unknown and Assumed to be Copper)	40	31.4%	0.86	10.8
Vacant Slips (Port HPD Dock)	2	--	--	0
Total ***(HPD, Transient Dock, and Weekend Anchorage)***	***81[d]***	***--***	***--***	***26.4***

Notes:
a. Calculated as an average, based on total number of days a slip or mooring was occupied by a guest vessel.
b. The average total occupancy was derived by the count within each vessel hull paint category multiplied by the average percent occupancy for that category; values are presented to three significant figures.
c. Based upon per vessel load identified for passive leaching in Appendix 2 of the SIYB TMDL.
d. Note: Vacant slips are not included in this total.
% = percent; kg/yr = kilogram(s) per year; HPD = Harbor Police dock

Table 3-5. 2021 Copper Load by Vessel Hull Paint Type and Reported Occupancy at Yacht Clubs and Marinas as a Result of In-Water Hull Cleaning Using TMDL Assumptions

Vessel Hull Paint Category	Number per Category	Average Time Occupied[c]	Copper Load per Vessel (kg/yr)[d]	Total Copper Load (kg/yr)
Copper or Unknown (Assumed Copper)	586	95.4%	0.04	22.4
DPR Category I (Low Leach)	978	94.3%	0.02	18.4
Low-Copper (Confirmed)	12	97.8%	0.02	0.23
Low-Copper (Unconfirmed)[a]	0	N/A	0.04	N/A
Aged-Copper Paint[b]	466	92.4%	0.02	8.62
Non-Copper (Confirmed or Not Painted)	112	95.9%	0	0
Non-Copper (Unconfirmed)[a]	4	75.0%	0.04	0.12
Vacant Slips (Yacht Clubs and Marinas)	73	--	--	0
Total* *(Yacht Clubs and Marinas)	***2,158[e]***	***--***	***--***	***49.8***

Notes:
a. Low- or non-copper paints that were not confirmed are counted as high-copper paint (0.04 kg/yr load for hull cleaning), per the Monitoring Plan.
b. Calculations for aged-copper paints are similar to those for low-copper paints (0.02 kg/yr load for hull cleaning).
c. The average total occupancy was derived by the count within each vessel hull paint category multiplied by the average percent occupancy for that category; values are presented to three significant figures.
d. Based upon per vessel load identified for in-water hull cleaning in Appendix 2 of the SIYB TMDL.
e. Note: Vacant slips are not included in this total.
% = percent; DPR = Department of Pesticide Regulation; kg/yr = kilogram(s) per year; N/A = not applicable

Table 3-6. 2021 Copper Load by Vessel Hull Paint Type and Reported Occupancy at the Harbor Police Dock, Transient Dock, and Weekend Anchorage as a Result of In-Water Hull Cleaning Using TMDL Assumptions

Vessel Hull Paint Category	Number per Category	Average Time Occupied[b]	Copper Load per Vessel (kg/yr)[c]	Total Copper Load (kg/yr)
Port Fleet (Confirmed Non-Copper)	15	93.3%	0	0
Transient Dock[a] (Copper or Unknown and Assumed to be Copper)	26	69.6%	0.04	0.72
Weekend Anchorage[a] (Copper or Unknown and Assumed to be Copper)	40	31.4%	0.04	0.50
Vacant Slips (Port HPD Dock)	2	--	--	0
Total* *(HPD, Transient Dock, and Weekend Anchorage)	***81[d]***	***--***	***--***	***1.22***

Notes:
a. Calculated as an average, based on total number of days a slip or mooring was occupied by a guest vessel.
b. The average total occupancy was derived by the count within each vessel hull paint category multiplied by the average percent occupancy for that category; values are presented to three significant figures.
c. Based upon per vessel load identified for in-water hull cleaning in Appendix 2 of the SIYB TMDL.
d. Note: Vacant slips are not included in this total.
% = percent; HPD = Harbor Police dock; kg/yr = kilogram(s) per year

Based on the estimated total dissolved copper load from passive leaching and in-water hull cleaning combined (1,148 kg/yr), the load reduction for 2021 was calculated (Table 3-2). Load reduction is determined by subtracting the estimated dissolved copper load from the 2,100-kg/yr baseline load attributed to vessels identified in the SIYB TMDL Technical Report (passive leaching = 2,000 kg/yr and in-water hull cleaning = 100 kg/yr). Based upon these calculations, the 2021 estimated copper load reduction is 952 kg/yr (i.e., 2,100 kg/yr minus 1,148 kg/yr = 952 kg/yr), which is a 45.3% reduction from the baseline load identified in the TMDL.

3.3 SIYB TMDL Water Quality Monitoring

This section summarizes the analytical chemistry and toxicity results from the 2021 SIYB TMDL summer monitoring event conducted by the Port on August 24, 2021.

3.3.1 Surface Water Chemistry

Surface water samples were tested for dissolved and total copper and zinc, DOC, TOC, and TSS. Results for analytical testing performed by Weck are summarized in Table 3-7 and presented in the laboratory report in Appendix D.

Table 3-7.
Chemistry Results for SIYB Surface Waters, August 2021 Event

Station	Dissolved Copper (µg/L)	Total Copper (µg/L)	Dissolved Zinc (µg/L)	Total Zinc (µg/L)	DOC (mg/L)	TOC (mg/L)	TSS (mg/L)
SIYB-1	**6.7**	12	19	22	1.5	1.4	6
SIYB-2	**5.5**	7.9	16	18	2.4	1.4	10
SIYB-3	**6.2**	8.9	16	20	2.5	1.3	4 J
SIYB-4	**6.5**	9.4	15	17	1.3	1.3	7
SIYB-5	2.9	3.8	7.8	8.9	1.4	1.3	5
SIYB-6	1.3	2.3	3.8	5.6	1.4	1.3	8
SIYB-REF-1	0.98	1.4	2.6	3.4	1.2	1.4	7
SIYB-REF-2	1.4	2.0	4.1	5.0	1.3	1.4	11

Notes:
Values in **bold** are above the USEPA National Recommended Water Quality CCC for dissolved copper of 3.1 µg/L in marine waters.
No values were above the CCC for dissolved zinc of 81 µg/L.
High tide on 08/24/2021 was +5.5 feet at 11:24AM; tidesandcurrents.noaa.gov
µg/L = microgram(s) per liter; CCC = criterion continuous concentration; DOC = dissolved organic carbon; J = estimated value; mg/L = milligram(s) per liter; REF = reference; SIYB = Shelter Island Yacht Basin; TOC = total organic carbon; TSS = total suspended solids; USEPA = United States Environmental Protection Agency

Dissolved Copper – Dissolved copper levels within SIYB ranged from 1.3 µg/L at the outermost station (SIYB-6) to 6.7 µg/L at the innermost station (SIYB-1). Dissolved copper concentrations at four of the six SIYB stations exceeded the dissolved copper CTR criterion continuous concentration (CCC) WQO of 3.1 µg/L and criterion maximum concentration (CMC) WQO of 4.8 µg/L. The concentrations of dissolved copper at the outermost stations in SIYB (SIYB-5 and SIYB-6), as well as both reference stations located outside SIYB, were below both WQOs.

Total Copper – Total copper concentrations measured in SIYB followed a similar spatial pattern, ranging from 2.3 µg/L at the outermost station (SIYB-6) to 12 µg/L at the innermost station

(SIYB-1). The total copper concentrations at the reference stations (SIYB-REF-1 and SIYB-REF-2) were 1.4 µg/L and 2.0 µg/L, respectively.

Dissolved Zinc – Dissolved zinc concentrations in SIYB increased moving from the mouth to the head of the basin, ranging from 3.8 to 19 µg/L. Dissolved zinc levels in SIYB and at the reference stations were well below the USEPA CCC of 81 µg/L.

Total Zinc – Total zinc concentrations followed a similar spatial pattern, with values ranging from 5.6 µg/L at SIYB-6 to 22 µg/L at SIYB-1. The total zinc concentrations at the reference stations (SIYB-REF-1 and SIYB-REF-2) were 3.4 µg/L and 5.0 µg/L, respectively.

DOC – DOC concentrations in the water column, which have been shown to affect the bioavailability of free copper, were highest at Stations SIYB-2 and SIYB-3 (2.4 and 2.5 milligrams per liter [mg/L], respectively). DOC concentrations at all other stations within SIYB and at the reference stations were relatively consistent, ranging from 1.2 to 1.5 mg/L.

TOC – Similarly, measured concentrations of TOC were relatively consistent for all samples in SIYB and the reference stations, ranging from 1.3 to 1.4 mg/L.

TSS – Measured concentrations of TSS were variable for all samples in SIYB and the reference stations, ranging from 4 mg/L to 11 mg/L.

3.3.1.1 Comparison of SIYB Dissolved Copper Levels over Time

An average basin-wide dissolved copper concentration was calculated (excluding the reference stations) for comparison with the prior SIYB TMDL monitoring results (Figure 3-3). The basin-wide average concentration of dissolved copper measured in 2021 was 4.9 µg/L ± 0.9 µg/L (mean ± standard error), which is lower than the 2005–2008 baseline level (8.3 µg/L). This is the lowest basin-wide average dissolved copper concentration measured during the annual SIYB TMDL monitoring since 2013 (Figure 3-3).

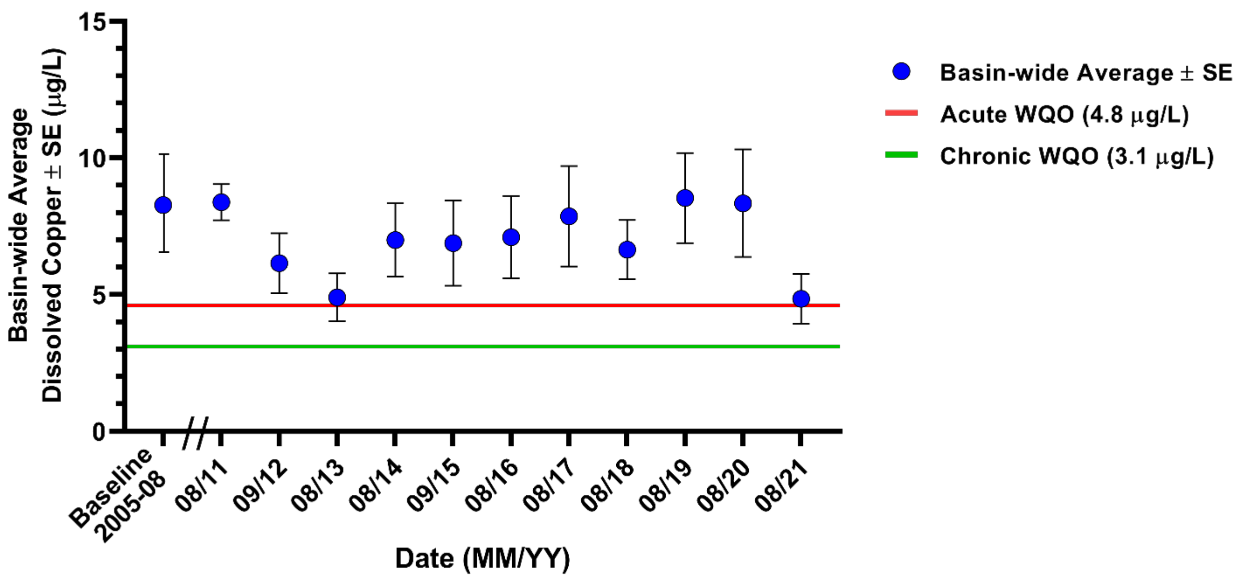

Figure 3-3. Average Dissolved Copper Concentrations by Year in SIYB Relative to Baseline Conditions

3.3.1.2 Analytical Chemistry QA/QC

All samples were submitted to the analytical chemistry laboratory on the day after they were collected (August 25, 2021). The samples were received in good condition at Weck at 3.7°C and on ice. The samples for dissolved metals analyses were field-filtered by Wood and preserved by the laboratory immediately upon receipt. All samples met holding time requirements for analysis.

Analytical chemistry results underwent a thorough QA/QC evaluation; they were determined to meet the data quality objectives in the QAPP and were deemed acceptable for reporting purposes, with the qualifications noted in the QA section of the laboratory report (Appendix D).

A review of data quality indicators and evaluation of potential data impact associated with the 2021 SIYB TMDL analytical chemistry results is provided below:

- Seawater samples were diluted for copper between 1 to 5 times due to matrix interference, resulting in elevated detection limits.
  - The analytical laboratory routinely dilutes samples to ensure sample concentrations are within instrument calibration ranges. Diluting the samples also allows the laboratory to provide more accurate results by eliminating the potential matrix effect often observed in metal analyses of seawater samples. The final analyte concentrations reported by the laboratory are well above the associated reporting limits for all affected samples. Therefore, the analytical QA/QC officer determined that there is no impact on data usability.
- Similar to results in previous events, low-level detections of dissolved and total copper and zinc were observed in the equipment rinsate (ER) blank.
  - Ideally, the level of metals in this QA sample should be very low or non-detect (ND). Dissolved concentrations of copper and zinc were reported as ND in the field blank (FB), indicating that the low-level detections reported in the ER sample may be due to potential trace contamination of the Niskin sampler. Additionally, trace levels of total copper and zinc were measured in the ER at concentrations greater than those detected in the FB. However, the concentrations of both copper and zinc in the ER were negligible relative to sample concentrations measured within SIYB and therefore are not considered a significant data bias.
- DOC/TOC spike recoveries were outside of performance-based recovery limits.
  - Recoveries were above the laboratory's recovery limits for DOC and slightly below the laboratory's recovery limits for TOC, indicating possible matrix interference. These results are consistent with historical concentrations and are reported as measured. The data are flagged to indicate possible matrix interference. The laboratory control samples (LCSs) were within acceptance limits, indicating that the laboratory was in control and the data is acceptable.
- Low-level detections of TSS, DOC, and TOC were observed in the ER blank and the FB.
  - Trace detections of TSS, DOC, and TOC measured in the ER and FB are of a range similar to those of previous events and may be representative of trace field and/or laboratory contamination. Corresponding laboratory QA/QC samples met all project-specific limits in the QAPP, with the exception of the matrix spike (MS)

and matrix spike duplicate (MSD) for DOC/TOC, which were outside of laboratory performance-based recovery limits as noted above. Because similar low-level detections have been observed in previous events, extra care is taken in the field to ensure that sampling equipment is thoroughly cleaned and rinsed prior to collection of each sample. However, due to the ubiquitous nature of these constituents, some combined low-level contamination from the field and analytical testing is expected, even under clean room conditions. These low-level detections are not considered significant enough to warrant retesting or recollection of samples and testing. All results are considered usable for their intended data purposes and are reported as provided by the laboratory.

- Spiking levels were appropriate as requested for all analytes with the exception of the DOC/TOC LCS samples, which were spiked at 1 mg/L (one-half of the MS/MSD spike level of 2 mg/L).
  - There is no data impact from the lower DOC/TOC LCS spiking level. Results are therefore considered usable for their intended data purposes and are reported as provided by the laboratory.
- DOC values in several cases were higher than the TOC values reported for the same sample.
  - Water samples for TOC and DOC analyses are dispensed to separate sample vials in the field, and laboratory analyses are conducted separately. This sample collection and testing approach can sometimes result in TOC levels slightly lower than DOC levels. The magnitudes of these minor differences are in general agreement with results from previous events. Corresponding laboratory QA/QC samples met all QAPP limits, with the exception of the MS/MSD for DOC/TOC, which were outside of laboratory performance-based recovery limits as noted above. Additionally, concentrations measured in the associated laboratory blanks were very low to ND. The differences were not considered significant enough to warrant retesting or recollection of samples and testing. All results are considered usable for their intended data purposes and are reported as provided by the laboratory.

3.3.2 Toxicity

In addition to water chemistry analyses, the samples were tested for toxicity using an acute 96-hour survival exposure with marine larval fish (Pacific topsmelt) and a chronic 48-hour survival and development test using bivalve embryos (Mediterranean mussel). Results for the toxicity testing performed by Wood Aquatic Toxicology Laboratory are summarized below and presented in the laboratory report in Appendix D.

3.3.2.1 Pacific Topsmelt 96-Hour Acute Bioassay

Results of the acute topsmelt survival tests conducted on SIYB surface water samples are summarized in Table 3-8 and Appendix D. There were no statistically significant effects on topsmelt survival observed in any samples tested, indicating that surface water samples collected in SIYB and at the reference station (SIYB-REF-1) were not toxic to topsmelt (Table 3-8).

Table 3-8.
Results of the 96-Hour Pacific Topsmelt Bioassay

Concentration (% Sample)	Station/Mean Survival (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Laboratory Control	96.7	96.7	93.3	93.3	93.3	93.3	93.3
25	96.7	93.3	90.0	90.0	90.0	96.7	96.7
50	96.7	96.7	96.7	90.0	90.0	86.7	93.3
100	90.0	96.7	93.3	90.0	90.0	96.7	90.0
Test Results							
NOEC (%)	100	100	100	100	100	100	100
LC_{50} (%)	>100	>100	>100	>100	>100	>100	>100
TST (Pass/Fail)	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Notes:
There were no statistically significant effects on topsmelt survival compared with the laboratory controls in August 2021 using the TST or the USEPA 2002 acute method guidance flowchart statistical methods.
The reference toxicant LC_{50} value (188 µg/L copper) for this test was within two standard deviations of the Wood Aquatic Toxicology Laboratory historical mean (83.1–226 µg/L copper), indicating typical organism sensitivity to copper.
µg/L = microgram(s) per liter; > = greater than; % = percent; LC_{50} = concentration estimated to be lethal to 50% of the organisms; NOEC = no observed effect concentration; TST (Pass/Fail) = test of significant toxicity; REF = reference; SIYB = Shelter Island Yacht Basin; TST Pass = sample is nontoxic according to the TST calculation; USEPA = United States Environmental Protection Agency

3.3.2.2 Bivalve Larvae 48-Hour Chronic Bioassay

Results of the mussel development tests conducted on SIYB surface water samples are summarized in Table 3-9 and Appendix D. Bivalve tests were conducted on both filtered and unfiltered samples (for the 100% treatments only). Filtration on the 100% concentration samples was conducted to safeguard against potential undesirable effects from resident organisms in the raw water samples. Results for both unfiltered and filtered samples are presented as a combined endpoint of survival and development per the USEPA (1995b) protocol.

No statistically significant effects on bivalve larval development were observed in any samples tested (filtered or unfiltered), indicating that surface water samples collected in SIYB and at the reference station (SIYB-REF-1) were not toxic to bivalve larvae.

Toxicity Identification Evaluation

Because chronic toxicity has been observed at Station SIYB-1 during all prior TMDL monitoring events (2011–2020), a Phase I TIE was initiated concurrently with the compliance chronic toxicity tests on water from Station SIYB-1 to identify the likely class(es) of contaminants causing toxicity should an effect be observed again. However, there were no toxic effects on bivalve larvae observed at Station SIYB-1 during the 2021 monitoring event. Therefore, the Phase I TIE could not be fully executed.

Table 3-9.
Results of the 48-Hour Bivalve Larvae Bioassay

Concentration (% Sample)	Mean Combined Survival and Normal Development						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Laboratory Control	89.1	87.4	84.5	83.3	84.7	81.0	83.8
6.25	83.5	83.9	88.1	83.4	87.3	79.7	83.2
12.5	85.7	87.8	89.4	89.3	84.3	85.9	85.9
25	83.0	85.8	86.6	87.1	89.9	89.0	85.8
50	86.3	87.5	86.9	87.4	82.4	84.9	79.5
100	88.6	85.3	87.9	87.5	86.7	84.9	89.6
100 (1.2-µm filtered)[a]	83.9	85.1	86.1	83.8	82.2	89.9	81.8
Test Results							
TST (Pass/Fail) unfiltered sample	Pass	Pass	Pass	Pass	Pass	Pass	Pass
TST (Pass/Fail) filtered sample	Pass	Pass	Pass	Pass	Pass	Pass	Pass
EC_{50} (% unfiltered sample)	>100	>100	>100	>100	>100	>100	>100
EC_{50} (% filtered sample)	>100	>100	>100	>100	>100	>100	>100

Notes:
There were no statistically significant effects on bivalve larval development compared with the laboratory controls in August 2021 using the TST or the USEPA 2002 acute method guidance flowchart statistical methods.
The reference toxicant EC_{50} value (7.09 µg/L copper) for this test was within two standard deviations of the Wood Aquatic Toxicology Laboratory historical mean (4.55–18.3 µg/L copper), indicating typical organism sensitivity to copper.
a. Each undiluted sample was also tested filtered through 1.2-µm filter to remove potentially harmful native algae that might interfere with test organism performance. Mean combined survival and normal development in the filter controls ranged from 82.0–90.1%.
µg/L = microgram(s) per liter; µm = micrometer(s); > = greater than; % = percent; EC_{50} = concentration estimated to cause an adverse effect on 50% of the organisms; REF = reference; SIYB = Shelter Island Yacht Basin; TST (Pass/Fail) = test of significant toxicity; TST Pass = sample is nontoxic according to the TST calculation

3.3.2.3 Toxicity QA/QC

This section summarizes the QA/QC findings associated with the 2021 SIYB TMDL compliance toxicity testing. The QA/QC summary provided by Wood Aquatic Toxicology Laboratory is included in Appendix D.

Field Observations

On August 20, 2021, as well as the day prior to sample collection (August 23, 2021), reconnaissance surveys were conducted in SIYB to evaluate the study area for the presence of algal blooms and general water clarity. In addition to these visual assessments, the reconnaissance surveys also included collection of water samples that were sent to the laboratory to be analyzed for the presence of harmful algal species. The analyses showed that the water clarity in SIYB was acceptable and that the collected water samples did not contain an abundance of harmful algae species. Based upon these findings, it was determined that the sample collection should proceed as planned.

Sample Receipt

Samples were received in good condition on the same day that they were collected (August 24, 2021). Both tests were initiated on August 25, 2021, within the 36-hour holding time requirement.

Toxicity Test Validity

Pacific Topsmelt 96-Hour Acute Bioassay

The topsmelt test organisms were received by a commercial supplier five days prior to testing. The fish were held in the laboratory and allowed to acclimate to test conditions. There was less than 10% mortality with the fish during holding, which is considered typical, and the topsmelt were determined to be of good quality for test initiation.

Pacific topsmelt survival ranged from 93.3% to 96.7% in all laboratory controls, which meets the minimum test acceptability criterion (TAC) of 90% mean survival in the controls. The topsmelt acute bioassay test met all TAC set by the USEPA, as well as internal laboratory QA program requirements. All topsmelt survival test results are considered valid and acceptable for reporting purposes.

Bivalve Larvae 48-Hour Chronic Bioassay

For the chronic bivalve larvae development test, each sample was tested with its own corresponding laboratory control. Control survival for the 2021 bivalve larvae tests ranged from 88.4% to 100%, which exceeds the USEPA TAC of 50% survival. Bivalve larvae normality in the controls ranged from 88.0% to 91.6%; four of the seven laboratory controls met the USEPA TAC of 90% or greater proportion normal, while three controls were slightly below this level. Because the average proportion normal among all of the laboratory controls met the USEPA TAC, the test results were deemed valid. Further, all seven laboratory controls met the ASTM TAC of 70% or greater for the combined survival and proportion normal endpoint, with values ranging from 81.0% to 89.1%. All bivalve larvae development test results are considered valid and acceptable for reporting purposes.

Reference Toxicant Tests

Concurrent reference toxicant results for the Pacific topsmelt test and the bivalve larvae test are summarized in Table 3-10 and Table 3-11, respectively. Both tests met the corresponding minimum TAC and were deemed valid. The calculated LC_{50} for the Pacific topsmelt test and EC_{50} for the bivalve test were within the acceptable range (i.e., within two standard deviations of the laboratory historical mean), indicating that the test organisms used during this round of testing were healthy and exhibited typical sensitivity to copper.

Table 3-10.
Summary of Reference Toxicant Test Results for Pacific Topsmelt

Copper Chloride Reference Toxicant Test			
Concentration (µg/L Copper)	**Mean Percent Survival**	**LC_{50} (µg/L Copper)**	**Historical LC_{50} ± 2SD Range (µg/L Copper)**
Laboratory Control	100	188	83.1 – 226
25	96.7		
50	93.3		
100	76.7		
200	66.7		
400	0		

Notes:
µg/L = microgram(s) per liter; LC_{50} = concentration estimated to be lethal to 50% of the organisms; SD = standard deviation

Table 3-11.
Summary of Reference Toxicant Test Results for Bivalve Larvae

Copper Chloride Reference Toxicant Test			
Concentration (µg/L Copper)	**Mean Combined Survival and Normal Development**	**EC_{50} (µg/L Copper)**	**Historical EC_{50} ± 2SD Range (µg/L Copper)**
Laboratory Control	88.0	7.09	4.55 – 18.3
2.5	83.7		
5.0	84.5		
10	4.3		
20	0		
40	0		

Notes:
µg/L = microgram(s) per liter; EC_{50} = concentration estimated to cause an adverse effect on 50% of the organisms; SD = standard deviation

Curved Hinged Larvae

During the 2014 monitoring, it was noted that some of the larvae (approximately 70%) were enumerated as “abnormal” because they had a slightly curve-hinged shell (i.e., bean-shaped) rather than a straight-hinged D-shaped shell (AMEC Environment & Infrastructure, Inc., 2015). To evaluate the recurrence of this observation for future TMDL bivalve larvae tests, the laboratory scored the larvae as (1) larvae with a fully developed shell with a straight-hinged D-shape, (2) partially developed larvae with a concave or curved hinge, and (3) larvae that fail to develop a shell or display severe morphological defects (see photographs in the toxicity report in Appendix D).

The percentage of curved hinges observed in 2021 was 0.3% or less in every sample (unfiltered and filtered). The factor(s) that contributed to the elevated number of curved hinges observed in the SIYB-1 sample in 2014 (>70%) did not recur in 2021.

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4.0 DISCUSSION

This section discusses copper loading, water quality, and TMDL trajectory based on data and information collected during the 2021 and previous reporting periods.

4.1 Dissolved Copper Load

Based on the 2021 vessel census data, there was an estimated annual dissolved copper load to SIYB of 1,148 kg/yr from passive leaching and in-water hull cleaning. This total is composed of 1,120 kg/yr (98%) from vessels in marinas and yacht clubs and 27.6 kg/yr (2%) from vessels located at the Harbor Police dock, transient dock, and weekend anchorage. Figure 4-1 presents dissolved copper loads from 2012 to 2021 compared with the TMDL baseline load (2,100 kg/yr). This figure also shows the estimated loads in relation to the TMDL interim and final load reduction targets. Since achieving the 2012 and 2017 interim TMDL loading targets, the estimated dissolved copper load to SIYB has leveled off (Figure 4-1). With only one year remaining in the existing TMDL timeline, the current dissolved loading trajectory is not trending toward attainment of the final TMDL load requirement of 567 kg/yr.

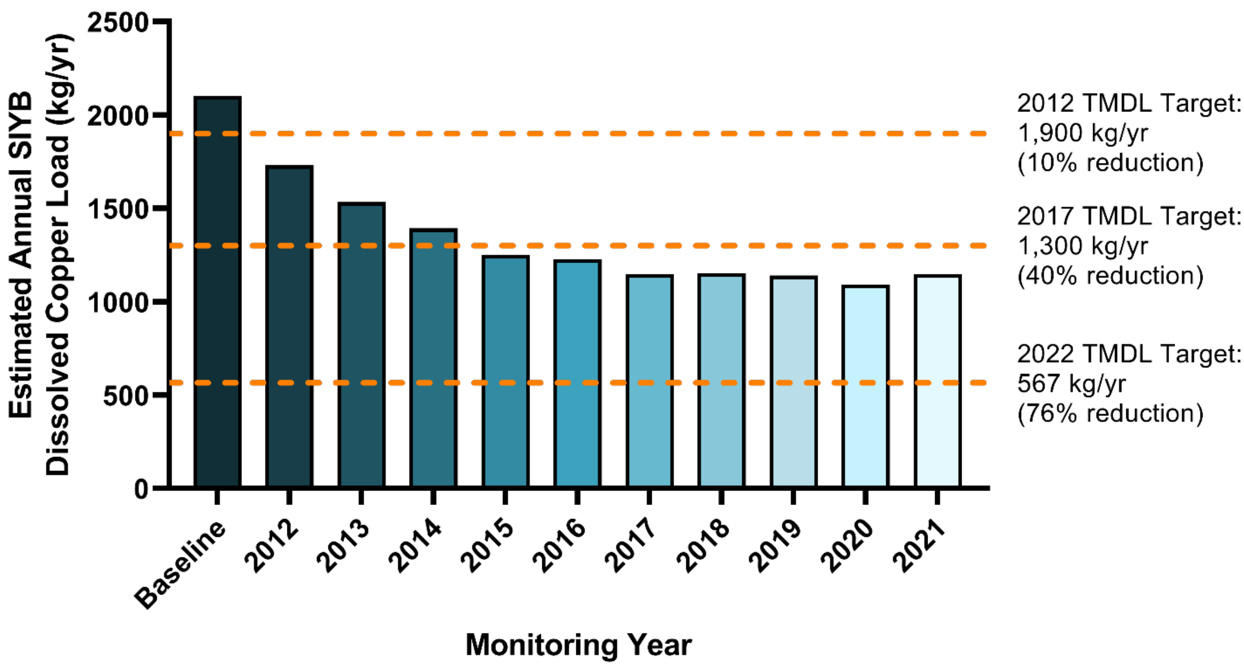


Figure 4-1. Annual SIYB Dissolved Copper Load per Monitoring Year

4.1.1 Dissolved Copper Load Reduction Sources

The results of the vessel tracking efforts were used to estimate the dissolved copper load reduction of 45.3% (952 kg/yr) for 2021 compared with the TMDL baseline load (2,100 kg/yr). Load reduction sources include use of lower copper paints, aged-copper paints, non-copper alternatives, vacant slips, and decreased slip occupancy rate. The relative input from each category contributing to the total load reduction is shown in Figure 4-2.

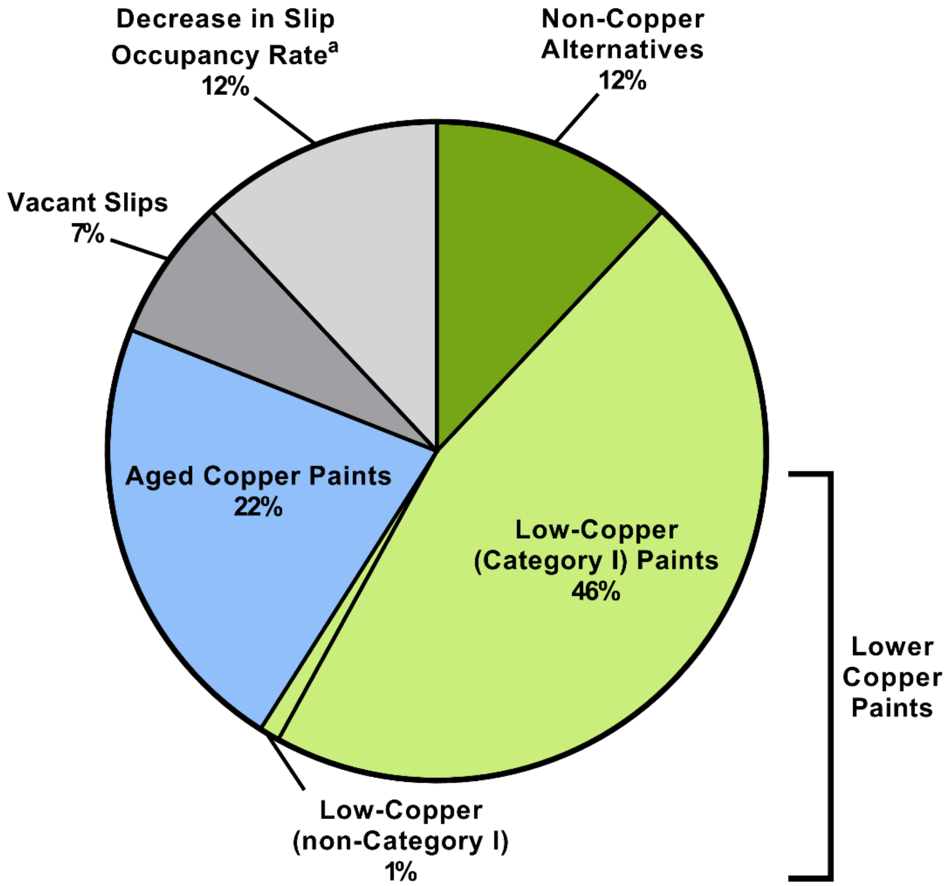


Figure 4-2. 2021 Estimated Load Reduction (952 kg/yr) Relative Percentage per Category

Notes:
a. Decrease in average slip occupancy represents the load reduction due to an average occupancy rate of 93% for all vessels in SIYB.

Overall, the data from 2021 indicate that low-copper paints (specifically DPR Category I paints) and aged-copper paints accounted for approximately 69% of the copper load reduction. Decreases in slip use and occupancy (i.e., 93% average occupancy rate for vessels in 2021 relative to the 100% occupancy rate used for the TMDL assumptions), as well as full vacancies (i.e., slips that were vacant for the entire 2021 monitoring year), accounted for the second largest copper load reduction. Non-copper paints, slip liners, and HydroHoists® are all considered non-copper alternatives, which do not contribute a copper load to SIYB. Notably, the use of non-copper alternatives, which can provide the greatest load reduction benefit, accounted for the smallest fraction of copper reduction strategies in 2021, consistent with results from previous years. It should be noted that the entire Port fleet was converted to non-copper paints in 2012 and has not contributed to copper loading in SIYB since that time.

4.1.2 Annual Variation in Dissolved Copper Load Categories

The annual vessel tracking program has been a part of the Monitoring Plan since 2012, which allows for documentation of changes in paint type use and slip occupancy over time. Figure 4-3 presents the distribution of paint load categories from 2012 to 2021.

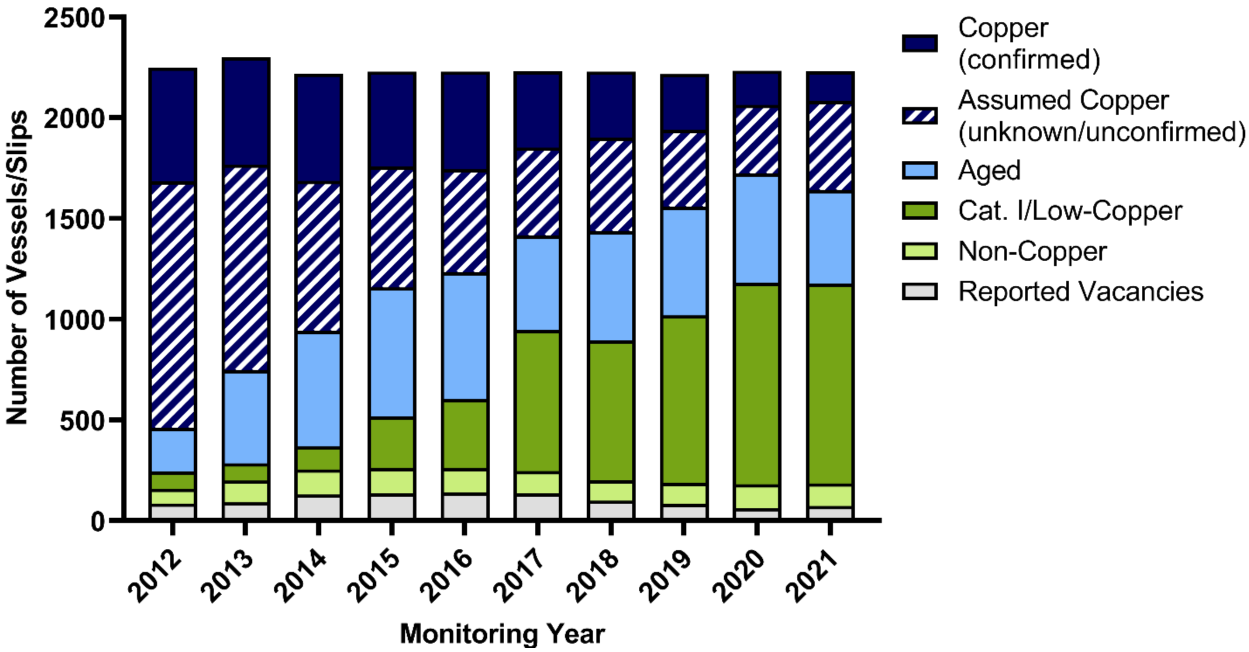


Figure 4-3. Load Categories per TMDL Year, 2012–2021

Since the implementation of the TMDL monitoring program, there has been a notable shift from the use of high-copper paints to DPR Category I/low-copper paints. However, as discussed in Section 4.1, the annual dissolved copper load has leveled off since 2017 as a result of the trends in paint use outlined below and depicted in Figure 4-3:

- The transition to DPR Category I paints is slowing with no increase in use of DPR Category I paints between 2020 and 2021.
- The use of confirmed high-copper paints has decreased over the past 10 years and started to level off in 2021, as high-copper paints can no longer be sold or applied to vessels in California under the DPR Rule.
- Of the remaining vessels classified with “high-copper” paints in 2021, 75% of vessel hull paint types are unknown or unconfirmed and are conservatively assumed to be copper under the original TMDL assumptions.
- The number of vessels with non-copper alternatives has remained relatively consistent since 2013.
- A total of 73 vacancies were observed in yacht clubs and marinas in 2021, which is similar to that observed in recent years.

4.1.3 Alternative Load Reduction Scenarios: Category I Paint Tracking Efforts during the DPR Rule Transition Period

Following the DPR Rule implementation in July 2018, the transition to Category I low-leach paints became evident in paint use trends, as the majority of newly painted vessels were confirmed to be painted with DPR Category I paints (see Figure 4-4). However, the DPR Rule allowed for existing stock of high-copper paints (those exceeding the maximum leach rate requirement of 9.5 µg/cm^2/day) to be sold until June 30, 2021. During this transitional period (July 1, 2018 through

June 30, 2021), it became increasingly challenging to track paint use and distinguish between original paint formulations with leach rates exceeding 9.5 μg/cm^2/day and ones that were reformulated to meet the DPR maximum leach rate requirements. In many cases, a particular paint name could be associated with both a high-copper and DPR Category I paint. For example, a high-copper paint "Ultra-Kote" was reformulated to meet DPR Rule maximum leach rate requirements; however, its name has not changed, and only the USEPA registration number (which is not always known or provided) can be used to distinguish between the DPR Category I and high-copper formulations. In addition, some uncertainty exists with paint classification due to inconsistent product information obtained from different sources. For example, Coppercoat® is classified as "non-leaching" on the manufacturer's website[11], but is a registered copper paint pesticide with the DPR.

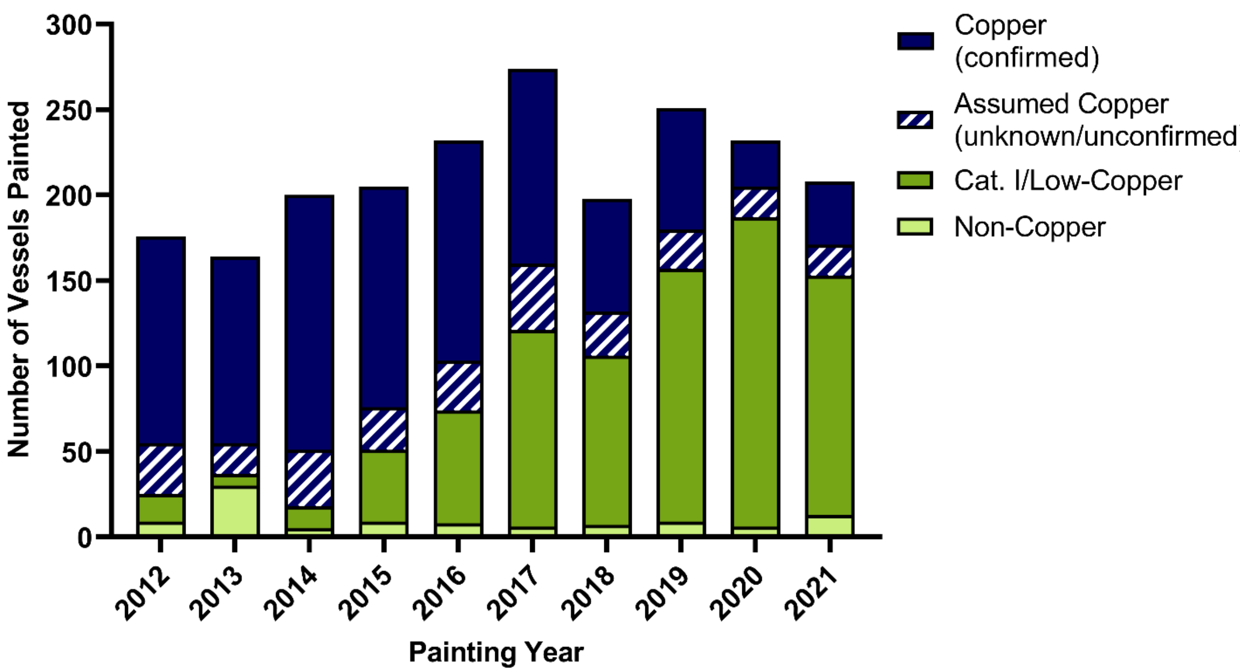


Figure 4-4. Hull Paint Types for Newly Painted Vessels Over Time
Note: Only vessels with painting dates reported in the vessel tracking data were used for this analysis.

While the DPR maintains a database of paints, it is continually updated as products are reformulated. As such, the accuracy and knowledge of specific vessel paint data, particularly the USEPA registration number, become critical to understanding the specific product that was applied and whether that product is high-copper or DPR Category I.

The vessel tracking approach defined in the Monitoring Plan estimates loads conservatively. If a vessel's paint is unknown or cannot be confirmed to be low copper or non-copper based upon the product information supplied, the paint is assumed to be high-copper and is assigned a full load of 0.9 kg/yr. Therefore, the 2021 dissolved copper load estimate of 1,148 kg/yr presented in this report (Section 3.2.4) was calculated using these assumptions.

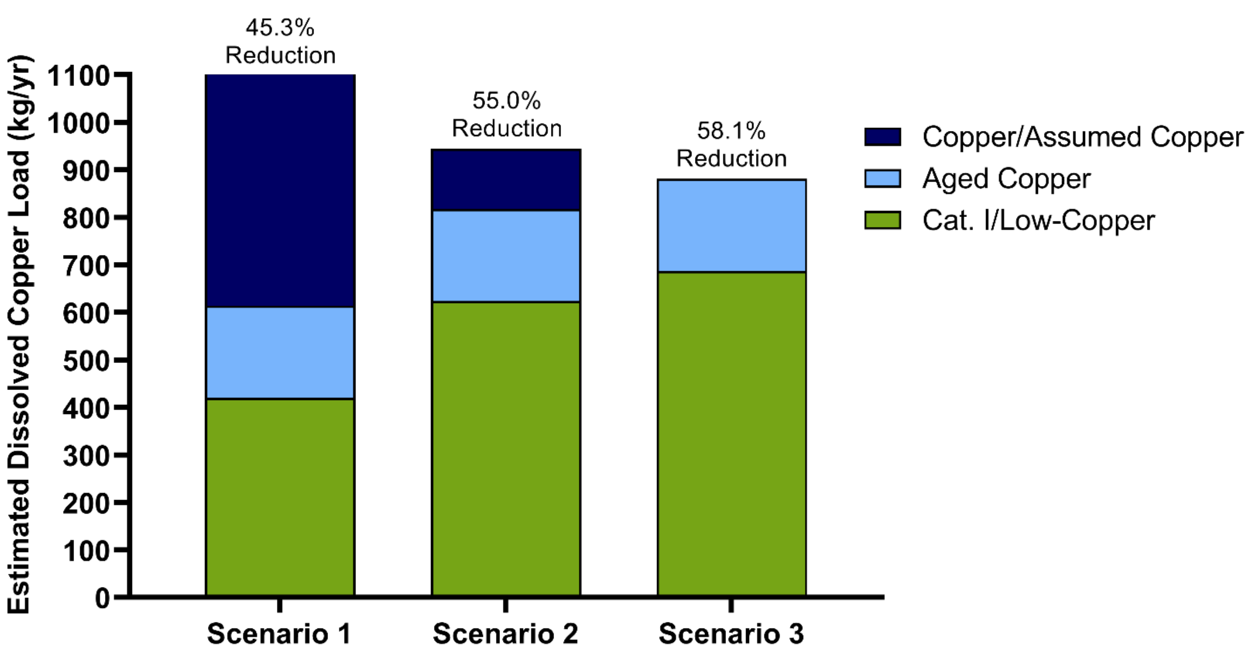
Notably, 437 of the remaining 586 vessels (75%) in marinas and yacht clubs classified as high-copper in 2021 had unknown or unconfirmed hull paint types and were conservatively

[11] https://www.coppercoatusa.com/faq.php

assumed to be high-copper. However, it is possible that vessels with unknown or unconfirmed paints were actually painted with DPR Category I paints as a result of the DPR Rule implementation and paint availability in the boatyards. To account for potential inconsistencies associated with vessel tracking since the implementation of the DPR Rule and the DPR Product/Label database, alternative load estimates were also calculated for three possible scenarios, each using different assumptions related to known/unknown paint types, as follows:

- Scenario 1 – Original Conservative Loading Approach: This scenario represents the dissolved copper load estimate using the original Monitoring Plan assumptions presented in Table 2-3 in Section 2.2.3. Any vessels painted after December 31, 2018 (or with an unknown painting date) with unknown or unconfirmed paints were conservatively assumed to have copper paint (0.9 kg/yr/vessel).
- Scenario 2 – Loading Approach Assuming Unknown or Unconfirmed Paints are DPR Category I: This scenario represents the dissolved copper load estimate assuming that any vessels painted after December 31, 2018 (or with an unknown painting date) with unknown or unconfirmed paints have DPR Category I paint (0.45 kg/yr/vessel) as a result of the implementation of the DPR Rule.
- Scenario 3 – Paint-Date Driven Loading Approach After DPR Rule Implementation: This scenario represents the dissolved copper load estimate assuming that all vessels painted after the original DPR Rule implementation date, July 1, 2018, have DPR Category I paint (0.45 kg/yr/vessel). This scenario assumes that boatyards did not apply surplus high-copper paints to any vessels that were berthed in SIYB.

Loading estimates for each scenario are presented in Figure 4-5.



Notes:
Scenario 1: Original assumptions
Scenario 2: Assume vessels with unknown or unconfirmed paints are Category I
Scenario 3: Assume all vessels painted on/after July 1, 2018 are Category I

Figure 4-5. 2021 Dissolved Copper Loading Estimate Scenarios

Dissolved copper load estimates calculated for Scenarios 2 and 3 indicate a reduced load relative to that calculated using the original SIYB TMDL assumptions. However, as shown in Scenario 2, data from the 2021 hull paint census suggest that there are still a number of vessels confirmed to have non-DPR Category I paints, based on the paint information provided by the boaters. High-copper (i.e., non-DPR Category I paints) will not be completely phased out in California until three years following the end of the DPR Rule transition period (June 30, 2024). At that time, all copper paints, if painted and/or purchased in California, will be either DPR Category I paints or aged paints. The complete phase-out of high-copper paints is reflected in Scenario 3 using the 2021 vessel census data.

4.1.4 Dissolved Copper Load Trajectory Following DPR Rule Implementation

Moving forward, a key assumption is that all or most vessels in SIYB are expected to have DPR Category I, aged, or non-copper paints by June 30, 2024 as a result of the DPR Rule. This assumption is based on the vessel tracking data supplied by the SIYB marinas and yacht clubs, which indicate that the majority of vessels are painted in California boatyards. While the ongoing transition to DPR Category I paints is critical to future load reductions in SIYB, the complete transition process will require time for full implementation. It is anticipated that the timeline for full realization of the DPR Rule will exceed the SIYB TMDL schedule that requires final compliance for copper loading to be achieved by the end of 2022.

Using the 2021 vessel count and occupancy information as a guide, the transition of all existing high-copper paints to DPR Category I paints would result in a dissolved copper load reduction of approximately 58% compared with the TMDL baseline load (Figure 4-6).

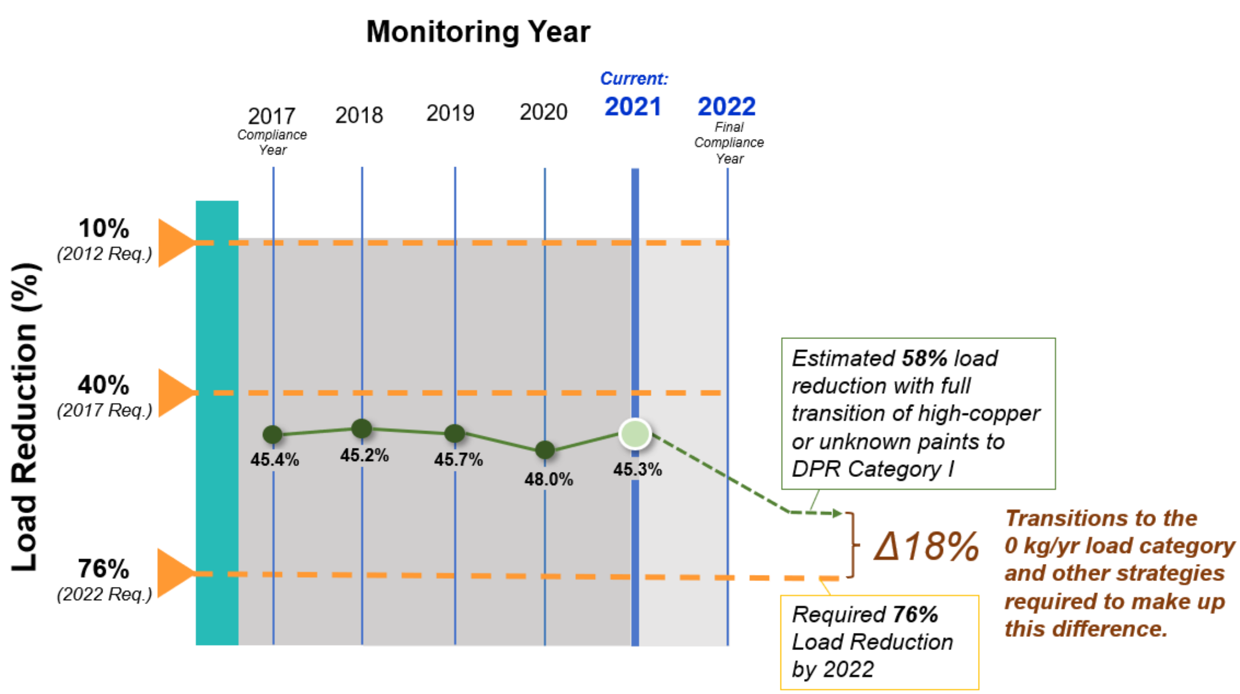


Figure 4-6. Trajectory of Estimated Dissolved Copper Load Reduction with Fully Realized DPR Rule and Required Reductions for TMDL Compliance

It is anticipated that even with a full transition to DPR Category I paints under the DPR Rule, based upon the current TMDL's loading assumptions and the trajectory analysis presented above, the final target load of 567 kg/yr will not be achieved by the end of 2022 or beyond that date without additional load reduction measures, such as conversions to non-copper alternatives instead of opting for low-copper products.

Following full realization of the DPR Rule, all or most vessels in SIYB are expected to have DPR Category I, aged-copper, or non-copper paints. Under this assumption, future load tracking efforts may benefit from the following considerations:

- After June 30, 2024, copper-based paints in SIYB are expected to be DPR Category I or aged-copper, which are both assumed to contribute a half-load of dissolved copper (i.e., 0.45 kg/yr). Therefore, vessel tracking could be simplified to use general assumptions for all copper-based paints (i.e., 0.45 kg/yr) and focus primarily on tracking the use of non-copper paints, rather than tracking individual paints for each vessel.
- Annual vessel tracking has identified that a subset of the "aged-paint" vessels have not been painted for a considerable period of time (i.e., more than six years). The average life cycle of a copper hull paint is three years. Currently, copper hull paints that are greater than three years old are assumed to contribute a half-load of dissolved copper (i.e., 0.45 kg/yr), which is based on studies indicating that a majority of the copper biocide leaches out of the paints within the first two to three years after application. It is also likely that a paint's ability to leach copper continues to diminish after three years and may decrease even more over an extended duration between paint applications. As such, there may be value in evaluating loading from this subset of paints and adjusting loading calculations and paint use strategies accordingly.

4.2 Water Quality Monitoring

This section discusses the findings from the water quality monitoring conducted in SIYB in 2021.

4.2.1 Dissolved Copper Levels

The basin-wide average dissolved copper level during the 2021 monitoring program was 4.9 µg/L ± 0.9 µg/L (mean ± standard error). Dissolved copper levels at the four innermost stations in SIYB (SIYB-1 through SIYB-4) exceeded the CTR chronic CCC WQO of 3.1 µg/L and acute CMC WQO of 4.8 µg/L on the day of sample collection, which is consistent with results from previous monitoring years. However, concentrations of dissolved copper at these four stations and throughout the basin were generally lower than those measured in previous years (Figure 4-7).

Figure 4-7 presents the dissolved copper levels measured at each station from 2011 through 2021. As in previous years, a gradient in dissolved copper levels in SIYB was observed in 2021, with higher concentrations near the head of the basin (Station SIYB-1) that tend to decrease moving toward the mouth (i.e., Station SIYB-6) and within San Diego Bay (SIYB-REF-1 and SIYB-REF-2). In most years, copper levels at SIYB-6 have been below both WQOs and close to or below the acute WQO at SIYB-5.

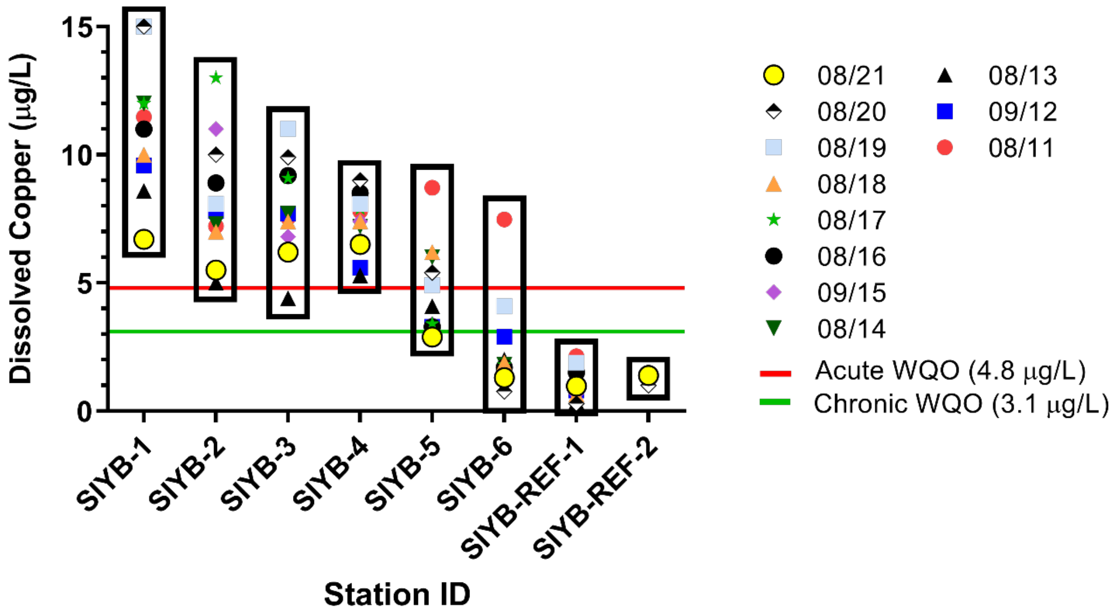


Figure 4-7. Dissolved Copper Comparison by Sampling Station

As discussed in Section 3.3.1, the 2021 basin-wide average dissolved copper concentration (4.9 µg/L) was below the 2005–2008 baseline level (8.3 µg/L). It was also the lowest basin-wide average measured in SIYB since 2013 (where both averages were 4.9 µg/L). Dissolved copper concentrations will continue to be monitored to assess variability and evaluate trends in water quality over time.

Given that the dissolved copper concentrations in 2021 were the lowest measured since 2013, factors that may affect dissolved copper concentrations were evaluated further. The evaluation included physical factors (e.g., temperature and DOC), as well as data quality, and indicated the following:

- Based upon a general review of historical sampling location conditions, no substantial differences in physical characteristics were observed during the 2021 monitoring event that would account for the dissolved copper levels measured.
- With regard to data quality, analytical chemistry results underwent a thorough QA/QC evaluation; the data were determined to meet the data quality objectives in the QAPP and were deemed acceptable for reporting purposes, with qualifications noted in the laboratory report in Appendix D and discussed in Section 3.3.1.2.

4.2.2 Toxicity

Bivalve larvae chronic survival and development are considered primary indicators of copper toxicity, because the mussel species *Mytilus galloprovincialis* is considered one of the most sensitive genera used in the calculation of the water quality criterion for copper in marine environments (USEPA, 1995a). For the first time since the TMDL monitoring program began in 2011, no chronic toxicity was observed in SIYB in 2021. Historically, chronic toxicity of bivalve larvae has been observed at two sampling stations (SIYB-1 and SIYB-2); no chronic toxicity has been observed at sampling stations in the middle or near the mouth of the basin. A toxic response was observed at Station SIYB-1 during all monitoring events from 2011–2020 and at

Station SIYB-2 periodically from 2011–2017. Stations SIYB-1 and SIYB-2 are the closest to the head of the basin and have the highest concentrations of vessels within the immediate vicinity, as well as the highest dissolved copper concentrations, compared with other stations. Dissolved copper concentrations measured at Stations SIYB-1 and SIYB-2 were lower in 2021 than in all or most previous monitoring years (Figure 4-7).

No acute toxicity to topsmelt larvae was observed in SIYB or at the reference station, SIYB-REF-1, in 2021. Since the beginning of the monitoring program, a toxic response in topsmelt has only been observed at one station (SIYB-4) in 2018 and 2019; however, the cause of this toxicity is unknown. In accordance with the Monitoring Plan[12], samples were recollected at this site for confirmation testing in 2019, and toxicity was no longer present; therefore, no additional evaluation (i.e., TIE) was warranted. Similarly, no toxic response was observed at Station SIYB-4 in 2020 or 2021. However, given the transient nature of acute toxicity observed at Station SIYB-4, this site will continue to be monitored closely in future monitoring events.

4.2.3 Winter Monitoring Event

As discussed previously, a winter water quality monitoring event was conducted in February 2021 to supplement the annual compliance monitoring, which occurs in the summer. The purpose of this winter monitoring event was to provide a better understanding of the seasonal variability of dissolved copper levels in SIYB and at the reference locations during a period of cooler water temperatures and lower frequency of hull cleaning and vessel usage relative to the summer months. The winter monitoring event was conducted using the same sampling and analysis methodologies employed for the summer compliance monitoring. Detailed methods and results from the winter monitoring event are presented in a technical memorandum in Appendix F. Select results are summarized (Table 4-1) and compared with historical summer compliance monitoring results (Figure 4-8).

The basin-wide average dissolved copper concentration measured in February 2021 was 7.0 µg/L ± 1.2 µg/L (mean ± standard error). Despite cooler water temperatures, dissolved copper concentrations measured during the 2021 winter monitoring event were comparable to concentrations observed in SIYB during previous compliance events conducted during the summer.

Consistent with all prior monitoring events (2011–2020) conducted during the summer, chronic toxicity was observed at Station SIYB-1 during the 2021 winter monitoring event; no acute toxicity was observed (Table 4-1).

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[12] Due to unexplained toxicity observed during the 2018 monitoring program, toxicity testing methods in the Monitoring Plan were updated in 2019 to include conditions that may necessitate a TIE.

Table 4-1.
Summary of Water Quality Results for SIYB Surface Waters, February 2021 Event

Station	Dissolved Copper (µg/L)	Acute Topsmelt Test Results (100% Sample Concentration)		Chronic Bivalve Test Results (100% Sample Concentration)			
				Unfiltered		Filtered[a]	
		Mean Survival (%)	TST Result	Combined Survival & Proportion Normal (%)	TST Result	Combined Survival & Proportion Normal (%)	TST Result
SIYB-1	**10**	86.7	Pass	40.7*	Fail	67.3*	Fail
SIYB-2	**8.3**	90.0	Pass	87.8	Pass	86.5	Pass
SIYB-3	**7.5**	90.0	Pass	90.9	Pass	89.4	Pass
SIYB-4	**8.2**	86.7	Pass	91.4	Pass	87.8	Pass
SIYB-5	**6.3**	90.0	Pass	89.1	Pass	90.0	Pass
SIYB-6	1.8	93.3	Pass	90.8	Pass	91.4	Pass
SIYB-REF-1	1.1	90.0	Pass	90.1	Pass	88.5	Pass
SIYB-REF-2	1.8	NT[b]	NT[b]	NT[b]	NT[b]	NT[b]	NT[b]

Notes:
Dissolved copper values in **bold** are above the USEPA National Recommended Water Quality CCC for dissolved copper of 3.1 µg/L in marine waters.
An asterisk (*) indicates a statistically significant decrease compared to control using both the traditional EPA flow-chart statistical methods and the TST analysis.
a. Each undiluted sample was also tested filtered through 1.2-µm filter to remove potentially harmful native algae that might interfere with test organism performance.
b. A second reference site (SIYB-REF-2) was added in 2020. No toxicity testing is performed at this site.
µg/L = microgram(s) per liter; µm = micrometer(s); % = percent; CCC = criterion continuous concentration; NT = not tested; REF = reference; SIYB = Shelter Island Yacht Basin; TST = test of significant toxicity; TST Pass = sample is nontoxic according to the TST calculation; TST Fail = sample is toxic according to the TST calculation; USEPA = United States Environmental Protection Agency

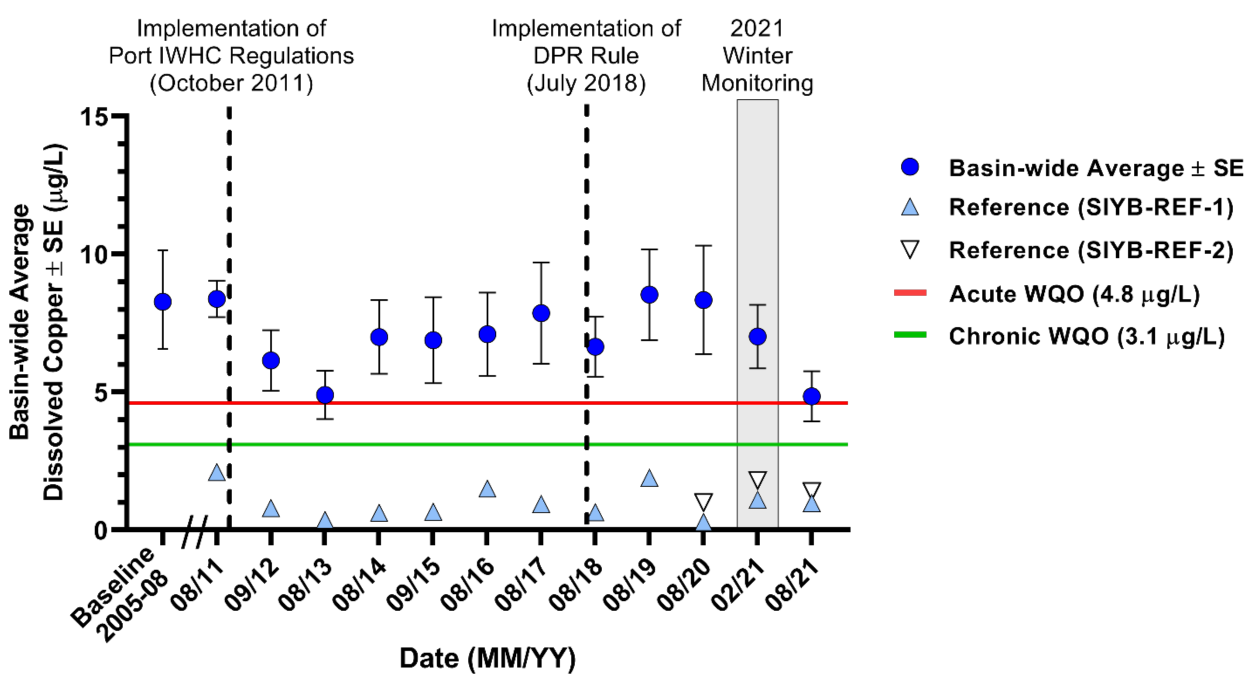

Figure 4-8. SIYB Dissolved Copper Levels Over Time and Key Load Reduction Initiatives

4.3 Comparison of Achieved Load Reduction to Monitored Water Column Dissolved Copper Concentrations

The calculated dissolved copper loading has decreased approximately 45% since implementation of the TMDL in 2011. As more vessels transition to use of lower copper paints, the calculated annual load has decreased because lower copper paints are assigned a dissolved copper load of 0.45 kg/yr/vessel in comparison with a full copper load (0.9 kg/yr/vessel). However, the rate of load reduction has slowed substantially since 2017 (Figure 4-1) and appears to be in a steady state of copper loading, closely correlated to paint use and conversions to DPR Category I paints. In contrast, the average basin-wide surface water dissolved copper levels monitored since the beginning of the Port's TMDL monitoring program have not appeared to follow the same trend (Figure 4-8).

Conceptually, the observed concentrations of dissolved copper in the water column should be positively correlated to the calculated copper loading in SIYB. The primary goal of copper load reduction efforts is to decrease water column copper concentrations to meet the CTR regulatory criterion target of 3.1 µg/L. Hence, with greater copper load reduction, an associated decrease in water column dissolved copper concentrations is expected; however, to date, this reduction has not occurred consistently. Potential factors that may influence water column concentrations in enclosed basins include vessel paint practices, in-water hull cleaning practices, and potential influences from the bay or elsewhere. These topics are identified and analyzed below.

***Vessel Paint*:** The number of vessels painted with low-leach copper DPR Category I paints has increased by 46% since implementation of the DPR Rule in 2018. The transition of vessel hull paint use to DPR Category I paints will likely continue until full implementation is realized in June 2024. While the overall transition to DPR Category I paints since 2018 has been considerable and expected, there was no increase in use of DPR Category I paints between 2020 and 2021.

Initially, it was thought that the ongoing transition of vessels in SIYB to lower leach rate paints might provide a logical explanation for the lower basin-wide dissolved copper level observed in the 2021 summer monitoring program; however, as stated previously, there was no increase in DPR Category I paint usage between 2020 and 2021. The disconnect between dissolved copper loading and water quality to date presents the following challenges in predicting at which point sufficient load reduction will result in adjustments to the water quality trajectory and/or measurable and sustainable improvements in water quality in SIYB:

- While the continued transition to DPR Category I paints has resulted in sufficient load reduction to meet interim TMDL targets, it is unknown whether the transition to lower-copper paints alone is enough to result in continued improvements in water quality or whether more widespread use of non-copper paints is needed.

- Based on the TMDL conceptual model assumptions, a 76% load reduction was assumed to be the target at which basin water quality would meet the WQOs for dissolved copper; however, based on data collected to date in SIYB, this may not be the case.

Another notable paint use behavior observed over the past ten years is extremely limited use of non-biocide paints in SIYB. Despite longstanding education efforts and grant initiatives to supplement paint application, the number of vessels with non-copper alternatives has remained relatively consistent since 2013. Port paint studies and discussions with boatyards, paint manufacturers, and boaters identify higher upfront application costs, difficulty in cleaning, and product unfamiliarity as some reasons for continued use of copper-based AFPs. Given that copper AFPs remain a legal and familiar paint choice, behavior changes become increasingly difficult to encourage through voluntary means. While it is difficult to discern the exact reasons for boaters' lack of non-biocide paint use, the adoption of the DPR Rule demonstrates that copper AFPs will likely remain a legally available product on the market, which may ultimately be an unintended consequence limiting the transition to non-copper alternatives.

As presented above, the effects of DPR Category I paints on water quality are unclear, and the use of non-copper paints remain limited. These issues are significant limitations in further reducing copper loads into SIYB and changing the water quality patterns observed in SIYB.

In-Water Hull Cleaning: Figure 4-8 presents an evaluation of large-scale programmatic shifts and/or policy actions and their potential correlated loading adjustments in comparison with water quality findings. As shown in Figure 4-8, a substantial reduction in the average basin-wide dissolved copper level occurred between 2011 (8.4 µg/L) and 2013 (4.9 µg/L). One potential contributing factor to this pattern may be that this timeframe corresponded with the initial introduction of the Port's in-water hull cleaning regulations. However, it is important to note that there is not a direct study that evaluated this, only the anecdotal water quality shift that was identified during the annual TMDL monitoring.

Modeling studies conducted after the TMDL was initiated provide additional evidence that in-water hull cleaning may have more of an impact on copper loading and water quality than originally estimated. A scientific investigation conducted by Space and Naval Warfare Systems Command (SPAWAR) (Earley et al., 2013) evaluated vessel paint life cycle load contributions from both passive leaching and in-water hull cleaning. Findings suggest that loading from hull cleaning occurs over an extended period following each hull cleaning event. Over the life cycle of a paint, loading associated with in-water hull cleaning may contribute up to 40% of total copper loading, which exceeds the original TMDL in-water hull cleaning loading assumption of 5%.

Additional data are needed to confirm the relative contribution of copper loading associated with the TMDL in-water hull cleaning assumptions, cleaning behaviors, BMP use, and water quality. To address data gaps associated with the relationship between in-water hull cleaning and water quality, the Port implemented an eight-week Hull Cleaning Pause and conducted water quality monitoring before, during, and after the pause to evaluate dissolved copper levels. The Hull Cleaning Pause applied to all vessels with copper-based AFPs in SIYB from December 19, 2021 through February 9, 2022. Surface water samples for dissolved copper analyses were collected weekly throughout SIYB for four weeks leading up to the pause, eight weeks during the pause, and four weeks following the pause. The study will be completed in March 2022, and results will be reported later in 2022.

***Bay Influences on SIYB*:** Water column dissolved copper concentrations in basins, harbors, and bays can vary with annual and seasonal climatic patterns, localized winds and tides, and other factors. Although San Diego Bay's dissolved copper concentrations have varied slightly as measured at SIYB-REF-1 and SIYB-REF-2, the ambient bay dissolved copper concentration remains below the CTR CCC and CMC regulatory thresholds (3.1 µg/L and 4.8 µg/L, respectively) at both reference stations in all annual monitoring events. Further, dissolved copper concentrations measured during the 2018 Regional Harbor Monitoring Program throughout San

Diego Bay were generally below the CTR CCC of 3.1 µg/L, with the exception of areas within marinas (particularly SIYB), industrial/port areas, and freshwater-influenced areas, as depicted in Figure 4-9 (Wood, 2020).

In contrast, with only minor exceptions, dissolved copper concentrations measured in the most enclosed portions of SIYB have exceeded the CCC and CMC regulatory thresholds during each monitored event (Figure 4-7). In addition, dissolved copper concentrations measured in SIYB during the 2018 Regional Harbor Monitoring Program were higher in SIYB than anywhere else in San Diego Bay (Figure 4-9) (Wood, 2020). These data suggest that dissolved copper concentrations measured within SIYB are not directly correlated with dissolved copper concentrations in ambient bay conditions and that other factors may be driving changes observed in dissolved copper levels in SIYB, rather than the bay itself.

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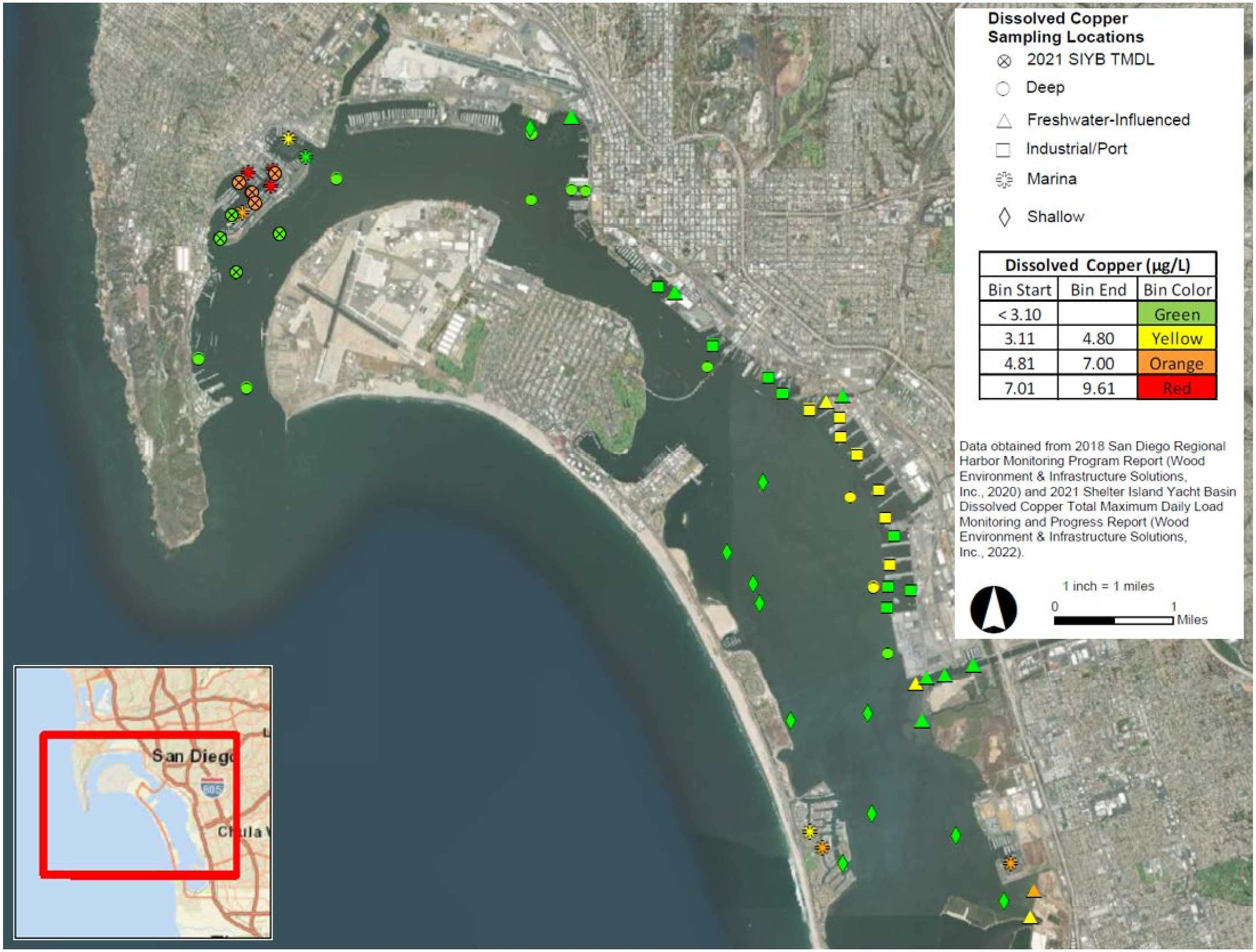

Figure 4-9. San Diego Bay Dissolved Copper Concentrations (Source: Wood, 2020)

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4.4 Future Load Reductions

Since monitoring for the Investigative Order began, annual reductions in loading have been observed (including meeting the 10% and 40% interim loading reduction targets); however, continued annual loading reductions have slowed and leveled off since 2017. A further downward trajectory will be limited to load reductions resulting from the full transition to DPR Category I paints, which alone will not achieve the TMDL target, as non-copper paint use remains limited. Further, as stated previously, while loading has decreased according to the TMDL model, dissolved copper levels have been variable with no direct correlation between dissolved copper loading and water quality.

Over the past several years, the Port has been carefully analyzing its Copper Reduction Program components, conducting special studies to better understand water quality dynamics in SIYB, and evaluating the copper loading sources to determine where programmatic adjustments will most impactfully and directly address water quality. The following sections highlight some of the challenges that remain in addressing the most significant loading sources, namely copper AFP use and in-water hull cleaning and provide an outlook for some key next steps.

Hull Paint Use

The DPR has primary jurisdiction over the registration of copper AFPs and their use in California. A pesticide product must be registered with the state (i.e., DPR) before it can be used or offered for sale in California. The DPR is also responsible for scientific evaluation of pesticide products, including copper AFPs, and is responsible for conducting assessments of human and environmental impacts related to product use prior to a product being registered for use.

The 2018 DPR Rule requiring a maximum leach rate of 9.5 $\mu g/cm^2/day$ for copper AFPs was the outcome of the legislative effort, AB 425, to regulate leaching at the state level. To date, it is unclear whether DPR Category I paints are working as intended due to the variability in dissolved copper concentrations measured since the DPR Rule was implemented.

In addition, as discussed in Section 4.1.4, the full transition to DPR Category I paints alone will not be enough to achieve the final load reduction requirement of 567 kg/yr by the end of 2022 or beyond using the current TMDL's loading assumptions. Additional load reduction measures, such as conversions to non-copper alternatives instead of opting for low-copper products, will be required to meet the load reduction requirement and WQOs.

Given that copper AFPs are DPR-registered products and legal to use throughout California, the tools available to the Port to successfully address impacts from copper AFPs in SIYB are limited. As such, it is critical that the Regional Board and DPR become more actively involved in discussions and decision-making about the DPR Category I paints and their effects on water quality and re-examine loading assumptions in relation to vessel paint type and water quality. Further, the use of non-copper alternatives remains a strategy that should be strongly pursued by the Regional Board, DPR, and the boating community.

In-Water Hull Cleaning

The TMDL attributes the most significant sources of dissolved copper in SIYB to passive leaching (93%) and in-water hull cleaning (5%) of vessels with copper-based hull paints. However, while

DPR regulates copper AFP use, currently there is no State or Regional Board National Pollutant Discharge Elimination System (NPDES) program, permit, or Waste Discharge Requirements regulating the in-water hull cleaning industry. In addition, the Port's 2019 efforts to update BMP requirements to align with the DPR mitigation strategies (e.g., once-per-month cleaning, soft carpet, etc.) were met with resistance, suggesting limited support for changing hull cleaning behaviors. Further, because hull cleaning occurs in the water, the use of BMPs to fully capture or control copper discharges is limited.

The studies completed after the adoption of the TMDL suggest that leaching from in-water hull cleaning is closely inter-connected to passive leaching of paints; as such, their load contributions cannot be proportioned easily. However, as discussed previously, those studies also suggest that in-water hull cleaning loading may be significantly greater than originally estimated, especially if the particulate load to the sediments is also considered. Based on the aforementioned modeling efforts showing the potential for in-water hull cleaning to contribute between 5% and 40% of the dissolved copper load, understanding the relationship between water quality and in-water hull cleaning is critical to advance the next suite of management actions.

The Port's Hull Cleaning Pause and the water quality data gathered during the pause are intended to provide information to guide further management and/or policy approaches. Moreover, if significant water quality impacts are discovered during the Hull Cleaning Pause, the potential for water quality impairment in all marina basins may warrant further attention at both a state and Regional Board level.

5.0 CONCLUSIONS

The SIYB TMDL monitoring program results indicate that the third interim target achieved in 2017, a 40% load reduction, continued through the fourth year of the final TMDL compliance phase. Achievements to date have been a result of vessel tracking (92% response rate), implementation of various BMPs (see Section 3.1), and conversions from high-copper paints to DPR Category I paints, low-copper paints, and non-copper alternatives (e.g., non-copper paints, slip liners, HydroHoists®, etc.). The 2021 vessel tracking data show a load reduction of 45.3% (approximately 952 kg/yr) in annual dissolved copper loading to SIYB from vessels when compared with the SIYB TMDL-assumed baseline loading of 2,100 kg/yr (Table 5-1).

Table 5-1.
TMDL Interim Requirements and Achievements

TMDL Stage	Compliance Year	Required Load Reduction (%)	Required Load (kg/yr)	Actual Load Reduction (%)
1	2007	0%	2,163	Baseline
2	2012	10%	1,900	17.6% ✓
3	2017	40%	1,300	45.4% ✓
3	*2021*	*40%*	*1,300*	*45.3%* ✓
4	2022	76%	567	--

Notes: *Italicized* line indicates current (2021) load reduction presented in this report.
% = percent; kg/yr = kilogram(s) per year

The reduction in dissolved copper load to date has been driven primarily by an increase in the number of vessels with DPR Category I paints. However, the dissolved copper load to SIYB has leveled off as the DPR Rule is closer to being fully realized and the use of non-copper paints remains limited.

Although the dissolved copper load has remained relatively consistent over the past five years, the average basin-wide dissolved copper concentration of 4.9 µg/L was the lowest observed in SIYB since 2013. In addition, no chronic toxicity was observed in SIYB in 2021 for the first time since the TMDL monitoring program began. Similarly, no acute toxicity was observed in SIYB in 2021. Water quality will continue to be monitored in the final year of the TMDL to evaluate trends and determine whether dissolved copper levels continue to decrease during the full transition to low-leach DPR Category I paints.

Since implementation of the SIYB TMDL, the Port has, in a collaborative manner, planned and implemented all the requirements of the Investigative Order per the TMDL and associated model. The Port's multifaceted copper reduction efforts have included implementing the annual monitoring program according to the TMDL, Investigative Order, and approved Monitoring Plan; conducting numerous special studies to better understand the water quality in the basin (e.g., time series copper assessment, harbor-wide enhanced monitoring); and evaluating copper loading sources to determine where programmatic adjustments most impactfully and directly address water quality. These efforts were in addition to the Port's boater outreach and education efforts and legislative activities (e.g., support for AB 425) and continued collaboration with the SIML TMDL Group, the Regional Board, California DPR, and others. In combination, the goal of these activities has been to realize copper load reductions into SIYB that would then result in measurable improvements in water quality (and attainment of beneficial uses).

The robust water quality and vessel paint tracking data provided in this and previous annual reports have enabled the Port to evaluate how the aforementioned efforts to date have translated to loading reductions and water quality changes, as well as identify where data gaps exist. While copper AFPs remain legally available statewide, most boaters will continue to use and maintain these products. Without modifying paint availability at the state level or regulating the pollution from the in-water hull cleaning industry, achieving desired loading reductions and water quality standards may not be attainable, especially within the TMDL timeline that exists today.

Continuing Actions for the Final TMDL Phase

The Port will continue its implementation efforts throughout the remaining TMDL timeline. Based on review of the 2011–2021 monitoring data, it is anticipated that additional activities to reduce copper loads will be needed to meet final TMDL load reduction targets and lower SIYB dissolved copper concentrations to meet CTR criteria. During the final TMDL year, an emphasis will be placed on evaluating the water quality impacts from in-water hull cleaning through the Hull Cleaning Pause and working with the DPR and Regional Board to determine next steps based upon the findings.

The Port remains committed to working with the Regional Board, the DPR, and the other Named TMDL Parties to identify and implement processes founded in sound science in a manner that is most beneficial to water quality in SIYB, San Diego Bay, and across the state, which may include but is not limited to TMDL adjustments, state regulations, and balancing of water quality and recreational beneficial uses of San Diego Bay.

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APPENDIX A

SIYB DISSOLVED COPPER TMDL MONITORING PLAN (REVISION 7)

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FINAL
SHELTER ISLAND YACHT BASIN
DISSOLVED COPPER TOTAL MAXIMUM DAILY LOAD
MONITORING PLAN (REVISION 7)

Prepared for:
California Regional Water Quality Control Board
San Diego Region

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
9177 Sky Park Court
San Diego, California 92123

In Coordination with:

Port of San Diego

May 2011
Revised: August 2021

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ACRONYMS AND ABBREVIATIONS

AMEC	AMEC Environmental & Infrastructure, Inc.
APHA	American Public Health Association
Basin Plan	*Water Quality Control Plan for the San Diego Basin – Region 9*
BMP	best management practice
COC	chain-of-custody
CTD	conductivity, temperature, and depth
CTR	California Toxics Rule
DO	dissolved oxygen
DOC	dissolved organic carbon
DPR	Department of Pesticide Regulation
EC_{50}	median effect concentration
ELAP	California Environmental Laboratory Accreditation Program
Implementation Plan	SIYB Dissolved Copper TMDL Implementation Plan
Investigative Order	Investigative Order No. R9-2011-0036
L_h	hull cleaning annual loading
L_p	passive leaching annual loading
LC_{50}	median lethal concentration
MAR	marine habitat beneficial use
Monitoring Plan	SIYB Dissolved Copper TMDL Monitoring Plan
N/A	not applicable
N_v	number of vessels
OAL	Office of Administrative Law
PDF	Portable Data Format
Port	Port of San Diego
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RHMP	Regional Harbor Monitoring Program
Regional Board	San Diego Regional Water Quality Control Board
SBE	SeaBird Electronics
SIML	Shelter Island Master Leaseholders
SIYB	Shelter Island Yacht Basin
SM	Standard Method
SOP	standard operating procedure
SWAMP	Surface Water Ambient Monitoring Program
State Board	State Water Resources Control Board
TIE	toxicity identification evaluation
TMDL	total maximum daily load
TOC	total organic carbon
TSS	total suspended solids
TST	test of significant toxicity
USEPA	United States Environmental Protection Agency
Weston	Weston Solutions, Inc.
WILD	wildlife habitat beneficial use
Wood	Wood Environment & Infrastructure Solutions, Inc.
WQO	water quality objective
YSI	YSI Incorporated

UNITS OF MEASURE

<	less than
≤	less than or equal to
%	percent
°C	degrees Celsius
μg/L	microgram(s) per liter
μg/cm^2/day	microgram(s) per square centimeter per day
kg/yr	kilogram(s) per year
μm	micrometer(s)
m	meter(s)
mg/L	milligram(s) per liter
mL	milliliter(s)
ppt	part(s) per thousand

1.0 INTRODUCTION

The *Shelter Island Yacht Basin (SIYB) Dissolved Copper Total Maximum Daily Load (TMDL) Monitoring Plan* (Monitoring Plan) describes the approach for assessing load reductions through tracking conversion of vessels from copper to non-copper hull paints to determine compliance with TMDL load reduction targets. The Monitoring Plan also details the specific elements of the water quality monitoring program that are performed in SIYB to quantify ambient dissolved copper concentrations and toxicity. Water quality monitoring is used to evaluate annual basin-wide improvements in dissolved copper concentrations and toxicity levels, and to determine progress towards compliance with the numeric and narrative objectives of the final TMDL.

The original Monitoring Plan was submitted to the San Diego Regional Water Quality Control Board (Regional Board) in May 2011 in response to a requirement specified in Resolution No. R9-2005-0019 (in which the Regional Board incorporated the dissolved copper TMDL into the *Water Quality Control Plan for the San Diego Basin – Region 9 [Basin Plan]*) (Regional Board, 2005).

Revision 1 was submitted in 2013 and included program modifications that were made as recommendations to the Regional Board in the *2012 SIYB Dissolved Copper TMDL Monitoring and Progress Report* (AMEC Environmental & Infrastructure, Inc. [AMEC], 2013). The modifications presented in Revision 1 were:

- Addition of the "aged-copper paint" category to the vessel classification template
- Modifications to the methods used to collect annual vessel census information
- Discontinuation of conducting *in situ* free copper analyses
- Analytical and data analysis method revisions

Revision 2 was submitted in March 2016 and incorporated an additional paint tracking category into the annual SIYB vessel census. Department of Pesticide Regulation (DPR) Category I (low leach) was added as a paint tracking category for 2015. The Port of San Diego (Port) recommended that Category I paint be added as tracking category during a 2015 project status meeting with the Regional Board held on October 5. This modification was approved by the Regional Board.[1] In addition, beginning in the 2015 monitoring year, the copper load contributions from passive leaching and in-water hull cleaning were presented separately. This is consistent with the loads provided in Appendix 2 of the SIYB TMDL (Regional Board, 2005). The vessel tracking template was also adjusted to include more relevant information for vessel tracking purposes.

Revision 3, submitted in August 2017, included the modification of several field procedures for the annual TMDL water quality monitoring program, as follows:

- Field filtration of samples collected for dissolved copper and zinc analyses, in agreement with the United States Environmental Protection Agency (USEPA) 1640 protocol

[1] Per E-mail correspondence between the Regional Board and Port dated October 21 and November 9, 2015.

- Performing a top-to-bottom vertical water quality profile (using a conductivity, temperature, and depth [CTD] profiler) at each station to evaluate temperature, salinity, pH, dissolved oxygen (DO), and light transmittance with depth in the water column
- Addition of total suspended solids (TSS) analyses

Revision 4, submitted in July 2018, updated the language regarding the compliance schedule (Section 1.1), as the second compliance period concluded in 2017. Modifications in Revision 4 of the Monitoring Plan were informational and did not require a response from the Regional Board.

Revision 5 was submitted in July 2019 and included updates to the toxicity testing program. Due to unexplained toxicity observed during the 2018 monitoring program, toxicity testing methods (Section 4.1.6.1) were updated to include conditions that may necessitate a toxicity identification evaluation.

Revision 6, submitted in August 2020, included additions to the TMDL water quality monitoring program to supplement compliance monitoring as follows:

- Addition of a second reference site (SIYB-REF-2) to the water quality monitoring locations
- Addition of a second water quality monitoring event to be conducted during the winter
- Addition of language detailing safety measures enacted to address the COVID-19 pandemic

Revision 7, submitted in August 2021, includes additional updates to the toxicity testing program. Chronic toxicity to mussel embryos has been observed consistently at the innermost sampling location in SIYB (Station SIYB-1) since the monitoring program began. For the 2021 monitoring program, toxicity testing methods (Section 4.1.6.1) were updated to include performing a Phase I toxicity identification evaluation at Station SIYB-1 concurrently with standard chronic toxicity testing.

This Monitoring Plan meets the requirements of Investigative Order No. R9-2011-0036 (Investigative Order), which directs the Port to develop and submit a Monitoring Plan to track the progress of implementing the TMDL, and to revise the plan as needed. In addition, the project-specific Quality Assurance Project Plan (QAPP) is revised annually (prior to the annual compliance monitoring event). The QAPP defines project-specific objectives and organization, monitoring activities, data quality objectives, and quality assurance and quality control (QA/QC) procedures in compliance with the State Water Resources Control Board (State Board) *Surface Water Ambient Monitoring Program* (SWAMP) protocols.

1.1 Compliance Schedule

Under Resolution R9-2005-0019, the SIYB dissolved copper TMDL (herein referred to as “SIYB TMDL”) requires that loading of dissolved copper into the water column be reduced by 76 percent (%) to 567 kilograms per year (kg/yr) over a 17-year period (Regional Board, 2005). Based on the official TMDL approval date[2], this time period is scheduled to end in 2022. No reductions in dissolved copper loading were required during the initial two-year orientation period (2005–2007). The subsequent 15-year period requires incremental reductions of dissolved copper loadings: a 10% reduction within seven years; a 40% reduction within 12 years; and a 76% reduction within 17 years (Table 1-1).

Table 1-1.
Loading Targets for SIYB TMDL Attainment

Stage	Time Period	Target Reduction from SIYB TMDL Estimated Loading	Reduction To Be Attained by End of Year	Estimated Target Loading (kg/yr of Dissolved Copper)
1	2005–2007	0%	N/A	N/A
2	2008–2012	10%[a]	2012 (7 years)	1,900
3	2013–2017	40%[b]	2017 (12 years)	1,300
4	2018–2022	76%	2022 (17 years)	567

Notes:

a. Loading calculations in the *2012 SIYB Dissolved Copper TMDL Monitoring and Progress Report* showed that a 17% load reduction had been achieved. Compliance with the 2012 load reduction goal of 10% or greater was confirmed by the Regional Board in a letter to the Port dated July 26, 2013.

b. Loading calculations presented in the *2017 SIYB Dissolved Copper TMDL Monitoring and Progress Report* showed that a 40% load reduction had been achieved. Compliance with the 2017 load reduction goal of 40% or greater was confirmed by the Regional Board October 10, 2018 Executive Officer's Report as part of the monthly Regional Board meeting.

% = percent; kg/yr = kilograms per year; N/A = not applicable; SIYB = Shelter Island Yacht Basin; TMDL = Total Maximum Daily Load

The first compliance year for the TMDL was 2012. Loading reduction estimates presented in the *2012 SIYB Dissolved Copper TMDL Monitoring and Progress Report* (AMEC, 2013) indicated that dissolved copper loading to SIYB by the end of compliance year (2012) had been reduced by 17%, exceeding the 10% target. In a letter dated July 26, 2013, the Regional Board stated the following, "*Based on the data submitted and information provided in the Report [2012 SIYB TMDL Monitoring and Progress Report], the 10 percent reduction in dissolved copper loading required to demonstrate compliance with the SIYB TMDL by the December 1, 2012 compliance date was achieved*" (Regional Board, 2013).

The second compliance period began in January 2013 and concluded in December 2017. Based on the results of the *2017 SIYB Dissolved Copper TMDL Monitoring and Progress Report* (Amec Foster Wheeler, 2018), the 40% reduction in dissolved copper loading required by December 31, 2017 was achieved. In a letter to the Port dated September 11, 2018, the Regional Board stated, *"The Port District's 2017 Report marks the end of Stage 3 of the interim loading targets, and suggests that overall the Yacht Basin is meeting the 40 percent reduction target as a result of improved use of best management practices and vessel conversions to less toxic hull coatings*" (Regional Board, 2018). At the October 10, 2018 Regional Board Monthly Meeting, the Executive Officer's Report confirmed and memorialized that the SIYB TMDL efforts had successfully achieved the 2017 compliance requirement.

The final compliance period began in January 2018 and requires a 76% reduction in loading of dissolved copper into SIYB by the end of 2022.

[2] For a TMDL to be incorporated into the Basin Plan, it must be approved by the Regional Board, State Board, Office of Administrative Law (OAL), and USEPA Region 9. The official TMDL approval date is the date of OAL approval.

1.2 TMDL Implementation Plan

The *2011 SIYB TMDL Implementation Plan* (Implementation Plan; Weston Solutions, Inc. [Weston], 2011) is the Named Parties' implementation strategy to reduce the loading of copper into the water column of SIYB, as directed by the SIYB TMDL and the Investigative Order. The Implementation Plan describes the approach to reducing copper loading into SIYB to preserve and restore water quality and beneficial uses of marine habitat (MAR) and wildlife habitat (WILD). The Implementation Plan takes a solutions-oriented approach of establishing and implementing best management practices (BMPs) that directly and indirectly help reduce copper loading into the basin to meet the SIYB TMDL interim and final dissolved copper loading compliance thresholds.

The Port has reviewed the BMP initiatives that were detailed in the SIYB TMDL Implementation Plan (Weston, 2011). Based upon this review, the strategic approach to planning and implementing copper reduction BMPs has not changed. The ongoing copper reduction program being implemented by the Port and the marinas and yacht clubs is following the same adaptive management strategy and concept for selecting BMPs as was outlined in the Implementation Plan. The Port and the marinas and yacht clubs provide updates on the BMP program in each annual monitoring and progress report submitted to the Regional Board. Consequently, no revisions to the Implementation Plan are necessary at this time.

1.3 Sources of Dissolved Copper

Based on the Regional Board's source analysis in the TMDL, the total mass load of dissolved copper to SIYB was estimated to be 2,163 kg/yr, of which 98% of inputs were attributable to passive leaching of copper from copper-based hull paints on vessels, and to hull cleaning activities (Table 1-2).

Table 1-2.
Sources of Dissolved Copper to SIYB per the TMDL

Source	Estimated Mass Load to SIYB (kg/yr)	Contribution to SIYB (Dissolved Copper)
Passive Leaching	2,000	93%
Hull Cleaning	100	5%
Urban Runoff	30	1%
Background	30	1%
Direct Atmospheric Deposition	3	<1%
Sediment	0	0
Total	2,163	100%

Notes:
< = less than; % = percent; kg/yr = kilogram(s) per year; SIYB = Shelter Island Yacht Basin

1.4 Water Quality Objective Criteria

The numeric water quality objective (WQO) for dissolved copper in SIYB is equal to the USEPA National Recommended Water Quality Criteria for Aquatic Life and California Toxics Rule (CTR) water quality criteria for dissolved copper in marine environments (USEPA, 2000). Continuous or chronic exposures may not exceed 3.1 micrograms per liter (µg/L) over a 4-day average; acute exposures may not exceed 4.8 µg/L over a 1-hour average. In addition, numeric WQOs must not be exceeded more than once every three years. Based on these numeric targets and existing monitoring data available at the time when the TMDL was implemented, the final waste load allocation was estimated to be 567 kg/yr. This includes a 10% margin of safety calculated to be 57 kg/yr.

In addition to numeric WQOs, the Basin Plan established narrative WQOs for toxicity and pesticides (Regional Board, 1994) as follows:

Toxicity Objective – *All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.*

Pesticide Objective – *No individual pesticide or combination of pesticides shall be present in the water column, sediments or biota at concentration(s) that adversely affect beneficial uses. Pesticides shall not be present at levels which will bioaccumulate in aquatic organisms to levels which are harmful to human health, wildlife or aquatic organisms.*

Beneficial uses within SIYB threatened by elevated dissolved copper concentrations are MAR and WILD. The Regional Board indicated that if numeric WQOs are met for dissolved copper, then narrative WQOs will also be considered to be met.

1.5 Monitoring Purpose

Results of the vessel tracking program will be used to assess both interim and final compliance with the TMDL loading reduction requirements for dissolved copper into SIYB. Water quality monitoring will be used to assess dissolved copper concentrations and toxicity levels, and also to determine progress towards final numeric and narrative objectives. These objectives are defined in Resolution No. R9-2005-0019, in which the Regional Board incorporated the dissolved copper TMDL into the Basin Plan (Regional Board, 2005). By annually tracking vessels and monitoring water quality, the program may eventually be able to evaluate the relationship between reducing loads and improving water quality. Additionally, this approach will provide the data needed to assess the overall effectiveness of the TMDL implementation in attaining both loading reductions and numeric WQOs that protect the basin's MAR and WILD beneficial uses.

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2.0 BEST MANAGEMENT PRACTICE IMPLEMENTATION FOR SIYB

The Port has incorporated an adaptive management approach to reducing copper loads in SIYB and throughout San Diego Bay. This process is outlined in the SIYB TMDL Implementation Plan. The five elements of the Port's program are: (1) alternative hull paint testing and research, (2) hull paint transition, (3) policy development and legislation (e.g., required permits for in-water hull-cleaning businesses), (4) education of and outreach to boaters, and (5) monitoring and data assessment.

In addition to ongoing Port management efforts, marina and yacht club facilities located in SIYB have also developed and overseen the implementation of BMPs. BMP programs have been developed by the Shelter Island Master Leaseholders (SIML) TMDL Group, as well as individual marinas and yacht club facilities, to reduce dissolved copper loading to SIYB.

Over the course of developing the TMDL, multiple additional BMPs have been integrated to build on previous knowledge and to facilitate effective implementation of the SIYB TMDL program. Additional measures include meetings between the Port and other stakeholders in SIYB about the TMDL; increased scrutiny of water quality data and analytical methods; reassessment of field sampling techniques, including additional oversight of field procedures; and review of methods to track the type of bottom paints on vessels in SIYB. These measures were intended to collect relevant, quality data; enhance communication among all involved parties; and develop an iterative and collaborative process that provides both transparency to the process and a known and scientifically defensible dataset to support the TMDL compliance objectives.

The Port has developed a comprehensive copper reduction program and maintains a cumulative list of copper reduction BMPs implemented in support of the TMDL since 2007. In addition, the marinas and yacht clubs are involved in selecting and implementing BMPs that contribute to the dissolved copper load reductions in SIYB. In compliance with Investigative Order reporting requirements, the marinas and yacht clubs submit information annually to the Port detailing the BMPs and actions implemented throughout the year to reduce dissolved copper loads to SIYB. The various Port and marina and yacht club BMP activities undertaken throughout the year will be tracked and reported in detail in the annual monitoring and progress report. In addition, any updates regarding the copper reduction BMP strategies outlined in the TMDL Implementation Plan will be included in an appendix to the annual monitoring and progress report.

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3.0 TRACKING VESSEL CONVERSIONS

Based on the Regional Board's TMDL source analysis, the vast majority (98%) of copper loading to SIYB was attributed to antifouling paints on vessels moored within the basin.

3.1 Vessel Tracking

Annual reduction of copper loading will be assessed by (a) tracking conversions of hull paints from copper to non-copper or lower copper (either DPR Category I paints or paints containing less than 40% copper) products, (b) identifying vessels with aged-copper paints, and (c) estimating the resultant contribution from in-water hull cleaning of copper paints for vessels moored within SIYB.

3.1.1 Tracking Approach

On an annual basis, marina and yacht club owners/operators are responsible for soliciting pertinent information from SIYB boat owners of the percent of time slips in their facilities are unoccupied or are occupied by vessels with copper, non-copper, lower copper paints, aged copper, and unknown hull paints. The information will be gathered by distributing a survey form prepared by the SIML TMDL Group to the SIYB yacht club and marina operators. It will be the responsibility of the operators to ensure the survey form is disseminated to individual vessel owners. The SIML TMDL Group and marina and yacht club operators will collect and compile the completed survey forms into a database. If no initial response is received, the marina and yacht club operators will follow up with telephone calls and emails to gather the requested information. An example of the current survey form is in Attachment A.

After compiling the information, the SIML TMDL Group and other individual marinas and yacht clubs will submit the vessel tracking information to the Port annually, no later than January 15 for the previous calendar year. The vessel tracking data requested is listed in Table 3-1. The tracking reports will be submitted to the Regional Board as an appendix to the annual monitoring and progress report.

Table 3-1.
Required Vessel Tracking Data

Vessel Tracking Data Fields	
1.	Name of marina or yacht club
2.	Date of report
3.	Slip/Mooring reference number
4.	Slip/mooring occupation data (percent of year occupied)
5.	Vessel-specific information
	a. Vessel type (sail, power, multi-hull, etc.)
	b. Vessel length
	c. Vessel beam width
6.	Paint Type (copper, low copper, non-copper, no paint, etc.)

As a data QA/QC and confirmation check, additional information on paint type will be required for vessels reported to have lower copper (either DPR Category I paints or paints containing less than 40% copper) or non-copper hull paints (Table 3-2).

Table 3-2.
Required Lower Copper and Non-Copper Hull Paint Vessel Data

Vessel Tracking Data Fields	
1.	Paint brand name
2.	Product number
3.	USEPA Registration Number (if applicable)
4.	Name of boatyard that applied paint or purchase date
5.[a]	Painting date (month and year)
6.	Percent copper

Notes:
a. This information is required for determining whether a vessel has aged-copper paint.

The Port will evaluate the vessel tracking data from the marinas and yacht clubs to determine the percentage of time that slips are unoccupied or are occupied by vessels with copper, lower copper, aged-copper paint, non-copper, or unknown hull paints as required by the Investigative Order (Table 3-3). These data will be used to calculate the annual dissolved copper load to SIYB from vessels, the number of vessels converted from copper to lower copper or non-copper hull paints, and the reduction in dissolved copper loading achieved annually, as described in Section 3.2 (Annual Dissolved Copper Load Analysis). Estimates of the reductions in basin-wide loading and annual loading reductions will be presented in the annual monitoring and progress reports.

Table 3-3.
Vessel Tracking Data for Annual Monitoring
as Required in Investigative Order

Vessel Tracking Data Fields	
1.	Total number of slips or buoys in facility available to be occupied by vessels
2.	Number of unoccupied slips or buoys and length of time unoccupied during each year
3.	Number of vessels confirmed with copper-based hull paints and approximate length of time occupying a slip or buoy in facility each year
4.[a]	Number of vessels confirmed with aged-copper hull paints and approximate length of time occupying a slip or buoy in facility each year
5.[b]	Number of vessels confirmed with DPR Category I or low-copper paints and approximate length of time occupying a slip or buoy in facility each year
6.	Number of vessels confirmed with alternative hull paints, by hull paint type, and approximate length of time occupying a slip or buoy in facility each year
7.	Number of vessels with unconfirmed information about hull paints and approximate length of time occupying a slip or buoy in facility each year
8.	Estimate of the dissolved copper load reduction achieved for the year (kg/yr and percent)

Notes:
a. This vessel tracking category was not included in the Investigative Order, but was added as a recommendation in the 2012 Monitoring and Progress Report. The recommendation was approved July 26, 2013, letter signed by David Gibson, executive officer of the San Diego Regional Water Quality Control Board titled, "Comments on 2012 Shelter Island Yacht Basin Total Maximum Daily Load Monitoring and Progress Report."
b. This vessel tracking category was not included in the Investigative Order, but was added in 2015 response to the DPR's February 23, 2015 list of hull paints by leach rate category. The Regional Board approved the modification in an email correspondence with the Port dated October 21 and November 9, 2015.

3.1.2 Tracking Templates

The marina and yacht club owners and operators are responsible for soliciting pertinent vessel information from SIYB boat owners. This includes tracking the number and paint types of all vessels moored at the respective marinas and/or yacht clubs within SIYB (if known and reported). The Port will be responsible for collecting vessel tracking information for the Port-operated facilities in SIYB, including the Harbor Police dock, transient dock, and weekend anchorage. Vessel data submitted in the annual report will consist of (a) the information provided by the marina and yacht club owners and operators, and (b) the information gathered by the Port for the facilities it operates.

The vessel tracking templates are in a spreadsheet format and contain fields for required vessel tracking information such as facility name, slip reference number, type and size of vessel, boatyard used for hull painting, type of hull paint (brand, product number, USEPA registration number, and percent copper, if applicable), the date (month and year) the hull was last painted (this information will be used to determine whether the vessel qualifies as having aged-copper paint), and approximate percentage of time occupying a slip in SIYB during the monitoring year. An example of the vessel tracking template is provided in Attachment A.

3.2 Annual Dissolved Copper Load Analysis

Compliance with interim and final TMDL loading reduction goals will be assessed through basin-wide vessel tracking. Annual dissolved copper loading will be assessed through tracking the number of vessel hulls with copper paint, lower copper paint, aged-copper paint, or non-copper paint, the number of slips using BMPs to isolate hulls from water (i.e., slip liners, HydroHoists®) as well as the number of vacant slips in SIYB and input from in-water hull cleaning. Vessels that have aged-copper paint are considered to be in the low-copper category, but will be tracked separately.

This annual assessment will incorporate the following assumptions that were used by the Regional Board in determining loading allocations (Regional Board 2005, Appendix 2).

- All 2,363 SIYB slips or buoys were occupied by vessels (N_v).
- All 2,363 recreational vessels moored within SIYB have copper-based paints 100% of the time.
- Annual loading from passive leaching basin-wide (L_p) equals 2,000 kg/yr.
- Annual loading from hull cleaning (L_h) equals 100 kg/yr[3].
- Average annual loading per vessel (L_v) with copper hull paint equals 0.9 kg/yr, where:
  $L_v = (L_p + L_h)/N_v$.

Based on the Regional Board assumptions in determining dissolved copper loading via passive leaching and hull cleaning combined, there will be an average loading reduction of 0.9 kg/yr for every vessel in SIYB that converts from copper-based to non-copper-based paint (a reduction of

[3] The TMDL assumed that 50% of the in-water hull cleaning in SIYB would be conducted using BMPs. The Port's hull cleaning ordinance requires 100% use of BMPs; therefore, the load calculations assume that 100% of in-water hull cleaning is conducted using BMPs.

0.86 kg/yr from passive leaching, and 0.04 kg/yr from the cleaning load). Beginning in 2015, the Regional Board recognized the use of DPR Category I hull paints (i.e., paints with leach rates less than or equal to (≤) 9.5 micrograms per square centimeter per day [μg/cm²/day]) as a viable means of reducing copper to the basin. This category coincides with the use of low-copper hull paints (i.e., hull coatings with less than 40% copper but leach rates greater than 9.5 μg/cm²/day). Category I hull paints and low-copper hull paints are grouped together to represent the lower copper group. This loading reduction analysis assumes that each vessel transitioned to low-copper hull paint will reduce (on average) annual dissolved copper loading by 0.45 kg/yr. Aged-copper paints (boat hulls that have not been repainted as of the cutoff date [Table 3-4]) will be considered to have low-copper hull paint (i.e., 0.45 kg/yr per vessel). Calculations of annual dissolved copper loading will be based on the assumptions listed in Table 3-4.

The annual tracking program will use a conservative approach to estimating loading reductions. If the most recent painting date is unknown, the vessel will be assumed to be painted recently, and if the occupancy time of a slip or mooring is not reported, the slip or mooring will be assumed to be occupied 100% of the time (i.e., 365 days).

In addition, if the hull paint name and type are unknown or cannot be confirmed, the paint will be assumed to be copper-based. The DPR Rule went into effect on July 1, 2018, establishing a maximum leach rate of 9.5 μg/cm²/day for copper-based antifouling paints registered through the DPR and sold in California. As a result of the implementation of the DPR Rule, a majority of vessels painted since July 2018 should have DPR Category I paints. However, it should be noted that the existing stock of paints with leach rates exceeding the DPR maximum leach rate criterion were approved by the DPR for sale until June 30, 2021. To account for the potential availability of non-DPR Category I paints during a portion of the 2021 monitoring period, estimated dissolved copper loading for any unknown or unconfirmed paints will be calculated using two different approaches:

1) Original Conservative Approach: Any vessels painted with unknown or unconfirmed paints will be conservatively assumed to have high copper paint (0.9 kg/yr/vessel).

2) Non-DPR Category I Paint Phase-Out Approach Following DPR Rule Implementation: Any vessels painted with unknown or unconfirmed paints will be assumed to have low-leach copper paint (0.45 kg/yr/vessel) as a result of the implementation of the DPR Rule.

Annual loading will be calculated for each slip by multiplying the reported annual dissolved copper loading for a given hull paint category by the percent of time a slip is reported to be occupied (e.g., the product of 0.9 kg/yr for copper hull paints and 90% occupancy results in an annual loading of 0.81 kg/yr). In the case of the weekend anchorage and transient dock, data on the length of stay indicated by each permit will be used to calculate annual occupancy and loading. Annual dissolved copper loading for the weekend anchorage and transient dock will be calculated by multiplying the annual dissolved copper load by the average number of vessels occupying the anchorage or transient dock and the average percentage of time slips are occupied.

Table 3-4.
Dissolved Copper Loading Calculation Assumptions

Dissolved Copper Loading Assumptions	
1.	All vessels moored in SIYB at the enactment of the TMDL had copper hull paints.
2.	Average annual dissolved copper load from a vessel with copper paint equals 0.9 kg/yr.
	a. The passive leaching load from a vessel with copper paint equals 0.86 kg/yr.
	b. The cleaning load from a vessel with copper paint equals 0.04 kg/yr.
3.	Annual dissolved copper load for vessels with unknown or unconfirmed hull paints will be calculated using two different approaches:
	a. Original Conservative Approach: Any vessels painted with unknown or unconfirmed paints will be conservatively assumed to have high copper paint (0.9 kg/yr/vessel).
	b. Non-DPR Category I Paint Phase-Out Approach Following DPR Rule Implementation: Any vessels painted with unknown or unconfirmed paints will be assumed to have low-leach copper paint (0.45 kg/yr/vessel) as a result of the implementation of the DPR Rule.
4.	Slips/moorings for which occupancy data are not provided are considered to be 100% occupied.
5.	Annual dissolved copper load from a vessel with non-copper hull paint equals 0 kg/yr.
6.	DPR Category I paints are paints with leach rates ≤9.5 μg/cm²/day. These paints are considered as lower copper.
7.	Low-copper hull paints are paints with less than 40% copper. These paints are also considered as lower copper.
8.	Average annual dissolved copper load from a vessel with lower copper paint equals 0.45 kg/yr
	a. The passive leaching load from a vessel with lower copper paint equals 0.43 kg/yr.
	b. The cleaning load from a vessel with lower copper paint equals 0.02 kg/yr.
9	Vessels determined to have aged-copper paint (i.e., copper paint applied to a vessel hull prior to December 31, 2018[a]) will have an annual dissolved copper load equal to 0.45 kg/yr.
10.	Annual loads will be normalized by the percent of time vessels are docked in SIYB.

Notes:
a. December 31, 2018 is the cutoff date for vessels to be considered to have aged-copper paint for the 2021 annual monitoring and progress report load calculation. This cutoff date will advance by one year for each subsequent annual load calculation.
μg/cm²/day = micrograms per square-centimeter per day; ≤ = less than or equal to; DPR = Department of Pesticide Regulation; kg/yr = kilogram(s) per year; SIYB = Shelter Island Yacht Basin; TMDL = total maximum daily load

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4.0 WATER QUALITY MONITORING

Water quality will be assessed to determine the average concentration of dissolved copper and toxicity levels in SIYB using a spatially representative sampling design. Water quality monitoring will supplement vessel tracking studies to assess long-term improvements in dissolved copper concentrations and toxicity levels that occur as a consequence of loading reductions throughout the interim stages. Water quality monitoring will also be used to determine attainment of final WQOs.

4.1 Water Quality Sampling and Analyses

For TMDL compliance monitoring, water quality will be sampled annually throughout SIYB during the summer to determine the average concentration of dissolved copper in the basin and to assess water quality trends over time. The monitoring will use methods consistent with prior studies conducted by the Regional Board within SIYB (Appendix 6 of the TMDL, Regional Board, 2005). To be consistent with studies conducted by the Regional Board, this monitoring program will include sampling at six stations in SIYB and two[4] reference stations (SIYB-REF-1 and SIYB-REF-2) in the main channel of San Diego Bay adjacent to SIYB. These station locations are similar to those sampled by the Regional Board for development of the TMDL and meet the Investigative Order requirement of spatially representing dissolved copper concentrations in SIYB.

Based on an assessment of water quality data collected between 2005 and 2008 in SIYB from the Regional Harbor Monitoring Program (RHMP) Pilot Study (Weston, 2008), the 2008 RHMP (Weston, 2010), and the Neira et al. study (2009), surface water dissolved copper concentrations ranged from 3.4–13.5 µg/L, and the average concentration was 8.28 $\pm$ 1.36 µg/L (mean $\pm$ standard error). This average concentration was determined by using the surface water dissolved copper monitoring data collected from six stations in the immediate vicinity of the sampling stations that comprise the monitoring network.

To supplement the TMDL compliance monitoring, a second water quality monitoring event will be conducted in the winter (i.e., January or February 2022[5]) using the same sampling and analysis methodologies as the compliance monitoring event performed in the summer. This winter water quality monitoring event may provide a better understanding of the seasonal variability of dissolved copper levels in SIYB and at the reference locations during a period of cooler water temperatures and lower frequency of hull cleaning and vessel usage relative to the summer months.

4.1.1 SIYB Sample Locations

From 2011–2019, the annual compliance monitoring program was conducted at six stations within SIYB and one reference station (SIYB-REF-1[6]) in the main channel of San Diego Bay (Table 4-1 and Figure 4-1). Starting in 2020, a supplemental second reference station (SIYB-REF-2), located

[4] To supplement the TMDL compliance monitoring, a second reference station (SIYB-REF-2) was added to the sampling locations starting in 2020 (further described in Section 4.1.1).

[5] Results from the winter water quality monitoring event will be included in the 2022 monitoring report.

[6] Previously identified as "SIYB-REF"

farther from the mouth of SIYB, was added as a sample location. The addition of a second reference station farther away from SIYB may provide a better understanding of the gradient of dissolved copper levels in San Diego Bay moving away from the mouth of SIYB, as well as a better understanding of the background conditions within San Diego Bay outside of SIYB. The eight sampling stations that will be monitored are listed in Table 4-1 and shown in Figure 4-1.

Table 4-1.
SIYB TMDL Sampling Location Coordinates

Station	Target Coordinates	
	Latitude	Longitude
SIYB-1	32.71821	-117.22601
SIYB-2	32.71412	-117.22921
SIYB-3	32.71550	-117.22989
SIYB-4	32.71683	-117.23203
SIYB-5	32.71217	-117.23297
SIYB-6	32.70858	-117.23514
SIYB-REF-1	32.70406	-117.23232
SIYB-REF-2	32.70926	-117.22544

4.1.2 Frequency of Sampling

Sampling will be conducted at the eight water quality stations twice per year—once during the summer (i.e., in August or September) to satisfy compliance monitoring requirements and once during the winter (i.e., in January or February) to supplement compliance monitoring. By sampling in the summer for compliance monitoring, dissolved copper concentrations are likely to be at their highest level in the water column because the release rates of copper from antifouling paints is higher at warmer sea surface temperatures and with a greater frequency of hull cleaning. As a consequence, this sampling design will provide the most conservative estimate for dissolved copper concentrations in SIYB. In addition, monitoring during the summer will facilitate integration with the RHMP, which includes sampling of a broader range of chemical and biological parameters once every five years during the summer.

In contrast, dissolved copper concentrations are expected to be lower in the winter due to the cooler sea surface temperatures and the lower frequency of hull cleaning and boat usage. Monitoring in both the summer and winter may provide a better understanding of the seasonal variability of dissolved copper levels in SIYB and at the reference locations.

Sampling to bracket the slack high tide at the same station locations and time of year for compliance monitoring will allow repeated measurements and temporal trend analyses to determine changes in dissolved copper concentrations with time[7]. Revisiting the same spatially representative stations allows for basin-wide assessments of water quality, facilitating better detection of trends. Additionally, correlation analyses can be used to assess relationships between estimated loading reductions from vessel conversions with surface water dissolved copper concentrations to track progress of the TMDL.

[7] Sampling schedule is adjusted annually to ensure that station SIYB-4 is sampled during the slack high tide to ensure consistency between monitoring years.

4.1.3 Sample Collection

Sample collection will start at the second reference station (SIYB-REF-2) followed by the first reference station (SIYB-REF-1), both located in the main channel of San Diego Bay. After collection at the reference stations, sampling will continue northward to Station SIYB-1 located near the head of basin. Samples will be collected in the following order: SIYB-REF-2, SIYB-REF-1, SIYB-6, SIYB-5, SIYB-4, SIYB-3, SIYB-2, and SIYB-1. Collection of the samples will be timed so that the midpoint of the collection (SIYB-4) will occur as close to the slack high tide as possible. This sample collection approach will be followed for all water quality monitoring events to ensure consistency and repeatability. In addition, a 72-hour dry period (i.e., <0.1-inch of rain and minimal flow) will be required prior to sampling during the winter to minimize the effects of storm water runoff on the sample results.

Discrete water samples will be collected at each station using the “clean hands” techniques with a Niskin bottle deployed from a sampling vessel. In addition, the field manager will ensure that the sample collection boat is painted with a non-copper or non-zinc-containing hull paint. All stations will be located using the Global Positioning System. Samples will be collected within one meter (m) of the surface. Upon collection, water samples will be transferred to labeled containers for analysis of total and dissolved copper and zinc, total organic carbon (TOC), dissolved organic carbon (DOC), TSS, and toxicity testing[8]. Water samples collected for dissolved metals analyses will be filtered in the field and preserved immediately upon arrival to the analytical laboratory. DOC samples will be filtered in the field into a bottle with hydrochloric acid. Field measurements of temperature, salinity, pH, and DO of the surface water at each station (i.e., within 1m of the surface), will be made using a YSI meter according to manufacturer’s specifications.

Following the collection and preservation of water samples, a water column profile will be captured at each[9] station using a Seabird Electronics SBE-19 Plus CTD instrument equipped with a YSI DO sensor, a pH meter, and a WET Labs C-Star laser transmissometer. The water quality characteristics collected by the CTD will be used for informational purposes only. For example, the CTD data can show how water quality parameters, such as water temperature and clarity, vary from top to bottom, at different locations in the basin, and from year to year.

All water samples will be logged on a chain-of-custody (COC) form (Attachment B) and placed in a cooler on ice. Samples will be stored at 4 degrees Celsius (°C) in the dark until delivered to the appropriate laboratory for analysis.

4.1.4 Equipment Decontamination and Cleaning

The Niskin bottle will be cleaned prior to sampling using clean soapy water and thoroughly rinsed with deionized water. Upon deployment, the Niskin bottle will be rinsed with site water prior to sample collection. After collection, water samples will be transferred from the Niskin bottle to laboratory-certified, contaminant-free bottles that are of the appropriate type and contain the appropriate preservative for the required analyses.

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[8] Because the sample from SIYB-REF-2 is only being collected to assess variability in dissolved copper levels at the reference stations, this sample will not be tested for toxicity.

[9] No CTD cast will be performed at station SIYB-REF-2; due to time constraints, only surface water quality readings will be taken.

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Figure 4-1. SIYB TMDL Sampling Locations

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4.1.5 Chemical Analysis

Water samples will be analyzed for total and dissolved copper, total and dissolved zinc, TOC, DOC, and TSS (Table 4-2). Zinc is commonly used as an alternative biocide in antifouling paints; therefore, total and dissolved zinc levels will be measured to assess changes in the ambient zinc levels in SIYB as vessels are converted from copper-based to non-copper-based paints.

Surface water characteristics (salinity, temperature, pH, DO, and visual observations of water clarity) will be collected to compare ambient conditions from year to year. All analytical methods will follow USEPA or Standard Methods (SM) of the American Public Health Association (APHA; 1998). Required analytical methods and target method detection and reporting limits are presented in Table 4-2.

Table 4-2.
Laboratory Analytical Methods and Detection Limits

Water Quality Measurement	Method	Target Method Detection Limit	Target Reporting Limit	Instrument Sensitivity
Total Copper	USEPA 1640	0.0038 µg/L	0.010 µg/L	N/A
Dissolved Copper	USEPA 1640	0.0038 µg/L	0.010 µg/L	N/A
Total Zinc	USEPA 1640	0.036 µg/L	0.20 µg/L	N/A
Dissolved Zinc	USEPA 1640	0.036 µg/L	0.20 µg/L	N/A
TOC	SM 5310B	0.096 mg/L	0.10 mg/L	N/A
DOC	SM 5310B	0.016 mg/L	0.10 mg/L	N/A
TSS	SM 2540D	1.0 mg/L	5.0 mg/L	N/A
Salinity	SBE CTD and YSI Pro Plus	N/A	N/A	± 0.1 ppt
Temperature	SBE CTD and YSI Pro Plus	N/A	N/A	± 0.1 °C
pH	SBE CTD and YSI Pro Plus	N/A	N/A	± 0.1 pH unit
Dissolved Oxygen	SBE CTD and YSI Pro Plus	N/A	N/A	± 0.1 mg/L
Light Transmissivity	SBE CTD	N/A	N/A	± 0.1%

Notes:
% = percent; ± = plus or minus; µg/L = microgram(s) per liter; °C = degrees Celsius; CTD = conductivity, temperature, and depth profiler; DOC = dissolved organic carbon; mg/L = milligram(s) per liter; N/A = not applicable; ppt = part(s) per thousand; SBE = SeaBird Electronics; SM = Standard Method; TOC = total organic carbon; TSS = total suspended solids; USEPA = United States Environmental Protection Agency; YSI = YSI Incorporated

4.1.6 Toxicity Testing

Water column toxicity will be assessed at the six SIYB sampling stations and one[10] reference station (SIYB-REF-1). Toxicity testing will consist of a 96-hour acute bioassay test using Pacific topsmelt (*Atherinops affinis*), consistent with the TMDL guidance (Regional Board, 2005). Additionally, a 48-hour chronic bioassay test using a mussel (*Mytilus galloprovincialis*) will also be conducted because previous studies have used the 48-hour mussel chronic test as the primary indicator of toxicity. Both tests will be used to assess the narrative toxicity objective described in Section 1.4 (Water Quality Objective Criteria) because both species have ecological relevance to the marina environment and have previously been found to be sensitive to dissolved copper.

[10] Because the sample from SIYB-REF-2 is only being collected to assess variability in dissolved copper levels at the reference stations, this sample will not be tested for toxicity.

The 96-hour acute bioassay with topsmelt will be conducted in accordance with procedures described in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA, 2002). Testing will be initiated within 36 hours of sample collection. Topsmelt will be exposed for 96 hours to three sample concentrations (25, 50, and 100%) and to a control. Each concentration will be tested with six replicates and five topsmelt per replicate. Water quality will be analyzed daily and include measurements of DO, temperature, pH, and salinity. After 96 hours, percent survival will be calculated. The test will be considered acceptable if 90% or more of exposed fish survive in the controls. Test conditions are summarized in Table 4-3.

Table 4-3.
Conditions for the 96-Hour Pacific Topsmelt Bioassay

Test Conditions 96-Hour Acute Marine Fish Survival Bioassay		
Test Species		*Atherinops affinis*
Test Procedures		EPA/821/R-02/012 (USEPA, 2002)
Age at Test Initiation		7–15 days
Test Type and Duration		Acute survival/96-hour static-renewal
Sample Storage Conditions		4°C, dark, minimal head space
Holding Time		36 hours
Control Water Source		Scripps Pier seawater, 20-µm filtered
Recommended Water Quality Parameters	Temperature	21 ± 1°C
Recommended Water Quality Parameters	Salinity	34 ± 2 ppt
Recommended Water Quality Parameters	Dissolved Oxygen	>4.0 mg/L
Recommended Water Quality Parameters	pH	Monitor for pH drift
Photoperiod		16 hours light, 8 hours dark
Test Chamber		400-mL beaker or plastic cup
Concentrations		3 (25, 50, and 100%) and a control
Number of Replicates per Sample		6
Number of Organisms per Replicate		5
Exposure Volume		250 mL
Aeration		None, unless DO falls below 4.0 mg/L
Feeding		once daily with *Artemia* nauplii
Water Renewal		48 hours
Statistical Analysis		Test of Significant Toxicity (TST) - Control and test sample comparisons

Notes:
µg/L = microgram(s) per liter; µm = micrometer; °C = degrees Celsius; mg/L = milligram(s) per liter; mL = milliliter(s); ppt = part(s) per thousand; USEPA = United States Environmental Protection Agency

A 96-hour reference toxicant test using copper chloride will be conducted concurrently with the SIYB project samples and using the same batch of test organisms to evaluate the relative sensitivity of test organisms as well as the laboratory's proficiency with the test procedure. The topsmelt reference toxicant test will be conducted with copper concentrations of 0, 25, 50, 100, 200, and 400 µg/L. At test termination, the median lethal concentration (LC_{50}) will be calculated and compared to historical laboratory reference toxicant test data for this species. Test organisms will be considered to be responsive and appropriately sensitive if the test LC_{50} is within two standard deviations of the historical mean from the previous 20 tests.

The 48-hour bivalve larvae test will be performed in accordance with procedures outlined in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (USEPA, 1995). Testing will be initiated within 36 hours of sample collection. The test will be run for 48 hours or up to 54 hours if necessary to ensure development of the bivalve larvae to the D-hinge stage in the control. Bivalves will be exposed to five sample concentrations (6.25, 12.5, 25, 50, and 100%), and a control. Each concentration will be run with five replicates and 150–300 larvae will be targeted for inoculation into each replicate. Water quality measurements will include DO, temperature, pH, and salinity at test initiation and termination. The test will be considered acceptable if at least 50% of larvae survived and an average of 90% of surviving larvae developed normally in the controls. A combined endpoint of normal surviving embryos will be reported. Test conditions are summarized in Table 4-4.

Table 4-4.
Conditions for the 48-Hour Chronic Bivalve Embryo Development Bioassay

Test Conditions 48-Hour Bivalve Embryo Development Bioassay		
Test Species		*Mytilus galloprovincialis*
Test Procedures		EPA/600/R-95/136 (USEPA, 1995)
Age at Test Initiation		<4-hour-old embryos
Test Type and Duration		Bivalve Larvae - Static / 48 hours
Sample Storage Conditions		4°C, dark, minimal head space
Holding Time		36 hours
Control Water Source		Scripps Pier seawater, 20-µm filtered
Recommended Water Quality Parameters	Temperature	15 ± 1°C
	Salinity	34 ± 2 ppt
	Dissolved Oxygen	> 4.0 mg/L
	pH	Monitor for pH drift
Photoperiod		16 hours light, 8 hours dark
Test Chamber		26-mL glass shell vials
Concentrations		5 (6.25, 12.5, 25, 50, and 100%) and a control
Replicates and Sample		5
Number of Organisms/Replicate		150-300/replicate
Exposure Volume		10 mL
Feeding		None
Water Renewal		None
Statistical Analysis		TST - Control and test sample comparisons

Notes:
°C = degree(s) Celsius; > = greater than; < = less than; µm = micrometer(s); mg/L = milligram(s) per liter; mL = milliliter(s); ppt = part(s) per thousand; USEPA = U.S. Environmental Protection Agency

A 48-hour reference toxicant test using copper chloride will be conducted concurrently with the SIYB project samples and using the same batch of test organisms; this test will evaluate the relative sensitivity of test organisms as well as the laboratory's proficiency with the test procedure. The bivalve reference toxicant test will be conducted with copper concentrations of 0, 2.5, 5.0, 10, 20 and 40 µg/L. At test termination, the median effect concentration (EC_{50}) will be calculated and compared to historical laboratory reference toxicant test data for this species. Test organisms will be considered to be responsive and appropriately sensitive if the test EC_{50} is within two standard deviations of the respective historical laboratory mean. At the termination of the study, survival and shell development will be compared between the control and test concentrations to determine whether significant mortality or reduction in normality exists.

A close look at the test receiving waters for any potentially interfering algal species is recommended prior to initiating tests with *Mytilus* embryos. If algae are prevalent and densities appear to be of concern, filtration of a subsample of water from each site through a 1 to 2-micrometer (µm) mesh filter to remove the algae is highly recommended. This filtered sample is then tested side-by-side to the unfiltered sample for comparison purposes.

4.1.6.1 Toxicity Identification Evaluation

A toxicity identification evaluation (TIE) is a laboratory-based investigation to evaluate the potential cause of toxicity observed in a sample. The end point of a standard toxicity test can only indicate that an effect was observed but not what caused the effect. A complete TIE approach uses a series of sample manipulations in the laboratory, chemical/physical measurements, and associated toxicity tests in a stepwise process to identify the specific cause of toxicity in a sample with observed effects.

A study performed by the Southern California Coastal Water Research Project (SCCWRP) in 2005 examined the extent and magnitude of copper contamination in marinas in the San Diego region, including SIYB (Schiff et al., 2007). As part of the SCCWRP study, a Phase I TIE was conducted on water samples from SIYB to identify the class of chemicals that were likely causing the observed toxicity. The TIE indicated that the toxicity observed in SIYB-collected samples was largely due to trace metals. The study identified copper as the most likely cause of toxicity because increasing dissolved copper concentrations correlated with increasing toxicity and copper concentrations were high enough to account for virtually all of the observed toxicity.

Since the 2005 study by SCCWRP (Schiff et al., 2007), the SIYB Monitoring Program has consistently observed a toxic effect to bivalve larvae at the innermost station in SIYB (Station SIYB-1), but the specific cause of the observed toxicity is unknown. It is unknown whether the effect observed in the recent toxicity testing in SIYB is still due to trace metals, or some other toxicant. To address this unknown, the 2021 SIYB TMDL summer monitoring program will include a concurrent Phase I TIE component to re-evaluate the likely class(es) of contaminants currently responsible for the observed effect. Based upon the findings of the Phase I TIE, further investigation (i.e., Phase II/III TIE) may be conducted in the future to identify and verify potential toxicant(s) if warranted.

The site-specific TIE approach for the SIYB Monitoring Program is outlined in Attachment C. This approach was developed using guidelines for conducting TIEs published by the USEPA (USEPA 1991, 1996).

4.1.7 Water Quality Analysis

4.1.7.1 Water Chemistry

The basin-wide dissolved copper results (excluding the reference stations) will be used to calculate an average dissolved copper concentration. This average will be used to determine basin-wide compliance with the CTR dissolved copper chronic target (3.1 µg/L) or a potential site-specific objective. Because the same station locations will be revisited each year, repeated measurements will be used to evaluate reductions in dissolved copper levels with time. As previously mentioned, water quality results from the winter monitoring event will be presented in the 2022 monitoring report to supplement the compliance monitoring conducted during the summer.

4.1.7.2 Toxicity

Toxicity will be statistically assessed using the software program Comprehensive Environmental Toxicity Information System™ from Tidepool Scientific Software. With this software, survival of topsmelt fish and normal development of surviving mussel embryos in each test dilution from SIYB are compared to organism performance observed in control exposures to filtered clean seawater collected from the end of the pier at Scripps Institution of Oceanography in La Jolla, California. Results are used to determine LC_{50} and EC_{50} values. If fish survival and normal bivalve embryo development in the controls do not differ significantly from that of the treatments, then conditions are considered to be non-toxic at the station. The USEPA Test of Significant Toxicity (TST)[11] (USEPA, 2010) approach will be used to determine statistically significant effects for this study.

4.2 Field and Analytical QA/QC Procedures

Strict QA/QC procedures will be employed throughout the entire study, from mobilization through delivery of samples to the laboratories. Extra care will be taken to minimize the possibility of compromising sample integrity. The sample collection team will be trained in, and follow, field sampling standard operating procedures (SOPs), as described in the SIYB QAPP (Wood Environment & Infrastructure Solutions, Inc. [Wood], 2021). As part of the field collection procedures identified in the 2012 and 2013 QAPP updates, a QA/QC reviewer from both the Port[12] and the field contractor will be present onboard the sampling vessel at all times to review each step of the sample and data collection process. Additionally, Port-approved field and QA/QC checklists will be used throughout the sampling event to ensure that all procedures are consistent at each location; samples are collected in exactly the same manner at every station; and all required field data are recorded correctly and completely.

Field staff members will take care to avoid contamination of samples at all times by employing the “clean hands” technique and will wear powder-free nitrile gloves during sample collection. In addition, the field manager will ensure that the sample collection boat is painted with a non-copper or non-zinc containing hull paint. All samples will be collected in laboratory-supplied, laboratory-certified, contaminant-free sample bottles containing the correct preservative (if applicable). The sampling team will be provided the updated QAPP and field sampling SOPs to ensure all sampling personnel are trained accordingly. Additionally, the field staff will be made aware of the significance of the project’s detection limits and the requirement to avoid contamination of samples at all times. Field measurement equipment will be checked and calibrated for operation

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[11] A recommendation was made by the Port to the Regional Board in the 2012 monitoring report to begin using this new statistical method in place of previous statistical tests. The Regional Board agreed with this recommendation in its July 26, 2013, letter regarding SIYB TMDL progress. The TST method was used to identify any samples that exhibited a statistically significant difference from the control.

[12] Depending on the status of the COVID-19 pandemic at the time of sampling, a Port-designated QA observer may not be present during the monitoring events.

in accordance with the manufacturer's specifications (calibration records will be recorded and maintained), and will be inspected for damage prior to use and when returned from use. Observations of activities surrounding the sampling area will be recorded on field data sheets at each station and during movement between stations (e.g., boat hull cleaning).

As required by SWAMP protocols, the monitoring program will include the addition of a field duplicate. The field duplicate sample will consist of a second complete set of samples collected at one of the monitoring locations and will be analyzed for chemical constituents only (no toxicity analyses will be conducted on the field duplicate sample). The purpose of the field duplicate is to assess variability in sampling procedures as well as ambient conditions. In addition to the field duplicate, each batch of samples that is submitted to the laboratories for analyses will be accompanied by an equipment rinse blank and field blank, as specified under SWAMP.

Chemistry and toxicity samples will be uniquely identified with sample labels in indelible ink. All sample containers will be identified with the project title, appropriate identification number, date and time of sample collection, and preservation method. Sample labels are inspected by Port[13] and field contractor QA reviewers before and after bottles are filled at each station to ensure that every sample and analysis type are labeled correctly before moving to the next station; this information will be recorded on the field checklist. All samples will be kept on ice from the time of sample collection until delivery to the analytical laboratory for analysis within method-specified holding times (Table 4-5). Samples will be delivered by courier to the analytical laboratories within 24 hours of sampling event completion. All analyses will be conducted by laboratories that are accredited by the California Environmental Laboratory Accreditation Program (ELAP) for the specific tests that are required to be performed at the time they are conducted.

Table 4-5.
Sample Holding Times

Analyte	Holding Time
TOC	28 days
DOC	28 days[a]
Total Copper	180 days[b]
Dissolved Copper	48 hours[c]
Total Zinc	180 days[b]
Dissolved Zinc	48 hours[c]
Total Suspended Solids	7 days
48-hour chronic bioassay	36 hours
96-hour acute bioassay	36 hours

Notes:
a The holding time is applicable to preserved sample. The sample will be filtered in the field into a bottle with hydrochloric acid (HCl) preservative for DOC analysis.
b The holding time for total metals after preservation is 180 days. The total fraction samples will be preserved at the laboratory immediately upon receipt from the courier, within one day of sample collection.
c The holding time for metals after preservation is 180 days. The dissolved fraction will be filtered in the field through a 0.45-micrometer (μm) glass fiber filter using a bottle top vacuum filtration system. Samples will be preserved at the laboratory immediately upon receipt from the courier, the next day after sample collection.
DOC = dissolved organic carbon; TOC = total organic carbon

[13] Depending on the status of the COVID-19 pandemic at the time of sampling, a Port-designated QA observer may not be present during the monitoring events.

The annual TMDL monitoring program will include the following QA/QC elements:

- ✓ QAPP and SOP updates
- ✓ Verification of laboratory certifications
- ✓ Field mobilization and equipment checklists
- ✓ Field sampling QA/QC checklists
- ✓ Field equipment calibrations records
- ✓ Observations of water clarity
- ✓ Staff training on QAPP-required field procedures
- ✓ Field conditions and water quality data sheets
- ✓ On-board QA/QC oversight
- ✓ Observations for hull cleaning or other water-quality-impacting activities near sample collection locations

The analytical laboratory will (a) be certified to conduct the analyses for the constituents of concern for the SIYB TMDL study, (b) be certified for the specific analysis methods required for this program, and (c) hold a valid ELAP certificate at the time the monitoring program is initiated and the samples are analyzed. The QA objectives for chemical analysis to be followed by the participating analytical laboratories are detailed in their laboratory QA manuals and the QAPP. The objectives for accuracy and precision involve all aspects of the testing process, including the following:

- Methods and SOPs
- Calibration methods and frequency
- Data analysis, validation, and reporting
- Internal QC
- Preventive maintenance
- Procedures to ensure data accuracy and completeness

Results of all laboratory QC analyses will be reported with the final data. Any QC samples that fail to meet the specified QC criteria in the methodology or QAPP will be identified, and the corresponding data will be appropriately qualified in the final report. The final report will include a separate section that discusses any QA/QC issues encountered during the monitoring event, as well as the corrective actions taken to satisfactorily address any issues.

All QA/QC records of the various testing programs will be kept on file for review by regulatory agency personnel.

4.3 Chain-of-Custody Procedures

Proper COC procedures will be used throughout the sample collection, transport, and analytical process. The principal documents used to identify samples and to document possession are COC records, field logbooks, checklists, and field tracking forms. The COC process is initiated during sample collection. A COC record will be provided with each sample or group of samples. Each employee who has custody of the samples will sign the form and ensure that the samples are not left unattended and are properly secured. COC forms are provided in Attachment B.

Documentation of sample handling and custody include the following:

- Client and project name
- Sample identifier
- Sample collection date and time
- Any special notations on sample characteristics or analysis
- Initials of the person collecting the sample
- Date the sample was sent to the analytical laboratory
- Shipping company and waybill information

Completed COC forms will be placed into a plastic envelope and kept inside the cooler containing the samples. If possible, field staff should physically courier the bay water samples from the dock at SIYB to the analytical laboratory on the same day as collection. This level of effort will provide an additional level of security to the COC process as well as ensure that all holding times are met. Upon delivery to the analytical laboratory, the COC form will be signed by the person receiving the samples. Copies of the COC records will be included in the final reports prepared by the analytical laboratories.

4.4 Health and Safety

Because sampling will be conducted from a boat, dangerous situations can arise. Field personnel need to be aware of safety hazards and take appropriate precautions. A health and safety tailgate meeting will be held prior to any on-site activity. During this meeting, site-specific hazards will be discussed and addressed appropriately.

4.4.1 Use of Boats and Working over Water

Work will be conducted from a boat over and around SIYB; therefore, special considerations are required. All watercraft will be operated according to the applicable navigational rules and regulations. The boat will be operated by a certified captain with U.S. Coast Guard small vessel training. Personnel working on the boat will be trained according to internal SOPs. The hazards associated with the operation and use of boats include drowning and injuries from falling. An approved personal flotation device must be available for each person onboard. Wet conditions increase the chances of slipping; therefore, engineering controls such as guardrails will be used.

The compliance monitoring event will be conducted in the summer, which increases the risk of heat stress. To reduce this risk, plenty of water will be made available to field staff and wearing short pants will be acceptable. Field staff may be exposed to cooler temperatures during the winter monitoring event. To reduce the risk of cold stress, field staff will wear layers of clothing appropriate for potentially cold, wet, and windy conditions. A weather forecast will be reviewed prior to field sampling. High winds may pose potentially hazardous conditions within the harbor.

A float plan will be prepared for each trip and submitted to the safety officer or project manager. At a minimum, it will include destination, expected time of return, personnel on board, and description of vessel. The float plan will be used if the field crew does not return or notify the shore contact at a specified time and a rescue is needed.

4.4.2 COVID-19 Safety Precautions

Wood staff will adhere to local, state, and federal guidelines, as well as corporate policy, to prevent the spread of COVID-19 during all monitoring efforts. Given the ever-evolving nature of the COVID-19 pandemic, the site-specific Health and Safety Plan will be updated with the most up-to-date information regarding COVID-19 prevention strategies prior to each sampling event.

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5.0 DATA REVIEW AND MANAGEMENT

Field and laboratory data will be reviewed for completeness and accuracy prior to analysis and reporting, and will be stored in a database, as described in the following sections.

5.1 Data Review

After each survey, field data sheets and checklists will be checked for completeness and accuracy by the field crew and the QA reviewer(s). In addition, all sample COCs will be checked against sample labels at the end of the day prior to samples being transported to the laboratories. In the laboratory, technicians will document sample receipt and sample preparation activities in laboratory logbooks or on bench sheets.

Data validation will include dated and signed entries by technicians on the data sheets and logbooks used for samples, the use of sample tracking and numbering systems to track the progress of samples through the laboratory, and the use of QC criteria to reject or accept specific data. Data for laboratory analyses will be entered directly onto data sheets. Data sheets will be filled out in ink and signed by the technician, who is responsible for checking the sheet to ensure completeness and accuracy. The technician who generated the data will have the primary responsibility for the accuracy and completeness of the data.

Each technician will review the data to ensure the following:

- Sample description information is correct and complete
- Analysis information is correct and complete
- Results are correct and complete
- Documentation is complete

All data will be reviewed and verified by participating team laboratories to determine whether data quality objectives have been met and that appropriate corrective actions have been taken, when necessary, as detailed in the QAPP.

5.2 Data Management

The chemistry and toxicity laboratories will supply analytical results in Portable Data Format (PDF). Laboratories will have the responsibility of ensuring that data is accurate. After completion of the data review by participating team laboratories, data will be maintained in the project files and imported into a database system. Additional details regarding data management are provided in the project-specific QAPP.

5.3 Laboratory Quality Assurance and Quality Control

Analytical laboratories will provide a QA/QC narrative that describes the results of the standard QA/QC protocols that accompany analysis of field samples. All electronic copies of results will be maintained in the project files. In addition, back-up copies of results generated by each laboratory will be maintained at their respective facilities. At a minimum, the laboratory reports will contain results of the laboratory analysis, QA/QC results, all protocols and any deviations from the project Monitoring Plan, and a case narrative of COC details.

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6.0 REPORTING

Reporting under the SIYB TMDL will include annual monitoring and progress reports to be submitted to the Regional Board by the Port no later than March 31 of each year. The purpose of the report is to document the methods and results of annual vessel tracking surveys and water quality monitoring. Reports will detail the number of vessels converted to non-copper or lower copper paints within SIYB to calculate loading reductions. Additionally, annual progress reports will describe water quality conditions, specifically focused on the concentrations of dissolved copper within the basin and observed toxicity levels.

At a minimum, the following information will be included in annual monitoring and progress reports.

SIYB TMDL Implementation: An evaluation, interpretation, and tabulation of data and information on SIYB Dissolved Copper TMDL activities undertaken by the Named Parties.

1. *Vessel Conversions.* Assess vessel conversions from copper-based antifouling paints to non-copper and lower copper hull paints, including:
    a. Total number of slips or buoys in SIYB available to be occupied by vessels
    b. Number of unoccupied slips or buoys and length of time unoccupied during each year
    c. Number of vessels confirmed with copper-based hull paint and approximate length of time occupying a slip or buoy in SIYB during each year
    d. Number of vessels confirmed with lower copper hull paint and approximate length of time occupying a slip or buoy in SIYB during each year
    e. Number of vessels confirmed with alternative hull paints, by alternative hull paint type, and approximate length of time occupying a slip or buoy in SIYB during each year
    f. Number of vessels with aged-copper paint and approximate length of time occupying a slip or buoy in SIYB during each year
    g. Number of vessels with unconfirmed information about hull paint and approximate length of time occupying a slip or buoy in SIYB during each year;
    h. An estimate of the dissolved copper load reduction achieved, in terms of kilograms and percent, for the year
    i. Any other data or information relevant to annual tracking of vessels in SIYB occupying slips or buoys and conversions from copper-based hull paints to alternative (non-copper or lower copper) hull paints.

SIYB BMP Implementation. Describe BMPs or other actions that have been implemented by the Named Parties to reduce dissolved copper discharges from boat hulls into SIYB. BMPs and other actions implemented and required to be implemented by in-water hull cleaners are also described in the BMP section of the annual monitoring and progress report. In addition, any updates of the copper reduction BMP strategies outlined in the TMDL Implementation Plan will be included in an appendix to the annual monitoring and progress report.

San Diego Baywide BMP Implementation. Describe BMPs or other actions that can be, will be, or have been implemented by the Port to reduce dissolved copper discharges from boat hulls into harbors or marinas, other than SIYB, within San Diego Bay.

SIYB TMDL Monitoring. An evaluation, interpretation, and tabulation of water quality sampling and analysis data, including:

1. *Sampling Locations and Numbers*. The locations, type, and number of samples must be identified and shown on a site map.
2. *Sample Analyses*. The sample collection and laboratory analytical methods, QA/QC results, time and date of sample collection, and other pertinent information must be described.
3. *QA/QC Summary.* Discusses the adherence to project-specific QAPP requirements, QA/QC issues that needed to be addressed, and any necessary corrective actions.
4. *Water Quality Trends.* Interpretations and conclusions, as to whether the "trajectory" of the measured water quality values points toward attainment of the dissolved copper water quality objectives, must be provided.

7.0 REFERENCES

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ATTACHMENT A

VESSEL TRACKING DATABASE TEMPLATE

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Attachment A
SIYB Dissolved Copper TMDL
Vessel Tracking Template Form

Facility (Marina or Yacht Club)	Slip/Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type (Copper, Low, or Non, No Paint)	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	USEPA Registration Number

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ATTACHMENT B

CHAIN-OF-CUSTODY FORMS

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Weck Laboratories, Inc.
Analytical Laboratory Services - Since 1964
14859 East Clark Avenue : Industry : CA 91745
Tel 626-336-2139 ♦ Fax 626-336-2634 ♦ www.wecklabs.com

CHAIN OF CUSTODY RECORD

STANDARD

Page 1 Of 1

CLIENT NAME: Wood E & I Solutions, Inc.	PROJECT: SIYB Dissolved Copper TMDL Monitoring
ADDRESS: 9177 Sky Park Court San Diego, CA 92123	PHONE: FAX: EMAIL:
PROJECT MANAGER	SAMPLER

SPECIAL HANDLING

- ☐ Same Day Rush 150%
- ☐ 24 Hour Rush 100%
- ☐ 48-72 Hour Rush 75%
- ☐ 4 - 5 Day Rush 30%
- ☐ Rush Extractions 50%
- ☑ 10 Business Days
- ☐ QA/QC Data Package

Charges will apply for weekends/holidays

Method of Shipment:

ANALYSES REQUESTED

ID# (For lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	**Total Copper**[1] Method EPA 1640 MDL 0.0038 µg/L, RL= 0.01 µg/L	**Dissolved Copper**[1,2] Method EPA 1640 MDL 0.0038 µg/L, RL= 0.01 µg/L	**Total Zinc**[1] Method EPA 1640 MDL 0.036 µg/L, RL= 0.20 µg/L	**Dissolved Zinc**[1,2] Method EPA 1640 MDL 0.036 µg/L, RL= 0.20 µg/L	**Total Organic Carbon (TOC)** Method USEPA 5310B MDL = 0.016 mg/L, RL = 0.10 mg/L	**Dissolved Organic Carbon (DOC)**[3] Method USEPA 5310B MDL = 0.016 mg/L, RL = 0.10 mg/L	**Total Suspended Solids** Method USEPA 2540 D, MDL = 1 mg/L, RL = 5 mg/L				COMMENTS

RELINQUISHED BY	DATE / TIME	RECEIVED BY
RELINQUISHED BY	DATE / TIME	RECEIVED BY
RELINQUISHED BY	DATE / TIME	RECEIVED BY

SAMPLE CONDITION:

Actual Temperature:

Received On Ice	Y / N
Preserved	Y / N
Evidence Seals Present	Y / N
Container Intact	Y / N
Preserved at Lab	Y / N

SAMPLE TYPE CODE:
AQ=Aqueous
NA= Non Aqueous
SL = Sludge
DW = Drinking Water
WW = Waste Water
RW = Rain Water
GW = Ground Water
SO = Soil
SW = Solid Waste
OL = Oil
OT = Other Matrix

SPECIAL REQUIREMENTS / BILLING INFORMATION

1) LAB ACTION: PRESERVE Cu/Zn IMMEDIATELY. HDPE Metals bottles have NO acid in bottle; 2) Diss. metals were field filtered using 0.45 um bottletop filt. system;
3) DOC samples were field filtered through 0.45 um Nylon filters; 4) FB = Field Blank; 5) ER = Equipment Rinsate (Equipment Blank);
6) Organic carbon will be measured by Weck using High Temperature Combustion Method (SM 5310 B); 7) Preserve extra of each sample for total and dissolved metals to archive;
8) SPIKE level at the following amounts: Copper = 10 ug/L, Zinc = 30 ug/L, TOC/DOC = 2.0 mg/L; 9) WECK will contact Wood PM within 24 hours if any sample anomalies are found;
10) Select pages from Wood QAPP included for reference.

Wood Aquatic Toxicology Lab
4905 Morena Blvd, Ste. 1304
San Diego, CA 92117
Phone: (858) 299-5368

Chain of Custody Form

Client/Send Report To:

Company: Wood E & I Solutions, Inc.
Address: 9177 Sky Park Court
San Diego, CA 92123
Contact/PM: ______
Phone Number: ______
Email Address: ______

Project Information (if needed):

Project Name: SIYB Dissolved Copper TMDL Monitoring
Project No. ______
PO Number ______

Personal Cooler Shipped:
Return Requested: YES____ NO____.

Analysis Requested (write out or use codes below)

Sample ID	Collection Date	Collection Time	Sample Volume	Sample Type: Grab/Comp.	Sample Number (for lab use)	Aa-a	Mg-dv						Receipt Temp (°C)

Samples Collected By:

Additional Comments:
Concurrent reference toxicant test for both species.

Samples Shipped via:
Condition Upon Receipt:

Relinquished/Shipped By:	Received By:	Relinquished By:	Received By:
Signature:	Signature:	Signature:	Signature:
Print Name:	Print Name:	Print Name:	Print Name:
Date/Time:	Date/Time:	Date/Time:	Date/Time:

Test Codes (marine):

Mp-c: Chronic Kelp
Hr-dv: Chronic Abalone
Aa-a: Acute Topsmelt
Aa-c: Chronic Topsmelt
Mb-a: Acute Menidia/Silverside
Mb-c: Chronic Menidia/Silverside
Ab-a: Acute Mysid Shrimp
Ab-c: Chronic Mysid Shrimp
Sp-c: Chronic Urchin Fertilization
Sp-dv: Chronic Urchin Development
Mg-dv: Chronic Mussel Development
Other: Write out the test organism

Test Codes (freshwater):

Cd-a: Acute Ceriodaphnia
Cd-c: Chronic Ceriodaphnia
Pp-a: Acute Fathead Minnow
Pp-c: Chronic Fathead Minno
Sc-c: Chronic Green Algae
Ha-a: Acute Hyalella amphipod
Ha-c: Chronic Hyalella amphipod
T-22: CA Title 22 Hazardous Waste

ATTACHMENT C

TOXICITY IDENTIFICATION EVALUATION APPROACH

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Shelter Island Yacht Basin Copper TMDL Compliance Program
Toxicity Identification Evaluation (TIE) Methods Summary
August 24, 2021 Sampling Event

This memo provides a brief summary of a proposed approach to conduct a Phase I Toxicity Identification Evaluation (TIE) for ambient waters that have been found to consistently cause toxicity to mussel embryos at the inner portion of the Shelter Island Yacht Basin (SIYB) in northern San Diego Bay. These observations have been documented during routine monitoring in support of the SIYB Dissolved Copper Total Maximum Daily Load (TMDL).

A TIE is a laboratory-based investigation in which the cause of toxicity is determined through a series of sample manipulations and associated toxicity tests. The initial step of a TIE (Phase I) comprises of a number of physical/ chemical manipulations of a sample to isolate or change the potency of different groups of toxicants. The manner in which the toxicity changes in response to each of the treatments provides an indication of the type of constituent responsible for toxicity. Once the general characteristics of the toxicant have been elucidated during Phase I (e.g., pH-sensitive, divalent cationic metal, non-polar organic chemical, etc.), the toxicant is further isolated and tentatively identified through the process of additional selective sample manipulations and chemical analyses (Phase II), and the identity then verified through a rigorous confirmation process (Phase III). The nature of a TIE, therefore, is progressive and later phases are based upon information developed during early stages. Guidelines for conducting TIEs have been published by the USEPA (1991, 1993a, 1993b, 1996, 2007). However, it should be noted that, while these guidelines provide a comprehensive framework and overall process for identifying unknown toxicants, recent innovations and alternative processes for achieving the same objectives also exist. These procedures may also be customized based on site-specific considerations and goals as described herein for SIYB.

A study performed by the Southern California Coastal Water Research Project (SCCWRP) in 2005 examined the extent and magnitude of copper contamination in marinas in the San Diego region, including SIYB (Schiff et al., 2007). As part of the SCCWRP study, a Phase I TIE was conducted on water samples from SIYB to identify the class of chemicals that were likely causing the observed toxicity. The TIE indicated that the toxicity observed in SIYB-collected samples was largely due to trace metals. The study identified copper as the most likely cause of toxicity because increasing dissolved copper concentrations correlated with increasing toxicity and copper concentrations were high enough to account for virtually all of the observed toxicity.

Since the 2005 study by SCCWRP (Schiff et al., 2007), the SIYB Monitoring Program has consistently observed a toxic effect to bivalve larvae at the innermost station in SIYB (Station SIYB-1), but the specific cause of the observed toxicity is unknown. It is unknown whether the effect observed in the recent toxicity testing in SIYB is still due to trace metals, or some other toxicant(s). To address this unknown, the 2021 SIYB TMDL summer monitoring program will include a concurrent Phase I TIE component to re-evaluate the likely class(es) of contaminants currently responsible for the observed effect. Based upon the findings of the Phase I TIE, further investigation (i.e., Phase II/III TIE) may be conducted in the future to identify and verify potential toxicant(s) if warranted.

Phase I TIE Approach – Toxicant Characterization

The proposed Phase I treatments follow standard EPA protocols and cover broad classes of potential inorganic and organic compounds to capture effects related not only to copper but other possible unmonitored toxicants as well. Phase I TIE methods involve the systematic examination and elimination of specific classes of contaminants responsible for toxicity. This procedure narrows the list of potential causes of toxicity in a complex sample by identifying specific chemical and physical characteristics of contaminants responsible for toxicity. Results provide an indication of the class to which problematic constituents belong. The proposed treatments for SIYB and classes of compounds they address are summarized in **Table 1.**

Table 1. Phase I Toxicant Characterization

Phase I Procedure	Primary Compounds Addressed/ Purpose
Baseline (unmanipulated sample)	None. Used for treatment effectiveness comparison
Filtration (0.45 μm) or Centrifugation	Pollutants associated with particles, and algae and/or microorganism effects
Aeration	Volatile or oxidizable compounds; surfactants
C8 or C18 Column Solid-Phase Extraction	Non-polar organics and metal chelates. *These columns can remove some metals, so this step helps verify metals vs organics.
C8 or C18 Column Solvent Elution	Recovers toxicity due to non-polar organics
Cation Exchange Column	Removes cationic compounds including various trace metals
Oxidant Reduction (STS Addition) – 10 and 25 mg/L	Constituents reduced by sodium thiosulfate; also chelates some cationic trace metals
Metal Chelation (EDTA Addition) – 10 and 25 mg/L	Divalent cationic metals

Based on the history of consistent toxic effects in SIYB at inner harbor location (SIYB-1), we propose initiating the Phase I TIE concurrent to the routine compliance-based tests. Enough sample will be collected at SIYB-1 to conduct both the compliance testing and all proposed Phase I TIE treatments. TIEs are most successful when there is a strong enough toxic response with which to tease out treatment effectiveness. Our recommendation is a minimum 25% effect relative to the control for a TIE, which has consistently been observed at SIYB-1.

A summary of the overall proposed Phase I TIE approach for SIYB is provided in Figure 1.

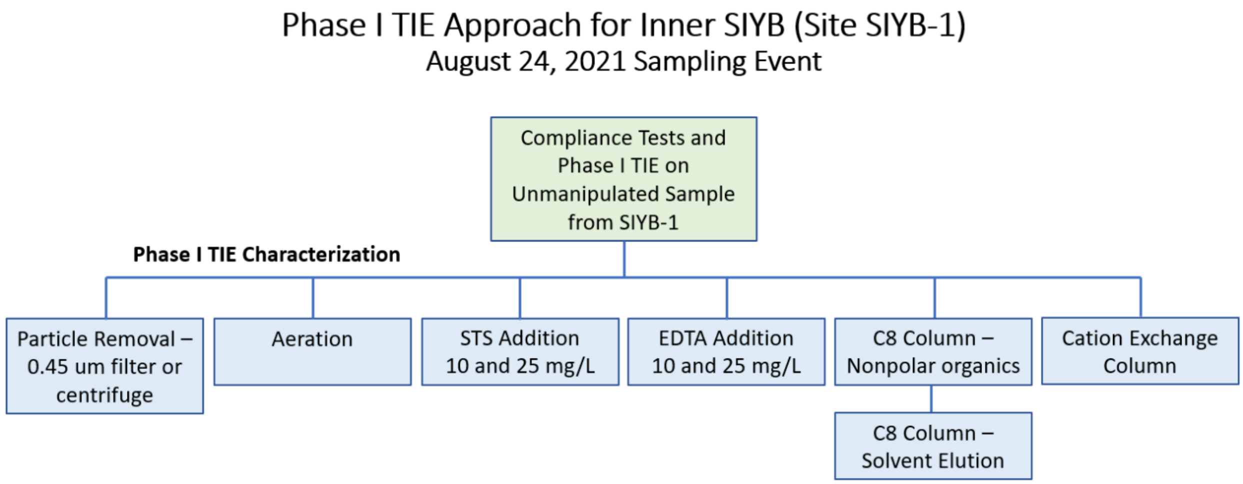

Figure 1. Summary of the Phase I TIE Approach for SIYB – August 2021 TMDL Compliance Sampling Event

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APPENDIX B

BEST MANAGEMENT PRACTICE PLANS

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SAN DIEGO UNIFIED PORT DISTRICT
BMP PLAN IMPLEMENTATION

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Shelter Island Yacht Basin Total Maximum Daily Load BMP Workplan – San Diego Unified Port District
Summary of efforts completed /in progress (Jan–Dec 2021)

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Defined Projects for Stage 4 (2018-2022)							
Policy/ Regulation	***Copper Hull Paint Legislation AB425 (Atkins): The Port is involved in the development of state legislation that will require the Dept of Pesticide Regulation to adopt a leach rate that is protective of aquatic environments.***	***State-wide***	***This bill supports the Port's efforts to reduce copper pollution in San Diego Bay marinas by controlling copper loading throughout the state.***	***Completeness: Adoption of bill*** ***Load Reduction:*** ***(1) establish leach rate that is protective of aquatic environments.*** ***(2) Limit paints to only those meeting the leach rate.***		***Start Date: Feb 2013*** ***Completion Date:*** ***(1) Bill Complete – Oct 2013*** ***(2) Establish Leach Rate – Feb 2014*** ***Status: Legislation Complete***	• ***AB425 was signed in October 2013.*** • ***The final DPR report was completed and leach rates were established on January 30, 2014:*** ○ ***Max Leach Rate of 9.5 µg/cm^2/day for paints w/ monthly soft carpet.*** ○ ***7 additional mitigation measures identified to be implemented.***
Policy/Regulation	***Support for DPR Paint Reformulation***	***State-wide***	***Establish timeline to phase out high leach copper paint.***	***Completeness***	***Removal of high leach products from the market***	***Started: 2018*** ***Status: Completed June 30, 2021***	• ***This DPR regulation set a maximum leach rate rule of 9.5 µg/cm^2/day for copper-based hull paints and became effective July 1, 2018.*** • ***The 2018 regulation was the result of efforts associated with AB425.*** • ***June 30, 2021 marked the end of the grace period for all high copper paints that were in-stock at stores and boatyards. It is understood that after June 30, 2021, high copper paints are no longer available in California.***
Policy/ Regulation	In-water Hull Cleaning Regulations – New Permits Issued	Bay-wide	In-Water Hull Cleaning regulations are intended to reduce or eliminate copper pollution caused by hull cleaning activities in San Diego Bay.	Completeness: Issue Permits to 100% of In-Water Hull Cleaning businesses operating in San Diego Bay. Load reduction: All hull cleaning businesses operating on Port Tidelands have obtained permits & use BMPs.	# of permitted in-water hull cleaning businesses/ total in-water hull cleaning businesses known to operate.	Start Date: FY10 Status: Ongoing Annually	• 108 companies were issued permits since the onset of regulation. There are currently 58 active permits as of December 2021. • 6 hull cleaning permits issued in 2021.
Policy/ Regulation	In-water Hull Cleaning- Permit Renewals	Bay-wide	In-Water Hull Cleaning Permit renewals are required every two years. A regular renewal process is intended to ensure divers stay up to date on education and training.	Completeness: Permit renewals issued Load reduction: All hull cleaning businesses operating on Port Tidelands possess valid permits & use BMPs.	# of permitted in-water hull cleaning businesses having permits expiring in 2018/ total # in-water hull cleaning businesses	Start Date: Jan 2013 Completion Date: Annually Status: Ongoing annually	• 0 permits expired in 2021. • Overall, 46 permits have expired since the onset of the regulation due to either companies going out of business or being sold to another already permitted in-water hull cleaning company. **A review of the Port's Ordinance and Permit Program Review was initiated in 2019 and is still ongoing. During this process, permits already issued remained in full effect even if the expired date had passed. As a result, no renewals were issued.*

Shelter Island Yacht Basin Total Maximum Daily Load BMP Workplan – San Diego Unified Port District
Summary of efforts completed /in progress (Jan–Dec 2021)

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Policy/ Regulation	In-water Hull Cleaning (IWHC) – Diver/Marina Inspections	Bay-wide	Inspections for IWHC activities and review of marinas' check-in practices verify whether businesses are complying with permit requirements. In general, compliance with permit requirements is indicative of divers using BMPs and controlling their pollution.	Completeness: compliance with regulations confirmed through visual inspections. Load reduction: All hull cleaning businesses operating on Port Tidelands have obtained permits & use BMPs.	# of inspections conducted/ # of citations/warnings issued	Start Date: FY10 Status: Ongoing Annually	• 82 In-Water Hull Cleaning Inspections completed in 2021. • 55 Marina Inspections completed in 2021. • 0 Citations issued in 2021.
Policy/Regulation	In-Water Hull Cleaning-Ordinance and Permit Program Review	Bay-wide	To amend the Port's In-Water Hull Cleaning Ordinance and Permit as necessary to address loading from In-Water Hull Cleaning.	Water Quality Improvement Load Reduction Behavior Change	Water Quality Monitoring Improved direct load reduction calculations	New Initiative Start Date: August 2019 Status: In Progress	• 2019 efforts identified a data gap related to in-water hull cleaning's effects on water quality. • Stakeholder feedback requested addressing this data gap prior to additional Ordinance or Permit changes. • Hull Cleaning Pause and water quality monitoring initiated in 2021 to further evaluate hull cleaning contributions.
Policy/Regulation	New Initiative: Hull Cleaning Pause	Shelter Island Yacht Basin (SIYB)	Implement a temporary pause of in-water hull cleaning of copper-based antifouling paint in Shelter Island Yacht Basin to evaluate the effects of in-water hull cleaning and water quality in Shelter Island Yacht Basin.	Water Quality Improvement (Reduced copper in SIYB waters) Fill Data Gap (Collect water quality data)	Weekly Water Quality Sampling for copper In-Water Hull Cleaning Inspections: # Inspections conducted / # inspections where IWHC of copper paint observed # Citations issued	New Initiative Start Date: November 2021 Status: On-going through March 2022	• Article 4.14 of Port Code amended to prohibit all in-water hull cleaning of copper-based antifouling paint in SIYB during the Pause period (Dec 19, 2021 – Feb 9, 2022) • Weekly water quality testing program for 16 weeks (pre-, during, and post-pause). • A total of 217 inspections were conducted during the pause period and 0 citations were issued. • San Diego Regional Water Quality Control Board partnered with the Port on this project. • Report estimated to be completed later in 2022.
Policy/ Regulation	Correspondence with State & Federal Agencies	State-wide	Promote consistency in requirements being developed across the state; discuss strategies for implementation activities, lessons learned, and build upon successful activity models.	Completeness: submittal of letters; response to request(s); public meeting comments	# of letters sent / # of requests satisfied/# of Port comments on regulatory items	Ongoing Annually • 2020: 6 initiatives	• Port and DPR staff continued an on-going collaborative partnership by holding multiple conference calls to discuss copper-related issues and the DPR special study (throughout 2021). • Attended meeting with Santa Ana Regional Water Quality Control Board to answer questions on SIYB TMDL Implementation (May 2021). • Submitted comment letter to provide input on the State Water Resources Control Board's Draft 2020-2022 Integrated Report for the 303(d) list (July 2021).

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Policy/ Regulation	Coordination with other Regions on Copper TMDLs/impairments	State-wide	Promote consistency in requirements being developed across the state; discuss lessons learned, strategies for implementation activities, etc.	Consistency in regulations	Assessment mechanism is dependent on information being considered.	As-needed coordination	• Port continued to hold monthly calls with LA County Department of Beaches and Harbors to discuss respective TMDL programs and identify areas for collaboration on copper reduction efforts at both a regional and state level.
Policy/ Regulation	Legislative or Policy Efforts	State-wide	Seek options for additional state controls on copper through legislative efforts.	Completeness: Adoption of bill Load Reduction: TBD dependent on bill content		Start Date: TBD Completion Date: TBD Status: As-Needed	• Will be analyzed and coordinated as needed.
Policy/ Regulation	Policy Efforts as deemed applicable and appropriate	SIYB/Bay-wide	Evaluate potential policy efforts locally and statewide, as deemed appropriate.	Completeness: Adoption of policy Load Reduction: TBD dependent on policy content		Start Date: TBD Completion Date: TBD Status: As-Needed	• Will be analyzed and coordinated as needed.
Testing and Research	***Hull Paint Research Grants***	***State-wide***	***Projects advance the understanding of available alternative technologies; 3 new technologies being tested (nanotechnology, surface adhesion, natural antifouling compounds).***	***Completeness: Development of test products***	***Deliverable of final report and ability to test product in Port panel testing.***	***Start Date: FY11 Completion Date: FY13 Status: Completed***	• ***ePaint – Completed 2012*** • ***University of Washington – Completed March 2013*** • ***Xurex – Completed July 2013***
Testing and Research	***Hull Paint Testing Program: Development of a testing program to evaluate new and emerging coatings***	***SIYB***	***The objective of the project was to identify effective non-copper antifouling paints through panel testing.***	***Completeness/Change in Awareness***	***Identification of alternative hull paints that are comparable to copper hull paints.***	***Start Date: FY09 Status: Complete Annual Totals: • 2011: Five of 17 non-copper hull paints identified to be effective • 2010: Four of 21 non-copper hull paints identified to be effective.***	• ***Paint testing efforts have been completed; no new work anticipated for the paint testing program.***

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Testing and Research	Blue Economy Incubator (BEI): Testing New Innovation and Technologies	SIYB	Utilize the Port's Blue Economy Incubator (BEI) to discover, test, and implement, where applicable, new and innovative copper reduction and/or water quality improvement technologies.	Water Quality Improvement Commercial acceptance of technology	Testing of copper concentrations in the water column inside and outside of Boatwash basin. Completeness: Businesses have invested in the technology/# of businesses using the technology	Start Date: 2017 Status: Ongoing	• The Rentunder Boatwash uses a semi-enclosed technology that offers an alternative to current in-slip hull cleaning practices. The pilot project consists of two phases that test the technology: • Phase 1 initiated in 2018 and water quality component tested. • Phase 2 is intended to test commercialization opportunities.
Testing and Research	Hull Paint Testing Program: Implementation of a testing program to evaluate new and emerging coatings	SIYB	The objective of the project is to identify effective non-copper antifouling paints through panel testing or other processes.	Completeness/Change in Awareness	A standardized protocol for testing the effectiveness of new coatings has been developed.	Implementation: Program will be implemented as needed for new products and as budget allows	• In 2021, Port staff met with representatives from three alternative coating companies (SeaCoat, CeRam-Kote and Coval) to discuss progress in product development for recreational vessels.
Hull Paint Transition	***Transition of Port Fleet to Non-copper Hull Paints***	***SIYB/Bay-wide***	***To facilitate the reduction of copper loading to SIYB in compliance with interim and final loading reduction targets.***	***Load reduction: 100% of fleet transitioned to non-copper hull paints*** ***Completeness: conversion of entire Port fleet***	***# converted/ total***	***Start Date: FY09*** ***Completion Date: FY11*** ***Status: Complete. 15 of 15 converted***	• ***All 15 Port boats remain converted, resulting in a 13.5 kg/yr load reduction for 2021.*** • ***The project was completed in 2011; the full fleet remains copper free through 2021.***
Hull Paint Transition	***Vessel Tracking Templates***	***SIYB/Bay-wide***	***Excel-based data sheets for marinas and yacht clubs to use to track hull paint in a consistent manner for reporting purposes.***	***Completeness/Change in Behavior***	***# of facilities using templates and tracking hull paint information***	***Start Date: FY11*** ***Completion Date: FY13*** ***Status: Complete***	• ***The Port and all 11 facilities are currently using the template to track hull paint.***
Hull Paint Transition	***Web-based Vessel Tracking System***	***SIYB/Bay-wide***	***A web-based database to track vessel paint information for District and tenant facilities.***	***Completeness/Change in Behavior***	***Presence/absence of usable/accessible online vessel tracking database that calculates annual loading reductions.***	***Start Date: FY12*** ***Completion Date: FY13*** ***Status: Database complete***	• ***No new work was conducted on the database. Per stakeholder feedback, the database is not currently in use.***

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Grant Funding/ Incentives	***319h Hull Paint Conversion Project***	***SIYB***	***The project is designed to reduce the levels of copper in Shelter Island Yacht Basin by incentivizing boaters to switch from copper to non-biocide hull paint.***	***Load reduction targets (as of 2012 cost reallocation): 107 vessels converted to non-toxic hull paints and estimated 96.3 kg/yr copper load reduction***	***# of vessels converted and loading reduction as compared to targets.***	***Start Date: FY11 Completion Date: May 30, 2015 Status: Completed***	• ***7 boats converted in 2015*** • ***41 vessels converted overall*** • ***2015 Load reduction = 6.3 kg/yr*** • ***Overall load reduction = 36.9 kg/yr*** • ***Final report submitted to State Board on May 30, 2015*** • ***Report posted to website at https://www.portofsandiego.org/environment/copper-reduction-program/hull-paint-transition.html***
Education/ Outreach	In-Water Hull Cleaning Public Online Surveys	SIYB/Bay-wide	This project is designed to gather data on how vessels are being cleaned in Shelter Island Yacht Basin and San Diego Bay.	Fill Data Gap Change in Awareness/Change in Behavior	Number of surveys completed on-line by the boating community	Start Date: February 9, 2021 Completion Date: March 21, 2021 Status: Completed	• 450 survey respondents including boaters, in-water hull cleaners, and marina/yacht club managers • Responses provided diverse and representative perspectives on a range of in-water hull cleaning information including vessel hull paint, current management procedures, vessel cleaning practices and in-water hull cleaning tools utilized for cleaning. • Survey results available online: https://www.portofsandiego.org/environment/environmental-protection/copper-reduction-program.
Education/ Outreach	Workshops/seminars to boating community & Stakeholders	SIYB/Bay-wide	Educate boat owners on environmental impacts of copper-based hull paints; provide information on alternative hull paints; inform boat owners of the Hull Paint Conversion Project; inform stakeholders of programs or policies.	Change in Awareness/Change in Behavior	# of people attending; results from public opinion/awareness surveys or pre/post-tests (as applicable)	Start Date: FY 09 Status: On-going Past Annual Totals: • 2020-9 events • 2019- 11 events • 2018 – 12 events • 2017-- 7 events • 2016 – 6 events • 2015 – 5 events • 2014 – 6 events • 2013 – 1 event • 2012 – 3 events • 2011 – 2 events • 2010 – 1 event	• Guest Speaker Invitations: ○ California Clean Boating Network Meeting- Port staff were invited to present on status to date of the Shelter Island Yacht Basin Dissolved Copper TMDL. The California Clean Boating Network consists of a collaboration of government, environmental, business, boating, and academic organizations working to improve clean boating in CA (November 4, 2021). Approximately 73 people attended. • Port Board Memorandums ○ 4 Board Memorandums ▪ In-Water Hull Cleaning Online Survey Launch (February 4, 2021). ▪ Submittal of the 2020 Shelter Island Yacht Basin Dissolved Copper TMDL Annual Monitoring and Progress Report (April 15, 2021). ▪ In-Water Hull Cleaning Online Survey Results Available (May 6, 2021). ▪ Availability of Department of Pesticide Report Evaluating Dissolved Copper in California Waterways (June 10, 2021). • Port Board Meeting Agendas ○ 3 Board Agendas and Presentations ▪ Status update on the SIYB Dissolved Copper TMDL, Direction to Staff on Initiating an In-Water Hull Cleaning Pilot Study and Direction to Staff on an Implementation Approach (June 15, 2021).

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
							▪ Informational update on IWHC Pilot Study and Implementation of a Temporary Pause of IWHC of Vessels with Copper-Based Paint in SIYB for an Eight-Week Period and Direction to Staff on a Proposed Amendment to the District Code to Implement the Temporary Pause (September 14, 2021). ▪ Conduct Public Hearing and Adopt Ordinance Amending Section 4.14 to Implement a Mandatory Eight-Week Pause of IWHC of Vessels With Copper-Based Antifouling Paint in SIYB (October 12, 2021).
Education/ Outreach	Booths at Outreach Events	SIYB/Bay-wide	The Port makes efforts to host a booth at various boating-related events. The purpose is to educate the boating community on environmental impacts of copper-based hull paints; provide information on alternative hull paints; inform boat owners of the Hull Paint Conversion Project (2013-2015).	Change in Awareness/Change in Behavior	# of attendees; # of posted advertisements or pamphlets distributed Results from public opinion/awareness surveys (as applicable)	Start Date: FY 09 Status: On-going Past Annual Totals: • 2020- 0 events due to COVID-19 • 2019- 1 event • 2018 – 1 event • 2017 – 0 events • 2016 – 6 events • 2015 – 6 events • 2014 – 5 events • 2013 – 5 events • 2012 – 4 events • 2011 – 4 events • 2010 – 1 event • 2009 – 1 event	• Due to COVID-19 this initiative was unable to be utilized for 2021.

Education/ Outreach	Develop Partnerships/ Collaboration	SIYB/Bay-wide	Identify opportunities to collaborate with tenants, academia, and other agencies to develop and provide outreach, testing opportunities, funding opportunities, and policies.	Change in Awareness/Change in Behavior	# partnerships developed	Start Date: FY 09
						Completion Date: On-going
						
						Status: In progress
							• Marina and Yacht Club "1-on-1 Meetings"
							  ○ Port staff met individually with marina and yacht club managers to discuss the temporary In-Water Hull Cleaning Pause and better understand facility operations prior to inspections (November 2021).
							• Coordination with SIMLG and SIYB TMDL Stakeholders on SIYB TMDL annual report and copper reduction efforts.
							• Regular participation in state-led Marina Interagency Coordinating Committee (MIACC) meetings for antifouling and marina-related topics (June 22, 2021).
							• Regular meetings with SIMLG and other SIYB TMDL stakeholders to discuss copper reduction efforts and TMDL status.
							  ○ In May 2020, the Port-Marina Working Group was formed and led by a Port Commissioner. Meetings continued as needed through 2021.
							  ○ The San Diego Regional Water Quality Control Board began attending meetings as needed in 2021.

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Education/ Outreach	Website Development	SIYB/Bay-wide	Be an information source for staying up-to-date with boating trends, news, events and environmental issues. Provide tenants, stakeholders, and public information on copper hull paint related projects, policies and other items.	Change in Awareness/Change in Behavior	Web pages created and posted. Periodic updates to webpages (as necessary)	Start Date: FY 10 Status: On-going Past Annual Totals: • 2020-26 updates • 2019- 25 updates • 2018 – 40 updates • 2017 – 36 updates • 2016 – 2 updates • 2015 – 2 updates • 2014 – 1 update • 2013 – 2 updates • 2012 – 2 updates • 2011 – 1 update	• The website was routinely checked to ensure content was available to the public and that information remained current and easy to find. • 33 website updates were performed in 2021: the Copper Reduction Program page was fully updated with up-to-date programmatic information and documents. Updates were also provided to the public on the IWHC surveys and results, Ordinance Amendment process, and temporary IWHC pause. • Approximately 23 updates to the In-Water Hull Cleaning permitted divers list (the list is updated and distributed to marinas and yacht clubs weekly, unless there are not changes to the list from the previous week). • A dedicated email address continued to be utilized for stakeholders to facilitate correspondence and Q&A for In-Water Hull Cleaning related inquiries (hullcleaning@portofsandiego.org).
Education/ Outreach	Literature Development: (brochures, handouts, print materials)	Bay-wide	Development and distribution of brochures and other educational materials for the public addressing the bay's copper problems and providing information on non-copper hull paint alternative hull paints.	Change in awareness	# of brochures or pamphlets created	Start Date: FY 10 Past Annual Totals: • 2020—0 items • 2019-- 1 item • 2018 – 1 item • 2017 – 0 items • 2016 – 1 item • 2015 – 1 item • 2014 – 2 items • 2013 – 4 items • 2012 – 1 item • 2011 – 2 items	• There were no new educational materials produced in 2021. The 2019 update to the Boater's Guide to Hull Paints in California remained available on the Copper Reduction Program website.

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Education/ Outreach	Media Development: (Videos, Web tools, Testimonials, Press releases)	SIYB/Bay-wide	Development and distribution of information for the public addressing the bay's copper problems, non-copper hull paints, policies, and testimonials from boaters/tenants using non-copper hull paints.	Change in awareness	# of press releases or videos created	Start Date: FY 09 Status: On-going Past Annual Totals: • 2020—1 item • 2019-- 3 items completed • 2018- 1 item completed • 2017- 1 press release; 1 item completed • 2016 – 1 press release; 3 items completed • 2015 – 1 press release; 2 items completed • 2014 – 7 press releases; 1 item completed • 2013 – 5 press releases, 3 items completed • 2012 – 9 press releases; 1 video, 2 posters • 2011 – 7 press releases • 2010 – 5 press releases • 2009 – 2 press releases	• Blue Sky News advertisement encouraging boaters to participate in the In-Water Hull Cleaning Survey (March 2021). • The Log Newspaper articles ○ Article discussing the Port's release of In-Water Hull Cleaning Surveys to the San Diego Bay boating community titled "Port of San Diego Invites Boating Community to Participate in In-Water Hull Cleaning Survey" (March 10. 2021). https://www.thelog.com/local/port-of-san-diego-invites-boating-community-to-participate-in-in-water-hull-cleaning-survey/ ○ Article discussing copper issues at the state level, progress to date, and potential regulations on the horizon titled "Dissolved Copper A More Than Decade Long Battle With More Efforts on the Horizon" (May 6. 2021). https://www.thelog.com/snw/dissolved-copper-a-more-than-decade-long-battle-with-more-efforts-on-the-horizon/ ○ Article discussing the Port's June 2021 Board of Port Commissioner Meeting presentation that introduced the In-Water Hull Cleaning Pause and companion water quality testing program titled "Commissioners Approve 8-Week Pause for In-Water Hull Cleaning in Shelter Island Yacht Basin" (July 1. 2021). https://www.thelog.com/local/commissioners-approve-8-week-pause-for-in-water-hull-cleaning-in-shelter-island-yacht-basin/ ○ Article discussing the Board of Port Commissioner's adoption of an Ordinance Amendment titled "Port of San Diego Suspends In-Water Hull Cleaning of Boats with Copper-Based Paint Starting in December" (November 30. 2021). https://www.thelog.com/news-departments/port-of-san-diego-suspends-in-water-hull-cleaning-of-boats-with-copper-based-paint-starting-in-december/
Agency-Wide Activities	Construction Site Inspections	Bay-wide	Construction inspections ensure that sites undergoing (re-)development control pollution and prevent discharges. For construction sites and facilities that do not comply, the Port will take enforcement action.	Change in Behavior	Total # sites, # Inspections; # of follow-up inspections	Status: On-going	• 15 construction projects bay-wide. • 132 inspections and 13 violations.

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Agency-Wide Activities	Commercial Business Inspections Program	Bay-wide	The Port inspects commercial facilities per the Municipal Permit in SIYB and bay-wide. One component, the Port's marina inspection program, has been an effort to educate boat owners about pollution prevention, focusing on visual observations designed to identify sources of pollution and the pollution prevention practices being implemented at the marinas.	Change in Behavior	Total # Inspections; # of follow-up inspections	Status: On-going	• Bay-wide, 61 commercial facility inspections were conducted through the Existing Development Management Program. Seven follow-up inspections were required. • Bay-wide, 1 commercial facility received an administrative citation. • No SIYB commercial facilities received administrative citations. One SIYB commercial facility received a written warning for not providing stormwater training documentation during the inspection. • Bay-wide, 41 commercial facilities completed stormwater training and submitted BMP implementation certifications. Seven of the 41 facilities are located within SIYB. *Notes:* *Data gathered from the Jurisdictional Runoff Management Program (JRMP), which has a permit-required data collection period of July 1, 2020—June 30, 2021. To stay consistent with previous SIYB BMP workplan reporting, these dates were used for this report.*
Structural and Mechanical BMP Implementation	SUSMP and Development Regulations	Bay-wide	The Port incorporates SUSMP requirements on applicable development and redevelopment projects bay-wide. Depending on the type and size of the projects, SUSMP requirements could include site design, source controls, and treatment controls such as LID.	Change in Behavior: Compliance	# of projects having metals as priority pollutant / # of completed SUSMP BMPs / # acres (sq. ft)	Status: On-going	• No new projects occurred in SIYB in 2021 having metals as a priority pollutant.
Monitoring/ Reporting	***SIYB Special Study – Time Series Special Study***	***SIYB***	***Gain a better understanding on the effects tidal variations may have on concentrations of dissolved copper in surface waters at SIYB***	***Change in SIYB water quality concentrations during different stages of a full mixed semidiurnal tidal cycle.***	***Completeness: Assess water quality monitoring data and compare to previous water quality and modeling efforts.***	***Status: Completed***	• ***3 Special Study sites were located throughout SIYB and sampled every 2 hours for an entire mixed semidiurnal tidal cycle (26 hours).*** • ***Samples collected in January 2018 at mouth, mid-basin, and back-basin.*** • ***Findings submitted as part of the 2017 Annual SIYB TMDL Report (March 2018)***
Monitoring/ Reporting	Conduct annual SIYB TMDL Water Quality Monitoring	SIYB	Assess water quality in SIYB; determine when vessel conversion starts to show water quality improvements	Completeness	Completed Report	Status: 2021 Monitoring Complete	• For 2021: Basin average for dissolved copper was 4.9 µg/L. • In February 2021, a winter monitoring event that sampled the TMDL compliance stations was completed to evaluate potential seasonal differences in dissolved copper concentrations in Shelter Island Yacht Basin.

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Monitoring/ Reporting	Revisions to QAPP & Monitoring Plan	SIYB	Develop a water sampling and vessel tracking program to 1) use annually to assess conditions in SIYB, and 2) determine compliance with the TMDL.	Completeness	Submittal of plan updates	Start Date: May 2021 Completion Date: July 2021 Status: 2021 Revisions Complete	• 2021 revisions included various QA updates.
Monitoring/ Reporting	***Updates to SIYB TMDL Conceptual Model (as-needed)***	***SIYB***	***Update model using accepted modeling techniques that can predict current conditions and copper loading changes as paints are transitioned from current leach rates to AB425 Category I leach rates. Updates would include list of data inputs and comparisons to existing modeling efforts and data.***	***Completeness; annual review and update (when applicable)***	***Completed report; updates as needed***	***Start Date: March 2013 Completion Date: By March 2016 Status: Completed***	• ***Data from DPR Report was included in conceptual model.*** • ***SIYB-Specific MAMPEC model study completed; identification of recent studies to fill data gaps and uncertainties completed.*** • ***Information provided in the SIYB 2015 Annual Report as Appendix E. (March 2016; see link below)*** ***https://www.portofsandiego.org/environment/copper-reduction-program/monitoring-and-data-assessment/shelter-island-yacht-basin-tmdl-annual-reports/7286-shelter-island-yacht-basin-tmdl-annual-report-2015.html***
Monitoring/ Reporting	***Conceptual Model Technical Review***	***SIYB***	***Update model using accepted modeling techniques that predict current conditions and copper loading changes as paints are transitioned from current leach rates to AB425 Category I leach rates and the contributions of In-Water Hull Cleaning from cleaning frequencies.***	***Completeness***	***Completed report; updates as needed***	***Start Date: August 2019 Completion Date: September 2019 Status: Completed***	• ***The Technical Review of the conceptual model reassessed the 2005 SIYB TMDL's loading assumptions to determine whether the SIYB TMDL copper targets may be achieved by reducing the frequency of, or eliminating, in-water hull cleaning.*** • ***Key findings suggest adaptive management measures to vessel hull cleaning frequency and adjustments to implementation practices may lead to copper load reductions and water quality improvements.***

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Monitoring/ Reporting	Support DPR Special WQ Study to evaluate effectiveness of Category I Paints	State-wide	Establish baseline and perform bi-annual subsequent sampling to determine if Category I paints are improving water quality around the state.	Currently impaired basins meeting Water Quality Objectives as the Category I Paint Rule is fully recognized	Water quality measurements compared to WQOs	Started: 2019 Completion Expected: TBD	• In 2019, the Port was approached by the DPR to include SIYB in their special study to evaluate the Category I paints and their effect on water quality in impaired basins over time. • In 2021, Port staff continued to work with the DPR to facilitate the sampling efforts for 2022. *Note that the DPR had postponed 2021 sampling due to budget restrictions resulting from COVID-19.*
Monitoring/ Reporting	***Regional Harbor Monitoring Program (RHMP): 2018 Core Monitoring Program***	***Bay-wide***	***Assesses conditions in San Diego Bay based on comparisons to historical data and comparisons of contaminant concentrations to known surface water and sediment thresholds.***	***Completeness***	***Water, sediment, & fish sampling in bay*** ***Report on findings of the study***	***Start Date: FY17*** ***Completion Date: FY22*** ***Status: Completed***	• ***Revised Final report completed August 2021 (see link below)*** ***https://pantheonstorage.blob.core.windows.net/environment/San-Diego-Regional-Harbor-Monitoring-Program-2018-FINAL-REPORT-REVISED.pdf***
Monitoring/ Reporting	***Regional Harbor Monitoring Program (RHMP): 2013 Core Monitoring Program***	***Bay-wide***	***Assesses conditions in San Diego Bay based on comparisons of historical data and contaminant concentrations to known water and sediment thresholds.***	***Completeness***	***Water, sediment, & fish sampling in bay*** ***Report on findings of the study***	***Start Date: FY13*** ***Completion Date: FY15*** ***Status: 2013 Completed***	• ***Final report completed January 2016 (see link below)*** ***https://www.portofsandiego.org/document/environment/regional-harbor-monitoring-program/rhmp-2013.html***
Monitoring/ Reporting	***SIYB Hydrology Study***	***SIYB***	***Evaluate the potential for enhanced flushing of SIYB by adding culverts or pipes through to America's Cup Harbor or directly to the bay's main channel. Develop a preliminary engineering feasibility and cost assessment for the modeled scenarios.***	***Completeness***	***Completed report***	***Start Date: FY11*** ***Completion Date: FY13*** ***Status: Completed Feb 2013***	• ***A culvert between SIYB and ACH was modeled to provide the greatest benefit in reducing copper in SIYB. The study predicted a potential 17% reduction on average throughout the basin and 21% reduction at the head (or enclosed end) of the basin.***

Shelter Island Yacht Basin Total Maximum Daily Load BMP Workplan – San Diego Unified Port District
Summary of efforts completed /in progress (Jan–Dec 2021)

BMP TYPE	PROJECT NAME / DESCRIPTION	LOCATION	PURPOSE(S)	TARGETED OUTCOME(S)	ASSESSMENT MECHANISM	SCHEDULE / STATUS	FINDINGS / ACCOMPLISHMENTS
Ongoing Partnerships & Cooperative Efforts							
Policy/ Regulation	Coordination with other Regions on Copper TMDLs/impairments	State-wide	Promote consistency in requirements being developed across the state; discuss implementation strategies, lessons learned, etc.	Consistency in regulations	Assessment mechanism is dependent on information being considered.	As-needed coordination	• TBD
Vessel Tracking Program	Track vessel conversion from copper to non-copper and low-copper hull paints to determine annual loading reductions	SIYB	Monitor implementation progress and assess progress towards interim and final loading targets	Interim and final loading reduction targets	Annual basin-wide vessel tracking assessments and loading reduction calculations	Annually beginning in 2011; reporting to Regional Board March 31 annually	• All Named Parties.
Water Quality Monitoring	Monitor water quality basin wide to assess long-term trends in dissolved copper levels and attainment of WQOs	SIYB	Monitor implementation progress and assess progress towards attaining dissolved copper concentrations protective of SIYB beneficial uses	Water quality conditions protective of beneficial uses	Annual basin-wide chemistry and toxicity assessments	Annually beginning August 2011; reporting to Regional Board March 31 annually	• All Named Parties.
Education/ Outreach	MIACC Meetings	State-wide	Promote consistency in requirements being developed across the state; discuss strategies for implementation activities, lessons learned, and build upon successful activity models.	Information transfer; consistency in messaging	Assessment mechanism is dependent on information being considered.	As-needed coordination	• TBD

* This list is subject to modification based on the availability of resources and results from other projects.

**Projects in bold italics denote projects completed during or prior to this reporting period

SHELTER ISLAND MASTER LEASEHOLDERS TMDL GROUP
BMP PLAN IMPLEMENTATION

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BMP Type	Project Name Description	Purpose	Partiticpant	Manager	Start Date	Assessment Mechanism	Results	Modifications	End Date
education	DPR mandate for low leach paints	Bring awareness to boaters	Group Members	Standing Committee	Mar-14	Compliance Realignment	on-going	TBD	Unknown
education	SIMLG Monthly Meetings	Liaise with and update management	Group Members	Chair	Jan-10	participation	on-going	TBD	Annual
education	Posting of Diving RQs	Bring awareness to boaters	Group Members	Standing Committee		none	posted	TBD	None
technical improvement	Scientifc Advisory Group	Improve Scientifc basis of compliance	ChemMetrics	Standing Committee	Feb-20	group consensus	on-going	TBD	Unknown
program improvement	Port Working Group	Building Collaborative Efforts to Compliance	Port selected group	Port Staff	Jul-19	participation	on-going	TBD	Unknown
technical improvement	Fish and Wildlife Consults	Planning possible Mitigation Projects	ChemMetrics	Standing Committee	Jun-20	group consensus	on-going	TBD	Unknown
outreach	MIAPP meetings	Gain statewide perspective	Group Members	None	-	group consensus	on-going	TBD	Unknown
outreach	RBOC meetings	Prospect for Colaboration and funding opportunties	ChemMetrics	Chair	-	goal achievement	on-going	TBD	Unknown
program improvement	RWQCB, SD	Pespective on Healthy Bay Initiative	ChemMetrics	Chair	-	group consensus	on-going	TBD	Unknown

BMP Type	Project Name Description	Purpose	Partiticpant	Manager	Start Date	Assessment Mechanism	Results	Modifications	End Date
outreach	RWQCB Presentation	Healthy Bay Iniative	Group Members	Chair	-	none	improved underestanding	TBD	Does Not Apply
program improvement	Dock Walk, activity log	Correlate Dockside Activities with water monitoring	Ad Hoc Group	Chair	-	none	observation recorded	TBD	Unknown
program improvement	Develop Copper Compliance model	Improve Scientifc basis of compliance	ChemMetrics	Lead Scientist	-	third party review	powerpoint	TBD	Does Not Apply
program improvement	present model to Port	Improve Scientifc basis of compliance	ChemMetrics	Lead Scientist	-	third party review	presented	TBD	Does Not Apply
program improvement	review and comment on 2020 Port report	Improve Scientifc basis of compliance	ChemMetrics	Lead Scientist	-	third party review	submitted	TBD	Does Not Apply
technical improvement	Acute toxicity findings Reponse	Improve Scientifc basis of compliance	ChemMetrics	Lead Scientist	-	third party review	submitted	TBD	Does Not Apply
technical improvement	Devlop Mitigation Projects	Healthy Waters Iniative	ChemMetrics	Chair	-	third party review	submitted	TBD	Does Not Apply
program improvement	Compile and present Hull Survey	Meet Compliance	ChemMetrics	Lead Scientist	-	third party review	submitted	TBD	Does Not Apply

BMP Type	Project Name Description	Purpose	Partiticpant	Manager	Start Date	Assessment Mechanism	Results	Modifications	End Date
program improvement	Respond to and meet regarding diving ban	Improve Scientifc basis of compliance	ChemMetrics	Lead Scientist	-	third party review	submitted	TBD	Does Not Apply
program improvement	Respond to boatwash disintegration	Program Oversight	ChemMetrics	Chair	-	third party review	submitted	TBD	Does Not Apply
program improvement	BMP program description	Improve Compliance	ChemMetrics	Chair	-	third party review	submitted	TBD	Does Not Apply
program improvement	NonPoint Source rProgram eview and comment	Improve Scientifc basis of compliance	ChemMetrics	Lead Scientist	-	third party review	submitted	TBD	Does Not Apply
technical improvement	Bacterial Toxicity in Basin	Healthy Waters Iniative	ChemMetrics	Chair	-	third party review	ongoing	TBD	Does Not Apply
education	Presentation to Exective Staff	Liaise with and update management	ChemMetrics	Lead Scientist	-	third party review	executed	TBD	Does Not Apply

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APPENDIX C

VESSEL TRACKING DATA

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DATA FOR THE HARBOR POLICE DOCK, TRANSIENT DOCK, AND WEEKEND ANCHORAGE

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Port Fleet Hull Paint Information

Date	Facility	Slip / Mooring Number	Percent of Time Occupied	Vessel Document # or Registration #	Vessel Type	Vessel Length	Vessel Beam	Paint Type	Paint Name	Product Number	Boatyard	Painting Date	% Copper
01/15/21	HPD		100	Marine 1 (# 9157)	P - Fire Boat	39.1'	13'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD		100	Marine 2 (#9162)	P - Fire Boat	39.1'	13'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD		100	Marine 3 (# 9139)	P - Fire Boat	39.1'	13'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD		100	Marine 4 (# 9138)	P - Fire Boat	39.1'	13'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD		100	Marine 5 (#9163)	P - Fire Boat	39.1'	13'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD		100	Marine 6 (# 7762)	P - Patrol Boat	31'	10'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD		100	Marine 7 (# 7763)	P - Patrol Boat	31'	10'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD		100	Marine 8 (# 9066)	P - Patrol Boat	36'	10'	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A
01/15/21	HPD	24	100	Coral Reef (# 7708)	P - GS Work Boat	40'	14'	Org	Intersleek 900	FXA972/A	Marine Group	2021	N/A
01/15/21	HPD		on trailer	Marine 10 (9079)	P - Patrol Boat	22'		Non	No bottom paint	N/A	N/A	N/A	N/A
01/15/21	GST		100	Tsunamii II (# 9144)	P - GS Boat	20'	6'	Non	Interspeed 5640	BZA646	Marine Group	2020	N/A
01/15/21	HPD		100	Marine 9 (#9229)	P - Patrol Boat	39'	11'	Org	Interspeed 5640	BZA646	Marine Group	2019	N/A
01/15/21	HPD		100	Tuff Boat (# 9274)	P - GS Work Boat	16'		Org	Interspeed 5640	BZA646	Marine Group	2020	N/A
01/15/21	HPD	23	100	Munson (# 9305)	P - GS Boat	38'	13'	Org	Intersleek 900	FXA972/A	Munson	2019	N/A
01/15/21	HPD		100	Metal Shark (# 9315)	P - ENV. Boat	21'	8.5	Org	Interspeed 5640	BZA646	Marine Group	2021	N/A

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	8	12/22/2020	Moorings	Confirmed	1/1/2021	1/5/2021	26'	4
Guest Dock	3	1/1/2021	WEBSITE	Confirmed	1/1/2021	1/2/2021	34'	1
Guest Dock	16	12/21/2020	Moorings	Confirmed	1/1/2021	1/4/2021	36'	3
Guest Dock	7	1/1/2021	WEBSITE	Confirmed	1/1/2021	1/2/2021	28'	1
Guest Dock	11	12/31/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	23'	3
Guest Dock	10	1/2/2021	WEBSITE	Confirmed	1/2/2021	1/5/2021	28'	3
Guest Dock	6	1/1/2021	WEBSITE	Confirmed	1/2/2021	1/9/2021	20'	7
Guest Dock	20	1/2/2021	WEBSITE	Confirmed	1/2/2021	1/12/2021	45'	10
Guest Dock	7	1/2/2021	WEBSITE	Confirmed	1/2/2021	1/3/2021	28'	1
Guest Dock	14	1/1/2021	WEBSITE	Confirmed	1/2/2021	1/3/2021	29'	1
Guest Dock	27	12/30/2020	WEBSITE	Confirmed	1/2/2021	1/3/2021	34'	1
Guest Dock	15	12/23/2020	WEBSITE	Confirmed	1/2/2021	1/3/2021	26'	1
Guest Dock	9	12/31/2020	WEBSITE	Confirmed	1/3/2021	1/4/2021	30'	1
Guest Dock	15	1/2/2021	WEBSITE	Confirmed	1/3/2021	1/8/2021	29'	5
Guest Dock	21	1/3/2021	WEBSITE	Confirmed	1/3/2021	1/10/2021	46'	7
Guest Dock	14	12/25/2020	WEBSITE	Confirmed	1/4/2021	1/8/2021		4
Guest Dock	12	1/3/2021	WEBSITE	Confirmed	1/4/2021	1/5/2021	41'	1
Guest Dock	28	1/3/2021	WEBSITE	Confirmed	1/4/2021	1/5/2021	37'	1
Guest Dock	16	12/21/2020	Moorings	Confirmed	1/4/2021	1/6/2021	36'	2
Guest Dock	3	12/31/2020	WEBSITE	Confirmed	1/4/2021	1/8/2021	30'	4
Guest Dock	11	1/3/2021	WEBSITE	Confirmed	1/4/2021	1/8/2021	27'	4
Guest Dock	7	12/28/2020	WEBSITE	Confirmed	1/4/2021	1/6/2021	27'	2
Guest Dock	2	1/4/2021	WEBSITE	Confirmed	1/4/2021	1/5/2021		1
Guest Dock	19	1/3/2021	WEBSITE	Confirmed	1/4/2021	1/5/2021	58'	1
Guest Dock	9	1/4/2021	Moorings	Confirmed	1/4/2021	1/5/2021	43'	1
Guest Dock	26	1/3/2021	WEBSITE	Confirmed	1/4/2021	1/7/2021	45'	3
Guest Dock	27	1/3/2021	WEBSITE	Confirmed	1/4/2021	1/8/2021	34'	4
Guest Dock	8	12/22/2020	Moorings	Confirmed	1/5/2021	1/9/2021	26'	4
Guest Dock	10	1/4/2021	Moorings	Confirmed	1/5/2021	1/7/2021	43'	2
Guest Dock	2	1/4/2021	WEBSITE	Confirmed	1/5/2021	1/6/2021		1
Guest Dock	12	1/4/2021	WEBSITE	Confirmed	1/5/2021	1/6/2021	39'	1
Guest Dock	28	1/4/2021	WEBSITE	Confirmed	1/5/2021	1/8/2021	30'	3
Guest Dock	9	12/23/2020	WEBSITE	Confirmed	1/5/2021	1/7/2021		2
Guest Dock	13	1/4/2021	WEBSITE	Confirmed	1/5/2021	1/8/2021	23'	3
Guest Dock	19	1/4/2021	Moorings	Confirmed	1/5/2021	1/11/2021		6
Guest Dock	2	12/23/2020	WEBSITE	Confirmed	1/6/2021	1/9/2021	39'	3
Guest Dock	12	1/4/2021	WEBSITE	Confirmed	1/6/2021	1/7/2021	28'	1
Guest Dock	16	12/21/2020	Moorings	Confirmed	1/6/2021	1/7/2021	36'	1
Guest Dock	16	12/21/2020	Moorings	Confirmed	1/7/2021	1/8/2021	36'	1
Guest Dock	12	12/29/2020	WEBSITE	Confirmed	1/7/2021	1/8/2021	30'	1
Guest Dock	26	1/5/2021	WEBSITE	Confirmed	1/7/2021	1/8/2021	45'	1
Guest Dock	9	1/4/2021	WEBSITE	Confirmed	1/7/2021	1/13/2021	28'	6
Guest Dock	10	1/5/2021	Moorings	Confirmed	1/7/2021	1/22/2021	40'	15
Guest Dock	27	1/8/2021	WEBSITE	Confirmed	1/8/2021	1/11/2021	32'	3
Guest Dock	28	1/7/2021	WEBSITE	Confirmed	1/8/2021	1/9/2021	30'	1
Guest Dock	4	1/6/2021	WEBSITE	Confirmed	1/8/2021	1/9/2021		1
Guest Dock	11	1/8/2021	WEBSITE	Confirmed	1/8/2021	1/9/2021	40'	1
Guest Dock	14	1/8/2021	WEBSITE	Confirmed	1/8/2021	1/9/2021	27'	1
Guest Dock	3	12/31/2020	WEBSITE	Confirmed	1/8/2021	1/9/2021	30'	1
Guest Dock	22	12/22/2020	Moorings	Confirmed	1/8/2021	1/10/2021		2
Guest Dock	16	1/6/2021	WEBSITE	Confirmed	1/8/2021	1/9/2021	34'	1
Guest Dock	11	1/8/2021	WEBSITE	Confirmed	1/9/2021	1/12/2021	40'	3
Guest Dock	3	1/9/2021	WEBSITE	Confirmed	1/9/2021	1/10/2021	46'	1
Guest Dock	14	1/5/2021	WEBSITE	Confirmed	1/9/2021	1/10/2021	30'	1
Guest Dock	2	1/5/2021	WEBSITE	Confirmed	1/9/2021	1/10/2021	39'	1
Guest Dock	6	1/9/2021	WEBSITE	Confirmed	1/9/2021	1/16/2021		7
Guest Dock	28	1/9/2021	WEBSITE	Confirmed	1/9/2021	1/11/2021	32'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	13	1/9/2021	WEBSITE	Confirmed	1/9/2021	1/12/2021	30'	3
Guest Dock	16	1/6/2021	WEBSITE	Confirmed	1/9/2021	1/10/2021	46'	1
Guest Dock	3	1/10/2021	WEBSITE	Confirmed	1/10/2021	1/11/2021	46'	1
Guest Dock	7	12/22/2020	Moorings	Confirmed	1/10/2021	1/11/2021	26'	1
Guest Dock	8	1/9/2021	WEBSITE	Confirmed	1/10/2021	1/11/2021	27'	1
Guest Dock	4	1/5/2021	Moorings	Confirmed	1/10/2021	1/17/2021	30'	7
Guest Dock	15	1/9/2021	WEBSITE	Confirmed	1/10/2021	1/11/2021	39'	1
Guest Dock	14	1/1/2021	WEBSITE	Confirmed	1/11/2021	1/14/2021	27'	3
Guest Dock	16	1/7/2021	WEBSITE	Confirmed	1/11/2021	1/14/2021	27'	3
Guest Dock	27	1/9/2021	WEBSITE	Confirmed	1/11/2021	1/12/2021	37'	1
Guest Dock	15	1/10/2021	WEBSITE	Confirmed	1/11/2021	1/12/2021	27'	1
Guest Dock	7	1/8/2021	WEBSITE	Confirmed	1/11/2021	1/14/2021		3
Guest Dock	12	1/11/2021	WEBSITE	Confirmed	1/11/2021	1/12/2021	27'	1
Guest Dock	8	12/22/2020	Moorings	Confirmed	1/11/2021	1/14/2021	26'	3
Guest Dock	3	1/10/2021	WEBSITE	Confirmed	1/11/2021	1/12/2021	45'	1
Guest Dock	28	1/10/2021	WEBSITE	Confirmed	1/11/2021	1/13/2021	34'	2
Guest Dock	19	1/7/2021	Moorings	Confirmed	1/11/2021	1/15/2021	38'	4
Guest Dock	26	1/2/2021	WEBSITE	Confirmed	1/11/2021	1/22/2021	32'	11
Guest Dock	5	1/9/2021	WEBSITE	Confirmed	1/11/2021	1/15/2021	30'	4
Guest Dock	2	1/10/2021	WEBSITE	Confirmed	1/11/2021	1/16/2021	32'	5
Guest Dock	21	1/4/2021	Moorings	Confirmed	1/11/2021	1/14/2021		3
Guest Dock	29	12/22/2020	WEBSITE	Confirmed	1/11/2021	1/12/2021	40'	1
Guest Dock	12	1/11/2021	WEBSITE	Confirmed	1/12/2021	1/15/2021	30'	3
Guest Dock	11	1/11/2021	WEBSITE	Confirmed	1/12/2021	1/16/2021	38'	4
Guest Dock	20	1/2/2021	WEBSITE	Confirmed	1/12/2021	1/14/2021	42'	2
Guest Dock	3	1/10/2021	WEBSITE	Confirmed	1/12/2021	1/14/2021	45'	2
Guest Dock	13	1/12/2021	Moorings	Confirmed	1/12/2021	1/15/2021	27'	3
Guest Dock	15	1/11/2021	Moorings	Confirmed	1/12/2021	1/14/2021		2
Guest Dock	28	1/10/2021	WEBSITE	Confirmed	1/13/2021	1/15/2021	34'	2
Guest Dock	9	1/11/2021	WEBSITE	Confirmed	1/13/2021	1/18/2021	28'	5
Guest Dock	21	1/10/2021	WEBSITE	Confirmed	1/14/2021	1/16/2021		2
Guest Dock	16	1/12/2021	WEBSITE	Confirmed	1/14/2021	1/17/2021	27'	3
Guest Dock	20	1/4/2021	Moorings	Confirmed	1/14/2021	1/20/2021		6
Guest Dock	8	1/10/2021	WEBSITE	Confirmed	1/14/2021	1/15/2021	45'	1
Guest Dock	3	1/1/2021	WEBSITE	Confirmed	1/14/2021	1/29/2021	55'	15
Guest Dock	22	1/11/2021	WEBSITE	Confirmed	1/14/2021	1/18/2021	46'	4
Guest Dock	15	1/12/2021	Moorings	Confirmed	1/14/2021	1/27/2021		13
Guest Dock	18	1/13/2021	Moorings	Confirmed	1/14/2021	1/15/2021	36'	1
Guest Dock	14	1/11/2021	Moorings	Confirmed	1/14/2021	1/18/2021		4
Guest Dock	7	1/8/2021	WEBSITE	Confirmed	1/14/2021	1/15/2021		1
Guest Dock	18	1/8/2021	WEBSITE	Confirmed	1/15/2021	1/17/2021		2
Guest Dock	19	1/15/2021	Moorings	Confirmed	1/15/2021	1/17/2021	31'	2
Guest Dock	5	1/10/2021	WEBSITE	Confirmed	1/15/2021	1/16/2021	34'	1
Guest Dock	12	1/9/2021	WEBSITE	Confirmed	1/15/2021	1/16/2021	37'	1
Guest Dock	8	1/13/2021	Moorings	Confirmed	1/15/2021	1/18/2021	44'	3
Guest Dock	27	1/15/2021	WEBSITE	Confirmed	1/15/2021	1/16/2021	40'	1
Guest Dock	7	1/13/2021	WEBSITE	Confirmed	1/15/2021	1/17/2021	18'	2
Guest Dock	13	1/13/2021	WEBSITE	Confirmed	1/15/2021	1/16/2021	30'	1
Guest Dock	28	1/13/2021	WEBSITE	Confirmed	1/15/2021	1/18/2021	40'	3
Guest Dock	27	1/15/2021	WEBSITE	Confirmed	1/16/2021	1/17/2021	38'	1
Guest Dock	2	1/12/2021	WEBSITE	Confirmed	1/16/2021	1/18/2021	19'	2
Guest Dock	13	1/15/2021	WEBSITE	Confirmed	1/16/2021	1/19/2021	28'	3
Guest Dock	21	1/15/2021	WEBSITE	Confirmed	1/16/2021	1/23/2021	46'	7
Guest Dock	6	1/13/2021	WEBSITE	Confirmed	1/16/2021	1/17/2021	27'	1
Guest Dock	5	1/14/2021	WEBSITE	Confirmed	1/16/2021	1/17/2021	39'	1
Guest Dock	6	1/15/2021	WEBSITE	Confirmed	1/17/2021	1/18/2021	27'	1
Guest Dock	19	1/15/2021	WEBSITE	Confirmed	1/17/2021	1/19/2021	41'	2
Guest Dock	5	1/17/2021	WEBSITE	Confirmed	1/18/2021	1/19/2021	30'	1
Guest Dock	28	1/18/2021	WEBSITE	Confirmed	1/18/2021	1/19/2021		1
Guest Dock	22	1/16/2021	WEBSITE	Confirmed	1/18/2021	1/19/2021	46'	1
Guest Dock	2	1/7/2021	WEBSITE	Confirmed	1/18/2021	1/23/2021	19'	5
Guest Dock	14	1/17/2021	WEBSITE	Confirmed	1/18/2021	1/22/2021		4

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	18	1/15/2021	Moorings	Confirmed	1/18/2021	1/22/2021	38'	4
Guest Dock	27	1/15/2021	WEBSITE	Confirmed	1/18/2021	1/22/2021	34'	4
Guest Dock	4	1/18/2021	WEBSITE	Confirmed	1/18/2021	1/19/2021	27'	1
Guest Dock	9	1/5/2021	WEBSITE	Confirmed	1/18/2021	1/20/2021	33'	2
Guest Dock	6	1/4/2021	WEBSITE	Confirmed	1/18/2021	1/19/2021		1
Guest Dock	7	1/17/2021	WEBSITE	Confirmed	1/18/2021	1/21/2021	30'	3
Guest Dock	8	1/17/2021	WEBSITE	Confirmed	1/18/2021	1/25/2021		7
Guest Dock	16	1/18/2021	WEBSITE	Confirmed	1/18/2021	1/19/2021	40'	1
Guest Dock	11	1/18/2021	WEBSITE	Confirmed	1/19/2021	1/23/2021		4
Guest Dock	28	1/18/2021	WEBSITE	Confirmed	1/19/2021	1/20/2021		1
Guest Dock	12	1/18/2021	WEBSITE	Confirmed	1/19/2021	1/20/2021	39'	1
Guest Dock	16	1/15/2021	WEBSITE	Confirmed	1/19/2021	1/21/2021	43'	2
Guest Dock	13	1/12/2021	WEBSITE	Confirmed	1/19/2021	1/22/2021	25'	3
Guest Dock	4	1/14/2021	WEBSITE	Confirmed	1/19/2021	1/21/2021	34'	2
Guest Dock	22	1/19/2021	WEBSITE	Confirmed	1/19/2021	1/20/2021	46'	1
Guest Dock	22	1/19/2021	WEBSITE	Confirmed	1/20/2021	1/21/2021	46'	1
Guest Dock	19	1/20/2021	WEBSITE	Confirmed	1/20/2021	1/21/2021		1
Guest Dock	12	1/12/2021	WEBSITE	Confirmed	1/20/2021	1/22/2021	39'	2
Guest Dock	9	1/5/2021	WEBSITE	Confirmed	1/20/2021	1/21/2021	33'	1
Guest Dock	28	1/20/2021	WEBSITE	Confirmed	1/20/2021	1/21/2021	36'	1
Guest Dock	20	1/17/2021	WEBSITE	Confirmed	1/21/2021	1/23/2021	30'	2
Guest Dock	4	1/20/2021	WEBSITE	Confirmed	1/21/2021	1/22/2021	40'	1
Guest Dock	29	1/20/2021	WEBSITE	Confirmed	1/21/2021	1/22/2021		1
Guest Dock	22	1/5/2021	WEBSITE	Confirmed	1/21/2021	1/23/2021	33'	2
Guest Dock	16	1/18/2021	WEBSITE	Confirmed	1/21/2021	1/23/2021	27'	2
Guest Dock	19	1/20/2021	WEBSITE	Confirmed	1/21/2021	1/22/2021		1
Guest Dock	28	1/18/2021	WEBSITE	Confirmed	1/21/2021	1/24/2021		3
Guest Dock	7	1/16/2021	WEBSITE	Confirmed	1/21/2021	1/22/2021	27'	1
Guest Dock	9	1/20/2021	Moorings	Confirmed	1/21/2021	1/22/2021	34'	1
Guest Dock	13	1/21/2021	WEBSITE	Confirmed	1/22/2021	1/23/2021	45'	1
Guest Dock	18	1/22/2021	WEBSITE	Confirmed	1/22/2021	1/23/2021	50'	1
Guest Dock	12	1/20/2021	WEBSITE	Confirmed	1/22/2021	1/24/2021	39'	2
Guest Dock	4	1/5/2021	Moorings	Confirmed	1/22/2021	1/23/2021	30'	1
Guest Dock	14	1/20/2021	WEBSITE	Confirmed	1/22/2021	1/23/2021	34'	1
Guest Dock	10	1/5/2021	Moorings	Confirmed	1/22/2021	1/26/2021	40'	4
Guest Dock	27	1/20/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021	40'	3
Guest Dock	11	1/21/2021	WEBSITE	Confirmed	1/23/2021	1/26/2021	28'	3
Guest Dock	2	1/23/2021	WEBSITE	Confirmed	1/23/2021	1/24/2021		1
Guest Dock	18	1/23/2021	WEBSITE	Confirmed	1/23/2021	1/24/2021		1
Guest Dock	13	1/22/2021	WEBSITE	Confirmed	1/23/2021	1/25/2021	34'	2
Guest Dock	4	1/5/2021	Moorings	Confirmed	1/23/2021	1/24/2021	30'	1
Guest Dock	20	1/22/2021	WEBSITE	Confirmed	1/23/2021	1/25/2021	50'	2
Guest Dock	16	1/22/2021	WEBSITE	Confirmed	1/23/2021	1/25/2021		2
Guest Dock	19	1/22/2021	WEBSITE	Confirmed	1/23/2021	1/25/2021		2
Guest Dock	28	1/22/2021	WEBSITE	Confirmed	1/24/2021	1/26/2021		2
Guest Dock	4	1/18/2021	WEBSITE	Confirmed	1/24/2021	1/25/2021	30'	1
Guest Dock	5	1/10/2021	WEBSITE	Confirmed	1/24/2021	1/25/2021	30'	1
Guest Dock	7	1/5/2021	Moorings	Confirmed	1/24/2021	1/30/2021	30'	6
Guest Dock	22	1/24/2021	WEBSITE	Confirmed	1/24/2021	1/25/2021	29'	1
Guest Dock	2	1/22/2021	WEBSITE	Confirmed	1/24/2021	1/25/2021	39'	1
Guest Dock	18	1/10/2021	WEBSITE	Confirmed	1/24/2021	1/25/2021	44'	1
Guest Dock	9	1/17/2021	WEBSITE	Confirmed	1/25/2021	1/26/2021	20'	1
Guest Dock	27	1/25/2021	WEBSITE	Confirmed	1/25/2021	1/28/2021	40'	3
Guest Dock	8	1/24/2021	WEBSITE	Confirmed	1/25/2021	1/27/2021	28'	2
Guest Dock	2	1/25/2021	Moorings	Confirmed	1/25/2021	1/27/2021	45'	2
Guest Dock	12	1/25/2021	Moorings	Confirmed	1/25/2021	1/30/2021	50'	5
Guest Dock	14	1/22/2021	WEBSITE	Confirmed	1/25/2021	1/26/2021	39'	1
Guest Dock	4	1/25/2021	WEBSITE	Confirmed	1/25/2021	1/28/2021		3
Guest Dock	20	1/25/2021	WEBSITE	Confirmed	1/25/2021	1/27/2021	50'	2
Guest Dock	5	1/16/2021	WEBSITE	Confirmed	1/25/2021	1/28/2021	30'	3
Guest Dock	19	1/25/2021	WEBSITE	Confirmed	1/25/2021	1/28/2021		3
Guest Dock	14	1/23/2021	WEBSITE	Confirmed	1/26/2021	1/27/2021	39'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	11	1/25/2021	WEBSITE	Confirmed	1/26/2021	1/27/2021	16'	1
Guest Dock	6	1/18/2021	WEBSITE	Confirmed	1/26/2021	1/29/2021	30'	3
Guest Dock	29	1/25/2021	Moorings	Confirmed	1/27/2021	1/28/2021	45'	1
Guest Dock	16	1/23/2021	WEBSITE	Confirmed	1/27/2021	1/29/2021	28'	2
Guest Dock	14	1/24/2021	WEBSITE	Confirmed	1/27/2021	1/29/2021	27'	2
Guest Dock	8	1/25/2021	WEBSITE	Confirmed	1/27/2021	1/28/2021	39'	1
Guest Dock	18	1/26/2021	WEBSITE	Confirmed	1/27/2021	1/28/2021	36'	1
Guest Dock	15	1/25/2021	WEBSITE	Confirmed	1/27/2021	1/29/2021	29'	2
Guest Dock	22	1/26/2021	WEBSITE	Confirmed	1/27/2021	1/29/2021	50'	2
Guest Dock	11	1/26/2021	WEBSITE	Confirmed	1/27/2021	1/28/2021	27'	1
Guest Dock	10	1/23/2021	WEBSITE	Confirmed	1/27/2021	1/28/2021		1
Guest Dock	20	1/26/2021	Moorings	Confirmed	1/27/2021	1/28/2021	32'	1
Guest Dock	21	1/25/2021	WEBSITE	Confirmed	1/27/2021	2/1/2021	35'	5
Guest Dock	2	1/22/2021	WEBSITE	Confirmed	1/27/2021	1/29/2021	35'	2
Guest Dock	26	1/26/2021	WEBSITE	Confirmed	1/27/2021	1/28/2021	34'	1
Guest Dock	28	1/27/2021	Moorings	Confirmed	1/27/2021	1/28/2021	26'	1
Guest Dock	9	1/26/2021	Moorings	Confirmed	1/27/2021	1/28/2021	34'	1
Guest Dock	27	1/26/2021	WEBSITE	Confirmed	1/28/2021	1/29/2021	34'	1
Guest Dock	19	1/26/2021	WEBSITE	Confirmed	1/28/2021	1/30/2021		2
Guest Dock	9	1/28/2021	WEBSITE	Confirmed	1/28/2021	1/29/2021	37'	1
Guest Dock	4	1/26/2021	Moorings	Confirmed	1/28/2021	1/31/2021	32'	3
Guest Dock	8	1/23/2021	WEBSITE	Confirmed	1/28/2021	1/30/2021	27'	2
Guest Dock	11	1/26/2021	WEBSITE	Confirmed	1/28/2021	1/30/2021	39'	2
Guest Dock	26	1/25/2021	WEBSITE	Confirmed	1/28/2021	1/30/2021	30'	2
Guest Dock	18	1/14/2021	WEBSITE	Confirmed	1/28/2021	1/29/2021	44'	1
Guest Dock	29	1/25/2021	Moorings	Confirmed	1/28/2021	1/30/2021	45'	2
Guest Dock	20	1/27/2021	WEBSITE	Confirmed	1/28/2021	2/1/2021	28'	4
Guest Dock	6	1/27/2021	WEBSITE	Confirmed	1/29/2021	2/1/2021	30'	3
Guest Dock	14	1/29/2021	WEBSITE	Confirmed	1/29/2021	1/30/2021	36'	1
Guest Dock	3	1/27/2021	WEBSITE	Confirmed	1/29/2021	1/30/2021	32'	1
Guest Dock	16	1/27/2021	WEBSITE	Confirmed	1/29/2021	2/1/2021	28'	3
Guest Dock	15	1/28/2021	WEBSITE	Confirmed	1/29/2021	1/31/2021	34'	2
Guest Dock	13	1/26/2021	WEBSITE	Confirmed	1/29/2021	2/2/2021	34'	4
Guest Dock	2	1/24/2021	WEBSITE	Confirmed	1/29/2021	1/30/2021	29'	1
Guest Dock	27	1/27/2021	WEBSITE	Confirmed	1/29/2021	1/31/2021	37'	2
Guest Dock	19	1/28/2021	WEBSITE	Confirmed	1/30/2021	2/1/2021		2
Guest Dock	8	1/29/2021	WEBSITE	Confirmed	1/30/2021	1/31/2021	27'	1
Guest Dock	18	1/28/2021	WEBSITE	Confirmed	1/30/2021	2/1/2021	51'	2
Guest Dock	2	1/27/2021	WEBSITE	Confirmed	1/30/2021	1/31/2021	27'	1
Guest Dock	3	1/29/2021	WEBSITE	Confirmed	1/30/2021	2/1/2021	32'	2
Guest Dock	14	1/30/2021	WEBSITE	Confirmed	1/30/2021	1/31/2021	36'	1
Guest Dock	28	1/27/2021	Moorings	Confirmed	1/30/2021	2/2/2021	45'	3
Guest Dock	12	1/30/2021	WEBSITE	Confirmed	1/30/2021	2/1/2021	50'	2
Guest Dock	7	1/30/2021	WEBSITE	Confirmed	1/30/2021	1/31/2021	26'	1
Guest Dock	11	1/30/2021	WEBSITE	Confirmed	1/30/2021	1/31/2021		1
Guest Dock	14	1/31/2021	WEBSITE	Confirmed	1/31/2021	2/1/2021		1
Guest Dock	10	1/31/2021	WEBSITE	Confirmed	1/31/2021	2/3/2021	35'	3
Guest Dock	9	1/28/2021	WEBSITE	Confirmed	1/31/2021	2/4/2021	34'	4
Guest Dock	7	1/31/2021	WEBSITE	Confirmed	1/31/2021	2/1/2021	36'	1
Guest Dock	22	1/29/2021	WEBSITE	Confirmed	1/31/2021	2/15/2021	46'	15
Guest Dock	2	1/31/2021	WEBSITE	Confirmed	1/31/2021	2/1/2021		1
Guest Dock	4	1/28/2021	WEBSITE	Confirmed	1/31/2021	2/2/2021	34'	2
Guest Dock	27	1/30/2021	WEBSITE	Confirmed	1/31/2021	2/1/2021	45'	1
Guest Dock	18	1/29/2021	Moorings	Confirmed	2/1/2021	2/2/2021	38'	1
Guest Dock	14	1/31/2021	WEBSITE	Confirmed	2/1/2021	2/4/2021	32'	3
Guest Dock	26	1/28/2021	Moorings	Confirmed	2/1/2021	2/3/2021	26'	2
Guest Dock	6	2/1/2021	Moorings	Confirmed	2/1/2021	2/2/2021	30'	1
Guest Dock	7	1/31/2021	WEBSITE	Confirmed	2/1/2021	2/3/2021		2
Guest Dock	3	2/1/2021	Moorings	Confirmed	2/1/2021	2/4/2021	35'	3
Guest Dock	5	1/31/2021	WEBSITE	Confirmed	2/1/2021	2/2/2021		1
Guest Dock	2	2/1/2021	Moorings	Confirmed	2/1/2021	2/2/2021		1
Guest Dock	11	1/31/2021	WEBSITE	Confirmed	2/1/2021	2/4/2021	25'	3

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	19	2/1/2021	WEBSITE	Confirmed	2/1/2021	2/2/2021	51'	1
Guest Dock	8	2/1/2021	Moorings	Confirmed	2/1/2021	2/2/2021	36'	1
Guest Dock	15	1/28/2021	WEBSITE	Confirmed	2/1/2021	2/4/2021	28'	3
Guest Dock	16	1/28/2021	WEBSITE	Confirmed	2/1/2021	2/2/2021	27'	1
Guest Dock	12	2/1/2021	Moorings	Confirmed	2/1/2021	2/10/2021	50'	9
Guest Dock	20	1/27/2021	WEBSITE	Confirmed	2/1/2021	2/8/2021	28'	7
Guest Dock	21	2/1/2021	Moorings	Confirmed	2/1/2021	2/2/2021	32'	1
Guest Dock	28	2/2/2021	Moorings	Confirmed	2/2/2021	2/8/2021	45'	6
Guest Dock	16	1/28/2021	WEBSITE	Confirmed	2/2/2021	2/3/2021	27'	1
Guest Dock	18	2/1/2021	Moorings	Confirmed	2/2/2021	2/3/2021	36'	1
Guest Dock	8	1/31/2021	WEBSITE	Confirmed	2/2/2021	2/3/2021		1
Guest Dock	5	1/31/2021	WEBSITE	Confirmed	2/2/2021	2/4/2021	34'	2
Guest Dock	8	1/31/2021	WEBSITE	Confirmed	2/3/2021	2/4/2021		1
Guest Dock	6	2/2/2021	WEBSITE	Confirmed	2/3/2021	2/5/2021	34'	2
Guest Dock	7	1/29/2021	WEBSITE	Confirmed	2/3/2021	2/5/2021	27'	2
Guest Dock	18	2/1/2021	Moorings	Confirmed	2/3/2021	2/5/2021	36'	2
Guest Dock	2	1/20/2021	WEBSITE	Confirmed	2/3/2021	2/5/2021	37'	2
Guest Dock	13	2/2/2021	WEBSITE	Confirmed	2/3/2021	2/4/2021	27'	1
Guest Dock	16	2/2/2021	WEBSITE	Confirmed	2/3/2021	2/5/2021		2
Guest Dock	19	2/2/2021	Moorings	Confirmed	2/3/2021	2/5/2021	38'	2
Guest Dock	10	2/3/2021	WEBSITE	Confirmed	2/3/2021	2/5/2021	32'	2
Guest Dock	21	2/4/2021	WEBSITE	Confirmed	2/4/2021	2/5/2021	40'	1
Guest Dock	3	2/4/2021	WEBSITE	Confirmed	2/4/2021	2/5/2021	40'	1
Guest Dock	15	1/30/2021	WEBSITE	Confirmed	2/4/2021	2/5/2021	28'	1
Guest Dock	13	2/3/2021	WEBSITE	Confirmed	2/4/2021	2/5/2021	34'	1
Guest Dock	11	2/2/2021	WEBSITE	Confirmed	2/4/2021	2/6/2021	37'	2
Guest Dock	5	1/21/2021	WEBSITE	Confirmed	2/4/2021	2/6/2021	33'	2
Guest Dock	14	2/3/2021	WEBSITE	Confirmed	2/4/2021	2/7/2021	35'	3
Guest Dock	8	2/3/2021	WEBSITE	Confirmed	2/4/2021	2/7/2021		3
Guest Dock	13	2/1/2021	WEBSITE	Confirmed	2/5/2021	2/7/2021	20'	2
Guest Dock	3	1/23/2021	WEBSITE	Confirmed	2/5/2021	2/7/2021	34'	2
Guest Dock	16	2/4/2021	WEBSITE	Confirmed	2/5/2021	2/6/2021	34'	1
Guest Dock	6	2/3/2021	WEBSITE	Confirmed	2/5/2021	2/10/2021	29'	5
Guest Dock	2	1/24/2021	WEBSITE	Confirmed	2/5/2021	2/7/2021	31'	2
Guest Dock	9	2/4/2021	Moorings	Confirmed	2/5/2021	2/7/2021	26'	2
Guest Dock	21	2/5/2021	WEBSITE	Confirmed	2/5/2021	2/6/2021	40'	1
Guest Dock	21	2/6/2021	WEBSITE	Confirmed	2/6/2021	2/7/2021	40'	1
Guest Dock	4	1/30/2021	WEBSITE	Confirmed	2/6/2021	2/9/2021	23'	3
Guest Dock	11	2/5/2021	WEBSITE	Confirmed	2/6/2021	2/8/2021	41'	2
Guest Dock	16	2/5/2021	WEBSITE	Confirmed	2/6/2021	2/7/2021	25'	1
Guest Dock	26	2/6/2021	WEBSITE	Confirmed	2/6/2021	2/7/2021	34'	1
Guest Dock	27	2/6/2021	WEBSITE	Confirmed	2/6/2021	2/8/2021		2
Guest Dock	10	2/4/2021	WEBSITE	Confirmed	2/6/2021	2/7/2021	26'	1
Guest Dock	5	1/26/2021	WEBSITE	Confirmed	2/6/2021	2/7/2021	33'	1
Guest Dock	18	2/1/2021	WEBSITE	Confirmed	2/6/2021	2/16/2021	51'	10
Guest Dock	15	2/2/2021	WEBSITE	Confirmed	2/6/2021	2/7/2021	42'	1
Guest Dock	19	2/4/2021	Moorings	Confirmed	2/6/2021	2/8/2021	37'	2
Guest Dock	7	2/3/2021	WEBSITE	Confirmed	2/6/2021	2/7/2021	30'	1
Guest Dock	3	2/6/2021	WEBSITE	Confirmed	2/7/2021	2/9/2021	34'	2
Guest Dock	13	2/7/2021	WEBSITE	Confirmed	2/7/2021	2/8/2021	35'	1
Guest Dock	5	2/5/2021	WEBSITE	Confirmed	2/7/2021	2/8/2021	33'	1
Guest Dock	9	2/4/2021	Moorings	Confirmed	2/7/2021	2/10/2021	26'	3
Guest Dock	2	2/8/2021	WEBSITE	Confirmed	2/8/2021	2/9/2021	32'	1
Guest Dock	5	2/7/2021	WEBSITE	Confirmed	2/8/2021	2/11/2021	28'	3
Guest Dock	16	2/2/2021	WEBSITE	Confirmed	2/8/2021	2/10/2021	29'	2
Guest Dock	20	2/4/2021	Moorings	Confirmed	2/8/2021	2/10/2021	36'	2
Guest Dock	15	2/8/2021	WEBSITE	Confirmed	2/8/2021	2/9/2021	35'	1
Guest Dock	19	2/7/2021	WEBSITE	Confirmed	2/8/2021	2/10/2021	41'	2
Guest Dock	21	2/4/2021	Moorings	Confirmed	2/8/2021	2/10/2021	37'	2
Guest Dock	8	2/8/2021	WEBSITE	Confirmed	2/8/2021	2/9/2021	34'	1
Guest Dock	3	2/9/2021	WEBSITE	Confirmed	2/9/2021	2/12/2021	34'	3
Guest Dock	4	2/9/2021	WEBSITE	Confirmed	2/9/2021	2/11/2021	34'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	7	2/9/2021	Moorings	Confirmed	2/9/2021	2/10/2021	27'	1
Guest Dock	28	2/9/2021	WEBSITE	Confirmed	2/9/2021	2/10/2021	36'	1
Guest Dock	2	2/8/2021	WEBSITE	Confirmed	2/9/2021	2/10/2021	32'	1
Guest Dock	27	2/9/2021	WEBSITE	Confirmed	2/9/2021	2/11/2021		2
Guest Dock	15	2/8/2021	WEBSITE	Confirmed	2/9/2021	2/14/2021	23'	5
Guest Dock	2	2/8/2021	WEBSITE	Confirmed	2/10/2021	2/11/2021	32'	1
Guest Dock	13	2/9/2021	WEBSITE	Confirmed	2/10/2021	2/11/2021	45'	1
Guest Dock	9	2/10/2021	WEBSITE	Confirmed	2/10/2021	2/12/2021	40'	2
Guest Dock	10	2/10/2021	WEBSITE	Confirmed	2/10/2021	2/12/2021	36'	2
Guest Dock	28	2/10/2021	WEBSITE	Confirmed	2/10/2021	2/11/2021		1
Guest Dock	16	2/5/2021	WEBSITE	Confirmed	2/10/2021	2/11/2021	29'	1
Guest Dock	7	2/10/2021	WEBSITE	Confirmed	2/10/2021	2/11/2021	27'	1
Guest Dock	26	2/9/2021	WEBSITE	Confirmed	2/11/2021	2/14/2021	33'	3
Guest Dock	4	2/10/2021	WEBSITE	Confirmed	2/11/2021	2/12/2021	34'	1
Guest Dock	12	2/9/2021	WEBSITE	Confirmed	2/11/2021	2/13/2021	37'	2
Guest Dock	16	2/9/2021	Moorings	Confirmed	2/11/2021	2/13/2021	36'	2
Guest Dock	14	2/10/2021	WEBSITE	Confirmed	2/11/2021	2/12/2021	29'	1
Guest Dock	21	2/10/2021	Moorings	Confirmed	2/11/2021	2/12/2021	20'	1
Guest Dock	8	2/3/2021	Moorings	Confirmed	2/11/2021	2/15/2021	26'	4
Guest Dock	20	2/10/2021	Moorings	Confirmed	2/11/2021	2/12/2021	34'	1
Guest Dock	5	2/9/2021	Moorings	Confirmed	2/11/2021	2/12/2021	30'	1
Guest Dock	6	2/7/2021	WEBSITE	Confirmed	2/11/2021	2/14/2021	22'	3
Guest Dock	28	2/1/2021	WEBSITE	Confirmed	2/11/2021	2/23/2021	45'	12
Guest Dock	11	2/1/2021	WEBSITE	Confirmed	2/11/2021	2/12/2021	41'	1
Guest Dock	13	2/1/2021	WEBSITE	Confirmed	2/12/2021	2/25/2021	45'	13
Guest Dock	2	2/5/2021	WEBSITE	Confirmed	2/12/2021	2/15/2021	24'	3
Guest Dock	4	2/9/2021	WEBSITE	Confirmed	2/12/2021	2/15/2021	42'	3
Guest Dock	14	2/10/2021	WEBSITE	Confirmed	2/12/2021	2/15/2021	41'	3
Guest Dock	11	2/9/2021	WEBSITE	Confirmed	2/12/2021	2/16/2021	28'	4
Guest Dock	19	2/12/2021	Moorings	Confirmed	2/12/2021	2/13/2021	36'	1
Guest Dock	21	2/12/2021	Moorings	Confirmed	2/12/2021	2/14/2021	20'	2
Guest Dock	9	2/12/2021	WEBSITE	Confirmed	2/12/2021	2/14/2021	27'	2
Guest Dock	3	2/8/2021	WEBSITE	Confirmed	2/12/2021	2/13/2021	34'	1
Guest Dock	5	2/9/2021	WEBSITE	Confirmed	2/12/2021	2/14/2021	27'	2
Guest Dock	19	2/10/2021	WEBSITE	Confirmed	2/13/2021	2/18/2021		5
Guest Dock	12	2/12/2021	WEBSITE	Confirmed	2/13/2021	2/15/2021	37'	2
Guest Dock	7	2/12/2021	Moorings	Confirmed	2/13/2021	2/15/2021	36'	2
Guest Dock	27	2/12/2021	WEBSITE	Confirmed	2/13/2021	2/14/2021		1
Guest Dock	6	2/14/2021	WEBSITE	Confirmed	2/14/2021	2/16/2021	22'	2
Guest Dock	27	2/13/2021	WEBSITE	Confirmed	2/14/2021	2/16/2021	33'	2
Guest Dock	15	2/13/2021	WEBSITE	Confirmed	2/15/2021	2/16/2021	25'	1
Guest Dock	20	2/9/2021	Moorings	Confirmed	2/15/2021	2/17/2021	36'	2
Guest Dock	9	2/14/2021	WEBSITE	Confirmed	2/15/2021	2/16/2021	33'	1
Guest Dock	3	2/14/2021	WEBSITE	Confirmed	2/15/2021	2/19/2021	45'	4
Guest Dock	16	2/13/2021	WEBSITE	Confirmed	2/15/2021	2/16/2021	32'	1
Guest Dock	12	2/8/2021	Moorings	Confirmed	2/15/2021	2/19/2021	44'	4
Guest Dock	7	2/15/2021	WEBSITE	Confirmed	2/15/2021	2/16/2021	25'	1
Guest Dock	2	2/15/2021	WEBSITE	Confirmed	2/15/2021	2/16/2021		1
Guest Dock	22	2/15/2021	WEBSITE	Confirmed	2/15/2021	2/18/2021	46'	3
Guest Dock	4	2/11/2021	WEBSITE	Confirmed	2/15/2021	2/27/2021	42'	12
Guest Dock	10	2/15/2021	WEBSITE	Confirmed	2/15/2021	2/18/2021	23'	3
Guest Dock	11	2/16/2021	WEBSITE	Confirmed	2/16/2021	2/17/2021	28'	1
Guest Dock	21	2/16/2021	Moorings	Confirmed	2/16/2021	2/20/2021		4
Guest Dock	7	2/15/2021	WEBSITE	Confirmed	2/16/2021	2/18/2021	36'	2
Guest Dock	5	2/14/2021	WEBSITE	Confirmed	2/16/2021	2/17/2021	22'	1
Guest Dock	2	2/13/2021	WEBSITE	Confirmed	2/16/2021	2/28/2021	13'	12
Guest Dock	6	2/15/2021	WEBSITE	Confirmed	2/16/2021	2/20/2021		4
Guest Dock	9	2/2/2021	WEBSITE	Confirmed	2/16/2021	2/20/2021	33'	4
Guest Dock	16	2/2/2021	WEBSITE	Confirmed	2/16/2021	2/19/2021	37'	3
Guest Dock	27	2/16/2021	WEBSITE	Confirmed	2/16/2021	2/17/2021	33'	1
Guest Dock	27	2/17/2021	WEBSITE	Confirmed	2/17/2021	2/18/2021	33'	1
Guest Dock	15	2/15/2021	WEBSITE	Confirmed	2/17/2021	2/18/2021	25'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	8	2/15/2021	WEBSITE	Confirmed	2/17/2021	2/19/2021	27'	2
Guest Dock	20	2/16/2021	Moorings	Confirmed	2/17/2021	2/18/2021	29'	1
Guest Dock	11	2/16/2021	Moorings	Confirmed	2/17/2021	2/19/2021	26'	2
Guest Dock	18	2/16/2021	Moorings	Confirmed	2/17/2021	2/19/2021	38'	2
Guest Dock	20	2/17/2021	Moorings	Confirmed	2/18/2021	2/20/2021	26'	2
Guest Dock	10	2/16/2021	WEBSITE	Confirmed	2/18/2021	2/20/2021	21'	2
Guest Dock	15	2/10/2021	WEBSITE	Confirmed	2/18/2021	2/19/2021	29'	1
Guest Dock	19	2/16/2021	WEBSITE	Confirmed	2/18/2021	2/19/2021		1
Guest Dock	27	2/17/2021	WEBSITE	Confirmed	2/18/2021	2/20/2021	34'	2
Guest Dock	22	2/16/2021	WEBSITE	Confirmed	2/18/2021	3/5/2021	46'	15
Guest Dock	29	2/18/2021	WEBSITE	Confirmed	2/18/2021	2/19/2021	40'	1
Guest Dock	26	2/18/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	40'	3
Guest Dock	15	2/17/2021	Moorings	Confirmed	2/19/2021	2/20/2021	36'	1
Guest Dock	8	2/17/2021	Moorings	Confirmed	2/19/2021	2/21/2021	24'	2
Guest Dock	12	2/18/2021	WEBSITE	Confirmed	2/19/2021	2/20/2021	43'	1
Guest Dock	19	2/17/2021	WEBSITE	Confirmed	2/19/2021	2/20/2021		1
Guest Dock	16	2/5/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	29'	3
Guest Dock	11	2/17/2021	WEBSITE	Confirmed	2/19/2021	2/23/2021	37'	4
Guest Dock	14	2/18/2021	Moorings	Confirmed	2/19/2021	2/21/2021	26'	2
Guest Dock	5	2/18/2021	Moorings	Confirmed	2/19/2021	2/22/2021	37'	3
Guest Dock	3	2/14/2021	WEBSITE	Confirmed	2/19/2021	2/23/2021	45'	4
Guest Dock	18	2/19/2021	WEBSITE	Confirmed	2/19/2021	2/20/2021	34'	1
Guest Dock	10	2/20/2021	WEBSITE	Confirmed	2/20/2021	2/21/2021	21'	1
Guest Dock	7	2/18/2021	Moorings	Confirmed	2/20/2021	2/22/2021	30'	2
Guest Dock	19	2/16/2021	WEBSITE	Confirmed	2/20/2021	2/22/2021	50'	2
Guest Dock	12	2/20/2021	WEBSITE	Confirmed	2/20/2021	2/21/2021	43'	1
Guest Dock	20	2/20/2021	WEBSITE	Confirmed	2/20/2021	2/22/2021	45'	2
Guest Dock	6	2/19/2021	WEBSITE	Confirmed	2/20/2021	2/22/2021	33'	2
Guest Dock	9	2/19/2021	WEBSITE	Confirmed	2/20/2021	2/21/2021	24'	1
Guest Dock	27	2/19/2021	WEBSITE	Confirmed	2/20/2021	2/24/2021	30'	4
Guest Dock	9	2/20/2021	WEBSITE	Confirmed	2/21/2021	2/24/2021	37'	3
Guest Dock	8	2/21/2021	WEBSITE	Confirmed	2/21/2021	2/22/2021	42'	1
Guest Dock	10	2/19/2021	WEBSITE	Confirmed	2/21/2021	2/25/2021	36'	4
Guest Dock	12	2/18/2021	WEBSITE	Confirmed	2/21/2021	2/22/2021		1
Guest Dock	14	2/21/2021	WEBSITE	Confirmed	2/21/2021	2/22/2021	34'	1
Guest Dock	18	2/17/2021	Moorings	Confirmed	2/22/2021	2/26/2021	38'	4
Guest Dock	19	2/21/2021	WEBSITE	Confirmed	2/22/2021	2/26/2021	50'	4
Guest Dock	12	2/10/2021	WEBSITE	Confirmed	2/22/2021	2/25/2021		3
Guest Dock	7	2/19/2021	WEBSITE	Confirmed	2/22/2021	2/24/2021	27'	2
Guest Dock	16	2/10/2021	WEBSITE	Confirmed	2/22/2021	2/26/2021	29'	4
Guest Dock	6	2/22/2021	WEBSITE	Confirmed	2/22/2021	2/24/2021	45'	2
Guest Dock	8	2/20/2021	WEBSITE	Confirmed	2/22/2021	2/25/2021		3
Guest Dock	5	2/20/2021	WEBSITE	Confirmed	2/22/2021	3/1/2021	27'	7
Guest Dock	15	2/22/2021	Moorings	Confirmed	2/22/2021	2/23/2021	28'	1
Guest Dock	28	2/22/2021	Moorings	Confirmed	2/23/2021	3/3/2021	42'	8
Guest Dock	3	2/22/2021	WEBSITE	Confirmed	2/23/2021	2/24/2021	45'	1
Guest Dock	26	2/21/2021	WEBSITE	Confirmed	2/23/2021	2/25/2021	34'	2
Guest Dock	20	2/24/2021	Moorings	Confirmed	2/24/2021	2/26/2021	26'	2
Guest Dock	6	2/24/2021	WEBSITE	Confirmed	2/24/2021	2/25/2021	27'	1
Guest Dock	14	2/23/2021	WEBSITE	Confirmed	2/24/2021	2/25/2021	32'	1
Guest Dock	7	2/22/2021	WEBSITE	Confirmed	2/24/2021	2/25/2021	27'	1
Guest Dock	3	2/23/2021	WEBSITE	Confirmed	2/24/2021	2/28/2021	30'	4
Guest Dock	7	2/23/2021	WEBSITE	Confirmed	2/25/2021	2/26/2021	41'	1
Guest Dock	27	2/25/2021	Moorings	Confirmed	2/25/2021	2/26/2021	40'	1
Guest Dock	10	2/19/2021	WEBSITE	Confirmed	2/25/2021	3/1/2021	36'	4
Guest Dock	13	2/24/2021	WEBSITE	Confirmed	2/25/2021	2/26/2021	49'	1
Guest Dock	14	2/25/2021	WEBSITE	Confirmed	2/25/2021	2/26/2021	32'	1
Guest Dock	8	2/24/2021	WEBSITE	Confirmed	2/25/2021	2/27/2021	33'	2
Guest Dock	12	2/23/2021	WEBSITE	Confirmed	2/25/2021	2/26/2021		1
Guest Dock	6	2/21/2021	WEBSITE	Confirmed	2/25/2021	2/28/2021	34'	3
Guest Dock	26	2/22/2021	Moorings	Confirmed	2/25/2021	2/26/2021	34'	1
Guest Dock	7	2/25/2021	Moorings	Confirmed	2/26/2021	2/27/2021	45'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	20	2/25/2021	WEBSITE	Confirmed	2/26/2021	2/28/2021	50'	2
Guest Dock	26	2/19/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021		3
Guest Dock	16	2/23/2021	WEBSITE	Confirmed	2/26/2021	2/27/2021		1
Guest Dock	14	2/20/2021	WEBSITE	Confirmed	2/26/2021	2/27/2021	34'	1
Guest Dock	27	2/23/2021	WEBSITE	Confirmed	2/26/2021	3/3/2021		5
Guest Dock	13	2/23/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	45'	3
Guest Dock	12	2/19/2021	WEBSITE	Confirmed	2/26/2021	3/2/2021	37'	4
Guest Dock	18	2/26/2021	Moorings	Confirmed	2/26/2021	2/28/2021	41'	2
Guest Dock	9	2/25/2021	Moorings	Confirmed	2/26/2021	3/1/2021		3
Guest Dock	19	2/26/2021	Moorings	Confirmed	2/26/2021	3/3/2021	40'	5
Guest Dock	16	2/24/2021	WEBSITE	Confirmed	2/27/2021	3/2/2021		3
Guest Dock	14	2/26/2021	Moorings	Confirmed	2/27/2021	3/14/2021	44'	15
Guest Dock	7	2/23/2021	WEBSITE	Confirmed	2/27/2021	3/1/2021	27'	2
Guest Dock	8	2/25/2021	WEBSITE	Confirmed	2/27/2021	3/1/2021	45'	2
Guest Dock	20	2/27/2021	WEBSITE	Confirmed	2/28/2021	3/2/2021	50'	2
Guest Dock	2	2/27/2021	WEBSITE	Confirmed	2/28/2021	3/3/2021	33'	3
Guest Dock	6	2/16/2021	WEBSITE	Confirmed	2/28/2021	3/4/2021	30'	4
Guest Dock	3	2/27/2021	WEBSITE	Confirmed	2/28/2021	3/1/2021	30'	1
Guest Dock	9	2/28/2021	WEBSITE	Confirmed	3/1/2021	3/5/2021	30'	4
Guest Dock	3	2/15/2021	WEBSITE	Confirmed	3/1/2021	3/16/2021	38'	15
Guest Dock	13	2/28/2021	WEBSITE	Confirmed	3/1/2021	3/2/2021	27'	1
Guest Dock	7	2/28/2021	WEBSITE	Confirmed	3/1/2021	3/5/2021	34'	4
Guest Dock	5	3/1/2021	Moorings	Confirmed	3/1/2021	3/2/2021	34'	1
Guest Dock	8	3/1/2021	WEBSITE	Confirmed	3/1/2021	3/2/2021	45'	1
Guest Dock	11	2/22/2021	Moorings	Confirmed	3/1/2021	3/5/2021	44'	4
Guest Dock	12	3/1/2021	WEBSITE	Confirmed	3/2/2021	3/4/2021	38'	2
Guest Dock	15	3/1/2021	WEBSITE	Confirmed	3/2/2021	3/5/2021		3
Guest Dock	8	2/28/2021	WEBSITE	Confirmed	3/2/2021	3/7/2021	44'	5
Guest Dock	13	2/28/2021	WEBSITE	Confirmed	3/2/2021	3/5/2021	27'	3
Guest Dock	2	3/2/2021	WEBSITE	Confirmed	3/3/2021	3/4/2021	33'	1
Guest Dock	6	3/2/2021	WEBSITE	Confirmed	3/4/2021	3/5/2021	27'	1
Guest Dock	12	3/2/2021	WEBSITE	Confirmed	3/4/2021	3/5/2021		1
Guest Dock	2	3/2/2021	WEBSITE	Confirmed	3/4/2021	3/6/2021	21'	2
Guest Dock	16	3/2/2021	Moorings	Confirmed	3/4/2021	3/5/2021	30'	1
Guest Dock	21	3/3/2021	WEBSITE	Confirmed	3/4/2021	3/5/2021	34'	1
Guest Dock	5	2/27/2021	WEBSITE	Confirmed	3/4/2021	3/5/2021	41'	1
Guest Dock	28	3/4/2021	WEBSITE	Confirmed	3/4/2021	3/5/2021	40'	1
Guest Dock	29	3/4/2021	Moorings	Confirmed	3/4/2021	3/5/2021	40'	1
Guest Dock	13	3/4/2021	WEBSITE	Confirmed	3/5/2021	3/9/2021		4
Guest Dock	28	3/5/2021	WEBSITE	Confirmed	3/5/2021	3/6/2021	40'	1
Guest Dock	7	3/2/2021	Moorings	Confirmed	3/5/2021	3/8/2021	30'	3
Guest Dock	6	3/4/2021	WEBSITE	Confirmed	3/5/2021	3/7/2021	41'	2
Guest Dock	11	3/1/2021	WEBSITE	Confirmed	3/5/2021	3/7/2021	29'	2
Guest Dock	27	3/4/2021	WEBSITE	Confirmed	3/5/2021	3/9/2021	33'	4
Guest Dock	5	3/4/2021	WEBSITE	Confirmed	3/5/2021	3/6/2021	27'	1
Guest Dock	16	2/20/2021	WEBSITE	Confirmed	3/5/2021	3/6/2021	34'	1
Guest Dock	4	3/5/2021	WEBSITE	Confirmed	3/5/2021	3/6/2021		1
Guest Dock	15	3/1/2021	WEBSITE	Confirmed	3/5/2021	3/7/2021		2
Guest Dock	9	3/3/2021	WEBSITE	Confirmed	3/5/2021	3/7/2021	27'	2
Guest Dock	2	3/6/2021	WEBSITE	Confirmed	3/6/2021	3/9/2021		3
Guest Dock	4	2/28/2021	WEBSITE	Confirmed	3/6/2021	3/10/2021	34'	4
Guest Dock	28	3/6/2021	WEBSITE	Confirmed	3/6/2021	3/7/2021	40'	1
Guest Dock	5	3/6/2021	WEBSITE	Confirmed	3/6/2021	3/7/2021	30'	1
Guest Dock	16	3/5/2021	WEBSITE	Confirmed	3/6/2021	3/8/2021	43'	2
Guest Dock	8	3/7/2021	WEBSITE	Confirmed	3/7/2021	3/8/2021	27'	1
Guest Dock	28	3/6/2021	WEBSITE	Confirmed	3/7/2021	3/8/2021	40'	1
Guest Dock	6	2/26/2021	WEBSITE	Confirmed	3/7/2021	3/12/2021	30'	5
Guest Dock	5	2/21/2021	WEBSITE	Confirmed	3/7/2021	3/9/2021	33'	2
Guest Dock	9	3/6/2021	WEBSITE	Confirmed	3/7/2021	3/10/2021	22'	3
Guest Dock	11	3/8/2021	Moorings	Confirmed	3/8/2021	3/10/2021		2
Guest Dock	15	3/8/2021	Moorings	Confirmed	3/8/2021	3/13/2021	37'	5
Guest Dock	21	3/7/2021	WEBSITE	Confirmed	3/8/2021	3/12/2021	47'	4

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	18	3/4/2021	Moorings	Confirmed	3/8/2021	3/12/2021	38'	4
Guest Dock	16	3/8/2021	WEBSITE	Confirmed	3/8/2021	3/12/2021	34'	4
Guest Dock	28	3/8/2021	WEBSITE	Confirmed	3/8/2021	3/9/2021	40'	1
Guest Dock	7	3/8/2021	WEBSITE	Confirmed	3/8/2021	3/9/2021	40'	1
Guest Dock	8	3/8/2021	WEBSITE	Confirmed	3/8/2021	3/9/2021	27'	1
Guest Dock	8	3/9/2021	WEBSITE	Confirmed	3/9/2021	3/12/2021	40'	3
Guest Dock	28	3/9/2021	WEBSITE	Confirmed	3/9/2021	3/10/2021	40'	1
Guest Dock	20	3/11/2021	Moorings	Confirmed	3/9/2021	3/11/2021	36'	2
Guest Dock	22	3/7/2021	WEBSITE	Confirmed	3/9/2021	3/13/2021	45'	4
Guest Dock	2	3/7/2021	WEBSITE	Confirmed	3/9/2021	3/10/2021	25'	1
Guest Dock	27	3/4/2021	WEBSITE	Confirmed	3/9/2021	3/10/2021	33'	1
Guest Dock	28	3/9/2021	WEBSITE	Confirmed	3/10/2021	3/11/2021	33'	1
Guest Dock	19	3/7/2021	WEBSITE	Confirmed	3/10/2021	3/11/2021	65'	1
Guest Dock	10	3/10/2021	WEBSITE	Confirmed	3/10/2021	3/11/2021	27'	1
Guest Dock	10	3/11/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	27'	1
Guest Dock	28	3/11/2021	WEBSITE	Confirmed	3/11/2021	3/14/2021	40'	3
Guest Dock	7	3/11/2021	Moorings	Confirmed	3/11/2021	3/12/2021	36'	1
Guest Dock	5	3/6/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	41'	1
Guest Dock	20	3/9/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	48'	1
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	55'	1
Guest Dock	4	3/6/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	30'	1
Guest Dock	26	3/11/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	33'	1
Guest Dock	12	3/10/2021	Moorings	Confirmed	3/11/2021	3/14/2021		3
Guest Dock	13	3/10/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	29'	1
Guest Dock	2	3/9/2021	WEBSITE	Confirmed	3/11/2021	3/12/2021	34'	1
Guest Dock	21	3/9/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	47'	3
Guest Dock	20	3/4/2021	Moorings	Confirmed	3/12/2021	3/15/2021	64'	3
Guest Dock	10	3/9/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	32'	3
Guest Dock	5	3/2/2021	WEBSITE	Confirmed	3/12/2021	3/13/2021	30'	1
Guest Dock	6	3/6/2021	WEBSITE	Confirmed	3/12/2021	3/14/2021	26'	2
Guest Dock	16	2/26/2021	WEBSITE	Confirmed	3/12/2021	3/13/2021	34'	1
Guest Dock	2	3/9/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	25'	3
Guest Dock	7	3/11/2021	WEBSITE	Confirmed	3/12/2021	3/13/2021	27'	1
Guest Dock	11	3/7/2021	WEBSITE	Confirmed	3/12/2021	3/13/2021	43'	1
Guest Dock	26	3/11/2021	Moorings	Confirmed	3/12/2021	3/16/2021	30'	4
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/12/2021	3/13/2021	55'	1
Guest Dock	27	3/11/2021	WEBSITE	Confirmed	3/12/2021	3/18/2021	30'	6
Guest Dock	4	3/11/2021	Moorings	Confirmed	3/12/2021	3/13/2021	36'	1
Guest Dock	9	3/12/2021	WEBSITE	Confirmed	3/12/2021	3/13/2021	27'	1
Guest Dock	13	3/10/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	28'	3
Guest Dock	4	3/10/2021	WEBSITE	Confirmed	3/13/2021	3/14/2021	22'	1
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/13/2021	3/14/2021	55'	1
Guest Dock	11	3/12/2021	WEBSITE	Confirmed	3/13/2021	3/15/2021	43'	2
Guest Dock	7	3/13/2021	WEBSITE	Confirmed	3/13/2021	3/14/2021	27'	1
Guest Dock	16	3/12/2021	WEBSITE	Confirmed	3/13/2021	3/14/2021	42'	1
Guest Dock	5	3/13/2021	WEBSITE	Confirmed	3/13/2021	3/14/2021	27'	1
Guest Dock	9	3/8/2021	Moorings	Confirmed	3/13/2021	3/16/2021	26'	3
Guest Dock	15	3/11/2021	Moorings	Confirmed	3/13/2021	3/18/2021	37'	5
Guest Dock	14	3/6/2021	WEBSITE	Confirmed	3/14/2021	3/21/2021	26'	7
Guest Dock	12	3/14/2021	WEBSITE	Confirmed	3/14/2021	3/15/2021	37'	1
Guest Dock	7	3/13/2021	WEBSITE	Confirmed	3/14/2021	3/15/2021	27'	1
Guest Dock	16	3/14/2021	WEBSITE	Confirmed	3/14/2021	3/17/2021	32'	3
Guest Dock	8	3/15/2021	Moorings	Confirmed	3/14/2021	3/16/2021		2
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/14/2021	3/15/2021	55'	1
Guest Dock	4	3/14/2021	WEBSITE	Confirmed	3/14/2021	3/15/2021	44'	1
Guest Dock	28	3/13/2021	WEBSITE	Confirmed	3/14/2021	3/18/2021	40'	4
Guest Dock	29	3/15/2021	WEBSITE	Confirmed	3/14/2021	3/15/2021	40'	1
Guest Dock	5	3/13/2021	WEBSITE	Confirmed	3/14/2021	3/15/2021	41'	1
Guest Dock	18	3/15/2021	Moorings	Confirmed	3/15/2021	3/16/2021	36'	1
Guest Dock	5	3/13/2021	WEBSITE	Confirmed	3/15/2021	3/17/2021		2
Guest Dock	13	3/13/2021	WEBSITE	Confirmed	3/15/2021	3/17/2021	28'	2
Guest Dock	10	3/14/2021	WEBSITE	Confirmed	3/15/2021	3/20/2021	44'	5

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/15/2021	3/16/2021	55'	1
Guest Dock	12	3/15/2021	Moorings	Confirmed	3/15/2021	3/16/2021	25'	1
Guest Dock	2	3/14/2021	WEBSITE	Confirmed	3/15/2021	3/17/2021	25'	2
Guest Dock	4	3/15/2021	WEBSITE	Confirmed	3/15/2021	3/16/2021	36'	1
Guest Dock	20	3/10/2021	WEBSITE	Confirmed	3/15/2021	3/16/2021	64'	1
Guest Dock	21	3/15/2021	WEBSITE	Confirmed	3/15/2021	3/16/2021	47'	1
Guest Dock	11	3/8/2021	Moorings	Confirmed	3/15/2021	3/19/2021	44'	4
Guest Dock	7	3/14/2021	WEBSITE	Confirmed	3/15/2021	3/17/2021	32'	2
Guest Dock	4	3/15/2021	Moorings	Confirmed	3/16/2021	3/17/2021	26'	1
Guest Dock	3	3/15/2021	WEBSITE	Confirmed	3/16/2021	3/19/2021	36'	3
Guest Dock	12	3/16/2021	WEBSITE	Confirmed	3/16/2021	3/17/2021	27'	1
Guest Dock	8	3/15/2021	Moorings	Confirmed	3/16/2021	3/17/2021		1
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/16/2021	3/17/2021	55'	1
Guest Dock	20	3/11/2021	Moorings	Confirmed	3/16/2021	3/27/2021	30'	11
Guest Dock	9	3/15/2021	WEBSITE	Confirmed	3/16/2021	3/22/2021		6
Guest Dock	2	3/3/2021	WEBSITE	Confirmed	3/17/2021	3/19/2021	27'	2
Guest Dock	16	3/16/2021	WEBSITE	Confirmed	3/17/2021	3/18/2021	41'	1
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/17/2021	3/18/2021	55'	1
Guest Dock	7	3/15/2021	WEBSITE	Confirmed	3/17/2021	3/20/2021		3
Guest Dock	21	3/16/2021	WEBSITE	Confirmed	3/17/2021	4/1/2021	46'	15
Guest Dock	12	3/11/2021	WEBSITE	Confirmed	3/17/2021	3/19/2021		2
Guest Dock	5	3/15/2021	Moorings	Confirmed	3/17/2021	3/18/2021	26'	1
Guest Dock	13	3/16/2021	WEBSITE	Confirmed	3/17/2021	3/18/2021	32'	1
Guest Dock	13	3/17/2021	WEBSITE	Confirmed	3/18/2021	3/19/2021	32'	1
Guest Dock	26	3/16/2021	Moorings	Confirmed	3/18/2021	3/19/2021	34'	1
Guest Dock	18	3/11/2021	Moorings	Confirmed	3/18/2021	3/20/2021	37'	2
Guest Dock	4	3/15/2021	Moorings	Confirmed	3/18/2021	3/19/2021	26'	1
Guest Dock	15	3/18/2021	WEBSITE	Confirmed	3/18/2021	3/19/2021	30'	1
Guest Dock	27	3/18/2021	WEBSITE	Confirmed	3/18/2021	3/22/2021	38'	4
Guest Dock	16	3/17/2021	WEBSITE	Confirmed	3/18/2021	3/19/2021	25'	1
Guest Dock	8	3/14/2021	WEBSITE	Confirmed	3/18/2021	3/24/2021	35'	6
Guest Dock	6	3/17/2021	WEBSITE	Confirmed	3/18/2021	3/19/2021	36'	1
Guest Dock	28	3/18/2021	WEBSITE	Confirmed	3/18/2021	3/19/2021	40'	1
Guest Dock	19	3/9/2021	WEBSITE	Confirmed	3/18/2021	3/19/2021	55'	1
Guest Dock	5	3/6/2021	WEBSITE	Confirmed	3/18/2021	3/19/2021	41'	1
Guest Dock	6	3/13/2021	WEBSITE	Confirmed	3/19/2021	3/26/2021	41'	7
Guest Dock	2	3/13/2021	WEBSITE	Confirmed	3/19/2021	3/21/2021	27'	2
Guest Dock	28	3/19/2021	WEBSITE	Confirmed	3/19/2021	3/25/2021	40'	6
Guest Dock	13	3/16/2021	Moorings	Confirmed	3/19/2021	4/3/2021	34'	15
Guest Dock	5	3/5/2021	WEBSITE	Confirmed	3/19/2021	3/20/2021	30'	1
Guest Dock	16	3/7/2021	WEBSITE	Confirmed	3/19/2021	3/20/2021	34'	1
Guest Dock	26	3/16/2021	WEBSITE	Confirmed	3/19/2021	3/20/2021	34'	1
Guest Dock	15	3/16/2021	Moorings	Confirmed	3/19/2021	3/22/2021	29'	3
Guest Dock	11	3/17/2021	WEBSITE	Confirmed	3/19/2021	3/20/2021	32'	1
Guest Dock	3	3/16/2021	Moorings	Confirmed	3/19/2021	3/21/2021	28'	2
Guest Dock	7	3/11/2021	Moorings	Confirmed	3/20/2021	3/25/2021	37'	5
Guest Dock	12	3/19/2021	WEBSITE	Confirmed	3/20/2021	3/22/2021	46'	2
Guest Dock	16	3/20/2021	WEBSITE	Confirmed	3/20/2021	3/21/2021	27'	1
Guest Dock	11	3/19/2021	WEBSITE	Confirmed	3/20/2021	3/24/2021	41'	4
Guest Dock	26	3/20/2021	WEBSITE	Confirmed	3/20/2021	3/21/2021	36'	1
Guest Dock	18	3/10/2021	WEBSITE	Confirmed	3/20/2021	3/21/2021	55'	1
Guest Dock	22	3/16/2021	WEBSITE	Confirmed	3/20/2021	3/24/2021	46'	4
Guest Dock	5	3/7/2021	WEBSITE	Confirmed	3/20/2021	3/21/2021	26'	1
Guest Dock	5	3/21/2021	WEBSITE	Confirmed	3/21/2021	3/23/2021	22'	2
Guest Dock	18	3/10/2021	WEBSITE	Confirmed	3/21/2021	3/22/2021	55'	1
Guest Dock	26	3/19/2021	WEBSITE	Confirmed	3/21/2021	3/26/2021	34'	5
Guest Dock	14	3/21/2021	WEBSITE	Confirmed	3/21/2021	3/22/2021	36'	1
Guest Dock	16	3/18/2021	Moorings	Confirmed	3/21/2021	3/25/2021	36'	4
Guest Dock	3	3/19/2021	WEBSITE	Confirmed	3/21/2021	3/23/2021	46'	2
Guest Dock	27	3/20/2021	WEBSITE	Confirmed	3/22/2021	3/23/2021	34'	1
Guest Dock	14	3/15/2021	WEBSITE	Confirmed	3/22/2021	3/26/2021	37'	4
Guest Dock	4	3/21/2021	WEBSITE	Confirmed	3/22/2021	3/23/2021	36'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	15	3/20/2021	WEBSITE	Confirmed	3/22/2021	3/23/2021	30'	1
Guest Dock	19	3/22/2021	Moorings	Confirmed	3/22/2021	3/23/2021	41'	1
Guest Dock	12	3/20/2021	WEBSITE	Confirmed	3/22/2021	3/31/2021	32'	9
Guest Dock	2	3/23/2021	Moorings	Confirmed	3/23/2021	3/24/2021	54'	1
Guest Dock	10	3/23/2021	WEBSITE	Confirmed	3/23/2021	3/24/2021	30'	1
Guest Dock	3	3/22/2021	WEBSITE	Confirmed	3/23/2021	3/24/2021	22'	1
Guest Dock	15	3/20/2021	WEBSITE	Confirmed	3/23/2021	3/30/2021	28'	7
Guest Dock	4	3/4/2021	Moorings	Confirmed	3/23/2021	3/26/2021		3
Guest Dock	27	3/22/2021	Moorings	Confirmed	3/23/2021	3/27/2021	34'	4
Guest Dock	18	3/1/2021	Moorings	Confirmed	3/23/2021	3/27/2021	41'	4
Guest Dock	3	3/18/2021	WEBSITE	Confirmed	3/24/2021	3/27/2021	55'	3
Guest Dock	11	3/8/2021	Moorings	Confirmed	3/24/2021	3/27/2021	44'	3
Guest Dock	29	3/25/2021	Moorings	Confirmed	3/24/2021	3/25/2021	34'	1
Guest Dock	1	3/24/2021	Moorings	Confirmed	3/24/2021	3/25/2021	26'	1
Guest Dock	8	3/22/2021	Moorings	Confirmed	3/24/2021	3/27/2021		3
Guest Dock	22	3/23/2021	Moorings	Confirmed	3/24/2021	3/25/2021		1
Guest Dock	10	3/23/2021	WEBSITE	Confirmed	3/24/2021	3/27/2021	25'	3
Guest Dock	7	3/20/2021	WEBSITE	Confirmed	3/25/2021	3/27/2021	27'	2
Guest Dock	22	3/22/2021	Moorings	Confirmed	3/25/2021	3/26/2021	36'	1
Guest Dock	16	3/21/2021	WEBSITE	Confirmed	3/25/2021	3/26/2021	34'	1
Guest Dock	1	3/24/2021	Moorings	Confirmed	3/25/2021	3/26/2021	26'	1
Guest Dock	29	3/25/2021	Moorings	Confirmed	3/25/2021	3/26/2021	34'	1
Guest Dock	29	3/25/2021	Moorings	Confirmed	3/26/2021	3/27/2021	34'	1
Guest Dock	2	3/24/2021	Moorings	Confirmed	3/26/2021	3/27/2021	26'	1
Guest Dock	4	3/15/2021	WEBSITE	Confirmed	3/26/2021	3/27/2021	25'	1
Guest Dock	16	3/18/2021	WEBSITE	Confirmed	3/26/2021	3/27/2021	34'	1
Guest Dock	26	3/23/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	34'	3
Guest Dock	6	3/23/2021	WEBSITE	Confirmed	3/26/2021	3/28/2021	26'	2
Guest Dock	8	3/26/2021	WEBSITE	Confirmed	3/27/2021	3/28/2021		1
Guest Dock	11	3/26/2021	WEBSITE	Confirmed	3/27/2021	3/29/2021	23'	2
Guest Dock	9	3/24/2021	WEBSITE	Confirmed	3/27/2021	3/28/2021	41'	1
Guest Dock	10	3/25/2021	WEBSITE	Confirmed	3/27/2021	3/30/2021	25'	3
Guest Dock	4	3/22/2021	WEBSITE	Confirmed	3/27/2021	3/28/2021	26'	1
Guest Dock	16	3/21/2021	WEBSITE	Confirmed	3/27/2021	3/28/2021	34'	1
Guest Dock	3	3/24/2021	WEBSITE	Confirmed	3/27/2021	3/28/2021	39'	1
Guest Dock	7	3/24/2021	Moorings	Confirmed	3/27/2021	3/28/2021	26'	1
Guest Dock	27	3/25/2021	Moorings	Confirmed	3/27/2021	3/28/2021	34'	1
Guest Dock	22	3/26/2021	Moorings	Confirmed	3/27/2021	3/30/2021	34'	3
Guest Dock	6	3/27/2021	WEBSITE	Confirmed	3/28/2021	3/31/2021	34'	3
Guest Dock	27	3/27/2021	WEBSITE	Confirmed	3/28/2021	3/31/2021	37'	3
Guest Dock	5	3/22/2021	Moorings	Confirmed	3/28/2021	4/5/2021	36'	8
Guest Dock	16	3/20/2021	WEBSITE	Confirmed	3/28/2021	3/30/2021	30'	2
Guest Dock	4	3/24/2021	WEBSITE	Confirmed	3/28/2021	3/31/2021	41'	3
Guest Dock	3	3/27/2021	WEBSITE	Confirmed	3/28/2021	4/1/2021	41'	4
Guest Dock	2	3/28/2021	WEBSITE	Confirmed	3/28/2021	3/29/2021	30'	1
Guest Dock	26	3/27/2021	WEBSITE	Confirmed	3/29/2021	4/2/2021		4
Guest Dock	2	3/27/2021	WEBSITE	Confirmed	3/29/2021	4/1/2021	30'	3
Guest Dock	9	3/29/2021	WEBSITE	Confirmed	3/29/2021	3/30/2021	36'	1
Guest Dock	14	3/28/2021	WEBSITE	Confirmed	3/29/2021	4/1/2021		3
Guest Dock	7	3/25/2021	WEBSITE	Confirmed	3/29/2021	3/31/2021	27'	2
Guest Dock	11	3/26/2021	Moorings	Confirmed	3/29/2021	3/31/2021		2
Guest Dock	18	3/26/2021	Moorings	Confirmed	3/29/2021	4/2/2021	38'	4
Guest Dock	19	3/28/2021	WEBSITE	Confirmed	3/29/2021	3/30/2021	50'	1
Guest Dock	28	3/26/2021	Moorings	Confirmed	3/29/2021	4/2/2021	30'	4
Guest Dock	10	3/29/2021	WEBSITE	Confirmed	3/30/2021	4/2/2021	45'	3
Guest Dock	20	3/29/2021	Moorings	Confirmed	3/30/2021	4/2/2021	36'	3
Guest Dock	15	3/29/2021	WEBSITE	Confirmed	3/30/2021	4/1/2021	22'	2
Guest Dock	19	3/30/2021	Moorings	Confirmed	3/30/2021	4/2/2021	30'	3
Guest Dock	16	3/26/2021	WEBSITE	Confirmed	3/30/2021	3/31/2021	30'	1
Guest Dock	9	3/26/2021	WEBSITE	Confirmed	3/30/2021	4/1/2021	29'	2
Guest Dock	12	3/28/2021	WEBSITE	Confirmed	3/31/2021	4/5/2021	41'	5
Guest Dock	11	3/29/2021	WEBSITE	Confirmed	3/31/2021	4/3/2021	32'	3

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	22	3/28/2021	WEBSITE	Confirmed	3/31/2021	4/3/2021	50'	3
Guest Dock	4	3/30/2021	WEBSITE	Confirmed	3/31/2021	4/2/2021	25'	2
Guest Dock	6	3/31/2021	WEBSITE	Confirmed	3/31/2021	4/1/2021	36'	1
Guest Dock	27	3/28/2021	WEBSITE	Confirmed	3/31/2021	4/5/2021	34'	5
Guest Dock	16	3/29/2021	WEBSITE	Confirmed	3/31/2021	4/2/2021	29'	2
Guest Dock	8	3/25/2021	WEBSITE	Confirmed	3/31/2021	4/3/2021	17'	3
Guest Dock	7	3/27/2021	WEBSITE	Confirmed	3/31/2021	4/1/2021	27'	1
Guest Dock	6	3/31/2021	WEBSITE	Confirmed	4/1/2021	4/2/2021	37'	1
Guest Dock	15	3/20/2021	WEBSITE	Confirmed	4/1/2021	4/3/2021	26'	2
Guest Dock	3	3/30/2021	WEBSITE	Confirmed	4/1/2021	4/4/2021	36'	3
Guest Dock	14	3/30/2021	WEBSITE	Confirmed	4/1/2021	4/6/2021		5
Guest Dock	9	3/26/2021	WEBSITE	Confirmed	4/1/2021	4/16/2021	42'	15
Guest Dock	10	3/30/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	25'	3
Guest Dock	28	3/31/2021	WEBSITE	Confirmed	4/2/2021	4/3/2021	45'	1
Guest Dock	18	4/1/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	50'	3
Guest Dock	26	3/30/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021		3
Guest Dock	4	3/18/2021	Moorings	Confirmed	4/2/2021	4/6/2021	41'	4
Guest Dock	16	3/19/2021	WEBSITE	Confirmed	4/2/2021	4/3/2021	34'	1
Guest Dock	28	3/30/2021	WEBSITE	Confirmed	4/3/2021	4/5/2021		2
Guest Dock	15	4/2/2021	WEBSITE	Confirmed	4/3/2021	4/6/2021	30'	3
Guest Dock	13	4/2/2021	WEBSITE	Confirmed	4/3/2021	4/6/2021	45'	3
Guest Dock	22	4/3/2021	WEBSITE	Confirmed	4/3/2021	4/4/2021	50'	1
Guest Dock	11	3/31/2021	WEBSITE	Confirmed	4/3/2021	4/5/2021	32'	2
Guest Dock	16	4/1/2021	WEBSITE	Confirmed	4/3/2021	4/9/2021	33'	6
Guest Dock	8	4/2/2021	WEBSITE	Confirmed	4/3/2021	4/6/2021	30'	3
Guest Dock	2	4/2/2021	WEBSITE	Confirmed	4/4/2021	4/8/2021	37'	4
Guest Dock	29	4/6/2021	Moorings	Confirmed	4/4/2021	4/6/2021	36'	2
Guest Dock	22	4/4/2021	WEBSITE	Confirmed	4/4/2021	4/5/2021	50'	1
Guest Dock	3	3/16/2021	Moorings	Confirmed	4/4/2021	4/9/2021	53'	5
Guest Dock	6	3/30/2021	WEBSITE	Confirmed	4/4/2021	4/5/2021	27'	1
Guest Dock	10	4/4/2021	WEBSITE	Confirmed	4/5/2021	4/6/2021	27'	1
Guest Dock	18	4/5/2021	WEBSITE	Confirmed	4/5/2021	4/6/2021	46'	1
Guest Dock	11	3/29/2021	Moorings	Confirmed	4/5/2021	4/9/2021	44'	4
Guest Dock	21	4/5/2021	WEBSITE	Confirmed	4/5/2021	4/7/2021	45'	2
Guest Dock	22	4/4/2021	WEBSITE	Confirmed	4/5/2021	4/7/2021	50'	2
Guest Dock	26	4/4/2021	WEBSITE	Confirmed	4/5/2021	4/6/2021	30'	1
Guest Dock	28	4/4/2021	WEBSITE	Confirmed	4/5/2021	4/8/2021		3
Guest Dock	27	4/4/2021	WEBSITE	Confirmed	4/5/2021	4/8/2021	34'	3
Guest Dock	8	4/4/2021	WEBSITE	Confirmed	4/6/2021	4/10/2021	30'	4
Guest Dock	10	4/5/2021	WEBSITE	Confirmed	4/6/2021	4/7/2021	25'	1
Guest Dock	14	4/5/2021	WEBSITE	Confirmed	4/6/2021	4/7/2021	45'	1
Guest Dock	13	4/5/2021	WEBSITE	Confirmed	4/6/2021	4/7/2021	36'	1
Guest Dock	26	4/5/2021	Moorings	Confirmed	4/6/2021	4/9/2021	26'	3
Guest Dock	18	4/2/2021	WEBSITE	Confirmed	4/6/2021	4/9/2021	41'	3
Guest Dock	15	4/5/2021	WEBSITE	Confirmed	4/6/2021	4/9/2021		3
Guest Dock	22	4/5/2021	Moorings	Confirmed	4/7/2021	4/9/2021	36'	2
Guest Dock	14	4/5/2021	WEBSITE	Confirmed	4/7/2021	4/10/2021		3
Guest Dock	12	4/6/2021	WEBSITE	Confirmed	4/7/2021	4/8/2021	45'	1
Guest Dock	10	4/5/2021	WEBSITE	Confirmed	4/7/2021	4/10/2021	25'	3
Guest Dock	21	4/6/2021	WEBSITE	Confirmed	4/7/2021	4/8/2021	50'	1
Guest Dock	6	4/6/2021	WEBSITE	Confirmed	4/7/2021	4/8/2021		1
Guest Dock	13	4/5/2021	Moorings	Confirmed	4/7/2021	4/10/2021	44'	3
Guest Dock	12	4/6/2021	WEBSITE	Confirmed	4/8/2021	4/11/2021		3
Guest Dock	27	4/6/2021	WEBSITE	Confirmed	4/8/2021	4/9/2021	45'	1
Guest Dock	28	4/7/2021	WEBSITE	Confirmed	4/8/2021	4/10/2021	36'	2
Guest Dock	5	4/4/2021	WEBSITE	Confirmed	4/8/2021	4/12/2021	41'	4
Guest Dock	2	4/7/2021	WEBSITE	Confirmed	4/8/2021	4/9/2021	37'	1
Guest Dock	21	4/8/2021	Moorings	Confirmed	4/8/2021	4/9/2021	34'	1
Guest Dock	19	4/6/2021	WEBSITE	Confirmed	4/8/2021	4/9/2021	44'	1
Guest Dock	2	4/5/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	29'	3
Guest Dock	16	4/7/2021	WEBSITE	Confirmed	4/9/2021	4/11/2021	37'	2
Guest Dock	15	4/6/2021	WEBSITE	Confirmed	4/9/2021	4/14/2021	33'	5

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	3	4/6/2021	WEBSITE	Confirmed	4/9/2021	4/24/2021	37'	15
Guest Dock	19	4/7/2021	Moorings	Confirmed	4/9/2021	4/11/2021	60'	2
Guest Dock	11	4/8/2021	Moorings	Confirmed	4/9/2021	4/12/2021	25'	3
Guest Dock	18	4/9/2021	Moorings	Confirmed	4/9/2021	4/10/2021	50'	1
Guest Dock	4	3/26/2021	WEBSITE	Confirmed	4/9/2021	4/10/2021	44'	1
Guest Dock	4	4/8/2021	WEBSITE	Confirmed	4/10/2021	4/11/2021	26'	1
Guest Dock	13	4/8/2021	WEBSITE	Confirmed	4/10/2021	4/11/2021	44'	1
Guest Dock	10	4/9/2021	Moorings	Confirmed	4/10/2021	4/13/2021	32'	3
Guest Dock	8	4/8/2021	WEBSITE	Confirmed	4/10/2021	4/12/2021	27'	2
Guest Dock	14	4/9/2021	WEBSITE	Confirmed	4/10/2021	4/11/2021	30'	1
Guest Dock	14	4/6/2021	WEBSITE	Confirmed	4/11/2021	4/17/2021	26'	6
Guest Dock	19	4/11/2021	WEBSITE	Confirmed	4/11/2021	4/12/2021	60'	1
Guest Dock	12	4/10/2021	WEBSITE	Confirmed	4/11/2021	4/12/2021		1
Guest Dock	5	4/11/2021	WEBSITE	Confirmed	4/12/2021	4/13/2021	25'	1
Guest Dock	18	4/11/2021	WEBSITE	Confirmed	4/12/2021	4/13/2021	45'	1
Guest Dock	8	4/9/2021	WEBSITE	Confirmed	4/12/2021	4/15/2021		3
Guest Dock	21	4/8/2021	WEBSITE	Confirmed	4/12/2021	4/14/2021		2
Guest Dock	19	4/12/2021	WEBSITE	Confirmed	4/12/2021	4/13/2021	20'	1
Guest Dock	22	4/5/2021	Moorings	Confirmed	4/12/2021	4/14/2021	36'	2
Guest Dock	16	4/2/2021	WEBSITE	Confirmed	4/12/2021	4/17/2021	39'	5
Guest Dock	20	3/8/2021	Moorings	Confirmed	4/12/2021	4/20/2021	44'	8
Guest Dock	2	4/9/2021	Moorings	Confirmed	4/12/2021	4/15/2021	26'	3
Guest Dock	27	4/12/2021	WEBSITE	Confirmed	4/13/2021	4/16/2021	45'	3
Guest Dock	5	4/8/2021	WEBSITE	Confirmed	4/13/2021	4/14/2021	33'	1
Guest Dock	19	4/13/2021	WEBSITE	Confirmed	4/13/2021	4/15/2021	20'	2
Guest Dock	6	4/12/2021	WEBSITE	Confirmed	4/13/2021	4/14/2021	32'	1
Guest Dock	28	4/12/2021	WEBSITE	Confirmed	4/13/2021	4/16/2021	34'	3
Guest Dock	11	4/10/2021	WEBSITE	Confirmed	4/13/2021	4/16/2021	37'	3
Guest Dock	18	4/12/2021	WEBSITE	Confirmed	4/13/2021	4/15/2021	45'	2
Guest Dock	10	4/9/2021	Moorings	Confirmed	4/13/2021	4/14/2021	32'	1
Guest Dock	22	4/9/2021	Moorings	Confirmed	4/14/2021	4/16/2021	32'	2
Guest Dock	15	4/11/2021	WEBSITE	Confirmed	4/14/2021	4/21/2021	25'	7
Guest Dock	10	4/12/2021	Moorings	Confirmed	4/14/2021	4/16/2021	30'	2
Guest Dock	6	4/2/2021	WEBSITE	Confirmed	4/14/2021	4/15/2021		1
Guest Dock	4	3/31/2021	WEBSITE	Confirmed	4/14/2021	4/15/2021	44'	1
Guest Dock	21	4/14/2021	Moorings	Confirmed	4/14/2021	4/16/2021		2
Guest Dock	5	4/13/2021	WEBSITE	Confirmed	4/14/2021	4/15/2021	32'	1
Guest Dock	6	4/14/2021	WEBSITE	Confirmed	4/15/2021	4/16/2021	32'	1
Guest Dock	2	4/4/2021	WEBSITE	Confirmed	4/15/2021	4/16/2021	37'	1
Guest Dock	4	4/14/2021	WEBSITE	Confirmed	4/15/2021	4/16/2021	20'	1
Guest Dock	5	4/14/2021	Moorings	Confirmed	4/15/2021	4/16/2021	30'	1
Guest Dock	8	4/12/2021	WEBSITE	Confirmed	4/15/2021	4/20/2021		5
Guest Dock	19	4/6/2021	WEBSITE	Confirmed	4/15/2021	4/24/2021	60'	9
Guest Dock	18	4/14/2021	WEBSITE	Confirmed	4/15/2021	4/16/2021	45'	1
Guest Dock	22	4/15/2021	WEBSITE	Confirmed	4/16/2021	4/17/2021	45'	1
Guest Dock	9	4/13/2021	WEBSITE	Confirmed	4/16/2021	5/1/2021	27'	15
Guest Dock	10	4/14/2021	WEBSITE	Confirmed	4/16/2021	4/26/2021	28'	10
Guest Dock	11	4/14/2021	Moorings	Confirmed	4/16/2021	4/18/2021		2
Guest Dock	2	4/14/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	27'	3
Guest Dock	21	4/13/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	41'	3
Guest Dock	5	4/3/2021	WEBSITE	Confirmed	4/16/2021	4/17/2021	30'	1
Guest Dock	4	4/15/2021	WEBSITE	Confirmed	4/16/2021	4/17/2021	20'	1
Guest Dock	7	4/11/2021	WEBSITE	Confirmed	4/16/2021	4/18/2021	27'	2
Guest Dock	16	4/5/2021	WEBSITE	Confirmed	4/17/2021	4/18/2021	40'	1
Guest Dock	28	4/13/2021	Moorings	Confirmed	4/17/2021	4/20/2021	34'	3
Guest Dock	22	4/15/2021	Moorings	Confirmed	4/17/2021	4/19/2021	38'	2
Guest Dock	12	3/20/2021	WEBSITE	Confirmed	4/17/2021	4/20/2021	28'	3
Guest Dock	13	4/15/2021	Moorings	Confirmed	4/17/2021	4/20/2021	38'	3
Guest Dock	5	4/15/2021	WEBSITE	Confirmed	4/17/2021	4/19/2021	41'	2
Guest Dock	4	4/10/2021	WEBSITE	Confirmed	4/17/2021	4/18/2021	40'	1
Guest Dock	27	4/9/2021	WEBSITE	Confirmed	4/17/2021	4/22/2021	40'	5
Guest Dock	14	4/15/2021	WEBSITE	Confirmed	4/17/2021	4/18/2021	41'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	14	4/17/2021	WEBSITE	Confirmed	4/18/2021	4/19/2021	41'	1
Guest Dock	18	4/17/2021	WEBSITE	Confirmed	4/18/2021	4/21/2021	45'	3
Guest Dock	4	4/5/2021	WEBSITE	Confirmed	4/18/2021	4/25/2021	42'	7
Guest Dock	11	4/17/2021	WEBSITE	Confirmed	4/18/2021	4/19/2021	40'	1
Guest Dock	16	4/17/2021	WEBSITE	Confirmed	4/18/2021	4/19/2021	30'	1
Guest Dock	7	4/16/2021	WEBSITE	Confirmed	4/18/2021	4/19/2021	39'	1
Guest Dock	22	4/15/2021	Moorings	Confirmed	4/19/2021	4/21/2021	36'	2
Guest Dock	16	4/14/2021	WEBSITE	Confirmed	4/19/2021	4/20/2021	34'	1
Guest Dock	14	4/15/2021	WEBSITE	Confirmed	4/19/2021	4/23/2021	29'	4
Guest Dock	2	4/13/2021	Moorings	Confirmed	4/19/2021	4/20/2021	37'	1
Guest Dock	7	4/12/2021	Moorings	Confirmed	4/19/2021	4/21/2021	26'	2
Guest Dock	11	4/16/2021	WEBSITE	Confirmed	4/19/2021	4/20/2021	25'	1
Guest Dock	21	4/15/2021	Moorings	Confirmed	4/19/2021	5/4/2021	50'	15
Guest Dock	5	4/12/2021	Moorings	Confirmed	4/19/2021	4/22/2021	30'	3
Guest Dock	12	4/17/2021	WEBSITE	Confirmed	4/20/2021	4/28/2021		8
Guest Dock	26	4/19/2021	Moorings	Confirmed	4/20/2021	4/21/2021	32'	1
Guest Dock	28	4/20/2021	WEBSITE	Confirmed	4/20/2021	4/21/2021	30'	1
Guest Dock	20	4/19/2021	Moorings	Confirmed	4/20/2021	4/24/2021	30'	4
Guest Dock	8	4/16/2021	WEBSITE	Confirmed	4/20/2021	4/21/2021	27'	1
Guest Dock	2	4/15/2021	WEBSITE	Confirmed	4/20/2021	4/23/2021	37'	3
Guest Dock	16	4/19/2021	WEBSITE	Confirmed	4/20/2021	4/22/2021	27'	2
Guest Dock	7	4/16/2021	WEBSITE	Confirmed	4/21/2021	4/22/2021	27'	1
Guest Dock	18	4/20/2021	Moorings	Confirmed	4/21/2021	4/23/2021	56'	2
Guest Dock	28	4/14/2021	WEBSITE	Confirmed	4/21/2021	4/23/2021		2
Guest Dock	26	4/13/2021	WEBSITE	Confirmed	4/21/2021	4/23/2021	32'	2
Guest Dock	15	4/19/2021	Moorings	Confirmed	4/21/2021	4/22/2021	32'	1
Guest Dock	22	4/20/2021	WEBSITE	Confirmed	4/21/2021	4/24/2021	41'	3
Guest Dock	11	4/19/2021	Moorings	Confirmed	4/21/2021	4/28/2021	29'	7
Guest Dock	8	4/19/2021	WEBSITE	Confirmed	4/21/2021	4/24/2021		3
Guest Dock	6	4/11/2021	WEBSITE	Confirmed	4/21/2021	4/22/2021	25'	1
Guest Dock	29	4/9/2021	WEBSITE	Confirmed	4/22/2021	4/26/2021	40'	4
Guest Dock	6	4/19/2021	WEBSITE	Confirmed	4/22/2021	4/25/2021	30'	3
Guest Dock	7	4/20/2021	WEBSITE	Confirmed	4/22/2021	4/24/2021		2
Guest Dock	15	4/20/2021	Moorings	Confirmed	4/22/2021	4/23/2021	32'	1
Guest Dock	5	4/19/2021	WEBSITE	Confirmed	4/22/2021	4/23/2021	38'	1
Guest Dock	27	4/19/2021	Moorings	Confirmed	4/22/2021	4/24/2021	30'	2
Guest Dock	16	4/13/2021	WEBSITE	Confirmed	4/22/2021	4/23/2021	25'	1
Guest Dock	16	4/19/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	45'	3
Guest Dock	2	4/11/2021	WEBSITE	Confirmed	4/23/2021	4/24/2021	28'	1
Guest Dock	5	4/18/2021	WEBSITE	Confirmed	4/23/2021	4/25/2021	23'	2
Guest Dock	28	4/21/2021	WEBSITE	Confirmed	4/23/2021	4/28/2021	38'	5
Guest Dock	15	4/21/2021	Moorings	Confirmed	4/23/2021	5/8/2021	37'	15
Guest Dock	14	4/20/2021	WEBSITE	Confirmed	4/23/2021	4/25/2021	50'	2
Guest Dock	13	4/20/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	23'	3
Guest Dock	26	4/22/2021	Moorings	Confirmed	4/23/2021	4/24/2021		1
Guest Dock	2	4/22/2021	Moorings	Confirmed	4/24/2021	4/25/2021		1
Guest Dock	8	4/12/2021	Moorings	Confirmed	4/24/2021	4/27/2021	28'	3
Guest Dock	27	4/21/2021	WEBSITE	Confirmed	4/24/2021	4/25/2021	41'	1
Guest Dock	19	4/21/2021	WEBSITE	Confirmed	4/24/2021	4/26/2021	51'	2
Guest Dock	3	4/10/2021	WEBSITE	Confirmed	4/24/2021	4/25/2021	40'	1
Guest Dock	18	4/20/2021	WEBSITE	Confirmed	4/24/2021	4/26/2021	50'	2
Guest Dock	26	4/19/2021	Moorings	Confirmed	4/24/2021	4/27/2021	34'	3
Guest Dock	20	4/21/2021	Moorings	Confirmed	4/24/2021	4/27/2021	30'	3
Guest Dock	22	4/21/2021	Moorings	Confirmed	4/24/2021	4/25/2021	38'	1
Guest Dock	22	4/19/2021	WEBSITE	Confirmed	4/25/2021	4/26/2021		1
Guest Dock	6	4/21/2021	Moorings	Confirmed	4/25/2021	4/26/2021	38'	1
Guest Dock	2	4/11/2021	WEBSITE	Confirmed	4/25/2021	4/26/2021	35'	1
Guest Dock	14	4/22/2021	WEBSITE	Confirmed	4/25/2021	4/28/2021	30'	3
Guest Dock	5	4/21/2021	WEBSITE	Confirmed	4/25/2021	4/26/2021	41'	1
Guest Dock	3	4/19/2021	WEBSITE	Confirmed	4/25/2021	4/26/2021	35'	1
Guest Dock	4	4/18/2021	WEBSITE	Confirmed	4/25/2021	4/26/2021	40'	1
Guest Dock	10	4/20/2021	Moorings	Confirmed	4/26/2021	4/28/2021	32'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	2	4/24/2021	WEBSITE	Confirmed	4/26/2021	4/28/2021	24'	2
Guest Dock	13	4/25/2021	WEBSITE	Confirmed	4/26/2021	4/27/2021	40'	1
Guest Dock	6	4/26/2021	WEBSITE	Confirmed	4/26/2021	4/27/2021	36'	1
Guest Dock	18	4/12/2021	WEBSITE	Confirmed	4/26/2021	5/3/2021	51'	7
Guest Dock	4	4/13/2021	WEBSITE	Confirmed	4/26/2021	4/29/2021	32'	3
Guest Dock	22	4/13/2021	WEBSITE	Confirmed	4/26/2021	4/27/2021	50'	1
Guest Dock	19	4/21/2021	Moorings	Confirmed	4/26/2021	4/27/2021	38'	1
Guest Dock	5	4/13/2021	WEBSITE	Confirmed	4/26/2021	4/28/2021	25'	2
Guest Dock	7	4/23/2021	WEBSITE	Confirmed	4/26/2021	4/28/2021	27'	2
Guest Dock	3	4/14/2021	WEBSITE	Confirmed	4/26/2021	4/30/2021	34'	4
Guest Dock	13	4/22/2021	WEBSITE	Confirmed	4/27/2021	4/30/2021	29'	3
Guest Dock	20	4/23/2021	Moorings	Confirmed	4/27/2021	5/1/2021	46'	4
Guest Dock	26	4/21/2021	Moorings	Confirmed	4/27/2021	4/28/2021	38'	1
Guest Dock	8	4/24/2021	WEBSITE	Confirmed	4/27/2021	4/28/2021		1
Guest Dock	19	4/25/2021	WEBSITE	Confirmed	4/27/2021	4/30/2021	52'	3
Guest Dock	8	4/28/2021	Moorings	Confirmed	4/28/2021	4/29/2021	29'	1
Guest Dock	16	4/24/2021	WEBSITE	Confirmed	4/28/2021	5/2/2021	24'	4
Guest Dock	5	4/21/2021	WEBSITE	Confirmed	4/28/2021	4/30/2021	33'	2
Guest Dock	2	4/19/2021	WEBSITE	Confirmed	4/28/2021	4/30/2021	18'	2
Guest Dock	12	4/23/2021	WEBSITE	Confirmed	4/28/2021	5/1/2021		3
Guest Dock	6	4/27/2021	WEBSITE	Confirmed	4/28/2021	4/30/2021		2
Guest Dock	27	4/27/2021	WEBSITE	Confirmed	4/28/2021	4/29/2021	30'	1
Guest Dock	11	4/27/2021	WEBSITE	Confirmed	4/28/2021	4/29/2021	36'	1
Guest Dock	28	4/22/2021	Moorings	Confirmed	4/28/2021	4/30/2021	26'	2
Guest Dock	26	4/21/2021	Moorings	Confirmed	4/28/2021	5/2/2021	38'	4
Guest Dock	10	4/26/2021	WEBSITE	Confirmed	4/28/2021	4/29/2021	27'	1
Guest Dock	14	4/25/2021	WEBSITE	Confirmed	4/28/2021	5/1/2021	37'	3
Guest Dock	7	4/22/2021	Moorings	Confirmed	4/28/2021	4/30/2021		2
Guest Dock	11	4/26/2021	WEBSITE	Confirmed	4/29/2021	5/2/2021	43'	3
Guest Dock	8	4/26/2021	WEBSITE	Confirmed	4/29/2021	5/1/2021	25'	2
Guest Dock	27	4/19/2021	Moorings	Confirmed	4/29/2021	5/14/2021	38'	15
Guest Dock	4	4/26/2021	WEBSITE	Confirmed	4/29/2021	5/2/2021	30'	3
Guest Dock	10	4/28/2021	Moorings	Confirmed	4/29/2021	5/5/2021	29'	6
Guest Dock	3	4/27/2021	WEBSITE	Confirmed	4/30/2021	5/1/2021	47'	1
Guest Dock	6	4/16/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	28'	3
Guest Dock	19	4/26/2021	WEBSITE	Confirmed	4/30/2021	5/1/2021		1
Guest Dock	5	4/29/2021	WEBSITE	Confirmed	4/30/2021	5/1/2021	29'	1
Guest Dock	28	4/26/2021	Moorings	Confirmed	4/30/2021	5/3/2021	30'	3
Guest Dock	7	4/29/2021	WEBSITE	Confirmed	4/30/2021	5/1/2021	27'	1
Guest Dock	9	4/29/2021	Moorings	Confirmed	5/1/2021	5/4/2021	22'	3
Guest Dock	3	4/25/2021	WEBSITE	Confirmed	5/1/2021	5/3/2021	37'	2
Guest Dock	19	4/19/2021	Moorings	Confirmed	5/1/2021	5/7/2021	45'	6
Guest Dock	2	4/27/2021	Moorings	Confirmed	5/1/2021	5/4/2021	34'	3
Guest Dock	12	4/29/2021	WEBSITE	Confirmed	5/1/2021	5/2/2021		1
Guest Dock	7	4/27/2021	WEBSITE	Confirmed	5/1/2021	5/2/2021	26'	1
Guest Dock	20	5/1/2021	WEBSITE	Confirmed	5/1/2021	5/4/2021	41'	3
Guest Dock	14	4/29/2021	WEBSITE	Confirmed	5/1/2021	5/2/2021	30'	1
Guest Dock	13	4/30/2021	WEBSITE	Confirmed	5/1/2021	5/3/2021	34'	2
Guest Dock	14	4/30/2021	WEBSITE	Confirmed	5/2/2021	5/4/2021	30'	2
Guest Dock	7	5/1/2021	WEBSITE	Confirmed	5/2/2021	5/3/2021	29'	1
Guest Dock	4	4/29/2021	WEBSITE	Confirmed	5/2/2021	5/4/2021	30'	2
Guest Dock	16	4/30/2021	WEBSITE	Confirmed	5/2/2021	5/3/2021	40'	1
Guest Dock	12	4/30/2021	WEBSITE	Confirmed	5/2/2021	5/5/2021		3
Guest Dock	5	4/21/2021	Moorings	Confirmed	5/2/2021	5/3/2021	38'	1
Guest Dock	22	5/2/2021	WEBSITE	Confirmed	5/2/2021	5/4/2021	20'	2
Guest Dock	8	5/2/2021	WEBSITE	Confirmed	5/3/2021	5/4/2021	36'	1
Guest Dock	16	4/25/2021	WEBSITE	Confirmed	5/3/2021	5/4/2021	34'	1
Guest Dock	7	4/28/2021	WEBSITE	Confirmed	5/3/2021	5/4/2021	27'	1
Guest Dock	5	4/25/2021	WEBSITE	Confirmed	5/3/2021	5/5/2021	38'	2
Guest Dock	28	5/3/2021	Moorings	Confirmed	5/3/2021	5/5/2021	26'	2
Guest Dock	11	4/22/2021	Moorings	Confirmed	5/3/2021	5/7/2021	44'	4
Guest Dock	26	5/3/2021	WEBSITE	Confirmed	5/3/2021	5/4/2021	34'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	13	4/30/2021	WEBSITE	Confirmed	5/3/2021	5/4/2021	40'	1
Guest Dock	6	4/27/2021	WEBSITE	Confirmed	5/3/2021	5/4/2021	28'	1
Guest Dock	18	4/27/2021	WEBSITE	Confirmed	5/3/2021	5/5/2021	55'	2
Guest Dock	3	4/30/2021	WEBSITE	Confirmed	5/3/2021	5/4/2021	30'	1
Guest Dock	4	4/30/2021	WEBSITE	Confirmed	5/4/2021	5/6/2021	30'	2
Guest Dock	20	5/4/2021	WEBSITE	Confirmed	5/4/2021	5/5/2021	41'	1
Guest Dock	13	5/3/2021	WEBSITE	Confirmed	5/4/2021	5/5/2021	34'	1
Guest Dock	8	4/29/2021	WEBSITE	Confirmed	5/4/2021	5/6/2021		2
Guest Dock	2	5/2/2021	WEBSITE	Confirmed	5/4/2021	5/7/2021	36'	3
Guest Dock	6	5/3/2021	WEBSITE	Confirmed	5/4/2021	5/7/2021	31'	3
Guest Dock	9	5/3/2021	Moorings	Confirmed	5/4/2021	5/10/2021	26'	6
Guest Dock	22	5/4/2021	WEBSITE	Confirmed	5/4/2021	5/7/2021	61'	3
Guest Dock	7	5/3/2021	Moorings	Confirmed	5/4/2021	5/6/2021	27'	2
Guest Dock	3	5/2/2021	WEBSITE	Confirmed	5/4/2021	5/7/2021	36'	3
Guest Dock	21	5/4/2021	WEBSITE	Confirmed	5/4/2021	5/5/2021	20'	1
Guest Dock	21	5/2/2021	WEBSITE	Confirmed	5/5/2021	5/7/2021	58'	2
Guest Dock	20	4/26/2021	WEBSITE	Confirmed	5/5/2021	5/8/2021	47'	3
Guest Dock	5	5/1/2021	WEBSITE	Confirmed	5/5/2021	5/6/2021	33'	1
Guest Dock	26	5/5/2021	WEBSITE	Confirmed	5/5/2021	5/6/2021	34'	1
Guest Dock	10	5/4/2021	WEBSITE	Confirmed	5/5/2021	5/8/2021		3
Guest Dock	12	5/4/2021	WEBSITE	Confirmed	5/5/2021	5/7/2021	41'	2
Guest Dock	7	5/4/2021	WEBSITE	Confirmed	5/6/2021	5/9/2021		3
Guest Dock	5	5/5/2021	WEBSITE	Confirmed	5/6/2021	5/7/2021	30'	1
Guest Dock	8	5/5/2021	WEBSITE	Confirmed	5/6/2021	5/7/2021		1
Guest Dock	28	5/4/2021	Moorings	Confirmed	5/6/2021	5/21/2021	36'	15
Guest Dock	18	4/23/2021	WEBSITE	Confirmed	5/6/2021	5/9/2021	46'	3
Guest Dock	14	5/3/2021	Moorings	Confirmed	5/6/2021	5/11/2021	41'	5
Guest Dock	26	5/2/2021	WEBSITE	Confirmed	5/6/2021	5/10/2021	32'	4
Guest Dock	22	5/6/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	61'	3
Guest Dock	6	5/5/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	43'	3
Guest Dock	3	4/29/2021	WEBSITE	Confirmed	5/7/2021	5/11/2021	36'	4
Guest Dock	12	5/2/2021	WEBSITE	Confirmed	5/7/2021	5/11/2021	25'	4
Guest Dock	5	5/6/2021	WEBSITE	Confirmed	5/7/2021	5/8/2021	34'	1
Guest Dock	11	5/6/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	37'	3
Guest Dock	13	5/5/2021	WEBSITE	Confirmed	5/7/2021	5/19/2021	31'	12
Guest Dock	4	5/3/2021	WEBSITE	Confirmed	5/7/2021	5/8/2021	27'	1
Guest Dock	8	5/6/2021	WEBSITE	Confirmed	5/7/2021	5/9/2021	41'	2
Guest Dock	21	5/6/2021	Moorings	Confirmed	5/7/2021	5/10/2021	32'	3
Guest Dock	19	4/26/2021	WEBSITE	Confirmed	5/7/2021	5/8/2021		1
Guest Dock	2	4/24/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	27'	3
Guest Dock	15	5/6/2021	WEBSITE	Confirmed	5/8/2021	5/9/2021	30'	1
Guest Dock	10	5/6/2021	WEBSITE	Confirmed	5/8/2021	5/11/2021	40'	3
Guest Dock	19	5/7/2021	WEBSITE	Confirmed	5/8/2021	5/9/2021	47'	1
Guest Dock	20	5/7/2021	Moorings	Confirmed	5/8/2021	5/9/2021	27'	1
Guest Dock	5	5/1/2021	WEBSITE	Confirmed	5/8/2021	5/11/2021	32'	3
Guest Dock	4	5/6/2021	Moorings	Confirmed	5/8/2021	5/10/2021	38'	2
Guest Dock	19	4/30/2021	WEBSITE	Confirmed	5/9/2021	5/10/2021	60'	1
Guest Dock	18	4/26/2021	WEBSITE	Confirmed	5/9/2021	5/10/2021	46'	1
Guest Dock	15	4/27/2021	WEBSITE	Confirmed	5/9/2021	5/10/2021	25'	1
Guest Dock	7	5/6/2021	WEBSITE	Confirmed	5/9/2021	5/11/2021	27'	2
Guest Dock	20	5/6/2021	WEBSITE	Confirmed	5/9/2021	5/10/2021	41'	1
Guest Dock	6	5/8/2021	WEBSITE	Confirmed	5/10/2021	5/11/2021	25'	1
Guest Dock	22	5/7/2021	WEBSITE	Confirmed	5/10/2021	5/23/2021	47'	13
Guest Dock	11	5/7/2021	WEBSITE	Confirmed	5/10/2021	5/25/2021	43'	15
Guest Dock	21	5/7/2021	Moorings	Confirmed	5/10/2021	5/11/2021	42'	1
Guest Dock	2	5/7/2021	WEBSITE	Confirmed	5/10/2021	5/13/2021		3
Guest Dock	9	5/6/2021	WEBSITE	Confirmed	5/10/2021	5/14/2021		4
Guest Dock	16	4/27/2021	WEBSITE	Confirmed	5/10/2021	5/11/2021	34'	1
Guest Dock	26	5/6/2021	WEBSITE	Confirmed	5/10/2021	5/14/2021	34'	4
Guest Dock	4	5/6/2021	Moorings	Confirmed	5/10/2021	5/14/2021	30'	4
Guest Dock	19	5/8/2021	WEBSITE	Confirmed	5/10/2021	5/13/2021	61'	3
Guest Dock	18	5/6/2021	Moorings	Confirmed	5/10/2021	5/11/2021	38'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	20	5/10/2021	Moorings	Confirmed	5/10/2021	5/11/2021	26'	1
Guest Dock	14	5/9/2021	WEBSITE	Confirmed	5/11/2021	5/15/2021	30'	4
Guest Dock	15	5/3/2021	Moorings	Confirmed	5/11/2021	5/16/2021	41'	5
Guest Dock	12	5/11/2021	WEBSITE	Confirmed	5/11/2021	5/12/2021	36'	1
Guest Dock	16	5/11/2021	WEBSITE	Confirmed	5/11/2021	5/12/2021	42'	1
Guest Dock	7	5/9/2021	WEBSITE	Confirmed	5/11/2021	5/18/2021	40'	7
Guest Dock	20	5/11/2021	WEBSITE	Confirmed	5/11/2021	5/16/2021	45'	5
Guest Dock	5	5/8/2021	WEBSITE	Confirmed	5/11/2021	5/13/2021	25'	2
Guest Dock	10	4/27/2021	WEBSITE	Confirmed	5/11/2021	5/26/2021		15
Guest Dock	21	5/6/2021	Moorings	Confirmed	5/11/2021	5/16/2021		5
Guest Dock	6	5/1/2021	WEBSITE	Confirmed	5/11/2021	5/12/2021		1
Guest Dock	18	5/7/2021	WEBSITE	Confirmed	5/12/2021	5/13/2021	50'	1
Guest Dock	6	5/10/2021	WEBSITE	Confirmed	5/12/2021	5/15/2021	36'	3
Guest Dock	12	5/12/2021	WEBSITE	Confirmed	5/12/2021	5/13/2021	42'	1
Guest Dock	3	5/12/2021	WEBSITE	Confirmed	5/12/2021	5/13/2021	39'	1
Guest Dock	16	5/3/2021	WEBSITE	Confirmed	5/12/2021	5/15/2021	44'	3
Guest Dock	12	5/6/2021	Moorings	Confirmed	5/13/2021	5/14/2021	45'	1
Guest Dock	3	5/7/2021	WEBSITE	Confirmed	5/13/2021	5/16/2021	50'	3
Guest Dock	19	5/11/2021	WEBSITE	Confirmed	5/13/2021	5/15/2021	61'	2
Guest Dock	2	5/13/2021	WEBSITE	Confirmed	5/13/2021	5/16/2021	39'	3
Guest Dock	5	5/11/2021	Moorings	Confirmed	5/13/2021	5/14/2021	27'	1
Guest Dock	27	5/11/2021	Moorings	Confirmed	5/14/2021	5/15/2021	27'	1
Guest Dock	5	5/2/2021	WEBSITE	Confirmed	5/14/2021	5/15/2021	30'	1
Guest Dock	12	5/6/2021	Moorings	Confirmed	5/14/2021	5/17/2021	45'	3
Guest Dock	4	5/11/2021	WEBSITE	Confirmed	5/14/2021	5/15/2021	26'	1
Guest Dock	9	5/10/2021	WEBSITE	Confirmed	5/14/2021	5/16/2021	36'	2
Guest Dock	26	5/12/2021	WEBSITE	Confirmed	5/14/2021	5/15/2021		1
Guest Dock	6	5/13/2021	WEBSITE	Confirmed	5/15/2021	5/18/2021		3
Guest Dock	19	5/7/2021	WEBSITE	Confirmed	5/15/2021	5/17/2021	58'	2
Guest Dock	5	5/9/2021	WEBSITE	Confirmed	5/15/2021	5/17/2021	32'	2
Guest Dock	26	5/10/2021	Moorings	Confirmed	5/15/2021	5/18/2021	34'	3
Guest Dock	18	5/13/2021	WEBSITE	Confirmed	5/15/2021	5/16/2021	61'	1
Guest Dock	18	5/11/2021	WEBSITE	Confirmed	5/16/2021	5/18/2021	46'	2
Guest Dock	20	5/6/2021	WEBSITE	Confirmed	5/16/2021	5/19/2021	64'	3
Guest Dock	3	5/16/2021	WEBSITE	Confirmed	5/16/2021	5/17/2021	20'	1
Guest Dock	2	5/10/2021	WEBSITE	Confirmed	5/16/2021	5/18/2021	32'	2
Guest Dock	15	5/15/2021	WEBSITE	Confirmed	5/16/2021	5/17/2021	30'	1
Guest Dock	15	5/15/2021	WEBSITE	Confirmed	5/17/2021	5/18/2021	30'	1
Guest Dock	12	5/13/2021	WEBSITE	Confirmed	5/17/2021	5/18/2021		1
Guest Dock	19	5/15/2021	WEBSITE	Confirmed	5/17/2021	5/18/2021	41'	1
Guest Dock	16	5/17/2021	WEBSITE	Confirmed	5/17/2021	5/18/2021		1
Guest Dock	3	5/5/2021	WEBSITE	Confirmed	5/17/2021	5/18/2021	34'	1
Guest Dock	14	5/14/2021	WEBSITE	Confirmed	5/17/2021	5/18/2021	39'	1
Guest Dock	2	5/14/2021	WEBSITE	Confirmed	5/18/2021	5/22/2021	39'	4
Guest Dock	18	5/17/2021	Moorings	Confirmed	5/18/2021	5/20/2021	27'	2
Guest Dock	27	5/18/2021	WEBSITE	Confirmed	5/18/2021	5/20/2021	32'	2
Guest Dock	19	5/17/2021	Moorings	Confirmed	5/18/2021	5/23/2021	36'	5
Guest Dock	14	5/12/2021	WEBSITE	Confirmed	5/18/2021	5/21/2021	37'	3
Guest Dock	21	5/18/2021	WEBSITE	Confirmed	5/18/2021	5/19/2021	48'	1
Guest Dock	12	5/14/2021	WEBSITE	Confirmed	5/18/2021	5/21/2021		3
Guest Dock	3	5/17/2021	WEBSITE	Confirmed	5/18/2021	5/20/2021	32'	2
Guest Dock	4	5/18/2021	WEBSITE	Confirmed	5/18/2021	5/19/2021		1
Guest Dock	13	5/18/2021	WEBSITE	Confirmed	5/19/2021	5/23/2021	40'	4
Guest Dock	16	5/18/2021	WEBSITE	Confirmed	5/19/2021	5/22/2021		3
Guest Dock	5	5/5/2021	WEBSITE	Confirmed	5/19/2021	5/20/2021	42'	1
Guest Dock	4	5/16/2021	WEBSITE	Confirmed	5/19/2021	5/24/2021	26'	5
Guest Dock	3	5/18/2021	WEBSITE	Confirmed	5/20/2021	5/21/2021	34'	1
Guest Dock	9	5/19/2021	Moorings	Confirmed	5/20/2021	5/21/2021	27'	1
Guest Dock	21	5/19/2021	WEBSITE	Confirmed	5/20/2021	5/23/2021	46'	3
Guest Dock	27	5/19/2021	WEBSITE	Confirmed	5/20/2021	5/21/2021	32'	1
Guest Dock	5	5/19/2021	WEBSITE	Confirmed	5/20/2021	5/21/2021	42'	1
Guest Dock	6	5/19/2021	WEBSITE	Confirmed	5/20/2021	5/21/2021		1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	18	5/6/2021	WEBSITE	Confirmed	5/20/2021	6/1/2021	50'	12
Guest Dock	7	5/16/2021	WEBSITE	Confirmed	5/20/2021	5/21/2021		1
Guest Dock	20	5/20/2021	Moorings	Confirmed	5/20/2021	5/24/2021		4
Guest Dock	14	5/20/2021	Moorings	Confirmed	5/21/2021	5/29/2021	36'	8
Guest Dock	26	5/20/2021	WEBSITE	Confirmed	5/21/2021	5/23/2021	32'	2
Guest Dock	12	5/17/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021		3
Guest Dock	3	5/15/2021	WEBSITE	Confirmed	5/21/2021	5/22/2021	27'	1
Guest Dock	7	5/15/2021	WEBSITE	Confirmed	5/21/2021	5/26/2021	36'	5
Guest Dock	9	5/12/2021	WEBSITE	Confirmed	5/21/2021	5/22/2021	25'	1
Guest Dock	6	5/17/2021	Moorings	Confirmed	5/21/2021	5/23/2021	30'	2
Guest Dock	8	5/18/2021	Moorings	Confirmed	5/21/2021	5/24/2021	41'	3
Guest Dock	3	5/10/2021	WEBSITE	Confirmed	5/22/2021	5/23/2021	36'	1
Guest Dock	5	5/22/2021	WEBSITE	Confirmed	5/22/2021	5/23/2021	27'	1
Guest Dock	28	5/19/2021	WEBSITE	Confirmed	5/22/2021	5/23/2021	30'	1
Guest Dock	13	5/20/2021	WEBSITE	Confirmed	5/23/2021	5/27/2021	40'	4
Guest Dock	9	5/20/2021	WEBSITE	Confirmed	5/23/2021	5/27/2021	37'	4
Guest Dock	3	5/23/2021	WEBSITE	Confirmed	5/23/2021	5/24/2021	32'	1
Guest Dock	5	5/14/2021	WEBSITE	Confirmed	5/23/2021	5/26/2021	44'	3
Guest Dock	19	5/20/2021	Moorings	Confirmed	5/23/2021	5/28/2021	38'	5
Guest Dock	16	5/21/2021	WEBSITE	Confirmed	5/23/2021	5/25/2021	30'	2
Guest Dock	6	5/17/2021	Moorings	Confirmed	5/23/2021	5/25/2021	30'	2
Guest Dock	21	5/22/2021	WEBSITE	Confirmed	5/23/2021	5/26/2021	61'	3
Guest Dock	20	5/22/2021	WEBSITE	Confirmed	5/24/2021	5/25/2021		1
Guest Dock	4	5/10/2021	WEBSITE	Confirmed	5/24/2021	5/27/2021	18'	3
Guest Dock	8	5/20/2021	WEBSITE	Confirmed	5/24/2021	5/27/2021	26'	3
Guest Dock	3	5/19/2021	WEBSITE	Confirmed	5/24/2021	5/25/2021	34'	1
Guest Dock	27	5/23/2021	WEBSITE	Confirmed	5/24/2021	5/25/2021		1
Guest Dock	12	5/18/2021	WEBSITE	Confirmed	5/24/2021	5/27/2021		3
Guest Dock	28	5/22/2021	WEBSITE	Confirmed	5/24/2021	5/28/2021	30'	4
Guest Dock	22	5/23/2021	WEBSITE	Confirmed	5/24/2021	5/25/2021		1
Guest Dock	26	5/23/2021	WEBSITE	Confirmed	5/24/2021	5/28/2021	30'	4
Guest Dock	22	5/24/2021	WEBSITE	Confirmed	5/25/2021	5/26/2021		1
Guest Dock	16	5/17/2021	WEBSITE	Confirmed	5/25/2021	5/27/2021	28'	2
Guest Dock	6	5/23/2021	WEBSITE	Confirmed	5/25/2021	5/26/2021	42'	1
Guest Dock	3	5/19/2021	WEBSITE	Confirmed	5/25/2021	5/28/2021	34'	3
Guest Dock	2	5/24/2021	Moorings	Confirmed	5/25/2021	5/28/2021	30'	3
Guest Dock	11	5/21/2021	WEBSITE	Confirmed	5/25/2021	5/27/2021		2
Guest Dock	5	5/19/2021	WEBSITE	Confirmed	5/26/2021	5/29/2021	36'	3
Guest Dock	6	5/23/2021	WEBSITE	Confirmed	5/26/2021	5/28/2021	27'	2
Guest Dock	10	5/24/2021	WEBSITE	Confirmed	5/26/2021	5/27/2021	32'	1
Guest Dock	7	5/24/2021	WEBSITE	Confirmed	5/26/2021	5/27/2021	36'	1
Guest Dock	12	5/20/2021	WEBSITE	Confirmed	5/27/2021	5/28/2021		1
Guest Dock	4	5/16/2021	WEBSITE	Confirmed	5/27/2021	5/29/2021	27'	2
Guest Dock	7	5/20/2021	WEBSITE	Confirmed	5/27/2021	5/30/2021	20'	3
Guest Dock	9	5/19/2021	WEBSITE	Confirmed	5/27/2021	5/28/2021		1
Guest Dock	8	5/19/2021	WEBSITE	Confirmed	5/27/2021	5/28/2021		1
Guest Dock	13	5/25/2021	Moorings	Confirmed	5/27/2021	5/28/2021	33'	1
Guest Dock	10	5/24/2021	WEBSITE	Confirmed	5/27/2021	5/28/2021	37'	1
Guest Dock	11	5/21/2021	WEBSITE	Confirmed	5/27/2021	5/28/2021	26'	1
Guest Dock	13	5/28/2021	WEBSITE	Confirmed	5/28/2021	5/29/2021	26'	1
Guest Dock	2	5/14/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	23'	3
Guest Dock	22	5/24/2021	WEBSITE	Confirmed	5/28/2021	5/30/2021	46'	2
Guest Dock	12	5/23/2021	WEBSITE	Confirmed	5/28/2021	6/1/2021	43'	4
Guest Dock	19	5/27/2021	Moorings	Confirmed	5/28/2021	5/31/2021	36'	3
Guest Dock	11	5/26/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	27'	3
Guest Dock	26	5/19/2021	WEBSITE	Confirmed	5/28/2021	5/29/2021	34'	1
Guest Dock	15	5/14/2021	WEBSITE	Confirmed	5/28/2021	6/2/2021	37'	5
Guest Dock	9	5/23/2021	WEBSITE	Confirmed	5/28/2021	6/1/2021	27'	4
Guest Dock	6	5/19/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	23'	3
Guest Dock	8	5/23/2021	WEBSITE	Confirmed	5/28/2021	5/30/2021	27'	2
Guest Dock	27	5/23/2021	WEBSITE	Confirmed	5/28/2021	5/30/2021	39'	2
Guest Dock	20	5/24/2021	WEBSITE	Confirmed	5/28/2021	5/29/2021	55'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	3	5/16/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	24'	3
Guest Dock	10	5/16/2021	WEBSITE	Confirmed	5/28/2021	5/29/2021	30'	1
Guest Dock	10	5/27/2021	WEBSITE	Confirmed	5/29/2021	6/1/2021	23'	3
Guest Dock	28	5/28/2021	WEBSITE	Confirmed	5/29/2021	5/30/2021	40'	1
Guest Dock	13	5/20/2021	Moorings	Confirmed	5/29/2021	6/5/2021	36'	7
Guest Dock	14	5/19/2021	WEBSITE	Confirmed	5/29/2021	5/30/2021	26'	1
Guest Dock	20	5/24/2021	WEBSITE	Confirmed	5/29/2021	5/31/2021	48'	2
Guest Dock	16	5/21/2021	WEBSITE	Confirmed	5/29/2021	6/1/2021	23'	3
Guest Dock	26	5/25/2021	WEBSITE	Confirmed	5/29/2021	5/31/2021		2
Guest Dock	4	5/28/2021	WEBSITE	Confirmed	5/29/2021	5/30/2021	25'	1
Guest Dock	8	5/21/2021	WEBSITE	Confirmed	5/30/2021	5/31/2021	25'	1
Guest Dock	7	5/27/2021	WEBSITE	Confirmed	5/30/2021	6/1/2021	22'	2
Guest Dock	28	5/29/2021	WEBSITE	Confirmed	5/30/2021	5/31/2021	37'	1
Guest Dock	27	5/29/2021	WEBSITE	Confirmed	5/30/2021	6/1/2021	34'	2
Guest Dock	5	5/23/2021	WEBSITE	Confirmed	5/30/2021	5/31/2021	39'	1
Guest Dock	4	5/21/2021	WEBSITE	Confirmed	5/30/2021	6/1/2021	25'	2
Guest Dock	14	5/27/2021	WEBSITE	Confirmed	5/30/2021	6/1/2021	33'	2
Guest Dock	3	5/30/2021	WEBSITE	Confirmed	5/31/2021	6/1/2021	32'	1
Guest Dock	2	5/30/2021	WEBSITE	Confirmed	5/31/2021	6/1/2021	24'	1
Guest Dock	20	5/29/2021	WEBSITE	Confirmed	5/31/2021	6/3/2021		3
Guest Dock	26	5/30/2021	WEBSITE	Confirmed	5/31/2021	6/1/2021		1
Guest Dock	19	5/30/2021	WEBSITE	Confirmed	5/31/2021	6/1/2021	58'	1
Guest Dock	18	5/30/2021	WEBSITE	Confirmed	6/1/2021	6/2/2021	58'	1
Guest Dock	12	5/24/2021	WEBSITE	Confirmed	6/1/2021	6/4/2021	37'	3
Guest Dock	16	5/24/2021	Moorings	Confirmed	6/1/2021	6/3/2021	27'	2
Guest Dock	5	5/19/2021	WEBSITE	Confirmed	6/1/2021	6/4/2021	24'	3
Guest Dock	9	5/29/2021	WEBSITE	Confirmed	6/1/2021	6/2/2021		1
Guest Dock	26	5/26/2021	WEBSITE	Confirmed	6/1/2021	6/6/2021	38'	5
Guest Dock	8	5/24/2021	WEBSITE	Confirmed	6/1/2021	6/4/2021		3
Guest Dock	4	5/30/2021	WEBSITE	Confirmed	6/1/2021	6/2/2021	32'	1
Guest Dock	10	5/27/2021	WEBSITE	Confirmed	6/1/2021	6/5/2021	25'	4
Guest Dock	28	5/28/2021	WEBSITE	Confirmed	6/1/2021	6/4/2021	30'	3
Guest Dock	2	5/26/2021	WEBSITE	Confirmed	6/1/2021	6/3/2021		2
Guest Dock	19	5/31/2021	WEBSITE	Confirmed	6/1/2021	6/4/2021	41'	3
Guest Dock	15	5/28/2021	WEBSITE	Confirmed	6/2/2021	6/3/2021	37'	1
Guest Dock	14	5/19/2021	WEBSITE	Confirmed	6/2/2021	6/6/2021	26'	4
Guest Dock	21	6/1/2021	WEBSITE	Confirmed	6/2/2021	6/11/2021	43'	9
Guest Dock	6	5/27/2021	Moorings	Confirmed	6/2/2021	6/4/2021	26'	2
Guest Dock	16	6/1/2021	WEBSITE	Confirmed	6/3/2021	6/7/2021	36'	4
Guest Dock	20	6/3/2021	WEBSITE	Confirmed	6/3/2021	6/4/2021		1
Guest Dock	15	6/1/2021	WEBSITE	Confirmed	6/3/2021	6/5/2021	37'	2
Guest Dock	18	6/2/2021	Moorings	Confirmed	6/3/2021	6/4/2021	34'	1
Guest Dock	2	6/1/2021	WEBSITE	Confirmed	6/3/2021	6/6/2021	32'	3
Guest Dock	18	5/27/2021	WEBSITE	Confirmed	6/4/2021	6/19/2021	49'	15
Guest Dock	4	6/3/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	30'	3
Guest Dock	5	6/3/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	35'	3
Guest Dock	12	6/2/2021	WEBSITE	Confirmed	6/4/2021	6/6/2021		2
Guest Dock	27	3/2/2021	Moorings	Confirmed	6/4/2021	6/7/2021	40'	3
Guest Dock	19	6/4/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	55'	3
Guest Dock	3	5/30/2021	WEBSITE	Confirmed	6/4/2021	6/5/2021	34'	1
Guest Dock	15	5/29/2021	WEBSITE	Confirmed	6/5/2021	6/20/2021	40'	15
Guest Dock	3	6/4/2021	WEBSITE	Confirmed	6/5/2021	6/6/2021	26'	1
Guest Dock	20	6/4/2021	Moorings	Confirmed	6/5/2021	6/7/2021	38'	2
Guest Dock	11	5/31/2021	WEBSITE	Confirmed	6/5/2021	6/9/2021	25'	4
Guest Dock	13	6/3/2021	WEBSITE	Confirmed	6/5/2021	6/12/2021	26'	7
Guest Dock	10	6/4/2021	Moorings	Confirmed	6/5/2021	6/12/2021	36'	7
Guest Dock	2	6/3/2021	WEBSITE	Confirmed	6/6/2021	6/8/2021	32'	2
Guest Dock	3	5/23/2021	WEBSITE	Confirmed	6/6/2021	6/16/2021	33'	10
Guest Dock	14	6/6/2021	WEBSITE	Confirmed	6/6/2021	6/7/2021		1
Guest Dock	12	6/6/2021	WEBSITE	Confirmed	6/6/2021	6/7/2021	38'	1
Guest Dock	7	6/2/2021	WEBSITE	Confirmed	6/6/2021	6/8/2021	27'	2
Guest Dock	22	6/4/2021	WEBSITE	Confirmed	6/6/2021	6/7/2021	51'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	20	6/4/2021	WEBSITE	Confirmed	6/7/2021	6/8/2021	51'	1
Guest Dock	22	6/4/2021	Moorings	Confirmed	6/7/2021	6/9/2021	36'	2
Guest Dock	19	6/4/2021	Moorings	Confirmed	6/7/2021	6/8/2021	38'	1
Guest Dock	29	6/4/2021	WEBSITE	Confirmed	6/7/2021	6/14/2021	45'	7
Guest Dock	14	6/5/2021	WEBSITE	Confirmed	6/7/2021	6/9/2021		2
Guest Dock	16	6/4/2021	Moorings	Confirmed	6/7/2021	6/8/2021		1
Guest Dock	26	6/5/2021	WEBSITE	Confirmed	6/7/2021	6/8/2021		1
Guest Dock	5	5/24/2021	Moorings	Confirmed	6/7/2021	6/8/2021	41'	1
Guest Dock	27	6/5/2021	WEBSITE	Confirmed	6/7/2021	6/10/2021	38'	3
Guest Dock	16	6/7/2021	WEBSITE	Confirmed	6/8/2021	6/9/2021	32'	1
Guest Dock	28	6/6/2021	WEBSITE	Confirmed	6/8/2021	6/11/2021	30'	3
Guest Dock	4	5/30/2021	WEBSITE	Confirmed	6/8/2021	6/11/2021	37'	3
Guest Dock	26	6/5/2021	WEBSITE	Confirmed	6/8/2021	6/11/2021	30'	3
Guest Dock	7	6/3/2021	WEBSITE	Confirmed	6/8/2021	6/10/2021	30'	2
Guest Dock	2	6/7/2021	Moorings	Confirmed	6/8/2021	6/9/2021	26'	1
Guest Dock	5	6/8/2021	Moorings	Confirmed	6/8/2021	6/9/2021	38'	1
Guest Dock	20	5/28/2021	WEBSITE	Confirmed	6/8/2021	6/10/2021	51'	2
Guest Dock	6	6/6/2021	WEBSITE	Confirmed	6/8/2021	6/9/2021	27'	1
Guest Dock	16	6/7/2021	WEBSITE	Confirmed	6/9/2021	6/10/2021	27'	1
Guest Dock	6	5/31/2021	WEBSITE	Confirmed	6/9/2021	6/14/2021	34'	5
Guest Dock	14	6/7/2021	WEBSITE	Confirmed	6/9/2021	6/10/2021		1
Guest Dock	11	6/6/2021	WEBSITE	Confirmed	6/9/2021	6/10/2021	25'	1
Guest Dock	12	4/19/2021	Moorings	Confirmed	6/9/2021	6/10/2021	36'	1
Guest Dock	5	6/3/2021	WEBSITE	Confirmed	6/9/2021	6/11/2021	26'	2
Guest Dock	14	5/29/2021	WEBSITE	Confirmed	6/10/2021	6/15/2021	32'	5
Guest Dock	27	6/7/2021	WEBSITE	Confirmed	6/10/2021	6/11/2021	33'	1
Guest Dock	20	6/10/2021	Moorings	Confirmed	6/10/2021	6/12/2021	36'	2
Guest Dock	11	6/8/2021	WEBSITE	Confirmed	6/10/2021	6/11/2021	25'	1
Guest Dock	7	6/7/2021	WEBSITE	Confirmed	6/10/2021	6/13/2021	30'	3
Guest Dock	2	6/1/2021	WEBSITE	Confirmed	6/10/2021	6/21/2021	23'	11
Guest Dock	22	6/4/2021	Moorings	Confirmed	6/10/2021	6/11/2021	36'	1
Guest Dock	26	6/1/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	32'	3
Guest Dock	11	6/8/2021	Moorings	Confirmed	6/11/2021	6/15/2021	26'	4
Guest Dock	22	6/1/2021	WEBSITE	Confirmed	6/11/2021	6/12/2021	43'	1
Guest Dock	21	6/8/2021	WEBSITE	Confirmed	6/11/2021	6/12/2021	45'	1
Guest Dock	28	6/4/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021		3
Guest Dock	12	6/10/2021	Moorings	Confirmed	6/11/2021	6/14/2021	37'	3
Guest Dock	27	6/7/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	30'	3
Guest Dock	5	6/11/2021	WEBSITE	Confirmed	6/11/2021	6/12/2021	33'	1
Guest Dock	16	2/8/2021	Moorings	Confirmed	6/11/2021	6/18/2021	38'	7
Guest Dock	4	6/7/2021	Moorings	Confirmed	6/11/2021	6/13/2021	19'	2
Guest Dock	9	6/3/2021	WEBSITE	Confirmed	6/11/2021	6/12/2021		1
Guest Dock	9	6/11/2021	WEBSITE	Confirmed	6/12/2021	6/13/2021	25'	1
Guest Dock	22	6/10/2021	Moorings	Confirmed	6/12/2021	6/26/2021	41'	14
Guest Dock	5	6/10/2021	WEBSITE	Confirmed	6/12/2021	6/14/2021	32'	2
Guest Dock	21	6/2/2021	WEBSITE	Confirmed	6/13/2021	6/14/2021	48'	1
Guest Dock	9	6/12/2021	WEBSITE	Confirmed	6/13/2021	6/14/2021	30'	1
Guest Dock	19	6/10/2021	Moorings	Confirmed	6/13/2021	6/14/2021	38'	1
Guest Dock	7	6/10/2021	WEBSITE	Confirmed	6/13/2021	6/14/2021	32'	1
Guest Dock	4	6/4/2021	WEBSITE	Confirmed	6/13/2021	6/14/2021	32'	1
Guest Dock	9	6/9/2021	WEBSITE	Confirmed	6/14/2021	6/16/2021		2
Guest Dock	27	6/8/2021	WEBSITE	Confirmed	6/14/2021	6/15/2021	30'	1
Guest Dock	26	6/11/2021	WEBSITE	Confirmed	6/14/2021	6/15/2021	35'	1
Guest Dock	12	6/7/2021	WEBSITE	Confirmed	6/14/2021	6/29/2021	40'	15
Guest Dock	10	6/14/2021	WEBSITE	Confirmed	6/14/2021	6/15/2021	40'	1
Guest Dock	21	6/10/2021	Moorings	Confirmed	6/14/2021	6/16/2021		2
Guest Dock	6	6/13/2021	WEBSITE	Confirmed	6/14/2021	6/15/2021	30'	1
Guest Dock	20	6/12/2021	WEBSITE	Confirmed	6/14/2021	6/17/2021	41'	3
Guest Dock	4	6/11/2021	WEBSITE	Confirmed	6/14/2021	6/16/2021	20'	2
Guest Dock	14	6/15/2021	Moorings	Confirmed	6/15/2021	6/17/2021	44'	2
Guest Dock	13	6/13/2021	WEBSITE	Confirmed	6/15/2021	6/17/2021	22'	2
Guest Dock	26	6/13/2021	WEBSITE	Confirmed	6/15/2021	6/16/2021	30'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	6	6/2/2021	WEBSITE	Confirmed	6/15/2021	6/16/2021		1
Guest Dock	10	6/11/2021	WEBSITE	Confirmed	6/15/2021	6/22/2021	29'	7
Guest Dock	11	6/12/2021	WEBSITE	Confirmed	6/15/2021	6/20/2021	19'	5
Guest Dock	27	6/15/2021	WEBSITE	Confirmed	6/15/2021	6/17/2021		2
Guest Dock	8	6/10/2021	Moorings	Confirmed	6/16/2021	6/21/2021	41'	5
Guest Dock	9	6/3/2021	WEBSITE	Confirmed	6/16/2021	6/26/2021	26'	10
Guest Dock	6	6/14/2021	WEBSITE	Confirmed	6/16/2021	6/18/2021	40'	2
Guest Dock	26	6/12/2021	WEBSITE	Confirmed	6/16/2021	6/20/2021	30'	4
Guest Dock	27	6/13/2021	WEBSITE	Confirmed	6/17/2021	6/18/2021	37'	1
Guest Dock	19	6/2/2021	WEBSITE	Confirmed	6/17/2021	6/18/2021	65'	1
Guest Dock	7	6/8/2021	WEBSITE	Confirmed	6/17/2021	6/19/2021	22'	2
Guest Dock	21	6/10/2021	WEBSITE	Confirmed	6/17/2021	6/20/2021	55'	3
Guest Dock	14	6/12/2021	WEBSITE	Confirmed	6/17/2021	6/18/2021		1
Guest Dock	20	6/3/2021	WEBSITE	Confirmed	6/17/2021	6/21/2021	45'	4
Guest Dock	13	6/3/2021	WEBSITE	Confirmed	6/17/2021	6/21/2021	41'	4
Guest Dock	5	6/11/2021	WEBSITE	Confirmed	6/18/2021	6/19/2021	30'	1
Guest Dock	16	6/8/2021	WEBSITE	Confirmed	6/18/2021	6/20/2021	26'	2
Guest Dock	6	6/8/2021	Moorings	Confirmed	6/18/2021	6/23/2021	30'	5
Guest Dock	14	6/14/2021	WEBSITE	Confirmed	6/18/2021	6/19/2021	28'	1
Guest Dock	3	6/4/2021	WEBSITE	Confirmed	6/18/2021	6/20/2021	35'	2
Guest Dock	28	6/14/2021	WEBSITE	Confirmed	6/18/2021	6/23/2021	40'	5
Guest Dock	14	6/12/2021	WEBSITE	Confirmed	6/19/2021	6/20/2021	49'	1
Guest Dock	5	6/14/2021	WEBSITE	Confirmed	6/19/2021	6/22/2021	27'	3
Guest Dock	7	6/15/2021	WEBSITE	Confirmed	6/19/2021	6/20/2021	27'	1
Guest Dock	3	6/16/2021	Moorings	Confirmed	6/20/2021	6/22/2021	50'	2
Guest Dock	16	6/15/2021	WEBSITE	Confirmed	6/20/2021	6/22/2021	27'	2
Guest Dock	15	6/16/2021	WEBSITE	Confirmed	6/20/2021	6/21/2021	46'	1
Guest Dock	4	6/16/2021	WEBSITE	Confirmed	6/20/2021	6/21/2021		1
Guest Dock	7	6/2/2021	Moorings	Confirmed	6/20/2021	6/27/2021	21'	7
Guest Dock	26	6/20/2021	WEBSITE	Confirmed	6/20/2021	6/21/2021	30'	1
Guest Dock	18	6/20/2021	WEBSITE	Confirmed	6/20/2021	6/21/2021	47'	1
Guest Dock	11	6/18/2021	WEBSITE	Confirmed	6/20/2021	6/21/2021	28'	1
Guest Dock	18	6/17/2021	Moorings	Confirmed	6/21/2021	6/29/2021	41'	8
Guest Dock	21	6/21/2021	WEBSITE	Confirmed	6/21/2021	6/24/2021		3
Guest Dock	2	6/18/2021	WEBSITE	Confirmed	6/21/2021	6/22/2021		1
Guest Dock	20	6/18/2021	WEBSITE	Confirmed	6/21/2021	6/23/2021	46'	2
Guest Dock	4	6/16/2021	WEBSITE	Confirmed	6/21/2021	6/22/2021	34'	1
Guest Dock	26	6/12/2021	WEBSITE	Confirmed	6/21/2021	6/24/2021	32'	3
Guest Dock	8	6/21/2021	Moorings	Confirmed	6/21/2021	6/22/2021	34'	1
Guest Dock	13	6/15/2021	Moorings	Confirmed	6/21/2021	6/25/2021	44'	4
Guest Dock	19	6/22/2021	Moorings	Confirmed	6/22/2021	6/23/2021	34'	1
Guest Dock	3	6/21/2021	Moorings	Confirmed	6/22/2021	6/25/2021	34'	3
Guest Dock	14	6/14/2021	WEBSITE	Confirmed	6/22/2021	6/26/2021	36'	4
Guest Dock	4	6/18/2021	WEBSITE	Confirmed	6/22/2021	6/24/2021	34'	2
Guest Dock	5	6/16/2021	WEBSITE	Confirmed	6/22/2021	6/23/2021	25'	1
Guest Dock	16	6/21/2021	WEBSITE	Confirmed	6/22/2021	6/24/2021	33'	2
Guest Dock	2	6/21/2021	WEBSITE	Confirmed	6/22/2021	6/23/2021	32'	1
Guest Dock	8	6/11/2021	WEBSITE	Confirmed	6/22/2021	7/7/2021	41'	15
Guest Dock	11	6/16/2021	WEBSITE	Confirmed	6/22/2021	6/26/2021	42'	4
Guest Dock	10	6/22/2021	WEBSITE	Confirmed	6/23/2021	6/25/2021	24'	2
Guest Dock	28	6/14/2021	WEBSITE	Confirmed	6/23/2021	6/25/2021	35'	2
Guest Dock	6	6/21/2021	WEBSITE	Confirmed	6/23/2021	6/24/2021		1
Guest Dock	19	6/22/2021	WEBSITE	Confirmed	6/23/2021	6/25/2021	46'	2
Guest Dock	5	6/9/2021	WEBSITE	Confirmed	6/23/2021	6/30/2021	24'	7
Guest Dock	21	6/10/2021	WEBSITE	Confirmed	6/24/2021	6/27/2021	50'	3
Guest Dock	2	6/21/2021	Moorings	Confirmed	6/24/2021	6/26/2021		2
Guest Dock	6	6/18/2021	WEBSITE	Confirmed	6/24/2021	6/25/2021		1
Guest Dock	16	6/24/2021	WEBSITE	Confirmed	6/24/2021	6/25/2021		1
Guest Dock	4	6/12/2021	WEBSITE	Confirmed	6/24/2021	6/27/2021	17'	3
Guest Dock	20	6/10/2021	WEBSITE	Confirmed	6/24/2021	6/27/2021	65'	3
Guest Dock	13	6/18/2021	WEBSITE	Confirmed	6/25/2021	6/26/2021	26'	1
Guest Dock	15	6/14/2021	WEBSITE	Confirmed	6/25/2021	6/27/2021	40'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	10	6/23/2021	Moorings	Confirmed	6/25/2021	6/27/2021	30'	2
Guest Dock	19	6/22/2021	Moorings	Confirmed	6/25/2021	7/2/2021	44'	7
Guest Dock	6	6/15/2021	Moorings	Confirmed	6/25/2021	6/30/2021	36'	5
Guest Dock	22	6/20/2021	WEBSITE	Confirmed	6/26/2021	7/2/2021		6
Guest Dock	2	6/14/2021	WEBSITE	Confirmed	6/26/2021	6/27/2021	35'	1
Guest Dock	13	6/17/2021	WEBSITE	Confirmed	6/26/2021	6/29/2021	30'	3
Guest Dock	11	6/22/2021	WEBSITE	Confirmed	6/26/2021	7/1/2021		5
Guest Dock	14	6/19/2021	WEBSITE	Confirmed	6/26/2021	6/27/2021	23'	1
Guest Dock	3	6/21/2021	Moorings	Confirmed	6/26/2021	6/27/2021		1
Guest Dock	15	6/24/2021	WEBSITE	Confirmed	6/27/2021	7/1/2021	41'	4
Guest Dock	4	6/24/2021	WEBSITE	Confirmed	6/27/2021	6/30/2021	42'	3
Guest Dock	2	6/27/2021	WEBSITE	Confirmed	6/27/2021	6/28/2021	26'	1
Guest Dock	27	6/24/2021	Moorings	Confirmed	6/27/2021	7/1/2021	38'	4
Guest Dock	10	6/28/2021	Moorings	Confirmed	6/28/2021	7/1/2021	34'	3
Guest Dock	9	6/28/2021	Moorings	Confirmed	6/28/2021	6/29/2021	44'	1
Guest Dock	3	6/24/2021	WEBSITE	Confirmed	6/28/2021	6/30/2021	30'	2
Guest Dock	2	6/25/2021	WEBSITE	Confirmed	6/28/2021	6/29/2021	37'	1
Guest Dock	29	6/28/2021	Moorings	Confirmed	6/28/2021	7/1/2021		3
Guest Dock	21	6/20/2021	WEBSITE	Confirmed	6/28/2021	7/2/2021	47'	4
Guest Dock	20	6/25/2021	WEBSITE	Confirmed	6/28/2021	7/1/2021	56'	3
Guest Dock	14	6/28/2021	Moorings	Confirmed	6/28/2021	6/30/2021		2
Guest Dock	7	6/17/2021	WEBSITE	Confirmed	6/28/2021	7/1/2021		3
Guest Dock	2	6/24/2021	WEBSITE	Confirmed	6/29/2021	7/1/2021	37'	2
Guest Dock	13	6/17/2021	WEBSITE	Confirmed	6/29/2021	7/1/2021	30'	2
Guest Dock	18	6/26/2021	WEBSITE	Confirmed	6/29/2021	7/1/2021	65'	2
Guest Dock	12	6/17/2021	WEBSITE	Confirmed	6/29/2021	7/7/2021	25'	8
Guest Dock	9	6/29/2021	Moorings	Confirmed	6/29/2021	6/30/2021	44'	1
Guest Dock	5	6/28/2021	Moorings	Confirmed	6/30/2021	7/1/2021	26'	1
Guest Dock	4	6/28/2021	Moorings	Confirmed	6/30/2021	7/1/2021	30'	1
Guest Dock	14	6/24/2021	WEBSITE	Confirmed	6/30/2021	7/2/2021	28'	2
Guest Dock	6	6/26/2021	WEBSITE	Confirmed	6/30/2021	7/1/2021	37'	1
Guest Dock	3	6/25/2021	WEBSITE	Confirmed	6/30/2021	7/1/2021	34'	1
Guest Dock	16	6/30/2021	WEBSITE	Confirmed	6/30/2021	7/1/2021	40'	1
Guest Dock	9	6/28/2021	Moorings	Confirmed	6/30/2021	7/1/2021		1
Guest Dock	27	6/25/2021	WEBSITE	Confirmed	7/1/2021	7/3/2021	32'	2
Guest Dock	20	6/23/2021	Moorings	Confirmed	7/1/2021	7/4/2021	49'	3
Guest Dock	6	6/23/2021	WEBSITE	Confirmed	7/1/2021	7/2/2021	44'	1
Guest Dock	2	6/17/2021	WEBSITE	Confirmed	7/1/2021	7/5/2021	27'	4
Guest Dock	28	5/4/2021	Moorings	Confirmed	7/1/2021	7/5/2021	38'	4
Guest Dock	4	6/17/2021	WEBSITE	Confirmed	7/1/2021	7/6/2021	23'	5
Guest Dock	10	6/17/2021	WEBSITE	Confirmed	7/1/2021	7/5/2021	21'	4
Guest Dock	9	6/17/2021	WEBSITE	Confirmed	7/1/2021	7/5/2021	23'	4
Guest Dock	18	6/30/2021	WEBSITE	Confirmed	7/1/2021	7/3/2021	65'	2
Guest Dock	5	6/28/2021	Moorings	Confirmed	7/1/2021	7/2/2021	30'	1
Guest Dock	3	6/17/2021	WEBSITE	Confirmed	7/1/2021	7/6/2021	23'	5
Guest Dock	13	6/25/2021	WEBSITE	Confirmed	7/1/2021	7/3/2021	22'	2
Guest Dock	7	6/28/2021	Moorings	Confirmed	7/1/2021	7/2/2021	26'	1
Guest Dock	11	6/29/2021	Moorings	Confirmed	7/1/2021	7/2/2021	44'	1
Guest Dock	5	6/18/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	27'	3
Guest Dock	19	6/18/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	48'	3
Guest Dock	15	6/21/2021	WEBSITE	Confirmed	7/2/2021	7/3/2021	26'	1
Guest Dock	22	6/22/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	48'	3
Guest Dock	14	6/23/2021	WEBSITE	Confirmed	7/2/2021	7/3/2021	36'	1
Guest Dock	11	6/18/2021	WEBSITE	Confirmed	7/2/2021	7/6/2021	24'	4
Guest Dock	7	6/18/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	26'	3
Guest Dock	16	6/19/2021	WEBSITE	Confirmed	7/2/2021	7/3/2021	25'	1
Guest Dock	6	7/1/2021	WEBSITE	Confirmed	7/2/2021	7/7/2021	25'	5
Guest Dock	14	6/19/2021	WEBSITE	Confirmed	7/3/2021	7/5/2021	25'	2
Guest Dock	16	6/19/2021	WEBSITE	Confirmed	7/3/2021	7/4/2021		1
Guest Dock	13	6/19/2021	WEBSITE	Confirmed	7/3/2021	7/5/2021	24'	2
Guest Dock	15	6/25/2021	WEBSITE	Confirmed	7/3/2021	7/4/2021	32'	1
Guest Dock	27	6/21/2021	WEBSITE	Confirmed	7/3/2021	7/5/2021	40'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	18	6/21/2021	WEBSITE	Confirmed	7/3/2021	7/5/2021	45'	2
Guest Dock	15	6/20/2021	WEBSITE	Confirmed	7/4/2021	7/5/2021	35'	1
Guest Dock	16	6/20/2021	WEBSITE	Confirmed	7/4/2021	7/5/2021		1
Guest Dock	5	7/2/2021	WEBSITE	Confirmed	7/5/2021	7/9/2021	32'	4
Guest Dock	2	6/27/2021	WEBSITE	Confirmed	7/5/2021	7/8/2021	35'	3
Guest Dock	9	6/27/2021	WEBSITE	Confirmed	7/5/2021	7/11/2021		6
Guest Dock	16	6/25/2021	WEBSITE	Confirmed	7/5/2021	7/6/2021	33'	1
Guest Dock	21	7/2/2021	WEBSITE	Confirmed	7/5/2021	7/7/2021	43'	2
Guest Dock	14	7/5/2021	WEBSITE	Confirmed	7/5/2021	7/6/2021	42'	1
Guest Dock	19	6/26/2021	WEBSITE	Confirmed	7/6/2021	7/7/2021	34'	1
Guest Dock	22	6/24/2021	Moorings	Confirmed	7/6/2021	7/9/2021	36'	3
Guest Dock	10	6/29/2021	Moorings	Confirmed	7/6/2021	7/9/2021	44'	3
Guest Dock	11	7/5/2021	WEBSITE	Confirmed	7/6/2021	7/8/2021	41'	2
Guest Dock	4	7/5/2021	WEBSITE	Confirmed	7/6/2021	7/7/2021	34'	1
Guest Dock	28	7/3/2021	WEBSITE	Confirmed	7/6/2021	7/9/2021	38'	3
Guest Dock	15	7/5/2021	WEBSITE	Confirmed	7/6/2021	7/7/2021	33'	1
Guest Dock	7	7/4/2021	WEBSITE	Confirmed	7/6/2021	7/9/2021	30'	3
Guest Dock	27	6/30/2021	WEBSITE	Confirmed	7/6/2021	7/9/2021	41'	3
Guest Dock	14	7/2/2021	WEBSITE	Confirmed	7/6/2021	7/9/2021		3
Guest Dock	29	7/6/2021	Moorings	Confirmed	7/6/2021	7/7/2021	29'	1
Guest Dock	16	7/6/2021	WEBSITE	Confirmed	7/6/2021	7/7/2021	23'	1
Guest Dock	13	7/3/2021	WEBSITE	Confirmed	7/6/2021	7/9/2021		3
Guest Dock	18	7/5/2021	WEBSITE	Confirmed	7/6/2021	7/9/2021	30'	3
Guest Dock	19	6/30/2021	WEBSITE	Confirmed	7/7/2021	7/8/2021	60'	1
Guest Dock	16	7/5/2021	WEBSITE	Confirmed	7/7/2021	7/9/2021	33'	2
Guest Dock	21	7/6/2021	Moorings	Confirmed	7/7/2021	7/9/2021	30'	2
Guest Dock	6	6/28/2021	WEBSITE	Confirmed	7/7/2021	7/8/2021		1
Guest Dock	8	7/5/2021	WEBSITE	Confirmed	7/7/2021	7/9/2021	34'	2
Guest Dock	15	7/3/2021	WEBSITE	Confirmed	7/7/2021	7/9/2021	46'	2
Guest Dock	12	7/1/2021	WEBSITE	Confirmed	7/7/2021	7/8/2021	25'	1
Guest Dock	4	7/2/2021	WEBSITE	Confirmed	7/7/2021	7/11/2021		4
Guest Dock	20	7/5/2021	WEBSITE	Confirmed	7/7/2021	7/8/2021	43'	1
Guest Dock	20	7/5/2021	WEBSITE	Confirmed	7/8/2021	7/12/2021	43'	4
Guest Dock	3	7/6/2021	WEBSITE	Confirmed	7/8/2021	7/9/2021	56'	1
Guest Dock	12	7/7/2021	WEBSITE	Confirmed	7/8/2021	7/9/2021	25'	1
Guest Dock	11	7/6/2021	Moorings	Confirmed	7/8/2021	7/11/2021	20'	3
Guest Dock	2	7/7/2021	WEBSITE	Confirmed	7/8/2021	7/9/2021	30'	1
Guest Dock	6	7/8/2021	WEBSITE	Confirmed	7/8/2021	7/9/2021	37'	1
Guest Dock	3	7/8/2021	WEBSITE	Confirmed	7/9/2021	7/13/2021	29'	4
Guest Dock	2	6/25/2021	WEBSITE	Confirmed	7/9/2021	7/19/2021	24'	10
Guest Dock	8	7/9/2021	WEBSITE	Confirmed	7/9/2021	7/10/2021	30'	1
Guest Dock	12	7/8/2021	WEBSITE	Confirmed	7/9/2021	7/10/2021	46'	1
Guest Dock	6	6/29/2021	Moorings	Confirmed	7/9/2021	7/11/2021	26'	2
Guest Dock	7	7/3/2021	WEBSITE	Confirmed	7/9/2021	7/11/2021	23'	2
Guest Dock	15	7/7/2021	Moorings	Confirmed	7/9/2021	7/16/2021	32'	7
Guest Dock	18	7/9/2021	WEBSITE	Confirmed	7/9/2021	7/10/2021	25'	1
Guest Dock	5	6/25/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	30'	3
Guest Dock	19	7/9/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	41'	3
Guest Dock	14	7/3/2021	WEBSITE	Confirmed	7/9/2021	7/11/2021	36'	2
Guest Dock	13	7/3/2021	WEBSITE	Confirmed	7/9/2021	7/11/2021	32'	2
Guest Dock	18	7/7/2021	WEBSITE	Confirmed	7/10/2021	7/12/2021	47'	2
Guest Dock	28	7/9/2021	WEBSITE	Confirmed	7/10/2021	7/11/2021	23'	1
Guest Dock	16	7/9/2021	WEBSITE	Confirmed	7/10/2021	7/14/2021	48'	4
Guest Dock	22	7/10/2021	WEBSITE	Confirmed	7/10/2021	7/12/2021	30'	2
Guest Dock	21	6/30/2021	WEBSITE	Confirmed	7/10/2021	7/12/2021		2
Guest Dock	9	7/8/2021	WEBSITE	Confirmed	7/11/2021	7/14/2021		3
Guest Dock	7	7/10/2021	WEBSITE	Confirmed	7/11/2021	7/15/2021	25'	4
Guest Dock	11	7/11/2021	Moorings	Confirmed	7/11/2021	7/12/2021	25'	1
Guest Dock	13	7/9/2021	WEBSITE	Confirmed	7/11/2021	7/12/2021	32'	1
Guest Dock	4	7/2/2021	WEBSITE	Confirmed	7/11/2021	7/12/2021		1
Guest Dock	13	7/10/2021	WEBSITE	Confirmed	7/12/2021	7/17/2021	37'	5
Guest Dock	22	7/11/2021	WEBSITE	Confirmed	7/12/2021	7/13/2021	32'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	21	7/7/2021	WEBSITE	Confirmed	7/12/2021	7/15/2021	47'	3
Guest Dock	5	7/8/2021	WEBSITE	Confirmed	7/12/2021	7/13/2021	30'	1
Guest Dock	11	7/11/2021	Moorings	Confirmed	7/12/2021	7/16/2021	34'	4
Guest Dock	20	7/11/2021	WEBSITE	Confirmed	7/12/2021	7/16/2021	38'	4
Guest Dock	6	7/11/2021	Moorings	Confirmed	7/12/2021	7/19/2021	27'	7
Guest Dock	8	7/12/2021	Moorings	Confirmed	7/12/2021	7/13/2021	25'	1
Guest Dock	19	7/12/2021	Moorings	Confirmed	7/12/2021	7/14/2021	30'	2
Guest Dock	4	7/7/2021	Moorings	Confirmed	7/12/2021	7/14/2021	32'	2
Guest Dock	28	7/11/2021	WEBSITE	Confirmed	7/12/2021	7/16/2021	36'	4
Guest Dock	27	7/11/2021	Moorings	Confirmed	7/12/2021	7/16/2021	30'	4
Guest Dock	14	7/9/2021	WEBSITE	Confirmed	7/12/2021	7/16/2021		4
Guest Dock	22	7/13/2021	WEBSITE	Confirmed	7/13/2021	7/14/2021	41'	1
Guest Dock	10	7/12/2021	WEBSITE	Confirmed	7/13/2021	7/18/2021	30'	5
Guest Dock	3	7/8/2021	WEBSITE	Confirmed	7/13/2021	7/14/2021	29'	1
Guest Dock	8	6/30/2021	WEBSITE	Confirmed	7/13/2021	7/15/2021	22'	2
Guest Dock	12	7/12/2021	WEBSITE	Confirmed	7/13/2021	7/14/2021	25'	1
Guest Dock	12	7/13/2021	WEBSITE	Confirmed	7/14/2021	7/16/2021	25'	2
Guest Dock	18	6/28/2021	Moorings	Confirmed	7/14/2021	7/29/2021	45'	15
Guest Dock	22	7/8/2021	WEBSITE	Confirmed	7/14/2021	7/16/2021	36'	2
Guest Dock	26	6/30/2021	WEBSITE	Confirmed	7/14/2021	7/22/2021	33'	8
Guest Dock	9	7/14/2021	Moorings	Confirmed	7/14/2021	7/15/2021	41'	1
Guest Dock	3	7/14/2021	WEBSITE	Confirmed	7/14/2021	7/17/2021	27'	3
Guest Dock	16	7/13/2021	WEBSITE	Confirmed	7/14/2021	7/17/2021	22'	3
Guest Dock	19	7/14/2021	WEBSITE	Confirmed	7/14/2021	7/16/2021	30'	2
Guest Dock	5	7/14/2021	Moorings	Confirmed	7/14/2021	7/16/2021	41'	2
Guest Dock	4	7/2/2021	WEBSITE	Confirmed	7/15/2021	7/18/2021	33'	3
Guest Dock	21	7/14/2021	WEBSITE	Confirmed	7/15/2021	7/22/2021	36'	7
Guest Dock	8	7/13/2021	Moorings	Confirmed	7/15/2021	7/16/2021		1
Guest Dock	9	7/13/2021	Moorings	Confirmed	7/15/2021	7/17/2021	35'	2
Guest Dock	20	7/14/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	43'	3
Guest Dock	8	7/14/2021	WEBSITE	Confirmed	7/16/2021	7/20/2021	41'	4
Guest Dock	5	7/12/2021	Moorings	Confirmed	7/16/2021	7/20/2021	30'	4
Guest Dock	11	7/12/2021	Moorings	Confirmed	7/16/2021	7/20/2021	44'	4
Guest Dock	15	7/14/2021	WEBSITE	Confirmed	7/16/2021	7/23/2021	42'	7
Guest Dock	7	7/13/2021	Moorings	Confirmed	7/16/2021	7/18/2021	23'	2
Guest Dock	28	7/15/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	36'	3
Guest Dock	3	7/16/2021	WEBSITE	Confirmed	7/17/2021	7/18/2021	27'	1
Guest Dock	14	7/16/2021	WEBSITE	Confirmed	7/17/2021	7/18/2021	22'	1
Guest Dock	22	7/17/2021	WEBSITE	Confirmed	7/17/2021	7/19/2021	29'	2
Guest Dock	9	7/14/2021	WEBSITE	Confirmed	7/17/2021	7/20/2021	43'	3
Guest Dock	16	7/16/2021	WEBSITE	Confirmed	7/17/2021	7/19/2021	18'	2
Guest Dock	19	7/11/2021	Moorings	Confirmed	7/17/2021	7/19/2021	50'	2
Guest Dock	14	7/14/2021	WEBSITE	Confirmed	7/18/2021	7/21/2021	20'	3
Guest Dock	13	7/16/2021	WEBSITE	Confirmed	7/18/2021	7/23/2021	36'	5
Guest Dock	12	7/16/2021	WEBSITE	Confirmed	7/18/2021	7/20/2021	25'	2
Guest Dock	3	7/17/2021	WEBSITE	Confirmed	7/18/2021	7/19/2021	27'	1
Guest Dock	10	7/15/2021	WEBSITE	Confirmed	7/18/2021	7/23/2021	17'	5
Guest Dock	4	7/16/2021	WEBSITE	Confirmed	7/18/2021	7/19/2021	24'	1
Guest Dock	7	7/14/2021	WEBSITE	Confirmed	7/18/2021	7/21/2021	25'	3
Guest Dock	27	7/10/2021	WEBSITE	Confirmed	7/19/2021	7/21/2021	27'	2
Guest Dock	2	7/5/2021	WEBSITE	Confirmed	7/19/2021	7/24/2021	24'	5
Guest Dock	16	7/17/2021	WEBSITE	Confirmed	7/19/2021	7/21/2021	36'	2
Guest Dock	6	7/14/2021	WEBSITE	Confirmed	7/19/2021	7/24/2021	27'	5
Guest Dock	4	7/19/2021	WEBSITE	Confirmed	7/19/2021	7/22/2021	30'	3
Guest Dock	28	7/15/2021	WEBSITE	Confirmed	7/19/2021	7/21/2021	36'	2
Guest Dock	19	7/19/2021	Moorings	Confirmed	7/19/2021	7/22/2021	44'	3
Guest Dock	22	7/18/2021	WEBSITE	Confirmed	7/19/2021	7/22/2021	38'	3
Guest Dock	3	7/17/2021	WEBSITE	Confirmed	7/19/2021	7/23/2021	34'	4
Guest Dock	20	7/19/2021	Moorings	Confirmed	7/19/2021	7/20/2021	34'	1
Guest Dock	5	7/17/2021	WEBSITE	Confirmed	7/20/2021	7/23/2021	40'	3
Guest Dock	9	7/17/2021	WEBSITE	Confirmed	7/20/2021	7/25/2021	32'	5
Guest Dock	8	7/17/2021	WEBSITE	Confirmed	7/20/2021	7/21/2021	27'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	20	7/18/2021	WEBSITE	Confirmed	7/20/2021	7/25/2021	22'	5
Guest Dock	12	7/13/2021	Moorings	Confirmed	7/20/2021	7/27/2021	42'	7
Guest Dock	11	7/17/2021	WEBSITE	Confirmed	7/20/2021	7/22/2021	30'	2
Guest Dock	28	7/21/2021	WEBSITE	Confirmed	7/21/2021	7/22/2021	25'	1
Guest Dock	7	7/17/2021	WEBSITE	Confirmed	7/21/2021	7/23/2021	27'	2
Guest Dock	8	7/13/2021	Moorings	Confirmed	7/21/2021	7/25/2021	18'	4
Guest Dock	27	7/20/2021	Moorings	Confirmed	7/21/2021	7/23/2021	26'	2
Guest Dock	14	7/20/2021	WEBSITE	Confirmed	7/21/2021	7/22/2021	20'	1
Guest Dock	16	7/15/2021	WEBSITE	Confirmed	7/21/2021	7/23/2021	36'	2
Guest Dock	11	7/21/2021	WEBSITE	Confirmed	7/22/2021	7/23/2021	27'	1
Guest Dock	22	7/15/2021	WEBSITE	Confirmed	7/22/2021	7/23/2021	42'	1
Guest Dock	26	7/20/2021	WEBSITE	Confirmed	7/22/2021	7/23/2021	38'	1
Guest Dock	21	7/17/2021	WEBSITE	Confirmed	7/22/2021	7/30/2021	36'	8
Guest Dock	14	7/20/2021	WEBSITE	Confirmed	7/22/2021	7/28/2021	26'	6
Guest Dock	19	7/2/2021	WEBSITE	Confirmed	7/22/2021	7/26/2021	50'	4
Guest Dock	4	7/9/2021	WEBSITE	Confirmed	7/22/2021	7/25/2021	40'	3
Guest Dock	28	7/20/2021	Moorings	Confirmed	7/22/2021	8/1/2021	34'	10
Guest Dock	15	7/20/2021	WEBSITE	Confirmed	7/23/2021	7/27/2021	27'	4
Guest Dock	22	7/19/2021	Moorings	Confirmed	7/23/2021	7/25/2021	63'	2
Guest Dock	10	7/20/2021	Moorings	Confirmed	7/23/2021	7/26/2021	32'	3
Guest Dock	7	7/12/2021	Moorings	Confirmed	7/23/2021	7/31/2021	20'	8
Guest Dock	16	7/9/2021	WEBSITE	Confirmed	7/23/2021	7/25/2021	25'	2
Guest Dock	5	7/22/2021	WEBSITE	Confirmed	7/23/2021	7/24/2021	26'	1
Guest Dock	26	7/19/2021	WEBSITE	Confirmed	7/23/2021	7/25/2021	25'	2
Guest Dock	27	7/22/2021	WEBSITE	Confirmed	7/24/2021	7/26/2021	37'	2
Guest Dock	11	7/24/2021	WEBSITE	Confirmed	7/24/2021	7/25/2021	34'	1
Guest Dock	13	7/24/2021	WEBSITE	Confirmed	7/24/2021	7/27/2021	26'	3
Guest Dock	2	7/20/2021	WEBSITE	Confirmed	7/24/2021	7/25/2021		1
Guest Dock	22	7/24/2021	WEBSITE	Confirmed	7/25/2021	7/28/2021	46'	3
Guest Dock	20	7/20/2021	Moorings	Confirmed	7/25/2021	8/9/2021	61'	15
Guest Dock	9	7/23/2021	WEBSITE	Confirmed	7/25/2021	7/29/2021	22'	4
Guest Dock	16	7/24/2021	WEBSITE	Confirmed	7/25/2021	7/27/2021		2
Guest Dock	8	7/21/2021	WEBSITE	Confirmed	7/25/2021	7/29/2021	41'	4
Guest Dock	4	7/24/2021	WEBSITE	Confirmed	7/25/2021	7/28/2021	34'	3
Guest Dock	2	7/24/2021	WEBSITE	Confirmed	7/25/2021	7/26/2021	34'	1
Guest Dock	29	7/26/2021	Moorings	Confirmed	7/26/2021	7/27/2021	37'	1
Guest Dock	10	7/23/2021	WEBSITE	Confirmed	7/26/2021	7/27/2021	27'	1
Guest Dock	3	7/12/2021	Moorings	Confirmed	7/26/2021	7/27/2021	42'	1
Guest Dock	6	7/22/2021	WEBSITE	Confirmed	7/26/2021	7/29/2021	44'	3
Guest Dock	2	7/24/2021	WEBSITE	Confirmed	7/26/2021	7/30/2021	38'	4
Guest Dock	5	7/25/2021	Moorings	Confirmed	7/26/2021	7/27/2021	41'	1
Guest Dock	11	7/21/2021	WEBSITE	Confirmed	7/26/2021	7/28/2021	42'	2
Guest Dock	26	7/25/2021	Moorings	Confirmed	7/26/2021	7/28/2021		2
Guest Dock	19	7/26/2021	Moorings	Confirmed	7/26/2021	7/27/2021	29'	1
Guest Dock	27	7/25/2021	Moorings	Confirmed	7/26/2021	7/27/2021	32'	1
Guest Dock	5	7/21/2021	WEBSITE	Confirmed	7/27/2021	8/11/2021	37'	15
Guest Dock	29	7/26/2021	WEBSITE	Confirmed	7/27/2021	7/28/2021	27'	1
Guest Dock	13	7/26/2021	Moorings	Confirmed	7/27/2021	7/28/2021	29'	1
Guest Dock	12	7/20/2021	Moorings	Confirmed	7/27/2021	8/1/2021	42'	5
Guest Dock	3	7/22/2021	WEBSITE	Confirmed	7/27/2021	7/29/2021	37'	2
Guest Dock	10	7/25/2021	Moorings	Confirmed	7/27/2021	7/28/2021	41'	1
Guest Dock	19	7/13/2021	Moorings	Confirmed	7/27/2021	7/29/2021	45'	2
Guest Dock	15	7/25/2021	Moorings	Confirmed	7/27/2021	7/30/2021	30'	3
Guest Dock	16	7/21/2021	WEBSITE	Confirmed	7/27/2021	7/31/2021	34'	4
Guest Dock	27	7/25/2021	Moorings	Confirmed	7/27/2021	7/30/2021	37'	3
Guest Dock	4	7/20/2021	Moorings	Confirmed	7/28/2021	7/30/2021	36'	2
Guest Dock	14	7/22/2021	WEBSITE	Confirmed	7/28/2021	7/29/2021	43'	1
Guest Dock	26	7/26/2021	WEBSITE	Confirmed	7/28/2021	7/29/2021	34'	1
Guest Dock	10	7/27/2021	Moorings	Confirmed	7/28/2021	7/29/2021	33'	1
Guest Dock	11	7/26/2021	WEBSITE	Confirmed	7/28/2021	8/1/2021	36'	4
Guest Dock	22	7/27/2021	Moorings	Confirmed	7/28/2021	7/29/2021	60'	1
Guest Dock	29	7/25/2021	Moorings	Confirmed	7/28/2021	7/30/2021		2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	13	7/26/2021	WEBSITE	Confirmed	7/28/2021	8/11/2021	27'	14
Guest Dock	19	7/27/2021	Moorings	Confirmed	7/29/2021	8/1/2021		3
Guest Dock	10	7/27/2021	WEBSITE	Confirmed	7/29/2021	7/30/2021	41'	1
Guest Dock	6	7/22/2021	WEBSITE	Confirmed	7/29/2021	8/3/2021	30'	5
Guest Dock	22	7/25/2021	Moorings	Confirmed	7/29/2021	7/31/2021	46'	2
Guest Dock	26	7/21/2021	WEBSITE	Confirmed	7/29/2021	8/2/2021	16'	4
Guest Dock	14	7/21/2021	WEBSITE	Confirmed	7/29/2021	8/2/2021	43'	4
Guest Dock	9	7/24/2021	WEBSITE	Confirmed	7/29/2021	8/1/2021	25'	3
Guest Dock	8	7/26/2021	Moorings	Confirmed	7/30/2021	8/2/2021	34'	3
Guest Dock	18	7/30/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	38'	3
Guest Dock	3	7/17/2021	WEBSITE	Confirmed	7/30/2021	8/1/2021	46'	2
Guest Dock	27	7/27/2021	Moorings	Confirmed	7/30/2021	8/1/2021	24'	2
Guest Dock	10	7/24/2021	WEBSITE	Confirmed	7/30/2021	8/13/2021	30'	14
Guest Dock	2	7/25/2021	WEBSITE	Confirmed	7/30/2021	8/1/2021	25'	2
Guest Dock	4	7/29/2021	WEBSITE	Confirmed	7/30/2021	8/1/2021	30'	2
Guest Dock	15	7/26/2021	WEBSITE	Confirmed	7/30/2021	8/1/2021	23'	2
Guest Dock	21	7/29/2021	WEBSITE	Confirmed	7/30/2021	8/3/2021	36'	4
Guest Dock	7	7/27/2021	WEBSITE	Confirmed	7/31/2021	8/1/2021	35'	1
Guest Dock	16	7/31/2021	WEBSITE	Confirmed	7/31/2021	8/1/2021	44'	1
Guest Dock	19	7/31/2021	WEBSITE	Confirmed	8/1/2021	8/5/2021	50'	4
Guest Dock	11	7/20/2021	WEBSITE	Confirmed	8/1/2021	8/3/2021	44'	2
Guest Dock	22	7/26/2021	WEBSITE	Confirmed	8/1/2021	8/8/2021	30'	7
Guest Dock	27	7/28/2021	WEBSITE	Confirmed	8/1/2021	8/3/2021	34'	2
Guest Dock	12	7/26/2021	WEBSITE	Confirmed	8/1/2021	8/2/2021	36'	1
Guest Dock	9	7/31/2021	WEBSITE	Confirmed	8/1/2021	8/2/2021	27'	1
Guest Dock	4	7/23/2021	WEBSITE	Confirmed	8/1/2021	8/16/2021	42'	15
Guest Dock	2	7/30/2021	WEBSITE	Confirmed	8/1/2021	8/3/2021	30'	2
Guest Dock	7	7/29/2021	WEBSITE	Confirmed	8/1/2021	8/2/2021	43'	1
Guest Dock	15	8/1/2021	Moorings	Confirmed	8/1/2021	8/2/2021	42'	1
Guest Dock	3	8/1/2021	WEBSITE	Confirmed	8/1/2021	8/2/2021	36'	1
Guest Dock	28	7/23/2021	WEBSITE	Confirmed	8/1/2021	8/5/2021	34'	4
Guest Dock	18	7/20/2021	WEBSITE	Confirmed	8/2/2021	8/4/2021	65'	2
Guest Dock	26	7/22/2021	WEBSITE	Confirmed	8/2/2021	8/5/2021	36'	3
Guest Dock	9	7/28/2021	Moorings	Confirmed	8/2/2021	8/4/2021	27'	2
Guest Dock	15	7/29/2021	WEBSITE	Confirmed	8/2/2021	8/7/2021	39'	5
Guest Dock	3	8/1/2021	Moorings	Confirmed	8/2/2021	8/4/2021	41'	2
Guest Dock	16	7/19/2021	Moorings	Confirmed	8/2/2021	8/4/2021	26'	2
Guest Dock	7	7/31/2021	WEBSITE	Confirmed	8/2/2021	8/3/2021	44'	1
Guest Dock	8	7/27/2021	Moorings	Confirmed	8/2/2021	8/4/2021	26'	2
Guest Dock	14	7/30/2021	WEBSITE	Confirmed	8/2/2021	8/6/2021	34'	4
Guest Dock	11	7/31/2021	WEBSITE	Confirmed	8/3/2021	8/5/2021	44'	2
Guest Dock	2	7/23/2021	WEBSITE	Confirmed	8/3/2021	8/5/2021	22'	2
Guest Dock	6	7/30/2021	WEBSITE	Confirmed	8/3/2021	8/6/2021	32'	3
Guest Dock	12	7/30/2021	WEBSITE	Confirmed	8/3/2021	8/4/2021	30'	1
Guest Dock	21	8/1/2021	WEBSITE	Confirmed	8/3/2021	8/6/2021	31'	3
Guest Dock	27	7/29/2021	WEBSITE	Confirmed	8/3/2021	8/13/2021		10
Guest Dock	7	7/21/2021	WEBSITE	Confirmed	8/3/2021	8/4/2021	30'	1
Guest Dock	29	7/26/2021	WEBSITE	Confirmed	8/3/2021	8/17/2021	40'	14
Guest Dock	3	7/29/2021	WEBSITE	Confirmed	8/4/2021	8/9/2021	48'	5
Guest Dock	16	8/3/2021	Moorings	Confirmed	8/4/2021	8/6/2021		2
Guest Dock	8	7/31/2021	WEBSITE	Confirmed	8/4/2021	8/8/2021	30'	4
Guest Dock	9	7/29/2021	WEBSITE	Confirmed	8/4/2021	8/5/2021	27'	1
Guest Dock	18	8/3/2021	Moorings	Confirmed	8/4/2021	8/6/2021	32'	2
Guest Dock	12	8/1/2021	Moorings	Confirmed	8/4/2021	8/6/2021	41'	2
Guest Dock	7	8/3/2021	Moorings	Confirmed	8/4/2021	8/5/2021	26'	1
Guest Dock	9	8/3/2021	Moorings	Confirmed	8/5/2021	8/6/2021	26'	1
Guest Dock	11	8/2/2021	WEBSITE	Confirmed	8/5/2021	8/6/2021	42'	1
Guest Dock	26	7/22/2021	WEBSITE	Confirmed	8/5/2021	8/6/2021	36'	1
Guest Dock	7	8/2/2021	Moorings	Confirmed	8/5/2021	8/6/2021		1
Guest Dock	2	8/3/2021	Moorings	Confirmed	8/5/2021	8/6/2021	30'	1
Guest Dock	19	7/31/2021	WEBSITE	Confirmed	8/5/2021	8/9/2021	53'	4
Guest Dock	28	8/4/2021	WEBSITE	Confirmed	8/6/2021	8/8/2021	43'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	16	8/5/2021	WEBSITE	Confirmed	8/6/2021	8/7/2021	44'	1
Guest Dock	9	8/2/2021	Moorings	Confirmed	8/6/2021	8/7/2021	26'	1
Guest Dock	11	8/5/2021	WEBSITE	Confirmed	8/6/2021	8/8/2021	36'	2
Guest Dock	12	8/2/2021	Moorings	Confirmed	8/6/2021	8/10/2021	42'	4
Guest Dock	21	7/23/2021	WEBSITE	Confirmed	8/6/2021	8/8/2021	45'	2
Guest Dock	6	7/23/2021	WEBSITE	Confirmed	8/6/2021	8/16/2021	32'	10
Guest Dock	2	7/29/2021	WEBSITE	Confirmed	8/6/2021	8/12/2021	22'	6
Guest Dock	26	7/30/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	30'	3
Guest Dock	18	7/23/2021	WEBSITE	Confirmed	8/6/2021	8/11/2021	50'	5
Guest Dock	9	8/6/2021	WEBSITE	Confirmed	8/7/2021	8/8/2021	37'	1
Guest Dock	15	8/5/2021	WEBSITE	Confirmed	8/7/2021	8/9/2021	44'	2
Guest Dock	8	7/28/2021	WEBSITE	Confirmed	8/8/2021	8/13/2021	23'	5
Guest Dock	21	8/5/2021	WEBSITE	Confirmed	8/8/2021	8/9/2021	62'	1
Guest Dock	28	8/6/2021	WEBSITE	Confirmed	8/8/2021	8/9/2021	37'	1
Guest Dock	11	7/28/2021	WEBSITE	Confirmed	8/8/2021	8/11/2021	44'	3
Guest Dock	16	8/8/2021	Moorings	Confirmed	8/8/2021	8/9/2021	30'	1
Guest Dock	9	7/30/2021	WEBSITE	Confirmed	8/8/2021	8/10/2021	27'	2
Guest Dock	20	8/4/2021	WEBSITE	Confirmed	8/9/2021	8/11/2021	47'	2
Guest Dock	26	8/2/2021	Moorings	Confirmed	8/9/2021	8/13/2021	32'	4
Guest Dock	3	8/6/2021	WEBSITE	Confirmed	8/9/2021	8/11/2021	38'	2
Guest Dock	16	8/3/2021	WEBSITE	Confirmed	8/9/2021	8/10/2021	33'	1
Guest Dock	15	8/5/2021	WEBSITE	Confirmed	8/9/2021	8/14/2021	41'	5
Guest Dock	21	8/7/2021	WEBSITE	Confirmed	8/9/2021	8/12/2021	44'	3
Guest Dock	19	8/2/2021	WEBSITE	Confirmed	8/9/2021	8/16/2021	53'	7
Guest Dock	7	8/5/2021	WEBSITE	Confirmed	8/9/2021	8/10/2021	35'	1
Guest Dock	9	8/5/2021	WEBSITE	Confirmed	8/10/2021	8/12/2021	35'	2
Guest Dock	12	8/5/2021	WEBSITE	Confirmed	8/10/2021	8/12/2021	39'	2
Guest Dock	28	8/9/2021	Moorings	Confirmed	8/10/2021	8/11/2021	37'	1
Guest Dock	7	7/28/2021	WEBSITE	Confirmed	8/10/2021	8/14/2021	27'	4
Guest Dock	16	8/1/2021	Moorings	Confirmed	8/11/2021	8/14/2021	36'	3
Guest Dock	20	8/10/2021	WEBSITE	Confirmed	8/11/2021	8/12/2021	47'	1
Guest Dock	13	8/9/2021	Moorings	Confirmed	8/11/2021	8/12/2021	37'	1
Guest Dock	5	8/6/2021	WEBSITE	Confirmed	8/11/2021	8/12/2021	38'	1
Guest Dock	18	8/10/2021	WEBSITE	Confirmed	8/11/2021	8/12/2021	24'	1
Guest Dock	11	8/7/2021	WEBSITE	Confirmed	8/11/2021	8/12/2021	29'	1
Guest Dock	28	7/31/2021	WEBSITE	Confirmed	8/11/2021	8/15/2021	39'	4
Guest Dock	2	8/5/2021	WEBSITE	Confirmed	8/12/2021	8/13/2021	35'	1
Guest Dock	11	7/31/2021	WEBSITE	Confirmed	8/12/2021	8/15/2021	21'	3
Guest Dock	20	8/10/2021	WEBSITE	Confirmed	8/12/2021	8/13/2021	24'	1
Guest Dock	13	8/4/2021	Moorings	Confirmed	8/12/2021	8/13/2021	30'	1
Guest Dock	5	7/29/2021	WEBSITE	Confirmed	8/12/2021	8/14/2021	40'	2
Guest Dock	22	8/10/2021	WEBSITE	Confirmed	8/12/2021	8/13/2021		1
Guest Dock	9	7/29/2021	WEBSITE	Confirmed	8/12/2021	8/16/2021	43'	4
Guest Dock	18	8/9/2021	Moorings	Confirmed	8/12/2021	8/13/2021	38'	1
Guest Dock	21	8/2/2021	WEBSITE	Confirmed	8/12/2021	8/14/2021	54'	2
Guest Dock	27	8/10/2021	WEBSITE	Confirmed	8/13/2021	8/15/2021	37'	2
Guest Dock	26	8/9/2021	Moorings	Confirmed	8/13/2021	8/16/2021	30'	3
Guest Dock	8	8/10/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	39'	3
Guest Dock	13	8/9/2021	Moorings	Confirmed	8/13/2021	8/14/2021	22'	1
Guest Dock	3	8/9/2021	Moorings	Confirmed	8/13/2021	8/14/2021	43'	1
Guest Dock	2	8/5/2021	WEBSITE	Confirmed	8/13/2021	8/14/2021	35'	1
Guest Dock	22	8/13/2021	WEBSITE	Confirmed	8/13/2021	8/17/2021	30'	4
Guest Dock	10	8/13/2021	WEBSITE	Confirmed	8/13/2021	8/14/2021	36'	1
Guest Dock	7	8/13/2021	WEBSITE	Confirmed	8/14/2021	8/16/2021	36'	2
Guest Dock	16	8/2/2021	WEBSITE	Confirmed	8/14/2021	8/22/2021	25'	8
Guest Dock	3	8/13/2021	WEBSITE	Confirmed	8/14/2021	8/21/2021	50'	7
Guest Dock	10	8/11/2021	WEBSITE	Confirmed	8/14/2021	8/29/2021	40'	15
Guest Dock	20	8/14/2021	WEBSITE	Confirmed	8/14/2021	8/15/2021	50'	1
Guest Dock	12	8/12/2021	WEBSITE	Confirmed	8/14/2021	8/15/2021	30'	1
Guest Dock	13	8/12/2021	WEBSITE	Confirmed	8/14/2021	8/15/2021	32'	1
Guest Dock	13	8/14/2021	WEBSITE	Confirmed	8/15/2021	8/16/2021	32'	1
Guest Dock	21	8/15/2021	WEBSITE	Confirmed	8/15/2021	8/16/2021	34'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	27	8/11/2021	WEBSITE	Confirmed	8/15/2021	8/29/2021	35'	14
Guest Dock	12	8/13/2021	WEBSITE	Confirmed	8/15/2021	8/16/2021	22'	1
Guest Dock	2	8/13/2021	WEBSITE	Confirmed	8/15/2021	8/19/2021	26'	4
Guest Dock	11	8/11/2021	WEBSITE	Confirmed	8/15/2021	8/25/2021	44'	10
Guest Dock	15	8/13/2021	WEBSITE	Confirmed	8/15/2021	8/17/2021	35'	2
Guest Dock	28	8/13/2021	WEBSITE	Confirmed	8/15/2021	8/16/2021	39'	1
Guest Dock	28	8/6/2021	WEBSITE	Confirmed	8/16/2021	8/20/2021	41'	4
Guest Dock	21	8/16/2021	Moorings	Confirmed	8/16/2021	8/17/2021	49'	1
Guest Dock	12	8/14/2021	WEBSITE	Confirmed	8/16/2021	8/20/2021	36'	4
Guest Dock	6	8/3/2021	WEBSITE	Confirmed	8/16/2021	8/17/2021	10'	1
Guest Dock	26	8/13/2021	WEBSITE	Confirmed	8/16/2021	8/20/2021		4
Guest Dock	7	8/14/2021	WEBSITE	Confirmed	8/16/2021	8/18/2021	34'	2
Guest Dock	9	8/11/2021	WEBSITE	Confirmed	8/16/2021	8/18/2021	27'	2
Guest Dock	8	8/10/2021	WEBSITE	Confirmed	8/16/2021	8/17/2021	39'	1
Guest Dock	13	8/14/2021	WEBSITE	Confirmed	8/16/2021	8/17/2021	30'	1
Guest Dock	18	7/16/2021	WEBSITE	Confirmed	8/16/2021	8/23/2021	50'	7
Guest Dock	19	8/14/2021	WEBSITE	Confirmed	8/16/2021	8/17/2021	38'	1
Guest Dock	20	8/16/2021	Moorings	Confirmed	8/16/2021	8/18/2021	34'	2
Guest Dock	4	8/13/2021	WEBSITE	Confirmed	8/16/2021	8/18/2021	36'	2
Guest Dock	6	8/14/2021	WEBSITE	Confirmed	8/17/2021	8/20/2021	38'	3
Guest Dock	19	8/17/2021	Moorings	Confirmed	8/17/2021	8/19/2021	32'	2
Guest Dock	14	8/9/2021	Moorings	Confirmed	8/17/2021	8/18/2021	22'	1
Guest Dock	21	8/17/2021	Moorings	Confirmed	8/17/2021	8/19/2021	32'	2
Guest Dock	15	8/16/2021	Moorings	Confirmed	8/17/2021	8/20/2021	34'	3
Guest Dock	22	8/17/2021	Moorings	Confirmed	8/17/2021	8/19/2021	29'	2
Guest Dock	8	8/16/2021	WEBSITE	Confirmed	8/17/2021	8/19/2021	30'	2
Guest Dock	13	8/15/2021	WEBSITE	Confirmed	8/17/2021	8/22/2021	30'	5
Guest Dock	4	8/18/2021	Moorings	Confirmed	8/18/2021	8/19/2021	31'	1
Guest Dock	20	8/17/2021	WEBSITE	Confirmed	8/18/2021	8/19/2021	34'	1
Guest Dock	2	8/11/2021	WEBSITE	Confirmed	8/19/2021	8/23/2021	21'	4
Guest Dock	21	8/9/2021	Moorings	Confirmed	8/19/2021	8/22/2021	40'	3
Guest Dock	8	8/12/2021	WEBSITE	Confirmed	8/19/2021	8/23/2021	43'	4
Guest Dock	7	8/17/2021	Moorings	Confirmed	8/19/2021	8/20/2021	32'	1
Guest Dock	5	8/6/2021	WEBSITE	Confirmed	8/19/2021	8/22/2021	35'	3
Guest Dock	20	8/17/2021	WEBSITE	Confirmed	8/19/2021	8/22/2021	26'	3
Guest Dock	9	8/16/2021	WEBSITE	Confirmed	8/19/2021	8/22/2021	22'	3
Guest Dock	22	8/17/2021	Moorings	Confirmed	8/19/2021	8/20/2021	29'	1
Guest Dock	22	8/10/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	63'	3
Guest Dock	26	8/15/2021	WEBSITE	Confirmed	8/20/2021	8/22/2021	23'	2
Guest Dock	7	8/16/2021	Moorings	Confirmed	8/20/2021	8/24/2021	27'	4
Guest Dock	12	8/17/2021	WEBSITE	Confirmed	8/20/2021	8/24/2021	37'	4
Guest Dock	6	8/18/2021	Moorings	Confirmed	8/21/2021	8/23/2021	26'	2
Guest Dock	3	8/17/2021	WEBSITE	Confirmed	8/21/2021	8/22/2021	37'	1
Guest Dock	13	8/19/2021	WEBSITE	Confirmed	8/22/2021	9/6/2021	42'	15
Guest Dock	20	8/17/2021	WEBSITE	Confirmed	8/22/2021	8/24/2021	26'	2
Guest Dock	3	8/17/2021	WEBSITE	Confirmed	8/22/2021	8/23/2021	43'	1
Guest Dock	14	8/15/2021	WEBSITE	Confirmed	8/22/2021	8/23/2021	30'	1
Guest Dock	21	8/9/2021	Moorings	Confirmed	8/22/2021	8/24/2021	40'	2
Guest Dock	5	8/19/2021	WEBSITE	Confirmed	8/22/2021	8/26/2021	23'	4
Guest Dock	9	8/22/2021	WEBSITE	Confirmed	8/23/2021	8/25/2021	39'	2
Guest Dock	2	8/22/2021	WEBSITE	Confirmed	8/23/2021	8/24/2021	38'	1
Guest Dock	14	8/15/2021	WEBSITE	Confirmed	8/23/2021	8/24/2021	30'	1
Guest Dock	15	8/18/2021	Moorings	Confirmed	8/23/2021	8/26/2021	41'	3
Guest Dock	6	8/22/2021	WEBSITE	Confirmed	8/23/2021	8/24/2021		1
Guest Dock	8	8/23/2021	Moorings	Confirmed	8/23/2021	8/25/2021	29'	2
Guest Dock	3	8/9/2021	Moorings	Confirmed	8/23/2021	8/31/2021	33'	8
Guest Dock	2	8/23/2021	WEBSITE	Confirmed	8/24/2021	8/27/2021	36'	3
Guest Dock	6	8/23/2021	WEBSITE	Confirmed	8/24/2021	8/26/2021		2
Guest Dock	18	8/24/2021	Moorings	Confirmed	8/24/2021	8/29/2021	50'	5
Guest Dock	12	8/15/2021	WEBSITE	Confirmed	8/24/2021	8/25/2021	30'	1
Guest Dock	22	8/9/2021	Moorings	Confirmed	8/24/2021	8/25/2021	40'	1
Guest Dock	14	8/19/2021	WEBSITE	Confirmed	8/24/2021	8/27/2021	36'	3

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	7	8/16/2021	Moorings	Confirmed	8/24/2021	8/27/2021	27'	3
Guest Dock	28	8/24/2021	WEBSITE	Confirmed	8/25/2021	8/26/2021	41'	1
Guest Dock	9	8/25/2021	Moorings	Confirmed	8/25/2021	8/26/2021	42'	1
Guest Dock	4	8/24/2021	Moorings	Confirmed	8/25/2021	8/27/2021	32'	2
Guest Dock	19	8/21/2021	WEBSITE	Confirmed	8/25/2021	8/27/2021	53'	2
Guest Dock	8	8/23/2021	WEBSITE	Confirmed	8/25/2021	8/28/2021	31'	3
Guest Dock	11	8/23/2021	WEBSITE	Confirmed	8/25/2021	8/26/2021	44'	1
Guest Dock	21	8/24/2021	Moorings	Confirmed	8/25/2021	8/28/2021	40'	3
Guest Dock	12	8/25/2021	Moorings	Confirmed	8/25/2021	8/27/2021	29'	2
Guest Dock	6	8/25/2021	WEBSITE	Confirmed	8/26/2021	8/27/2021		1
Guest Dock	9	8/24/2021	WEBSITE	Confirmed	8/26/2021	9/1/2021	25'	6
Guest Dock	22	8/21/2021	WEBSITE	Confirmed	8/26/2021	9/1/2021	50'	6
Guest Dock	5	8/17/2021	WEBSITE	Confirmed	8/26/2021	8/28/2021	44'	2
Guest Dock	4	8/16/2021	Moorings	Confirmed	8/27/2021	8/29/2021	30'	2
Guest Dock	12	8/27/2021	WEBSITE	Confirmed	8/27/2021	8/29/2021	34'	2
Guest Dock	28	8/16/2021	Moorings	Confirmed	8/27/2021	8/29/2021	46'	2
Guest Dock	16	8/23/2021	Moorings	Confirmed	8/27/2021	8/29/2021	37'	2
Guest Dock	7	8/23/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	45'	3
Guest Dock	7	8/23/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	45'	3
Guest Dock	26	8/19/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	34'	3
Guest Dock	20	8/21/2021	WEBSITE	Confirmed	8/27/2021	8/28/2021	58'	1
Guest Dock	15	8/27/2021	WEBSITE	Confirmed	8/27/2021	9/1/2021	40'	5
Guest Dock	19	8/27/2021	WEBSITE	Confirmed	8/27/2021	8/28/2021	39'	1
Guest Dock	6	8/22/2021	WEBSITE	Confirmed	8/27/2021	8/29/2021	24'	2
Guest Dock	2	8/24/2021	WEBSITE	Confirmed	8/27/2021	8/28/2021	26'	1
Guest Dock	14	8/25/2021	Moorings	Confirmed	8/27/2021	8/30/2021	42'	3
Guest Dock	20	8/24/2021	Moorings	Confirmed	8/28/2021	8/30/2021	40'	2
Guest Dock	2	8/25/2021	Moorings	Confirmed	8/28/2021	8/29/2021	26'	1
Guest Dock	5	8/27/2021	WEBSITE	Confirmed	8/28/2021	8/29/2021	39'	1
Guest Dock	21	8/21/2021	WEBSITE	Confirmed	8/28/2021	8/30/2021	58'	2
Guest Dock	10	8/27/2021	WEBSITE	Confirmed	8/29/2021	8/30/2021	34'	1
Guest Dock	19	8/29/2021	Moorings	Confirmed	8/29/2021	8/30/2021	60'	1
Guest Dock	18	8/25/2021	WEBSITE	Confirmed	8/29/2021	9/8/2021	50'	10
Guest Dock	28	8/11/2021	WEBSITE	Confirmed	8/29/2021	8/30/2021	35'	1
Guest Dock	4	8/29/2021	Moorings	Confirmed	8/29/2021	8/30/2021	40'	1
Guest Dock	5	8/26/2021	WEBSITE	Confirmed	8/29/2021	8/31/2021		2
Guest Dock	10	8/29/2021	Moorings	Confirmed	8/30/2021	8/31/2021		1
Guest Dock	21	8/26/2021	WEBSITE	Confirmed	8/30/2021	9/4/2021	45'	5
Guest Dock	28	8/17/2021	Moorings	Confirmed	8/30/2021	9/14/2021	36'	15
Guest Dock	19	8/29/2021	Moorings	Confirmed	8/30/2021	8/31/2021	60'	1
Guest Dock	2	8/30/2021	Moorings	Confirmed	8/30/2021	8/31/2021	29'	1
Guest Dock	4	8/28/2021	WEBSITE	Confirmed	8/30/2021	9/2/2021	32'	3
Guest Dock	16	8/25/2021	Moorings	Confirmed	8/30/2021	9/1/2021	36'	2
Guest Dock	7	8/23/2021	WEBSITE	Confirmed	8/30/2021	8/31/2021	45'	1
Guest Dock	7	8/23/2021	WEBSITE	Confirmed	8/31/2021	9/1/2021	45'	1
Guest Dock	5	8/21/2021	WEBSITE	Confirmed	8/31/2021	9/3/2021	30'	3
Guest Dock	27	8/30/2021	Moorings	Confirmed	8/31/2021	9/1/2021	41'	1
Guest Dock	8	8/30/2021	Moorings	Confirmed	8/31/2021	9/3/2021	29'	3
Guest Dock	26	8/23/2021	Moorings	Confirmed	8/31/2021	9/5/2021	32'	5
Guest Dock	10	8/30/2021	Moorings	Confirmed	8/31/2021	9/1/2021	33'	1
Guest Dock	3	8/30/2021	Moorings	Confirmed	8/31/2021	9/3/2021		3
Guest Dock	10	8/31/2021	Moorings	Confirmed	9/1/2021	9/2/2021	41'	1
Guest Dock	9	8/30/2021	Moorings	Confirmed	9/1/2021	9/2/2021	33'	1
Guest Dock	15	8/27/2021	WEBSITE	Confirmed	9/1/2021	9/3/2021	40'	2
Guest Dock	22	8/30/2021	Moorings	Confirmed	9/1/2021	9/3/2021	39'	2
Guest Dock	16	8/25/2021	Moorings	Confirmed	9/1/2021	9/2/2021	36'	1
Guest Dock	7	8/31/2021	Moorings	Confirmed	9/2/2021	9/3/2021	22'	1
Guest Dock	9	8/30/2021	Moorings	Confirmed	9/2/2021	9/4/2021	33'	2
Guest Dock	4	8/23/2021	Moorings	Confirmed	9/2/2021	9/3/2021	25'	1
Guest Dock	14	8/31/2021	Moorings	Confirmed	9/2/2021	9/16/2021	41'	14
Guest Dock	11	8/27/2021	WEBSITE	Confirmed	9/2/2021	9/3/2021	42'	1
Guest Dock	8	8/26/2021	WEBSITE	Confirmed	9/3/2021	9/4/2021	21'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	5	9/1/2021	WEBSITE	Confirmed	9/3/2021	9/11/2021	45'	8
Guest Dock	27	9/1/2021	Moorings	Confirmed	9/3/2021	9/6/2021	21'	3
Guest Dock	11	8/31/2021	Moorings	Confirmed	9/3/2021	9/6/2021	23'	3
Guest Dock	6	8/21/2021	WEBSITE	Confirmed	9/4/2021	9/7/2021	18'	3
Guest Dock	16	8/23/2021	Moorings	Confirmed	9/4/2021	9/6/2021	26'	2
Guest Dock	20	8/30/2021	Moorings	Confirmed	9/4/2021	9/6/2021	58'	2
Guest Dock	15	9/4/2021	WEBSITE	Confirmed	9/4/2021	9/5/2021	36'	1
Guest Dock	9	8/31/2021	Moorings	Confirmed	9/4/2021	9/6/2021	26'	2
Guest Dock	22	8/26/2021	WEBSITE	Confirmed	9/4/2021	9/12/2021	45'	8
Guest Dock	4	8/23/2021	WEBSITE	Confirmed	9/4/2021	9/5/2021	21'	1
Guest Dock	8	8/26/2021	WEBSITE	Confirmed	9/4/2021	9/6/2021	21'	2
Guest Dock	12	8/30/2021	Moorings	Confirmed	9/4/2021	9/5/2021	23'	1
Guest Dock	21	8/30/2021	Moorings	Confirmed	9/4/2021	9/6/2021	40'	2
Guest Dock	2	9/3/2021	WEBSITE	Confirmed	9/4/2021	9/11/2021	21'	7
Guest Dock	12	9/2/2021	WEBSITE	Confirmed	9/5/2021	9/7/2021	36'	2
Guest Dock	19	9/4/2021	WEBSITE	Confirmed	9/5/2021	9/10/2021	56'	5
Guest Dock	16	8/25/2021	Moorings	Confirmed	9/6/2021	9/8/2021	36'	2
Guest Dock	9	8/24/2021	Moorings	Confirmed	9/6/2021	9/9/2021	34'	3
Guest Dock	11	9/3/2021	WEBSITE	Confirmed	9/6/2021	9/11/2021	33'	5
Guest Dock	21	9/6/2021	Moorings	Confirmed	9/6/2021	9/7/2021	40'	1
Guest Dock	8	9/6/2021	WEBSITE	Confirmed	9/6/2021	9/7/2021	21'	1
Guest Dock	4	8/31/2021	Moorings	Confirmed	9/6/2021	9/9/2021	42'	3
Guest Dock	12	9/6/2021	WEBSITE	Confirmed	9/7/2021	9/11/2021	29'	4
Guest Dock	8	9/3/2021	WEBSITE	Confirmed	9/7/2021	9/8/2021	32'	1
Guest Dock	27	8/24/2021	WEBSITE	Confirmed	9/7/2021	9/10/2021	30'	3
Guest Dock	20	9/6/2021	Moorings	Confirmed	9/7/2021	9/15/2021	48'	8
Guest Dock	6	9/3/2021	WEBSITE	Confirmed	9/7/2021	9/10/2021	32'	3
Guest Dock	3	9/5/2021	WEBSITE	Confirmed	9/7/2021	9/10/2021	38'	3
Guest Dock	15	9/6/2021	WEBSITE	Confirmed	9/7/2021	9/10/2021	34'	3
Guest Dock	13	9/6/2021	WEBSITE	Confirmed	9/7/2021	9/8/2021	41'	1
Guest Dock	16	9/3/2021	WEBSITE	Confirmed	9/8/2021	9/9/2021	36'	1
Guest Dock	8	9/7/2021	Moorings	Confirmed	9/8/2021	9/9/2021	26'	1
Guest Dock	18	8/25/2021	Moorings	Confirmed	9/8/2021	9/10/2021	50'	2
Guest Dock	13	9/7/2021	Moorings	Confirmed	9/8/2021	9/12/2021	47'	4
Guest Dock	21	8/27/2021	WEBSITE	Confirmed	9/8/2021	9/9/2021	61'	1
Guest Dock	8	8/25/2021	WEBSITE	Confirmed	9/9/2021	9/14/2021	25'	5
Guest Dock	16	9/8/2021	WEBSITE	Confirmed	9/9/2021	9/11/2021	23'	2
Guest Dock	26	9/8/2021	WEBSITE	Confirmed	9/9/2021	9/10/2021	17'	1
Guest Dock	21	8/27/2021	WEBSITE	Confirmed	9/9/2021	9/14/2021	61'	5
Guest Dock	9	9/7/2021	Moorings	Confirmed	9/9/2021	9/13/2021	26'	4
Guest Dock	4	9/6/2021	Moorings	Confirmed	9/9/2021	9/12/2021	36'	3
Guest Dock	27	9/5/2021	WEBSITE	Confirmed	9/10/2021	9/11/2021	46'	1
Guest Dock	26	9/7/2021	WEBSITE	Confirmed	9/10/2021	9/12/2021	15'	2
Guest Dock	15	9/7/2021	WEBSITE	Confirmed	9/10/2021	9/12/2021	21'	2
Guest Dock	11	9/3/2021	WEBSITE	Confirmed	9/11/2021	9/17/2021	33'	6
Guest Dock	16	9/7/2021	WEBSITE	Confirmed	9/11/2021	9/12/2021	24'	1
Guest Dock	7	9/11/2021	WEBSITE	Confirmed	9/11/2021	9/13/2021	38'	2
Guest Dock	19	9/11/2021	WEBSITE	Confirmed	9/11/2021	9/12/2021	65'	1
Guest Dock	27	9/11/2021	WEBSITE	Confirmed	9/11/2021	9/12/2021	30'	1
Guest Dock	27	9/11/2021	WEBSITE	Confirmed	9/12/2021	9/13/2021	30'	1
Guest Dock	13	9/7/2021	Moorings	Confirmed	9/12/2021	9/17/2021	47'	5
Guest Dock	2	8/30/2021	Moorings	Confirmed	9/12/2021	9/20/2021	26'	8
Guest Dock	4	8/29/2021	Moorings	Confirmed	9/12/2021	9/14/2021	32'	2
Guest Dock	22	8/26/2021	WEBSITE	Confirmed	9/12/2021	9/14/2021	45'	2
Guest Dock	6	9/12/2021	WEBSITE	Confirmed	9/13/2021	9/14/2021	40'	1
Guest Dock	26	9/10/2021	WEBSITE	Confirmed	9/13/2021	9/17/2021		4
Guest Dock	3	9/11/2021	WEBSITE	Confirmed	9/13/2021	9/17/2021	50'	4
Guest Dock	29	9/12/2021	Moorings	Confirmed	9/13/2021	9/16/2021	23'	3
Guest Dock	9	9/12/2021	WEBSITE	Confirmed	9/13/2021	9/14/2021	29'	1
Guest Dock	10	9/13/2021	Moorings	Confirmed	9/13/2021	9/20/2021	26'	7
Guest Dock	7	9/11/2021	WEBSITE	Confirmed	9/13/2021	9/17/2021	34'	4
Guest Dock	15	9/12/2021	Moorings	Confirmed	9/13/2021	9/17/2021	38'	4

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	12	9/13/2021	Moorings	Confirmed	9/13/2021	9/14/2021	37'	1
Guest Dock	9	9/13/2021	WEBSITE	Confirmed	9/14/2021	9/17/2021	29'	3
Guest Dock	6	9/14/2021	Moorings	Confirmed	9/14/2021	9/15/2021	38'	1
Guest Dock	12	9/13/2021	WEBSITE	Confirmed	9/14/2021	9/29/2021	40'	15
Guest Dock	8	9/11/2021	WEBSITE	Confirmed	9/14/2021	9/17/2021	41'	3
Guest Dock	28	9/14/2021	Moorings	Confirmed	9/15/2021	9/19/2021	30'	4
Guest Dock	21	9/14/2021	Moorings	Confirmed	9/15/2021	9/16/2021	38'	1
Guest Dock	6	9/14/2021	Moorings	Confirmed	9/15/2021	9/17/2021	23'	2
Guest Dock	20	9/15/2021	WEBSITE	Confirmed	9/15/2021	9/22/2021	37'	7
Guest Dock	14	9/15/2021	WEBSITE	Confirmed	9/16/2021	9/17/2021	32'	1
Guest Dock	22	8/31/2021	Moorings	Confirmed	9/16/2021	9/17/2021	41'	1
Guest Dock	4	9/5/2021	WEBSITE	Confirmed	9/16/2021	9/17/2021	30'	1
Guest Dock	21	9/16/2021	WEBSITE	Confirmed	9/16/2021	9/18/2021	41'	2
Guest Dock	18	9/16/2021	WEBSITE	Confirmed	9/16/2021	9/17/2021	32'	1
Guest Dock	4	9/16/2021	WEBSITE	Confirmed	9/17/2021	9/19/2021	32'	2
Guest Dock	26	9/13/2021	Moorings	Confirmed	9/17/2021	9/22/2021	37'	5
Guest Dock	13	9/19/2021	Moorings	Confirmed	9/17/2021	9/23/2021	47'	6
Guest Dock	11	9/18/2021	WEBSITE	Confirmed	9/18/2021	9/21/2021	40'	3
Guest Dock	5	9/18/2021	WEBSITE	Confirmed	9/18/2021	9/21/2021		3
Guest Dock	7	9/8/2021	WEBSITE	Confirmed	9/18/2021	9/25/2021	31'	7
Guest Dock	21	9/16/2021	WEBSITE	Confirmed	9/18/2021	9/20/2021	41'	2
Guest Dock	19	9/13/2021	WEBSITE	Confirmed	9/19/2021	9/25/2021	60'	6
Guest Dock	8	9/7/2021	WEBSITE	Confirmed	9/19/2021	9/20/2021	22'	1
Guest Dock	4	9/19/2021	Moorings	Confirmed	9/19/2021	9/20/2021	36'	1
Guest Dock	14	9/18/2021	WEBSITE	Confirmed	9/19/2021	9/23/2021	40'	4
Guest Dock	28	9/10/2021	WEBSITE	Confirmed	9/19/2021	9/26/2021	17'	7
Guest Dock	18	9/19/2021	WEBSITE	Confirmed	9/19/2021	9/20/2021	49'	1
Guest Dock	6	9/14/2021	Moorings	Confirmed	9/19/2021	9/21/2021	30'	2
Guest Dock	2	9/18/2021	WEBSITE	Confirmed	9/20/2021	9/24/2021		4
Guest Dock	16	9/14/2021	Moorings	Confirmed	9/20/2021	9/22/2021	22'	2
Guest Dock	18	9/6/2021	Moorings	Confirmed	9/20/2021	9/22/2021	50'	2
Guest Dock	27	9/10/2021	WEBSITE	Confirmed	9/20/2021	9/22/2021	30'	2
Guest Dock	8	9/19/2021	WEBSITE	Confirmed	9/20/2021	9/24/2021	34'	4
Guest Dock	8	9/19/2021	WEBSITE	Confirmed	9/20/2021	9/24/2021	34'	4
Guest Dock	4	9/14/2021	WEBSITE	Confirmed	9/21/2021	9/26/2021	32'	5
Guest Dock	3	9/10/2021	WEBSITE	Confirmed	9/21/2021	9/23/2021	40'	2
Guest Dock	10	9/8/2021	WEBSITE	Confirmed	9/21/2021	9/24/2021	17'	3
Guest Dock	11	9/20/2021	Moorings	Confirmed	9/21/2021	9/27/2021	26'	6
Guest Dock	6	9/7/2021	Moorings	Confirmed	9/21/2021	9/22/2021	40'	1
Guest Dock	5	9/7/2021	Moorings	Confirmed	9/21/2021	9/22/2021	10'	1
Guest Dock	22	9/20/2021	WEBSITE	Confirmed	9/21/2021	9/22/2021	40'	1
Guest Dock	21	9/14/2021	WEBSITE	Confirmed	9/21/2021	9/22/2021	45'	1
Guest Dock	20	9/14/2021	WEBSITE	Confirmed	9/22/2021	9/23/2021	45'	1
Guest Dock	6	9/20/2021	WEBSITE	Confirmed	9/22/2021	9/25/2021	40'	3
Guest Dock	21	9/21/2021	WEBSITE	Confirmed	9/22/2021	9/23/2021	34'	1
Guest Dock	26	9/21/2021	Moorings	Confirmed	9/22/2021	9/24/2021	29'	2
Guest Dock	5	9/20/2021	WEBSITE	Confirmed	9/22/2021	9/24/2021	30'	2
Guest Dock	15	9/22/2021	Moorings	Confirmed	9/22/2021	9/24/2021	30'	2
Guest Dock	27	9/10/2021	WEBSITE	Confirmed	9/22/2021	9/23/2021	30'	1
Guest Dock	27	9/22/2021	WEBSITE	Confirmed	9/23/2021	9/24/2021	30'	1
Guest Dock	13	9/22/2021	Moorings	Confirmed	9/23/2021	9/25/2021	40'	2
Guest Dock	14	9/13/2021	WEBSITE	Confirmed	9/23/2021	9/26/2021	30'	3
Guest Dock	16	9/17/2021	WEBSITE	Confirmed	9/23/2021	9/25/2021	36'	2
Guest Dock	3	9/22/2021	Moorings	Confirmed	9/23/2021	9/24/2021	57'	1
Guest Dock	21	9/20/2021	Moorings	Confirmed	9/23/2021	9/26/2021	65'	3
Guest Dock	8	9/22/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	37'	3
Guest Dock	3	9/23/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	54'	3
Guest Dock	9	9/22/2021	WEBSITE	Confirmed	9/24/2021	9/28/2021		4
Guest Dock	27	9/22/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	30'	3
Guest Dock	15	9/23/2021	Moorings	Confirmed	9/24/2021	9/27/2021	35'	3
Guest Dock	26	9/23/2021	WEBSITE	Confirmed	9/24/2021	9/25/2021	29'	1
Guest Dock	16	9/24/2021	WEBSITE	Confirmed	9/25/2021	9/29/2021	29'	4

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	6	9/23/2021	Moorings	Confirmed	9/25/2021	10/10/2021	30'	15
Guest Dock	18	9/25/2021	WEBSITE	Confirmed	9/25/2021	9/26/2021	36'	1
Guest Dock	29	9/26/2021	Moorings	Confirmed	9/25/2021	9/26/2021		1
Guest Dock	13	9/24/2021	WEBSITE	Confirmed	9/25/2021	9/27/2021	40'	2
Guest Dock	2	9/23/2021	WEBSITE	Confirmed	9/25/2021	9/27/2021	23'	2
Guest Dock	26	9/22/2021	WEBSITE	Confirmed	9/25/2021	9/26/2021	26'	1
Guest Dock	10	9/23/2021	Moorings	Confirmed	9/25/2021	9/29/2021	41'	4
Guest Dock	7	9/23/2021	Moorings	Confirmed	9/25/2021	9/30/2021	26'	5
Guest Dock	14	9/26/2021	Moorings	Confirmed	9/26/2021	10/4/2021		8
Guest Dock	28	9/26/2021	WEBSITE	Confirmed	9/26/2021	9/27/2021	25'	1
Guest Dock	18	9/24/2021	WEBSITE	Confirmed	9/26/2021	9/28/2021	54'	2
Guest Dock	26	9/25/2021	WEBSITE	Confirmed	9/26/2021	9/29/2021		3
Guest Dock	4	9/25/2021	WEBSITE	Confirmed	9/26/2021	10/1/2021	30'	5
Guest Dock	8	9/26/2021	WEBSITE	Confirmed	9/27/2021	9/30/2021	30'	3
Guest Dock	27	9/15/2021	Moorings	Confirmed	9/27/2021	10/1/2021	35'	4
Guest Dock	5	9/26/2021	WEBSITE	Confirmed	9/27/2021	9/28/2021	25'	1
Guest Dock	2	9/26/2021	WEBSITE	Confirmed	9/27/2021	9/30/2021	23'	3
Guest Dock	28	9/13/2021	WEBSITE	Confirmed	9/27/2021	10/2/2021	36'	5
Guest Dock	19	9/23/2021	Moorings	Confirmed	9/27/2021	9/28/2021	45'	1
Guest Dock	3	9/27/2021	Moorings	Confirmed	9/27/2021	9/29/2021	54'	2
Guest Dock	21	9/24/2021	WEBSITE	Confirmed	9/27/2021	10/1/2021	47'	4
Guest Dock	20	9/28/2021	WEBSITE	Confirmed	9/28/2021	9/29/2021	25'	1
Guest Dock	9	9/22/2021	WEBSITE	Confirmed	9/28/2021	10/1/2021		3
Guest Dock	13	9/20/2021	Moorings	Confirmed	9/28/2021	10/2/2021	40'	4
Guest Dock	12	9/25/2021	WEBSITE	Confirmed	9/29/2021	10/2/2021		3
Guest Dock	16	9/25/2021	WEBSITE	Confirmed	9/29/2021	10/1/2021	36'	2
Guest Dock	3	9/27/2021	Moorings	Confirmed	9/29/2021	9/30/2021	54'	1
Guest Dock	8	9/23/2021	Moorings	Confirmed	9/30/2021	10/1/2021	26'	1
Guest Dock	3	9/29/2021	Moorings	Confirmed	9/30/2021	10/1/2021	26'	1
Guest Dock	10	9/28/2021	WEBSITE	Confirmed	9/30/2021	10/2/2021	37'	2
Guest Dock	2	9/29/2021	WEBSITE	Confirmed	9/30/2021	10/1/2021	18'	1
Guest Dock	18	9/23/2021	Moorings	Confirmed	9/30/2021	10/15/2021	58'	15
Guest Dock	19	9/23/2021	Moorings	Confirmed	9/30/2021	10/15/2021	37'	15
Guest Dock	29	9/26/2021	WEBSITE	Confirmed	9/30/2021	10/1/2021	23'	1
Guest Dock	22	9/30/2021	Moorings	Confirmed	9/30/2021	10/3/2021	48'	3
Guest Dock	26	9/16/2021	WEBSITE	Confirmed	10/1/2021	10/3/2021	15'	2
Guest Dock	3	9/25/2021	WEBSITE	Confirmed	10/1/2021	10/16/2021	53'	15
Guest Dock	16	9/29/2021	WEBSITE	Confirmed	10/1/2021	10/3/2021	18'	2
Guest Dock	27	9/15/2021	Moorings	Confirmed	10/1/2021	10/4/2021	35'	3
Guest Dock	21	9/29/2021	WEBSITE	Confirmed	10/1/2021	10/3/2021	47'	2
Guest Dock	7	9/23/2021	Moorings	Confirmed	10/1/2021	10/6/2021	21'	5
Guest Dock	12	9/28/2021	WEBSITE	Confirmed	10/2/2021	10/4/2021	37'	2
Guest Dock	9	9/28/2021	Moorings	Confirmed	10/2/2021	10/6/2021	19'	4
Guest Dock	10	9/25/2021	WEBSITE	Confirmed	10/2/2021	10/5/2021	23'	3
Guest Dock	20	10/2/2021	WEBSITE	Confirmed	10/2/2021	10/3/2021		1
Guest Dock	28	9/29/2021	WEBSITE	Confirmed	10/2/2021	10/17/2021	27'	15
Guest Dock	15	10/2/2021	WEBSITE	Confirmed	10/2/2021	10/5/2021	49'	3
Guest Dock	20	9/30/2021	WEBSITE	Confirmed	10/3/2021	10/6/2021	49'	3
Guest Dock	16	10/1/2021	WEBSITE	Confirmed	10/3/2021	10/18/2021	46'	15
Guest Dock	5	10/1/2021	WEBSITE	Confirmed	10/3/2021	10/4/2021		1
Guest Dock	21	10/3/2021	WEBSITE	Confirmed	10/3/2021	10/4/2021	47'	1
Guest Dock	2	10/1/2021	WEBSITE	Confirmed	10/3/2021	10/4/2021	27'	1
Guest Dock	27	10/1/2021	WEBSITE	Confirmed	10/4/2021	10/5/2021	27'	1
Guest Dock	4	9/29/2021	Moorings	Confirmed	10/4/2021	10/10/2021	45'	6
Guest Dock	5	9/29/2021	Moorings	Confirmed	10/4/2021	10/5/2021	26'	1
Guest Dock	26	10/3/2021	WEBSITE	Confirmed	10/4/2021	10/7/2021	30'	3
Guest Dock	12	9/26/2021	Moorings	Confirmed	10/4/2021	10/6/2021		2
Guest Dock	14	10/3/2021	Moorings	Confirmed	10/4/2021	10/6/2021	30'	2
Guest Dock	2	9/25/2021	WEBSITE	Confirmed	10/4/2021	10/7/2021	27'	3
Guest Dock	29	10/5/2021	WEBSITE	Confirmed	10/5/2021	10/6/2021	23'	1
Guest Dock	5	10/4/2021	Moorings	Confirmed	10/5/2021	10/8/2021	41'	3
Guest Dock	15	10/4/2021	WEBSITE	Confirmed	10/5/2021	10/7/2021	27'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	7	9/23/2021	Moorings	Confirmed	10/6/2021	10/9/2021	21'	3
Guest Dock	12	9/30/2021	WEBSITE	Confirmed	10/6/2021	10/13/2021	44'	7
Guest Dock	21	10/4/2021	Moorings	Confirmed	10/6/2021	10/8/2021	64'	2
Guest Dock	29	10/5/2021	WEBSITE	Confirmed	10/6/2021	10/7/2021	23'	1
Guest Dock	13	9/26/2021	Moorings	Confirmed	10/6/2021	10/8/2021		2
Guest Dock	22	9/29/2021	WEBSITE	Confirmed	10/6/2021	10/21/2021	60'	15
Guest Dock	20	9/27/2021	Moorings	Confirmed	10/6/2021	10/9/2021	50'	3
Guest Dock	10	10/3/2021	Moorings	Confirmed	10/6/2021	10/8/2021	30'	2
Guest Dock	15	10/4/2021	WEBSITE	Confirmed	10/7/2021	10/10/2021	27'	3
Guest Dock	5	10/4/2021	Moorings	Confirmed	10/8/2021	10/10/2021	41'	2
Guest Dock	14	10/5/2021	WEBSITE	Confirmed	10/8/2021	10/9/2021	36'	1
Guest Dock	8	10/7/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	34'	3
Guest Dock	13	10/7/2021	WEBSITE	Confirmed	10/8/2021	10/20/2021	44'	12
Guest Dock	11	9/26/2021	Moorings	Confirmed	10/8/2021	10/10/2021		2
Guest Dock	21	10/6/2021	Moorings	Confirmed	10/8/2021	10/14/2021	54'	6
Guest Dock	20	9/30/2021	WEBSITE	Confirmed	10/9/2021	10/11/2021	54'	2
Guest Dock	7	10/5/2021	WEBSITE	Confirmed	10/9/2021	10/10/2021	30'	1
Guest Dock	29	10/11/2021	Moorings	Confirmed	10/10/2021	10/15/2021	30'	5
Guest Dock	15	10/5/2021	Moorings	Confirmed	10/10/2021	10/17/2021	41'	7
Guest Dock	10	10/8/2021	WEBSITE	Confirmed	10/10/2021	10/23/2021	43'	13
Guest Dock	4	9/29/2021	Moorings	Confirmed	10/10/2021	10/15/2021	45'	5
Guest Dock	6	10/6/2021	Moorings	Confirmed	10/10/2021	10/11/2021	21'	1
Guest Dock	14	10/11/2021	Moorings	Confirmed	10/11/2021	10/12/2021	34'	1
Guest Dock	5	10/2/2021	WEBSITE	Confirmed	10/11/2021	10/14/2021	30'	3
Guest Dock	6	10/10/2021	WEBSITE	Confirmed	10/11/2021	10/14/2021	42'	3
Guest Dock	2	10/9/2021	WEBSITE	Confirmed	10/11/2021	10/13/2021	30'	2
Guest Dock	8	10/10/2021	WEBSITE	Confirmed	10/11/2021	10/15/2021	29'	4
Guest Dock	14	10/12/2021	Moorings	Confirmed	10/12/2021	10/13/2021	30'	1
Guest Dock	11	10/12/2021	Moorings	Confirmed	10/12/2021	10/14/2021	30'	2
Guest Dock	27	10/12/2021	WEBSITE	Confirmed	10/12/2021	10/14/2021	36'	2
Guest Dock	26	10/12/2021	WEBSITE	Confirmed	10/12/2021	10/13/2021	34'	1
Guest Dock	26	10/7/2021	WEBSITE	Confirmed	10/13/2021	10/15/2021	36'	2
Guest Dock	7	10/12/2021	Moorings	Confirmed	10/13/2021	10/15/2021	41'	2
Guest Dock	14	10/12/2021	Moorings	Confirmed	10/13/2021	10/16/2021	30'	3
Guest Dock	12	10/13/2021	Moorings	Confirmed	10/13/2021	10/16/2021	27'	3
Guest Dock	2	10/9/2021	WEBSITE	Confirmed	10/13/2021	10/15/2021	30'	2
Guest Dock	20	10/7/2021	WEBSITE	Confirmed	10/13/2021	10/17/2021	52'	4
Guest Dock	11	10/13/2021	WEBSITE	Confirmed	10/14/2021	10/15/2021	30'	1
Guest Dock	5	10/4/2021	WEBSITE	Confirmed	10/15/2021	10/16/2021	37'	1
Guest Dock	11	10/13/2021	Moorings	Confirmed	10/15/2021	10/30/2021	27'	15
Guest Dock	8	10/14/2021	WEBSITE	Confirmed	10/15/2021	10/19/2021	37'	4
Guest Dock	4	10/2/2021	WEBSITE	Confirmed	10/15/2021	10/16/2021	40'	1
Guest Dock	2	10/9/2021	WEBSITE	Confirmed	10/15/2021	10/16/2021	30'	1
Guest Dock	26	10/7/2021	WEBSITE	Confirmed	10/15/2021	10/16/2021	36'	1
Guest Dock	7	9/29/2021	Moorings	Confirmed	10/15/2021	10/17/2021	45'	2
Guest Dock	4	10/2/2021	WEBSITE	Confirmed	10/16/2021	10/22/2021	40'	6
Guest Dock	5	10/15/2021	WEBSITE	Confirmed	10/16/2021	10/20/2021	40'	4
Guest Dock	2	10/16/2021	WEBSITE	Confirmed	10/16/2021	10/18/2021	38'	2
Guest Dock	12	10/7/2021	WEBSITE	Confirmed	10/17/2021	10/21/2021	43'	4
Guest Dock	15	10/3/2021	Moorings	Confirmed	10/17/2021	11/1/2021	46'	15
Guest Dock	20	10/3/2021	Moorings	Confirmed	10/17/2021	11/1/2021	51'	15
Guest Dock	28	10/16/2021	WEBSITE	Confirmed	10/17/2021	10/21/2021	26'	4
Guest Dock	3	10/16/2021	WEBSITE	Confirmed	10/17/2021	10/22/2021	39'	5
Guest Dock	6	10/5/2021	WEBSITE	Confirmed	10/17/2021	10/22/2021	30'	5
Guest Dock	9	10/1/2021	WEBSITE	Confirmed	10/18/2021	10/18/2021	39'	0
Guest Dock	2	10/14/2021	WEBSITE	Confirmed	10/18/2021	10/22/2021	34'	4
Guest Dock	21	10/18/2021	WEBSITE	Confirmed	10/18/2021	10/20/2021	25'	2
Guest Dock	26	10/16/2021	WEBSITE	Confirmed	10/18/2021	10/21/2021	27'	3
Guest Dock	19	10/4/2021	Moorings	Confirmed	10/18/2021	11/1/2021	52'	14
Guest Dock	7	10/15/2021	WEBSITE	Confirmed	10/18/2021	10/20/2021	22'	2
Guest Dock	16	10/17/2021	Moorings	Confirmed	10/18/2021	10/20/2021	29'	2
Guest Dock	9	10/1/2021	WEBSITE	Confirmed	10/19/2021	11/1/2021	39'	13

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	5	10/17/2021	Moorings	Confirmed	10/20/2021	10/22/2021	32'	2
Guest Dock	7	10/11/2021	Moorings	Confirmed	10/20/2021	10/25/2021	44'	5
Guest Dock	27	10/16/2021	WEBSITE	Confirmed	10/20/2021	10/22/2021	36'	2
Guest Dock	16	10/7/2021	WEBSITE	Confirmed	10/20/2021	10/21/2021	44'	1
Guest Dock	13	10/6/2021	Moorings	Confirmed	10/20/2021	11/1/2021	50'	12
Guest Dock	12	10/7/2021	WEBSITE	Confirmed	10/21/2021	10/23/2021	44'	2
Guest Dock	22	10/19/2021	Moorings	Confirmed	10/21/2021	10/22/2021	41'	1
Guest Dock	28	10/14/2021	WEBSITE	Confirmed	10/21/2021	10/23/2021	36'	2
Guest Dock	26	10/7/2021	WEBSITE	Confirmed	10/21/2021	10/23/2021	46'	2
Guest Dock	4	10/17/2021	Moorings	Confirmed	10/22/2021	10/24/2021	32'	2
Guest Dock	3	10/19/2021	Moorings	Confirmed	10/22/2021	10/25/2021	41'	3
Guest Dock	6	10/20/2021	WEBSITE	Confirmed	10/22/2021	10/23/2021	34'	1
Guest Dock	22	10/11/2021	Moorings	Confirmed	10/22/2021	11/1/2021	49'	10
Guest Dock	21	10/5/2021	WEBSITE	Confirmed	10/22/2021	11/1/2021	52'	10
Guest Dock	5	10/7/2021	WEBSITE	Confirmed	10/22/2021	10/28/2021	44'	6
Guest Dock	8	10/16/2021	WEBSITE	Confirmed	10/22/2021	10/28/2021	39'	6
Guest Dock	2	10/19/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	30'	3
Guest Dock	27	10/16/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	27'	3
Guest Dock	28	10/22/2021	WEBSITE	Confirmed	10/23/2021	10/25/2021		2
Guest Dock	26	10/19/2021	WEBSITE	Confirmed	10/23/2021	10/25/2021	35'	2
Guest Dock	6	10/18/2021	Moorings	Confirmed	10/23/2021	10/25/2021	32'	2
Guest Dock	12	10/8/2021	WEBSITE	Confirmed	10/23/2021	10/25/2021	46'	2
Guest Dock	4	10/18/2021	WEBSITE	Confirmed	10/24/2021	10/26/2021	44'	2
Guest Dock	7	10/22/2021	WEBSITE	Confirmed	10/25/2021	10/26/2021		1
Guest Dock	6	10/15/2021	WEBSITE	Confirmed	10/25/2021	10/26/2021	40'	1
Guest Dock	12	10/11/2021	Moorings	Confirmed	10/25/2021	11/1/2021	48'	7
Guest Dock	3	10/4/2021	Moorings	Confirmed	10/25/2021	11/1/2021	57'	7
Guest Dock	2	10/11/2021	Moorings	Confirmed	10/25/2021	11/1/2021	40'	7
Guest Dock	27	10/19/2021	WEBSITE	Confirmed	10/25/2021	10/26/2021	35'	1
Guest Dock	26	10/15/2021	WEBSITE	Confirmed	10/25/2021	10/28/2021	30'	3
Guest Dock	27	10/16/2021	WEBSITE	Confirmed	10/26/2021	10/27/2021	36'	1
Guest Dock	4	10/12/2021	Moorings	Confirmed	10/26/2021	11/1/2021	39'	6
Guest Dock	6	10/12/2021	WEBSITE	Confirmed	10/26/2021	11/1/2021	37'	6
Guest Dock	7	10/13/2021	Moorings	Confirmed	10/26/2021	11/1/2021	38'	6
Guest Dock	10	10/14/2021	WEBSITE	Confirmed	10/27/2021	11/1/2021	42'	5
Guest Dock	28	10/15/2021	WEBSITE	Confirmed	10/27/2021	11/1/2021	39'	5
Guest Dock	27	10/14/2021	WEBSITE	Confirmed	10/27/2021	10/29/2021	32'	2
Guest Dock	5	10/15/2021	WEBSITE	Confirmed	10/28/2021	11/1/2021	43'	4
Guest Dock	26	10/14/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	42'	3
Guest Dock	11	10/16/2021	WEBSITE	Confirmed	10/30/2021	11/1/2021	42'	2
Guest Dock	14	10/17/2021	Moorings	Confirmed	10/31/2021	11/1/2021	49'	1
Guest Dock	14	10/18/2021	Moorings	Confirmed	11/1/2021	11/4/2021	44'	3
Guest Dock	8	10/25/2021	Moorings	Confirmed	11/1/2021	11/16/2021	30'	15
Guest Dock	12	11/1/2021	Moorings	Confirmed	11/1/2021	11/5/2021	25'	4
Guest Dock	28	11/1/2021	WEBSITE	Confirmed	11/1/2021	11/2/2021	28'	1
Guest Dock	19	11/1/2021	WEBSITE	Confirmed	11/1/2021	11/3/2021	42'	2
Guest Dock	5	10/27/2021	Moorings	Confirmed	11/1/2021	11/2/2021	27'	1
Guest Dock	10	10/31/2021	Moorings	Confirmed	11/1/2021	11/5/2021	29'	4
Guest Dock	26	10/31/2021	Moorings	Confirmed	11/1/2021	11/5/2021	34'	4
Guest Dock	7	10/24/2021	WEBSITE	Confirmed	11/1/2021	11/4/2021	44'	3
Guest Dock	16	10/18/2021	Moorings	Confirmed	11/1/2021	11/5/2021	36'	4
Guest Dock	6	10/25/2021	Moorings	Confirmed	11/1/2021	11/7/2021	36'	6
Guest Dock	5	11/1/2021	WEBSITE	Confirmed	11/2/2021	11/6/2021	26'	4
Guest Dock	3	11/2/2021	Moorings	Confirmed	11/2/2021	11/3/2021	27'	1
Guest Dock	21	11/2/2021	Moorings	Confirmed	11/2/2021	11/6/2021	48'	4
Guest Dock	22	11/1/2021	WEBSITE	Confirmed	11/2/2021	11/5/2021	30'	3
Guest Dock	28	11/2/2021	WEBSITE	Confirmed	11/2/2021	11/3/2021	36'	1
Guest Dock	4	11/2/2021	Moorings	Confirmed	11/3/2021	11/7/2021	27'	4
Guest Dock	13	10/23/2021	WEBSITE	Confirmed	11/3/2021	11/5/2021	48'	2
Guest Dock	28	10/22/2021	WEBSITE	Confirmed	11/3/2021	11/5/2021	36'	2
Guest Dock	27	10/23/2021	WEBSITE	Confirmed	11/4/2021	11/5/2021	30'	1
Guest Dock	20	10/4/2021	Moorings	Confirmed	11/4/2021	11/5/2021	52'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	13	10/23/2021	WEBSITE	Confirmed	11/5/2021	11/9/2021	48'	4
Guest Dock	18	10/22/2021	WEBSITE	Confirmed	11/5/2021	11/12/2021	53'	7
Guest Dock	22	11/1/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	30'	3
Guest Dock	19	11/5/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	54'	3
Guest Dock	7	11/5/2021	WEBSITE	Confirmed	11/5/2021	11/7/2021	42'	2
Guest Dock	3	11/5/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	38'	3
Guest Dock	16	10/18/2021	Moorings	Confirmed	11/5/2021	11/6/2021	36'	1
Guest Dock	26	10/24/2021	Moorings	Confirmed	11/6/2021	11/20/2021	57'	14
Guest Dock	20	11/6/2021	WEBSITE	Confirmed	11/6/2021	11/7/2021	48'	1
Guest Dock	10	11/6/2021	WEBSITE	Confirmed	11/6/2021	11/9/2021	41'	3
Guest Dock	12	11/6/2021	WEBSITE	Confirmed	11/6/2021	11/8/2021	25'	2
Guest Dock	7	11/7/2021	WEBSITE	Confirmed	11/7/2021	11/8/2021	42'	1
Guest Dock	28	11/7/2021	WEBSITE	Confirmed	11/7/2021	11/8/2021	37'	1
Guest Dock	20	11/7/2021	WEBSITE	Confirmed	11/7/2021	11/8/2021	48'	1
Guest Dock	4	11/2/2021	Moorings	Confirmed	11/7/2021	11/8/2021	27'	1
Guest Dock	5	11/9/2021	WEBSITE	Confirmed	11/8/2021	11/9/2021	24'	1
Guest Dock	6	11/1/2021	WEBSITE	Confirmed	11/8/2021	11/10/2021	30'	2
Guest Dock	19	11/5/2021	WEBSITE	Confirmed	11/8/2021	11/9/2021	46'	1
Guest Dock	2	11/7/2021	WEBSITE	Confirmed	11/8/2021	11/12/2021	38'	4
Guest Dock	7	11/7/2021	WEBSITE	Confirmed	11/8/2021	11/9/2021	34'	1
Guest Dock	28	11/1/2021	WEBSITE	Confirmed	11/8/2021	11/11/2021	30'	3
Guest Dock	12	11/8/2021	WEBSITE	Confirmed	11/8/2021	11/9/2021		1
Guest Dock	12	11/9/2021	WEBSITE	Confirmed	11/9/2021	11/10/2021		1
Guest Dock	21	11/9/2021	WEBSITE	Confirmed	11/9/2021	11/10/2021	44'	1
Guest Dock	16	11/10/2021	WEBSITE	Confirmed	11/10/2021	11/11/2021	39'	1
Guest Dock	11	11/3/2021	Moorings	Confirmed	11/10/2021	11/14/2021	44'	4
Guest Dock	16	10/18/2021	Moorings	Confirmed	11/11/2021	11/13/2021	36'	2
Guest Dock	28	11/11/2021	WEBSITE	Confirmed	11/11/2021	11/12/2021	38'	1
Guest Dock	19	11/10/2021	WEBSITE	Confirmed	11/11/2021	11/15/2021	47'	4
Guest Dock	4	11/7/2021	WEBSITE	Confirmed	11/11/2021	11/13/2021	42'	2
Guest Dock	20	11/11/2021	WEBSITE	Confirmed	11/11/2021	11/14/2021	47'	3
Guest Dock	14	10/27/2021	Moorings	Confirmed	11/11/2021	11/26/2021	37'	15
Guest Dock	13	11/11/2021	WEBSITE	Confirmed	11/11/2021	11/16/2021	30'	5
Guest Dock	10	11/10/2021	WEBSITE	Confirmed	11/12/2021	11/14/2021	24'	2
Guest Dock	18	11/4/2021	WEBSITE	Confirmed	11/12/2021	11/22/2021	53'	10
Guest Dock	3	11/9/2021	WEBSITE	Confirmed	11/12/2021	11/13/2021	53'	1
Guest Dock	22	11/11/2021	WEBSITE	Confirmed	11/12/2021	11/13/2021	53'	1
Guest Dock	28	11/11/2021	WEBSITE	Confirmed	11/12/2021	11/17/2021	35'	5
Guest Dock	9	11/11/2021	WEBSITE	Confirmed	11/12/2021	11/16/2021	43'	4
Guest Dock	2	11/12/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	34'	3
Guest Dock	5	11/6/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	25'	3
Guest Dock	21	11/12/2021	WEBSITE	Confirmed	11/13/2021	11/23/2021	53'	10
Guest Dock	12	11/11/2021	WEBSITE	Confirmed	11/13/2021	11/15/2021	48'	2
Guest Dock	7	11/7/2021	WEBSITE	Confirmed	11/14/2021	11/29/2021	38'	15
Guest Dock	3	10/24/2021	Moorings	Confirmed	11/14/2021	11/29/2021	50'	15
Guest Dock	10	11/14/2021	WEBSITE	Confirmed	11/14/2021	11/20/2021	36'	6
Guest Dock	15	11/12/2021	WEBSITE	Confirmed	11/15/2021	11/19/2021	30'	4
Guest Dock	5	11/15/2021	WEBSITE	Confirmed	11/15/2021	11/18/2021	29'	3
Guest Dock	12	11/11/2021	WEBSITE	Confirmed	11/15/2021	11/17/2021	37'	2
Guest Dock	6	10/25/2021	Moorings	Confirmed	11/15/2021	11/22/2021	36'	7
Guest Dock	2	11/15/2021	WEBSITE	Confirmed	11/15/2021	11/16/2021	34'	1
Guest Dock	16	11/14/2021	WEBSITE	Confirmed	11/15/2021	11/16/2021	34'	1
Guest Dock	11	11/13/2021	WEBSITE	Confirmed	11/15/2021	11/30/2021	36'	15
Guest Dock	13	11/15/2021	WEBSITE	Confirmed	11/16/2021	11/21/2021	30'	5
Guest Dock	19	11/16/2021	WEBSITE	Confirmed	11/16/2021	11/17/2021	48'	1
Guest Dock	2	11/15/2021	WEBSITE	Confirmed	11/16/2021	11/19/2021	17'	3
Guest Dock	19	11/10/2021	WEBSITE	Confirmed	11/17/2021	11/22/2021	48'	5
Guest Dock	12	11/17/2021	WEBSITE	Confirmed	11/17/2021	11/18/2021	37'	1
Guest Dock	8	11/15/2021	WEBSITE	Confirmed	11/17/2021	11/20/2021	43'	3
Guest Dock	4	11/16/2021	Moorings	Confirmed	11/17/2021	11/23/2021	26'	6
Guest Dock	5	11/12/2021	WEBSITE	Confirmed	11/18/2021	11/28/2021	12'	10
Guest Dock	12	11/14/2021	Moorings	Confirmed	11/18/2021	11/20/2021	36'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	15	11/17/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	41'	3
Guest Dock	9	11/16/2021	WEBSITE	Confirmed	11/19/2021	11/21/2021	34'	2
Guest Dock	26	11/20/2021	Moorings	Confirmed	11/20/2021	11/22/2021	37'	2
Guest Dock	8	11/18/2021	WEBSITE	Confirmed	11/20/2021	11/24/2021	36'	4
Guest Dock	20	11/11/2021	WEBSITE	Confirmed	11/20/2021	11/21/2021	56'	1
Guest Dock	12	11/19/2021	WEBSITE	Confirmed	11/20/2021	11/24/2021	39'	4
Guest Dock	10	11/19/2021	WEBSITE	Confirmed	11/20/2021	11/23/2021	36'	3
Guest Dock	16	11/20/2021	WEBSITE	Confirmed	11/20/2021	11/22/2021	34'	2
Guest Dock	9	11/20/2021	WEBSITE	Confirmed	11/21/2021	11/22/2021	38'	1
Guest Dock	27	11/17/2021	WEBSITE	Confirmed	11/21/2021	11/22/2021	35'	1
Guest Dock	2	11/12/2021	WEBSITE	Confirmed	11/21/2021	11/24/2021	19'	3
Guest Dock	28	11/8/2021	WEBSITE	Confirmed	11/21/2021	11/26/2021	38'	5
Guest Dock	13	11/20/2021	WEBSITE	Confirmed	11/21/2021	11/24/2021	34'	3
Guest Dock	16	11/17/2021	WEBSITE	Confirmed	11/22/2021	11/26/2021	34'	4
Guest Dock	9	11/18/2021	WEBSITE	Confirmed	11/22/2021	11/24/2021	36'	2
Guest Dock	19	11/21/2021	WEBSITE	Confirmed	11/22/2021	11/25/2021	34'	3
Guest Dock	15	11/21/2021	WEBSITE	Confirmed	11/22/2021	11/23/2021	36'	1
Guest Dock	6	11/21/2021	WEBSITE	Confirmed	11/22/2021	11/23/2021	30'	1
Guest Dock	27	11/20/2021	WEBSITE	Confirmed	11/22/2021	11/25/2021	34'	3
Guest Dock	20	11/22/2021	WEBSITE	Confirmed	11/22/2021	11/24/2021		2
Guest Dock	26	11/14/2021	Moorings	Confirmed	11/22/2021	11/26/2021	42'	4
Guest Dock	10	11/20/2021	WEBSITE	Confirmed	11/23/2021	11/30/2021	36'	7
Guest Dock	6	11/16/2021	Moorings	Confirmed	11/23/2021	11/26/2021	26'	3
Guest Dock	15	11/19/2021	WEBSITE	Confirmed	11/23/2021	11/25/2021	39'	2
Guest Dock	4	11/14/2021	WEBSITE	Confirmed	11/23/2021	11/27/2021	41'	4
Guest Dock	12	11/20/2021	WEBSITE	Confirmed	11/24/2021	11/27/2021	36'	3
Guest Dock	2	11/21/2021	WEBSITE	Confirmed	11/24/2021	11/25/2021	19'	1
Guest Dock	21	11/15/2021	Moorings	Confirmed	11/24/2021	11/26/2021	46'	2
Guest Dock	20	11/15/2021	Moorings	Confirmed	11/24/2021	11/26/2021	46'	2
Guest Dock	8	11/18/2021	WEBSITE	Confirmed	11/24/2021	11/26/2021	41'	2
Guest Dock	22	11/23/2021	WEBSITE	Confirmed	11/24/2021	11/25/2021		1
Guest Dock	22	11/12/2021	WEBSITE	Confirmed	11/25/2021	11/27/2021	62'	2
Guest Dock	9	11/21/2021	WEBSITE	Confirmed	11/25/2021	11/30/2021	30'	5
Guest Dock	27	11/21/2021	WEBSITE	Confirmed	11/25/2021	11/28/2021	36'	3
Guest Dock	19	11/24/2021	WEBSITE	Confirmed	11/25/2021	12/1/2021	53'	6
Guest Dock	2	11/24/2021	WEBSITE	Confirmed	11/25/2021	11/26/2021	36'	1
Guest Dock	16	11/24/2021	WEBSITE	Confirmed	11/26/2021	11/27/2021	29'	1
Guest Dock	26	11/21/2021	WEBSITE	Confirmed	11/26/2021	11/28/2021	35'	2
Guest Dock	6	11/16/2021	WEBSITE	Confirmed	11/26/2021	11/28/2021		2
Guest Dock	28	11/24/2021	WEBSITE	Confirmed	11/26/2021	11/28/2021	40'	2
Guest Dock	2	11/13/2021	WEBSITE	Confirmed	11/26/2021	11/28/2021	24'	2
Guest Dock	14	11/23/2021	WEBSITE	Confirmed	11/26/2021	11/27/2021	23'	1
Guest Dock	20	11/23/2021	WEBSITE	Confirmed	11/27/2021	11/28/2021		1
Guest Dock	22	11/27/2021	WEBSITE	Confirmed	11/27/2021	11/28/2021	62'	1
Guest Dock	4	11/27/2021	WEBSITE	Confirmed	11/27/2021	11/29/2021	30'	2
Guest Dock	6	11/21/2021	WEBSITE	Confirmed	11/28/2021	12/1/2021	30'	3
Guest Dock	16	11/24/2021	WEBSITE	Confirmed	11/28/2021	12/1/2021	37'	3
Guest Dock	27	11/28/2021	WEBSITE	Confirmed	11/28/2021	11/29/2021	31'	1
Guest Dock	28	11/26/2021	WEBSITE	Confirmed	11/28/2021	12/13/2021	30'	15
Guest Dock	12	11/28/2021	WEBSITE	Confirmed	11/28/2021	11/29/2021	35'	1
Guest Dock	13	11/28/2021	WEBSITE	Confirmed	11/29/2021	12/2/2021	35'	3
Guest Dock	5	11/25/2021	WEBSITE	Confirmed	11/29/2021	12/5/2021	26'	6
Guest Dock	12	11/16/2021	WEBSITE	Confirmed	11/29/2021	12/3/2021	43'	4
Guest Dock	27	11/21/2021	WEBSITE	Confirmed	11/29/2021	12/3/2021	30'	4
Guest Dock	2	11/22/2021	WEBSITE	Confirmed	11/29/2021	12/3/2021	38'	4
Guest Dock	3	11/28/2021	WEBSITE	Confirmed	11/29/2021	12/1/2021	30'	2
Guest Dock	7	11/28/2021	WEBSITE	Confirmed	11/29/2021	12/2/2021	30'	3
Guest Dock	14	11/24/2021	WEBSITE	Confirmed	11/29/2021	12/2/2021	29'	3
Guest Dock	20	11/28/2021	WEBSITE	Confirmed	11/29/2021	12/3/2021	65'	4
Guest Dock	10	11/30/2021	WEBSITE	Confirmed	11/30/2021	12/2/2021	36'	2
Guest Dock	11	11/30/2021	WEBSITE	Confirmed	11/30/2021	12/1/2021	34'	1
Guest Dock	4	11/29/2021	WEBSITE	Confirmed	11/30/2021	12/1/2021	34'	1

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	9	11/30/2021	WEBSITE	Confirmed	11/30/2021	12/3/2021	34'	3
Guest Dock	26	11/25/2021	WEBSITE	Confirmed	11/30/2021	12/3/2021	36'	3
Guest Dock	15	12/1/2021	WEBSITE	Confirmed	12/1/2021	12/3/2021	37'	2
Guest Dock	6	11/28/2021	WEBSITE	Confirmed	12/1/2021	12/5/2021	22'	4
Guest Dock	11	12/1/2021	WEBSITE	Confirmed	12/1/2021	12/4/2021	34'	3
Guest Dock	3	11/30/2021	WEBSITE	Confirmed	12/1/2021	12/2/2021	30'	1
Guest Dock	16	12/1/2021	WEBSITE	Confirmed	12/1/2021	12/2/2021	30'	1
Guest Dock	4	11/30/2021	WEBSITE	Confirmed	12/2/2021	12/3/2021	30'	1
Guest Dock	16	12/2/2021	WEBSITE	Confirmed	12/2/2021	12/3/2021	36'	1
Guest Dock	8	12/1/2021	WEBSITE	Confirmed	12/2/2021	12/5/2021	23'	3
Guest Dock	10	12/5/2021	WEBSITE	Confirmed	12/2/2021	12/3/2021	29'	1
Guest Dock	7	11/30/2021	WEBSITE	Confirmed	12/2/2021	12/4/2021	30'	2
Guest Dock	3	11/18/2021	WEBSITE	Confirmed	12/2/2021	12/7/2021	46'	5
Guest Dock	13	11/30/2021	WEBSITE	Confirmed	12/2/2021	12/3/2021	35'	1
Guest Dock	13	12/3/2021	WEBSITE	Confirmed	12/3/2021	12/4/2021	35'	1
Guest Dock	10	12/3/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	34'	3
Guest Dock	9	12/3/2021	WEBSITE	Confirmed	12/3/2021	12/5/2021	34'	2
Guest Dock	15	12/2/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	29'	3
Guest Dock	7	12/4/2021	WEBSITE	Confirmed	12/4/2021	12/6/2021	30'	2
Guest Dock	14	12/1/2021	WEBSITE	Confirmed	12/4/2021	12/5/2021	30'	1
Guest Dock	11	12/4/2021	WEBSITE	Confirmed	12/4/2021	12/6/2021	34'	2
Guest Dock	18	12/3/2021	WEBSITE	Confirmed	12/4/2021	12/5/2021	56'	1
Guest Dock	12	12/1/2021	WEBSITE	Confirmed	12/4/2021	12/8/2021	46'	4
Guest Dock	13	12/4/2021	WEBSITE	Confirmed	12/4/2021	12/19/2021	27'	15
Guest Dock	18	12/5/2021	WEBSITE	Confirmed	12/5/2021	12/6/2021	56'	1
Guest Dock	27	11/28/2021	WEBSITE	Confirmed	12/5/2021	12/6/2021	30'	1
Guest Dock	14	12/1/2021	WEBSITE	Confirmed	12/5/2021	12/9/2021	30'	4
Guest Dock	15	12/5/2021	WEBSITE	Confirmed	12/6/2021	12/7/2021	29'	1
Guest Dock	27	11/28/2021	WEBSITE	Confirmed	12/6/2021	12/10/2021	30'	4
Guest Dock	4	12/3/2021	WEBSITE	Confirmed	12/6/2021	12/10/2021	38'	4
Guest Dock	22	12/5/2021	WEBSITE	Confirmed	12/6/2021	12/7/2021	46'	1
Guest Dock	6	12/5/2021	WEBSITE	Confirmed	12/6/2021	12/13/2021	42'	7
Guest Dock	10	12/4/2021	WEBSITE	Confirmed	12/6/2021	12/8/2021	34'	2
Guest Dock	15	12/7/2021	Moorings	Confirmed	12/7/2021	12/22/2021	32'	15
Guest Dock	8	12/7/2021	Moorings	Confirmed	12/7/2021	12/22/2021	40'	15
Guest Dock	3	12/5/2021	WEBSITE	Confirmed	12/7/2021	12/10/2021	41'	3
Guest Dock	2	12/7/2021	WEBSITE	Confirmed	12/7/2021	12/10/2021	28'	3
Guest Dock	5	12/7/2021	WEBSITE	Confirmed	12/7/2021	12/10/2021	38'	3
Guest Dock	11	12/5/2021	WEBSITE	Confirmed	12/7/2021	12/10/2021	29'	3
Guest Dock	16	11/28/2021	WEBSITE	Confirmed	12/8/2021	12/11/2021	36'	3
Guest Dock	12	12/7/2021	WEBSITE	Confirmed	12/8/2021	12/10/2021	35'	2
Guest Dock	10	12/7/2021	WEBSITE	Confirmed	12/8/2021	12/11/2021	34'	3
Guest Dock	20	12/8/2021	WEBSITE	Confirmed	12/8/2021	12/13/2021	53'	5
Guest Dock	26	12/8/2021	WEBSITE	Confirmed	12/9/2021	12/10/2021	39'	1
Guest Dock	18	12/9/2021	WEBSITE	Confirmed	12/9/2021	12/10/2021	50'	1
Guest Dock	14	12/8/2021	WEBSITE	Confirmed	12/9/2021	12/10/2021	37'	1
Guest Dock	4	12/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	28'	3
Guest Dock	18	12/10/2021	WEBSITE	Confirmed	12/10/2021	12/12/2021	50'	2
Guest Dock	14	12/9/2021	WEBSITE	Confirmed	12/10/2021	12/12/2021	35'	2
Guest Dock	2	12/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	40'	3
Guest Dock	12	12/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	42'	3
Guest Dock	10	12/11/2021	WEBSITE	Confirmed	12/11/2021	12/12/2021	34'	1
Guest Dock	11	12/10/2021	WEBSITE	Confirmed	12/11/2021	12/14/2021	34'	3
Guest Dock	3	12/4/2021	WEBSITE	Confirmed	12/12/2021	12/13/2021	32'	1
Guest Dock	26	12/8/2021	WEBSITE	Confirmed	12/12/2021	12/13/2021	39'	1
Guest Dock	27	12/10/2021	WEBSITE	Confirmed	12/12/2021	12/16/2021	39'	4
Guest Dock	10	12/11/2021	WEBSITE	Confirmed	12/12/2021	12/19/2021	24'	7
Guest Dock	14	12/12/2021	WEBSITE	Confirmed	12/12/2021	12/15/2021	34'	3
Guest Dock	28	12/13/2021	Moorings	Confirmed	12/13/2021	12/15/2021	30'	2
Guest Dock	20	12/11/2021	WEBSITE	Confirmed	12/13/2021	12/21/2021	45'	8
Guest Dock	6	12/12/2021	WEBSITE	Confirmed	12/13/2021	12/16/2021	42'	3
Guest Dock	5	12/11/2021	WEBSITE	Confirmed	12/13/2021	12/15/2021	44'	2

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	18	12/12/2021	WEBSITE	Confirmed	12/13/2021	12/15/2021		2
Guest Dock	4	12/9/2021	WEBSITE	Confirmed	12/13/2021	12/15/2021	39'	2
Guest Dock	2	12/12/2021	WEBSITE	Confirmed	12/13/2021	12/16/2021	28'	3
Guest Dock	12	12/8/2021	WEBSITE	Confirmed	12/13/2021	12/15/2021	37'	2
Guest Dock	16	12/11/2021	WEBSITE	Confirmed	12/13/2021	12/14/2021	41'	1
Guest Dock	9	12/12/2021	WEBSITE	Confirmed	12/13/2021	12/15/2021	32'	2
Guest Dock	16	12/14/2021	WEBSITE	Confirmed	12/14/2021	12/15/2021	41'	1
Guest Dock	21	12/3/2021	WEBSITE	Confirmed	12/14/2021	12/15/2021	50'	1
Guest Dock	11	12/10/2021	WEBSITE	Confirmed	12/14/2021	12/16/2021	34'	2
Guest Dock	26	12/5/2021	WEBSITE	Confirmed	12/14/2021	12/16/2021	35'	2
Guest Dock	19	12/15/2021	Moorings	Confirmed	12/14/2021	12/17/2021	27'	3
Guest Dock	22	12/15/2021	WEBSITE	Confirmed	12/15/2021	12/16/2021	38'	1
Guest Dock	12	12/15/2021	WEBSITE	Confirmed	12/15/2021	12/16/2021	32'	1
Guest Dock	5	12/14/2021	WEBSITE	Confirmed	12/15/2021	12/16/2021	44'	1
Guest Dock	4	12/14/2021	WEBSITE	Confirmed	12/15/2021	12/16/2021	39'	1
Guest Dock	28	12/11/2021	WEBSITE	Confirmed	12/15/2021	12/16/2021	30'	1
Guest Dock	9	12/14/2021	WEBSITE	Confirmed	12/15/2021	12/18/2021	41'	3
Guest Dock	16	12/4/2021	WEBSITE	Confirmed	12/15/2021	12/18/2021	36'	3
Guest Dock	18	12/10/2021	WEBSITE	Confirmed	12/15/2021	12/18/2021	56'	3
Guest Dock	14	12/13/2021	Moorings	Confirmed	12/15/2021	12/28/2021	30'	13
Guest Dock	7	12/15/2021	WEBSITE	Confirmed	12/15/2021	12/16/2021	34'	1
Guest Dock	5	12/16/2021	WEBSITE	Confirmed	12/16/2021	12/17/2021	32'	1
Guest Dock	6	12/15/2021	WEBSITE	Confirmed	12/16/2021	12/18/2021	42'	2
Guest Dock	7	12/15/2021	WEBSITE	Confirmed	12/16/2021	12/19/2021	28'	3
Guest Dock	4	12/13/2021	WEBSITE	Confirmed	12/16/2021	12/20/2021	39'	4
Guest Dock	28	12/14/2021	WEBSITE	Confirmed	12/16/2021	12/17/2021	30'	1
Guest Dock	11	12/16/2021	WEBSITE	Confirmed	12/16/2021	12/17/2021	38'	1
Guest Dock	2	12/16/2021	WEBSITE	Confirmed	12/16/2021	12/17/2021	34'	1
Guest Dock	12	12/16/2021	WEBSITE	Confirmed	12/16/2021	12/17/2021	32'	1
Guest Dock	26	12/13/2021	WEBSITE	Confirmed	12/16/2021	12/20/2021	39'	4
Guest Dock	21	12/3/2021	WEBSITE	Confirmed	12/17/2021	12/19/2021	45'	2
Guest Dock	2	12/17/2021	WEBSITE	Confirmed	12/17/2021	12/18/2021	38'	1
Guest Dock	12	12/15/2021	WEBSITE	Confirmed	12/17/2021	12/19/2021	21'	2
Guest Dock	27	12/3/2021	WEBSITE	Confirmed	12/17/2021	12/18/2021	30'	1
Guest Dock	5	12/15/2021	WEBSITE	Confirmed	12/17/2021	12/18/2021	29'	1
Guest Dock	11	12/16/2021	WEBSITE	Confirmed	12/17/2021	12/18/2021	32'	1
Guest Dock	22	12/12/2021	WEBSITE	Confirmed	12/17/2021	12/24/2021	60'	7
Guest Dock	9	12/16/2021	WEBSITE	Confirmed	12/18/2021	12/21/2021	32'	3
Guest Dock	11	12/4/2021	WEBSITE	Confirmed	12/18/2021	12/21/2021	12'	3
Guest Dock	6	12/15/2021	WEBSITE	Confirmed	12/18/2021	12/19/2021	29'	1
Guest Dock	2	12/4/2021	WEBSITE	Confirmed	12/18/2021	12/21/2021	24'	3
Guest Dock	16	12/17/2021	WEBSITE	Confirmed	12/18/2021	12/19/2021	38'	1
Guest Dock	5	12/5/2021	Moorings	Confirmed	12/18/2021	12/20/2021	25'	2
Guest Dock	10	12/18/2021	WEBSITE	Confirmed	12/19/2021	12/20/2021	38'	1
Guest Dock	12	12/17/2021	WEBSITE	Confirmed	12/19/2021	12/21/2021		2
Guest Dock	27	12/18/2021	WEBSITE	Confirmed	12/19/2021	12/21/2021	37'	2
Guest Dock	6	12/14/2021	WEBSITE	Confirmed	12/19/2021	12/20/2021	27'	1
Guest Dock	21	12/18/2021	WEBSITE	Confirmed	12/19/2021	12/20/2021	46'	1
Guest Dock	19	11/29/2021	WEBSITE	Confirmed	12/19/2021	12/28/2021	53'	9
Guest Dock	16	12/18/2021	WEBSITE	Confirmed	12/19/2021	12/20/2021	31'	1
Guest Dock	18	12/18/2021	WEBSITE	Confirmed	12/19/2021	12/20/2021	58'	1
Guest Dock	7	12/19/2021	Moorings	Confirmed	12/19/2021	12/20/2021	24'	1
Guest Dock	6	12/6/2021	WEBSITE	Confirmed	12/20/2021	12/25/2021	24'	5
Guest Dock	7	12/15/2021	WEBSITE	Confirmed	12/20/2021	12/23/2021	30'	3
Guest Dock	10	12/15/2021	WEBSITE	Confirmed	12/20/2021	12/23/2021	30'	3
Guest Dock	26	12/19/2021	WEBSITE	Confirmed	12/20/2021	12/21/2021	34'	1
Guest Dock	16	12/18/2021	WEBSITE	Confirmed	12/20/2021	12/22/2021	34'	2
Guest Dock	13	12/18/2021	WEBSITE	Confirmed	12/20/2021	12/21/2021	30'	1
Guest Dock	3	12/20/2021	Moorings	Confirmed	12/20/2021	12/21/2021	38'	1
Guest Dock	4	12/13/2021	WEBSITE	Confirmed	12/20/2021	12/23/2021	44'	3
Guest Dock	2	12/20/2021	WEBSITE	Confirmed	12/21/2021	12/23/2021	38'	2
Guest Dock	12	12/14/2021	WEBSITE	Confirmed	12/21/2021	12/24/2021	32'	3

2021 Transient Dock Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
Guest Dock	11	12/21/2021	WEBSITE	Confirmed	12/21/2021	12/23/2021		2
Guest Dock	9	12/21/2021	Moorings	Confirmed	12/21/2021	12/23/2021	30'	2
Guest Dock	26	12/14/2021	Moorings	Confirmed	12/21/2021	12/22/2021	46'	1
Guest Dock	20	12/15/2021	WEBSITE	Confirmed	12/21/2021	12/28/2021	45'	7
Guest Dock	16	12/12/2021	WEBSITE	Confirmed	12/22/2021	12/24/2021	36'	2
Guest Dock	13	12/22/2021	WEBSITE	Confirmed	12/22/2021	12/23/2021	34'	1
Guest Dock	3	12/9/2021	WEBSITE	Confirmed	12/22/2021	12/27/2021	46'	5
Guest Dock	18	12/21/2021	WEBSITE	Confirmed	12/23/2021	12/24/2021	47'	1
Guest Dock	13	12/22/2021	WEBSITE	Confirmed	12/23/2021	12/24/2021	34'	1
Guest Dock	4	12/23/2021	WEBSITE	Confirmed	12/23/2021	12/25/2021	32'	2
Guest Dock	11	12/22/2021	WEBSITE	Confirmed	12/23/2021	12/24/2021	30'	1
Guest Dock	2	12/23/2021	WEBSITE	Confirmed	12/23/2021	12/24/2021	30'	1
Guest Dock	7	12/22/2021	WEBSITE	Confirmed	12/23/2021	12/26/2021	30'	3
Guest Dock	21	12/9/2021	WEBSITE	Confirmed	12/23/2021	1/5/2022	65'	13
Guest Dock	18	12/22/2021	WEBSITE	Confirmed	12/24/2021	12/25/2021	62'	1
Guest Dock	8	12/24/2021	WEBSITE	Confirmed	12/24/2021	1/3/2022	42'	10
Guest Dock	11	12/19/2021	WEBSITE	Confirmed	12/24/2021	12/31/2021	34'	7
Guest Dock	13	12/24/2021	WEBSITE	Confirmed	12/24/2021	12/25/2021	34'	1
Guest Dock	22	12/12/2021	WEBSITE	Confirmed	12/24/2021	12/28/2021	46'	4
Guest Dock	16	12/25/2021	WEBSITE	Confirmed	12/25/2021	12/28/2021	36'	3
Guest Dock	18	12/13/2021	WEBSITE	Confirmed	12/25/2021	12/27/2021	62'	2
Guest Dock	6	12/25/2021	WEBSITE	Confirmed	12/26/2021	12/27/2021	30'	1
Guest Dock	7	12/22/2021	WEBSITE	Confirmed	12/26/2021	12/29/2021	27'	3
Guest Dock	12	12/18/2021	WEBSITE	Confirmed	12/27/2021	12/31/2021	37'	4
Guest Dock	10	12/27/2021	WEBSITE	Confirmed	12/27/2021	12/28/2021	44'	1
Guest Dock	28	12/25/2021	WEBSITE	Confirmed	12/27/2021	12/30/2021	39'	3
Guest Dock	6	12/24/2021	WEBSITE	Confirmed	12/27/2021	12/30/2021	32'	3
Guest Dock	4	12/14/2021	WEBSITE	Confirmed	12/27/2021	12/31/2021	24'	4
Guest Dock	13	12/27/2021	WEBSITE	Confirmed	12/28/2021	12/30/2021		2
Guest Dock	18	12/15/2021	WEBSITE	Confirmed	12/28/2021	12/29/2021	62'	1
Guest Dock	2	12/29/2021	Moorings	Confirmed	12/28/2021	12/29/2021	44'	1
Guest Dock	20	12/26/2021	WEBSITE	Confirmed	12/28/2021	12/29/2021	45'	1
Guest Dock	10	12/28/2021	WEBSITE	Confirmed	12/28/2021	1/1/2022	44'	4
Guest Dock	16	12/28/2021	WEBSITE	Confirmed	12/28/2021	12/29/2021	36'	1
Guest Dock	27	12/19/2021	WEBSITE	Confirmed	12/28/2021	12/30/2021	30'	2
Guest Dock	3	12/14/2021	WEBSITE	Confirmed	12/28/2021	12/29/2021	40'	1
Guest Dock	3	12/28/2021	WEBSITE	Confirmed	12/29/2021	1/1/2022	36'	3
Guest Dock	19	12/28/2021	WEBSITE	Confirmed	12/29/2021	12/30/2021	46'	1
Guest Dock	18	12/26/2021	WEBSITE	Confirmed	12/29/2021	12/31/2021	45'	2
Guest Dock	16	12/29/2021	WEBSITE	Confirmed	12/29/2021	12/30/2021	42'	1
Guest Dock	2	12/29/2021	Moorings	Confirmed	12/29/2021	12/31/2021	44'	2
Guest Dock	20	12/29/2021	WEBSITE	Confirmed	12/29/2021	12/30/2021	47'	1
Guest Dock	22	12/22/2021	WEBSITE	Confirmed	12/29/2021	1/3/2022	60'	5
Guest Dock	19	12/18/2021	WEBSITE	Confirmed	12/30/2021	1/9/2022	46'	10
Guest Dock	7	12/30/2021	WEBSITE	Confirmed	12/30/2021	12/31/2021	30'	1
Guest Dock	9	12/25/2021	WEBSITE	Confirmed	12/30/2021	12/31/2021	30'	1
Guest Dock	6	12/27/2021	WEBSITE	Confirmed	12/30/2021	1/3/2022	32'	4
Guest Dock	20	12/18/2021	WEBSITE	Confirmed	12/30/2021	1/9/2022	47'	10
Guest Dock	27	12/29/2021	WEBSITE	Confirmed	12/30/2021	12/31/2021	39'	1
Guest Dock	27	12/31/2021	WEBSITE	Confirmed	12/31/2021	1/1/2022	39'	1
Guest Dock	7	12/30/2021	WEBSITE	Confirmed	12/31/2021	1/1/2022	41'	1
Guest Dock	12	12/31/2021	WEBSITE	Confirmed	12/31/2021	1/1/2022	31'	1
Guest Dock	15	12/19/2021	WEBSITE	Confirmed	12/31/2021	1/2/2022	36'	2
Guest Dock	2	12/31/2021	WEBSITE	Confirmed	12/31/2021	1/2/2022	44'	2
Guest Dock	11	12/31/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	42'	3
Guest Dock	16	12/28/2021	WEBSITE	Confirmed	12/31/2021	1/2/2022	45'	2
Guest Dock	18	12/24/2021	WEBSITE	Confirmed	12/31/2021	1/4/2022	50'	4

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	11/24/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	35'	3
A1 La Playa Cove	A1 Anchorage	9/3/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/22/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	37'	3
A1 La Playa Cove	A1 Anchorage	11/28/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/24/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	39'	3
A1 La Playa Cove	A1 Anchorage	11/2/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	45'	3
A1 La Playa Cove	A1 Anchorage	7/13/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/1/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	64'	3
A1 La Playa Cove	A1 Anchorage	11/19/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	48'	3
A1 La Playa Cove	A1 Anchorage	11/26/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	27'	3
A1 La Playa Cove	A1 Anchorage	8/23/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/21/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/17/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	56'	3
A1 La Playa Cove	A1 Anchorage	11/16/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	37'	3
A1 La Playa Cove	A1 Anchorage	11/10/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/27/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/17/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	41'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/31/2020	WEBSITE	Confirmed	1/1/2021	1/4/2021	41'	3
A1 La Playa Cove	A1 Anchorage	12/23/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/17/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/5/2021	WEBSITE	Confirmed	1/8/2021	1/11/2021	29'	3
A1 La Playa Cove	A1 Anchorage	9/21/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021		3
A1 La Playa Cove	A1 Anchorage	8/23/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	25'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/1/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	64'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/13/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	45'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	32'	3
A1 La Playa Cove	A1 Anchorage	1/4/2021	Moorings	Confirmed	1/8/2021	1/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/7/2020	Moorings	Confirmed	1/8/2021	1/11/2021	38'	3
A1 La Playa Cove	A1 Anchorage	11/13/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/3/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	39'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	42'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	44'	3
A1 La Playa Cove	A1 Anchorage	1/8/2021	WEBSITE	Confirmed	1/8/2021	1/11/2021	43'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	1/8/2021	1/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/18/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	44'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/3/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	39'	3
A1 La Playa Cove	A1 Anchorage	11/3/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	53'	3
A1 La Playa Cove	A1 Anchorage	9/17/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/7/2020	Moorings	Confirmed	1/15/2021	1/18/2021	38'	3
A1 La Playa Cove	A1 Anchorage	11/22/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	45'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/5/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/1/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021		3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	39'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	1/15/2021	1/18/2021	27'	3
A1 La Playa Cove	A1 Anchorage	8/9/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	29'	3
A1 La Playa Cove	A1 Anchorage	11/10/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/10/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	35'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021	45'	3
A1 La Playa Cove	A1 Anchorage	12/5/2020	WEBSITE	Confirmed	1/15/2021	1/18/2021		3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	1/15/2021	1/18/2021	38'	3
A1 La Playa Cove	A1 Anchorage	1/19/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/21/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021		3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	1/21/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021		3
A1 La Playa Cove	A1 Anchorage	1/15/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021	57'	3
A1 La Playa Cove	A1 Anchorage	12/6/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	1/22/2021	1/25/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	27'	3
A1 La Playa Cove	A1 Anchorage	8/23/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	25'	3
A1 La Playa Cove	A1 Anchorage	11/1/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	64'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/19/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	48'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	32'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/15/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021	38'	3
A1 La Playa Cove	A1 Anchorage	12/20/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	59'	3
A1 La Playa Cove	A1 Anchorage	12/20/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/15/2021	WEBSITE	Confirmed	1/22/2021	1/25/2021	48'	3
A1 La Playa Cove	A1 Anchorage	12/19/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	48'	3
A1 La Playa Cove	A1 Anchorage	12/13/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021	50'	3
A1 La Playa Cove	A1 Anchorage	11/25/2020	WEBSITE	Confirmed	1/22/2021	1/25/2021		3
A1 La Playa Cove	A1 Anchorage	12/13/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/28/2021	WEBSITE	Confirmed	1/29/2021	2/1/2021	48'	3
A1 La Playa Cove	A1 Anchorage	11/18/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	37'	3
A1 La Playa Cove	A1 Anchorage	12/18/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	43'	3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	1/29/2021	2/1/2021	45'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	32'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	1/29/2021	2/1/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	27'	3
A1 La Playa Cove	A1 Anchorage	9/21/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021		3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	1/29/2021	2/1/2021	36'	3
A1 La Playa Cove	A1 Anchorage	11/10/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/9/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	29'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	32'	3
A1 La Playa Cove	A1 Anchorage	1/28/2021	WEBSITE	Confirmed	1/29/2021	2/1/2021	57'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/19/2021	WEBSITE	Confirmed	1/29/2021	2/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	1/29/2021	2/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021	28'	3
A1 La Playa Cove	A1 Anchorage	11/20/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/9/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	29'	3
A1 La Playa Cove	A1 Anchorage	11/16/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	37'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	2/5/2021	2/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	27'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021	27'	3
A1 La Playa Cove	A1 Anchorage	12/24/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	65'	3
A1 La Playa Cove	A1 Anchorage	12/21/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021		3
A1 La Playa Cove	A1 Anchorage	2/2/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021		3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	45'	3
A1 La Playa Cove	A1 Anchorage	12/29/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/1/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021	26'	3
A1 La Playa Cove	A1 Anchorage	12/7/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	39'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	2/5/2021	2/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	2/5/2021	2/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/13/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	2/12/2021	2/15/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/7/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	39'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	37'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	2/12/2021	2/15/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/14/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	45'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	2/12/2021	2/15/2021	38'	3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	27'	3
A1 La Playa Cove	A1 Anchorage	12/21/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021		3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	2/12/2021	2/15/2021	36'	3
A1 La Playa Cove	A1 Anchorage	8/9/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	29'	3
A1 La Playa Cove	A1 Anchorage	11/20/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/31/2021	WEBSITE	Confirmed	2/12/2021	2/15/2021		3
A1 La Playa Cove	A1 Anchorage	2/2/2021	WEBSITE	Confirmed	2/12/2021	2/15/2021	46'	3
A1 La Playa Cove	A1 Anchorage	12/9/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	45'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	2/12/2021	2/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	Moorings	Confirmed	2/12/2021	2/15/2021		3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	40'	3
A1 La Playa Cove	A1 Anchorage	2/17/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	28'	3
A1 La Playa Cove	A1 Anchorage	11/20/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	2/19/2021	2/22/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	27'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021		3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	2/19/2021	2/22/2021	38'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	64'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/7/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	39'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	44'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/13/2020	WEBSITE	Confirmed	2/19/2021	2/22/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/1/2021	WEBSITE	Confirmed	2/19/2021	2/22/2021	35'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	2/26/2021	3/1/2021	44'	3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	50'	3
A1 La Playa Cove	A1 Anchorage	2/25/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	64'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	2/26/2021	3/1/2021	38'	3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	2/26/2021	3/1/2021	48'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	39'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/21/2020	WEBSITE	Confirmed	2/26/2021	3/1/2021		3
A1 La Playa Cove	A1 Anchorage	8/9/2020	WEBSITE	Confirmed	2/26/2021	3/1/2021	29'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	28'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	2/26/2021	3/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/15/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	45'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021		3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/29/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021		3
A1 La Playa Cove	A1 Anchorage	1/10/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	44'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	46'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	2/26/2021	3/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/2/2021	Moorings	Confirmed	3/5/2021	3/8/2021	27'	3
A1 La Playa Cove	A1 Anchorage	3/4/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021	48'	3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	31'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	29'	3
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/16/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	37'	3
A1 La Playa Cove	A1 Anchorage	12/29/2020	Moorings	Confirmed	3/5/2021	3/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/21/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021		3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	27'	3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021		3
A1 La Playa Cove	A1 Anchorage	1/23/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021	64'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/19/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	39'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	3/5/2021	3/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	3/5/2021	3/8/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	3/12/2021	3/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	3/12/2021	3/15/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	3/12/2021	3/15/2021	38'	3
A1 La Playa Cove	A1 Anchorage	11/14/2020	WEBSITE	Confirmed	3/12/2021	3/15/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021		3
A1 La Playa Cove	A1 Anchorage	1/29/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	48'	3
A1 La Playa Cove	A1 Anchorage	1/31/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	3/12/2021	3/15/2021	27'	3
A1 La Playa Cove	A1 Anchorage	12/29/2020	Moorings	Confirmed	3/12/2021	3/15/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	3/12/2021	3/15/2021	29'	3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	3/12/2021	3/15/2021	31'	3
A1 La Playa Cove	A1 Anchorage	3/5/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/4/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	45'	3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	45'	3
A1 La Playa Cove	A1 Anchorage	3/5/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/29/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	49'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	3/12/2021	3/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/2/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021	38'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021	32'	3
A1 La Playa Cove	A1 Anchorage	12/29/2020	Moorings	Confirmed	3/19/2021	3/22/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021	27'	3
A1 La Playa Cove	A1 Anchorage	12/21/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021		3
A1 La Playa Cove	A1 Anchorage	1/14/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	37'	3
A1 La Playa Cove	A1 Anchorage	1/23/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	3/19/2021	3/22/2021	38'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/4/2021	Moorings	Confirmed	3/19/2021	3/22/2021	64'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/1/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	35'	3
A1 La Playa Cove	A1 Anchorage	12/19/2020	WEBSITE	Confirmed	3/19/2021	3/22/2021	39'	3
A1 La Playa Cove	A1 Anchorage	1/20/2021	WEBSITE	Confirmed	3/19/2021	3/22/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	32'	3
A1 La Playa Cove	A1 Anchorage	3/25/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	45'	3
A1 La Playa Cove	A1 Anchorage	2/7/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	47'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	53'	3
A1 La Playa Cove	A1 Anchorage	2/6/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	50'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	64'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	3/26/2021	3/29/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	31'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	12/14/2020	Moorings	Confirmed	3/26/2021	3/29/2021	38'	3
A1 La Playa Cove	A1 Anchorage	1/29/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	48'	3
A1 La Playa Cove	A1 Anchorage	3/22/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	32'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/21/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	27'	3
A1 La Playa Cove	A1 Anchorage	12/21/2020	WEBSITE	Confirmed	3/26/2021	3/29/2021		3
A1 La Playa Cove	A1 Anchorage	2/1/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	56'	3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	3/26/2021	3/29/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	3/26/2021	3/29/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	45'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	3/26/2021	3/29/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/10/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	46'	3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	25'	3
A1 La Playa Cove	A1 Anchorage	1/20/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/14/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	38'	3
A1 La Playa Cove	A1 Anchorage	11/16/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	29'	3
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021		3
A1 La Playa Cove	A1 Anchorage	12/29/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/13/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	64'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/4/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	40'	3
A1 La Playa Cove	A1 Anchorage	12/12/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	40'	3
A1 La Playa Cove	A1 Anchorage	12/22/2020	WEBSITE	Confirmed	4/2/2021	4/5/2021	39'	3
A1 La Playa Cove	A1 Anchorage	1/28/2021	WEBSITE	Confirmed	4/2/2021	4/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/19/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	4/9/2021	4/12/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/1/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	60'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	64'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	4/9/2021	4/12/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	4/9/2021	4/12/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/9/2021	Moorings	Confirmed	4/9/2021	4/12/2021	44'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	Moorings	Confirmed	4/9/2021	4/12/2021	26'	3
A1 La Playa Cove	A1 Anchorage	12/29/2020	WEBSITE	Confirmed	4/9/2021	4/12/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/10/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/1/2021	Moorings	Confirmed	4/9/2021	4/12/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/19/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	27'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	4/9/2021	4/12/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/3/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	28'	3
A1 La Playa Cove	A1 Anchorage	12/16/2020	WEBSITE	Confirmed	4/9/2021	4/12/2021	31'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/27/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/6/2021	WEBSITE	Confirmed	4/9/2021	4/12/2021	45'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	4/16/2021	4/19/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/15/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	39'	3
A1 La Playa Cove	A1 Anchorage	2/22/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/19/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	27'	3
A1 La Playa Cove	A1 Anchorage	2/1/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	56'	3
A1 La Playa Cove	A1 Anchorage	1/10/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021		3
A1 La Playa Cove	A1 Anchorage	2/1/2021	Moorings	Confirmed	4/16/2021	4/19/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	4/16/2021	4/19/2021	29'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/14/2021	Moorings	Confirmed	4/16/2021	4/19/2021	30'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	2/22/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	45'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	Moorings	Confirmed	4/16/2021	4/19/2021	26'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	4/16/2021	4/19/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	4/16/2021	4/19/2021	26'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	4/16/2021	4/19/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/15/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	40'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	4/16/2021	4/19/2021	62'	3
A1 La Playa Cove	A1 Anchorage	2/19/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/19/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	4/23/2021	4/26/2021	26'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	64'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	Moorings	Confirmed	4/23/2021	4/26/2021	26'	3
A1 La Playa Cove	A1 Anchorage	10/29/2020	WEBSITE	Confirmed	4/23/2021	4/26/2021	50'	3
A1 La Playa Cove	A1 Anchorage	2/10/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	32'	3
A1 La Playa Cove	A1 Anchorage	4/20/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	45'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	38'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/10/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	25'	3
A1 La Playa Cove	A1 Anchorage	4/21/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	32'	3
A1 La Playa Cove	A1 Anchorage	2/1/2021	Moorings	Confirmed	4/23/2021	4/26/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/24/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021		3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	4/23/2021	4/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/20/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021		3
A1 La Playa Cove	A1 Anchorage	4/21/2021	WEBSITE	Confirmed	4/23/2021	4/26/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/3/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	48'	3
A1 La Playa Cove	A1 Anchorage	4/24/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021		3
A1 La Playa Cove	A1 Anchorage	2/24/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021		3
A1 La Playa Cove	A1 Anchorage	2/27/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/22/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	40'	3
A1 La Playa Cove	A1 Anchorage	2/17/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	4/30/2021	5/3/2021	29'	3
A1 La Playa Cove	A1 Anchorage	1/10/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021		3
A1 La Playa Cove	A1 Anchorage	2/3/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/10/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/29/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	32'	3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	58'	3
A1 La Playa Cove	A1 Anchorage	4/29/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	46'	3
A1 La Playa Cove	A1 Anchorage	1/31/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/1/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	41'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	38'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	44'	3
A1 La Playa Cove	A1 Anchorage	2/12/2021	WEBSITE	Confirmed	4/30/2021	5/3/2021	53'	3
A1 La Playa Cove	A1 Anchorage	2/15/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/21/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	5/7/2021	5/10/2021		3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	5/7/2021	5/10/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	5/7/2021	5/10/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/22/2021	Moorings	Confirmed	5/7/2021	5/10/2021	44'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	5/7/2021	5/10/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/27/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/23/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	48'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	5/7/2021	5/10/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/31/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	42'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	4/28/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	56'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	5/7/2021	5/10/2021	29'	3
A1 La Playa Cove	A1 Anchorage	2/1/2021	Moorings	Confirmed	5/7/2021	5/10/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	Moorings	Confirmed	5/7/2021	5/10/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	5/7/2021	5/10/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	5/7/2021	5/10/2021	25'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	5/14/2021	5/17/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/7/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/4/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	32'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	Moorings	Confirmed	5/14/2021	5/17/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/1/2021	Moorings	Confirmed	5/14/2021	5/17/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	5/14/2021	5/17/2021	29'	3
A1 La Playa Cove	A1 Anchorage	3/2/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	40'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021		3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	5/14/2021	5/17/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/3/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	37'	3
A1 La Playa Cove	A1 Anchorage	1/2/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	48'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	5/14/2021	5/17/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/10/2021	Moorings	Confirmed	5/14/2021	5/17/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	Moorings	Confirmed	5/14/2021	5/17/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	Moorings	Confirmed	5/14/2021	5/17/2021	38'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	5/14/2021	5/17/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021		3
A1 La Playa Cove	A1 Anchorage	4/25/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	50'	3
A1 La Playa Cove	A1 Anchorage	3/7/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	60'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/12/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	53'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	5/14/2021	5/17/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/14/2021	5/17/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/12/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	45'	3
A1 La Playa Cove	A1 Anchorage	5/21/2021	Moorings	Confirmed	5/21/2021	5/24/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021		3
A1 La Playa Cove	A1 Anchorage	2/2/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	40'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/11/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	60'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	Moorings	Confirmed	5/21/2021	5/24/2021		3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	5/21/2021	5/24/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	5/21/2021	5/24/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/24/2021	Moorings	Confirmed	5/21/2021	5/24/2021	64'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	5/21/2021	5/24/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/27/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/20/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	20'	3
A1 La Playa Cove	A1 Anchorage	1/19/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021		3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	5/21/2021	5/24/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	5/21/2021	5/24/2021		3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	5/21/2021	5/24/2021	29'	3
A1 La Playa Cove	A1 Anchorage	11/16/2020	WEBSITE	Confirmed	5/21/2021	5/24/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	Moorings	Confirmed	5/21/2021	5/24/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	20'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	2/25/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	40'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/27/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	5/21/2021	5/24/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	5/21/2021	5/24/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/18/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	33'	3
A1 La Playa Cove	A1 Anchorage	2/15/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	39'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021		3
A1 La Playa Cove	A1 Anchorage	1/20/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	31'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	20'	3
A1 La Playa Cove	A1 Anchorage	2/12/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	32'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	5/28/2021	5/31/2021	60'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	5/28/2021	5/31/2021	60'	3
A1 La Playa Cove	A1 Anchorage	2/5/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	38'	3
A1 La Playa Cove	A1 Anchorage	12/28/2020	WEBSITE	Confirmed	5/28/2021	5/31/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	5/28/2021	5/31/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/15/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/12/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	56'	3
A1 La Playa Cove	A1 Anchorage	10/25/2020	WEBSITE	Confirmed	5/28/2021	5/31/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	64'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	5/28/2021	5/31/2021	26'	3
A1 La Playa Cove	A1 Anchorage	1/30/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	50'	3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	38'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	35'	3
A1 La Playa Cove	A1 Anchorage	1/22/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	38'	3
A1 La Playa Cove	A1 Anchorage	5/18/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	50'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	5/28/2021	5/31/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/19/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/27/2021	Moorings	Confirmed	5/28/2021	5/31/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021		3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021		3
A1 La Playa Cove	A1 Anchorage	4/25/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021		3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/27/2021	WEBSITE	Confirmed	5/28/2021	5/31/2021	38'	3
A1 La Playa Cove	A1 Anchorage	6/1/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	29'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/13/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021		3
A1 La Playa Cove	A1 Anchorage	3/15/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	41'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	Moorings	Confirmed	6/4/2021	6/7/2021	44'	3
A1 La Playa Cove	A1 Anchorage	3/11/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	39'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021		3
A1 La Playa Cove	A1 Anchorage	6/1/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	53'	3
A1 La Playa Cove	A1 Anchorage	3/9/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	63'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	6/4/2021	6/7/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	6/4/2021	6/7/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	6/4/2021	6/7/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	6/4/2021	6/7/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/27/2021	Moorings	Confirmed	6/4/2021	6/7/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	6/4/2021	6/7/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/3/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	34'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	6/4/2021	6/7/2021		3
A1 La Playa Cove	A1 Anchorage	5/12/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	56'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	Moorings	Confirmed	6/4/2021	6/7/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/14/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021		3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	20'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/28/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	6/4/2021	6/7/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	45'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	Moorings	Confirmed	6/11/2021	6/14/2021		3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	6/11/2021	6/14/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/28/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	32'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	20'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/13/2020	WEBSITE	Confirmed	6/11/2021	6/14/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	Moorings	Confirmed	6/11/2021	6/14/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	6/11/2021	6/14/2021		3
A1 La Playa Cove	A1 Anchorage	5/12/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	56'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	40'	3
A1 La Playa Cove	A1 Anchorage	6/8/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	32'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	6/11/2021	6/14/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	64'	3
A1 La Playa Cove	A1 Anchorage	5/27/2021	Moorings	Confirmed	6/11/2021	6/14/2021	44'	3
A1 La Playa Cove	A1 Anchorage	6/11/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	27'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	6/11/2021	6/14/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/4/2021	Moorings	Confirmed	6/11/2021	6/14/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	6/11/2021	6/14/2021	30'	3
A1 La Playa Cove	A1 Anchorage	6/1/2021	Moorings	Confirmed	6/11/2021	6/14/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/4/2020	WEBSITE	Confirmed	6/11/2021	6/14/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021		3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	46'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	6/11/2021	6/14/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	6/11/2021	6/14/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	41'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	WEBSITE	Confirmed	6/11/2021	6/14/2021	33'	3
A1 La Playa Cove	A1 Anchorage	6/2/2021	Moorings	Confirmed	6/18/2021	6/21/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	Moorings	Confirmed	6/18/2021	6/21/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/25/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021		3
A1 La Playa Cove	A1 Anchorage	8/18/2020	WEBSITE	Confirmed	6/18/2021	6/21/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/17/2021	Moorings	Confirmed	6/18/2021	6/21/2021	48'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/9/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	63'	3
A1 La Playa Cove	A1 Anchorage	1/16/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	6/18/2021	6/21/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	6/18/2021	6/21/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	6/18/2021	6/21/2021	30'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	6/16/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	35'	3
A1 La Playa Cove	A1 Anchorage	6/14/2021	Moorings	Confirmed	6/18/2021	6/21/2021	34'	3
A1 La Playa Cove	A1 Anchorage	7/2/2020	WEBSITE	Confirmed	6/18/2021	6/21/2021	31'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	32'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	6/18/2021	6/21/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/30/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	50'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/15/2021	Moorings	Confirmed	6/18/2021	6/21/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	Moorings	Confirmed	6/18/2021	6/21/2021	26'	3
A1 La Playa Cove	A1 Anchorage	3/1/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/16/2021	Moorings	Confirmed	6/18/2021	6/21/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	39'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	48'	3
A1 La Playa Cove	A1 Anchorage	6/19/2020	WEBSITE	Confirmed	6/18/2021	6/21/2021	65'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	6/18/2021	6/21/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	20'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021		3
A1 La Playa Cove	A1 Anchorage	6/17/2021	Moorings	Confirmed	6/18/2021	6/21/2021	38'	3
A1 La Playa Cove	A1 Anchorage	2/22/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	40'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	45'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	6/18/2021	6/21/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/28/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021		3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	41'	3
A1 La Playa Cove	A1 Anchorage	3/18/2021	Moorings	Confirmed	6/25/2021	6/28/2021	49'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	6/25/2021	6/28/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	38'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	45'	3
A1 La Playa Cove	A1 Anchorage	2/26/2021	Moorings	Confirmed	6/25/2021	6/28/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	48'	3
A1 La Playa Cove	A1 Anchorage	5/12/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	56'	3
A1 La Playa Cove	A1 Anchorage	12/27/2020	WEBSITE	Confirmed	6/25/2021	6/28/2021		3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	64'	3
A1 La Playa Cove	A1 Anchorage	6/15/2021	Moorings	Confirmed	6/25/2021	6/28/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	38'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	32'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	37'	3
A1 La Playa Cove	A1 Anchorage	1/16/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	6/25/2021	6/28/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	37'	3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	25'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	6/25/2021	6/28/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021		3
A1 La Playa Cove	A1 Anchorage	5/15/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	45'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021		3
A1 La Playa Cove	A1 Anchorage	3/8/2021	Moorings	Confirmed	6/25/2021	6/28/2021	44'	3
A1 La Playa Cove	A1 Anchorage	6/23/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	33'	3
A1 La Playa Cove	A1 Anchorage	3/13/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021		3
A1 La Playa Cove	A1 Anchorage	6/24/2021	WEBSITE	Confirmed	6/25/2021	6/28/2021	26'	3
A1 La Playa Cove	A1 Anchorage	7/2/2021	WEBSITE	Confirmed	7/2/2021	7/4/2021	40'	2
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	39'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021		3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	50'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021		3
A1 La Playa Cove	A1 Anchorage	8/18/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	10/22/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	63'	3
A1 La Playa Cove	A1 Anchorage	11/2/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021		3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/27/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	38'	3
A1 La Playa Cove	A1 Anchorage	7/20/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	32'	3
A1 La Playa Cove	A1 Anchorage	1/14/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	37'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	37'	3
A1 La Playa Cove	A1 Anchorage	12/26/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	26'	3
A1 La Playa Cove	A1 Anchorage	1/3/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/20/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	46'	3
A1 La Playa Cove	A1 Anchorage	10/25/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/4/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/13/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/22/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	50'	3
A1 La Playa Cove	A1 Anchorage	12/23/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	31'	3
A1 La Playa Cove	A1 Anchorage	10/11/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	7/2/2021	7/5/2021	60'	3
A1 La Playa Cove	A1 Anchorage	10/24/2020	WEBSITE	Confirmed	7/2/2021	7/5/2021	46'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	7/2/2021	7/5/2021	60'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/2/2021	7/5/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	41'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	48'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	25'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	20'	3
A1 La Playa Cove	A1 Anchorage	2/12/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	32'	3
A1 La Playa Cove	A1 Anchorage	3/9/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	33'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	38'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021		3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	7/9/2021	7/12/2021	36'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	7/9/2021	7/12/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	64'	3
A1 La Playa Cove	A1 Anchorage	3/12/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	7/9/2021	7/12/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	7/9/2021	7/12/2021	38'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/18/2020	WEBSITE	Confirmed	7/9/2021	7/12/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021		3
A1 La Playa Cove	A1 Anchorage	7/9/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021		3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021		3
A1 La Playa Cove	A1 Anchorage	5/25/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021		3
A1 La Playa Cove	A1 Anchorage	6/23/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	33'	3
A1 La Playa Cove	A1 Anchorage	3/11/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	40'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	41'	3
A1 La Playa Cove	A1 Anchorage	7/6/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	20'	3
A1 La Playa Cove	A1 Anchorage	7/7/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	44'	3
A1 La Playa Cove	A1 Anchorage	6/28/2021	WEBSITE	Confirmed	7/9/2021	7/12/2021	43'	3
A1 La Playa Cove	A1 Anchorage	6/29/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	44'	3
A1 La Playa Cove	A1 Anchorage	7/12/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	30'	3
A1 La Playa Cove	A1 Anchorage	7/13/2021	Moorings	Confirmed	7/16/2021	7/19/2021	65'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021		3
A1 La Playa Cove	A1 Anchorage	3/8/2021	Moorings	Confirmed	7/16/2021	7/19/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021		3
A1 La Playa Cove	A1 Anchorage	5/25/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/15/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	34'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	8/18/2020	WEBSITE	Confirmed	7/16/2021	7/19/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/20/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/12/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	25'	3
A1 La Playa Cove	A1 Anchorage	6/28/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	7/16/2021	7/19/2021	38'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	33'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	7/16/2021	7/19/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/27/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/23/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	64'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	7/16/2021	7/19/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	7/16/2021	7/19/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	46'	3
A1 La Playa Cove	A1 Anchorage	5/12/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	56'	3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	58'	3
A1 La Playa Cove	A1 Anchorage	2/3/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	37'	3
A1 La Playa Cove	A1 Anchorage	3/24/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	48'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	20'	3
A1 La Playa Cove	A1 Anchorage	3/22/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	38'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021		3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	7/16/2021	7/19/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/25/2021	WEBSITE	Confirmed	7/16/2021	7/19/2021	50'	3
A1 La Playa Cove	A1 Anchorage	7/16/2021	WEBSITE	Confirmed	7/17/2021	7/18/2021	42'	1
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	29'	3
A1 La Playa Cove	A1 Anchorage	5/24/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	32'	3
A1 La Playa Cove	A1 Anchorage	7/25/2021	Moorings	Confirmed	7/23/2021	7/26/2021	32'	3
A1 La Playa Cove	A1 Anchorage	7/19/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	27'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021		3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021		3
A1 La Playa Cove	A1 Anchorage	3/8/2021	Moorings	Confirmed	7/23/2021	7/26/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	41'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	7/23/2021	7/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	45'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021		3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	38'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	20'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	38'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021		3
A1 La Playa Cove	A1 Anchorage	5/12/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	56'	3
A1 La Playa Cove	A1 Anchorage	5/23/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	24'	3
A1 La Playa Cove	A1 Anchorage	3/12/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	30'	3
A1 La Playa Cove	A1 Anchorage	7/15/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	33'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	36'	3
A1 La Playa Cove	A1 Anchorage	7/22/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	38'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/2/2020	WEBSITE	Confirmed	7/23/2021	7/26/2021	31'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	7/23/2021	7/26/2021	38'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	7/23/2021	7/26/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	7/23/2021	7/26/2021	44'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	37'	3
A1 La Playa Cove	A1 Anchorage	9/26/2020	WEBSITE	Confirmed	7/23/2021	7/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/25/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	35'	3
A1 La Playa Cove	A1 Anchorage	7/5/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021		3
A1 La Playa Cove	A1 Anchorage	7/12/2021	Moorings	Confirmed	7/23/2021	7/26/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/16/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	7/23/2021	7/26/2021	35'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	37'	3
A1 La Playa Cove	A1 Anchorage	7/29/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	36'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	6/3/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	39'	3
A1 La Playa Cove	A1 Anchorage	6/1/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/26/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/28/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	37'	3
A1 La Playa Cove	A1 Anchorage	7/28/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/30/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	32'	3
A1 La Playa Cove	A1 Anchorage	5/29/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	50'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	42'	3
A1 La Playa Cove	A1 Anchorage	7/18/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	44'	3
A1 La Playa Cove	A1 Anchorage	4/1/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	42'	3
A1 La Playa Cove	A1 Anchorage	7/27/2021	Moorings	Confirmed	7/30/2021	8/2/2021	26'	3
A1 La Playa Cove	A1 Anchorage	3/23/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	64'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	7/30/2021	8/2/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/21/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	62'	3
A1 La Playa Cove	A1 Anchorage	2/4/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021		3
A1 La Playa Cove	A1 Anchorage	7/23/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	27'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	39'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	38'	3
A1 La Playa Cove	A1 Anchorage	6/21/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	27'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	41'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	25'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/30/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	45'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	Moorings	Confirmed	7/30/2021	8/2/2021	44'	3
A1 La Playa Cove	A1 Anchorage	3/29/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/25/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/18/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021		3
A1 La Playa Cove	A1 Anchorage	6/3/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	30'	3
A1 La Playa Cove	A1 Anchorage	6/3/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	25'	3
A1 La Playa Cove	A1 Anchorage	7/28/2021	Moorings	Confirmed	7/30/2021	8/2/2021	29'	3
A1 La Playa Cove	A1 Anchorage	7/15/2021	WEBSITE	Confirmed	7/30/2021	8/2/2021	65'	3
A1 La Playa Cove	A1 Anchorage	8/4/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	29'	3
A1 La Playa Cove	A1 Anchorage	7/28/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021		3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021		3
A1 La Playa Cove	A1 Anchorage	6/22/2021	Moorings	Confirmed	8/6/2021	8/9/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	8/6/2021	8/9/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	25'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	48'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021		3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/9/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	33'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	20'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	58'	3
A1 La Playa Cove	A1 Anchorage	8/5/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	32'	3
A1 La Playa Cove	A1 Anchorage	2/23/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	48'	3
A1 La Playa Cove	A1 Anchorage	2/20/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/18/2020	WEBSITE	Confirmed	8/6/2021	8/9/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	8/6/2021	8/9/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/23/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	24'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	64'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	8/6/2021	8/9/2021	26'	3
A1 La Playa Cove	A1 Anchorage	8/3/2021	Moorings	Confirmed	8/6/2021	8/9/2021	26'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	8/6/2021	8/9/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	33'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/30/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	32'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	37'	3
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	40'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	8/6/2021	8/9/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/8/2020	WEBSITE	Confirmed	8/6/2021	8/9/2021	44'	3
A1 La Playa Cove	A1 Anchorage	7/28/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	8/6/2021	8/9/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/6/2020	WEBSITE	Confirmed	8/6/2021	8/9/2021	42'	3
A1 La Playa Cove	A1 Anchorage	7/12/2021	Moorings	Confirmed	8/13/2021	8/16/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/11/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	8/13/2021	8/16/2021	38'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/3/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021		3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	8/13/2021	8/16/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	8/13/2021	8/16/2021	26'	3
A1 La Playa Cove	A1 Anchorage	6/2/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	65'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	8/13/2021	8/16/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/2/2020	WEBSITE	Confirmed	8/13/2021	8/16/2021	36'	3
A1 La Playa Cove	A1 Anchorage	8/18/2020	WEBSITE	Confirmed	8/13/2021	8/16/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/31/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/28/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021		3
A1 La Playa Cove	A1 Anchorage	2/23/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	48'	3
A1 La Playa Cove	A1 Anchorage	7/27/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	27'	3
A1 La Playa Cove	A1 Anchorage	3/24/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	48'	3
A1 La Playa Cove	A1 Anchorage	2/3/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	37'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	38'	3
A1 La Playa Cove	A1 Anchorage	3/31/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	45'	3
A1 La Playa Cove	A1 Anchorage	2/11/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	20'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021		3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	8/13/2021	8/16/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	41'	3
A1 La Playa Cove	A1 Anchorage	3/29/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	37'	3
A1 La Playa Cove	A1 Anchorage	3/24/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	26'	3
A1 La Playa Cove	A1 Anchorage	6/22/2021	Moorings	Confirmed	8/13/2021	8/16/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021		3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	46'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	40'	3
A1 La Playa Cove	A1 Anchorage	7/27/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021		3
A1 La Playa Cove	A1 Anchorage	8/10/2021	Moorings	Confirmed	8/13/2021	8/16/2021	42'	3
A1 La Playa Cove	A1 Anchorage	8/12/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/12/2021	WEBSITE	Confirmed	8/13/2021	8/16/2021	38'	3
A1 La Playa Cove	A1 Anchorage	8/15/2021	Moorings	Confirmed	8/13/2021	8/16/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/17/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	54'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021		3
A1 La Playa Cove	A1 Anchorage	6/22/2021	Moorings	Confirmed	8/20/2021	8/23/2021		3
A1 La Playa Cove	A1 Anchorage	8/3/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/14/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	35'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	45'	3
A1 La Playa Cove	A1 Anchorage	7/31/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	50'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	8/20/2021	8/23/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021		3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/22/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	40'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	20'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	3/14/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021		3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	38'	3
A1 La Playa Cove	A1 Anchorage	8/17/2021	Moorings	Confirmed	8/20/2021	8/23/2021	32'	3
A1 La Playa Cove	A1 Anchorage	8/17/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/15/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	39'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021		3
A1 La Playa Cove	A1 Anchorage	8/15/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	40'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	8/20/2021	8/23/2021	26'	3
A1 La Playa Cove	A1 Anchorage	2/27/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	64'	3
A1 La Playa Cove	A1 Anchorage	12/4/2020	WEBSITE	Confirmed	8/20/2021	8/23/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/19/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	42'	3
A1 La Playa Cove	A1 Anchorage	8/12/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	22'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	8/20/2021	8/23/2021	38'	3
A1 La Playa Cove	A1 Anchorage	8/31/2020	WEBSITE	Confirmed	8/20/2021	8/23/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	8/20/2021	8/23/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	34'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	8/20/2021	8/23/2021	37'	3
A1 La Playa Cove	A1 Anchorage	4/3/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	39'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	35'	3
A1 La Playa Cove	A1 Anchorage	7/29/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/1/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021		3
A1 La Playa Cove	A1 Anchorage	6/1/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	48'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	8/27/2021	8/30/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/31/2020	WEBSITE	Confirmed	8/27/2021	8/30/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/5/2020	WEBSITE	Confirmed	8/27/2021	8/30/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/30/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	32'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	8/27/2021	8/30/2021	38'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	Moorings	Confirmed	8/27/2021	8/30/2021	64'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021		3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	43'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	64'	3
A1 La Playa Cove	A1 Anchorage	3/12/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/31/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	45'	3
A1 La Playa Cove	A1 Anchorage	3/28/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021		3
A1 La Playa Cove	A1 Anchorage	3/21/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	62'	3
A1 La Playa Cove	A1 Anchorage	8/9/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021		3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	8/27/2021	8/30/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/23/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	48'	3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	58'	3
A1 La Playa Cove	A1 Anchorage	7/27/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/1/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	32'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	45'	3
A1 La Playa Cove	A1 Anchorage	4/3/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	39'	3
A1 La Playa Cove	A1 Anchorage	4/3/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/25/2021	Moorings	Confirmed	8/27/2021	8/30/2021	29'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	50'	3
A1 La Playa Cove	A1 Anchorage	5/15/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/1/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	65'	3
A1 La Playa Cove	A1 Anchorage	6/2/2021	WEBSITE	Confirmed	8/27/2021	8/30/2021	44'	3
A1 La Playa Cove	A1 Anchorage	8/29/2021	Moorings	Confirmed	8/27/2021	8/30/2021	47'	3
A1 La Playa Cove	A1 Anchorage	9/2/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	29'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	50'	3
A1 La Playa Cove	A1 Anchorage	8/22/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	45'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	42'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	9/3/2021	9/6/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	25'	3
A1 La Playa Cove	A1 Anchorage	2/25/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/22/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	39'	3
A1 La Playa Cove	A1 Anchorage	2/18/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	33'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/28/2020	WEBSITE	Confirmed	9/3/2021	9/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	20'	3
A1 La Playa Cove	A1 Anchorage	3/8/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/28/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	39'	3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	58'	3
A1 La Playa Cove	A1 Anchorage	8/13/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	40'	3
A1 La Playa Cove	A1 Anchorage	9/2/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	43'	3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	37'	3
A1 La Playa Cove	A1 Anchorage	3/2/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	40'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	9/3/2021	9/6/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	64'	3
A1 La Playa Cove	A1 Anchorage	1/16/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	35'	3
A1 La Playa Cove	A1 Anchorage	1/16/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	37'	3
A1 La Playa Cove	A1 Anchorage	8/30/2021	Moorings	Confirmed	9/3/2021	9/6/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	33'	3
A1 La Playa Cove	A1 Anchorage	5/30/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	32'	3
A1 La Playa Cove	A1 Anchorage	1/23/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	31'	3
A1 La Playa Cove	A1 Anchorage	8/3/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	56'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	9/3/2021	9/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	10/22/2020	WEBSITE	Confirmed	9/3/2021	9/6/2021	63'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/22/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	38'	3
A1 La Playa Cove	A1 Anchorage	8/5/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/5/2021	WEBSITE	Confirmed	9/3/2021	9/6/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/5/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	38'	3
A1 La Playa Cove	A1 Anchorage	8/5/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/22/2020	WEBSITE	Confirmed	9/10/2021	9/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	8/21/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	36'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/22/2021	Moorings	Confirmed	9/10/2021	9/13/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/31/2021	Moorings	Confirmed	9/10/2021	9/13/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	50'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/30/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	32'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	9/10/2021	9/13/2021	38'	3
A1 La Playa Cove	A1 Anchorage	6/24/2021	Moorings	Confirmed	9/10/2021	9/13/2021	50'	3
A1 La Playa Cove	A1 Anchorage	9/9/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	28'	3
A1 La Playa Cove	A1 Anchorage	8/22/2021	Moorings	Confirmed	9/10/2021	9/13/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	43'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/4/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	38'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	9/10/2021	9/13/2021	26'	3
A1 La Playa Cove	A1 Anchorage	3/12/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	30'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	9/10/2021	9/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/21/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	62'	3
A1 La Playa Cove	A1 Anchorage	3/28/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021		3
A1 La Playa Cove	A1 Anchorage	1/9/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	9/10/2021	9/13/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/23/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/7/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	38'	3
A1 La Playa Cove	A1 Anchorage	9/7/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	38'	3
A1 La Playa Cove	A1 Anchorage	4/5/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	20'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	3/31/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	45'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	9/10/2021	9/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	45'	3
A1 La Playa Cove	A1 Anchorage	4/3/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	35'	3
A1 La Playa Cove	A1 Anchorage	3/29/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	37'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	50'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	41'	3
A1 La Playa Cove	A1 Overflow	9/10/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021	23'	3
A1 La Playa Cove	A1 Anchorage	9/1/2021	WEBSITE	Confirmed	9/10/2021	9/13/2021		3
A1 La Playa Cove	A1 Anchorage	9/1/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021		3
A1 La Playa Cove	A1 Anchorage	7/29/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	33'	3
A1 La Playa Cove	A1 Anchorage	9/15/2021	Moorings	Confirmed	9/17/2021	9/20/2021		3
A1 La Playa Cove	A1 Anchorage	9/15/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	30'	3
A1 La Playa Cove	A1 Anchorage	9/15/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/6/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	50'	3
A1 La Playa Cove	A1 Anchorage	4/6/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	45'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	9/17/2021	9/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	20'	3
A1 La Playa Cove	A1 Anchorage	2/16/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	58'	3
A1 La Playa Cove	A1 Anchorage	4/10/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/5/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/17/2021	Moorings	Confirmed	9/17/2021	9/20/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021		3
A1 La Playa Cove	A1 Anchorage	3/21/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	62'	3
A1 La Playa Cove	A1 Anchorage	4/7/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	28'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	9/17/2021	9/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/31/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	36'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	9/17/2021	9/20/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	64'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	43'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	9/17/2021	9/20/2021	38'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	50'	3
A1 La Playa Cove	A1 Anchorage	10/28/2020	WEBSITE	Confirmed	9/17/2021	9/20/2021	44'	3
A1 La Playa Cove	A1 Anchorage	6/11/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	37'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	9/17/2021	9/20/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/1/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	35'	3
A1 La Playa Cove	A1 Anchorage	4/1/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021		3
A1 La Playa Cove	A1 Anchorage	7/12/2021	Moorings	Confirmed	9/17/2021	9/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	9/17/2021	9/20/2021	37'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	37'	3
A1 La Playa Cove	A1 Anchorage	9/5/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	50'	3
A1 La Playa Cove	A1 Anchorage	1/1/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	35'	3
A1 La Playa Cove	A1 Anchorage	9/13/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	60'	3
A1 La Playa Cove	A1 Anchorage	9/24/2020	WEBSITE	Confirmed	9/24/2021	9/27/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/8/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	53'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	50'	3
A1 La Playa Cove	A1 Anchorage	4/12/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	9/24/2021	9/27/2021	38'	3
A1 La Playa Cove	A1 Anchorage	9/15/2021	Moorings	Confirmed	9/24/2021	9/27/2021	43'	3
A1 La Playa Cove	A1 Anchorage	4/12/2021	Moorings	Confirmed	9/24/2021	9/27/2021	27'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	64'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	9/23/2021	Moorings	Confirmed	9/24/2021	9/27/2021	26'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	9/24/2021	9/27/2021	26'	3
A1 La Playa Cove	A1 Anchorage	9/24/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	26'	3
A1 La Playa Cove	A1 Anchorage	3/31/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021		3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	9/24/2021	9/27/2021	36'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	25'	3
A1 La Playa Cove	A1 Anchorage	4/12/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	39'	3
A1 La Playa Cove	A1 Anchorage	2/23/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	48'	3
A1 La Playa Cove	A1 Anchorage	4/11/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	65'	3
A1 La Playa Cove	A1 Anchorage	9/1/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	35'	3
A1 La Playa Cove	A1 Anchorage	7/16/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	42'	3
A1 La Playa Cove	A1 Anchorage	3/24/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	48'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021		3
A1 La Playa Cove	A1 Anchorage	1/18/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	45'	3
A1 La Playa Cove	A1 Anchorage	8/6/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/12/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/6/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	45'	3
A1 La Playa Cove	A1 Anchorage	8/6/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	36'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	37'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	40'	3
A1 La Playa Cove	A1 Anchorage	8/28/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/10/2021	WEBSITE	Confirmed	9/24/2021	9/27/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/17/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	50'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	Moorings	Confirmed	10/1/2021	10/4/2021	53'	3
A1 La Playa Cove	A1 Anchorage	10/1/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	60'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	40'	3
A1 La Playa Cove	A1 Anchorage	6/11/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	24'	3
A1 La Playa Cove	A1 Anchorage	6/17/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	35'	3
A1 La Playa Cove	A1 Anchorage	7/23/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/28/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/14/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	46'	3
A1 La Playa Cove	A1 Anchorage	4/6/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	45'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	50'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021		3
A1 La Playa Cove	A1 Anchorage	6/15/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	30'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	10/1/2021	10/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/17/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021		3
A1 La Playa Cove	A1 Anchorage	5/14/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	20'	3
A1 La Playa Cove	A1 Anchorage	4/18/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	36'	3
A1 La Playa Cove	A1 Anchorage	7/16/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/10/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	25'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	10/1/2021	10/4/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/1/2020	WEBSITE	Confirmed	10/1/2021	10/4/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/28/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	56'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	10/1/2021	10/4/2021	26'	3
A1 La Playa Cove	A1 Anchorage	4/4/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	38'	3
A1 La Playa Cove	A1 Anchorage	9/20/2021	Moorings	Confirmed	10/1/2021	10/4/2021	32'	3
A1 La Playa Cove	A1 Anchorage	8/20/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	31'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	43'	3
A1 La Playa Cove	A1 Anchorage	3/10/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/18/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/1/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021		3
A1 La Playa Cove	A1 Anchorage	9/25/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021		3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021		3
A1 La Playa Cove	A1 Anchorage	9/24/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021		3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	37'	3
A1 La Playa Cove	A1 Anchorage	4/15/2021	WEBSITE	Confirmed	10/1/2021	10/4/2021	36'	3
A1 La Playa Cove	A1 Anchorage	8/25/2021	Moorings	Confirmed	10/8/2021	10/11/2021	42'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	8/25/2021	Moorings	Confirmed	10/8/2021	10/11/2021	48'	3
A1 La Playa Cove	A1 Anchorage	8/25/2021	Moorings	Confirmed	10/8/2021	10/11/2021	48'	3
A1 La Playa Cove	A1 Anchorage	8/20/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021		3
A1 La Playa Cove	A1 Anchorage	9/27/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	53'	3
A1 La Playa Cove	A1 Anchorage	6/23/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/5/2021	Moorings	Confirmed	10/8/2021	10/11/2021	54'	3
A1 La Playa Cove	A1 Anchorage	9/12/2021	Moorings	Confirmed	10/8/2021	10/11/2021	38'	3
A1 La Playa Cove	A1 Anchorage	10/28/2020	WEBSITE	Confirmed	10/8/2021	10/11/2021	44'	3
A1 La Playa Cove	A1 Overflow	8/25/2021	Moorings	Confirmed	10/8/2021	10/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/30/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021		3
A1 La Playa Cove	A1 Anchorage	6/23/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	33'	3
A1 La Playa Cove	A1 Anchorage	8/9/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	44'	3
A1 La Playa Cove	A1 Anchorage	4/29/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/20/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	31'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	42'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	Moorings	Confirmed	10/8/2021	10/11/2021	26'	3
A1 La Playa Cove	A1 Anchorage	6/9/2021	Moorings	Confirmed	10/8/2021	10/11/2021	26'	3
A1 La Playa Cove	A1 Overflow	8/25/2021	Moorings	Confirmed	10/8/2021	10/11/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	64'	3
A1 La Playa Cove	A1 Overflow	8/25/2021	Moorings	Confirmed	10/8/2021	10/11/2021	58'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	42'	3
A1 La Playa Cove	A1 Overflow	8/25/2021	Moorings	Confirmed	10/8/2021	10/11/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/11/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	65'	3
A1 La Playa Cove	A1 Anchorage	4/18/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/22/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	23'	3
A1 La Playa Cove	A1 Anchorage	5/8/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	29'	3
A1 La Playa Cove	A1 Anchorage	10/3/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/14/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	38'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	10/8/2021	10/11/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	42'	3
A1 La Playa Cove	A1 Anchorage	6/15/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/21/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	41'	3
A1 La Playa Cove	A1 Anchorage	5/4/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	36'	3
A1 La Playa Cove	A1 Anchorage	5/8/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/1/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	30'	3
A1 La Playa Cove	A1 Anchorage	6/29/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	32'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	40'	3
A1 La Playa Cove	A1 Anchorage	6/4/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	42'	3
A1 La Playa Cove	A1 Overflow	10/8/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	40'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	38'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	42'	3
A1 La Playa Cove	A1 Anchorage	10/5/2021	WEBSITE	Confirmed	10/8/2021	10/11/2021	30'	3
A1 La Playa Cove	A1 Anchorage	9/1/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	35'	3
A1 La Playa Cove	A1 Anchorage	9/28/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021		3
A1 La Playa Cove	A1 Anchorage	10/15/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	40'	3
A1 La Playa Cove	A1 Anchorage	10/14/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	50'	3
A1 La Playa Cove	A1 Anchorage	10/13/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	33'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	30'	3
A1 La Playa Cove	A1 Anchorage	7/23/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	36'	3
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	41'	3
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/1/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/10/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	51'	3
A1 La Playa Cove	A1 Anchorage	9/2/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	39'	3
A1 La Playa Cove	A1 Anchorage	4/21/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	41'	3
A1 La Playa Cove	A1 Anchorage	8/28/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	39'	3
A1 La Playa Cove	A1 Anchorage	10/3/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/18/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/11/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	65'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	4/26/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	25'	3
A1 La Playa Cove	A1 Anchorage	8/5/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	46'	3
A1 La Playa Cove	A1 Anchorage	9/28/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	32'	3
A1 La Playa Cove	A1 Anchorage	7/16/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	10/15/2021	10/18/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/28/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	56'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	64'	3
A1 La Playa Cove	A1 Anchorage	10/14/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/12/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	26'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	31'	3
A1 La Playa Cove	A1 Anchorage	10/5/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	43'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	10/15/2021	10/18/2021	38'	3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	10/15/2021	10/18/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/16/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	50'	3
A1 La Playa Cove	A1 Anchorage	12/31/2020	WEBSITE	Confirmed	10/15/2021	10/18/2021	39'	3
A1 La Playa Cove	A1 Anchorage	1/11/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	37'	3
A1 La Playa Cove	A1 Anchorage	9/9/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	60'	3
A1 La Playa Cove	A1 Anchorage	5/25/2021	WEBSITE	Confirmed	10/15/2021	10/18/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/17/2021	Moorings	Confirmed	10/22/2021	10/25/2021		3
A1 La Playa Cove	A1 Anchorage	10/17/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	50'	3
A1 La Playa Cove	A1 Anchorage	10/21/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	53'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	47'	3
A1 La Playa Cove	A1 Anchorage	10/19/2021	Moorings	Confirmed	10/22/2021	10/25/2021	48'	3
A1 La Playa Cove	A1 Anchorage	9/3/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/22/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	54'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	10/22/2021	10/25/2021	38'	3
A1 La Playa Cove	A1 Anchorage	5/31/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	32'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	43'	3
A1 La Playa Cove	A1 Anchorage	6/30/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	30'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	64'	3
A1 La Playa Cove	A1 Anchorage	3/21/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	62'	3
A1 La Playa Cove	A1 Anchorage	10/4/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	39'	3
A1 La Playa Cove	A1 Anchorage	7/16/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/11/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	37'	3
A1 La Playa Cove	A1 Anchorage	7/6/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	46'	3
A1 La Playa Cove	A1 Anchorage	4/11/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	65'	3
A1 La Playa Cove	A1 Anchorage	9/15/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	41'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	10/22/2021	10/25/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/1/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	30'	3
A1 La Playa Cove	A1 Anchorage	7/24/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	42'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021		3
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	30'	3
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	41'	3
A1 La Playa Cove	A1 Anchorage	7/23/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	36'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	40'	3
A1 La Playa Cove	A1 Anchorage	10/14/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	50'	3
A1 La Playa Cove	A1 Anchorage	10/17/2021	Moorings	Confirmed	10/22/2021	10/25/2021	43'	3
A1 La Playa Cove	A1 Anchorage	10/16/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021		3
A1 La Playa Cove	A1 Anchorage	10/19/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/17/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	43'	3
A1 La Playa Cove	A1 Anchorage	10/20/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	40'	3
A1 La Playa Cove	A1 Anchorage	10/21/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	41'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	43'	3
A1 La Playa Cove	A1 Anchorage	8/19/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	44'	3
A1 La Playa Cove	A1 Anchorage	10/20/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	30'	3
A1 La Playa Cove	A1 Anchorage	10/12/2021	WEBSITE	Confirmed	10/22/2021	10/25/2021	54'	3
A1 La Playa Cove	A1 Anchorage	8/26/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	44'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	9/9/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	40'	3
A1 La Playa Cove	A1 Anchorage	10/27/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	24'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/13/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	46'	3
A1 La Playa Cove	A1 Anchorage	9/16/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	35'	3
A1 La Playa Cove	A1 Anchorage	9/23/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	57'	3
A1 La Playa Cove	A1 Anchorage	10/24/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	46'	3
A1 La Playa Cove	A1 Anchorage	10/25/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	38'	3
A1 La Playa Cove	A1 Anchorage	10/17/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	53'	3
A1 La Playa Cove	A1 Anchorage	10/18/2021	Moorings	Confirmed	10/29/2021	11/1/2021	44'	3
A1 La Playa Cove	A1 Anchorage	10/19/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/26/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	27'	3
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	41'	3
A1 La Playa Cove	A1 Anchorage	7/17/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	30'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021		3
A1 La Playa Cove	A1 Anchorage	10/28/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	46'	3
A1 La Playa Cove	A1 Anchorage	10/28/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	41'	3
A1 La Playa Cove	A1 Anchorage	4/28/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	38'	3
A1 La Playa Cove	A1 Anchorage	8/25/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	45'	3
A1 La Playa Cove	A1 Anchorage	9/24/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	39'	3
A1 La Playa Cove	A1 Anchorage	9/28/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	40'	3
A1 La Playa Cove	A1 Anchorage	5/20/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	46'	3
A1 La Playa Cove	A1 Anchorage	9/22/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	60'	3
A1 La Playa Cove	A1 Anchorage	1/1/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	48'	3
A1 La Playa Cove	A1 Anchorage	4/10/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/15/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	50'	3
A1 La Playa Cove	A1 Anchorage	9/28/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	26'	3
A1 La Playa Cove	A1 Anchorage	9/7/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	37'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	10/29/2021	11/1/2021	36'	3
A1 La Playa Cove	A1 Anchorage	3/21/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	62'	3
A1 La Playa Cove	A1 Anchorage	6/8/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	56'	3
A1 La Playa Cove	A1 Anchorage	6/30/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/31/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	32'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	10/29/2021	11/1/2021	38'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	34'	3
A1 La Playa Cove	A1 Anchorage	8/30/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	43'	3
A1 La Playa Cove	A1 Anchorage	10/19/2021	Moorings	Confirmed	10/29/2021	11/1/2021	48'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	47'	3
A1 La Playa Cove	A1 Anchorage	5/25/2021	WEBSITE	Confirmed	10/29/2021	11/1/2021	37'	3
A1 La Playa Cove	A1 Overflow	10/30/2021	WEBSITE	Confirmed	10/30/2021	11/1/2021	39'	2
A1 La Playa Cove	A1 Anchorage	11/3/2021	Moorings	Confirmed	11/5/2021	11/8/2021	52'	3
A1 La Playa Cove	A1 Anchorage	11/1/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	10/9/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	54'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	30'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	6/10/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	40'	3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021		3
A1 La Playa Cove	A1 Anchorage	9/14/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	30'	3
A1 La Playa Cove	A1 Anchorage	10/31/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	47'	3
A1 La Playa Cove	A1 Anchorage	11/1/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	46'	3
A1 La Playa Cove	A1 Anchorage	9/26/2021	Moorings	Confirmed	11/5/2021	11/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/1/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	37'	3
A1 La Playa Cove	A1 Anchorage	7/15/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	33'	3
A1 La Playa Cove	A1 Anchorage	9/25/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/27/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	38'	3
A1 La Playa Cove	A1 Anchorage	1/1/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	35'	3
A1 La Playa Cove	A1 Anchorage	4/30/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/26/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/26/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/23/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	50'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	5/31/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	32'	3
A1 La Playa Cove	A1 Anchorage	3/5/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	43'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	43'	3
A1 La Playa Cove	A1 Anchorage	10/1/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	64'	3
A1 La Playa Cove	A1 Anchorage	11/2/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	11/5/2021	11/8/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/7/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	37'	3
A1 La Playa Cove	A1 Anchorage	4/10/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	7/16/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/18/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	39'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	11/5/2021	11/8/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	11/12/2021	11/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	10/28/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	30'	3
A1 La Playa Cove	A1 Anchorage	10/18/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	39'	3
A1 La Playa Cove	A1 Anchorage	11/8/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	60'	3
A1 La Playa Cove	A1 Anchorage	8/25/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	45'	3
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	28'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	34'	3
A1 La Playa Cove	A1 Anchorage	10/16/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/10/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/7/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	37'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	11/12/2021	11/15/2021	36'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	34'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	64'	3
A1 La Playa Cove	A1 Anchorage	4/2/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	43'	3
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	35'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	11/12/2021	11/15/2021	38'	3
A1 La Playa Cove	A1 Anchorage	9/2/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	32'	3
A1 La Playa Cove	A1 Anchorage	10/26/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	54'	3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	11/12/2021	11/15/2021	44'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	47'	3
A1 La Playa Cove	A1 Anchorage	8/17/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	60'	3
A1 La Playa Cove	A1 Anchorage	11/3/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021		3
A1 La Playa Cove	A1 Anchorage	5/13/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021		3
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	44'	3
A1 La Playa Cove	A1 Anchorage	11/5/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	42'	3
A1 La Playa Cove	A1 Anchorage	10/29/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	25'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/19/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	50'	3
A1 La Playa Cove	A1 Anchorage	11/5/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	29'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/24/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	35'	3
A1 La Playa Cove	A1 Anchorage	10/24/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	54'	3
A1 La Playa Cove	A1 Anchorage	10/20/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	30'	3
A1 La Playa Cove	A1 Anchorage	10/2/2021	WEBSITE	Confirmed	11/12/2021	11/15/2021	45'	3
A1 La Playa Cove	A1 Anchorage	11/5/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	24'	3
A1 La Playa Cove	A1 Anchorage	11/12/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	30'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/5/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	65'	3
A1 La Playa Cove	A1 Anchorage	10/5/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	36'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	32'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/12/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	41'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	25'	3
A1 La Playa Cove	A1 Anchorage	11/13/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	35'	3
A1 La Playa Cove	A1 Anchorage	11/16/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	47'	3
A1 La Playa Cove	A1 Anchorage	11/19/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	52'	3
A1 La Playa Cove	A1 Anchorage	11/3/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	47'	3
A1 La Playa Cove	A1 Anchorage	11/17/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	53'	3
A1 La Playa Cove	A1 Anchorage	12/8/2020	WEBSITE	Confirmed	11/19/2021	11/22/2021	44'	3
A1 La Playa Cove	A1 Anchorage	9/22/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	54'	3
A1 La Playa Cove	A1 Anchorage	9/1/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	11/19/2021	11/22/2021	38'	3
A1 La Playa Cove	A1 Anchorage	11/13/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	30'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	64'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/1/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	62'	3
A1 La Playa Cove	A1 Anchorage	4/10/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/17/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	45'	3
A1 La Playa Cove	A1 Anchorage	11/13/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	20'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	11/19/2021	11/22/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/7/2021	WEBSITE	Confirmed	11/19/2021	11/22/2021	50'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	11/26/2021	11/29/2021	42'	3
A1 La Playa Cove	A1 Anchorage	1/17/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/25/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	50'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	20'	3
A1 La Playa Cove	A1 Anchorage	10/2/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	32'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	34'	3
A1 La Playa Cove	A1 Anchorage	4/11/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	65'	3
A1 La Playa Cove	A1 Anchorage	11/5/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	62'	3
A1 La Playa Cove	A1 Anchorage	11/24/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	35'	3
A1 La Playa Cove	A1 Anchorage	11/23/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	44'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	44'	3
A1 La Playa Cove	A1 Anchorage	11/23/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	26'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	11/26/2021	11/29/2021	38'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	34'	3
A1 La Playa Cove	A1 Anchorage	9/2/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	32'	3
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/21/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/21/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	41'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	36'	3
A1 La Playa Cove	A1 Anchorage	11/25/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	30'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	37'	3
A1 La Playa Cove	A1 Anchorage	11/15/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	35'	3
A1 La Playa Cove	A1 Anchorage	10/7/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	60'	3
A1 La Playa Cove	A1 Anchorage	11/21/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	52'	3
A1 La Playa Cove	A1 Anchorage	11/24/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/25/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	26'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	41'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	32'	3
A1 La Playa Cove	A1 Anchorage	9/29/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/14/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	33'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	30'	3
A1 La Playa Cove	A1 Anchorage	8/25/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	37'	3
A1 La Playa Cove	A1 Anchorage	11/24/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	43'	3
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	11/26/2021	11/29/2021	37'	3
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/7/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/28/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	35'	3
A1 La Playa Cove	A1 Anchorage	9/8/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	65'	3
A1 La Playa Cove	A1 Anchorage	12/2/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	36'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	11/19/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/30/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/3/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	11/17/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	38'	3
A1 La Playa Cove	A1 Anchorage	11/16/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/26/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/29/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	25'	3
A1 La Playa Cove	A1 Anchorage	9/27/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	11/24/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	32'	3
A1 La Playa Cove	A1 Anchorage	11/11/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	12/3/2021	12/6/2021	38'	3
A1 La Playa Cove	A1 Anchorage	11/30/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	64'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/8/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	37'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	12/3/2021	12/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	42'	3
A1 La Playa Cove	A1 Anchorage	9/30/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/21/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/29/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/30/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/16/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	39'	3
A1 La Playa Cove	A1 Anchorage	12/1/2021	WEBSITE	Confirmed	12/3/2021	12/6/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/7/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	12/10/2021	12/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/28/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/6/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	48'	3
A1 La Playa Cove	A1 Anchorage	6/29/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/9/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	34'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/6/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	37'	3
A1 La Playa Cove	A1 Anchorage	7/1/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/6/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	64'	3
A1 La Playa Cove	A1 Anchorage	11/28/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	33'	3
A1 La Playa Cove	A1 Anchorage	11/28/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	35'	3
A1 La Playa Cove	A1 Anchorage	8/28/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	53'	3
A1 La Playa Cove	A1 Anchorage	7/15/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	44'	3
A1 La Playa Cove	A1 Anchorage	11/28/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	34'	3
A1 La Playa Cove	A1 Anchorage	6/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021		3
A1 La Playa Cove	A1 Anchorage	12/9/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	59'	3
A1 La Playa Cove	A1 Anchorage	11/30/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	50'	3
A1 La Playa Cove	A1 Anchorage	12/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/9/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	43'	3
A1 La Playa Cove	A1 Anchorage	12/2/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/6/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	44'	3
A1 La Playa Cove	A1 Anchorage	11/19/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/9/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	41'	3
A1 La Playa Cove	A1 Anchorage	9/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	65'	3
A1 La Playa Cove	A1 Anchorage	12/10/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	24'	3
A1 La Playa Cove	A1 Anchorage	9/21/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	35'	3
A1 La Playa Cove	A1 Anchorage	12/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	29'	3
A1 La Playa Cove	A1 Anchorage	12/8/2021	WEBSITE	Confirmed	12/10/2021	12/13/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/15/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/10/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/16/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	29'	3
A1 La Playa Cove	A1 Anchorage	12/11/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	36'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	41'	3
A1 La Playa Cove	A1 Anchorage	12/16/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	62'	3
A1 La Playa Cove	A1 Anchorage	9/1/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	37'	3
A1 La Playa Cove	A1 Anchorage	10/11/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	44'	3
A1 La Playa Cove	A1 Anchorage	5/29/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	53'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/16/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	12/17/2021	12/20/2021	42'	3
A1 La Playa Cove	A1 Anchorage	11/23/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	41'	3
A1 La Playa Cove	A1 Anchorage	11/26/2021	WEBSITE	Confirmed	12/17/2021	12/20/2021	20'	3
A1 La Playa Cove	A1 Anchorage	11/26/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	20'	3
A1 La Playa Cove	A1 Anchorage	10/2/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	32'	3
A1 La Playa Cove	A1 Anchorage	12/9/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	39'	3
A1 La Playa Cove	A1 Anchorage	8/25/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	45'	3
A1 La Playa Cove	A1 Anchorage	11/1/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	30'	3
A1 La Playa Cove	A1 Anchorage	12/25/2020	WEBSITE	Confirmed	12/24/2021	12/27/2021	42'	3
A1 La Playa Cove	A1 Anchorage	12/23/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	42'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	12/24/2021	12/27/2021	36'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	34'	3
A1 La Playa Cove	A1 Anchorage	11/30/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	26'	3
A1 La Playa Cove	A1 Anchorage	5/6/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	64'	3
A1 La Playa Cove	A1 Anchorage	11/21/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	30'	3
A1 La Playa Cove	A1 Anchorage	4/5/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	30'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	12/24/2021	12/27/2021	38'	3
A1 La Playa Cove	A1 Anchorage	5/31/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	32'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	47'	3
A1 La Playa Cove	A1 Anchorage	12/19/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	47'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	37'	3
A1 La Playa Cove	A1 Anchorage	6/8/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021		3
A1 La Playa Cove	A1 Anchorage	12/21/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	32'	3
A1 La Playa Cove	A1 Anchorage	12/18/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	31'	3
A1 La Playa Cove	A1 Anchorage	12/10/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	30'	3
A1 La Playa Cove	A1 Anchorage	11/18/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	41'	3
A1 La Playa Cove	A1 Anchorage	12/18/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	47'	3
A1 La Playa Cove	A1 Anchorage	12/8/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	32'	3
A1 La Playa Cove	A1 Anchorage	12/2/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	36'	3
A1 La Playa Cove	A1 Anchorage	12/23/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	34'	3
A1 La Playa Cove	A1 Anchorage	12/19/2021	WEBSITE	Confirmed	12/24/2021	12/27/2021	39'	3
A1 La Playa Cove	A1 Anchorage	12/30/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	43'	3
A1 La Playa Cove	A1 Anchorage	12/2/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	36'	3
A1 La Playa Cove	A1 Anchorage	12/10/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	30'	3
A1 La Playa Cove	A1 Anchorage	12/22/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	32'	3
A1 La Playa Cove	A1 Anchorage	12/21/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	40'	3
A1 La Playa Cove	A1 Anchorage	1/1/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	35'	3
A1 La Playa Cove	A1 Anchorage	12/23/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	60'	3
A1 La Playa Cove	A1 Anchorage	11/22/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	34'	3
A1 La Playa Cove	A1 Anchorage	2/21/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	37'	3
A1 La Playa Cove	A1 Anchorage	10/29/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	42'	3
A1 La Playa Cove	A1 Anchorage	6/12/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	49'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	47'	3
A1 La Playa Cove	A1 Anchorage	11/28/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	50'	3
A1 La Playa Cove	A1 Anchorage	12/26/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	43'	3
A1 La Playa Cove	A1 Anchorage	12/29/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	54'	3
A1 La Playa Cove	A1 Anchorage	10/6/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	34'	3
A1 La Playa Cove	A1 Anchorage	5/31/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	32'	3
A1 La Playa Cove	A1 Anchorage	3/16/2021	Moorings	Confirmed	12/31/2021	1/3/2022	38'	3
A1 La Playa Cove	A1 Anchorage	6/30/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	30'	3
A1 La Playa Cove	A1 Anchorage	11/21/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	30'	3
A1 La Playa Cove	A1 Anchorage	11/30/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	26'	3
A1 La Playa Cove	A1 Anchorage	12/9/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	34'	3
A1 La Playa Cove	A1 Anchorage	4/26/2021	Moorings	Confirmed	12/31/2021	1/3/2022	36'	3
A1 La Playa Cove	A1 Anchorage	12/30/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	37'	3
A1 La Playa Cove	A1 Anchorage	1/7/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	42'	3
A1 La Playa Cove	A1 Anchorage	12/30/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	37'	3
A1 La Playa Cove	A1 Anchorage	12/29/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	43'	3
A1 La Playa Cove	A1 Anchorage	6/8/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022		3
A1 La Playa Cove	A1 Anchorage	11/6/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	48'	3

2021 Weekend Anchorage Reservations Summary Table

Marina	Mooring	Date Reservation Made	Made At	Status	Arrival Date	Departure Date	Boat Length	Length of Stay (Nights)
A1 La Playa Cove	A1 Anchorage	12/30/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	46'	3
A1 La Playa Cove	A1 Anchorage	12/9/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	39'	3
A1 La Playa Cove	A1 Anchorage	11/26/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	40'	3
A1 La Playa Cove	A1 Anchorage	12/7/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	47'	3
A1 La Playa Cove	A1 Anchorage	11/26/2021	WEBSITE	Confirmed	12/31/2021	1/3/2022	20'	3

DATA FOR SIYB MARINAS AND YACHT CLUBS

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Facility	Slip	% Occupancy	Vessel Type	Vessel Length	Vessel Beam	Paint Type	Paint Product Name	Product #	Boatyard	Paint Month	Paint Year	EPA Registration Number	Percent Copper
BCM	1	100	P	36	14	AGED COPPER	ULTRA KOTE	Y3669U	SIBY	10	2016	2693-119-ZD	0.57
BCM	2	100	P	30	10.5	COPPER			82020				
BCM	3	100	S	32.5	11.9	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	7	2020	60061-64-ZD	0.53
BCM	4	100	S	36.3	11.9	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	12	2020	60061-64-ZD	0.53
BCM	5	97	S	35	10	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	6	2021	60061-64-ZD	0.53
BCM	6	97	P	35	13	LOW COPPER			62015				
BCM	7	100	S	35	11.5	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	4	2021	60061-64-ZD	0.53
BCM	8	100	P	31	10.5	LOW COPPER	ULTRA BLUE	3669	KOEHLER	6	2020	2693-212-AA	0.55
BCM	9	89	S	34.6	11.9	LOW COPPER	ULTRA BLUE	3669	SIBY	5	2019	2693-212-AA	0.55
BCM	10	100	P	36	12.11	COPPER	ULTRA WITH BIOLUX	Y3669F/1	MGBW	2	2021	2693-192-ZB	0.55
BCM	11	100	S	29.5		LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	4	2021	60061-64-ZD	0.53
BCM	12	99	S	27	9	LOW COPPER			22017				
BCM	13	100	P	17	6	LOW COPPER	ULTRA BLUE	3669F	SIBY	12	2018	2693-212-AA	0.55
BCM	14	100	S	24	8	LOW COPPER	ULTRA-KOTE	Y3669U	SIBY	1	2016	2693-119-ZD	0.57
BCM	15	100	P	25	12	COPPER			102021				
BCM	16	0				NON COPPER	UNUSABLE SIDE TIE						0
BCM	17	100	P	40.3	12.3	COPPER			22021				
BCM	18	99	P	34	12	COPPER	ULTRA BLACK	3779	SIBY	12	2019	2693-192-AA	0.55
BCM	19	100	P	35.3	14	LOW COPPER	FIBERGLASS BOTTOMKOTE NT	YBB379	DRISCOLL MB	11	2016	2693-228-AA	0.25
BCM	20	99	P	31	11.5	COPPER	ULTRA BLACK	3779	SUN CNTY MARINE	7	2019	2693-192-AA	0.55
BCM	21	100	P	34	11.6	COPPER	ULTRA BLACK	3779	KOEHLER	3	2019	2693-192-AA	0.55
BCM	22	100	P	32	10.6	COPPER	PETTIT TRINIDAD	1875	SIBY	10	2020	60061-49-ZJ	0.7
BCM	23	100	P	34	12.6	COPPER	PETTIT TRINIDAD PRO	1082FD	SIBY	11	2020	60061- 49-ZM	.50-.75
BCM	24	100	P	32	11.6	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	3	2020	60061-64-ZD	0.53
BCM	25	100	P	34	14	LOW COPPER	ULTRA-KOTE	Y3669U	SIBY	10	2016	2693-119-ZD	0.57
BCM	26	100	S	38	21.5	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	6	2020	60061- 64-ZD	0.53
BCM	27	100	S	24	8	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	8	2020	60061- 64-ZD	0.53
BCM	28	100	S	18.6	6.3	LOW COPPER	ULTRA KOTE BLUE	2669N		4	2016	2693-135-ZF	0.67
BCM	29	100	S	18.5	7	NON COPPER	SHELTER ISLAND PLUS	8241	SELF	8	2021	Registration NR2	0
BCM	30	88	P	26	8.6	LOW COPPER	ULTRA-KOTE	Y3779U	DRISCOLL MB	9	2017	2693-119-ZD	0.57
BCM	31	0				NON COPPER	EMPTY SLIP						0
BCM	32	100	P	13.3	4	LOW COPPER	BAY CLUB WHALER		62011				0
BCM	33	96	S	63.7	14	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	10	2021	60061- 64-ZD	0.53
BCM	34	100	S	41	12	LOW COPPER	ULTRA BLACK	3779	SIBY	11	2017	2693-192-AA	0.55
BCM	35	96	P	48	12	LOW COPPER	PROLINE	1088C-02	SIBY	7	2012	577-551-ZC	0.56
BCM	36	96	P	38	13	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	9	2021	60061- 64-ZD	0.53
BCM	37	100	S	49	14.9	LOW COPPER	PETTIT TRINIDAD HG	1871	SIBY	3	2021	60061- 64-ZD	0.53
BCM	38	100	S	44.5	14	LOW COPPER	PETTIT TRINIDAD PRO	1082GL	DRISCOLL	7	2017	60061- 49-ZM	0.56
BCM	39	100	P	44	15	COPPER			42020				
BCM	40	100	P	26	6	LOW COPPER	ULTRA BLUE	3669F	MGBW	1	2021	2693-212-AA	0.55
BCM	41	100	P	42	13.6	LOW COPPER	ULTRA-KOTE	Y3669U	SIBY	7	2017	2693-119-ZD	0.57
BCM	42	100	S	31	10.8	LOW COPPER	ULTRA-KOTE BLACK	2779N	SIBY	6	2017	2693-135-ZH	0.67
BCM	43	100	P	39	13.5	COPPER	ULTRA BLACK	3779F	MGBW	2	2020	2693-192-AA	0.55
BCM	44	93	S	29.11	10.1	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	11	2021	60061- 64-ZD	0.53
BCM	45	100	S	29	10.6	LOW COPPER	PETTIT TRINIDAD HD	1671	SIBY	8	2021	60061- 64-ZD	0.53
BCM	46	100	S	30	8	LOW COPPER	ULTRA BLUE	Y3669F	DRISCOLL	5	2021	2693-212-AA	0.55
BCM	47	100	S	29.11	10.1	LOW COPPER	PETTIT TRINIDAD PRO	A1088G	KOEHLER	8	2014	60061-94-ZB	0.6
BCM	48	100	S	34.5	12	LOW COPPER	ULTRA BLACK	3779	SIBY	4	2018	2693-192-AA	0.55
BCM	49	100	S	32	9.6	LOW COPPER	PETTIT TRINIDAD PRO	A1088G	KOEHLER	6	2012	60061-94-ZB	0.6
BCM	50	100	P	26.2	8.6	LOW COPPER	PETTIT HYDROCOAT	1847	SELF	10	2021	60061- 141-AA	0.4
BCM	51	100	S	41	12	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	2	2014	60061-49-ZD	0.53
BCM	52	100	P	57	16.5	COPPER							
BCM	53	100	P	41	13.6	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	10	2019	60061-49-ZD	0.53

Facility	Slip	% Occupancy	Vessel Type	Vessel Length	Vessel Beam	Paint Type	Paint Product Name	Product #	Boatyard	Paint Month	Paint Year	**EPA Registration Number**	**Percent Copper**
BCM	54	99	P	42	13.8	LOW COPPER	ULTRA RED	3449	SIBY	2	2018	2693-192-ZA	0.55
BCM	55	100	P	46	14.6	LOW COPPER	ULTRA BLUE	3669	DRISCOLL	3	2010	2693-192-ZB	0.55
BCM	56	100	S	42	13	COPPER	ULTRA BLACK	3779	SIBY	8	2020	2693-192-AA	0.55
BCM	57	100	S	48	13	COPPER	PROLINE	1088C-02	SIBY	4	2019	577-551-ZC	0.56
BCM	58	100	S	40	13	LOW COPPER	ULTRA-KOTE BLUE	Y3669U	SIBY	4	2017	2693-119-ZD	0.57
BCM	59	100	S	42	12	COPPER	ULTRA WITH BIOLUX	Y3779F	DRISCOLL	7	2021	2693-192-ZB	0.55
BCM	60	88	P	43	16	LOW COPPER	Z*SPAR THE PROTECTOR	8109406	MARINA DEL REY	11	2019	60061-64-ZB	0.53
BCM	61	96	S	32	11.5	COPPER	Z*SPAR BOTTOM PRO GOLD	41127706	DRISCOLL	5	2019	60061-94-ZE	0.65
BCM	62	100	S	30	10	LOW COPPER	ULTRA BLUE	Y3669F	SIBY	10	2018	2693-212-AA	0.55
BCM	63	96	S	25	8	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	6	2020	60061- 64-ZD	0.53
BCM	64	100	S	30	10.8	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	8	2021	60061- 64-ZD	0.53
BCM	65	100	S	30	10.1	COPPER			72020				
BCM	66	100	S	30	10.1	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	8	2021	60061-49-ZD	0.53
BCM	67	100	S	35	11	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	8	2020	60061-64-ZD	0.53
BCM	68	100	S	27	8	COPPER	ULTRA BLUE	3669	SIBY	4	2019	2693-192-ZB	0.55
BCM	69	100	S	30	7.8	LOW COPPER	ULTRA BLUE	3669	SIBY	12	2018	2693-192-ZB	0.55
BCM	70	100	P	33	10.5	COPPER			92020				
BCM	71	100	P	54	14	LOW COPPER			102017				
BCM	72	100	S	36	11.6	LOW COPPER			72013				
BCM	73	93	P	36	12	LOW COPPER	ULTRA BLACK	3779	SIBY	1	2013	2693-192-AA	0.55
BCM	74	100	S	37.5	12.5	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	12	2020	60061-49-ZD	0.53
BCM	75	100	S	34	11	COPPER	PETTIT TRINIDAD PRO	1083FDG	SIBY	1	2020	60061-49-ZM	0.6
BCM	76	100	S	35	11.9	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	9	2021	60061-49-ZD	0.53
BCM	77	100	P	34	12	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	11	2020	60061-64-ZD	0.53
BCM	78	82	S	34	11.75	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	6	2020	60061- 64-ZD	0.53
BCM	79	93	P	48	12	LOW COPPER	ULTRA BLACK	3779	SIBY	12	2014	2693-192-AA	0.55
BCM	80	96	P	37	13.9	LOW COPPER	ULTRAKOTE	Y3669U	SIBY	8	2018	2693-119-ZD	0.57
BCM	81	99	S	43	12	LOW COPPER	MICRON CSC	5583G	KOEHLER	1	2020	2693-132-ZV	0.37
BCM	82	99	S	37	12.9	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	7	2021	60061- 64-ZD	0.53
BCM	83	100	S	44	13	COPPER	PETTIT ULTIMA SR 60	1109606	SIBY	8	2020	60061-94-ZC	0.6
BCM	84	96	S	36	10.5	NON-COPPER	INTERSHIELD 300V	ENA311	KOEHLER	3	2017	--	0
BCM	85	100	P	44	11	COPPER	ULTRA BLUE	3669	SIBY	2	2019	2693-192-ZB	0.55
BCM	86	100	S	38	14.11	LOW COPPER	WEST MARINE BOTTOMSHIELD	411186606	KOHLER KRAFT	2	2015	60061-129-AA	0.29
BCM	87	100	S	45	14.9	COPPER			82020				
BCM	88	82	P	49	15.6	LOW COPPER	Z*SPAR BOTTOM PRO GOLD	41127706	DRISCOLL	10	2018	60061-94-ZE	0.65
BCM	89	96	P	42	13.5	LOW COPPER	ULTRA RED	3449	SIBY	6	2017	2693-192-ZA	0.55
BCM	90	100	S	36	11.6	COPPER							
BCM	91	55	S	35	12	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	9	2020	60061-64-ZD	0.53
BCM	92	93	S	31.11	11.7	COPPER	PETTIT TRINIDAD SR	1877	SIBY	4	2021	60061-49-ZN	0.65
BCM	93	90	S	35	11.6	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	7	2020	60061-64-ZD	0.53
BCM	94	100	S	36	12.5	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	11	2019	60061- 64-ZD	0.53
BCM	95	100	S	36	10	LOW COPPER			62018				
BCM	96	95	S	35	12.2	COPPER	ULTRA BLACK	3779	DRISCOLL	4	2021	2693-192-AA	0.55
BCM	97	100	S	40	21	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	11	2020	60061-64-ZD	0.53
BCM	98	73	S	44	13	COPPER	ULTRA BLACK	3779	SIBY	4	2019	2693-192-AA	0.55
BCM	99	100	S	34	11	COPPER	ULTRA GREEN	3559	SIBY	5	2019	2693-192-ZC	0.55
BCM	100	100	P	44	14.9	COPPER	ULTRA BLACK	3779	KOEHLER	5	2021	2693-192-AA	0.55
BCM	101	100	S	38	12	LOW COPPER			112018				
BCM	102	100	S	46	14	LOW COPPER	PROLINE	1088C-02	SIBY	2	2009	577-551-ZC	0.56
BCM	103	96	S	38	12.4	COPPER	ULTRA WITH BIOLUX	Y3669F/1	SIBY	9	2021	2693-192-ZB	0.55
BCM	104	96	S	38	12.11	COPPER	Z*SPAR	B91	OXNARD	4	2019	60061-49-ZG	0.65
BCM	105	100	P	33	11.5	COPPER	ULTRA BLACK	3779	DRISCOLL	7	2020	2693-192-AA	0.55
BCM	106	82	P	46	14.5	LOW COPPER	Z*SPAR GOLD	411127706	SIBY	3	2015	60061-117-ZE	0.4

Facility	Slip	% Occupancy	Vessel Type	Vessel Length	Vessel Beam	Paint Type	Paint Product Name	Product #	Boatyard	Paint Month	Paint Year	**EPA Registration Number**	**Percent Copper**
BCM	107	100	P	29.5	10.5	COPPER			72020				
BCM	108	99	S	32	11	LOW COPPER	PETTIT		42009				
BCM	109	95	S	35	10	LOW COPPER	ULTRA BLACK	3779	SIBY	7	2010	2693-192-AA	0.55
BCM	110	100	P	22	9.3	LOW COPPER	ULTRA BLACK	3779	DUFFY BOAT CO.	11	2020	2693-212-AA	0.55
BCM	111	100	P	30	9.9	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	12	2020	60061-64-ZD	0.53
BCM	112	100	P	32.5	12	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	8	2021	60061-64-ZD	0.53
BCM	113	99	S	33	10	COPPER	ULTRA BLACK	3779	SIBY	2	2019	2693-192-AA	0.55
BCM	114	100	S	27	7	NON COPPER	PACIFICA PLUS	YBB260	SVENDSENS BAY	3	2018	2693- 220-ZA	0
BCM	115	100	S	29	9.25	LOW COPPER	MICRON EXTRA	5793	DRISCOLL	4	2014	2693-190-ZJ	0.37
BCM	116	100	P	32	11	LOW COPPER			102012				
BCM	117	82	S	65	18	NON COPPER	SEAHAWK SMART SOLUTION	4705	GRENADA	3	2018	44891-19-AA	0
BCM	118	0				NON COPPER							0
BCM	119	99	S	32	11.8	LOW COPPER	PETTIT TRINIDAD PRO	A10882	SIBY	8	2018	60061-94-ZB	0.53
BCM	120	96	S	32	11.5	LOW COPPER	PROLINE	1088C-02	SIBY	5	2018	577-551-ZC	0.56
BCM	121	99	S	30	10	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	6	2020	60061- 64-ZD	0.53
BCM	122	100	S	30	10	LOW COPPER	ULTRA BLACK	3779	SIBY	6	2015	2693-192-AA	0.55
BCM	123	97	S	36	11.5	COPPER							
BCM	124	100	S	32	10.2	LOW COPPER				3	2018		
BCM	125	100	S	33	9.7	LOW COPPER	PROLINE	1088C-02	DRISCOLL	5	2016	577-551-ZC	0.56
BCM	126	100	S	35	10.5	LOW COPPER	ULTRA BLACK	3779	KOEHLER	2	2013	2693-192-AA	0.55
BCM	127	96	S	33	9.7	LOW COPPER	ULTRA BLACK	3779	SIBY	6	2011	2693-192-AA	0.55
BCM	128	100	S	36	11	COPPER	ULTRA BLACK	3779	SIBY	2	2019	2693-192-AA	0.55
BCM	129	97	S	32	11	LOW COPPER	SUPER PROGUARD	NAU770	NB	7	2016	23566-20-ZR	0.55
BCM	130	100	S	33.5	11.5	LOW COPPER			122013				
BCM	131	100	S	34	11	LOW COPPER			22014				
BCM	132	96	S	25	8	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	6	2020	60061- 64-ZD	0.53
BCM	133	100	S	30	10	LOW COPPER	ULTRA BLACK	3779	SIBY	6	2018	2693-192-AA	0.55
BCM	134	100	S	33	11.5	LOW COPPER	PROLINE	1088C-02	SIBY	3	2016	577-551-ZC	0.56
BCM	135	100	S	30	10	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	5	2020	60061-64-ZD	0.53
BCM	136	90	S	34.8	10	LOW COPPER			62016				
BCM	137	100	S	29	8	COPPER							
BCM	138	92	S	34	11.9	COPPER	ULTRA BLUE	3669	SIBY	4	2019	2693-192-ZB	0.55
BCM	139	96	S	36	20	LOW COPPER	PETTIT TRINIDAD HD	1871	SIBY	4	2021	60061-64-ZD	0.53
BCM	140	100	S	40	11.83	COPPER	ULTRA BLACK	3779	KOEHLER	10	2020	2693-192-AA	0.55
BCM	141	100	S	28	10	LOW COPPER	ULTRA GREEN	3559	SIBY	9	2016	2693-192-ZC	0.55
BCM	142	90	S	36	11	COPPER	ULTRA BLUE	3669	DRISCOLL	11	2021	2693-192-ZB	0.55
BCM	143	100	S	30	10.5	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	9	2020	60061-64-ZD	0.53
BCM	144	100	P	31.5	10.8	COPPER			72021				
BCM	145	96	P	34	11.9	NON COPPER	PPG AMERCOAT ABC3	7313-18	MGBW	5	2021	69470-40-AA-56601	0
BCM	146	100	S	34	9.11	LOW COPPER	ULTRA BLACK	3779	MGBW	1	2018	2693-192-AA	0.55
BCM	147	68	S	31	10	LOW COPPER			72016				
BCM	148	96	S	30	9.6	LOW COPPER	WEST MARINE BOTTOM SHIELD	g	KOEHLER KRAFT	2	2019	60061-135-AA	0.25
BCM	149	90	S	32	9.8	LOW COPPER	Z*SPAR BOTTOM PRO GOLD	411127706	DRISCOLL	11	2018	60061-117-ZE	0.4
BCM	150	100	S	34	11.25	LOW COPPER	PETTIT TRINIDAD HD	1271	SIBY	10	2020	60061- 64-ZD	0.53
BCM	151	0				NON COPPER	UNUSABLE SIDE TIE						
BCM	152	0				NON COPPER	UNUSABLE SIDE TIE						
BCM	153	0				NON COPPER	UNUSABLE SIDE TIE						
BCM	154	0				NON COPPER	UNUSABLE SIDE TIE						
BCM	155	0				NON COPPER	UNUSABLE SIDE TIE						
BCM	156	0				NON COPPER	UNUSABLE SIDE TIE						

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
1												
2												
3		p	28	11	interlux	y3779f		CU copper			9	2021
4												
5	100%	p	31.5	10.4	INTERLUX ULTRA 3379F black		3379	COPPER	40%	Shelter Island Boat Yard	12	2018
6	100%	p	28.5	10.5								
7												
8	95%	s	36	10.5	TRINIDAD PETTIT	60061-50	1675	unk	NA	driscolls	4	2015
9												
10	100%	S	30	10	Interlux Ultra Black		3779F	UNK	NA	Shelter Island Boat Yard	3	2018
11	99%	p	23.8	8.6	CSF	44891-16				boat specialists	7	2021
12	80%	P	36	13	INTERLUX ULTRA		377F	LOW	NA	SHELTER ISLAND BOATYARD	2	2015
13	hydrohoist											
14	100%	s	36	10								
15												
16	100%	P	30	6.5	Interlux Ultra Black	2693-212		LOW	NA	shelter island boatyard	12	2017
17	95%	P	26	8	Interlux Ultrakote	2693-119-ZD	3779U	COPPER	NA	Shelter Island Boatyard	10	2017
18	100%	p	30	11.6								
19												
20	90%	P	35	11	interlux ultra black	2693-212-AA	3779F	copper	NA	shelter island boatyard	5	2018
21	98%	P	32.7	11.5				unk	unk	unk	unk	unk
22	90%	S	35	11	INTERLUX ULTRA BLACK		3779F	UNK	NA	Shelter Island Boatyard	5	2018
23												
24	100`%	p	33	34	Pettit Pro	5215595	1108806			Dana Point Ship Yard	10	2017
25												
26												
27												
28	25%	S	36	11	Proline 1088	577-550-ZE	168	COPPER	65%	Shelter Island Boatyard	6	2013
29												
30	90%	S	33	11.4	INTERLUX ULTRAKOTE	2693-119-ZD	366916	NON	NA	SHELTER ISLAND	NA	NA
31												
32	100%	P	31	9.8		103-5580-01		UNK	NA	Nick's Creative Marine	8	2019
33	100%	p	34	8	Trilux 33		yba063					
34	90%	p	30	10.6	Zspar Protect	na	na	.		King Harbor Marina	8	2015
35												
36	100%	P	33	9.6	Interlux Ultra Kote	2693-212	y3779u	unk	NA	Koehler	4	2017
37	100%	s	34	10								
38												
39	100	P	32	10	pettit hydrocoat eco	60061-137	na	na	na	na	7	2021
40	100	s	36	12	unk	unk	unk	unk	unk	unk	unk	unk
41	100%	p	30									

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42												
43												
44	100%	s	31	10	Interlux Ultra	unk	230 VOC	unk	unk	Driscol	6	2020
45												
46												
47	90%	p	31	11	Z*Spar Anti Fouling	#16471682	unk	UNK	NA	Koeler Krafts	4	2017
48	80%	P	35	11	unk	unk	unk	UNK	unk	SHELTER ISLAND	7	2013
49												
50	100%	S	31	22	PROLINE	577-550-ZE	1088	copper	0%	Shelter Island Boatyard	12	2016
51	100%	S	34	11	INTERLUX ULTRAKOTE		NA	copper	76%	KOLAR MARINE	2	2010
52	100%	P	32	14	NA	2693-212	NA	NA	NA	NIELSON BEAUMONT	7	2019
53												
54												
55	95%	P	38	12	NA		NA	NA	NA	NA	NA	NA
56												
57	100%	p	41	12.6	interlux	YBA473-Black	YBA473			marine group	10	2021
58	60%	P	24	8.5	Sherwin Williams		N51B301	non copper	0%	Driscoll	6	2019
59												
60												
61												
62												
63	100%	P	35	16	NA		NA	NON	NA	Neilsen Boatyard	4	2014
64												
65	100%	P	40	14	INTERLUX ULTRA	2693-212	NA	NA	NA	Shelter Island Boatyard	4	2019
66					krypton	60061-134-89049	1147420			basin marine inc	11	2018
67	95%	p	37	12	trinidad	60061-64	1871			siby	11	2021
68	100%	P	26	8.5	Woolsey Defense	4301G	4301G			Neilsen Boatyard	6	2018
69												
70	100%	p	18	10	zpar bottom pro gold	8109106	BP-001-BOTTOM PAINT		NA	Driscoll	11	2017
71												
72	90%	S	27	9	NA		NA	LOW	NA	DRISCOLL	5	2013
73	100%	p	39	15								
74	60%	S	30	9	INTERSEEK 900	Registration NR2	35	LOW	NA	SHELTER ISLAND	9	2009
75	90%	P	42	16	NA		NA	UNK	0%	MARINE WORKS	5	2013
76	75%	P	22	8	Sherwin Williams Pro line		1088C	UNK	NA	SELF APPLIED	5	2018
77	98%	P	38	13.6	Interlux		K3669F			KOEHLER KRAFT	1	19
78												
79												

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80	100%	p	23	8.8								
81	100%	S	40.5	13.5	INTERLUX ULTRAKOTE	2693-119-ZD	3669U	COPPER	55%	Shelter Island Boatyard	8	2016
82	100%	p	30	10								
83	50%	P	36	12	NA		NA	UNK	NA	Shelter Island Boatyard	7	2014
84	90%	P	28	10	WEST BOTTOM PRO		NA	LOW	NA	MARINE WORKS	4	2009
85	100%	P	35	13	INTERLUX ULTRAKOTE		NA	NA	NA	SHELTER ISLAND	JAN	2018
86												
87												
88												
89	95%	P	40.1	14.1	Pettit Trinidad	60061-64	1871	UNK	NA	Shelter Island Boatyard	March	2020
90	100%	p	31	9.9	pettit trinidad	60061-64	1871 black			siby	3	2020
91	vacant											
92												
93												
94												
95												
96	100%	p	30	10	interlux ultra		3779f			shelter island	12	2018
97	50%	S	29	10	NA		NA	LOW COPPER	NA	SHELTER ISLAND	5	2010
98	100%	s	27	8	zspar bottom pro blue	60061-64				driscoll	2	2020
99	90%	S	30	9	INTERLUX ULTRAKOTE		NA	UNK	NA	KOEHLER KRAFT	3	2016
100	100%	S	30	11	NA		NA	NON	0%	SHELTER ISLAND BOATYARD	1	2017
101												
102	85%	P	48	15	NA		NA	UNK	NA	NA	NA	NA
103	100%											
104												
105	100%	S	53	14	Interlux Micron CSC	2693-190	Y5582			Shelter Island Boatyard	6	2017
106	88%	P	35	13	INTERLUX ULTRAKOTE	2693-119-ZD	117598	COPPER	76%	SHELTER ISLAND BOATYARD	9	2017
107												
108	90%	P	30	10	NA		NA	LOW COPPER	NA	NA	12	2010
109												
110	95%	P	42	13	NA		NA	UNK	NA	NA	12	2012
111												
112	100%											
113												
114												
115												
116	90%	S	42	14	INTERLUX ULTRA	2693-212-AA	3669F	copper	65%	SHELTER ISLAND BOAT YARD	7	2015
117												
118	95%	p	38	10	z spar	60061-49				SELF APPLIED	11	2017

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119	100%	P	50	16.8	interlux ultra	12344	12344	UNK	NA	shelter island	6	2019
120												
121												
122	40%	P	42	16	NA		NA	UNK	NA	SHELTER ISLAND BOAT YARD	7	2014
123	60%	S	54	14	NA		NA	UNK	NA	NA	NA	NA
124	100%	p	42	15	prettit	60061-135	1261g			shelter island	8	2019
125												
126												
127												
128												
129	20%	P	60	18	NA		NA	UNK	NA	NA	NA	NA
130												
131	70%	P	48	16	NA		NA	NA	NA	NA	NA	NA
132												
133												
134	100%	p	28	9.5	Pettit trinidad	60061-64	1871			shelter island	2	2020
135	90%	S	52	16	INTERLUX ULTRA		NA	copper	67%	Shelter Island Boatyard	4	2014
136	25%	P	33	12	NA		NA	UNK	NA	Shelter Island Boatyard	10	2013
137	50%	p	61	18.7	sea hawk cukote		3400			cable marine	9	2019
138	95%	P	38	14	INTERLUX CSC	2693-132-ZV	319293	LOW COPPER	37%	Shelter Island Boatyard	5	2015
139	99%	P	57	16	interlux 3449F Red		3449	UNK	NA	Shelter Island Boatyard	2	2019
140	100%	s	43.5	14.3								
141	70%	P	59	15	INTERLUX ULTRA	2693-212-AA	3779F	LOW COPPER	NA	SHELTER ISLAND BOAT YARD	2	2011
142	100%	s	42	13	ZSPAR Bottom Pro Gold	60061-94-ZE	411187706				3	2017
143	80%	S	42	11	Z-SPAR bottom pro		bp91	COPPER	65%	DRISCOLL	3	2017
144	80%	P	43	15.2	INTERLUX 1088		168	NON	0%	Shelter Island Boatyard	4	2010
145	80%	P	38	13	Interlux Ultra	2693-212	3669F	UNK	NA	shelter island boatyard	7	2018
146	100%	P	51	15.4	Petit Trinidad		1187500			SHELTER ISLAND BOAT YARD	12	2020
147												
148	100%	P	39	10	Interlux Ultra	2693-205	NA		NA	San Diego Boat Yard	7	2017
149	95%	P	52	15	PETIT trinidad PRO		1082	LOW	65%	Shelter Island Boatyard	10	2018
150												
151	90%	P	41	14	NA		NA	UNK	NA	NA	NA	NA
152	90%	S	40	12	NA		NA	UNK	NA	NA	NA	NA
153	95%	P	42.9	14.5	NA	593-4301-G	NA	LOW	NA	Neilsen Boatyard	11	2016
154	60%	S	40	14	NA		NA	UNK	NA	NA	NA	NA
155	60%	P	48	14	INTERLUX		NA	LOW	NA	SHELTER ISLAND BOAT YARD	5	2011
156												
157	100%	P	43	15	bluewater	74681-2				NA	12	2017

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158	80%	S	42	14	PROLINE	577-550-ZE	1088	unk	NA	shelter island	5	2016
159	100%	P	42	15	unk	Unknown	na	unk	NA	Shelter Island Boatyard	3	2016
160	100%	s	44	13								
161												
162	80%	p	43	12	pettit vivid black	60061-116				sunsdance xacxcts	2	2021
163	40%	S	44	12.8	NA		NA	UNK	NA	KNIGHT AND CARVER	6	2012
164	85%	S	41	13	petit trinidad	60061-87				SHELTER ISLAND	3	2017
165												
166	100%	p	42	13.1	pettit trinidad	60061-64				shelter island	8	2019
167	100%	p	4	15.1	pettit trinidad	60061-64				shelter island		2020
168												
169	95%	P	43	16	NA		NA	copper	60%	south coast boat yard	6	2014
170	100%	p	37	13								
171			43	14	NA		NA	UNK	NA	NA	NA	NA
172	70%	P	38	14	PROLINE		1088	UNK	NA	NA	NA	NA
173	75%	P	42	14	Micron		NA	NON	0%	Shelter Island Boatyard	MAR	2016
174												
175	100%	p	36	13	interlus ultra		94-3779f			shelter island	3	2018
176												
177	100%	P	42	13	interlux micron csc		NA	copper	NA	NA	2	15
178	95%	S	38	13	INTERLUX ULTRA		NA	Copper	NA	SHELTER ISLAND	10	2017
179	100%	p	54		Odyssey HD	60061-118				Dana Point Boatyard	3	2021
180	95%	P	43	14	INTERLUX ULTRA		NA	UNK	NA	SHELTER ISLAND BOAT YARD	5	2014
181	80%	S	44	14	interlux ultra blue		3669f	copper	NA	Shelter Island Boatyard	12	2017
182												
183	90%	S	49	15	Z-SPAR	60061-50-ZE	B-90	NON	66%	SHELTER ISLAND	4	2015
184	100%	p	38.4	13								
185	95%	P	50	17	PETTIT TRINIDAD		NA	LOW	NA	Shelter Island Boatyard	1	2010
186	90%	P	38	13	INTERLUX		NA	NON	0%	DRISCOL	4	2011
187												
188												
189	90%	P	50	17	INTERLUX ULTRA		NA	COPPER	55%	SHELTER ISLAND	4	2014
190												
191												
192	75%	P	55	16	NA		NA	UNK	NA	NA	NA	NA
193	90%	P	52.5	16	proline	577-550-ZE	1088	COPPER	66%	The boat yard, marina del rey	3	2015
194												
195												
196	90%	P	58	16	NA		4nk	UNK	40%	SHELTER ISLAND BOAT YARD	3	2014
197												
198	100%	p	72	20	Pettit trinidad pro		1871			shelter island		

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199	65%	P	86	22	PROLINE 1088c	577-550-ZE	168	LOW	40%	MARINE GROUP	9	2010
200	90%	P	57	14.5	INTERLUX			LOW	40%	Driscoll MB	3	2010
201	60%	P	57	16	NA		NA	UNK	NA	OXNARD	1	2012
202												
203	90%	P	90	21	SHARKSKIN		NA	COPPER	NA	NA	1	2013
204							NA	COPPER	40%	Delta Marine Seattle	12	2016
205	100%	p	70	20								
206	100%	p	57	17	interlux	11759g				shelter island boatyard	10	2018
207	90%	P	56	15	INTRULUX PACIFICA		yba163	LOW	40%	SHELTER ISLAND BOAT YARD	3	2016
208												
209												
210	65%	P	55	17.6	Interluxe Ultra		160	LOW	65%	Shelter Island Boatyard	5	2010
211												
212												
213												
214	95%	P	57	17	INTERLUX ULTRA	2693-212	3779F	copper	65%	Shelter Island Boatyard	6	2014
215												
216	100%	P	65	17	Interlux Micron 66 Antifowling		YBA473	UNK	NA	Shelter Island Boatyard	8	2016
217												
218	95%	P	60	18	PETTITT TRINIDAD SR		NA	LOW	65%	Shelter Island Boatyard	12	2013
219	100%	p	80	19	Trilux 33		yba063					
220	100%	P	59	16	PETTIT		1661g	LOW	NA	Shelter Island Boatyard	7	2011
221	70%	P	78.9	21.2	NA		NA	UNK	NA	NA	NA	NA
222												
223	b	P	95	23	zspar gold	60061-94-ze	41127706			Driscoll Boat Works	2	2020
224												
225								UNK	NA	NA	NA	NA
226	90%	P	57	15.6	ppg abc antifoul	7313-18	ABC3	UNK	NA	canal boat yard	6	2017
227	90%	p	74	18	petit sr 40 premium	60061-94	sr 40 premium			apex marine pampano		
228												
229												
230	75%	P	58	16	NA		NA	LOW	40%	SHELTER ISLAND BOAT YARD	2	2010
231	95%	P	58	18	Interlux Ultra		160	LOW	65%	Shelter Island Boatyard	5	2010
232	90%	P	42	14	NA		NA	UNK	NA	NA	NA	NA
233												
234												
235												
236	50%	P	50	16	NA		NA	UNK	NA	NA	NA	NA
237	100%	p	64	16	interlus ultra kote	2693-144	3779n			Shelter island		
238	100%	P	58	16	interlux ultra		3779f					
239	10-15%	p	58	16	interlux micron csc	2693-tx-t	5583-4L			delta marina - sydney BC Canada	8	2020

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
240	90%	P	48.8	16.8	unk		unk	unk	unk	Shelter Island Boatyard	2	2017
241	65%	P	70	18	Ultrokote		3779 U	UNK	NA	Shelter Island Boatyard	4	20917
242												
243	80%	P	78	17	ULTRA COTE BLACK	2693-119-ZD	169	COPPER	55%	NEWPORT	2	2014
244	100%	s	54	15								
245	90%	P	57	17	NA		NA	UNK	NA	shelter island	5	2016
246	80%	S	52	14	VIVID		72	UNK	NA	Shelter Island Boatyard	5	2012
247	90%	S	44	9	INTERLUX ULTRAKOTE	2693-119-ZD	3449U	COPPER	76%	Driscoll MB	12	2017
248	95%	P	52	15.3	INTERLUX ULTRA		3779U	copper	55%	Shelter Island Boatyard	6	2016
249	95%	P	74	18.2	INTERLUX ULTRA	2693-212-AA	3779F	copper	65%	Shelter Island Boatyard	8	2015
250	100%	p	45	15								
251	95%	P	69	18	PROLINE	557-550-ZJ	1088/01	UNK	NA	SHELTER ISLAND BOAT YARD	6	2019
252	95%	S	47	13	WEST BOTTOM PRO		NA	LOW	40%	Shelter Island Boatyard	1	2015
253	90%	P	60	17	interlux ultra		y3779f	non Copper	0%	Shelter Island Boatyard	7	2017
254	45%	S	52	13	NA		NA	UNK	NA	NA	NA	NA
255	99%	p	68	17	INTERLUX ULTRA	2693-119	y3779f	UNK	NA	MARINE GROUP	6	2019
256	100%	P	28	9	NA		NA	UNK	NA	DRISCOLL	7	2015
257					Iterlux Micron CSC	2693-190	Y5583-black			princess yachts	11	2019
258	95%	P	43	14	NA		NA	UNK	NA	NA	NA	NA
259	95%	S	48	11	WEST BOTTOM PRO		NA	UNK	NA	KOEHLER	10	2013
260	100%	s	46.1	14								
261	95%	S	50	13	PETTIT Z-SPAR	60061-49-ZH	B94	UNK	60%	Shelter Island Boatyard	12	2012
262	90%	S	39	12	NA		NA	UNK	NA	NA	NA	NA
263	100%	s	31	10	PETTIT	60061-116-AA	1261	LOW	NA	Shelter Island Boatyard	4	2005
264	100%	p	44	13	blue water	74681-2	8602				1	2016
265	100%	p	26.11	8	interlux ultra	2693-212	3669f	UNK	NA	shelter island	5	2019
266												
267	90%	S	27	10	pettit trinidad Ho	60061-64	1871	UNK	NA	NA	NA	NA
268	85%	P	42	15	pettit trinidad	60061-64	NA	LOW	NA	NA	6	2002
269												
270												
271	100%	p	26	8.9								
272												
273	80%	S	32	11.2	INTERLUX ULTRA		NA	UNK	NA	SHELTER ISLAND BOAT YARD	1	2014
274	100%	P	44	13.6	Interlux Ultra		NA	COPPER	NA	SHELTER ISLAND BOAT YARD	5	2015
275	100%	p	23	8.6	unterlux	Yba473					6	2000
276	100%	S	41	8	PETTIT	60061-49-ZG	B91	COPPER	53%	DRISCOLLS	7	2016
277	10000%	p	31	10.6	interlux	2693-193	ybe179			brandford marina	6	2021
278	50%	P	28	8.6	interlux	2693-226				SELF APPLIED	4	2018
279	95%	P	29	11	PETTIT	60061-64				shelter island	7	2021

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
280												
281												
282	95%	P	45	15	NA		NA	LOW	NA	NA	NA	NA
283	95%											
284												
285												
286	95%	p	45	15	interlux ultra	2693-212				sun country marine	5	2019
287												
288												
289												
290												
291												
292	45%	S	42	14	NA		NA	UNK	NA	NA	NA	NA
293	95%	P	33	11	pettit trinidad hd		hd1271			shelter island	8	2019
294	90%	s	44.5	14	NA		NA	non Copper	0%	NA	10	17
295	100%	p	17	6.2		2693-212				SELF APPLIED	10	2018
296	98%	S	35	11	Interlux		NA	LOW	65%	Driscoll MB	10	2010
297	95%	P	41.3	15	interlux	1282999	3669f	UNK	NA	NA	11	2017
298	80%	P	38	13	SEAHAWK	44891-11-AA	6145	copper	45%	Neilsen Beaumont	9	2006
299												
300	95%	p	45.2	14.6	sea hawk	44891-12-aa	af-33			Pacific Marine Center	2	2018
301	95%	S	24	5	interlux ultra	3669f				shelter island	5	2018
302	85%	P	44	13.5	NA		NA	LOW	NA	NA	9	2004
303												
304												
305												
306												
307	90%	P	32	11	ULTRAKOTE		NA	UNK	NA	NA	6	2016
308	100%	s	46	12								
309	100%	P	29	10.4	INTERLUX ULTRA		37794			Shelter Island Boatyard	3	2016
310	35%	P	43	14	PETTIT TRINIDAD		NA	LOW	NA	Shelter Island Boatyard	7	2011
311	90%	p	18	6	WM-Bottomshield antifouling		17144973			sunset marina	4	2021
312												
313	100%	P	29	10	No Bottom Paint		NA	NON	0%	NA	NA	NA
314	95%	P	42	14	Interlux ULTRAKOTE		NA	lOW	NA	Shelter Island Boatyard	5	2016
315	45%	S	30	10	NA		NA	UNK	NA	NA	NA	NA
316	100%	p	45	15.9								
317												
318	25%	P	47	12	NA		NA	UNK	NA	NA	NA	NA
319	100%	p	26	8								

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
320	15%	P	45	16	NA		NA	UNK	NA	NA	NA	NA
321	30%	S	35	11	NA		NA	UNK	NA	NA	NA	NA
322	95%	P	45	10	Pettit Trinidad Pro			LOW	40%	SHELTER ISLAND	3	2016
323	95%	P	35	13	interlux ultrakote		Y3559U			Balboa Boatyard Newport	1	2016
324												
325	25%	p	23	7	interlux ultra	43669f/1	Y3669f/1			shelter island		2015
326	100%	s	47	12.4								
327	100%	s	30	11								
328	100%	p	43	15.2								
329	75%	S	30	12	NA		NA	UNK	NA	NA	NA	NA
330												
331	100%	s	36	13	Bottom Pro Gold	60061-117-zd				BASIN MARINE	1	2014
332	100%	P	45	14	interlux ultra		3779f				1	2019
333												
334	100%	p	42	14.9	interlux ultra		3669F	UNK	NA	Shelter Island Boatyard	1	18
335												
336												
337												
338	100%	p	42	14								
339												
340	95%	p	46	15.5	Trinidad Pro Red	1108600	1086	UNK	NA	Bay Marine	2	2019
341	100%	P	25		kod - coating	60061-nj-2	60061-87				6	2019
342												
343												
344		p	21.5	8.7	interlux ultra	2693-212					11	2021
345												
346												
347												
348	100%	S	35	19	INTERSLEEK 900		NA	NON	NA	DRISCOLL	NA	2009
349												
350	98%	P	45	14	NA		NA	UNK	NA	HALES MARINE	6	2016
351	100%	p	41	14.3	interlux uld	2693212				driscolls		2020
352												
353												
354												
355	100%	S	40	12.6	INTRULUX ULTRA	2693-212-AA	3779F	copper	NA	NA	NA	NA
356												
357												
358												
359	100%	p	40.7	10.3	Zspar Bottom pro gold black	60061-94-2E	411187706	UNK	NA	driscoll boat yard	9	2019
360	95%	P	33	12	NA		NA	UNK	NA	NA	NA	NA

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
361	40%	S	39	12	NA		NA	LOW	NA	DRISCOLL	10	2010
362	vacant											
363												
364												
365	95%	p	34	14.3	petite	4564	6546			chaneel islands	2	2017
366	95%	S	36	11	Interlux Ultrakote		36695	copper	NA	shelter island boatyard	2	2017
367	100%	S	42	13	PROLINE	577-550-ZE	1088	COPPER	66%	SHELTER ISLAND	6	2017
368	90%	P	39	13	interlux ultra black		NA	copper	NA	shelter island boatyard	11	2015
369	85%	P	33	13	INTRULUX ULTRA	2693-212-AA	3779F	COPPER	NA	shelter island boatyard	11	2017
370	70%	P	39	14	INTERLUX ULTRA		NA	LOW	67%	Neilsen Beaumont	7	2012
371	90%	P	38	13	NA		NA	UNK	NA	NA	NA	NA
372												
373	100%	P	39	13	NA		NA	LOW	NA	NA	10	2009
374	99%	p	45.6	15.5	zspar bottom pro gold blue	60061-94-ze	41127706			Driscoll	2	2019
375												
376												
377	95%	P	35	12	interlux ultra		3669f	LOW	NA	NA	6	2017
378	90%	P	44	15	Proline	577-550	1088-01	copper	65%	Shelter Island Boatyard	5	2012
379												
380	100%	P	47.3	15.1	zspar	60061-94-ze	411187706			driscoll	8	2018
381	100%	S	36	11	Interlux Ultra		3669F	UNK	NA	Shelter Island Boatyard	5	2019
382	35%	S	43	14	NA		NA	UNK	NA	NA	NA	NA
383	100%	p	36	13	interlux	3559F	6	LOW	NA	SHELTER ISLAND BOATYARD	9	2009
384												
385	85%	P	37	12	NA		NA	UNK	NA	SHELTER ISLAND BOATYARD	3	2014
386	100%	S	48	15	interlux ultrakote	2693-119-ZD	168	LOW	67%	Shelter Island Boatyard	8	2017
387	88%%	p	38	14								
388	85%	P	42	14.3	pettit trinidad	60061-64	1871			siby	10	2020
389	90%	S	38	11	NA		NA	UNK	NA	NA	NA	NA
390	100%	p	45	14		2693212	3779f			driscoll	3	2018
391												
392	100%	p	50	14.2	interlux ultra black	2693-212	3779f			shelter island boatyard	1	2019
393	90%	P	38	12	PETTIT TRINIDAD			LOW	NA	Shelter Island Boatyard	2	2010
394												
395	50%	S	41	14	PETTIT TRINIDAD		NA	LOW	NA	ENSENADA	4	2008
396												
397												
398	85%	P	40	13.5	INTERLUX	2693-192-ZB	3669	copper	55%	NA	6	2012
399												
400	90%	P	40	16	PETTIT ULTIMA SSA		NA	LOW	NA	BASIN MARINE	4	2013
401	100%	P	36	13	NA		NA	UNK	NA	SHELTER ISLAND BOAT YARD	8	2017

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
402	100%	s	39	12.8	interlux ultra		3669F	UNK	NA	Shelter Island Boatyard	5	2019
403	90%	S	37	18	NA		NA	UNK	NA	NA	NA	NA
404	90%	P	38	13	NA		NA	UNK	NA	NA	NA	NA
405												
406	98%	P	36	13	NA		NA	UNK	NA	Shelter Island Boatyard	NA	NA
407	95%	S	36	12	EPOXY COPPERCOAT		NA	copper	NA	NA	6	2014
408	40%	P	37	14	NA		NA	UNK	NA	NA	NA	NA
409	85%	S	38	12	ZSPAR B94	60061-49-ZH	165	LOW	65%	self applied	1	2007
410	95%	S	38	11	Awlgrip SR			unk	unk	Shelter Island Boatyard	13	2016
411	90%	s	40	11.6	interlux ultracoat light	y3779f	na			shelter island	7	2021
412	20%	S	36.8	11.6	interlux ultracoat light		na	copper	55%	SHELTER ISLAND BOAT YARD	4	2017
413												
414												
415	25%	S	36	11	NA		NA	UNK	NA	NA	NA	NA
416												
417												
418												
419	85%	P	32	11	NA		NA	UNK	NA	NA	NA	NA
420	100%	S	37	11	NA		NA	UNK	NA	NA	NA	NA
421	90%	P	36	13	INTERSLEEK 900 BLACK		NA	UNK	NA	Shelter island	5	2013
422												
423												
424	90%	S	40	11	NA		NA	LOW	NA	Shelter Island Boatyard	12	2007
425	98%	S	42	13	INTERLUX ULTRA		NA	LOW	67%	Shelter Island Boatyard	6	2010
426	15%	S	36	11	Interlux Ultrakote		3669U	UNK	NA	Shelter Island Boatyard	11	2015
427	100%	s	36	12								
428	95%	S	35	11	NA		NA	UNK	NA	NA	NA	NA
429	90%	p	36	14	interlux ultra blue		y3669f/1	LOW	40%	Shelter Island Boatyard	9	2018
430	100%	p	41	14	INTERLUX		YBA473	UNK	NA	West Marine	1	2018
431												
432	100%											
433												
434	90%	P	43	10	NA		NA	UNK	NA	NA	NA	NA
435												
436	100%	p	47	14	interlux ultrakote					siby	8	2018
437	60%	s	43	12	INTERLUX BOTTOM KOTE		NA	UNK	NA	self applied	5	2013
438	95%	P	47.2	14.3	interlux micron 66	yba473/1				SHELTER ISLAND	11	2018
439	100%	p	46	15								
440												
441	93%	P	25	9	NA		NA	UNK	NA	NA	NA	NA
442	93%	P	43	16	Proline 1088	577-550-ZE	168	LOW	40%	Shelter Island Boatyard	11	2011

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
443	65%	P	48	16	NA		NA	UNK	NA	NA	NA	NA
444	100%	P	46	16	zspar	60061-94-28	41187706	UNK	NA	driscoll	3	2018
445	100%	p	43	12								
446	90%	P	48	15	NA		NA	LOW	NA	NA	NOV	2005
447	85%	P	44	15	PROLINE 1088-6		NA	LOW	NA	NA	3	2006
448	75%	P	48	16	NA		NA	UNK	NA	NA	NA	NA
449	95%	S	46	12.9	INTRULUX ULTRA	2693-211	3779f	UNK	NA	SHELTER ISLAND BOATYARD	JAN	2017
450												
451												
452	90%	P	50	16	NA		NA	LOW	40%	Shelter Island Boatyard	7	2013
453												
454	88%	P	43	15'10"	PROLINE LOLO	577-550-ZE	1088	LOW	NA	SHELTER ISLAND BOATYARD	7	2013
455												
456	92%	P	39	14	PROIINE 1088-6		NA	LOW	NA	Shelter Island Boatyard	10	2010
457	90%	S	34	12	2000E EPOXY PRIMER WH		164	LOW	65%	Driscoll MB	5	2011
458	100%											
459	100%	p	35	14	trinidad hd	1871				safe harbor SI	11	2021
460												
461	100%	s	34	11.5	interlux ultra	10324-117						
462	10%	P	50	16.8	interlux	2693.212				kohler kraft	4	2018
463	60%	P	27	9	interlux ultra kote		3779u				3	2015
464	80%	P	46	14	trinidad		blue			shelter island boat yard	12	2019
465	100%	p	32	10		60061-50				driscolls	9	2017
466	100%	p	50	16.9	pettit		1871			shelter island	9	2019
467	65%	S	35	12	NA		NA	UNK	NA	NA	NA	NA
468												
469												
470												
471	100%	P	35	13	proline		1051	UNK	NA	marine group	10	2018
472	95%	P	47	14	NA		NA	UNK	NA	NA	NA	NA
473	90%	P	32	12	NA		NA	UNK	NA	NA	NA	NA
474												
475	90%%	p	36	13	pettit	60061-49					5	2021
476	80%	P	49	15	INTERLUX KL-6		NA	LOW	NA	Shelter Island Boatyard	3	2007
477	50%	S	34	12	NA		NA	UNK	NA	NA	NA	NA
478	95%	P	47	15	Z Spar	60061-50	NA	UNK	NA	DRISCOLLS	1	2018
479												
480												
481												
482												
483	40%	S	41	14	VC PERF		NA	NON	NA	SHELTER ISLAND BOAT YARD	11	2013

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
484	98%	S	50	16	MISSION BAY BLUE		4002	LOW	NA	DRISCOLL	9	2007
485												
486	35%	S	36	11	trinidad		NA	UNK	NA	shelter island	11	2020
487						60061-64						
488	95%	P	43	15	Z Spar Gold		164	LOW	40%	Driscoll MB	2	2012
489	85%	S	50	13	Interlux Micro		NA	UNK	NA	Shelter Island Boatyard	3	2014
490	100%	p	43	10								
491												
492	45%	P	47	15	NA		NA	UNK	NA	NA	NA	NA
493												
494	100%	p	43	15								
495	95%	p	44	15	interlux	2693-132	y4258			siby	7	2017
496	100%	P	50	17	NA		NA	NON	NA	SHELTER ISLAND	4	2015
497	100%	P	48	16	Interlux Micron 66 Antifowling		YBA473	UNK	NA	Marine Group Los Labos	7	2018
498	100%	p	47	14	Proline		1088	NON	NA	SHELTER ISLAND	8	2019
499												
500	80%	S	50	13	NA		NA	UNK	NA	NA	NA	NA
501	100%	p	44	14								
502												
503												
504	100%	P	44	13	NA		NA	UNK	NA	SHELTER ISLAND BOAT YARD	11	2013
505												
506	90%	P	50	17	petite trinidad		1871	blue	NA	SHELTER ISLAND BOAT YARD	1	21
507	100%	P	45	15	Interlux Ultra		3669F			Shelter Island Boatyard	6	2019
508	98%	P	44	16	Woolsey Defense CA	60061- 49-ZO	4501G	COPPER	45%	Neilsen Beaumont	4	2016
509	25%	P	41	14	NA		NA	UNK	NA	NA	NA	NA
510												
511	60%	S	78	17	PETTIT TRINIDAD PRO		1082	copper	67%	DRISCOLLS	1	2018
512	80%	P	97.6	24.5	TRILUX	2693-226-AA	33	UNK	UKN	Marine Group	10	2016
513	88%	P	140	25	SEA HAWK SHARKSKIN		NA	Combo	0%	Marine Group	10	2015
514	40%	p	87	22		22165	11251			Seminole Marine	6	2019
515	100%	p	150	27.8								
516	45%	P	142	25	NA		NA	UNK	NA	NA	NA	NA
517												
518	25%	p	90	18.6		2693-212	y3779f			marine group	3	2019
519												
520												
521												
522	100%	p	61	18.6	pettit trinidad pro	60061-64	1871			Shelter Island Boatyard	6	2019
523												
524												

SLIP	% Year Occupying Slip	Vessel Type Power or Sail (P or S)	Vessel Length	Vessel Beam	Paint Brand Name	EPA REGISTRATION NUMBER	Product Number	Paint Type (Copper, Low, NON, UNK)	% Copper	Boatyard Where Paint Was Applied	Month Painted	Year Painted
525							NA	UNK	NA	NA	NA	NA
526												
527												

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SIMLG ORIGINAL SURVEY

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Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	999	100	Power	64	19	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2019	55	2693-212-AA
SDYC	996	100	Sail	26	7	Low Copper	Super KL-6	K93	Driscoll	May	2010	70.2	
SDYC	995	95	Power	17	7	Low Copper	Trilux 33-3	YBA060	Aquarius Yacht Services	Feb	2020	16.95	2693-203-AA
SDYC	993	98	Power	27	8	Low Copper	Pettit Vivid White	11161	Nielsen Beaumont	Jan	2018	25	60061-116-AA
SDYC	993	92	Power	40	13.5	Low Copper	N/A		N/A	Jun	2018	65	
SDYC	993	95	Sail	25	8	Low Copper	Purchased 2016		Purchased Apr 2016		2016	55	
SDYC	990	78	Sail	50	15.11	Low Copper	Interlux Ultra Green	Y3559F	Shelter Island Boatyard	May	2020	55	2693-212-AA
SDYC	990	69	Sail	41	11	Copper	Proline 1088-6	1088C-02	Shelter Island Boatyard	Jun	2019	55.7	
SDYC	983	98	Power	31.7	11.4	Low Copper	Woolsey Defense Black	4901	Nielsen Beaumont Boat Yard	Jul	2017	60	60061-117-ZA
SDYC	983	93	Sail	43	11.6	Low Copper	Interlux Trilux 33	YBA060	Self Applied	May	2020	16.95	2693-203-AA
SDYC	982		Power	32	10.8	Low Copper	Interlux	Y3779F	Driscoll	Dec	2020	65	2693-212-AA
SDYC	979	82	Sail	31	10.5	Non Copper	Has not painted since before 2007		Purchased 2015		2007	0	
SDYC	978	94	Sail	31.1	6	Low Copper	Pettit Vivid Blue	1261	Driscoll	Nov	2017	25	60061-116-AA
SDYC	963	95	Power	50	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2019	55	2693-212-AA
SDYC	961	99	Sail	36	12	Low Copper	Interlux Ultra Antifouling Paint	Y3779F	Marine Group Boatworks	May	2020	55	2693-212-AA
SDYC	961	99	Sail	34	11.5	Low Copper	Pettit Z-Spar Pro Gold	41127706	South Coast Shipyard / Newport Beach	Sept	2017	65	60061-94-ZE
SDYC	959	100	Sail	32	7	Low Copper	Interlux Ultra	Y3779F	Koehler	Jun	2015	55	2693-212-AA
SDYC	958	98	Power	24	9	Low Copper	Interlux Bottomkote	10397	Driscoll	Oct	2016	42.75	
SDYC	951	92	Sail	44.11	13	Low Copper	Interlux Ultrakote	2779N	Shelter Island Boatyard	Oct	2017	66.5	
SDYC	950	98	Power	38	13	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2016	67	2693-212-AA
SDYC	950	100	Electric	18	6	Low Copper	Interlux Bottomkote Pro	10397	Shelter Island Boatyard	Jun	2017	42.75	
SDYC	949	100	Sail	40	12	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Oct	2019	65	60061-49-ZH
SDYC	948	0	Power	22	8	Low Copper	Interlux K91	K91	Driscoll		2016	70	
SDYC	946	96	Sail	35	11	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jul	2020	60	60061-94-ZB
SDYC	943	100	Power	36	12	Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Jul	2019	42.75	
SDYC	943	100	Power	21	8	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jan	2019	60	60061-94-ZB
SDYC	942	100		36	10	Unknown							
SDYC	938	98	Power	32.4	12.3	Non Copper	Ceramcoat	99M	Shelter Island Boatyard	Feb	2020	0	
SDYC	937	97	Power	38	11.6	Low Copper	Interlux Ultra	Y3779F	Koehler	Oct	2018	55	2693-212-AA
SDYC	937	98	Sail	36	11.9	Low Copper	Interlux Ultra	Y3779F	Koehler	Dec	2020	55	60061-94-ZB
SDYC	933	100	sail	32.5	11.75	Low Copper	Pettit Trinidad	Y3779F	Shelter Island Boatyard		2017	65	2693-212-AA
SDYC	933	98	Sail	37	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Oct	2017	55	2693-212-AA
SDYC	932	100	Power	35.7	12.6	Low Copper	Trinidad Black	A1088G	Shelter Island Boatyard	May	2016	60	60061-94-ZB
SDYC	927	100	Power	31	10	Non Copper	Epoxy Bottom	V127/A	Shelter Island Boatyard	Sept	2014	0	
SDYC	927		Sail	41	13.9	Low Copper			Purchased June 2015			65	
SDYC	927	87	Power	35	12	Non Copper	Intersleek Pro Black	B-94	Koehler	July	2017	65	
SDYC	927	100	Sail	36.4	11.9	Low Copper	Interlux Ultrakote	2779N	Shelter Island Boatyard	Jan	2017	66.5	
SDYC	924	97	Sail	31	7	Non Copper	Intersleek-8	FXA979/A	Driscoll	Jun	2012	0	
SDYC	921	80	Sail	35	11.3	Low Copper	Proline 1088-6	A10886	Driscoll	May	2019	60	60061-94-ZB
SDYC	920	83	Power	30.4	11.5	Low Copper	Interlux UltraKote Blue	Y3669U	Shelter Island Boatyard	Feb	2016	57	
SDYC	919	98	Power	33.1	9.7	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Dec	2019	55	2693-212-AA
SDYC	918	96	Power	39.8	13.3	Unknown	65						
SDYC	918	95	Sail	41	13	Low Copper	Interlux Bottomkote	10397	Driscoll	Oct	2015	42.75	
SDYC	917	99	Power	21	8	Low Copper	Pettit Trinidad	1088	Shelter Island Boatyard	Jan	2017	55	60061-94-ZB
SDYC	914	97	Power	29	9	Low Copper	Pettit Hydrocoat	1840	Florida	Feb	2018	40.43	60061-87-ZI
SDYC	911	98	Power	33	11.7	Low Copper	Pettit Trinidad Black	1088	Shelter Island Boatyard	Nov	2020	65	60061-94-ZB
SDYC	905	0	Vacant									0	
SDYC	905	99	Sail	31	10	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2015	55	2693-212-AA
SDYC	903	100	Power	42	14	Low Copper	Trinidad HD	1271	Outside SD County	Oct	2020	67	60061-94-ZD
SDYC	902	98	Power	25	6.5	Low Copper	Nautical Super Proguard Modified Epoxy - Blue	NAU770	Nielsen Beaumont	Mar	2017	55	23566-20-ZR
SDYC	901	100	Power	36.3	16.5	Non Copper	Intersleek 900	FXA979/A	Shelter Island Boatyard	Jun	2013	0	
SDYC	900	78	sail	32.8	9.25	Low Copper	Interlux Ultrakote	Y3669U	Shelter Island Boatyard	May	2016	67	
SDYC	898	98	Sail	39	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2017	55	2693-212-AA
SDYC	897	100	Sail	PC 31'		non Copper		No bottom paint applied		Sail		0	
SDYC	895	100	Sail	26	7	Low Copper	Super KL-6	K93	Driscoll	May	2010	70.2	
SDYC	893	95	Power	39.9	14.2	Low Copper	UNK Red Oxide	97N	Shelter Island Boatyard	Jun	2019	67	26883-7-AA

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	892	95	Power	62	16.8	Low Copper	Interlux Aqua	YBA579	Driscoll	Mar	2016	46	
SDYC	889	78	Power	27	8	Low Copper	ABC 3-2	ABC3-92	Outside SD County	Aug	2018	48	
SDYC	889	100	Sail	31	5	Low Copper	Hydrocoat	1840	Shelter Island Boatyard	May	2020	40.43	60061-87-ZI
SDYC	887	100	Power	30	20.5	Low Copper	Purchased November 2016				2016	65	
SDYC	885	97	Sail	36.4	12.5	Low Copper	Pettit Z-Spar Protector	B-94	Shelter Island Boatyard	Mar	2017	65	
SDYC	884	100	Sail	36	11	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Feb	2017	55	2693-212-AA
SDYC	883	99	Power	34	11	Low Copper	Interlux Ultra	Y3779F	Outside SD County	Jul	2016	55	2693-212-AA
SDYC	881	97	Sail	41	10.3	Low Copper	Ultrakote - 6	Y3669U	Koehler Kraft	Mar	2017	57	
SDYC	871					Unknown							
SDYC	870	97	Sail	30	6.5	Low Copper	Interlux Ultra	Y3779F	Koehler	Nov	2020	55	2693-212-AA
SDYC	864	92	Power	27.5	9.5	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Dec	2011	55	2693-212-AA
SDYC	861	96	Power	33.5	11.6	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2018	55	2693-212-AA
SDYC	861	94	Power	48	14	Low Copper	Pettit Trinidad Blue	A1277Q	Shelter Island Boatyard	Feb	2020	60	60061-94-ZD
SDYC	860	99	Sail	38	20	Low Copper	Pettit z-Spar Protector	B-94	Driscoll	Mar	2021	65	60061-49-ZH
SDYC	858	86	Power	33	11	Low Copper	Interlux Ultra	Y3779F	Schock Boats (Manufacturer)	Jan	2020	55	2693-212-AA
SDYC	857	99	Power	46.4	11.6	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jul	2017	55	2693-212-AA
SDYC	855	98	Power	48	14	Low Copper	Purchased Mar 2017	A1088G		Mar	2017	60	60061-94-ZB
SDYC	851	74	Sail	52	15.4	Low Copper	Pettit Ultima	1038	Driscolls	Apr	2016	40	
SDYC	850	99	Power	35	11	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2018	55	2693-212-AA
SDYC	849	100	Power	17	6	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2016	67	2693-212-AA
SDYC	849	99	Sail	30	21.2	Low Copper	Pettit Vivid Free-3	1361	Marine Group	Jul	2014	25	60061-116-AA
SDYC	848	100	Sail	28	9.5	non Copper	Ceram-kote	99M	Self applied	Mar	2021	0	
SDYC	847	97	Sail	43.8	13.6	Low Copper	Black Widow by Pettit Paint	1862	Shelter Island Boatyard	Aug	2016	25	
SDYC	846	100	Sail	45	14.75	Unknown				Nov			
SDYC	845	0	Sail	34.5	11	Low Copper	Proline 1088-6 Epoxy	A1088G	Driscoll	Aug	2015	0	60061-94-ZB
SDYC	840	100	Sail	32	11	Low Copper	Pettit Z-Spar Protector	B-94	Shelter Island Boatyard	May	2016	65	
SDYC	840	96	Power	17	6	Low Copper	Interlux Ultra	Y3779F	Marine Group Boat Works	Oct	2016	67	2693-212-AA
SDYC	834		Sail	36	11.7	Copper	Purchased Feb 2020					65	
SDYC	833	99	Power	32.3	8.5	Unknown				Unknown			
SDYC	833	100	Sail	39.5	12.6	Low Copper	Ultrakote-6	Y3669U	Shelter Island Boatyard	Mar	2015	67	
SDYC	833	99	Power	22	8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2016	55	2693-212-AA
SDYC	832	0	Sail	29.11	10.1	Low Copper	Interlux Bottomkote	10397	Shelter Island boatyard	May	2018	42.75	
SDYC	831	97	Sail	46.9	11.1	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Apr	2016	60	60061-94-ZB
SDYC	829	93	Power	52.8	15	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Feb	2014	55	2693-212-AA
SDYC	828	100				Unknown							
SDYC	826	95	Power	65	18	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2020	55	2693-212-AA
SDYC	826	100	Power	31	10	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2019	55	2693-212-AA
SDYC	826	100	Sail	32	7	Non Copper	Coppercoat	85396-1-AA	Driscoll	Apr	2016	0	
SDYC	825	99	Sail	79	16.4	Low Copper	Proline 1088-6	A1088G	Ventura Harbor Boatyard	Nov	2014	60	60061-94-ZB
SDYC	824	99	Power	38.6	12.3	Low Copper	Interlux Ultra Green	Y3559F	Shelter Island Boatyard	Nov	2017	55	2693-212-AA
SDYC	822	100	Power	59	16	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Nov	2018	55	2693-212-AA
SDYC	822	98	Sail	42	13.6	Low Copper	Interlux Ultra Black	Y3779F	Shelter Island Boatyard	Apr	2018	55	2693-212-AA
SDYC	818	99	Sail	39.3	13	Low Copper	Pettit Trinidad	Y3779F	Shelter Island Boatyard	Feb	2011	55	2693-212-AA
SDYC	818	99	Sail	40	12.5	Unknown	Unknown		Purchased July 2020				
SDYC	817	100	Power	25	8	Low Copper	Interlux Ultra Red	YBA472	Self Applied	Jan	2013	35	2693-187-ZE
SDYC	817	99	Sail	39	12	Low Copper	Interlux Ultra Blue	Y3669F	Driscoll Mission Bay	May	2016	55	2693-212-AA
SDYC	815	97	Power	37	12	Low Copper	Pettit Trinidad Pro HD	1871	Shelter Island Boatyard	May	2019	55	60061-94-ZB
SDYC	814	100	Power	38	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2018	55	2693-212-AA
SDYC	811	98	Power	65	58	Low Copper	Interlux Ultra	Y3779F	Marine Group/South Bay	Jun	2018	55	2693-212-AA
SDYC	809	100	Sail	15	5	Copper	Proline 1088	1088C-02	Driscoll Mission Bay	6	2020	55.7	
SDYC	809	100	Power	31	10	Low Copper	Interlux Bottomkote Pro	10397	Shelter Island Boatyard	May	2014	42.75	
SDYC	807	98	Sail	40	13	Non Copper	Intersleek -8	FXA979/A	Shelter Island Boatyard	Mar	2013	0	
SDYC	799	100	Sail	38	8	Low Copper	Interlux Bottomkote	10397	Nielsen Beaumont	Jun	2014	42.75	
SDYC	799	99	Power	28	10	Low Copper	Petit Ultima		other	Jun	2021	60	60061-71ZB
SDYC	799	95	Power	37	13	Low Copper	Interlux Black	Y3779F	Driscoll	Jun	2020	55	2693-212-AA
SDYC	799	100	Power	36.3	16.5	Non Copper	Intersleek 900	FXA979/A	Shelter Island Boatyard	Jun	2013	0	
SDYC	797	59	Sail	35	11.9	Copper	Pettit Pro	A1108206	Shelter Island Boatyard	Oct	2019	65	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	795	100	Sail	48	14.75	Low Copper	Interlux Ultra	Y3779F	Driscoll	Jun	2017	55	2693-212-AA
SDYC	794	0	Power	32	11	Low Copper	Interlux Ultra Blue	Y3669U	Shelter Island Boatyard	Jun	2018	55	
SDYC	793	84	Sail	43	13	Low Copper	Zspar Bottom Pro Gold modified Epoxy	411187706	Shelter island Boatyard	Feb	2019	65	60061-94-ZE
SDYC	790	88	Power	73	16.4	Low Copper	Pettit Ultima	B-94	Driscoll	Nov	2018	40	
SDYC	789	98	Power	30	11	Low Copper	Micron Extra-2	5690	Driscoll	Jan	2018	35	
SDYC	788	97	Power	42	15	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Feb	2019	55	2693-212-AA
SDYC	780	98	Power	26.7	9.5	Low Copper	Interlux Bottomkote	10397	Knight &Carver	Jun	2009	42.75	
SDYC	779	98	Power	40	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2018	55	2693-212-AA
SDYC	778	95	Sail	43	13.7	Low Copper	Interlux Ultra	Y3669F	Shelter Island Boatyard	Oct	2018	55	2693-212-AA
SDYC	777	100	Sail	30	10.8	Low Copper	Pettit Zspar Bottom Pro Gold/Trinidad Pro	411187706	Driscoll	Oct	2017	65	60061-94-ZE
SDYC	776	75	Power	51	14.4	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2018	55	2693-212-AA
SDYC	772	100	Sail	40	12	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jul	2017	60	60061-94-ZB
SDYC	771	97	Sail	72	15	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jul	2016	55	2693-212-AA
SDYC	771	100	Power	40	14	Low Copper	Interlux Bottomkote	10397	Driscoll	Jun	2016	42.75	
SDYC	770	0	Vacant									0	
SDYC	769	91	Sail	41	10.5	Low Copper	Trinidad SR	A1877G	Driscoll	Jun	2020	65	60061-94-ZD
SDYC	769	81	Power	63.5	16.6	Low Copper	Interlux Ultra	Y3779F	Driscoll	Mar	2017	55	2693-212-AA
SDYC	768	90	Sail	47	14	Low Copper	SeaHawk AF33	3345	Shelter Island Boatyard	Aug	2015	33	44891-12-AA
SDYC	766	93	Sail	48	12	Low Copper	Zspar Bottom Pro Blue	411187706	Driscoll	Oct	2021	65	60061-94-ZE
SDYC	766	100	Sail	39	12.6	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Oct	2017	60	60061-94-ZB
SDYC	761	98	Sail	32	6.7	Low Copper	Interlux Ultra Green	Y3779F	Koehler	May	2019	55	2693-212-AA
SDYC	759	89	Sail	50	11	Low Copper	Interlux Ultra	Y3779F	Koehler	Nov	2018	55	2693-212-AA
SDYC	757					Unknown							
SDYC	754	100	Power	43	14	Low copper	Pettit Z-Spar Protector	B-94	Shelter Island Boatyard	Aug	2015	65	
SDYC	753					Unknown							
SDYC	751	100	Power	38	13	Low Copper	Interlux Calif Bottomkote - 7	YBA143	Outside SD County	May	2019	35	2693-18-ZA
SDYC	751	100	Power	28	7	Low Copper	Interlux Bottomkote Pro	79	Driscoll	Mar	2015	22	
SDYC	748	99	Power	26	9	Low Copper	Interlux UltraKote Blue	Y3669U	Shelter Island Boatyard	Nov	2017	57	
SDYC	746	97	Power	21	8	Low Copper	Sharkskin-7	6145	Shelter island Boatyard	Jun	2013	45	44891-11-AA
SDYC	745	100	Power	59	16	Low Copper	Pettit Trinidad Black	1088	Shelter Island Boatyard	Jun	2020	67	60061-94-ZB
SDYC	744	100	Power	39	12.5	Low Copper	Interlux Ultra	Y3779F	Mountain Marine Industires (Colorado)	Jun	2015	65	2693-212-AA
SDYC	742	66	Sail	35	10.6	Low Copper	Trinidad SR	A1877G	Driscoll	Oct	2018	60	60061-94-ZD
SDYC	741	96	Power	45.7	14.5	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Aug	2016	65	
SDYC	739					Unknown							
SDYC	733	99	Sail	34	10.6	Low Copper	Pettit Vivid Blue	1861	Driscoll	May	2016	25	60061-116-AA
SDYC	733	100	Power	59.5	16.5	Low Copper	Interlux Ultra B 3669	3669	Shelter Island Boatyard	Jul	2018	55	
SDYC	731	97	Power	46	14	Copper	Pettit Protector	A1108206	Marine Group Boat Works	Jul	2020	65	
SDYC	731	96	Sail	32	6.7	Non Copper	Interlux Interspeed	BZA646	Driscoll	Jun	2015	0	
SDYC	731	96	Sail	32	6.7	Low Copper	Interlux Calif Bottomkote - 7	YBA143	Koehler	Jul	2016	35	2693-18-ZA
SDYC	731	83	Sail	35	9	Low Copper	Interlux Bottomkote	10397	Shelter Island Boatyard		2016	65	
SDYC	729	95	Sail	29	11	Low Copper	Z-Spar Bottom Pro Gold Blue	411127906	Driscoll	Mar	2015	40	60061-117-ZE
SDYC	724	96	Sail	45	14.4	Unknown							
SDYC	724	91	Sail	53	15.4	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jun	2012	60	60061-94-ZB
SDYC	724	96	Sail	36	11.9	Low Copper	Proline 1088 01 Blue	1088C-01	Shelter Island Boatyard	Jan	2014	66.9	
SDYC	722	99	Sail	33.9	11.3	Low Copper	Pettit-Z Spar	411187706	Marine Group	Jun	2013	65	60061-94-ZE
SDYC	719	98	Power	20	8	Low Copper	Z-spar bottom pro blue	B-91	Driscoll	Aug	2019	65	
SDYC	716	98	Sail	32	7	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2019	55	2693-212-AA
SDYC	713	97	Power	20	8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jan	2019	55	2693-212-AA
SDYC	711	99	Sail	35	8	Non Copper	Epoxy	V127/A	Driscoll	Feb	2020	0	
SDYC	708					Unknown							
SDYC	706	99	Power	44	13	Low Copper	Interlux Ultra	Y3779F	Marine Group/South Bay	Jun	2020	55	2693-212-AA
SDYC	706	98	Power	36	12.5	Low Copper	Pettit Z-Spar	B-94	Shelter Island Boatyard	Mar	2015	65	
SDYC	704			40.17	13.25	Unknown							
SDYC	704	79	Power	35	10	Low Copper	Purchased Oct 2017				2017	65	
SDYC	703	70	Sail	29	9.3	Low Copper	Sharksin-7	6145	Shelter Island Boatyard	Jul	2014	45	44891-11-AA
SDYC	702	100	Sail	37	12	Low Copper	Pettit Trinidad HO	1271	Shelter Island Boatyard	Nov	2019	55	60061-64-ZB
SDYC	702	89	Sail	21	7	Low Copper	Pettit Vivid Black	1861	Koehler Kraft	Oct	2018	25	60061-116-AA

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	695	98	Sail	46.3	13.8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2017	55	2693-212-AA
	694		Sail	42.4	13.12	Unknown	Koehler Kraft Material		Koehler Kraft	Jan	2019		
SDYC	694	97	Power	41	13	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2018	55	2693-212-AA
SDYC	694	96	Power	22	8	Low Copper	Cukote	44891-7-AA	Koehler	Jan	2020	67	44891-7-AA
SDYC	692	100	Sail	48	13.2	Low Copper	VC Offshore Interlux	V117	Driscoll	Feb	2013	41.19	
SDYC	691	40	Sail	47	14.8	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jul	2020	60	60061-94-ZB
SDYC	690	99	Sail	36.3	11.9	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Jan	2018	67	
SDYC	690	97	Power	47	16	Low Copper	Pettit Trinidad Black	1088	Shelter Island Boatyard	Nov	2020	55	60061-94-ZB
SDYC	688	100	Power	42	13	Low Copper	Pettit Trinidad Pro HD	1088	Shelter Island Boatyard	Jun	2019	55	60061-94-ZB
SDYC	687	100	Power	47	14.6	Low Copper	Interlux Ultra Blue	Y3669F	Shelter Island BoatYard	Mar	2015	55	2693-212-AA
SDYC	682	86	Sail	40	9	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Mar	2015	65	
SDYC	680	96	Power	21	9	Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Oct	2019	65	
SDYC	675	100	Sail	36	12	Low Copper	Pettit Trinidad Pro	1271	Driscoll	Aug	2020	55	60061-94-ZB
SDYC	675	100	Sail	20	7	Low Copper	Pettit Ultima	1092	Shelter Island Boatyard	Jul	2019	40	60061-71-ZB
SDYC	674	100	Power	35	13	Low Copper	Interlux Ultra Red	Y3449F	Shelter Island Boatyard	Jul	2020	55	2693-212-AA
SDYC	672	92	Power	42	14.5	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2016	55	2693-212-AA
SDYC	672	98	Power	52	15	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Nov	2018	55	2693-212-AA
SDYC	672	98	Power	33.6	10.3	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2015	55	2693-212-AA
SDYC	671	100	Power	38	10	Low Copper	Seahawk AF33	3345	Driscoll	Jan	2005	33	44891-12-AA
SDYC	671	95	Power	42	13.5	Low Copper	Interlux Ultra Blue Paint	Y3669F	Shelter Island Boatyard	Jul	2017	67	2693-212-AA
SDYC	669		Vacant	31	10.8		Zspar Bottom Pro Gold	41127706	Sunset Aquatic Shipyard			65	60061-94-ZE
SDYC	666	99	Sail	33	11.4	Low Copper	Trinidad SR	A1877G	Old Kettenberg Yard	Jun	2020	60	60061-94-ZD
SDYC	665	99	Power	50	16.8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2015	55	2693-212-AA
SDYC	665	99	Power	42	12.8	Low Copper	Purchased April 2017				2017	65	
SDYC	663	100	Sail	57.3	15.3	Low Copper	Trilux 33-3	YBA060	Driscoll	Jul	2017	16.95	2693-203-AA
SDYC	662	98	Sail	36	6	Copper	Trinidad VOC Blue	1378	Koehler	Oct	2019	65	
SDYC	661	95	Sail	35	11	Non Copper	Interlux Epoxycop	V127/A	Applied by manufacturer	Sept	2001	0	
SDYC	657	92	Power	34	12.6	Low Copper	Purchased Jun 2017			Nov	2021	65	
SDYC	657	93	Power	33	9.6	Low Copper	Interlux Ultra	Y3779F	Nielsen Beaumont	Jun	2013	55	2693-212-AA
SDYC	654	0	Sail	25.5	8	Low Copper	Purchased Aug 2017			Mar	2007	65	
SDYC	654	88	Sail	42	13	Low Copper	SeaHawk Tropicoat	2145GL	Boatyard in Mexico	Mar	2019	75.8	44891-10-ZA
SDYC	653	100	Power	47.3	14.3	Low Copper	Interlux Ultra	Y3779F			2018	55	2693-212-AA
SDYC	650	100	Power	43	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jul	2018	55	2693-212-AA
SDYC	650	97	Power	40	14	Non Copper	Intersleek 900	FXA979/A	Shelter Island Boatyard	Feb	2013	0	
SDYC	648	98	Sail	42	12	Low Copper	Pettit Ultima	1092	Shelter Island Boatyard	Oct	2020	40	60061-71-ZB
SDYC	647	95	Sail	28.5	9.2	Low Copper	Interlux Ultra Kote	2779N	Shelter Island Boatyard	Aug	2017	66.5	
SDYC	647	100	Sail	42	13	Low Copper	Pettit 1271 Trinidad	1271	Shelter Island Boatyard	Oct	2019	55	60061-94-ZB
SDYC	645	96	Power	32	11.5	Low Copper	Interlux	Y3779F	Koehler	Jul	2018	55	2693-212-AA
SDYC	641	100	Power	33	12	Low Copper	Interlux Ultra Black	Y3779U	Driscoll	Apr	2011	67	
SDYC	640	100	Sail	62	35.7	Low Copper	VC Offshore Black	V118	New England Boat Works, Portsmouth, RI	July	2016	41.19	
SDYC	639	94	Power	36	13	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Nov	2018	60	60061-94-ZB
SDYC	636	98	Power	36	12.5	Low Copper	Nautical Proguard Ablative	NAU993	Nielsen Beaumont	Nov	2016	41.97	
SDYC	635	96	Power	42	15	Low Copper	Pettit Ultima / Bottom Pro Gold - Kop Coat	411187706	Huntington Harbor Yard	Oct	2020	65	60061-94-ZE
SDYC	635	99	Power	44	13.7	Non Copper	Bluewater Shelter Island	8202	Shelter Island Boatyard	Apr	2011	0	
SDYC	631	98	Sail	52	14	Low Copper	Interlux Ultra	Y3779F	Driscoll	Jun	2020	55	2693-212-AA
SDYC	631	96	Power	34	11	Low Copper	Pettit Horizons	1850	Driscoll	Jul	2016	40.5	60061-101-AA
SDYC	631	99	Sail	33.6	11.8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2014	55	2693-212-AA
SDYC	630	88	Power	25	8	Low Copper	Pettit Vivid-3	1861	Driscoll - Mission Bay	Apr	2016	25	60061-116-AA
SDYC	627	99	Power	30	10.3	Low Copper	Interlux Ultra	Y3449F	Shelter Island Boatyard	Jun	2018	55	2693-212-AA
SDYC	626	87	Sail	85	20	Non Copper	SeaHawk Smart Solution	4705	Outside SD County	Oct	2019	0	
SDYC	624	94	Power	36.3	11.9	Copper	Interlux Ultrakote	2779N	Shelter Island Boatyard	Apr	2021	66.5	
SDYC	621	98	Power	40	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2021	55	2693-212-AA
SDYC	620	99	Power	48	15	Low Copper	Trinidad	1088	Shelter Island Boatyard	Nov	2019	67	60061-94-ZB
SDYC	618	99	Sail	38	13.2	Non Copper	SeaHawk Smart Solution	4002	Driscoll	Mar	2016	0	
SDYC	616	100	Power	37.5	12	Unknown							
SDYC	615	100	Sail	48	15	Low Copper	Sea Hawk AF33	3342		Apr	2019	33	44891-41-ZC
SDYC	614	100	Power	25	9	Low Copper	Interlux	Y3779F	Shelter Island Boatyard	Oct	2019	55	2693-212-AA

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	613	100	Sail	50	10	Low Copper	Pettit Vivid Free- 3		Driscoll	Dec	2018	0	
SDYC	607	100	Sail	28	6	Low Copper	Proline	A10886	Driscoll Mission Bay	Oct	2020	60	60061-94-ZB
SDYC	607	100	Sail	35	11	Low Copper	Interlux Ultra	Y3779F	SD Boatyard	Jul	2004	55	2693-212-AA
SDYC	607	100	Sail	32	6	Low Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Jun	2014	42.75	
SDYC	601	75	Sail	42	13	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Dec	2013	60	60061-94-ZB
SDYC	599	100	Power	25	8	Low Copper	Pettit Vivid-3	1861	Driscoll - Mission Bay	Apr	2016	25	60061-116-AA
SDYC	594	99	Sail	42.5	13.5	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2018	55	2693-212-AA
SDYC	593	95	Sail	41.8	12.5	Low Copper	Pettit-Vivid 3	1861	Driscoll	Mar	2018	25	60061-116-AA
SDYC	592	99	Sail	38	12	Low Copper	Interlux Ultra	Y3779F	Marine Group / South Bay	Jun	2019	55	2693-212-AA
SDYC	590	100	Power	40	13.5	Low Copper	Interlux Ultra	Y3779F	Driscoll	Feb	2019	55	2693-212-AA
SDYC	587	98	Power	29	10	Low Copper	Pettit Z-Spar Protector		Driscoll	Jan	2021	65	60061-64-ZB
SDYC	587	90	Power	25.5	7	Non Copper	No Bottom Paint				N/A	0	
SDYC	585	100	Sail	42	13.6	Low Copper	Zspar Bottom Pro Gold	41127706	Driscoll	Jun	2014	65	60061-94-ZE
SDYC	584	99	Sail	39.7	11.8	Low Copper	Pettit Vivid White	11161	Shelter Island Boatyard	Jan	2011	25	60061-116-AA
SDYC	581	97	Power	26	9	Low Copper	Interlux Ultra	Y3779F	Outside SD County	Jan	2020	67	2693-212-AA
SDYC	580	96	Power	35.5	13.3	Non Copper	Pettit Ultima Eco	1808	Driscoll	Jun	2018	0	
SDYC	579	100	Sail	37	14	Low Copper	Z-Spar Bottom Pro Gold	411127906	Driscoll	Jun	2009	40	60061-117-ZE
SDYC	578	95	Power	32	9	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jul	2018	55	2693-212-AA
SDYC	578	100	Power	58	17	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Aug	2019	55	2693-212-AA
SDYC	576	97	Sail	52	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2020	55	2693-212-AA
SDYC	575	97	Sail	37	11.4	Low Copper	Trinidad Pro Blue	A10882	Shelter Island Boatyard	Aug	2019	67	60061-94-ZB
SDYC	569	100	Sail	31.1	7.6	Low Copper	Pettit Vivid-3	1861	Driscoll - Mssion Bay	May	2016	25	60061-116-AA
SDYC	567	100	Power	38	12	Low Copper	Interlux Intersmooth	BEA462/5	Shelter Island Boatyard	Oct	2015	40.41	
SDYC	566	86	Sail	32.7	9.15	Low Copper	Interlux Ultra	Y3779F	Koehler Kraft	Jul	2021	55	2693-212-AA
SDYC	566	86	Power	53	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Aug	2018	55	2693-212-AA
SDYC	564	0	Sail	44	13	Low Copper	Interlux Ultra	Y3779F	Driscoll	Apr	2017	55	2693-212-AA
SDYC	563	67	Power	35	12	Low Copper	Interlux Ultra Blue	Y3779F	Shelter Island Boatyard	Jul	2017	55	2693-212-AA
SDYC	563	99	Power	28	10	Low Copper	Pettit Single Season	1281G	Shelter Island Boatyard	Mar	2020	37.5	60061-71-ZB
SDYC	559	100	Power	36	13	Low Copper	Bluewater Copper Pro	8101	Shelter Island Boatyard	Apr	2016	67	
SDYC	559	95	Sail	35	11	Non Copper	Epoxy	V127/A			N/A	0	
SDYC	556	0	vacant									65	
SDYC	556	92	Power	42	13.9	Non Copper	Interlux Interspeed	BZA646	Shelter Island Boatyard	Apr	2018	0	
SDYC	554	80	Sail	30	7	Low Copper	Pettit Black 1088	A1088G	Driscoll Mission Bay	Jun	2017	60	60061-94-ZB
SDYC	553	95	Sail	30	10.5	Low Copper	Proline 1088-6	A10886	Shelter Island Boatyard	Sept	2017	60	60061-94-ZB
SDYC	553	84	Power	36	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Aug	2018	55	2693-212-AA
SDYC	548	81	Sail	39.6	12	Low Copper	Ultrakote-6	Y3669U	Shelter Island Boatyard	Jan	2014	57	
SDYC	546	81	Power	32.5	12.3	Low Copper	Interlux Ultra	Y3779F	Koehler	Feb	2017	55	2693-212-AA
SDYC	546	0	Vacant									0	
SDYC	545	100	Power	33	11	Low Copper	Interlux Ultra Blue	Y3669F	Shelter Island Boatyard	Jan	2019	55	2693-212-AA
SDYC	542					Unknown							
SDYC	541	99	Sail	40	13	Non Copper	VC Performance Epoxy	V127/A	Shelter Island Boatyard	Jan	2018	0	
SDYC	537	100	Sail	35	11	Low Copper	Interlux Ultra	Y3779F	Driscoll	Feb	2019	55	2693-212-AA
SDYC	537	99	Power	34	12.3	Low Copper	Nautical Super Proguard NAU 770	NAU770	Nielsen Beaumonth	Jun	2016	55	60061-64
SDYC	536	100	Sail	32	10	Low Copper	Pettit Z-spar Protector	B-94	Shelter Island Boatyard	May	2012	65	
SDYC	532	97	Electric	25	8	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Apr	2020	60	60061-94-ZB
SDYC	532	92	Sail	37	13.5	Low Copper	Pettit Trinidad Red	A1688G	Driscoll	Feb	2020	33	60061-94-ZB
SDYC	531	100	Sail	45	13.5	Low Copper	Zspar Bottom Pro Gold Blue	411187706	Driscoll	Oct	2018	65	60061-94-ZE
SDYC	528	97	Sail	47	11.2	Low Copper	Interlux Micron Extra	5694	Driscoll Boatworks	Jan	2019	35	
SDYC	528	98	Sail	52	14.8	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jul	2005	60	60061-94-ZB
SDYC	527	92	Power	25	6	Low Copper	Interlux Micron	5693	Shelter Island Boatyard	Aug	2021	35	
SDYC	513	86	Power	35	9.5	Copper	Interlux VC Offshore	V118	Driscoll	May	2020	41.19	
SDYC	509	76	Power	42	13	Copper	Interlux Bottomkote	10397	Koehler	Jun	2019	42.75	
SDYC	504	96	Power	63	15.8	Low Copper	Interlux Ultra Black	Y3779F	Nielsen Beaumont	Jan	2012	55	2693-212-AA
SDYC	504	72	Power	33	10.8	Low Copper	Interlux Interspeed	BQA659/5GL	Koehler	Feb	2017	38	2693-176-ZB
SDYC	503	100	Sail	40	12	Low Copper	Interlux Ultra	Y3779F	Driscoll	Jan	2018	55	2693-212-AA
SDYC	502	93	Power	50	15	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Nov	2014	60	60061-94-ZB
SDYC	500	87	Sail	33.2	10	Low Copper	Boat Purchased in 2016				2016	65	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	500	100	Power	32	11	Low Copper	Purchased Oct 2013				2016	67	
SDYC	499	96	Sail	41	12.9	Low Copper	Interlux Ultra - Green	Y3559F	Shelter Island Boatyard	Jun	2019	55	2693-212-AA
SDYC	495	96	Power	23	8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Aug	2021	55	2693-212-AA
SDYC	495	94	Electric	30	8.5	non Copper	Ceramcote	99M	Shelter Island Boatyard	Jun	2002	0	
SDYC	495	100	Power	25	9	Low Copper	Interlux	Y3779F	Shelter Island Boatyard	Oct	2019	55	2693-212-AA
SDYC	493	90	Sail	40	12	Non Copper	Sea Speed V 10 X - Clear		Shelter Island Boatyard	Mar	2020	0	
SDYC	492	100	Power	25	8	Low Copper	Interlux Ultra	Y3779F	Driscoll	July	2017	55	2693-212-AA
SDYC	491	98	Power	26	9	Low Copper	Trinidad VOC Black	1878	The Boat Yard, MDR	Sept	2016	75.8	
SDYC	490	100	Power	50	15	Low Copper	SeaHawk AF33	#3445	Other	Jun	2020	33	44891-12-ZC
SDYC	489	98	Power	43	14	Non Copper	Sea Hawk	8241	Cabrillo Boat Shop	June	2020	0	
SDYC	488	90	Power	23.5	8.5	Low Copper	Interlux Black	Y3779F	Puerto Escondido, Mexico	Jan	2017	55	2693-212-AA
SDYC	482	98	Power	37	10	Low Copper	Interlux Nautical Proguard red	NAU772	Driscoll	Jul	2019	55	2693-42-ZQ
SDYC	476	92	Power	62	16	Low Copper	Interlux Ultra Black	Y3779F	Shelter Island Boatyard	Jul	2017	55	2693-212-AA
SDYC	474	100	Power	17	8	Low Copper	Pettit Trinidad HD Black	1088	Shelter Island Boatyard	Jun	2019	55	60061-94-ZB
SDYC	468	98	Power	80	23.5	Low Copper	Interspeed 640	BRA642		Jan	2017	38	2693-142-ZM
SDYC	467	92	Power	48	15.5	Low Copper	Proline 1088-6	A10886	Driscoll	Aug	2018	60	60061-94-ZB
SDYC	467	83	Sail	40	12	Low Copper	Interlux Ultra Kote Blue	Y3449U	Shelter Island Boatyard	Feb	2019	57	
SDYC	462	95	Power	21.3	8.4	Low Copper	Bottomshield	411186606	Cogswell Marine	Aug	2015	28.86	60061-129-AA
SDYC	459	96	Sail	45.9	14	Low Copper	Interlux Ultra Black 3779F	Y3779F	Shelter Island Boatyard	Apr	2015	55	2693-212-AA
SDYC	453	95	Sail	34.5	11	Low Copper	Proline 1088-G	A1088G	Shelter Island Boatyard	Aug	2017	60	60061-94-ZB
SDYC	448	97	Power	35	10.5	Non Copper	Sea Hawk Biocop TF 1200-1 Antifoulant		Rybovich Shipyard West Palm Beach, FL	Jun	2019	0	
SDYC	446	91	Power	39.9	14.2	Low Copper	UNK Red Oxide	97N	Shelter Island Boatyard	Jun	2019	67	26883-7-AA
SDYC	446	99	Power	33	12.8	Low Copper	Interlux Ultra	Y3779F	Koehler	May	2019	55	2693-212-AA
SDYC	442	100	Sail	34	11.5	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Feb	2017	55	2693-212-AA
SDYC	435	95	Power	34	12	Low Copper	Interlux Ultra Black	Y3779F	Self Applied	Oct	2020	67	2693-212-AA
SDYC	435	97	Power	48	15.1	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jan	2016	60	60061-94-ZB
SDYC	435	100	Power	55	16	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Dec	2018	55	2693-212-AA
SDYC	432	97	Power	25	8	Low Copper	Interlux Ultra Black	Y3779F	Shelter Island Boatyard	Mar	2021	55	2693-212-AA
SDYC	432	96	Power	35.7	12.6	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Apr	2017	60	60061-94-ZB
SDYC	431	100	Power	48	14.8	Low Copper	Trinidad-6	A1088G	Driscoll	Oct	2017	60	60061-94-ZB
SDYC	430	100	Power	38	13.5	Low Copper	Purchased June 2014				2017	67	
SDYC	428	90	Power	70	19	Low Copper	SeaHawk AF33	3345	Marine Group / South Bay	Feb	2020	33	44891-12-AA
SDYC	428	70	Power	36	12.6	Low Copper	Purchased Aug 2016					65	
SDYC	427	100	Sail	39	11	Low Copper	Pettit Trinidad Blue/Green	A10882	Shelter island Boatyard	Jan	2020	67	60061-94-ZB
SDYC	424	99	Power	47.3	14.9	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2019	55	2693-212-AA
SDYC	423	99	Sail	32	6.7	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Aug	2015	65	
SDYC	421	97	Power	47	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2017	55	2693-212-AA
SDYC	414	100	Sail	40	13	Low Copper	Pettit Trinidad Pro HD Black	1088	Shelter Island Boatyard	Dec	2019	55	60061-94-ZB
SDYC	413	97	Power	36	13	Low Copper	Trinidad Pro-7	3345	Shelter Island Boatyard	Oct	2019	33	60061-94-ZB
SDYC	412	100	Sail	40	12.5	Low Copper	Pettit Vivid-3	1861	Driscoll	Mar	2018	25	60061-116-AA
SDYC	410	80	Sail	32	6.7	Low Copper	Interlux Ultra Blue	Y3779F	Self Applied	April	2019	55	2693-212-AA
SDYC	409	97	Sail	42	14	Low Copper	Interlux Ultra Black	Y3779F	Koehler Kraft	8	2020	55	2693-212-AA
SDYC	406	98	Power	35	10.6	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Jan	2015	65	
SDYC	405	96	Sail	34	11	Non Copper	Bluewater Shelter Island	8202	Shelter Island boatyard	Apr	2015	0	
SDYC	404	98	Power	47.9	15.5	Low Copper	Proline 1088-6	1088C-02	Riviera	Jul	2021	55	557-551-ZD
SDYC	401	63	Electric	18	6	Low Copper	Interlux Ultrakote Blue	Y3559U	Shelter Island Boatyard	Sept	2015	57	
SDYC	400	100	Power	42	13.6	Low Copper	Proline 1088-6 Black	A1088G	Shelter Island Boatyard	Aug	2017	60	
SDYC	400	100	Sail	32	5.1	Low Copper	Inerlux Ultrakote Blue	2669N	Koehler Kraft	Jul	2016	66.5	
SDYC	396		Sail	35	12	Low Copper	Trinidad Pro-7	A1088G	Koehler Craft	Oct	2021	60	60061-94-ZB
SDYC	396	71	Sail	40	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2019	55	2693-212-AA
SDYC	395	99	Sail	32	6	Low Copper	Proline 1088-6	1088C-01	Shelter Island Boatyard	Mar	2015	66.9	
SDYC	394	89	Power	30	10	Low Copper	Trinidad HD	1281	Shelter Island Boatyard	Nov	2019	67	60061-94-ZD
SDYC	393	84	Electric	18	6	Low Copper	Trinidad Pro-7	3345	Driscoll	Jun	2015	33	44891-12-AA
SDYC	391	100	Sail	42	12	Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Mar	2020	42.75	
SDYC	390					Low Copper				May	2018	65	
SDYC	389	97	Sail	49.5	14.8	Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Apr	2020	42.75	
SDYC	383	95	Sail	45	11	Low Copper	Interlux Ultra	Y3779F	Svendsens Boat Yard (San Fran)	Oct	2015	55	2693-212-AA

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SDYC	383	9	Sail	35	11.7	Low Copper	Z-Spar Gold	A1088G	Driscoll	Aug	2020	60	60061-94-ZB
SDYC	382	99	Power	21	7	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Aug	2019	55	2693-212-AA
SDYC	381	98	Power	47	16.5	Unknown							
SDYC	381		Vacant									0	
SDYC	380	100	Sail	35	10	Low Copper	Interlux Ultra	Y3779F	Koehler	Jun	2020	55	2693-212-AA
SDYC	378	100	Power	40	12.6	Low Copper	Pettit Z-Spar Protector	B-94	Port Salerno Marine (Florida)	Jul	2017	65	
SDYC	374	100	Power	50	16.5	Low Copper	Interlux Ultra Blue	Y3669F	Shelter Island Boatyard	May	2019	67	2693-212-AA
SDYC	373	100	Sail	28	9.3	Non Copper	Coppercoat	85396-1-AA	Driscoll	Apr	2013	0	
SDYC	373	100	Sail	34	11	Low Copper	Z-Spar Bottom Pro Gold	411187706	Driscoll	Mar	2018	65	60061-94-ZE
SDYC	369	99	Power	17	7	Copper	Interlux Aqua	YBA579	Driscoll	Aug	2019	46	
SDYC	368	98	Power	46	15	Low Copper	Interlux Interprotect	B-94	Shelter Island Boatyard	Jun	2015	65	
SDYC	363	99	Electric	21	7		Interlux Fiberglass Bottomkote Aqua	10397	Shelter Island Boatyard	Jun	2014	42.75	
SDYC	363	100	Sail	52	14	Low Copper	Trinidad SR	A1877G	Shelter Island Boatyard	May	2018	60	60061-94-ZD
SDYC	357	97	Sail	40.1	12	Low Copper	Trinidad Blue 1271	V118	Shelter Island Boatyard	Nov	2020	55	60061-94-ZD
SDYC	357	95	Sail	34.5	11	Low Copper	Interlux VC Offshore	V118	Driscoll	Aug	2015	41.19	
SDYC	354	98	Power	42	13.5	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2017	55	2693-212-AA
SDYC	347	100	Power	31	12	Copper	Trinidad Pro-7		Shelter Island Boatyard	Jun	2020	70	
SDYC	347	95	Power	33	10	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Feb	2017	65	
SDYC	346	93	Power	57	14.5	Low Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Sep	2018	42.75	
SDYC	346	95	Power	58	16	Low Copper	Interlux Ultra Cote 3779U	Y3779U	Shelter Island Boatyard	Aug	2017	57	
SDYC	342	96	Sail	48	14	Low Copper	SeaHawk AF33	3345	Outside SD County	May	2019	33	44891-12-AA
SDYC	342	99	Sail	40	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Nov	2018	55	2693-212-AA
SDYC	341	99	Sail	34	11	Low Copper	Purchased 2015				2019	67	
SDYC	340	95	Power	38	12	Low Copper	Interlux Ultra	Y3779F	Marine Group / South Bay	Mar	2018	55	2693-212-AA
SDYC	334	83	Sail	38	22.4	Low Copper	Interlux Ultra	Y3779F	Driscoll	Jul	2020	55	2693-212-AA
SDYC	332	99	Sail	53	14	Low Copper	Interlux VC Offshore	V118	Outside SD County	Oct	2018	41.19	
SDYC	332	100	Power	28	9	Copper	Pettit Z-Spar Protector	B-94	Driscoll	Jun	2019	65	
SDYC	327	100	Power	44	15	Low Copper	Petit Horizons		Shelter Isalnd Boatyard	Aug	2021	40.5	
SDYC	323	90	Power	40	13	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	May	2018	65	
SDYC	323	0	Sail	37	12	Non Copper	Purchased June 2019					65	
SDYC	323	96	Power	38	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2018	55	2693-212-AA
SDYC	321	72	Sail	44	9.1	Low Copper	NFU 993 40% copper ablative	NAU993	Nielsen Beaumont	Jun	2016	41.97	
SDYC	321	78	Sail	40	12	Low Copper	Interlux Epoxycop	K51	Shelter Island Boatyard	Jun	2020	42.75	2693-62-ZQ
SDYC	320	92	Sail	59	10.6	Low Copper	Pettit Green	Y3559F	Koehler	Jun	2016	55	2693-212-AA
SDYC	319	99	Sail	41.7	13	Low Copper	Pettit Hydrocoat Eco	1847G	Nielsen Beaumont	Jun	2017	25	
SDYC	316	100	Sail	34	11	Low Copper	Z-Spar Bottom Pro Gold	411127906	Driscoll	Mar	2018	67	60061-117-ZE
SDYC	313	98	Power	17	6	Low Copper	Trinidad SR	A1877G	Shelter Island Boatyard	Jun	2019	60	60061-94-ZD
SDYC	311	100	Sail	29.9	11.3	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Jun	2016	65	
SDYC	310	75	Power	17	5	Low Copper	Monterey	5445	Self Applied	Apr	2018	58	
SDYC	309	100	Power	24	8.5	Low Copper	Interlux Ultra Black	Y3779F	Driscolls Mission Bay	Jan	2016	55	2693-212-AA
SDYC	306	90	Sail	39.5	13.25	Unknown							
SDYC	305	94	Sail	30	11	Low Copper	Pettit Trinidad HD	1871	Shelter Island Boatyard	Jun	2019	55	60061-94-ZB
SDYC	300	92	Sail	33.3	10	Non Copper	Ceram-kote	99M	Shelter Island Boatyard	Oct	2014	0	
SDYC	299	98	Power	35	11	Copper	Interlux Bottomkote	10397	Koehler	Nov	2020	42.75	
SDYC	299	98	Sail	35	11	Low Copper	Interlux Ultra	Y3779F	Koehler	Apr	2019	17	2693-212-AA
SDYC	299	96	Power	36	11.8	Low Copper	Interlux Ultra w/ Biolux	Y3559F	Koehler	Sept	2019	55	2693-212-AA
SDYC	297	100	Power	32	12.5	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2016	55	2693-212-AA
SDYC	296	98	Sail	30	10	Non Copper	Intersleek 900	FXA979/A	Driscoll Mission Bay	Apr	2017	0	
SDYC	295	86	Power	36	13	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Jul	2017	65	
SDYC	295	96	Sail	50	13.1	Low Copper	Pettit Vivid White	11161	Shelter Island Boatyard	Sept	2020	25	60061-116-AA
SDYC	295	99	Power	26	9	Low Copper	Proline 1088-6	A1088G	Driscoll	Jul	2018	60	60061-94-ZB
SDYC	295	96	Sail	37	9	Low Copper	Trinidad Pro-7	A1088G	Koehler	Mar	2020	60	60061-94-ZB
SDYC	293	99	Power	32	11.5	Low Copper	Interlux Bottomkote	10397	Koehler	Jan	2017	42.75	
SDYC	291	92	Electric	31	11.3	Low Copper	Pettit Z-Spar	411187706	Driscoll	Dec	2011	65	60061-94-ZE
SDYC	290	99	Sail	34.5	11	Low Copper	VP Performance Epoxy	V127/A	Driscoll Mission Bay	Oct	2020	0	
SDYC	288	93	Power	23	8.6	Low Copper	Interlux Ultra	Y3669F	Shelter Island Boatyard	Sep	2021	55	2693-212-AA
SDYC	286	98	Power	48	15	Low Copper	Interlux Ultra Black	Y3779F	Shelter Island Boatyard	Apr	2019	55	2693-212-AA

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	284	99	Sail	40	12	Copper	Interlux Ultra Kote Blue	2669N	Shelter Island Boatyard	Feb	2019	67	
SDYC	283		Sail	48	13	Low Copper	Interlux Ultra Black	Y3779F	Koehler	Aug	2021	67	2693-212-AA
SDYC	282	99	Power	32.9	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Dec	2017	67	2693-212-AA
SDYC	280	0	Power	23	9	Low Copper	Trilux33-3	YBA060	Koehler	Jul	2017	16.95	2693-203-AA
SDYC	280	99	Power	45.3	14.3	Low Copper	Trinidad	1821	Shelter Island Boatyard	Jul	2021	67	60061-94-ZD
SDYC	276	0	Sail	28	7	Low Copper	Purchased Feb 2016			Nov	2019	65	
SDYC	276	100	Electric	19	7	Low Copper			Purchased Feb 2017		2017	65	
SDYC	275	99	Power	48	15.2	Copper	Interlux Bottomkote	10397	Driscoll	Sep	2021	42.75	
SDYC	270	100	Sail	35	10	Low Copper	Interlux Ultra	Y3779F	Koehler	Aug	2017	55	2693-212-AA
SDYC	266	79	Sail	57	16	Low Copper	Proline 1088-6	1088C-02	Shelter Island Boatyard	May	2020	55.7	557-551-ZD
SDYC	262	86	Sail	40	12	Low Copper	Interlux Ultra	Y3779F	Driscoll	Aug	2014	55	2693-212-AA
SDYC	256	95		40	13	Unknown							
SDYC	256	98	Power	21	8.3	Low Copper	Proguard Ablative Blue	NAU990	Explorer Marine Services	Apr	2018	41.97	
SDYC	255	92	Power	64	18	Low Copper	Interlux Micron	5693	Shelter Island Boatyard	Jul	2019	35	
SDYC	252	94	Power	25.3	9.5	Low Copper	Pettit Vivid-3	1861	Driscoll	Jan	2014	25	60061-116-AA
SDYC	252	98	Power	26	9.2	Low Copper			Purchased Mar 2017		2017	65	
SDYC	250	98	Sail	36.1	10.1	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2018	55	2693-212-AA
SDYC	244	80	Power	21	8	Low Copper	Trinidad VOC Black	Y3779F	Driscoll Mission Bay	Jan	2020	55	2693-212-AA
SDYC	242	78	Sail	37.5	13	Low Copper	Hydrocoat	1840	Nielsen Beaumont	Jul	2015	40.3	60061-87-ZI
SDYC	241	91	Sail	29	9	Low Copper	Interlux Ultra	Y3779F	Other	Dec	2016	55	2693-212-AA
SDYC	239	100	Power	42.83	13.12	Unknown							
SDYC	238	96	Power	38	13	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jun	2017	60	60061-94-ZB
SDYC	235	92	Power	45.9	12	Low Copper	Interlux Ultra Kote	Y3449U	Shelter Island Boatyard	Mar	2016	67	
SDYC	235	96	Power	38	14	Low Copper	Interlux Fiberglass Bottomkote Aqua	YBA579	Driscoll	May	2013	46	
SDYC	235	94	Sail	46	14	Low Copper	Proline 1088-6	A10886	Shelter Island Boatyard	Jun	2014	60	60061-94-ZB
SDYC	232	98	Sail	33.1	9.7	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2013	55	2693-212-AA
SDYC	230	100	Power	24	9	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Nov	2018	60	60061-94-ZB
SDYC	230	97	Sail	28	9.3	Non Copper	Coppercoat	85396-1-AA	Driscoll	Apr	2013	0	
SDYC	228	90	Power	36.4	10	Low Copper	Pettit-Pro	16471732	Driscoll	May	2015	65	
SDYC	227	95	Power	37	13	Copper	Ultrakote-6	Y3669U	Koehler	Jun	2020	57	
SDYC	226	100	Sail	27	9	Low Copper	Interlux Ultra	Y3779F	Driscoll Mission Bay	Jul	2019	55	2693-212-AA
SDYC	225	95	Sail	36	11	Non Copper	No Bottom Paint				N/A	0	
SDYC	223	96	Power	39	13	Low Copper	Zspar Bottom Pro Gold	41127706	Driscoll Boat Works	Mar	2019	65	60061-94-ZE
SDYC	220	100	Power	42	13.5	Low Copper	Trinidad Pro-7	A1877G	Driscoll	Aug	2014	60	60061-94-ZD
SDYC	218	92	Sail	48	13	Low Copper	Interlux Ultra Black	Y3779F	Purchased June 2020 - Bought in Seattle			65	2693-212-AA
SDYC	214	99	Power	38	13	Low Copper	Super Proguard Epoxy	NAU773	Nielsen Beaumont	Mar	2018	55	23566-20-ZT
SDYC	211	92	Power	42	15	Low Copper	Interlux Ultra	Y3779F	Driscoll Mission Bay	Oct	2020	55	2693-212-AA
SDYC	210	98	Sail	30	11	Low Copper	West Marine BottomPro Gold	411127906	Shelter Island Boatyard	Jun	2018	40	60061-117-ZE
SDYC	208	91	Sail	36.6	13.1	Low Copper	Interluc Ultra	Y3779F	Shelter Island Boatyard	May	2020	55	2693-212-AA
SDYC	207	99	Electric	30	10	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Nov	2020	55	2693-212-AA
SDYC	206	98	Sail	30	10	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Oct	2006	60	60061-94-ZB
SDYC	203	100	Sail	33	10	Low Copper	Interlux Ultra	Y3779F	Driscoll	May	2014	55	2693-212-AA
SDYC	202	100	Power	31	10.3	Low Copper	Interlux Ultra	Y3779F	SD Boatyard	Oct	2015	67	2693-212-AA
SDYC	200	92	Power	38.2	13.4	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	April	2019	55	2693-212-AA
SDYC	197	100	Sail	38	11.7	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jul	2019	60	60061-94-ZB
SDYC	197	98	Electric	18	7	Low Copper	Interlux Ultra - Blue	Y3669F	Shelter Island Boatyard	May	2018	55	2693-212-AA
SDYC	196	100	Sail	30	10	Low Copper	Proline	1088C-02	Shelter Island Boatyard	Jun	2020	55.7	557-551-ZD
SDYC	189	100	Sail	35	11	Low Copper	Interlux Ultra	Y3779F	Koehler	Oct	2016	55	2693-212-AA
SDYC	188	99	Power	20	8	Low Copper	Z-spar bottom pro blue	411187706	Driscoll	Aug	2019	65	60061-94-ZE
SDYC	182	90	Sail	36	12	Non Copper	Ceram-kote	99M	Shelter Island Boatyard	Jun	2008	0	
SDYC	182	91	Power	23	8.5	Low Copper	Interlux Calif Bottomkote-7	YBA143	Driscoll	Dec	2015	35	2693-18-ZA
SDYC	181	98	Sail	35	13	Low Copper	Nautical Super Proguard NAU 770	NAU770	Nielsen Beaumont	Sept	2016	55	23566-20-ZR
SDYC	179	100	Sail	41.8	13.8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jul	2016	55	2693-212-AA
SDYC	178	90	Sail	46	14.4	Low Copper	Purchased June 2018		JK3 Alameda		2018	67	
SDYC	175		Power	43.9	14.6	Low Copper	Interlux Micron Ultra / blue	YBA472	Driscoll Shelter Island	May	2019	35	2693-187-ZE
SDYC	174	95	Power	26.5	8.5	Low Copper	Pettit-Vivid 3	1861	Driscoll	Jul	2016	25	60061-116-AA
SDYC	173	100	Sail	31.6	9.3	Low Copper	Proline 1088 Red	A10886	Shelter Island Boatyard	Mar	2016	60	60061-94-ZB

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	172	76	Power	42	14	Copper	Interlux Aqua	YBA579	Driscoll	Jan	2021	46	
SDYC	169	93	Sail	30	9.6	Non Copper	Hard Coat Expox Primer - No Anti-Fouling Paint	V127/A	Driscoll	Oct	2016	0	
SDYC	166	83	Sail	47	14	Low Copper	Trinidad Pro-7	A1088G	Shelter Island Boatyard	Oct	2020	67	60061-94-ZB
SDYC	158	100	Sail	35	11.6	Low Copper	Interlux White Epoxy Paint	V127/A	Driscoll	Apr	2017	0	
SDYC	157	85	Power	36	13	Low Copper	Pettit Trinidad SR Pro	1871	KKMI Boatyard Richmond, Ca		2017	55	60061-94-ZB
SDYC	156	98	Sail	36	12	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Jun	2016	65	
SDYC	156	95	Power	37	13	Low Copper	Interlux Ultra	Y3779F	Koehler	Dec	2018	55	2693-212-AA
SDYC	155	67	Sail	40	12	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Oct	2018	65	
SDYC	154	97	Power	35	11	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard		2016	50	2693-212-AA
SDYC	152	94	Sail	36	13	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Feb	2014	55	2693-212-AA
SDYC	150	75	Power	42	14	Low Copper	Pettit Hydrocoat red	1640	Driscoll	Feb	2017	40.43	60061-87-ZL
SDYC	150	100	Power	38	13	Low Copper	Inuterlux Ultra Blue	Y3669F	Shelter Island Boatyard	Sept	2018	55	2693-212-AA
SDYC	149	96	Sail	39	13.6	Low Copper	Purchased Jun 2016					67	
SDYC	149	0	Power	22	8	Low Copper	Woolsey Defense Black	4301G	Nielsen Beaumont		2017	60	60061-117-ZA
SDYC	147	98	Sail	27	9	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jul	2020	67	60061-94-ZB
SDYC	147	95	Sail	55	16	Low Copper	Pettit Hydrocoat Antifouling Black	1840	Nielsen Beaumont	Jan	2019	40.43	60061-87-ZI
SDYC	146	100	Power	33	12.5	Low Copper	Interlux Ultra - "Ultra Coat"	2779N	Koehler	Jun	2017	66.5	
SDYC	146	95	Power	37	12	Non Copper	Pacifica Plus	Ybb263	Outside San Diego County	Jun	2017	0	
SDYC	145	100	Power	31	25	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Dec	2017	55	2693-212-AA
SDYC	142	99	Power	28.2	9.5	Low Copper	Pettit Vivid White	11161	Shelter Island Boatyard	Nov	2017	25	60061-116-AA
SDYC	142	100	Power	30.5	10.6	Low Copper	Interlux Bottomkote Pro	10397	Shelter Island Boatyard	Aug	2014	42.75	
SDYC	140	100	Sail	39	12	Low Copper	Interlux Ultra	Y3779F	Driscoll	Jun	2020	55	2693-212-AA
SDYC	140	98	Power	44	15	Low Copper	Seaguard Black	P30BQ12	Driscoll	Oct	2015	48	
SDYC	140	98	Power	33	11.6	Low Copper	Interlux Ultra Black	Y3779F	Shelter Island Boatyard	Mar	2018	55	2693-212-AA
SDYC	140	100	Sail	26	8.6	Low Copper	Z Spar Bottom Pro Gold	41127706	Driscoll	Feb	2018	65	60061-94-ZE
SDYC	139	91	Sail	36	12.5	Low Copper	Ultrakote-6	Y3669U	Shelter Island Boatyard	Feb	2016	57	
SDYC	139	0	Sail	35	11	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2014	55	2693-212-AA
SDYC	137	100	Power	52	14	Low Copper	Interlux Calif Bottomkote - 7	YBA143	Driscoll	Jul	2017	35	2693-18-ZA
SDYC	135	84	Power	32.2	12	Low Copper	Interlux Ultra-Kote Black	2779N		Feb	2017	66.5	
SDYC	133	90	Sail	41	12	Low Copper	Bluewater Copper Shield	8601	Shelter Island Boatyard	Jan	2017	45	
SDYC	132	100	Sail	39.2	10.8	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll Mission Bay	Aug	2017	67	
SDYC	129	49	Power	60	16	Low Copper	Interlux Ultra	Y3779F	The Boat Yard, MDR	Mar	2020	55	2693-212-AA
SDYC	129	100	Sail	49	12	Low Copper	Trinidad Pro-7	A1877G	Shelter Island Boatyard	Feb	2017	60	60061-94-ZD
SDYC	129	95	Sail	37	11.8	Low Copper	Interlux Ultra-Kote Black	Y3779U	Driscoll Mission Bay	Feb	2017	57	
SDYC	129	99	Power	24	9	Low Copper	Interlux Bottomkote	10397	Driscoll	Oct	2016	42.75	
SDYC	127	100	Sail	68	15	Low Copper	SeaHawk AF33	3445	Outside SD County	Jun	2015	47	44891-12-AA
SDYC	127	84	Power	31	10	Low Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Jun	2018	42.75	
SDYC	126	99	Sail	48	14	Low Copper	Proline 1088-6	A1088G	Outside SD County	Apr	2019	60	60061-94-ZB
SDYC	125	100	Sail	32.6	10.1	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2012	55	2693-212-AA
SDYC	123	99	Sail	33	11	Low Copper	Nautical Proguard Ablative Blue	NAU990	Nielsen Beaumont	Jul	2017	41.97	
SDYC	116	99	Power	21	7	Low Copper	Pettit Vivid	1048	Maddox Boatyard	Mar	2019	33.26	
SDYC	114	75	Power	46	14.6	Low Copper	Pettit Trinidad Black	A1088G	Self Applied	Aug	2017	60	60061-94-ZB
SDYC	113	99	Power	36	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Oct	2015	55	2693-212-AA
SDYC	112	100	Sail	40	12.1	Low Copper	Pettit 1271 Trinidad Blue	1082	Shelter Island Boatyard	Aug	2019	55	60061-94-ZB
SDYC	111		vacant									0	
SDYC	111	95	Power	22	8	Low Copper	ABC3-2	ABC3-92	SD Boatyard	Dec	2018	48	
SDYC	110	89	Power	32	12	Low Copper	Hydrocoat	1840	Driscoll	Dec	2018	40.43	60061-87-ZI
SDYC	108	93	Power	23	6	Low Copper	Interlux Bottomkote	10397	Shelter Island Boatyard	Aug	2017	67	
SDYC	108	70	Sail	35.3	11.6	Low Copper	Purchased July 2017				2017	65	
SDYC	108	100	Sail	31.1	6	Low Copper	Pettit Vivid Blue	1261	Driscoll	Nov	2017	25	60061-116-AA
SDYC	106	99	Power	31	12	Low Copper	Trinidad SR	A1877G	Shelter Island Boatyard	Jun	2020	60	60061-94-ZD
SDYC	106	99	Sail	28.5	10	Low Copper	Proline 1088	A1088G	Shelter Island Boatyard	Aug	2016	67	60061-94-ZB
SDYC	104	100	Power	34	11	Low Copper	Seahawk Biocop	1205-1	Applied in WA state	July	2020	38.06	44891-15-AA
SDYC	101	100	Sail	32	11	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Jun	2010	67	60061-94-ZB
SDYC	99	97	Power	39	11	Low Copper	Trinidad Pro-7	A1088G	Shelter Island Boatyard	Jun	2018	60	60061-94-ZB
SDYC	96	99	Sail	34	11	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Oct	2018	65	
SDYC	94	84	Sail	38	11	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2019	55	2693-212-AA

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	93	99	Power	33	9	Low Copper	Interlux Ultra	Y3779F	Other	May	2019	55	2693-212-AA
SDYC	91	100	Power	46	15	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2021	55	2693-212-AA
SDYC	90	100	Power	18	8	Copper	Interlux Aqua	YBA579	Other	Nov	2020	55	
SDYC	90	100	Sail	30	10	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	July	2020	55	2693-212-AA
SDYC	88	100	Power	45.1	13.8	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Oct	2017	55	2693-212-AA
SDYC	87	97	Power	48.6	16	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Feb	2017	55	2693-212-AA
SDYC	86	99	Sail	33.8	11.58	Copper	Interlux	YBA960	Shelter Island Boatyard	Sep	2020	65	#N/A
SDYC	86	100	Power	40	12.5	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Oct	2016	65	
SDYC	84	100	Power	35	10	Low Copper	Interlux Ultrakote	2779N	Shelter Island Boatyard	Jun	2016	66.5	
SDYC	83	93	Sail	37	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Sept	2011	55	2693-212-AA
SDYC	82	94	Sail	47	26	Low Copper	Interlux Ultra	Y3779F	Outside SD County	Jan	2020	72	2693-212-AA
SDYC	80	99	Sail	27	7.5	Non Copper	Epoxy bottom	V127/A	Shelter Island Boatyard	Dec	2017	0	
SDYC	78	99	Power	42	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Apr	2018	55	2693-212-AA
SDYC	77					Unknown							
SDYC	76					Unknown							
SDYC	75	95	Power	31	11	Low Copper	Proline 1088-6	1088C-02	Shelter Island Boatyard	Nov	2019	55.7	557-551-ZD
SDYC	74	100	Power	31	10	Non Copper	Awlstar		Driscoll	Jun	2021	0	
SDYC	73	97	Power	27	9	Unknown	Unknown		Purchased August 2020				
SDYC	71	100	Sail	46	14.7	Low Copper	Nautical Progaurd Ablative Blue	NAU990	Nielsen Beaumont	Jun	2019	41.97	2683-14-ZP
SDYC	69	0	sail	22	9	Low Copper	Interlux	Y3779F	Shelter Island Boatyard	Jul	2017	65	
SDYC	68	90	Power	33	11.3	Low Copper	Proline 1088-6	A1088G	Driscoll	Dec	2013	60	60061-94-ZB
SDYC	66	98	Power	34	12	Low Copper	Zspar Bottom Pro Blue	411187706	Shelter Island Boatyard	Dec	2019	65	60061-94-ZE
SDYC	65	94	Sail	50	13.8	Low Copper	SeaHawk AF33	3345	Shelter Island Boatyard	Apr	2006	33	44891-12-AA
SDYC	64	96	Sail	53	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Aug	2018	55	2693-212-AA
SDYC	64	95	Sail	32	7	Low Copper	Pettit Vivid-3	1861	Driscoll	Jun	2018	25	60061-116-AA
SDYC	63	99	Power	50	15	Low Copper	Interlux Calif Bottomkote-7	YBA143	Outside SD County	Oct	2018	67	2693-18-ZA
SDYC	61	94	Sail	50	12.2	Low Copper	Seaguard-2	P30BQ12	Driscoll	Mar	2017	48	
SDYC	58	99	Sail	44.9	13	Low Copper	Interlux Bottomkote Pro	79	Nielsen Beaumont	Feb	2017	22	
SDYC	54	98	Power	61	16	Low Copper	Pettit Z-Spar Protector	B-94	Shelter Island Boatyard	Oct	2018	65	
SDYC	53	98	Power	32	12	Low Copper	Pettit Horizons	1850	Shelter Island Boatyard	Jul	2019	40.5	60061-101-AA
SDYC	52	99	Sail	33.8	11.5	Non Copper	Hydrolift				N/A	0	
SDYC	49	100	Sail	44.2	13	Low Copper	Interlux Ultra	A1088G	Shelter Island Boatyard	Nov	2018	60	60061-94-ZB
SDYC	48	94	Sail	32	6.7	Copper	Interlux Bottomkote	10397	Koehler	Apr	2019	55	
SDYC	47	65	Sail	45	13	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2021	55	2693-212-AA
SDYC	45	93	Sail	59	10	Low Copper	Interlux Ultra	Y3779F	Koehler	Feb	2020	55	2693-212-AA
SDYC	43	77	Power	22	8	Low Copper	Trinidad VOC Black		Shelter Island Boatyard	Jul	2021	75.8	60061-64-ZC
SDYC	41	0	Power	33	11.5	Low Copper	Interlux Ultra-Kote Antifouling	Y3449F	Marine Group Boat Works	Aug	2018	55	2693-212-AA
SDYC	38	100	Power	40	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Mar	2016	55	2693-212-AA
SDYC	35	100	Sail	38	12	Low Copper	Trinidad-6	A1088G	Shelter Island Boatyard	Jun	2015	60	60061-94-ZB
SDYC	30	95	Power	47	15	Low Copper	SeaHawk Topikote Antifouling Blue	2142	Outside SD County	May	2019	0	44891-10-ZA
SDYC	28		Sail	42	14	Unknown							
SDYC	28	100	Sail	50	12	Low Copper	Zspar Bottom Pro Gold	411187706	Driscoll	Feb	2016	65	60061-94-ZE
SDYC	27	86	Power	30	11	Low Copper	Pettit Trinidad	1281	Shelter Island Boatyard	Feb	2021	37.5	60061-71-ZA
SDYC	27	88	Sail	37	8	Low Copper	Pettit Z-Spar Protector	B-94	Koehler	Jul	2020	65	60061-49-ZH
SDYC	27	98	Sail	30	11	Low Copper	Zspar Bottom Pro Black Gold	B-94	Driscolls Shelter Island	Nov	2018	65	
SDYC	26	100	Power	32	11.5	Low Copper	Interlux Ultra Blue 3669 F	Y3669F	Shelter Island Boatyard	Jun	2016	55	2693-212-AA
SDYC	26	96	Sail	31.6	9.3	Low Copper	Proline 1088 Red	A10886	Shelter Island Boatyard	Mar	2016	60	60061-94-ZB
SDYC	25	82	Sail	34.1	10	Low Copper	Pettit-Vivid-3	1861	Koehler	May	2015	25	60061-116-AA
SDYC	23	100	Sail	35	11	Non Copper	Interlux Epoxycop	V127/A	Applied by manufacturer	Sept	2001	0	
SDYC	22	98	Power	28	12	Low Copper	Pettit Ultima	1092	Other	Mar	2018	40	60061-71-ZB
SDYC	20	94	Power	42	15	Non Copper	Intersleek 9000	FXA979/A	Shelter Island Boatyard	Jun	2019	0	
SDYC	19	99	Sail	28	10	Low Copper	Interlux Ultra	Y3779F	Koehler	Aug	2017	55	2693-212-AA
SDYC	19	73	Sail	28	9.6	Low Copper	Pettit Vivid White	11161	Shelter Island Boatyard	Jan	2015	25	60061-116-AA
SDYC	18	100	Sail	43.8	12	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Nov	2017	55	2693-212-AA
SDYC	16	96	Power	78	20	Unknown							
SDYC	15	98	Power	49	14.2	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Apr	2015	60	60061-94-ZB
SDYC	12	97	Sail	52	14	Low Copper	Micron Extra-2	5690	Other	Jan	2020	35	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SDYC	12	97	Power	38.4	13.8	Copper	Interlux Ultrakote Black	2779N	Shelter Island Boatyard	Nov	2021	66.5	
SDYC	10	30	Power	23.5	8.5	Low Copper	Zspar Bottom Pro Gold Black	411127906	Driscoll	Nov	2016	67	60061-117-ZE
SDYC	5	94	Power	47.1	15.6	Low Copper	Sharkskin-7	6145	SD Boatyard	Nov	2012	45	44891-11-AA
SDYC	2	94	Electric	23	7.2	Low Copper	Interlux Ultra	Y3779F	Driscoll	Feb	2016	67	2693-212-AA
SDYC	1	100	Sail	46.4	9.9	Low Copper	Interlux Ultra-Coat	2779N	Shelter Island Boatyard	Apr	2017	65	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SGYC	2007	97	S	36	12.5	Low	TRINIDAD PRO HD	1271	SHELTER ISLAND BOAT YARD	11	2019	65	60061-94-ZB
SGYC	2039	100	S	30	10	Unknown						65	
SGYC	2042	95	S	29	11	Unknown						65	
SGYC	2044	75	P	26	8	Unknown						65	
SGYC	2044	90	S	30	10.1	NON	INTERSLEEK 900	FXA970/A	SHELTER ISLAND BOAT YARD	05	2014	0	
SGYC	2044	90	S	40	11.8	Low	INTERLUX ULTRA	Y3779U	SHELTER ISLAND BOAT YARD	09	2016	57	
SGYC	2048	100	S	38	13.5	Low	INTERLUX ULTRA	3669	SHELTER ISLAND BOAT YARD	04	2017	55	
SGYC	2076	**NO BOAT**											
SGYC	2078	99	S	27	8.9	NON	SLIP LINER		AQUARIUS BOAT YARD	06	2015	0	
SGYC	2081	100	S	24	11	Unknown						65	
SGYC	2082	10	P	30.6	9.6	Low	PETTIT TRINIDAD BLACK	1871	SHELTER ISLAND BOAT YARD	04	2021	65	60061-94-ZB
SGYC	2083	90	S	32.8	10.8	Low	PETTIT TRINIDAD BLACK	1828	SHELTER ISLAND BOAT YARD	05	2021	65	60061-94-ZB
SGYC	2083	98	P	43	14	Low	PRO LINE	Y3779F	SHELTER ISLAND BOAT YARD	09	2017	55	2693-212-AA
SGYC	2100	100	P	38	13	Unknown						65	
SGYC	2108	100	S	40	7	Low	INTERLUX ULTRA KOTE	Y3449F	KOEHLER KRAFT	03	2018	55	2693-212-AA
SGYC	2109	100	S	39.5	13	Low	PROLINE	Y1088C-01	MARINE GROUP	03	2017	67	
SGYC	2127	100	S	30	10	Low	INTERLUX ULTRA	Y3669F	SHELTER ISLAND BOAT YARD	01	2013	55	2693-212-AA
SGYC	2128	100	S	41.6	13.1	Unknown						65	
SGYC	2129	87	S	44	13.6	Low	PETTIT PROTECTOR	B-91	DRISCOLLS	07	2016	57	
SGYC	2140	90	S	42	11	Low	PROLINE	1088	SHELTER ISLAND BOAT YARD	06	2014	67	
SGYC	2163	95	S	38	12	Low	PRO LINE	1088C-01	SHELTER ISLAND BOAT YARD	03	2015	67	
SGYC	2164	100	S	37	12.5	Low	PRO LINE 1088	Y1088C-01	KOEHLER KRAFT	11	2018	67	
SGYC	2178	90	P	50	16	Low	INTERLUX ULTRA	Y3559U	NIELSON BEAUMONT	10	2015	57	
SGYC	2184	98	S	38	12.6	Low	INTERLUX ULTRA	Y3669F	SHELTER ISLAND BOAT YARD	02	2018	55	2693-212-AA
SGYC	2194	90	S	32.5	11.9	Low	PETTIT ZSPAR	B-91	DRISCOLL BOAT WORKS	11	2016	65	
SGYC	2219	90	P	37	13	Unknown						65	
SGYC	2225	95	P	50.3	15.7	Low	TRINIDAD HD	1871	SHELTER ISLAND BOAT YARD	01	2020	55	60061-94-ZB
SGYC	2231	98	S	32	10	Low	PETTITE	B-91	DRISCOLL	04	2016	65	
SGYC	2232	100	S	43	12.5	Low	PETTIT TRINIDAD BLUE	1271	SHELTER ISLAND BOAT YARD	04	2021	65	60061-94-ZB
SGYC	2240	99	S	26	8	**NON**	SLIP LINER					0	
SGYC	2240	99	S	34	10	Low				10	1995	65	
SGYC	2247	95	S	40	13.25	**NON**	COPPER COAT	85396-1-AA	BAJA NAVAL ENSENADA MX	05	2020	0	
SGYC	2254	96	S	34.6	11.9	Low	PETTIT TRINIDAD	1271	SHELTER ISLAND BOAT YARD	10	2020	65	60061-94-ZB
SGYC	2258	99	S	32	11	Low	PETTIT SR 60	1032	SHELTER ISLAND BOAT YARD	10	2017	65	
SGYC	2259	95	P	30	10.6	Low	INTERLUX ULTRA KOTE	Y3669U	MARINE GROUP BOAT WORKS	08	2021	55	2693-212-AA
SGYC	2263	100	S	27	9	Low	INTERLUX ULTRA	3669	SHELTER ISLAND BOAT YARD	03	2020	55	2693-212-AA
SGYC	2267	100	S	35	12	Low	PETTIT TRINIDAD	1271	SHELTER ISLAND BOAT YARD	01	2020	65	60061-94-ZB
SGYC	2272	100	S	30	10.1	Low	INTERLUX ULTRA	3669	SHELTER ISLAND BOAT YARD	10	2009	55	
SGYC	2277	100	S	30	10	Low	INTERLUX NAUTICAL	3432	DRISCOLLS MISSION BAY	01	2006	47	
SGYC	2282	95	S	40	11.5	Low	PETTIT TRINIDAD HD	1271	SHELTER ISLAND BOAT YARD	05	2021	65	60061-94-ZB
SGYC	2285	90	S	40	10	Low	INTERLUX ULTRA	Y3669F	SHELTER ISLAND BOAT YARD	01	2017	55	2693-212-AA
SGYC	2285	98.5	S	46.9	14.2	Low	PETTIT ZSPAR	B-94	DRISCOLLS	06	2019	65	60061-49-ZH
SGYC	2292	95	S	32.5	11.7	Low	PETTIT Z-SPAR	B-91	KOEHLER KRAFT	04	2018	65	
SGYC	2308	95	S	32	6.8	Low	PETTIT PROTECTOR	B-91	DRISCOLLS MISSION BAY	08	2019	57	60061-49-ZG
SGYC	2310	100	S	30	10	Unknown						65	
SGYC	2313	**NO BOAT**											
SGYC	2319	98	S	27	8.1	Low	INTERLUX ULTRA	Y3669F	SHELTER ISLAND BOAT YARD	07	2019	55	2693-212-AA
SGYC	2328	95	S	35	12	Low	INTERLUX MICRON EXTRA VOC	5692	DRISCOLL	05	2014	67	
SGYC	2335	90	S	41	12.6	Low	PETTIT	1240	KOHLER KRAFT	06	2020	65	60061-87-ZH
SGYC	2342	99	S	30	10	Low	INTERSLEEK 900	B-91	SHELTER ISLAND BOAT YARD	02	2013	65	
SGYC	2346	90	S	41	12	Low	INERLUX ULTRA	Y3779F	SHELTER ISLAND BOAT YARD	10	2018	55	2693-212-AA
SGYC	2359	90	S	38	12.1	Low	INTERLUX ULTRA KOTE	Y3669F	SHELTER ISLAND BOAT YARD	09	2017	55	2693-212-AA
SGYC	2363	100	P	40	12.2	Low				11	2010	65	
SGYC	2365	50	S	42	12	Low	INTERLUX ULTRA KOTE	Y3779F	KOHLER KRAFT	02	2018	55	2693-212-AA
SGYC	2370	100	S	30	10.6	Unknown						65	
SGYC	2374	99	S	36	12	Low	INTERLUX	Y3669F	SHELTER ISLAND BOAT YARD	05	2013	55	
SGYC	2378	100	S	34.5	12	Low	INTERLUX ULTRA	3669	SHELTER ISLAND BOAT YARD	03	2017	55	

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SGYC	2393	95	S	35	12	Low	INTERLUX ULTRA	Y3669F	SHELTER ISLAND BOAT YARD	04	2019	55	2693-212-AA
SGYC	2398	95	S	31	10.6	Low	PRO LINE	Y1088C-01	SHELTER ISLAND BOAT YARD	07	2015	67	
SGYC	2411	90	P	41	13.9	Unknown						65	
SGYC	2412	95	S	32	10.9	Low	PETTIT TRINIDAD HD	1871	SHELTER ISLAND BOAT YARD	06	2020	65	60061-94-ZB
SGYC	2415	75	P	42	15	Low	PROLINE 1088	Y1088C-01	SHELTER ISLAND BOAT YARD	05	2019	67	557-551-ZD
SGYC	2425	100	S	30	10.3	Low	PETTIT TRINIDAD	1083	SHELTER ISLAND BOAT YARD	08	2020	65	60061-94-ZB
SGYC	2439	100	P	28	10	Low	TRINIDAD HD	1871	SHELTER ISLAND BOAT YARD	09	2020	55	60061-94-ZB
SGYC	2444	85	S	30	10.5	**NON**	INTERLUX	YBA168	SHELTER ISLAND BOAT YARD	01	2014	0	
SGYC	2445	90	S	38	13	Low	INTERLUX ULTRA	3669	SHELTER ISLAND BOAT YARD	07	2015	55	
SGYC	2446	97	S	34	12	Low	PETTIT TRINIDAD	1271	WINDWARD YACHT CENTER MARINA DEL REY	12	2019	65	60061-94-ZB
SGYC	2450	90	S	37	10.1	Low	PRO LINE	Y1088C-01	SHELTER ISLAND BOAT YARD	05	2021	67	557-551-ZD
SGYC	2462	90	S	39.8	12.6	Low	PETTIT TRINIDAD	1671	SHELTER ISLAND BOAT YARD	08	2020	65	60061-94-ZB
SGYC	2463	99	S	32.8	9.15	NON	SLIP LINER					0	
SGYC	2468	90	P	57	14.5	Low	UNKNOWN			01	2013	65	
SGYC	2478	100	S	33	12.6	Low	INTERLUX ULTRA	Y3779F	SHELTER ISLAND BOAT YARD	04	2014	55	2693-212-AA
SGYC	2499	100	S	38	12	Low			SHELTER ISLAND BOAT YARD	01	2012	67	
SGYC	2501	100	P	42	13.6	Low	INTERLUX	Y3779F	SHELTER ISLAND BOAT YARD	07	2013	55	2693-212-AA
SGYC	2508	95	S	51.6	15.3	Low	UNTERLUX ULTRA	Y3779F	SHELTER ISLAND BOAT YARD	11	2017	55	2693-212-AA
SGYC	2512	100	P	43	13.7	Low	Z-SPAR	B-91	KOEHLER KRAFT	01	2017	65	
SGYC	2513	100	S	29	10	Unknown						65	
SGYC	2517	100	S	32	10.6	Low	UNKOWN			05	2007	65	
SGYC	2519	100	P	45.5	13.8	Low	INTERLUX ULTRA	Y3779F	SHELTER ISLAND BOAT YARD	02	2014	55	2693-212-AA
SGYC	2533	100	S	44	14.6	Low	INTERLUXE ULTRA KOTE	Y3669U	SHELTER ISLAND BOAT YARD	06	2018	57	
SGYC	2542	90	S	36	6	Low	TRINIDAD	1875	DRISCOLLS	03	2015	70	
SGYC	2543	100	S	36	10.6	Low	INTERLUX ULTRA KOTE	Y3779U	SHELTER ISLAND BOAT YARD	08	2016	55	
SGYC	2547	90	S	32	JPAU	Low	INTERLUX ULTRA KOTE	Y3559F	SHELTER ISLAND BOAT YARD	07	2017	55	2693-212-AA
SGYC	2555	100	P	27	8.8	Low	PETTIT TRINIDAD HD	1871	SHELTER ISLAND BOAT YARD	06	2020	65	60061-94-ZB
SGYC	2561	98	S	25.11	8	Low	INTERLUX ULTRA KOTE	Y3449U	KOHLER KRAFT	06	2018	57	
SGYC	2564	99	S	30	11	NON	COPPER COAT	85396	DRICOLLS	03	2016	0	
SGYC	2566	100	S	30	10.8	Low	Z-SPAR BOTTOM PRO	41127706	DRISCOLL	09	2017	65	60061-94-ZE
SGYC	2570	90	S	34	11	Low	TRINIDAD PRO HD	1271	SHELTER ISLAND BOAT YARD	06	2020	65	60061-94-ZB
SGYC	2577	100	P	28	9.4	Unknown						65	
SGYC	2589	100	P	32.6	10.6	Unknown						65	
SGYC	2603	100	S	43	14.5	**Low**	UNKNOWN		KNIGHT & CARVER	01	2009	67	
SGYC	2604	95	S	42	13	Low	INTERLUX ULTRA KOTE	Y3669F	SHELTER ISLAND BOAT YARD	02	2017	55	2693-212-AA
SGYC	2617	100	S	31.11	10.1	Low	PCA GOLD RED1.2	60061-101-ZB	DRISCOLL'S MISSION BAY	07	2021	53	60061-101-ZB
SGYC	2628	99	S	42	13.9	Low	INTERLEX ULTRA	Y3779F	KOEHLER KRAFT	06	2018	55	2693-212-AA
SGYC	2629	100	S	30	12	Low	PETTIT TRINIDAD BLUE	1271	SHELTER ISLAND BOAT YARD	10	2020	65	60061-94-ZB
SGYC	2638	100	P	54	14	Low	INTERLUX ULTRA	Y3779F	SHELTER ISLAND BOAT YARD	07	2017	55	2693-212-AA
SGYC	2668	90	S	49	13	**NON**	INTERLUX	YBA168	SHELTER ISLAND BOAT YARD	11	2017	0	
SGYC	2671	100	S	46.3	13.8	Unknown						65	
SGYC	2672	90	S	33.3	10	Low	PRO LINE	Y1088C-01	SHELTER ISLAND BOAT YARD	12	2014	67	
SGYC	2681	100	S	34	11.9	Low	INTERLUX ULTRA	3669	SHELTER ISLAND BOAT YARD	11	2018	55	
SGYC	2684	100	S	39.8	12.8	Low	PETTIT TRINIDAD PRO HD	1083	SHELTER ISLAND BOAT YARD	11	2019	65	60061-94-ZB
SGYC	2687	100	S	37.7	12.8	Low	INTERLUX ULTRA BLACK	3779S	KOEHLER KRAFT	10	2021	55	2693-212-AA
SGYC	2690	100	P	42	13.7	Low	INTERLUX ULTRA	Y3449F	SHELTER ISLAND BOAT YARD	06	2015	55	2693-212-AA
SGYC	2696	90	S	37	11.6	Low	INTERLUX	Y3669F	SHELTER ISLAND BOAT YARD	07	2016	55	2693-212-AA
SGYC	2716	100	P	44	15	Low	TRINIDAD	1871	SHELTER ISLAND BOAT YARD	05	2021	55	60061-94-ZB
SGYC	2723	100	P	50	15	Unknown						65	
SGYC	2738	100	P	30	8.5	Low	PETTIT TRINIDAD BLACK	1828	SHELTER ISLAND BOAT YARD	05	2019	65	60061-94-ZB
SGYC	2741	100	P	42	13.6	Low		UNKNOWN		01	2011	65	
SGYC	2747	50	S	44	12.6	Low	INTERLUX ULTRA	Y3449F	SHELTER ISLAND BOAT YARD	10	2018	55	2693-212-AA
SGYC	2750	100	S	31.3	10.9	Low	INTERLUX	Y3779F	SHELTER ISLAND BOAT YARD	11	2018	55	2693-212-AA
SGYC	2754	**NO BOAT**											
SGYC	2759	95	S	30	10.6	Low	PETTIT TRINIDAD BLUE	1271	SHELTER ISLAND BOAT YARD	07	2019	65	60061-94-ZB
SGYC	2763	75	P	59	18	Low	INTERLUX ULTRA COAT	Y3779U	SHELTER ISLAND BOAT YARD	01	2016	55	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SGYC	2767	100	P	36	12.6	Low	TRINIDAD PRO HD	1271	SHELTER ISLAND BOAT YARD	07	2019	65	60061-94-ZB
SGYC	2786	98	S	36.3	11.9	Low	INTERLUX	YBA470	KOEHLER KRAFT	04	2019	35	2693-187-ZD
SGYC	2789	99	P	28	10	Low	INTERLUX ULTRA	Y3779F	SHELTER ISLAND BOAT YARD	02	2017	55	2693-212-AA
SGYC	2796	100	P	30	10	Unknown						65	
SGYC	2819	100	S	32	11	Low	UNKNOWN				2003	65	
SGYC	2822	100	S	30	9.6	Low			SHELTER ISLAND BOAT YARD	03	2016	UNKNOWN	
SGYC	2832	98	S	30	10	Low	INTERLUX ULTRA	Y3559F	KOEHLER KRAFT	11	2021	55	2693-212-AA
SGYC	2851	100	P	34.5	11.8	Low	ZSPAR BP GOLD	3669	DRISCOLLS	01	2019	55	60061-64-ZE
SGYC	2854	90	S	49.5	14.8	Low	PETTIT TRINIDAD	1671	SHELTER ISLAND BOAT YARD	07	2020	65	60061-94-ZB
SGYC	2855	95	S	34	11.6	Low	PETTIT TRINIDAD	1675	SHELTER ISLAND BOAT YARD	08	2020	65	60061-94-ZB
SGYC	2859	100	P	43	15	Low	INTERLUX ULTRA	Y3669U	DRISCOLLS MISSION BAY	07	2006	55	
SGYC	2875	90	S	34	11	Low	INTERLUX ULTRA	Y3669U	SHELTER ISLAND BOAT YARD	05	2017	57	
SGYC	2884	100	S	34	11	Low	INTERLUX ULTRA	Y3669F	SHELTER ISLAND BOAT YARD	09	2018	55	2693-212-AA
SGYC	2890	100	P	30	11.5	Low	PETTIT TRINIDAD VOC	1278	MARINA SHIPYARD LONG BEACH	3	2017	53	
SGYC	2906	99	S	27	8	Low	INTERLUX ULTRAKOTE	Y3669U	SHELTER ISLAND BOAT YARD	11	2016	57	
SGYC	2913	90	P	50	16	Low	TROPIKOTE - MADE BY SEAHAWK	2141	BAJA NAVAL ENSENADA MX	08	2020	76	44891-10-ZA
SGYC	2914	50	S	44	12.6	Low	INTERLUX ULTRA	Y3449F	SHELTER ISLAND BOAT YARD	10	2018	55	2693-212-AA
SGYC	2922	90	S	36	12	Low	INTERLUX ULTRA BIO LUX	3669	KOEHLER KRAFT	13	2014	55	
SGYC	2924	95	S	31	10.3	Low	Z-SPAR PRO GOLD	411187706	DRISCOLL	02	2018	65	60061-94-ZE
SGYC	2930	99	S	36	11.11	Low	UNKNOWN		SHELTER ISLAND BOAT YARD	03	2007	65	
SGYC	2933	100	P	24	9	Unknown						65	
SGYC	2933	95	S	45	15	Low	PETTIT PROTECTOR	B-91	DRISCOLLS	12	2016	65	
SGYC	2937	100	P	31.6	12	Low	INTERLUX ULTRA BIOLUX	Y3559U	SHELTER ISLAND BOAT YARD	06	2021	57	2693-212-AA
SGYC	2940	100	P	43	14.6	Low	ZSPAR BP GOLD	3669	SHELTER ISLAND BOAT YARD	01	2019	55	60061-64-ZE
SGYC	2945	100	S	36	12	Low	INTERLEX ULTRA	3669	SHELTER ISLAND BOAT YARD	04	2019	55	2693-212-AA
SGYC	2959	100	P	40.3	13.7	Unknown						65	
SGYC	2960	98	S	39.25	12.5	Low	TRINIDAD HD	1871	SHELTER ISLAND BOAT YARD	09	2019	65	60061-94-ZB
SGYC	2961	98	S	37	11.8	Low	PETTIT TRINIDAD	1875	MARINA DEL REY BOAT YARD	05	2015	67	
SGYC	2963	100	S	31	10.7	Unknown						65	
SGYC	2975	100	S	44	14.5	Low	INTERLEX ULTRA	3669	SHELTER ISLAND BOAT YARD	06	2017	55	
SGYC	2982	90	S	30	10.1	Unknown						65	
SGYC	2986	90	S	38	12	Low	PETTIT TRINIDAD	A1108206	DRISCOLLS	09	2016	65	

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SWYC	5000	100	SAIL	40	12	Low	TRINIDAD PRO	A1088G	SI	10	2019	60	60061-94-ZB
SWYC	4998	98	SAIL	51	14	Low	ULTRA	Y3669F	SI	6	2018	55	2693-212-AA
SWYC	4997	100	SAIL	29	10	Low	ULTRA	Y3669F	SI	6	2015	55	2693-212-AA
SWYC	4994	98	SAIL	31	10	Unknown	NOT LISTED ABOVE		Recently Purchased	6	2021	70	
SWYC	4994	98	POWER	36	11	Low	ULTRA	Y3669F	SI	3	2013	55	2693-212-AA
SWYC	4993	81	SAIL	58	20	Low	PRO-LINE 1088	Y1088C-01	SI	4	2018	67	
SWYC	4993	100	SAIL	38	12	Low	TRINIDAD SR	A1877G	SI	6	2021	60	60061-94-ZD
SWYC	4992	88	POWER	40	13	copper	PRO-LINE 1088	Y1088C-02	SI	7	2021	67	
SWYC	4988	100	SAIL	40	11	Low	BLACK WIDOW ULTRA-SLICK RACING	1869	Recently Purchased	11	2020	25	0
SWYC	4987	100	POWER	21	7	Low	ULTRA 3779	3779	SI	9	2018	55	
SWYC	4985	94	SAIL	51	11	copper	BOTTOMKOTE	10397	SI	1	2020	43	
SWYC	4980	92	POWER	57	17	copper	TROPIKOTE	2145GL	Baja Naval ensenada Bc mx	10	2019	76	
SWYC	4978	90	SAIL	34	11	copper	TRINIDAD	1275	SI	7	2021	70	
SWYC	4977	92	OTHER	37	11	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE B-90	B90VOC	Self Applied	2	2020	76	
SWYC	4977	100	SAIL	30	9	Low	PETTIT UNEPOXY TIN-FREE	1628	Self Applied	1	2018	53	
SWYC	4970	85	SAIL	41	13	copper	TRINIDAD PRO	16471732	SI	11	2020	65	
SWYC	4968		Empty Slip										
SWYC	4967	92	SAIL	40	13	Low	ULTRA	Y3669F	SI	6	2018	55	2693-212-AA
SWYC	4966	100	SAIL	45	12	Low	ULTRA	Y3669F	SI	2	2018	55	2693-212-AA
SWYC	4965	98	POWER	27	8	copper	ULTRA-KOTE	Y3779U	SI	9	2020	57	
SWYC	4965	88	OTHER	31	10	Low	TRINIDAD SR	A1688G	SI	1	2020	60	60061-94-ZD
SWYC	4957	98	POWER	25	8	zinc	SHELTER ISLAND	8202	SI	5	2018	0	
SWYC	4953	100	SAIL	56	16	Low	ULTRA-KOTE	Y3449U	SI	2	2017	57	
SWYC	4953	100	SAIL	38	12	Unknown	NOT LISTED ABOVE		SI	8	2019	70	
SWYC	4951	100	SAIL	32	10	Unknown						65	
SWYC	4950	100	POWER	34	11	copper	ULTRA 3669	3669	SI	5	2019	55	
SWYC	4944	94	SAIL	34	11	Low	PROGUARD ABLATIVE	NAU992	SI	7	2015	42	
SWYC	4941	98	POWER	39	14	Low	ULTRA	Y3669F	KK	5	2014	55	2693-212-AA
SWYC	4935	100	SAIL	36	12	Low	ULTRA	Y3669F	KK	6	2019	55	2693-212-AA
SWYC	4934	100	SAIL	32	8	Low	TRINIDAD PRO	A1088G	SI	11	2020	60	60061-94-ZB
SWYC	4934	100	SAIL	49	13	Low	PRO-LINE 1088	Y1088C-02	SI	11	2018	67	
SWYC	4934	100	SAIL	39	11	Low	ULTRA	Y3779F	SI	6	2016	55	2693-212-AA
SWYC	4930	100	POWER	30	8	copper	TRINIDAD	1275	SI	7	2021	70	
SWYC	4928	94	SAIL	34	12	Low	ULTRA	Y3779F	SI	9	2018	55	2693-212-AA
SWYC	4928	94	SAIL	38	11	Low	TRINIDAD SR	A1688G	SI	7	2020	60	60061-94-ZD
SWYC	4925		Empty Slip										
SWYC	4925	100	SAIL	25	9	Low	Z-SPAR BOTTOM PRO GOLD	41127706	Dr SI	6	2015	65	60061-94-ZE
SWYC	4922	98	SAIL	31	10	Low	WEST MARINE BOTTOMSHIELD	411126606	Oxnard Boat Yard	12	2011	29	60061-129-AA
SWYC	4922	100	OTHER	36	12	Low	NOT LISTED ABOVE		Recently Purchased	9	2017	70	
SWYC	4920	98	POWER	31	9	Low	PETTIT UNEPOXY TIN-FREE	1228	Marine Max - Skipper Buds Northpoint IL	9	2021	33	60061-63-AA
SWYC	4919	94	SAIL	37	12	copper	TRINIDAD	1275	SI	2	2020	70	
SWYC	4914		Empty Slip										
SWYC	4911	94	SAIL	31	11	copper	ULTRA 3669	3669	Dr SI	6	2020	55	
SWYC	4910	94	SAIL	38	13	Low	TRINIDAD PRO	A1088G	SI	4	2021	60	60061-94-ZB
SWYC	4906	96	SAIL	41	13	copper	TRINIDAD	1875	SI	2	2020	70	
SWYC	4903	96	SAIL	30	11	Low	NOT LISTED ABOVE		Dr SI	8	2014	70	
SWYC	4900	100	SAIL	43	14	Low	ULTRA	Y3669F	SI	7	2021	55	2693-212-AA
SWYC	4896	96	POWER	38	13	Low	ULTRA	Y3779F	SI	2	2014	55	2693-212-AA
SWYC	4896	100	POWER	14	7	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	KK	11	2019	65	
SWYC	4895		POWER	24	0	Unknown						65	
SWYC	4887	98	POWER	48	14	Unknown	NOT LISTED ABOVE		SI	3	2021	70	
SWYC	4887	100	OTHER	30	11	copper	ULTRA 3779	3779	SI	9	2019	55	
SWYC	4887	100	OTHER	43	12	Low	PETTIT UNEPOXY TIN-FREE	1628	Self Applied	1	2018	53	
SWYC	4880	98	POWER	54	15	Unknown	NOT LISTED ABOVE		SI	8	2019	70	
SWYC	4880	100	POWER	62	19	Low	ULTRA 3669	3669	SI	08	2018	55	
SWYC	4880	96	SAIL	41	13	Unknown	NOT LISTED ABOVE		Dr SI	7	2019	70	
SWYC	4879	81	POWER	42	14	Low	ULTRA	Y3669F	SI	2	2017	55	2693-212-AA

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SWYC	4878	100	SAIL	24	7	Low	ULTRA	Y3669F	Self Applied	4	2014	55	2693-212-AA
SWYC	4877	96	POWER	24	9	Low	BOTTOMKOTE NT	YBB379	Dr SI	7	2017	25	2693-228-AA
SWYC	4876		POWER	40	13	Unknown						65	
SWYC	4876	94	DINGY	10	6	Low	PETTIT FOR INFLATABLE BOATS	1841	Dinghy Doctor	1	2020	40	60061-87-ZM
SWYC	4866	92	OTHER	25	9	Unknown	NOT LISTED ABOVE		Oceanside Marine	7	2020	70	
SWYC	4864		Empty Slip										
SWYC	4863	100	OTHER	22	8	zinc	MISSION BAY 4000 SERIES	4010	Inflatable Boat Specialties in Newport Beach	4	2020	0	
SWYC	4862	87	SAIL	38	11	Unknown	NOT LISTED ABOVE		SI	7	2021	70	
SWYC	4861	71	POWER	22	9	Low	BLACK WIDOW ULTRA-SLICK RACING	1869	SI	3	2021	25	
SWYC	4861	98	SAIL	43	14	copper	ULTRA-KOTE	Y3669U	SI	1	2020	57	
SWYC	4859	100	SAIL	40	13	Low	ULTRA-KOTE	Y3669U	SI	7	2016	57	
SWYC	4858	100	POWER	32	10	Low	ULTRA	Y3669F	Dr MB	8	2020	55	2693-212-AA
SWYC	4858	100	SAIL	34	11	Low	Z-SPAR BOTTOM PRO GOLD	41127706	Dr SI	2	2020	65	60061-94-ZE
SWYC	4857	98	POWER	34	12	Unknown	NOT LISTED ABOVE		Cabo	9	2020	70	
SWYC	4857	98	SAIL	33	11	Low	ULTRA-KOTE 2669N	2669N	MG	3	2018	67	
SWYC	4853	100	POWER	31	9	non-biocide	PCM MARINE-RC		NB	11	2017	0	
SWYC	4843	100	SAIL	33	9	Low	ULTRA	Y3779F	SI	2	2019	55	2693-212-AA
SWYC	4842	90	SAIL	43	13	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-94	Dr SI	5	2019	65	
SWYC	4825	85	POWER	46	15	zinc	VIVID FREE	1862	SI	3	2019	0	
SWYC	4824	98	SAIL	30	12	Low	TRINIDAD PRO	A10882	SI	10	2019	60	60061-94-ZB
SWYC	4821	100	SAIL	41	14	copper	TRINIDAD SR 1877GA	1877GA	SI	7	2020	65	
SWYC	4819	92	OTHER	34	11	Low	BLACK WIDOW ULTRA-SLICK RACING	1869	Diversified Composites Long Beach	4	2021	25	
SWYC	4818	98	SAIL	31	12	zinc	SHELTER ISLAND PLUS	8204	SI	9	2018	0	
SWYC	4816	88	SAIL	44	13	Low	ULTRA	Y3779F	SI	1	2018	55	2693-212-AA
SWYC	4812	98	POWER	41	12	Low	ULTRA	Y3779F	SI	7	2020	55	2693-212-AA
SWYC	4807	98	SAIL	35	12	Low	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	Dr SI	9	2018	65	
SWYC	4806	90	SAIL	30	10	Low	PRO-LINE 1088	Y1088C-02	SI	10	2018	67	
SWYC	4805	94	POWER	43	13	copper	TRINIDAD SR 1877GA	1877GA	SI	2	2021	65	
SWYC	4805	88	POWER	52	16	Low	ULTRA	Y3779F	MG	8	2021	55	2693-212-AA
SWYC	4805	100	SAIL	34	11	Low			SI	1	2008	65	
SWYC	4804	96	SAIL	34	11	non-biocide	CERAM-KOTE 99	99M	Dr SI	5	2019	0	
SWYC	4796	98	SAIL	35	12	Low	PETTIT UNEPOXY TIN-FREE	1228	Recently Purchased	2	2021	33	60061-63-AA
SWYC	4791	96	POWER	33	9	Low	ULTRA-KOTE	Y3779U	Westcoast marine	7	2016	57	
SWYC	4789	100	POWER	22	9	copper	RUST-OLEUM MARINE COATINGS	207012	SI	9	2020	46	
SWYC	4782	31	OTHER	34	11	Low	CALIFORNIA BOTTOMKOTE	YBA143	SI	3	2018	35	2693-18-ZA
SWYC	4781	98	POWER	37	11	copper	TRINIDAD SR 1877GA	1877GA	SI	12	2020	65	
SWYC	4778	94	SAIL	37	12	Low	PRO-LINE 1088	Y1088C-01	SI	5	2010	67	
SWYC	4772	98	OTHER	33	11	Low	NOT LISTED ABOVE		Recently Purchased	12	2015	70	
SWYC	4764	100	SAIL	32	11	Low	Z-SPAR BOTTOM PRO GOLD	411187706	Dr SI	10	2019	65	60061-94-ZE
SWYC	4764	92	SAIL	41	14	copper	PRO-LINE 1088	Y1088C-01	SI	9	2019	67	
SWYC	4762	96	POWER	46	15	Low	BOTTOMKOTE CLASSIC	YBB669G	KK	6	2015	35	2693-18-ZB
	4762												
SWYC	4758	98	SAIL	41	12	Low	TRINIDAD PRO	A10882	SI	3	2020	60	60061-94-ZB
SWYC	4753	100	POWER	36	12	Low	PRO-LINE 1088	Y1088C-01	MG	7	2016	67	
SWYC	4751	96	SAIL	36	12	copper	TRINIDAD	1275	SI	5	2020	70	
SWYC	4750		Empty Slip										
SWYC	4748	85	POWER	40	14	copper	BOTTOMKOTE	10397	SI	6	2020	43	
SWYC	4743	100	POWER	25	0	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	Aquarius	1	2021	65	
SWYC	4741	100	OTHER	30	11	copper	TRINIDAD	1875	SI	6	2019	70	
SWYC	4740	96	OTHER	27	9	copper	AWLGRIP AWLSTAR GOLD LABEL	BP201	SI	9	2020	40	
SWYC	4739	100	POWER	32	11	Low	ULTRA	Y3449F	SI	1	2019	55	2693-212-AA
SWYC	4739	98	SAIL	37	11	Low	TRINIDAD PRO	A1088G	SI	8	2021	60	60061-94-ZB
SWYC	4737	100	POWER	32	12	Low	ULTRA-KOTE	Y3779U	SI	7	2017	57	
SWYC	4733	96	OTHER	30	11	copper	TRINIDAD	1875	SI	7	2019	70	
SWYC	4727	100	SAIL	20	5	Unknown						65	
SWYC	4726	100	SAIL	31	11	Low	ULTRA	Y3779F	SI	6	2021	55	2693-212-AA

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SWYC	4722	100	POWER	26	9	copper	ULTRA-KOTE	Y3669U	SI	10	2020	57	
SWYC	4710	96	POWER	48	15	Low	ULTRA	Y3779F	SI	2	2018	55	2693-212-AA
SWYC	4707	62	SAIL	33	8	Low	VC-OFFSHORE	V118	Self Applied	11	2020	41	
SWYC	4703	100	POWER	35	12	Low	ULTRA	Y3449F	SI	4	2016	55	2693-212-AA
SWYC	4701	100	POWER	33	11	Low	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-94	Dr SI	7	2014	65	
SWYC	4697	98	POWER	58	16	Low	ULTRA 3779	3779	Dr SI	7	2018	55	
SWYC	4693	100	SAIL	38	12	Low	ULTRA	Y3669F	SI	4	2010	55	2693-212-AA
SWYC	4688	94	SAIL	31	11	Low	ULTRA	Y3669F	SI	10	2014	55	2693-212-AA
SWYC	4686	100	POWER	37	11	Unknown	NOT LISTED ABOVE		SI	3	2021	70	
SWYC	4683	100	POWER	29	8	Unknown	NOT LISTED ABOVE		SI	3	2019	70	
SWYC	4683	100	SAIL	20	8	Low	ULTRA	Y3669F	Self Applied	2	2011	55	2693-212-AA
SWYC	4679	100	SAIL	30	10	Low	TRINIDAD	1275	Dr SI	5	2008	70	
SWYC	4678	96	POWER	32	13	Low	TRINIDAD PRO	A10883	SI	7	2021	60	60061-94-ZB
SWYC	4675	94	OTHER	24	9	Unknown	NOT LISTED ABOVE		Recently Purchased	10	2020	70	
SWYC	4674	92	SAIL	32	8	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	3	2015	33	60061-63-AA
SWYC	4670	98	SAIL	48	13	Low	ULTRA 3669	3669	SI	9	2015	55	
SWYC	4666	90	POWER	40	13	Low	ULTRA	Y3669F	SI	7	2015	55	2693-212-AA
SWYC	4665	94	SAIL	36	12	Low	ULTRA	Y3669F	SI	6	2017	55	2693-212-AA
SWYC	4659	96	POWER	39	11	copper	TRINIDAD	1275	SI	1	2021	70	
SWYC	4658	92	SAIL	43	13	Low	ULTRA	Y3779F	SI	6	2018	55	2693-212-AA
SWYC	4658	52	OTHER	18	1	Low	AQUAGARD WATERBASE	10103	MG	6	2018	26	9339-19-AA-70383
SWYC	4656		OTHER	42	12	Unknown						65	
SWYC	4656	94	POWER	30	10	copper	ULTRA-KOTE	Y3669U	Self Applied	3	2021	57	
SWYC	4651	100	SAIL	33	8	Low	ULTRA 3779	3779	SI	8	2018	55	
SWYC	4649	96	POWER	44	14	copper	ULTRA 3779	3779	Recently Purchased	10	2020	55	
SWYC	4644	96	POWER	37	13	Low	TRINIDAD SR	A1277Q	SI	7	2019	60	60061-94-ZD
SWYC	4643	98	POWER	41	12	copper	PETTIT UNEPOXY TIN-FREE	1628	SI	11	2019	53	
SWYC	4640	100	OTHER	29	9	Low	TRILUX 33	YBA063	Kulick Rpair	5	2016	17	2693-203-ZB
SWYC	4638	96	SAIL	34	1	Low	ULTRA	Y3669F	Dr SI	5	2021	55	2693-212-AA
SWYC	4635		Empty Slip										
SWYC	4634	94	POWER	45	14	copper	ULTRA-KOTE	Y3669U	SI	2	2019	57	
SWYC	4632	88	SAIL	51	16	Low	BOTTOMKOTE Y999	Y999	SI	10	2016	43	
SWYC	4631	100	SAIL	27	10	Low	Z-SPAR BOTTOM PRO GOLD	41127706	Dr SI	12	2018	65	60061-94-ZE
SWYC	4631	98	POWER	32	9	Low	WEST MARINE BOTTOMSHIELD	411186606	Self Applied	6	2021	29	60061-129-AA
SWYC	4630	98	SAIL	30	11	Low	ULTRA	Y3669F	SI	7	2020	55	2693-212-AA
SWYC	4630	100	POWER	39	13	Low	ULTRA	Y3779F	SI	12	2017	55	2693-212-AA
SWYC	4627	92	POWER	36	12	Low	MICRON 66	YBA473	SI	7	2019	35	2693-187-ZG
SWYC	4626	100	SAIL	33	12	copper	TRINIDAD	1875	SI	11	2019	70	
SWYC	4619	88	SAIL	30	11	Low	ULTRA	Y3669F	SI	6	2018	55	2693-212-AA
SWYC	4618	98	SAIL	35	10	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	Dr SI	2	2020	65	
SWYC	4617	100	POWER	47	15	Unknown						65	
SWYC	4616	100	SAIL	36	12	Low	ULTRA	Y3669F	MG	9	2019	55	2693-212-AA
SWYC	4605	98	POWER	48	14	Low	ULTRA	Y3669F	KK	1	2016	55	2693-212-AA
SWYC	4603	25	SAIL	45	12	Low	TRINIDAD	1275	Self Applied	10	2014	70	
SWYC	4601	100	POWER	39	13	Low	TRINIDAD SR	A1277Q	SI	6	2019	60	60061-94-ZD
SWYC	4601	92	SAIL	44	13	non-biocide	CERAM-KOTE 99	99M	SI	3	2017	0	
SWYC	4600	100	SAIL	34	11	Low	ULTRA-KOTE 2779N	2779N	Cruising Yachts	6	2016	67	
SWYC	4595	94	SAIL	50	13	Low	VIVID	11161	SI	9	2018	25	60061-116-AA
SWYC	4594	100	SAIL	33	11	Unknown	NOT LISTED ABOVE		Recently Purchased	4	2021	70	
SWYC	4587	90	SAIL	34	12	Low	Z-SPAR BOTTOM PRO GOLD	411167706	Dr SI	8	2018	65	60061-94-ZE
SWYC	4585	96	SAIL	49	9	copper	PRO-LINE 1088	Y1088C-01	KK	6	2019	67	
SWYC	4584	100	POWER	30	11	non-biocide	INTERSLEEK 900	FXA970/A	SI	1	2013	0	
SWYC	4583	98	POWER	49	15	Low	ULTRA	Y3669F	SI	6	2019	55	2693-212-AA
SWYC	4581	100	POWER	44	14	Low	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	KK	7	2017	65	
SWYC	4581	96	POWER	36	13	Low	ULTRA 3669	3669	SI	8	2018	55	
SWYC	4581	94	POWER	26	9	Low	NOT LISTED ABOVE		Recently Purchased	6	2015	70	

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SWYC	4577	100	POWER	32	10	Low	ULTRA-KOTE	Y3779U	SI	5	2016	57	
SWYC	4576	92	SAIL	34	11	Low	Z-SPAR BOTTOM PRO GOLD	411187706	SI	1	2021	65	60061-94-ZE
SWYC	4572		Empty Slip										
SWYC	4570	100	POWER	46	14	Unknown	NOT LISTED ABOVE		Recently Purchased	3	2021	70	
SWYC	4566	100	SAIL	33	11	Low	Z-SPAR BOTTOM PRO GOLD	411187706	Dr SI	11	2018	65	60061-94-ZE
SWYC	4565	100	SAIL	33	11	Low	ACT WITH SLIME FIGHTER	7790b	Dr SI	4	2017	30	
SWYC	4561		SAIL	47	14	Unknown						65	
SWYC	4560	90	POWER	35	12	copper	ULTRA-KOTE	Y3669U	Dr MB	4	2020	57	
SWYC	4559	96	OTHER	23	8	Low	CALIFORNIA BOTTOMKOTE	YBA143	SI	8	2017	35	2693-18-ZA
SWYC	4555	98	SAIL	30	9	Low	ULTRA	Y3669F	SI	4	2019	55	2693-212-AA
SWYC	4545	100	POWER	41	13	Unknown	NOT LISTED ABOVE		Dr SI	3	2019	70	
SWYC	4544	96	SAIL	34	11	Low	ULTRA 3669	3669	SI	6	2016	55	
SWYC	4540	96	SAIL	33	10	Low	VC-OFFSHORE	V118	KK	11	2017	41	
SWYC	4540		POWER	29	10	Unknown						65	
SWYC	4536	100	SAIL	36	12	Low	WEST MARINE PCA GOLD! ABLATIVE	A411129806	SI	6	2020	48	60061-117-ZD
SWYC	4534	100	POWER	24	8	copper	PRO-LINE 1088	Y1088C-02	SI	4	2019	67	
SWYC	4530	96	SAIL	39	12	copper	PETTIT UNEPOXY TIN-FREE	1628	guymas boat yard workers	8	2020	53	
SWYC	4530	100	POWER	22	10	Low	CALIFORNIA BOTTOMKOTE	YBA143	Dr SI	7	2021	35	2693-18-ZA
SWYC	4529	96	POWER	42	13	Low	ULTRA	Y3449F	Dr SI	1	2021	55	2693-212-AA
SWYC	4529	100	POWER	33	10	Low			Recently Purchased	10	2016	65	
SWYC	4528	85	POWER	45	14	Low	TRINIDAD	1875	Dr SI	3	2017	70	
SWYC	4527	98	POWER	28	11	Unknown	NOT LISTED ABOVE		Recently Purchased	6	2019	70	
SWYC	4519	100	SAIL	32	8	Low	ULTRA	Y3669F	SI	10	2013	55	2693-212-AA
SWYC	4519	92	POWER	33	13	Low	PRO-LINE 1088	Y1088C-02	SI	1	2018	67	
SWYC	4512	98	POWER	38	14	Low	ULTRA	Y3669F	SI	2	2019	55	2693-212-AA
SWYC	4508	100	SAIL	36	13	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	3	2020	33	60061-63-AA
SWYC	4501	90	POWER	36	13	copper	ULTRA 3779	3779	SI	10	2020	55	
SWYC	4499	100	POWER	34	11	Low	ULTRA	Y3669F	SI	11	2017	55	2693-212-AA
SWYC	4498	96	SAIL	38	12	Low	ULTRA	Y3779F	SI	6	2020	55	2693-212-AA
SWYC	4496	85	POWER	31	9	Low	PRO-LINE 1088	Y1088C-01	SI	5	2017	67	
SWYC	4496	100	SAIL	25	8	Unknown	NOT LISTED ABOVE		Recently Purchased	10	2019	70	
SWYC	4495	94	POWER	37	12	copper	TRINIDAD PRO	A1108206	SI	2	2020	65	
SWYC	4494	100	POWER	37	12	Low	NOT LISTED ABOVE		Recently Purchased	10	2017	70	
SWYC	4493	92	POWER	40	13	Low	ULTRA	Y3669F	SI	10	2018	55	2693-212-AA
SWYC	4493	88	SAIL	54	11	Low	TRINIDAD SR	A1277Q	SI	9	2017	60	60061-94-ZD
SWYC	4478	90	POWER	28	9	Unknown	NOT LISTED ABOVE		Recently Purchased	7	2021	70	
SWYC	4475	98	SAIL	29	8	Low	ULTRA	Y3669F	SI	7	2016	55	2693-212-AA
SWYC	4472	98	SAIL	34	11	copper	ULTRA-KOTE	Y3449U	KK	8	2020	57	
SWYC	4472	98	SAIL	34	11	Low	TRINIDAD PRO	A10882	SI	10	2019	60	60061-94-ZB
SWYC	4466		POWER	27	9	Unknown						65	
SWYC	4466	100	POWER	36	11	Unknown	NOT LISTED ABOVE		Recently Purchased	10	2019	70	
SWYC	4463		Empty Slip										
SWYC	4463		Empty Slip										
SWYC	4461	98	POWER	71	13	Low	ULTRA	Y3669F	KK	12	2013	55	2693-212-AA
SWYC	4460	81	POWER	70	14	Low	TRINIDAD SR	A1877G	SI	2	2021	60	60061-94-ZD
SWYC	4459	100	POWER	26	9	copper	TRINIDAD PRO	16471732	SI	6	2019	65	
SWYC	4456	94	SAIL	28	9	Low	ULTRA-KOTE	Y3669U	Dr MB	2	2018	57	
SWYC	4453	85	OTHER	44	13	non-biocide	HEMPASIL X3	19990	Manufacture	5	2019	0	
SWYC	4450	62	SAIL	28	9	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	SI	7	2020	65	
SWYC	4444		POWER	35	13	Unknown						65	
SWYC	4439	98	SAIL	31	10	Low	Z-SPAR BOTTOM PRO GOLD	41127706	KK	11	2015	65	60061-94-ZE
SWYC	4439	94	POWER	43	15	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	11	2020	33	60061-63-AA
SWYC	4439	98	POWER	41	14	copper	ULTRA 3669	3669	SI	4	2019	55	
SWYC	4437	100	SAIL	40	13	Low	PRO-LINE 1088	Y1088C-02	MG	4	2017	67	
SWYC	4434	92	SAIL	37	12	Low	ULTRA	Y3779F	SI	5	2018	55	2693-212-AA
SWYC	4432	100	POWER	38	12	Low	PRO-LINE COMMERCIAL MARINE FINISHES VINYL	1088C-01	SI	12	2018	67	
SWYC	4430	96	OTHER	32	6	copper	ULTRA 3779	3779	KK	7	2020	55	

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SWYC	4425	98	POWER	26	8	Low	TRINIDAD PRO	A1088G	SI	4	2021	60	60061-94-ZB
SWYC	4416	85	POWER	37	12	Low	ULTRA 3779	3779	SI	3	2018	55	
SWYC	4411	98	SAIL	22	0	low copper	MICRON CSC	5580G	KK	1	2021	37	
SWYC	4408	98	SAIL	33	6	copper	TRINIDAD VOC	1278	SI	4	2021	65	
SWYC	4403	90	SAIL	34	11	copper	PRO-LINE 1088	Y1088C-01	SI	2	2020	67	
SWYC	4402	96	SAIL	31	9	Low	ULTRA	Y3779F	SI	9	2018	55	2693-212-AA
SWYC	4400	96	SAIL	35	11	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	11	2020	33	60061-63-AA
SWYC	4399	85	POWER	44	14	Low	TRINIDAD SR	A1277Q	Self Applied	11	2017	60	60061-94-ZD
SWYC	4399	100	POWER	33	11	Low	TRINIDAD	1875	Recently Purchased	7	2018	70	
SWYC	4397	98	POWER	22	7	Low	INTERCLENE 245 NA	BRA570	SI	7	2017	27	2693-132-ZX
SWYC	4395	98	POWER	41	13	Low	ULTRA	Y3779F	SI	11	2014	55	2693-212-AA
SWYC	4395	94	SAIL	42	13	zinc	SHELTER ISLAND	8201	SI	6	2020	0	
SWYC	4391	77	SAIL	37	11	Low	TRINIDAD PRO	A10882	SI	8	2019	60	60061-94-ZB
SWYC	4387		POWER	25	9	Unknown						65	
SWYC	4387	100	SAIL	35	13	Low	ULTRA	Y3779F	SI	9	2020	55	2693-212-AA
SWYC	4382	94	SAIL	34	11	Low	ULTRA 3669	3669	Dr SI	12	2013	55	
SWYC	4379	98	SAIL	26	7	copper	HYDROCOAT ABLATIVE	1640	KK	6	2021	40	
SWYC	4377	100	OTHER	43	14	Low	Z-SPAR BOTTOM PRO GOLD	411187706	Dr SI	9	2014	65	60061-94-ZE
SWYC	4377	98	POWER	62	16	Low	TRINIDAD VOC	1878	KK	4	2015	65	
SWYC	4377	96	SAIL	37	12	Low	ULTRA-KOTE	Y3669U	SI	8	2016	57	
SWYC	4376	94	POWER	30	11	copper	TRINIDAD PRO	16471757	SI	3	2021	65	
SWYC	4375	98	SAIL	30	10	Low	ULTRA	Y3669F	SI	11	2018	55	2693-212-AA
SWYC	4374	96	POWER	63	15	Low	AF33	3345	Dr SI	6	2013	33	44891-12-AA
SWYC	4369	94	SAIL	28	10	Low	TRILUX 33	YBA063	h&h MARINE	7	2021	17	2693-203-ZB
SWYC	4365	94	POWER	34	9	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	3	2021	33	60061-63-AA
SWYC	4364	98	POWER	51	16	Low	ULTRA-KOTE	Y3779U	SI	4	2017	57	
SWYC	4363	85	POWER	44	14	Low	BOTTOMKOTE ACT WITH IRGAROL	6690B	Dr SI	8	2011	30	2693-227-AA
SWYC	4362	100	SAIL	27	9	Low	Z-SPAR BOTTOM PRO GOLD	41127706	Dr SI	1	2019	65	60061-94-ZE
SWYC	4361	92	SAIL	33	11	Low	ULTRA	Y3669F	SI	10	2020	55	2693-212-AA
SWYC	4358	96	SAIL	42	14	Low	Z-SPAR BOTTOM PRO GOLD	41127706	Dr SI	6	2019	65	60061-94-ZE
SWYC	4356	96	OTHER	30	10	Low	WEST MARINE PCA GOLD! PREMIUM ABLATIVE	A411169806	Dr SI	12	2020	40	60061-117-ZD
	4353												
SWYC	4347	100	POWER	25	8	Low	ULTRA 3669	3669	SI	9	2018	55	
SWYC	4346		SAIL	30	8	Unknown						65	
SWYC	4339	96	SAIL	40	13	Low	TRINIDAD PRO	A1088G	SI	4	2021	60	60061-94-ZB
SWYC	4339	98	POWER	43	14	copper	BOTTOMKOTE	10397	SI	7	2021	43	
SWYC	4334	100	POWER	71	19	Unknown	NOT LISTED ABOVE		Recently Purchased	10	2021	70	
SWYC	4333	100	POWER	48	16	Low	PRO-LINE 1088	Y1088C-01	SI	5	2015	67	
SWYC	4333	100	SAIL	33	11	Low	Z-SPAR BOTTOM PRO GOLD	411187706	Dr SI	6	2019	65	60061-94-ZE
SWYC	4331	98	SAIL	44	12	Low	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	KK	7	2017	65	
SWYC	4327	92	SAIL	35	11	Low	PROGUARD ABLATIVE	NAU993	KK	10	2018	42	
SWYC	4325	94	POWER	62	17	copper	ULTRA 3779	3779	Dr MB	7	2020	55	
SWYC	4324	96	POWER	41	13	Unknown	NOT LISTED ABOVE		SI	11	2020	70	
SWYC	4318		POWER	35	9	Unknown							
SWYC	4314	81	SAIL	42	13	Low	ULTRA	Y3779F	SI	4	2021	55	2693-212-AA
SWYC	4312	100	POWER	22	9	Low	ULTRA	Y3449F	KK	8	2018	55	
SWYC	4312	100	POWER	23	8	Low	PRO-LINE 1088	Y1088C-02	SI	12	2016	67	
SWYC	4310	100	POWER	42	14	Low	ULTRA	Y3779F	SI	1	2021	55	2693-212-AA
SWYC	4310	87	POWER	53	13	Low	Z-SPAR BOTTOM PRO GOLD	411167706	Ventura Harbor Boatyard	9	2020	65	60061-94-ZE
SWYC	4308	96	POWER	35	10	Low	ULTRA	Y3449F	Dr MB	10	2020	55	2693-212-AA
SWYC	4298	92	POWER	58	16	Low	TRINIDAD SR	A1277Q	SI	7	2020	60	60061-94-ZD
SWYC	4298	96	POWER	24	10	non-biocide	NO PAINT - UNPAINTED		Recently Purchased	10	2021	0	
SWYC	4292	94	OTHER	36	13	copper	ULTRA-KOTE	Y3779U	SI	8	2021	57	
SWYC	4290	100	SAIL	28	6	copper	ULTRA 3449	3449	SI	9	2019	55	
SWYC	4283	92	OTHER	46	13	Low	TRINIDAD SR	A1877G	Self Applied	11	2017	60	60061-94-ZD
SWYC	4283	77	OTHER	12	12	copper	PRO-LINE 1088	Y1088C-01	Self Applied	1	2019	67	
SWYC	4282	98	POWER	13	6	Unknown	NOT LISTED ABOVE		Recently Purchased	6	2019	70	

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SWYC	4276	94	POWER	41	13	Low	ULTRA-KOTE	Y3779U	Balboa Boat Yard-Newport Beach	10	2018	57	
SWYC	4273		POWER	26	9	Unknown						65	
SWYC	4270		POWER	42	14	Unknown						65	
SWYC	4264	98	POWER	28	9	copper	TRINIDAD VOC	1278	SI	5	2019	65	
SWYC	4264	96	OTHER	32	12	copper	TRINIDAD	1275	SI	11	2020	70	
SWYC	4264	100	POWER	37	12	Low	ULTRA 3669	3669	SI	10	2018	55	
SWYC	4263	100	POWER	35	10	Unknown			Recently Purchased			65	
SWYC	4261	98	SAIL	35	11	Low	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-94	Dr SI	5	2018	65	
SWYC	4260	100	SAIL	31	9	Low	ULTRA	Y3449F	SI	1	2021	55	2693-212-AA
SWYC	4257	96	SAIL	39	12	copper	PRO-LINE 1088	Y1088C-01	KK	7	2021	67	
SWYC	4251	100	SAIL	34	11	Low	PRO-LINE 1088	Y1088C-01	KC	9	2010	67	
SWYC	4248	100	POWER	37	12	non-biocide	NO PAINT - UNPAINTED		unknown	1	2015	0	
SWYC	4247	100	OTHER	31	10	copper	TRINIDAD	1875	SI	8	2020	70	
SWYC	4246	98	SAIL	51	12	Low	ULTRA	Y3449F	SI	6	2014	55	2693-212-AA
SWYC	4245	92	POWER	41	13	copper	ULTRA-KOTE	Y3669U	SI	11	2020	57	
SWYC	4244	96	SAIL	34	10	Low	TRINIDAD PRO	A10883	SI	2	2021	60	60061-94-ZB
SWYC	4243	81	SAIL	37	12	Low	TRINIDAD PRO	A10882	SI	9	2021	60	60061-94-ZB
SWYC	4240	87	POWER	25	7	Low	INTERSPEED 6400NA	BQA679/5GL	SI	9	2018	38	2693-132-ZY
SWYC	4239		Empty Slip										
SWYC	4237		Empty Slip										
SWYC	4236	29	POWER	44	13	copper	PETTIT UNEPOXY TIN-FREE	1628	SI	4	2021	53	
SWYC	4234	81	SAIL	47	11	Low	PRO-LINE 1088	Y1088C-01	Self Applied	10	2018	67	
SWYC	4230	98	OTHER	22	8	copper	ULTRA 3449	3449	SI	6	2019	55	
SWYC	4229	100	POWER	24	11	Low			Recently Purchased	8	2016	65	
SWYC	4225		SAIL	36	12	Unknown						65	
SWYC	4223	96	SAIL	30	11	Low	ULTRA	Y3669F	SI	6	2021	55	2693-212-AA
SWYC	4223	50	SAIL	25	9	Low	MICRON CSC	5584G	Self Applied	10	2019	37	
SWYC	4220	98	SAIL	43	12	Low	TRINIDAD PRO	A1088G	SI	7	2019	60	60061-94-ZB
SWYC	4214	98	POWER	43	13	Low	PRO-LINE 1088	Y1088C-01	SI	5	2018	67	
SWYC	4207	100	SAIL	34	11	Low	ULTRA 3449	3449	SI	7	2018	55	
SWYC	4206	100	OTHER	46	14	Unknown	NOT LISTED ABOVE		Recently Purchased	12	2019	70	
SWYC	4205	94	SAIL	36	12	non-biocide	INTERSLEEK 900	FXA979/A	SI	8	2013	0	
SWYC	4203	92	POWER	21	8	Low	ULTRA	Y3779F	SI	5	2017	55	2693-212-AA
SWYC	4195	92	SAIL	46	14	Low	TRINIDAD PRO	A10882	SI	6	2021	60	60061-94-ZB
SWYC	4193	98	POWER	48	14	non-biocide	INTERSLEEK 900	FXA970/A	SI	4	2013	0	
SWYC	4185	100	SAIL	32	10	organic biocide	ULTIMA ECO	1608	Ventura Harbor BY	7	2012	0	
SWYC	4180	98	SAIL	47	13	Low	ULTRA	Y3779F	KK	4	2015	55	2693-212-AA
SWYC	4176	100	SAIL	35	12	Low	ULTRA-KOTE 2669N	2669N	SI	4	2017	67	
SWYC	4174	96	SAIL	31	11	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	4	2021	33	
SWYC	4173	92	POWER	40	13	Low	ULTRA 3779	3779	SI	7	2018	55	
SWYC	4172	98	SAIL	27	8	copper	PRO-LINE 1088	Y1088C-03	SI	5	2010	67	
SWYC	4171	100	SAIL	33	9	copper	ULTRA 3779	3779	KK	10	2020	55	
SWYC	4169	98	SAIL	35	10	Low	PRO-LINE COMMERCIAL MARINE FINISHES VINYL	1088C-02	Recently Purchased	7	2018	56	
SWYC	4168	100	SAIL	29	8	non-biocide	NO PAINT - UNPAINTED		SI	5	2000	0	
SWYC	4166	85	POWER	55	15	Low	ULTRA	Y3779F	SI	7	2021	55	2693-212-AA
SWYC	4166	98	OTHER	21	8	Low	BOTTOMKOTE PRO	79	Dr SI	10	2019	22	
SWYC	4161	60	SAIL	24	10	Low	NOT LISTED ABOVE		Self Applied	1	2016	70	
SWYC	4160	100	SAIL	30	11	Low	ULTRA-KOTE	Y3669U	SI	7	2016	57	
SWYC	4159	92	POWER	47	14	Unknown	NOT LISTED ABOVE		SI	6	2020	70	
SWYC	4156	96	SAIL	37	12	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	KK	11	2020	65	
SWYC	4149	98	SAIL	33	9	copper	ULTRA 3779	3779	KK	10	2020	55	
SWYC	4147	100	SAIL	30	10	Low	TRINIDAD SR	A1877G	SI	7	2020	60	60061-94-ZD
SWYC	4147	62	SAIL	40	12	Low	TRINIDAD PRO	A1088G	La Cruz Nayarit Mexico Boatyard	8	2018	60	60061-94-ZB
SWYC	4144	98	SAIL	40	13	copper	ULTRA 3669	3669	Dr SI	3	2021	55	
SWYC	4143	100	OTHER	34	34	Unknown	NOT LISTED ABOVE		Recently Purchased	3	2020	70	
SWYC	4140	81	POWER	52	17	Low	TRI-LUX III WITH BIO-LUX 5490	5490	Recently Purchased	8	2021	23	2693-181-AA
SWYC	4140	94	SAIL	36	12	Low	ULTRA	Y3669F	MG	5	2020	55	2693-212-AA

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SWYC	4134	94	POWER	41	14	Low	SEAGUARD ABLATIVE	P30BQ12	Delta Boat Works. Isleton, Ca	7	2018	48	
SWYC	4128	100	SAIL	47	13	Low	Z-SPAR BOTTOM PRO GOLD	411187706	Dr SI	3	2015	65	60061-94-ZE
SWYC	4127	98	POWER	36	12	Low	ULTRA	Y3779F	SI	8	2017	55	2693-212-AA
SWYC	4124	96	SAIL	37	12	Low	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-91	SI	7	2017	65	
SWYC	4121	100	SAIL	43	14	Low	ULTRA	Y3669F	KK	10	2019	55	2693-212-AA
SWYC	4121	94	SAIL	38	12	Low	ULTRA 3669	3669	SI	7	2017	55	
SWYC	4117	100	POWER	29	8	copper	PETTIT UNEPOXY TIN-FREE	1628	SI	6	2020	53	
SWYC	4117	100	POWER	28	9	Low	EPOXYCOP ABLATIVE	K76	Dr SI	8	2018	43	
SWYC	4117	100	SAIL	38	13	Low	MICRON EXTRA VOC	5794	KK	6	2011	35	2693-190-ZK
SWYC	4114	98	SAIL	49	14	copper	ULTRA 3779	3779	SI	1	2019	55	
SWYC	4111		SAIL	34	12	Unknown						65	
SWYC	4109	98	POWER	13	9	Low	NOT LISTED ABOVE		Self Applied	6	2012	70	
SWYC	4106	96	SAIL	27	9	copper	ULTRA 3669	3669	SI	3	2019	55	
SWYC	4101	87	SAIL	31	10	copper	TRINIDAD	1275	SI	6	2020	70	
SWYC	4101	90	POWER	40	13	Low	ULTRA 3779	3779	SI	6	2018	55	
SWYC	4101	96	SAIL	32	11	copper	TRINIDAD	1275	SI	7	2020	70	
SWYC	4100	100	SAIL	38	11	Low	NOT LISTED ABOVE		KK	11	2007	70	
SWYC	4098	100	SAIL	45	15	copper	4050 VINYL	MIL-P-15931F	SI	9	2020	67	
SWYC	4091	100	SAIL	33	11	copper	TRINIDAD	1275	SI	10	2020	70	
SWYC	4090	94	SAIL	35	9	non-biocide	NO PAINT - UNPAINTED			1	2018	0	
SWYC	4089	100	SAIL	50	13	Low	ULTRA	Y3779F	SI	11	2016	55	2693-212-AA
SWYC	4089	100	POWER	41	13	Low	ULTRA	Y3669F	SI	8	2018	55	2693-212-AA
SWYC	4088	96	SAIL	37	12	Low	TRINIDAD PRO	A1088G	SI	12	2019	60	60061-94-ZB
SWYC	4088	100	SAIL	27	5	Unknown	NOT LISTED ABOVE		SI	10	2021	70	
SWYC	4087	100	SAIL	35	10	Low	TRILUX 33	YBA060	NB	1	2020	17	2693-203-AA
SWYC	4073	100	SAIL	41	12	Low	MICRON 66	YBA473	SI	9	2020	35	2693-187-ZG
SWYC	4073	87	POWER	38	13	Low	ULTRA 3669	3669	SI	6	2014	55	
SWYC	4060	100	POWER	33	12	Low	TRINIDAD PRO	A10882	SI	1	2020	60	60061-94-ZB
SWYC	4060	100	SAIL	36	9	Low	ULTRA-KOTE	Y3669U	Dr SI	1	2018	57	
SWYC	4058	100	POWER	11	5	Low	EPOXYCOP	NK52	SI	2	2019	33	2693-70-ZA
SWYC	4052	100	SAIL	39	7	Unknown	NOT LISTED ABOVE		Recently Purchased	6	2019	70	
SWYC	4050	98	SAIL	42	13	copper	ULTRA 3449	3449	Dr SI	7	2021	55	
SWYC	4048	88	SAIL	34	11	copper	Z*SPAR THE PROTECTOR VOC HARD TYPE	B-94	SI	11	2019	65	
SWYC	4047	100	POWER	34	13	Low	ULTIMA SR 40	98	Seal Beach boat yard	10	2020	40	60061-117-ZB
SWYC	4046	96	POWER	30	10	Low	ULTRA 3669	3669	SI	5	2018	55	
SWYC	4041	96	SAIL	36	10	Low	TRINIDAD SR	A1277Q	SI	10	2013	60	60061-94-ZD
SWYC	4039	100	SAIL	54	15	Low	TRINIDAD PRO	A10882	Recently Purchased	4	2019	60	60061-94-ZB
SWYC	4037	92	SAIL	33	11	Low	PRO-LINE 1088	Y1088C-03	SI	10	2018	67	577-550-ZF
SWYC	4034	94	SAIL	33	10	Low	PRO-LINE 1088	Y1088C-03	Self Applied	7	2018	67	577-550-ZF
SWYC	4026	100	SAIL	35	10	Low	Z-SPAR BOTTOM PRO GOLD	41127706	Dr SI	1	2021	65	60061-94-ZE
SWYC	4020	100	POWER	30	9	Low	ULTRA	Y3779F	SI	1	2014	55	2693-212-AA
SWYC	4020	94	SAIL	38	12	Low	TRINIDAD SR	A1877G	SI	1	2021	60	60061-94-ZD
SWYC	4016		Empty Slip										
SWYC	4012	98	SAIL	41	12	Low	ULTRA	Y3669F	SI	8	2018	55	2693-212-AA
SWYC	4010	96	POWER	47	17	Low	ULTRA	Y3779F	SI	8	2018	55	2693-212-AA
SWYC	4008	85	SAIL	42	13	Low	PETTIT UNEPOXY TIN-FREE	1628	Dr MB	10	2012	53	
SWYC	4001	100	SAIL	24	8	copper	TRINIDAD	1675	SI	3	2021	70	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
LPYC	11001	100	Power	43	13'4"	Low Copper	Trinidad Pro	A1088G	Driscolls	Aug	2020	60	60061-94-ZB
LPYC	11002	vacant											
LPYC	11003	100	Power	22	7	Low Copper			Koehler Kraft	Jun	2012	67	
LPYC	11004	vacant											

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SIM	6011		P	36	13	Copper	Petit Zspar	B-94	Boatyard, Marina Del Rey	7	2019	67	
SIM	6021		P	41	14	Low	Interlux Ultra	Y3779F	SIBY	2	2018	55	2693-212-AA
SIM	6022		S	38	13.1	Low	Pettit Trinidad	A10882	SIBY	11	2018		60061-94-ZB
SIM	6025					Unknown							
SIM	6030		P	32	13	Low	Micron CSC	YBC580	SIBY	11	2014	33	2693-225-AA
SIM	6034		S	21	6.3	Low	Interlux Ultra	Y3669F	SIBY	4	2018	55	2693-212-AA
SIM	6056		P	35	13	Low	Pettit Trinidad	1871	SIBY	5	2019	55	60061-94-ZD
SIM	6066		P	95	21	Low	Pettit Trinidad	1661	Driscolls	4	2021	25	60061-116-AA
SIM	6072		S	44	12	Low	Pettit Trinidad	1871	SIBY	4	2021	55	60061-94-ZD
SIM	6079		P	30	12	Low	Interlux Ultra	Y3779F	SIBY	7	2016	55	2693-212-AA
SIM	6085		S	58	16	Low	Petit Trinidad	1871	SIBY	8	2021	55	60061-94-ZD
SIM	6089		S	30	11	Low	Pettit Trinidad	1271	SIBY	8	2020	55	60061-94-ZD
SIM	6094		P	31	11	Low	Micron CSC	YBC580	Charleston SC	3	2017	33	2693-225-AA
SIM	6095		S	52	14	Low	ZsparProGold	BP-91	KKMI	11	2017	55	60061-64-ZE
SIM	6096		P	69	17.2	Low	Pettit Zspar	B-94	Driscolls	6	2015	67	
SIM	6100		P	33	11	Non	no bottom paint	no paint	not painted	not painted	not painted	0	
SIM	6106		S	22	6	Copper	Unknown	unknown	Aug-18	unknown	unknown	67	
SIM	6107		S	42	13	Low	Pettit Trinidad	1271	SIBY	3	2020	55	60061-64-ZD
SIM	6109					Unknown							
SIM	6115		S	65	17.5	Low	Zspar Protector	BP-91	Driscolls	6	2017	55	60061-94-ZB
SIM	6128		P	17	8	Low	Interlux Ultra	Y3669F	Oceanside Marine	4	2021	55	60061-87-ZM
SIM	6139		S	35	11.6	Low	Unknown	Unknown	Mexico	6	2016	67	
SIM	6143		P	113	23.6	Low	Seaguard	P30BQ12	MGBW	3	2016	55	
SIM	6147		P	21	8	Low	Interlux Ultra	Y3779U	SIBY	5	2017	67	
SIM	6153		S	31	10.1	Copper	Total Boat by Spartan	4020	Self Applied	1	2019	67	
SIM	6159		S	30	10.6	Low	Pettit Triidad	1271	SIBY	7	2021	55	60061-94-ZD
SIM	6160		S	44.5	13.6	Low	Petit Trinidad	1271	Schoone Creek	4	2020	55	60061-94-ZD
SIM	6161	Vacant	Vacant	Vacant									
SIM	6163		S	21	6.3	Low	Interlux Ultra	Y3669F	SIBY	6	2019	55	2693-212-AA
SIM	6174		S	39	13.5	Low	Interlux Ultra	Y3669F	SIBY	2	2019	55	2693-212-AA
SIM	6179		P	50	14.6	Low	Unknown	Unknown		8	2017	67	
SIM	6180		S	38	12.3	Low	Interlux Ultra	Y3779F	Driscolls MB	9	2009	55	2693-212-AA
SIM	6182		P	39	12	Low	Pettit Trinidad hd	1271	SIBY	4	2021		60061-94-ZD
SIM	6193		S	23	7.8	Low	Interlux Ultra	Y3779F	Koehler	4	2019	55	2693-212-AA
SIM	6193		S	37	12.4	Low	Petit trinidad	1871	SIBY	12	2020	55	60061-94-ZD
SIM	6194		S	47.8	13	non	Proline Copper Free	1051	Driscolls MB	7	2021	0	
SIM	6197		S	41	10.9	Copper	Unknown	Unknown	LA Marina Del Rey	Unknown	2019	67	
SIM	6199		P	47.8	15	Low	Pettit Trinidad	1871	SIBY	3	2021	55	60061-94-ZD
SIM	6202		S	38	11.5	Non	Petit HRT Eco	1200	Self Applied	5	2020	0	60061-94-ZD
SIM	6207		S	39.7	12.6	Low	Micron CSC	YBC580	SIBY	1	2014	33	2693-225-AA
SIM	6207		P	38	13	non	E Paint	SN-1	ACI Boats	6	2021	0	
SIM	6211		P	75	20	Low	Trilux 33	YBA060	SIBY	8	2020	33	2693-203-AA
SIM	6214		S	39.5	12.5	Low	Interlux Ultra	Y3669F	MGBW	4	2021	55	2693-212-AA
SIM	6216		P	30	8	Non	Non Copper Biocide		Koehler Kraft	2	2020	0	
SIM	6216		P	32	11.3	Low	Interlux Ultra	Y3779F	Driscolls SI	2	2014	55	2693-212-AA
SIM	6234		S	30	10.9	Low	Unknown	unknown		6	2018	67	
SIM	6248		P	16	7	Unknown	Unknown -New boat	Unknown		5	2019	55	
SIM	6249		S	31	10.9	Low	Unknown -New boat	unknown		10	2018	55	
SIM	6261		S	112	25	Non	Interspeed	BZA646	MGBW	12	2019	0	
SIM	6263		S	33	11.6	Low	Interlux Ultra	Y3779F	SIBY	5	2016	55	2693-212-AA
SIM	6272		S	35.6	12	Low	Woolsey Defense	4801	Neilson Beaumont	7	2017	67	60061-64-ZD
SIM	6294		P	147	29	Low	Seahawk Bio Cop	TF1200-1	Lauderdale Marine Center	3	2020	38	
SIM	6298		S	47	14	Low	Petit trini hd	1271	SIBY	6	2021	55	60061-94-ZD
SIM	6303		P	42	14	Low	Unknown	unknown	Driscolls	11	2015	67	60061-87-ZM
SIM	6305		S	49	12	Low	Proline vinyl Copper	1088C-01	Self applied	12	2017	33	
SIM	6306		P	64	17	Low	Interlux Ultra	Y3779F	SIBY	8	2017	55	2693-212-AA
SIM	6309		S	42	11	Low	Petit Trini HD	1871	SIBY	5	2021	55	60061-94-ZD

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SIM	6312		P	25	8.6	Low	Interlux Ultra	Y3779F	HH Marine Services	9	2017	55	2693-212-AA
SIM	6316		P	45	14	Low	SeaHawk Tropikote	2145	Baha Naval	1	21		44891-10-ZA
SIM	6322		S	30	11	Low	Petit Trinidad	A10882	Dolphin Divers	9	2011	55	60061-94-ZB
SIM	6330		S	25	8	Low	Micron CSC	YBC580	SIBY	11	2013	33	2693-225-AA
SIM	6335		S	58	16	Low	Pettit Trinidad	1871	SIBY	4	2021	55	60061-94-ZD
SIM	6339		S	47	14	Low	Interlux Ultra	Y3779F	Driscoll	7	2020	55	2693-212-AA
SIM	6341		P	22	8.3	Low	Zspar	BP-001	Driscolls	8	2019	67	60061-94-ZD
SIM	6344		P	28	10	Low	Interlux Ultra	Y3779F	SIBY	5	2018	55	2693-212-AA
SIM	6346		S	27	9	Low	Interlux Ultra	Y3779F	SIBY	10	2016	55	2693-212-AA
SIM	6348		S	36	10	non	KRYPTON	TB 3020	Port Townsend Boat Haven	9	2021	0	
SIM	6370		P	15	7	Low	Fiberglss Bottom Kote	YBB369	Self-Applied	12	2017	33	2693-228-AA
SIM	6371		P	151	30	Low	Seahawk	TF1205	MGBW	1	2019	33	44891 - 15
SIM	6393					Unknown							
SIM	6393		S	41	14	Low	Interlux Ultra	Y3669F	SIBY	5	2019	55	2693-212-AA
SIM	6399		P	36	10.7	Unknown	Unknown	Unknown		4	2021	67	
SIM	6401		S	42	12.5	Unknown	Unknown		Abaroa Boat Yard	6	2021	67	
SIM	6404		S	21	6.3	Low	Petitt Trini	1271	SIBY	1	2021	55	60061-94-ZD
SIM	6405		P	42	14	Low	Interlux Ultra	2669N	SIBY	11	2015	55	
SIM	6406					Unknown							
SIM	6410		S	42	13	Unknown	Unknown	Unknown		3	2020	65	
SIM	6419		P	35	13	Low	Unknown	unknown	May-18	unknown	unknown	67	60061-94-ZE
SIM	6419		P	30	11.5	Low	Interlux Ultra	Y3779F	SIBY	12	2015	55	2693-212-AA
SIM	6421		S	39	13	Low	Woolsey Defense	4802	Nielson Beaumont	8	2017	67	60061-101-ZA
SIM	6425		P	38	13.4	Low	Interlux Ultra	Y3669F	SIBY	6	2014	55	2693-212-AA
SIM	6430		P	18	5	Low	Trilux 33	YBA063	Self Applied	10	2013	33	2693-203-ZB
SIM	6432		S	42	14	Low	Unknown		Jun-20		2018	67	
SIM	6433		P	30	10.7	Low	Pettit Trinidad	1871	SIBY	1	2021	55	60061-94-ZD
SIM	6433		P	37	14	Low	Interlux Ultra	Y3669F	Koehler Kraft	9	2021	55	2693-212-AA
SIM	6436		P	22	8	Non	Pettit Eco HRT	1300	Dinghy Docktor	10	20	0	
SIM	6445		P	53	15	Low	Zspar Progold	411187706	Driscolls SI	11	2018	67	60061-94-ZE
SIM	6452		P	22	7.5	Low	Pettit Trinidad	1871	SIBY	7	20	55	60061-94-ZD
SIM	6454		S	34	11.9	Low	Pettit Trinidad HD	1271	DIBY	7	2021	55	60061-94-ZD
SIM	6456		S	21	6.3	Low	Interlux Ultra	Y3669F	Self Applied	9	2017	55	2693-212-AA
SIM	6462		S	41	12	Low	Woolsey	4802	self applied	2	2017	67	60061-101-ZA
SIM	6470		P	56	15	Low	Pettit Trinidad HD	1271	SIBY	7	2021	55	60061-94-ZD
SIM	6481		S	35.5	11.25	Low	Pettit Trinidad	1271	SIBY	11	2020		60061-94-ZD
SIM	6483		P	47.8	14.5	Low	unknown	unknown	unknown		2018	67	
SIM	6489		S	27	8	Low	Unknown	Unknown		7	2015	67	
SIM	6501		P	28.3	9.8	Low	Interlux Ultra	Y3779F	SIBY	5	2013	55	2693-212-AA
SIM	6518		P	111	25	Copper	Interlux Ultra Kote	Y3449U	MGBW	11	2019	67	
SIM	6551		P	36	12.2	Low	Interlux Ultra	Y3779F	SIBY	2	2015	55	2693-212-AA
SIM	6559		P	32	6	Low	Interlux Ultra	BP-91	MGBW	12	2017	55	
SIM	6560		S	36	14	Low	Petit Trinidad HD	1871	SIBY	10	2020	55	60061-94-ZD
SIM	6561		S	45	14	Low	Pettit Trinidad	1271	SIBY	12	2020	55	60061-94-ZD
SIM	6564		S	30	10	Low	Interlux Ultra blue	Y3669F	Koehler Kraft	11	2021	55	2693-212-AA
SIM	6565		P	103	24.5	Low	Seahawk	TF1205	SIBY	11	2018	33	44891-10-ZA
SIM	6568		S	28	9.2	Unknown	Unknown	unknown		4	2021	67	
SIM	6584		S	32	11	Low	Unknown	Unknown		6	2018	67	
SIM	6591		P	40	13.6	Low	Unknown-new boat	unknown		4	2017	67	
SIM	6593		S	33	10.5	Low	Interlux Ultra	Y3669F	SIBY	11	2017	55	2693-212-AA
SIM	6613		P	89	21	Low	Zspar Progold	BP-91	Driscolls SI	2	2019	55	60061-64-ZE
SIM	6619		P	28	11	Low	Interlux Ultra	Y3779F	Driscolls	8	2018	55	2693-212-AA
SIM	6619		P	43	15.3	Low	unknown	unknown		4	2017	67	
SIM	6624		S	28	8	Unknown	Unknown	Unknown	Self Applied	9	2020	67	
SIM	6624		S	31	11	Unknown	Unknown	Unknown		5	2021	67	
SIM	6635		S	44.5	14	Low	Trinidad Pro	A1088G	Portland	4	2016	55	60061-94-ZB
SIM	6639		P	36	12.4	Low	Pettit	1271	SIBY	9	20	55	60061-94-ZD

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SIM	6641		P	38	13	Low	Proline	1088C-02	SIBY	10	2013	33	
SIM	6643		P	13.9	6.3	Low	Pettit	1271	Dinghy Doctor	9	2019	55	60061-87-ZM
SIM	6648		S	33	11	Low	Pettit Trinidad	1871	SIBY	8	2020	55	60061-64-ZD
SIM	6652		S	27	8	Low	Interlux Ultra	Y3779F	Koehler Kraft	3	2015	55	2693-212-AA
SIM	6656		S	42	13	Low	Interlux Ultra	Y3669F	Driscolls	8	21	55	2693-212-AA
SIM	6660		S	18	8	Non	Seahawk Smart Solut	4705	Koehler Kraft	3	2015	0	
SIM	6662		S	25	8	Low	Petit Trini HD	1271	SIBY	12	2020	55	60061-94-ZD
SIM	6662		P	30	11	Low	Interlux Ultra	Y3779F	SIBY	3	2017	55	2693-212-AA
SIM	6673		P	23	7.6	Low	Zspar	B-94	Sunset Aquatic Mar Cn	1	2014	55	
SIM	6675		S	36	11.75	non	Ceram Kote	99	Self	5	2015	0	
SIM	6677		S	42	12	Low	Zspar Progold	41127706	Driscolls	4	2017	60	60061-94-ZE
SIM	6682		S	42	13.9	Non	Micron CSC	YBC580	SIBY	9	2016	0	2693-225-AA
SIM	6683		P	38	11	non	Naut Super Pro Guar	NAU773	Neilson Beaumont	1	2016	0	23566-20-ZT
SIM	6689		S	42	13.9	Non	Micron CSC	YBC580	SIBY	9	2016	0	2693-225-AA
SIM	6701		P	36	12.6	Low	Interlux Ultra	Y3669F	SIBY	11	2014	55	2693-212-AA
SIM	6712		P	105	24	Non	Proline	1051	SIBY	12	2019	0	
SIM	6713		S	41	12.11	Low	Interlux Ultra		Driscolls	2	2021	55	2693-212-AA
SIM	6716		S	30	10	Low	Zspar	B94	Driscolls MB	8	2020	55	60061-94-ZB
SIM	6722		p	45	18	Low	Unknown	Unknown	Self Applied	11	2018	67	
SIM	6730		P	32	12	Non	Valspar	5799W9002	sits on hydrohoist	10	2008	0	
SIM	6734		P	33	10.5	Low	Pettit Trinidad HD	1871	SIBY	6	2021	55	60061-94-ZD
SIM	6740		S	30	10.25	Low	Proline	1088C-02	Santa Barbara	10	2010	33	
SIM	6742		S	29	10.4	Copper	Zspar	B-91	Marina Del Rey	4	2019	67	
SIM	6750		P	120	25	Copper	Seaguard	P30BQ12	MGBW	10	2021	55	
SIM	6754		P	42	13	Low	Interlux Ultra	Y3669F	MGBW	7	2020	55	2693-212-AA
SIM	6760		S	35	12.5	non	Micron CF	YB0103	Koehler Kraft	2	2016	0	
SIM	6769		S	43	13.9	Copper	Zspar	B-94	Driscolls	1	2020	65	
SIM	6771		S	30	10.8	Low	Interlux Ultra	Y3779F	Koehler Kraft	11	2019	55	60061-94-ZD
SIM	6779		S	42	13	Low	ZsparPro	BP-001	Driscolls	11	2019	67	60061-64-ZE
SIM	6780		E	18	7.9	Low	Interlux Ultra	Y3779F	SIBY	4	2018	55	2693-212-AA
SIM	6787		P	56	15.2	Low	Interlux Ultra	Y3779F	SIBY	5	2018	55	60061-87-ZM
SIM	6795		P	30	11.3	Low	Interlux Ultra	Y3779F	SIBY	3	17	55	2693-212-AA
SIM	6796		S	35	11.4	NON	Ceram Kote	99	SIBY	2	2015	0	
SIM	6805		S	30	10	Low	Pettit Trinidad	1271	SIBY	10	2020	55	60061-94-ZD
SIM	6824		P	83.1	22.2	Low	Seahawk BioCop TF	1205-1	Port Townsend Marine	10	2020	38	
SIM	6825		S	41	11	Low	Zspar	B-91	Dricolls SI	1	2018	55	
SIM	6830		S	29.6	10	Low	Pettit Kop Coat	1881	KKMI	3	2015	33	60061-71-ZA
SIM	6833		P	41	14	Low	unknown	unknown		11	2017	67	
SIM	6834		S	30	9.6	Low	Zspar Pro Gold Bp91	A411187706	SIBY	4	2013	55	
SIM	6841		P	106	25	Low	SeaHawk Island 44	1005	Ensenada	6	2019	33	10250-54-ZA
SIM	6858		S	35	11.2	Unknown	Unknown	unknown	self applied	4	2019	67	
SIM	6862		P	32	11.5	Non	no bottom paint	non	non	non	non	0	
SIM	6863		S	29	7	Low	Interlux Ultra	Y3779F	SIBY	4	2012	55	2693-212-AA
SIM	6875		P	17	6	Low	Interulx Ultra	Y3779F	Koehler Craft	6	20	55	2693-212-AA
SIM	6877					Unknown							
SIM	6880		P	42	15	Low	Petit pro Trini	A10882	Long Beach Ship Yard		2018	55	60061-94-ZB
SIM	6881		S	38	12.4	Low	Pettit Protector	B-94	The Boatyard Oxnard	12	2017	60	
SIM	6890		P	99.6	25.2	Low	Petit Trini HD	1871	SIBY	7	2021	55	60061-94-ZD
SIM	6892		S	41	12	Low	Petit Trini hd	1271	SIBY	7	2021	55	60061-94-ZD
SIM	6893		P	44	14.6	Low	Pettit Trinidad	1871	SIBY	4	2021		60061-94-ZD
SIM	6896					Unknown							
SIM	6898					Unknown							
SIM	6902		P	50	16	Low	Zspar Pro Gold Blak	BP91	SIBY	11	2015	67	60061-64-ZE
SIM	6907		P	35	12	Low	Pettit Trinidad	1871	SIBY	11	2019	55	60061-94-ZD
SIM	6909		P	25	8	Low	Pettit Trinidad	1861	SIBY	7	2020	55	60061-116-AA
SIM	6911		S	24	8	Low	Petit Trini HD	1271	SIBY	7	2021	55	60061-94-ZD
SIM	6916		P	36	10.6	non	Interspeed 5640	BZA646	Competition Marine	10	2021		2693-220-ZB

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
SIM	6917		S	47	13.9	Low	Pettit Trinidad	1871	Mar-21	1	2021	55	60061-94-ZD
SIM	6920		S	39	11.5	Low	Petit Trini HD	1871	SIBY	8	2021		60061-64-ZD
SIM	6920		S	30	11.3	Low	Interlux Ultra	Y3669F	SIBY	10	2007	55	60061-87-ZM
SIM	6923		S	23	9	Low	Unknown	Unknown	SIBY	4	2006	67	
SIM	6928		P	44	13.9	Low	Micron CSC	YBC583	SIBY	9	2011	33	2693-225-AA
SIM	6930		P	100	23	Low	Seaguard Ablative	P30 BQ 12	MGBW	11	2019	55	10250-54-ZA
SIM	6934		P	128	23	NON	Sea Voyage	N51 B301	MGBW	10	2021	0	
SIM	6960		P	26	8.6	Low	Interlux Ultra	Y3779F	Oceanside Marine	4	2020	55	2693-212-AA
SIM	6963		P	40	13	Low	Interlux Ultra	Y3779F	Driscolls MB	7	2019		60061-87-ZM
SIM	6966		P	45	13	Low	Zspar Pro	411187706	Driscolls	12	2019	55	60061-94-ZE
SIM	6966		P	38	13.3	Low	Interlux Ultra	Y3669F	Koehler Kraft	3	2017	55	2693-212-AA
SIM	6970		S	40	11.8	Low	Interlux Ultra	Y3779F	SIBY	11	2018	55	2693-212-AA
SIM	6970		P	50	15	Low	Interlux Ultra	Y3449F	Koehler Kraft	10	2021	55	2693-212-AA
SIM	6978		P	30	10	Low	Interlux Ultra	Y3669U	SIBY	7	2016	55	
SIM	6982		P	36	10	Low	Interlux Ultra white		MGBW	11	2020	55	2693-212-AA
SIM	6994		S	21	6.3	Low	Petit Trini HD	1271	SIBY	8	2021	55	60061-94-ZD
SIM	6994		P	35	13	Low	Pettit Protector	B-94	Driscolls MB	9	2013	67	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
HMM	9977	100	P	36	13	Low	Interlux Ultra	Y3779F	Koehler Kraft	10	2017	55	2693-212-AA
HMM	9976	100	S	35	12	Low	Interlux Ultra	Y3669U	Shelter Island Boatyard	12	2016	55	
HMM	9969	100	P	34	12	Low	Zspar Bottom Pro Gold	BP91	Koehler Kraft	3	2021	55	60061-64-ZE
HMM	9969	100	E	18	7	Non	No Paint	No Paint	NA	NA	NA	0	
HMM	9967	100	S	42	14	Low	Interlux Ultra	Y3779F	Driscolls	2	2021	55	2693-212-AA
HMM	9967	100	S	22	7	Low	Unknown	Unknown	Shelter Island Boatyard	3	2010	67	
HMM	9962	100	P	17	7	Low	Interlux Ultra	Y3779F	Driscoll's Mission Bay	7	2021	55	2693-212-AA
HMM	9961	100	P	34	13	Low	Interlux Ultra	Y3669F	Self Applied	9	2020	55	2693-212-AA
HMM	9961	100	S	30	11	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	8	2020	55	60061-94-ZB
HMM	9960	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9952	100	S	31	12	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	8	2020	55	60061-94-ZB
HMM	9948	100	S	34	11	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	2	2021	55	2693-212-AA
HMM	9945	100	S	27	9	Low	Interlux Ultra	Y3449F	Shelter Island Boatyard	6	2012	55	2693-212-AA
HMM	9931	100	S	35	13	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9929	100	S	30	11	Low	Interlux Ultra	Y3449F	Driscolls	4	2018	55	60061-94-ZB
HMM	9924	100	P	24	9	Low	Unknown	Unknown	Unknown	6	2018	67	
HMM	9923	100	P	10	6	Non	No Paint	No Paint	NA	NA	NA	0	
HMM	9919	100	P	30	11	Low	Pettit Trinindad HD	1871	Shelter Island Boatyard	1	2021	55	60061-94-ZB
HMM	9912	100	S	32	10	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	1	2015	55	2693-212-AA
HMM	9911	100	S	42	14	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	12	2020	55	60061-94-ZB
HMM	9910	100	P	17	5	Non	No Paint	No Paint	NA	NA	NA	0	
HMM	9905	100	P	41	12	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	11	2018	55	2693-212-AA
HMM	9905	100	S	36	12	Low	Interlux Ultra	Y3779U	Shelter Island Boatyard	5	2011	55	
HMM	9897	100	S	36	14	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	2	2021	55	60061-94-ZB
HMM	9895	100	S	32	11	Low	Unknown	Unknown	Unknown	3	2019	67	
HMM	9890	100	S	26	9	Copper	Interlux Ultra	Y3779U	Shelter Island Boatyard	9	2017	55	
HMM	9889	100	S	23	8	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	5	2021	55	60061-94-ZB
HMM	9888	100	R	19	6	Low	Interlux Ultra	Y3449F	Shelter Island Boatyard	1	2019	55	2693-212-AA
HMM	9882	100	S	36	10	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9863	100	S	32	9	Low	Unknown	Unknown	Shelter Island Boatyard	12	2012	67	
HMM	9851	100	P	29	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9847	100	P	38	15	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	4	2019	55	2693-212-AA
HMM	9845	100	P	24	9	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	3	2021	55	2693-212-AA
HMM	9840	100	P	43	13	Copper	Interlux Ultra	Y3669U	Shelter Island Boatyard	5	2021	55	
HMM	9840	100	S	36	12	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	7	2020	55	2693-212-AA
HMM	9839	100	P	27	8	Non	No Paint	No Paint	NA	NA	NA	0	
HMM	9838	100	S	34	12	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	4	2017	55	2693-212-AA
HMM	9836	100	P	31	11	Low	Zspar Bottom Pro Gold	BP91	Dana Point Shipyard	6	2021	55	60061-64-ZE
HMM	9818	100	S	24	8	Non	No Paint	No Paint	NA	1	2004	0	
HMM	9817	100	P	23	9	Low	Pettit Trinidad HD	1871	Shelter Island Boatyard	8	2021	55	60061-94-ZB
HMM	9810	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9789	100	S	34	12	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	10	2018	55	2693-212-AA
HMM	9786	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9786	100	P	27	8	Low	Interlux Ultra	Y3669F	Koehler Kraft	6	2021	55	2693-212-AA
HMM	9782	100	S	30	10	Low	Interlux Ultra	Y3669F	Koehler Kraft	8	2020	55	2693-212-AA
HMM	9781	100	P	42	15	Low	Interlux Ultra	Y3449F	Shelter Island Boatyard	5	2019	55	2693-212-AA
HMM	9773	100	S	38	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9764	100	S	39	13	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9764	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9747	100	S	30	11	Low	Seahawk	6142	Driscoll SI	1	2006	33	44891-11-AA
HMM	9744	100	P	43	14	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9734	100	S	39	12	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	6	2018	55	2693-212-AA
HMM	9732	100	S	27	10	Low	Pettit Trinidad SR	A1277Q	Driscoll SI	6	2013	33	60061-94-ZD
HMM	9731	100	S	36	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9719	100	P	23	8	Low	Interlux Micron 66	YBA470	Self Applied	9	2019	67	2693-187-ZD
HMM	9712	100	P	37	13	Low	Interlux Ultra	Y3779U	Shelter Island Boatyard	1	2013	55	
HMM	9711	100	S	26	8	Low	Interlux Micron VOC Extra	5790	Knight and Carver	2	2011	33	2693-190-ZI

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HMM	9705	100	S	36	12	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	9	2019	55	2693-212-AA
HMM	9703	100	P	50	15	Low	Interlux Ultra	Y3779U	Shelter Island Boatyard	2	2018	67	
HMM	9691	100	S	36	11	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	9	2020	55	60061-94-ZB
HMM	9691	100	S	42	12	Low	Unknown	Unknown	Mexico	Unknown	Unknown	67	
HMM	9691	100	S	33	12	Low	Unknown	Unknown	Dana Point Shipyard	1	2017	67	
HMM	9687	100	S	26	9	Low	West Marine CPP Ablative	12845723	Self Applied	5	2019	33	60061-132-AA
HMM	9671	100	S	30	10	Non	Interlux Intersleek 900	FXA972/A	Shelter Island Boatyard	6	2021	0	
HMM	9658	100	P	32	10	Low	Interlux Ultra	Y3669F	Driscolls	9	2020	55	2693-212-AA
HMM	9623	100	P	42	14	Low	Awlgrip	545	Shelter Island Boatyard	1	2020	33	
HMM	9621	100	S	41	13	Copper	Interlux Ultra	1671	Shelter Island Boatyard	9	2021	70	
HMM	9621	100	S	35	12	Low	Unknown	Unknown	Driscoll	12	2018	67	
HMM	9620	100	P	27	10	Non	Pettit	1808Q	Driscoll	10	2019	0	
HMM	9595	100	S	25	8	Low	Unknown	Unknown	Shelter Island Boatyard	10	2018	67	
HMM	9590	100	S	45	12	Low	Pettit Trinidad HD	1086G	Koehler Kraft	12	2015	55	
HMM	9589	100	E	16	5	Copper	Interlux Ultra	Y3779U	Shelter Island Boatyard	2	2021	55	
HMM	9585	100	S	26	9	Low	Unknown	Unknown	Unknown	4	2012	67	
HMM	9581	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9579	100	S	34	12	Low	Unknown	Unknown	Unknown	2	2020	67	
HMM	9579	100	S	37	12	Low	Interlux Ultra	Y3669F	Koehler Kraft	9	2020	55	2693-212-AA
HMM	9561	95	S	31	11	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	10	2020	55	60061-94-ZB
HMM	9557	100	P	20	8	Non	No Paint	No Paint	NA	NA	NA	0	
HMM	9557	100	S	23	8	Low	Interlux Ultra	Y3779U	Shelter Island Boatyard	8	2016	55	
HMM	9551	100	S	33	10	Low	Pettit Trinidad	1083	Shelter Island Boatyard	6	2021	55	60061-64-ZC
HMM	9545	100	P	30	10	Low	Woolsey Defense	4901	Nielsen-Beaumont	11	2018	55	60061-117-ZA
HMM	9542	100	P	36	12	Low	Zspar Bottom Pro Gold	BP91	Driscolls SI	6	2018	55	60061-64-ZE
HMM	9540	100	S	32	11	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9540	100	P	23	8	Non	Interlux Ultrasleek 900	FXA972/A	Self Applied	6	2021	0	
HMM	9536	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9523	100	S	50	12	Low	Interlux Ultra	Y3779F	Koehler Kraft	1	2019	55	2693-212-AA
HMM	9523	100	S	35	13	Low	Interlux Ultra	Y3559F	Shelter Island Boatyard	3	2018	55	2693-212-AA
HMM	9520	100	S	27	9	Low	Unknown	Unknown	Unknown	2	2011	67	
HMM	9512	100	P	17	6	Low	Pettit Trinidad	1082	Shelter Island Boatyard	12	2020	55	60061-64-ZC
HMM	9501	100	P	23	8	Low	Pettit Hydrocoat	1840	H&H Marine	9	2021	67	60061-87-ZI
HMM	9495	100	P	34	11	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	3	2019	55	2693-212-AA
HMM	9491	100	P	34	12	Low	Pettit Trinidad HD	1877	Shelter Island Boatyard	1	2020	55	60061-94-ZB
HMM	9487	100	S	30	11	Unknown	Unknown	Unknown	Newport Beach	6	2020	67	
HMM	9483	100	S	26	7	Low	West Marine Ablative	5436928	Shelter Island Boatyard	9	2021	67	60061-132-AA
HMM	9479	100	S	38	12	Low	Unknown	Unknown	Unknown	8	2013	67	
HMM	9469	100	S	34	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9468	100	P	46	14	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	8	2013	55	2693-212-AA
HMM	9457	100	P	30	10	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9456	100	S	53	13	Low	Interlux Ultra	Y3669F	Koehler Kraft	9	2019	55	2693-212-AA
HMM	9454	100	S	34	11	Low	Unknown	Unknown	Unknown	4	2011	67	
HMM	9443	100	P	30	11	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	5	2019	55	2693-212-AA
HMM	9436	100	S	47	13	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9434	100	S	40	12	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	11	2013	55	2693-212-AA
HMM	9432	100	P	33	11	Low	Unknown	Unknown	Unknown	3	2015	67	
HMM	9431	100	P	18	9	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9424	100	S	25	8	Low	Interlux Ultra	Y3559F	Shelter Island Boatyard	5	2011	55	2693-212-AA
HMM	9414	100	S	36	10	Low	Unknown	Unknown	Shelter Island Boatyard	4	2008	67	
HMM	9410	100	S	35	12	Low	Interlux Ultra	Y3449F	Koehler Kraft	2	2021	55	2693-212-AA
HMM	9405	100	P	22	8	Low	Interlux Ultra	Y3779F	Driscoll MB	1	2013	55	2693-212-AA
HMM	9403	100	P	21	8	Low	Unknown	Unknown	Shelter Island Boatyard	6	2013	67	
HMM	9401	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9394	100	P	15	7	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	11	2019	55	60061-94-ZB
HMM	9393	100	S	30	10	Low	Interlux Ultra	Y3559U	Shelter Island Boatyard	7	2017	55	
HMM	9391	100	S	35	12	Non	No Paint	No Paint	NA	NA	NA	0	

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HMM	9390	100	P	29	10	Non	Finsulate Thorn D	None	Shelter Island Boatyard	6	2013	0	
HMM	9388	100	P	52	15	Low	Pettit Trinidad HD	1871	Shelter Island Boatyard	8	2021	55	60061-94-ZB
HMM	9384	100	P	18	6	Non	No Paint	No Paint	NA	NA	NA	0	60061-137
HMM	9382	100	P	42	14	Low	Unknown	Unknown	Mexico	1	2020	67	
HMM	9370	100	P	23	9	Non	No Paint	No Paint	NA	NA	NA	0	
HMM	9366	100	P	27	9	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	6	2021	55	60061-94-ZB
HMM	9365	100	S	38	18	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9360	100	S	27	8	Low	Pettit Trinidad	1083	Shelter Island Boatyard	8	2021	55	60061-64-ZC
HMM	9358	100	P	53	16	Low	Interlux Ultra	Y3779F	Shelter Island Boatyard	3	2018	55	2693-212-AA
HMM	9356	100	S	33	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9338	100	P	33	10	Low	Zspar Bottom Pro Gold	BP91	Driscolls	11	2017	55	
HMM	9322	100	P	26	8	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9312	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9309	100	S	40	13	Low	Pettit Ultima SR-40	1092	Driscoll SI	10	2019	67	60061-117-ZB
HMM	9304	100	P	27	8	Low	Interlux Ultra	Y3779U	Shelter Island Boatyard	4	2017	55	
HMM	9291	100	S	30	10	Low	Unknown	Unknown	Shelter Island Boatyard	9	2016	67	
HMM	9291	100	S	33	10	Low	Zspar Bottom Pro Gold	BP91	Driscolls	6	2018	55	60061-64-ZE
HMM	9287	100	S	26	9	Non	Unknown	Unknown	Unknown	9	2006	0	
HMM	9284	100	S	28	9	Low	Pettit Trinidad HD	1271	Koehler Kraft	1	2021	55	60061-94-ZB
HMM	9284	100	S	41	13	Low	Pettit Trinidad HD	A1377G	Shelter Island Boatyard	7	2021	55	60061-94-ZD
HMM	9275	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9269	100	P	32	10	Low	Interlux Ultra	Y3779U	Shelter Island Boatyard	6	2017	55	
HMM	9267	100	P	21	8	Low	Pettit Trinidad HD	1871	Shelter Island Boatyard	4	2021	55	60061-94-ZB
HMM	9260	100	P	28	11	Low	Interlux Ultra	Y3779U	Shelter Island Boatyard	2	2013	55	
HMM	9257	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9231	100	P	29	11	Low	Unknown	Unknown	Unknown	3	2019	67	
HMM	9224	100	S	37	12	Low	Unknown	Unknown	Florida	4	2008	67	
HMM	9212	100	S	47	14	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	5	2012	55	2693-212-AA
HMM	9207	100	P	29	11	Non	Armored Hull (liner)	NA	None	NA	NA	0	
HMM	9201	100	S	30	10	Low	Interlux Ultra	Y3669U	Driscoll SI	10	2018	55	
HMM	9193	100	S	37	12	Low	Unknown	Unknown	Shelter Island Boatyard	5	2018	67	
HMM	9192	100	P	25	8	Low	Pettit Trinidad HD	1871	Sea Time Marine	12	2020	55	60061-94-ZD
HMM	9189	100	S	28	8	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9186	100	S	41	12	Copper	Interlux Ultra	Y3669U	Driscolls	10	2021	55	
HMM	9176	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	67	
HMM	9174	100	S	40	12	Low	Unknown	Unknown	Newport Beach	1	2019	67	
HMM	9171	100	P	34	10	Non	Interlux Micron 66	YBA473	Marty Marine	6	2020	0	2693-187-ZG
HMM	9170	100	P	22	8	Low	Unknown	Unknown	Sunset Marine	3	2003	67	
HMM	9165	100	S	22	9	Low	Unknown	Unknown	Unknown	12	2011	67	
HMM	9157	100	P	36	12	Low	Zspar Bottom Pro Gold	BP94	Driscolls SI	4	2019	55	60061-64-ZE
HMM	9144	100	S	17	6	Non	West Marine Bottom Shield	17144916	Self Applied	12	2016	0	
HMM	9135	100	P	17	6	Low	Unknown	Unknown	Shelter Island Boatyard	6	2017	67	
HMM	9124	100	S	33	13	Low	Interlux Ultra	Y3559U	Shelter Island Boatyard	5	2018	55	
HMM	9122	100	E	21	8	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9118	100	P	27	10	Low	Unknown	Unknown	Shelter Island Boatyard	1	2017	67	
HMM	9114	100	S	44	13	Low	Interlux Ultra	Y3779F	Koehler Kraft	1	2020	55	2693-212-AA
HMM	9095	100	S	30	11	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	4	2015	55	2693-212-AA
HMM	9092	100	P	30	12	Low	Seaguard	P30BQ12	Self Applied	12	2019	33	
HMM	9091	100	P	24	7	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	
HMM	9091	Empty	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	
HMM	9086	100	S	30	10	Low	Interlux Ultra	Y3669U	Shelter Island Boatyard	4	2015	55	
HMM	9079	100	P	25	8	Non	Ceram-Kote	99	Shelter Island Boatyard	12	2019	0	
HMM	9051	100	P	35	11	Low	Zspar Bottom Pro Gold	BP94	Driscoll SI	8	2018	55	60061-64-ZE
HMM	9047	100	S	35	11	Unknown	Unknown	Unknown	Unknown	Unknown	2021	67	
HMM	9046	30	P	35	11	Copper	Interlux Micron	5583G	Santa Cruz Boatyard	10	2020	67	
HMM	9040	100	P	21	6	Low	Interlux Ultra	Y3669F	So Cal. Maritime Support	6	2021	55	2693-212-AA
HMM	9038	100	S	35	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
HMM	9027	100	S	43	13	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	2	2021	55	60061-94-ZB
HMM	9027	100	S	24	8	Low	Interlux Ultra	Y3779F	Self Applied	10	2020	55	2693-212-AA
HMM	9023	100	S	38	11	Low	Interlux Ultra	Y3669F	Koehler Kraft	5	2019	55	2693-212-AA
HMM	9019	100	S	20	6	Low	Pettit Trinidad HD	1271	Shelter Island Boatyard	11	2019	55	60061-94-ZB
HMM	9015	100	P	20	8	Low	West Marine CPP Ablative	5436936	Self Applied	5	2017	24	60061-132-AA
HMM	9011	100	S	32	9	Low	Unknown	Unknown	King Harbor Redondo Bch	12	2017	67	
HMM	9002	100	S	37	12	Low	Interlux Ultra	Y3669F	Shelter Island Boatyard	6	2019	55	2693-212-AA
HMM	9001	100	S	34	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
Crow's Nest	1	100	Power	80	24.0	Low	Pettit	1161			2015	25	60061-116-AA
Crow's Nest	2	100	Power	40	14.0	Low	Trinidad	1271			2017	65	60061-94-ZB
Crow's Nest	3	100	Power	33	10.0	Low	Pettit	1161			2016	25	60061-116-AA
Crow's Nest	4	100	Power	65	19.0	Low	Pettit	1161			2017	25	60061-116-AA
Crow's Nest	5	100	Power	60	18	Low	Pettit	1161			2017	25	60061-116-AA
Crow's Nest	6	100	Power	37	11	Low	Pettit	1161			2016	25	60061-116-AA
Crow's Nest	7	100	Power	43	14	Low	Pettit	1161			2019	25	60061-116-AA
Crow's Nest	8	100	Power	46	14	Low	Trinidad	1271			2017	65	60061-94-ZB
Crow's Nest	9	100	Power	58	15	Low	Trinidad	1271			2018	65	60061-94-ZB
Crow's Nest	10	100	Power	30	8	Low	Trinidad	1877GA			2018	65	60061-49-ZN
Crow's Nest	11	100	Power	16	6	Low	Trinidad	1877GA			2017	65	60061-49-ZN
Crow's Nest	13	vacant											
Crow's Nest	12	vacant										0	
Crow's Nest	14	vacant										0	
Crow's Nest	15	vacant										0	
Crow's Nest	16	vacant										0	
Crow's Nest	17	vacant										0	
Crow's Nest	18	vacant										0	
Crow's Nest	19	vacant										0	
Crow's Nest	20	vacant										0	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
GCA	5008	90	Power	56'	15'	Low-copper	Interlux Ultra	Y3779F	Driscoll's Mission Bay	8	2020	55	2693-212-AA
GCA	5030	90	Power	38'	13'	Low-copper	Proline	1088C-01	Koehler Kraft	8	2017	67	
GCA	5031	100	Sail	48'	15'5"	Low-copper	Interlux Ultra	Y3779F	Shelter Island Boat Yard	12	2018	55	2693-212-AA
GCA	5050	80	Sail	45'	14'9"	Low-copper	Interlux Ultra	Y3779U	Shelter Island Boat Yard	10	2016	55	
GCA	5064	100	Power	40'	13'6"	Unknown						67	
GCA	5080	100	Power	42'	14'3"	Low-copper	Interlux Ultra	Y3779F	Nielsen Beaumont Marine Inc	12	2019	55	60061-49
GCA	5103	95	Power	50'	17'	Low-copper	Pettit Trinidad	1871	Shelter Island Boatyard	5	2020	50	60061-49-ZD
GCA	5163	80	Power	48'	14'4"	Low-copper	Interlux Ultra	Y3779F	Shelter Island Boat Yard	8	2018	55	2693-212-AA
GCA	5182	95	Power	42'	10'	Low-copper	Petit Vivid	11161	Nielsen Beaumont Marine Inc	10	2017	17	60061-116-AA
GCA	5183	95	Power	54'	15'5"	Low-copper	Interlux Ultra	Y3779F	Shelter Island Boat Yard	1	2014	55	2693-212-AA
GCA	5200	80	Sail	41'	22'6"	Low-copper	PCA Gold	A411189806	Marine Group	10	2020	47	60061-117-ZD
GCA	5204	vacant											
GCA	5225	95	Power	45'	14'7"	Low-copper	Woolsey Defense	4301	Nielsen Beaumont Marine Inc	5	2017	29	60061-49
GCA	5245	vacant					Part of Slip 1						
GCA	5247	90	Power	54'	16'8"	Copper	Interlux Ultra	]	Newport Harbor Shipyard	6	2020	55	#N/A
GCA	5298	90	Sail	53'	16'	Unknown	Unknown					67	
GCA	5343	75	Sail	57'	17'	Low-copper	Interlux Ultra	Y3779F	Shelter Island Boat Yard	10	2015	55	2693-212-AA
GCA	5368	100	Power	52'	15'6"	Unknown	Unknown						
GCA	5380	100	Sail	64.5'	15'	Unknown	Unknown		Jul-20				
GCA	5459	100	Power	38'	14'	Low-copper	Woolsey Defense	4301	Nielsen Beaumont Marine Inc	9	2018	29	#N/A
GCA	5460	100	Power	42'	14'	Unknown	Unknown			4	2019		
GCA	5475	40	Power	77'8"	20'	Low-copper	Sea Hawk Biocop TF	1201-1	Marine Group	5	2019	38	
GCA	5480	90	Sail	45'	14'9"	Unknown	Unknown			7	2018	65	
GCA	5485	100	Sail	37'	12'8"	Low-copper	Z-Spar Pro Gold	BP-91	Driscoll's	12	2018	65	
GCA	5497	75	Power	42'	14'6"	Non-copper	VC Interlux performance	V127KIT/2	Harbor Marineworks	5	2016	0	
GCA	5500	90	Power	75'	21'	Low-copper	Nautical Proguard	NAU993	Driscoll's	9	2018	42	
GCA	5510	95	Power	42'	13'	Low-copper	Pettit Trinidad	1871	Shelter Island Boatyard	1	2020	50	60061-49-ZD
GCA	5527	50	Power	54'	15'6"	Copper	Pettit Ultima	SR60	Nielsen Beaumont Marine Inc	6	2019	60	60061-49
GCA	5540	100	Power	40'	13'4"	Unknown	Unknown			1	2018	65	
GCA	5543	100	Power	42'	15'	Unknown	Unknown					65	
GCA	5551	100	Power	40'	11'5"	Copper	Z-Spar Protector	B-94	Nielsen Beaumont Marine Inc	11	2013	60	
GCA	5557	100	Power	42'	12'	Low-copper	Interlux Ultra	Y3779F	Driscoll's	8	2020	55	2693-212-AA
GCA	5563	95	Power	30'	10'	Low-copper	Woolsey Defense	4301	Nielsen Beaumont Marine Inc	5	2017	29	60061-49
GCA	5581	100	Power	61'	17'4"	Low-copper	Interlux Ultra	Y3779F	Driscoll's Mission Bay	8	2020	55	2693-212-AA
GCA	5585	100	Power	58'	16'	Unknown						67	
GCA	5595	100	Power	58'	18'	Copper	Seaguard Ablataive	P30BQ12	Driscoll's Mission Bay	2	2019	49	

Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #
Tonga	10582	75%	Power	81		Low-copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	February	2019	55	2693-212-AA
Tonga	10538	75%	Power	50		Low-copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	February	2018	55	2693-212-AA
Tonga	10536	25%	Power	70		Low-copper	Sea Hawk Cukote	3445	Pacific Coast Yachting Serv	May	2018	47.5	
Tonga	10458	75%	Power	55		Low-copper	Interlux Micron CSC black	5583G	Factory			38	
Tonga	10449	50%	Power	36		Unknown	Customer unsure	Customer unsure	Customer unsure	unknown	unknown	67	
Tonga	10445	50%	Sail	54		Low-copper	Interlux Ultra	Y3779F	La Paz, Mexico	June	2019	55	2693-212-AA
Tonga	10407	75%	Sail	33		Low-copper	Proline	1088C-02		November	2017	59	
Tonga	10400	75%	Power	38		Low-copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	unknown	2018	55	2693-212-AA
Tonga	10386	50%	Power	54		Low-copper	Sea Hawk Cukote	#3445 black	Factory		2019	47.5	44891-7-ZA
Tonga	10332	50%	Power	34		Low-copper	InterluxMicron CSC HS	YBC580	Factory		2019	38	2693-225-AA
Tonga	10262	50%	Power	44		Low-copper	InterluxMicron CSC HS	YBC580	Factory		2019	38	2693-225-AA
Tonga	10257	50%	Power	45		Low-copper	Sea Hawk Cukote	#3445 black	Factory		2019	47.5	44891-7-ZA
Tonga	10053	50%	Power	54		Low-copper	Sea Hawk Cukote	#3445 black	Factory		2019	47.5	44891-7-ZA
Tonga	10040	75%	Power	43		Low-copper	Nautical Proguard	NAU990	Nielsen Beaumont	August	2018	42	
Tonga	10025	75%	Power	42		Low-copper	Interlux Ultra w/Biolux	48035	Newport Harbor Shipyard	August	2018	55	

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SIMLG SURVEY ADDENDUM

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														Wood Review					SIMLG Response		
Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #	Follow-Up Comments or Questions	Assumption (based on Monitoring Plan Table 3-4)	Annual Report Paint Category	Annual Report Load Under Original Conservative TMDL Assumptions (prior to % occupancy normalization)	Does data agree?	concur	reason	support
SDYC	979	82	Sail	31	10.5	Non Copper	Has not painted since before 2007		Purchased 2015		2007	0		Cannot confirm "Non-Copper" paint (Column H) with information provided. Please check "PaintType." This will be classified as aged-copper based on painting date unless additional information is provided to confirm paint type.	9	Aged-Copper	0.45	No	no		
SDYC	963	95	Power	50	14	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	May	2019	55	2693-212-AA			Category I (confirmed)	0.45	Yes	no	vacant	
SDYC	942	100		36	10	Unknown										Copper (unconfirmed) - Assumed Copper	0.9	Yes	no	vacant	
SDYC	860	99	Sail	38	20	Low Copper	Pettit z-Spar Protector	B-94	Driscoll	Mar	2021	65	60061-49-ZH	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	paint date is after july 2020	
SDYC	826	100	Sail	32	7	Non Copper	Coppercoat	85396-1-AA	Driscoll	Apr	2016	0		It is understood that the manufacturer of Coppercoat markets this paint as non-leaching. The Port will follow up with DPR on this to confirm. Until DPR recognizes Coppercoat as non-leaching, Coppercoat will be classified as a Category I paint in accordance with the DPR database.	6, 8	Category I (confirmed)	0.45	No	no	nonleaching paint	https://coppercoat.com
SDYC	811	98	Power	65	58	Low Copper	Interlux Ultra	Y3779F	Marine Group/South Bay	Jun	2018	55	2693-212-AA			Category I (confirmed)	0.45	Yes	no	vacant	
SDYC	741	96	Power	45.7	14.5	Low Copper	Pettit Z-Spar Protector	B-94	Driscoll	Aug	2016	65				Aged-Copper	0.45	Yes	no	vacant	
SDYC	669		Vacant											Is this slip vacant? Paint information for Category I paint is provided. Until vacancy is confirmed, this will be classified as Category I.	6, 8	Low-Copper (confirmed)	0.45	No	no	vacant	
SDYC	661		vacant													Non-Copper (confirmed)	0	Yes	no	vacant	
SDYC	657	92	Power	34	12.6	Low Copper	Purchased Jun 2017			Nov	2021	65		Boat was purchased on or before 12/31/2018, but painting date indicates it was painted in 2021. This will be assumed to be high-copper unless additional information is provided to confirm paint type.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	paint date is after july 2020	
SDYC	613	100	Sail	50	10	Low Copper	Pettit Vivid Free- 3		Driscoll	Dec	2018	0		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as non-copper based on information provided.	5	Non-Copper (confirmed)	0	No	yes		
SDYC	532	97	Electric	25	8	Low Copper	Proline 1088-6	A1088G	Shelter Island Boatyard	Apr	2020	60	60061-94-ZB			Category I (confirmed)	0.45	Yes	no	vacant	
SDYC	467	83	Sail	40	12	Low Copper	Interlux Ultra Kote Blue	Y3449U	Shelter Island Boatyard	Feb	2019	57		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on information provided.	2	Copper (confirmed)	0.9	No	?		
SDYC	381	98	Power	47	16.5	Unknown										Copper (unconfirmed) - Assumed Copper	0.9	Yes	no	vacant	
SDYC	373	100	Sail	28	9.3	Non Copper	Coppercoat	85396-1-AA	Driscoll	Apr	2013	0		It is understood that the manufacturer of Coppercoat markets this paint as non-leaching. The Port will follow up with DPR on this to confirm. Until DPR recognizes Coppercoat as non-leaching, Coppercoat will be classified as a Category I paint in accordance with the DPR database.	6, 8	Category I (confirmed)	0.45	No	no	vacant	
SDYC	369	99	Power	17	7	Copper	Interlux Aqua	YBA579	Driscoll	Aug	2019	46				Copper (confirmed)	0.9	Yes	no	vacant	
SDYC	363	99	Electric	21	7		Interlux Fiberglass Bottomkote Aqua	10397	Shelter Island Boatyard	Jun	2014	42.75				Aged-Copper	0.45	Yes	no	vacant	
SDYC	319	99	Sail	41.7	13	Low Copper	Pettit Hydrocoat Eco	1847G	Nielsen Beaumont	Jun	2017	25		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as non-copper based on information provided.	5	Non-Copper (confirmed)	0	No	yes		
SDYC	305	94	Sail	30	11	Low Copper	Pettit Trinidad HD	1871	Shelter Island Boatyard	Jun	2019	55	60061-94-ZB			Category I (confirmed)	0.45	Yes	no	vacant	

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Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #	Follow-Up Comments or Questions	Assumption (based on Monitoring Plan Table 3-4)	Annual Report Paint Category	Annual Report Load Under Original Conservative TMDL Assumptions (prior to % occupancy normalization)	Does data agree?	concur	reason	support
SDYC	290	99	Sail	34.5	11	Low Copper	VP Performance Epoxy	V127/A	Driscoll Mission Bay	Oct	2020	0		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as non-copper based on information provided.	5	Non-Copper (confirmed)	0	No	yes		
SDYC	276	0	Sail	28	7	Low Copper	Purchased Feb 2016			Nov	2019	65		Boat was purchased on or before 12/31/2018, but painting date indicates it was painted in 2019. This will be assumed to be high-copper unless additional information is provided to confirm paint type.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	vacant	
SDYC	230	97	Sail	28	9.3	Non Copper	Coppercoat	85396-1-AA	Driscoll	Apr	2013	0		It is understood that the manufacturer of Coppercoat markets this paint as non-leaching. The Port will follow up with DPR on this to confirm. Until DPR recognizes Coppercoat as non-leaching, Coppercoat will be classified as a Category I paint in accordance with the DPR database.	6, 8	Category I (confirmed)	0.45	No	no	nonleaching paint	https://coppercoat.com
SDYC	158	100	Sail	35	11.6	Low Copper	Interlux White Epoxy Paint	V127/A	Driscoll	Apr	2017	0		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as non-copper based on information provided.	5	Non-Copper (confirmed)	0	No	yes		
SDYC	74	100	Power	31	10	Non Copper	Awlstar		Driscoll	Jun	2021	0		Cannot confirm "Non-Copper" paint (Column H) with information provided. Please check "PaintType." This will be assumed to be copper-based unless additional information is provided to confirm paint type.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	paint date is after july 2020	
SDYC	47	65	Sail	45	13	Low Copper	Interlux Ultra	Y3779F	Shelter Island Boatyard	Jun	2021	55	2693-212-AA			Category I (confirmed)	0.45	Yes	no	vacant	
SDYC	27	88	Sail	37	8	Low Copper	Pettit Z-Spar Protector	B-94	Koehler	Jul	2020	65	60061-49-ZH	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	paint date is after july 2020	
SGYC	2247	95	S	40	13.25	**NON**	COPPER COAT	85396-1-AA	BAJA NAVAL ENSENADA MX	05	2020	0		It is understood that the manufacturer of Coppercoat markets this paint as non-leaching. The Port will follow up with DPR on this to confirm. Until DPR recognizes Coppercoat as non-leaching, Coppercoat will be classified as a Category I paint in accordance with the DPR database.	6, 8	Category I (confirmed)	0.45	No	no	nonleaching paint	https://coppercoat.com
SGYC	2285	98.5	S	46.9	14.2	Low	PETTIT ZSPAR	B-94	DRISCOLLS	06	2019	65	60061-49-ZH	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	yes		
SGYC	2308	95	S	32	6.8	Low	PETTIT PROTECTOR	B-91	DRISCOLLS MISSION BAY	08	2019	57	60061-49-ZG	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	yes		
SGYC	2342	99	S	30	10	Low	INTERSLEEK 900	B-91	SHELTER ISLAND BOAT YARD	02	2013	65		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as non-copper based on information provided.	5	Non-Copper (confirmed)	0	No	yes		
SGYC	2564	99	S	30	11	NON	COPPER COAT	85396	DRICOLLS	03	2016	0		It is understood that the manufacturer of Coppercoat markets this paint as non-leaching. The Port will follow up with DPR on this to confirm. Until DPR recognizes Coppercoat as non-leaching, Coppercoat will be classified as a Category I paint in accordance with the DPR database.	6, 8	Category I (confirmed)	0.45	No	no	nonleaching paint	https://coppercoat.com
SWYC	4980	92	POWER	57	17	copper	TROPIKOTE	2145GL	Baja Naval ensenada Bc mx	10	2019	76		Information provided is not for high-copper paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	6, 8	Category I (confirmed)	0.45	No	yes		
SWYC	4920	98	POWER	31	9	Low	PETTIT UNEPOXY TIN-FREE	1228	Marine Max - Skipper Buds Northpoint IL	9	2021	33	60061-63-AA	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	copper content <40%	https://www.pettitpaint.com/media/4013/pettit-unepoxy-antifouling-bottom-paint-pds-17.pdf

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Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #	Follow-Up Comments or Questions	Assumption (based on Monitoring Plan Table 3-4)	Annual Report Paint Category	Annual Report Load Under Original Conservative TMDL Assumptions (prior to % occupancy normalization)	Does data agree?	concur	reason	support
SWYC	4796	98	SAIL	35	12	Low	PETTIT UNEPOXY TIN-FREE	1228	Recently Purchased	2	2021	33	60061-63-AA	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	copper content <40%	https://www.pettitpaint.com/media/4013/pettit-unepoxy-antifouling-bottom-paint-pds-17.pdf
SWYC	4789	100	POWER	22	9	copper	RUST-OLEUM MARINE COATINGS	207012	SI	9	2020	46		Information provided is not for high-copper paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	6, 8	Category I (confirmed)	0.45	No	yes		
	4762		vacant											Vacant or no data? Please provide occupancy rate information if not vacant. This will be assumed to be copper-based and 100% occupied until paint information/vacancy is confirmed.	3, 4, 10	Copper (unconfirmed) - Assumed Copper	0.9	No	no	vacant	
SWYC	4707	62	SAIL	33	8	Low	VC-OFFSHORE	V118	Self Applied	11	2020	41		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on information provided.	2	Copper (confirmed)	0.9	No	no	paint date is after july 2020	
SWYC	4508	100	SAIL	36	13	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	3	2020	33	60061-63-AA	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	copper content <40%	https://www.pettitpaint.com/media/4013/pettit-unepoxy-antifouling-bottom-paint-pds-17.pdf
SWYC	4439	94	POWER	43	15	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	11	2020	33	60061-63-AA	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	copper content <40%	https://www.pettitpaint.com/media/4013/pettit-unepoxy-antifouling-bottom-paint-pds-17.pdf
SWYC	4400	96	SAIL	35	11	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	11	2020	33	60061-63-AA	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	copper content <40%	https://www.pettitpaint.com/media/4013/pettit-unepoxy-antifouling-bottom-paint-pds-17.pdf
SWYC	4379	98	SAIL	26	7	copper	HYDROCOAT ABLATIVE	1640	KK	6	2021	40		Information provided is not for high-copper paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	6, 8	Category I (confirmed)	0.45	No	yes		
SWYC	4365	94	POWER	34	9	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	3	2021	33	60061-63-AA	Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on registration number provided.	2	Copper (confirmed)	0.9	No	no	copper content <40%	https://www.pettitpaint.com/media/4013/pettit-unepoxy-antifouling-bottom-paint-pds-17.pdf
	4353		vacant											Vacant or no data? Please provide occupancy rate information if not vacant. This will be assumed to be copper-based and 100% occupied until paint information/vacancy is confirmed.	3, 4, 10	Copper (unconfirmed) - Assumed Copper	0.9	No	no	vacant	
SWYC	4174	96	SAIL	31	11	Low	PETTIT UNEPOXY TIN-FREE	1228	SI	4	2021	33		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on information provided.	2	Copper (confirmed)	0.9	No	no	paint date is after july 2020	
SWYC	4172	98	SAIL	27	8	copper	PRO-LINE 1088	Y1088C-03	SI	5	2010	67		This will be assumed to be aged-copper based on painting date.	9	Aged-Copper	0.45	No	yes		
SIM	6106		S	22	6	Copper	Unknown	unknown	Aug-18	unknown	unknown	67		Please provide occupancy rate information. If not provided, occupancy rate will be assumed to be 100%. This will be assumed to be aged-copper based on purchase date.	4, 9, 10	Aged-Copper	0.45	No	yes		
SIM	6153		S	31	10.1	Copper	Total Boat by Spartan	4020	Self Applied	1	2019	67		Please provide occupancy rate information. If not provided, occupancy rate will be assumed to be 100%. Copper content listed in DPR database is 38%. Because copper content is <40%, this will be classified as low-copper.	4, 7, 8, 10	Low-Copper (confirmed)	0.45	No	yes		
SIM	6216		P	30	8	Non	Non Copper Biocide		Koehler Kraft	2	2020	0		Please provide occupancy rate information. If not provided, occupancy rate will be assumed to be 100%. Cannot confirm "Non-Copper" paint (Column H) with information provided. Please check "PaintType." This will be assumed to be copper-based unless additional information is provided to confirm paint type.	3, 4, 10	Copper (unconfirmed) - Assumed Copper	0.9	No	no		

															Wood Review					SIMLG Response		
Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #	Follow-Up Comments or Questions	Assumption (based on Monitoring Plan Table 3-4)	Annual Report Paint Category	Annual Report Load Under Original Conservative TMDL Assumptions (prior to % occupancy normalization)	Does data agree?	concur	reason	support
SIM	6682		S	42	13.9	Non	Micron CSC	YBC580	SIBY	9	2016	0	2693-225-AA	Please provide occupancy rate information. If not provided, occupancy rate will be assumed to be 100%. Information provided is not for "Non-Copper" paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	4, 6, 8, 10	Category I (confirmed)	0.45	No	yes		
SIM	6683		P	38	11	non	Naut Super Pro Guar	NAU773	Neilson Beaumont	1	2016	0	23566-20-ZT	Please provide occupancy rate information. If not provided, occupancy rate will be assumed to be 100%. Information provided is not for "Non-Copper" paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	4, 6, 8, 10	Category I (confirmed)	0.45	No	yes		
SIM	6689		S	42	13.9	Non	Micron CSC	YBC580	SIBY	9	2016	0	2693-225-AA	Please provide occupancy rate information. If not provided, occupancy rate will be assumed to be 100%. Information provided is not for "Non-Copper" paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	4, 6, 8, 10	Category I (confirmed)	0.45	No	yes		
HMM	9895	100	S	32	11	Low	Unknown	Unknown	Unknown	3	2019	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	yes		
HMM	9890	100	S	26	9	Copper	Interlux Ultra	Y3779U	Shelter Island Boatyard	9	2017	55		This will be assumed to be aged-copper based on painting date.	9	Aged-Copper	0.45	No	yes		
HMM	9882	100	S	36	10	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9851	100	P	29	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9773	100	S	38	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9764	100	S	39	13	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9731	100	S	36	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9691	100	S	42	12	Low	Unknown	Unknown	Mexico	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9621	100	S	41	13	Copper	Interlux Ultra	1671	Shelter Island Boatyard	9	2021	70		Information provided is not for high-copper paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	6, 8	Category I (confirmed)	0.45	No	yes		
HMM	9469	100	S	34	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9457	100	P	30	10	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	

														Wood Review					SIMLG Response		
Facility	Slip/ Mooring Reference Number	Percent of Time Occupied	Vessel Type (Power or Sail)	Vessel Length	Vessel Beam	Paint Type Copper, Low or Non	Paint Product Name	Product Number	Boatyard Name or Purchase Date	Painting Date Month (mm)	Painting Date Year (yyyy)	% Copper	Category 1 reg #	Follow-Up Comments or Questions	Assumption (based on Monitoring Plan Table 3-4)	Annual Report Paint Category	Annual Report Load Under Original Conservative TMDL Assumptions (prior to % occupancy normalization)	Does data agree?	concur	reason	support
HMM	9436	100	S	47	13	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9365	100	S	38	18	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9356	100	S	33	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9322	100	P	26	8	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9287	100	S	26	9	Non	Unknown	Unknown	Unknown	9	2006	0		Cannot confirm "Non-Copper" paint (Column H) with information provided. Please check "PaintType." This will be classified as aged-copper based on painting date unless additional information is provided to confirm paint type.	9	Aged-Copper	0.45	No	no		
HMM	9231	100	P	29	11	Low	Unknown	Unknown	Unknown	3	2019	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9189	100	S	28	8	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9174	100	S	40	12	Low	Unknown	Unknown	Newport Beach	1	2019	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9171	100	P	34	10	Non	Interlux Micron 66	YBA473	Marty Marine	6	2020	0	2693-187-ZG	Information provided is not for "Non-Copper" paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	6, 8	Category I (confirmed)	0.45	No	yes		
HMM	9122	100	E	21	8	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknown	
HMM	9092	100	P	30	12	Low	Seaguard	P30BQ12	Self Applied	12	2019	33		Information provided is not for "Low-Copper" paint (Column H). Please check "PaintType." This will be classified as high-copper based on information provided.	2	Copper (confirmed)	0.9	No	no	paint with <40% copper are low	The use of low- copper hull paints (i.e., hull coatings with less than 40% copper) also was recognized in the TMDL as a viable means of reducing copper loading to the basin. Page 18 Implementation Plan
HMM	9091	100	P	24	7	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknow	
HMM	9046	30	P	35	11	Copper	Interlux Micron	5583G	Santa Cruz Boatyard	10	2020	67		Information provided is not for high-copper paint (Column H). Please check "PaintType." This will be classified as Category I based on information provided.	6, 8	Category I (confirmed)	0.45	No	yes	no	
HMM	9038	100	S	35	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknow	
HMM	9001	100	S	34	12	Low	Unknown	Unknown	Unknown	Unknown	Unknown	67		Unknown paints with painting dates after 2018 or unknown painting dates will be assumed to be high-copper under the original conservative TMDL assumptions.	3	Copper (unconfirmed) - Assumed Copper	0.9	No	no	unknow	

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APPENDIX D

WATER QUALITY RESULTS

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FIELD DATA SHEETS

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FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-ER

Date: (mm/dd/yyyy) 08/24/2021

Time on Station: (hh:mm) 0630

Time Started: (hh:mm) 0645

Ended: (hh:mm) 0705

GPS: (WGS84) Lat. NA Long. NA

Tide (ft): NA

Time of Slack High Tide: NA

Water Depth (ft): NA

Weather conditions: overcast, light breeze

Wind (mph): 5mph NW

Time of CTD Cast: NA

Surface Water Conditions: NA

Water Visibility (ft): NA

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	NA	NA	NA	NA	NA
During sample collection					
End of sample collection					
Average value					

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes:

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-REF-2

Date: (mm/dd/yyyy) 08/24/2021

Time on Station: (hh:mm) 0727

Time Started: (hh:mm) 0735

Ended: (hh:mm) 0735

GPS: (WGS84) Lat. 32.70928 Long. -117.22518

Tide (ft): +1.5 ft.

Time of Slack High Tide: 1123

Water Depth (ft): 44 ft

Weather conditions: overcast, breezy

Wind (mph): 5mph NW

Time of CTD Cast: NA

Surface Water Conditions: light texture

Water Visibility (ft): 9'10"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	NA →				
During sample collection	21.2	52390	34.56	7.90	6.72
End of sample collection	NA →				
Average value	21.2	52390	34.56	7.90	6.72

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: Single Niskin drop, sample collection bottles filled at next station (SIYB-REF-1).
Live boat collection ~10m from site

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-REF-1

Date: (mm/dd/yyyy) 08/24/2021

Time on Station: (hh:mm) 0745

Time Started: (hh:mm) 0815

Ended: (hh:mm) 0840

GPS: (WGS84) Lat. 32.70405 Long. -117.23232

Tide (ft): +2.2 ft

Time of Slack High Tide: 1123

Water Depth (ft): 66 ft.

Weather conditions: overcast/cloudy, breezy

Wind (mph): ~3mph WNW

Time of CTD Cast: 0845

Surface Water Conditions: light texture

Water Visibility (ft): 10'4"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	19.6	52102	34.35	7.95	7.07
During sample collection	19.6	52180	34.40	7.94	6.98
End of sample collection	19.5	52136	34.38	7.96	7.02
Average value	19.6	52139	34.38	7.95	7.02

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: 0.7m from station

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-6

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) 0905

Time Started: (hh:mm) 0915

Ended: (hh:mm) 0940

GPS: (WGS84) Lat. 32.70857 Long. -117.23574

Tide (ft): +3.5

Time of Slack High Tide: 1123

Water Depth (ft): 16 ft

Weather conditions: overcast, light breeze

Wind (mph): ~4 mph WNW

Time of CTD Cast: 0945

Surface Water Conditions: light texture

Water Visibility (ft): 9' 1"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	20.6	52302	34.50	7.93	6.64
During sample collection	20.6	52290	34.48	7.92	6.59
End of sample collection	20.6	52291	34.49	7.94	6.62
Average value	20.6	52294	34.49	7.93	6.62

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: ~20m from point due to proximity to SD police channel
Topside maintenance occurring adjacent to vessel (~5m)
Light sheen on surface, some organic flotable debris observed.
Construction occurring @ Nimitz Marine Facility across channel

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-5

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) 1020

Time Started: (hh:mm) 1030

Ended: (hh:mm) 1050

GPS: (WGS84) Lat. 32.71215 Long. -117.~~0~~232297

Tide (ft): +4.7

Time of Slack High Tide: 1123

Water Depth (ft): 24ft

Weather conditions: partly cloudy, light breeze

Wind (mph): ~7mph NW

Time of CTD Cast: 1000

Surface Water Conditions: light texture

Water Visibility (ft): 10'5"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	21.2	52333	34.51	7.96	6.87
During sample collection	21.2	52318	34.51	7.96	6.87
End of sample collection	21.3	52306	34.49	7.95	6.88
Average value	21.2	52319	34.50	7.96	6.87

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: - Topside maintenance/cleaning ~30yds (spraying) SE
- Within 1.2m of sampling coordinates during collection

PORT OF SAN DIEGO
SHELTER ISLAND YACHT BASIN TMDL MONITORING
2021 SUMMER MONITORING EVENT

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-4

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) 1127

Time Started: (hh:mm) 1130

Ended: (hh:mm) 1157

GPS: (WGS84) Lat. 32.71689 Long. -117.23197

Tide (ft): +5.0

Time of Slack High Tide: 1123

Water Depth (ft): 17ft

Weather conditions: partly cloudy, breezy

Wind (mph): ~ 5-10 mph WNW

Time of CTD Cast: 1205

Surface Water Conditions: light texture

Water Visibility (ft): 9' 10"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	21.5	52215	34.43	7.97	7.26
During sample collection	21.4	52225	34.43	7.97	7.30
End of sample collection	21.6	52224	34.43	7.97	7.33
Average value	21.5	52221	34.43	7.97	7.30

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: · within 3m of sampling location
· Small sailboats active within 30m of sampling locations

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-3

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) 12:24

Time Started: (hh:mm) 1230

Ended: (hh:mm) 1250

GPS: (WGS84) Lat. 32.71548 Long. -117.22994

Tide (ft): +4.7 ft.

Time of Slack High Tide: 1123

Water Depth (ft): 20 ft

Weather conditions: Sunny, breezy

Wind (mph): 10-12 mph WNW

Time of CTD Cast: 1251

Surface Water Conditions: light texture

Water Visibility (ft): 8' 8"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	21.6	52225	34.43	7.97	7.22
During sample collection	21.6	52226	34.43	7.97	7.21
End of sample collection	21.6	52216	34.43	7.97	7.25
Average value	21.6	52222	34.43	7.97	7.23

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: Within 2-3m of sampling location
Small sailboats within 30 m of sampling location (occassional)
Topside cleaning/maintenence w/in 250yds observed towards Shelter Island marina.

PORT OF SAN DIEGO
SHELTER ISLAND YACHT BASIN TMDL MONITORING
2021 SUMMER MONITORING EVENT

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-2

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) 1325

Time Started: (hh:mm) 1325

Ended: (hh:mm) 1348

GPS: (WGS84) Lat. 32.71411 Long. -117.22921

Tide (ft): +3.9

Time of Slack High Tide: 1123

Water Depth (ft): 15 ft

Weather conditions: sunny, breezy

Wind (mph): 11 mph WNW

Time of CTD Cast: N/A*

Surface Water Conditions: texture on water, light chop

Water Visibility (ft): 8' 9"

* Not performed due to hazardous collection conditions

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	21.6	52222	34.43	7.99	7.33
During sample collection	21.6	52222	34.43	7.99	7.33
End of sample collection	21.6	52218	34.43	8.01	7.36
Average value	21.6	52221	34.43	8.00	7.34

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

pump-out boat also active near mouth of marina entrance (~150yds)

Unable to anchor due to windy conditions. Samples processed in bay, return to site for tox collection.

Notes: Topside cleaning + maintenance performed on multiple (~6) vessels within marina. Hull cleaners topside (not observed in water in immediate sampling area). Sample taken off bow (away from motor) due to live-boating. Live-boat performed due to ~~site~~ location in busy channel + windy conditions. ~~an~~ Chem sample taken 0.5m from sample location off bow away from motor.

PORT OF SAN DIEGO
SHELTER ISLAND YACHT BASIN TMDL MONITORING
2021 SUMMER MONITORING EVENT

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-1

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) 1412

Time Started: (hh:mm) 1425

Ended: (hh:mm) 1507

GPS: (WGS84) Lat. 32.71821 Long. -117.22601

Tide (ft): +3.1 ft

Time of Slack High Tide: 1123

Water Depth (ft): 18ft

Weather conditions: Sunny, breezy

Wind (mph): ~5-7mph W

Time of CTD Cast: 1525

Surface Water Conditions: light texture

Water Visibility (ft): 8' 6"

Extra water volume collected for TIE procedure.

Time of Measurement	Temperature (°C)	Sp. Cond. (μS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	22.0	52231	34.43	7.95	7.11
During sample collection	22.0	52236	34.44	7.96	7.16
End of sample collection	22.1	52230	34.43	7.98	7.30
Average value	22.0	52232	34.43	7.96	7.19

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: Within 0.2 - 3m of sampling location

- Topside cleaning (spraying) performed on nearby vessel w/in ~35yds -40 of sampling (post-chemistry grab) (N), approx 3/4 through collection effort.

PORT OF SAN DIEGO
SHELTER ISLAND YACHT BASIN TMDL MONITORING
2021 SUMMER MONITORING EVENT

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-1-REP

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) ~~1412~~ VB N/A

Time Started: (hh:mm) 1520

Ended: (hh:mm) 1530

GPS: (WGS84) Lat. 32.71821 Long. -117.22601

Tide (ft): +2.2ft

Time of Slack High Tide: 1123

Water Depth (ft): 17 ft

Weather conditions: Sunny, breezy

Wind (mph): ~7-8mph W

Time of CTD Cast: N/A

Surface Water Conditions: light texture

Water Visibility (ft): 8' 6"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	22.1	52222	34.45	7.96	7.31
During sample collection	22.2	52231	34.43	7.96	7.28
End of sample collection	22.3	52243	34.43	7.96	7.20
Average value	22.2	52232	34.44	7.96	7.26

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: Topside cleaning (including spraying) performed on nearby vessel w/in 35-40yds of sampling (North)

PORT OF SAN DIEGO
SHELTER ISLAND YACHT BASIN TMDL MONITORING
2021 SUMMER MONITORING EVENT

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-FB

Date: (mm/dd/yyyy) 08/24/21

Time on Station: (hh:mm) N/A

Time Started: (hh:mm) 1540

Ended: (hh:mm) 1550

GPS: (WGS84) Lat. N/A Long. N/A

Tide (ft): N/A

Time of Slack High Tide: 1123

Water Depth (ft): N/A

Weather conditions: sunny, breezy

Wind (mph): ~5-6mph W

Time of CTD Cast: N/A

Surface Water Conditions: light texture

Water Visibility (ft): N/A

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station					
During sample collection			N/A		
End of sample collection					
Average value					

*Water quality measured at the same depth as sample collection (i.e. within 1 meter from the surface).

Notes: Topside cleaning (including spraying) observed on nearby vessel (~35-40 yds North of sampling location).

- Field blank samples collected before pulling anchor.

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FIELD QA/QC CHECKLISTS

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FIELD SAMPLING QA CHECKLIST

Station Location: Eq Blank **Date/Time:** 8/24/2021 0633 TO 0705

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	NA
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	NA
Tide recorded	NA
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	NA
Time of sampling recorded	Y
Water depth at sample site recorded	NA
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	Y

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	NA
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	NA
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	NA
Sampling depth recorded	NA

Collected on dock at transient dock

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck Courier to pick up 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J. Snyder
Wood E + I

FIELD SAMPLING QA CHECKLIST

Station Location: Ref - 2 **Date/Time:** 08/24/2021

Collect 0735

Mark each box with Y, N, or NA

on site at ~~0740~~ 0727

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	N *
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded * **	~~Y~~ BS N
Tide recorded	Y
Weather conditions recorded	
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	Y

* Live boat collection at Ref - 2
** approx 10 m from site

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	~~Y~~ KB N*
Sampling depth recorded	Y

* one set of water quality readings (taken during sample collection).

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

This sample was processed at Ref-1 site after anchoring

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J. Snyder
Wood E+I

FIELD SAMPLING QA CHECKLIST

Station Location: Ref-1 **Date/Time:** 08/24/2021
745 arrived
815 collect

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	Y

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J. Snyder Wood E+I

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-6 **Date/Time:** 08/24/2021

0905 arrive
0915 collect

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	N
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station *	Y

2. Sampling procedures: * topside boat cleaning of police boat on other side of dock.

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J. Snyder Wood E + I

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-5 **Date/Time:** 08/24/2021

1020 arrive
1030 collect

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel ~~has~~ received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded ~ 4 m BJS 1.2 m	~~N~~ Y BJS Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station *	Y

2. Sampling procedures: * topside cleaning ~ 30 m to SE

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pickup samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J Snyder
Wood E+I

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-4 **Date/Time:** 08/24/2021

11 27 arrive
11 30 collect.

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. $\pm$ 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station *	Y

* None observed

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder

Date/Time 08/25/2021 0940

Print Name/Company: Barry J. Snyder
Wood E + I

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB - 3 **Date/Time:** 08/24/2021

arrive 1224
collect ~~1228~~ BTS 1230

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station*	Y

* no in-water. Topside cleaning ~ 250 m towards SIM

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J Snyder Wood E+I

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-2 **Date/Time:** 8/24/2021

Mark each box with Y, N, or NA

Arrive 1325
Collect 1325

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	N*
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	Y**

* Due to windy conditions, could not anchor or tie off.
** no in-water cleaning observed

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	N***
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

*** could not turn off motor due to wind velocity and direction. Needed power motor to manuver in tight spot. Collected samples from vessel bow to be away from motor.

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Week Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Week Courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

No CTD cast at this station due to hazardous collection conditions.

1. Collected chem samples - processed in Bay
2. Re-enter and collected samples for TOX about 10-15 minutes after collection of chem samples

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J. Snyder Wood E+I

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB - 1 **Date/Time:** 08/24/2021

Mark each box with Y, N, or NA

Arrive 1412
Collect 1425

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station*	Y

*Topside cleaning about 35-40 m to N
Cleaning started 3/4 through collection effort at this site

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, toxicity *	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	Y

* extra water collect at this site for TIE procedure

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion ____

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J Snyder
Wood E+I

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB - 1 Rep **Date/Time:** 08/24/2021

Arrive: NA
Collect: 1520

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	Y

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, ~~toxicity~~ No tox	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	Y

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J. Snyder Wood E+I

FIELD SAMPLING QA CHECKLIST

Station Location: Blank Field **Date/Time:** 08/24/2021

Collect: 1540

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	NA
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded *	NA
Tide recorded	NA
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	NA
Time of sampling recorded	Y
Water depth at sample site recorded	NA
General site observations recorded	NA
Check for boat cleaning operations in the area – if active, move to a new station	Y **

* Field blank prep performed at SIYB-1 before pulling anchor

2. Sampling procedures:

A. Water Samples ** top side cleaning 35-40 m to N

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	NA
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	NA
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	NA
Sampling depth recorded	NA

FIELD SAMPLING QA CHECKLIST

Sample bottles filled in the following order: metals, organics, ~~toxicity~~	Y
Staff avoided contaminating samples at all times	Y
COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	Y

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded f~~or this site before moving to the next~~ Final location	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

Weck courier to pick up samples on 8/25

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 08/25/2021 0940

Print Name/Company: Barry J Snyder Wood E+I

ANALYTICAL TESTING REPORTS

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WECK LABORATORIES CHEMISTRY REPORT

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WECK LABORATORIES, INC.

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FINAL REPORT

Work Orders:	1H25022	**Report Date:**	10/06/2021
		Received Date:	8/25/2021
Project:	Shelter Island Yacht Basin TMDL Summer Monitoring (Port of San Diego)	**Turnaround Time:**	Normal
		Phones:	(858) 278-3600
		Fax:	(858) 278-5300
Attn:	Barry Snyder	**P.O. #:**	
Client:	Wood - San Diego 9177 Sky Park Court, Ste A San Diego, CA 92123	**Billing Code:**	

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH #4047 • LACSD #10143 • NELAP-OR #4047 • NJ-DEP #CA015 • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear Barry Snyder,

Enclosed are the results of analyses for samples received 8/25/21 with the Chain-of-Custody document. The samples were received in good condition, at 3.7 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:

Chris Samatmanakit
Project Manager

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FINAL REPORT

WECK LABORATORIES, INC.

Wood - San Diego
9177 Sky Park Court, Ste A
San Diego, CA 92123

Project Number: Shelter Island Yacht Basin TMDL Summer Monitoring (Port of San Diego)

Project Manager: Barry Snyder

Reported: 10/06/2021 17:28

Case Narrative

Report revised to include % recoveries for TOC QC's for MS/MSD.

-CSS 10/6/21

Sample Summary

Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
SIYB-1	Marisa Swiderski/Kate Buckley	1H25022-01	Sea Water	08/24/21 14:25	
SIYB-1 (REP)	Marisa Swiderski/Kate Buckley	1H25022-02	Sea Water	08/24/21 15:20	
SIYB-2	Marisa Swiderski/Kate Buckley	1H25022-03	Sea Water	08/24/21 13:25	
SIYB-3	Marisa Swiderski/Kate Buckley	1H25022-04	Sea Water	08/24/21 12:30	
SIYB-4	Marisa Swiderski/Kate Buckley	1H25022-05	Sea Water	08/24/21 11:30	
SIYB-5	Marisa Swiderski/Kate Buckley	1H25022-06	Sea Water	08/24/21 10:30	
SIYB-6	Marisa Swiderski/Kate Buckley	1H25022-07	Sea Water	08/24/21 09:15	
SIYB-REF-1	Marisa Swiderski/Kate Buckley	1H25022-08	Sea Water	08/24/21 08:15	
SIYB-REF-2	Marisa Swiderski/Kate Buckley	1H25022-09	Sea Water	08/24/21 07:35	
SIYB-ER	Marisa Swiderski/Kate Buckley	1H25022-10	Sea Water	08/24/21 06:45	
SIYB-FB	Marisa Swiderski/Kate Buckley	1H25022-11	Sea Water	08/24/21 15:40	

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Project Manager: Barry Snyder

Reported: 10/06/2021 17:28

Sample Results

Sample: SIYB-1 — Sampled: 08/24/21 14:25 by Marisa Swiderski/Kate Buckley

1H25022-01 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 08/31/21 12:15				**Analyst:** blg
Total Suspended Solids	**6**		5	mg/l	1	08/31/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1002 — **Preparation:** SM 5310B_comb			**Prepared:** 09/15/21 15:39				**Analyst:** ejm
Dissolved Organic Carbon	**1.5**	0.15	0.30	mg/l	1	09/16/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb			**Prepared:** 09/17/21 19:13				**Analyst:** ejm
Total Organic Carbon (TOC)	**1.4**	0.19	0.30	mg/l	1	09/19/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:25				**Analyst:** ALN
Copper, Total	**12**	0.019	0.050	ug/l	5	09/10/21	
Zinc, Total	**22**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:29				**Analyst:** ALN
Copper, Dissolved	**6.7**	0.019	0.050	ug/l	5	09/08/21	
Zinc, Dissolved	**19**	0.036	0.20	ug/l	1	09/07/21	

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Sample Results

(Continued)

Sample: SIYB-1 (REP) — Sampled: 08/24/21 15:20 by Marisa Swiderski/Kate Buckley

1H25022-02 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 08/31/21 12:15				**Analyst:** blg
Total Suspended Solids	**6**		5	mg/l	1	08/31/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1002 — **Preparation:** SM 5310B_comb			**Prepared:** 09/15/21 15:39				**Analyst:** ejm
Dissolved Organic Carbon	**1.6**	0.15	0.30	mg/l	1	09/16/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb			**Prepared:** 09/17/21 19:13				**Analyst:** ejm
Total Organic Carbon (TOC)	**1.3**	0.19	0.30	mg/l	1	09/19/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:25				**Analyst:** ALN
Copper, Total	**9.9**	0.019	0.050	ug/l	5	09/10/21	
Zinc, Total	**21**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:29				**Analyst:** ALN
Copper, Dissolved	**7.8**	0.019	0.050	ug/l	5	09/08/21	
Zinc, Dissolved	**20**	0.036	0.20	ug/l	1	09/07/21	

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Sample Results

(Continued)

Sample: SIYB-2 Sampled: 08/24/21 13:25 by Marisa Swiderski/Kate Buckley

1H25022-03 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1H2136 **Preparation:** _NONE (WETCHEM)			**Prepared:** 08/31/21 12:15				**Analyst:** blg
Total Suspended Solids	**10**		5	mg/l	1	08/31/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1180 **Preparation:** SM 5310B_comb			**Prepared:** 09/17/21 19:13				**Analyst:** ejm
Total Organic Carbon (TOC)	**1.4**	0.19	0.30	mg/l	1	09/19/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0292 **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:25				**Analyst:** ALN
Copper, Total	**7.9**	0.019	0.050	ug/l	5	09/10/21	
Zinc, Total	**18**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0293 **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:29				**Analyst:** ALN
Copper, Dissolved	**5.5**	0.019	0.050	ug/l	5	09/08/21	
Zinc, Dissolved	**16**	0.036	0.20	ug/l	1	09/08/21	

Sample Results

(Continued)

Sample: SIYB-2 Sampled: 08/24/21 13:25 by Marisa Swiderski/Kate Buckley

1H25022-03RE1 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1193 **Preparation:** SM 5310B_comb			**Prepared:** 09/19/21 14:13				**Analyst:** ejm
Dissolved Organic Carbon	**2.4**	0.15	0.30	mg/l	1	09/22/21	

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Sample Results

(Continued)

Sample: SIYB-3 — 1H25022-04 (Sea Water)

Sampled: 08/24/21 12:30 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 08/31/21 12:15 — **Analyst:** blg							
Total Suspended Solids	**4**		5	mg/l	1	08/31/21	J
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb — **Prepared:** 09/17/21 19:13 — **Analyst:** ejm							
Total Organic Carbon (TOC)	**1.3**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1193 — **Preparation:** SM 5310B_comb — **Prepared:** 09/19/21 14:13 — **Analyst:** ejm							
Dissolved Organic Carbon	**2.5**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:25 — **Analyst:** ALN							
Copper, Total	**8.9**	0.019	0.050	ug/l	5	09/10/21	
Zinc, Total	**20**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:29 — **Analyst:** ALN							
Copper, Dissolved	**6.2**	0.019	0.050	ug/l	5	09/08/21	
Zinc, Dissolved	**16**	0.036	0.20	ug/l	1	09/08/21	

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Sample Results

(Continued)

Sample: SIYB-4 — 1H25022-05 (Sea Water) — Sampled: 08/24/21 11:30 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 08/31/21 12:15 — **Analyst:** blg							
Total Suspended Solids	**7**		5	mg/l	1	08/31/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb — **Prepared:** 09/17/21 19:13 — **Analyst:** ejm							
Total Organic Carbon (TOC)	**1.3**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1193 — **Preparation:** SM 5310B_comb — **Prepared:** 09/19/21 14:13 — **Analyst:** ejm							
Dissolved Organic Carbon	**1.3**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:25 — **Analyst:** ALN							
Copper, Total	**9.4**	0.019	0.050	ug/l	5	09/10/21	
Zinc, Total	**17**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:29 — **Analyst:** ALN							
Copper, Dissolved	**6.5**	0.019	0.050	ug/l	5	09/08/21	
Zinc, Dissolved	**15**	0.036	0.20	ug/l	1	09/08/21	

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Sample Results

(Continued)

Sample: SIYB-5 — 1H25022-06 (Sea Water) — Sampled: 08/24/21 10:30 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 08/31/21 12:15 — **Analyst:** blg							
Total Suspended Solids	**5**		5	mg/l	1	08/31/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb — **Prepared:** 09/17/21 19:13 — **Analyst:** ejm							
Total Organic Carbon (TOC)	**1.3**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1193 — **Preparation:** SM 5310B_comb — **Prepared:** 09/19/21 14:13 — **Analyst:** ejm							
Dissolved Organic Carbon	**1.4**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:25 — **Analyst:** ALN							
Copper, Total	**3.8**	0.0038	0.010	ug/l	1	09/10/21	
Zinc, Total	**8.9**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:29 — **Analyst:** ALN							
Copper, Dissolved	**2.9**	0.0038	0.010	ug/l	1	09/08/21	
Zinc, Dissolved	**7.8**	0.036	0.20	ug/l	1	09/08/21	

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FINAL REPORT

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Project Manager: Barry Snyder

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Sample Results

(Continued)

Sample: SIYB-6   Sampled: 08/24/21 9:15 by Marisa Swiderski/Kate Buckley

1H25022-07 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D **Instr:** OVEN15							
Batch ID: W1H2136 **Preparation:** _NONE (WETCHEM) **Prepared:** 08/31/21 12:15 **Analyst:** blg							
Total Suspended Solids	**8**		5	mg/l	1	08/31/21	
Method: SM 5310B **Instr:** TOC02							
Batch ID: W1I1180 **Preparation:** SM 5310B_comb **Prepared:** 09/17/21 19:13 **Analyst:** ejm							
Total Organic Carbon (TOC)	**1.3**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B **Instr:** TOC02							
Batch ID: W1I1193 **Preparation:** SM 5310B_comb **Prepared:** 09/19/21 14:13 **Analyst:** ejm							
Dissolved Organic Carbon	**1.4**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 **Instr:** ICPMS03							
Batch ID: W1I0292 **Preparation:** Preconcentration with IC Colum **Prepared:** 09/07/21 11:25 **Analyst:** ALN							
Copper, Total	**2.3**	0.0038	0.010	ug/l	1	09/10/21	
Zinc, Total	**5.6**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640 **Instr:** ICPMS03							
Batch ID: W1I0293 **Preparation:** Preconcentration with IC Colum **Prepared:** 09/07/21 11:29 **Analyst:** ALN							
Copper, Dissolved	**1.3**	0.0038	0.010	ug/l	1	09/08/21	
Zinc, Dissolved	**3.8**	0.036	0.20	ug/l	1	09/08/21	

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Project Manager: Barry Snyder

Reported: 10/06/2021 17:28

Sample Results

(Continued)

Sample: SIYB-REF-1 — Sampled: 08/24/21 8:15 by Marisa Swiderski/Kate Buckley

1H25022-08 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 08/31/21 12:15				**Analyst:** blg
Total Suspended Solids	**7**		5	mg/l	1	08/31/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb			**Prepared:** 09/17/21 19:13				**Analyst:** ejm
Total Organic Carbon (TOC)	**1.4**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1193 — **Preparation:** SM 5310B_comb			**Prepared:** 09/19/21 14:13				**Analyst:** ejm
Dissolved Organic Carbon	**1.2**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:25				**Analyst:** ALN
Copper, Total	**1.4**	0.0038	0.010	ug/l	1	09/10/21	
Zinc, Total	**3.4**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:29				**Analyst:** ALN
Copper, Dissolved	**0.98**	0.0038	0.010	ug/l	1	09/08/21	
Zinc, Dissolved	**2.6**	0.036	0.20	ug/l	1	09/08/21	

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Project Manager: Barry Snyder

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Sample Results

(Continued)

Sample: SIYB-REF-2 — 1H25022-09 (Sea Water)

Sampled: 08/24/21 7:35 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 08/31/21 12:15				**Analyst:** blg
Total Suspended Solids	**11**		5	mg/l	1	08/31/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb			**Prepared:** 09/17/21 19:13				**Analyst:** ejm
Total Organic Carbon (TOC)	**1.4**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1193 — **Preparation:** SM 5310B_comb			**Prepared:** 09/19/21 14:13				**Analyst:** ejm
Dissolved Organic Carbon	**1.3**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:25				**Analyst:** ALN
Copper, Total	**2.0**	0.0038	0.010	ug/l	1	09/10/21	
Zinc, Total	**5.0**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:29				**Analyst:** ALN
Copper, Dissolved	**1.4**	0.0038	0.010	ug/l	1	09/08/21	
Zinc, Dissolved	**4.1**	0.036	0.20	ug/l	1	09/08/21	

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Wood - San Diego
9177 Sky Park Court, Ste A
San Diego, CA 92123

Project Number: Shelter Island Yacht Basin TMDL Summer Monitoring (Port of San Diego)

Project Manager: Barry Snyder

Reported: 10/06/2021 17:28

Sample Results

(Continued)

Sample: SIYB-ER — 1H25022-10 (Sea Water)

Sampled: 08/24/21 6:45 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 08/31/21 12:15 — **Analyst:** blg							
Total Suspended Solids	**0.2**		5	mg/l	1	08/31/21	J
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb — **Prepared:** 09/17/21 19:13 — **Analyst:** ejm							
Total Organic Carbon (TOC)	**0.35**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1I1193 — **Preparation:** SM 5310B_comb — **Prepared:** 09/19/21 14:13 — **Analyst:** ejm							
Dissolved Organic Carbon	**0.50**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:25 — **Analyst:** ALN							
Copper, Total	**0.048**	0.0038	0.010	ug/l	1	09/10/21	
Zinc, Total	**1.0**	0.036	0.20	ug/l	1	09/10/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 09/07/21 11:29 — **Analyst:** ALN							
Copper, Dissolved	**0.038**	0.0038	0.010	ug/l	1	09/08/21	
Zinc, Dissolved	**0.41**	0.036	0.20	ug/l	1	09/08/21	

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Project Manager: Barry Snyder

Reported: 10/06/2021 17:28

Sample Results

(Continued)

Sample: SIYB-FB — 1H25022-11 (Sea Water)

Sampled: 08/24/21 15:40 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1H2136 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 08/31/21 12:15				**Analyst:** blg
Total Suspended Solids	**0.9**		5	mg/l	1	08/31/21	J
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1180 — **Preparation:** SM 5310B_comb			**Prepared:** 09/17/21 19:13				**Analyst:** ejm
Total Organic Carbon (TOC)	**0.34**	0.19	0.30	mg/l	1	09/19/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1I1193 — **Preparation:** SM 5310B_comb			**Prepared:** 09/19/21 14:13				**Analyst:** ejm
Dissolved Organic Carbon	**0.33**	0.15	0.30	mg/l	1	09/22/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0292 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:25				**Analyst:** ALN
Copper, Total	**0.024**	0.0038	0.010	ug/l	1	09/10/21	
Zinc, Total	**0.045**	0.036	0.20	ug/l	1	09/10/21	J
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1I0293 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 09/07/21 11:29				**Analyst:** ALN
Copper, Dissolved	ND	0.0038	0.010	ug/l	1	09/08/21	
Zinc, Dissolved	ND	0.036	0.20	ug/l	1	09/08/21	

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Project Manager: Barry Snyder

Reported: 10/06/2021 17:28

Quality Control Results

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W1H2136 - SM 2540D											
Blank (W1H2136-BLK1)					**Prepared & Analyzed: 08/31/21**						
Total Suspended Solids	ND		5	mg/l							
LCS (W1H2136-BS1)					**Prepared & Analyzed: 08/31/21**						
Total Suspended Solids	62.5		5	mg/l	58.8		106	90-110			
Duplicate (W1H2136-DUP1)	**Source: 1H06007-01**				**Prepared & Analyzed: 08/31/21**						
Total Suspended Solids	39.2		5	mg/l		40.0			2	10	
Duplicate (W1H2136-DUP2)	**Source: 1H25022-01**				**Prepared & Analyzed: 08/31/21**						
Total Suspended Solids	5.40		5	mg/l		5.90			9	10	
Batch: W1I1002 - SM 5310B											
Blank (W1I1002-BLK1)					**Prepared: 09/15/21 Analyzed: 09/16/21**						
Dissolved Organic Carbon	ND	0.15	0.30	mg/l							
LCS (W1I1002-BS1)					**Prepared: 09/15/21 Analyzed: 09/16/21**						
Dissolved Organic Carbon	1.01	0.15	0.30	mg/l	1.00		101	74-120		20	
Matrix Spike (W1I1002-MS1)	**Source: 1H25022-01**				**Prepared: 09/15/21 Analyzed: 09/16/21**						
Dissolved Organic Carbon	4.26	0.15	0.30	mg/l	2.00	1.51	137	74-120		20	MS-01
Matrix Spike Dup (W1I1002-MSD1)	**Source: 1H25022-01**				**Prepared: 09/15/21 Analyzed: 09/16/21**						
Dissolved Organic Carbon	4.23	0.15	0.30	mg/l	2.00	1.51	136	74-120	0.7	20	MS-01
Batch: W1I1180 - SM 5310B											
Blank (W1I1180-BLK1)					**Prepared: 09/17/21 Analyzed: 09/19/21**						
Total Organic Carbon (TOC)	ND	0.19	0.30	mg/l							
LCS (W1I1180-BS1)					**Prepared: 09/17/21 Analyzed: 09/19/21**						
Total Organic Carbon (TOC)	0.985	0.19	0.30	mg/l	1.00		98	76-115		20	
Matrix Spike (W1I1180-MS1)	**Source: 1H24098-02**				**Prepared: 09/17/21 Analyzed: 09/19/21**						
Total Organic Carbon (TOC)	15.7	0.19	0.30	mg/l	5.00	12.0	75	76-115		20	MS-05
Matrix Spike Dup (W1I1180-MSD1)	**Source: 1H24098-02**				**Prepared: 09/17/21 Analyzed: 09/19/21**						
Total Organic Carbon (TOC)	15.5	0.19	0.30	mg/l	5.00	12.0	71	76-115	1	20	MS-05
Batch: W1I1193 - SM 5310B											
Blank (W1I1193-BLK1)					**Prepared: 09/19/21 Analyzed: 09/22/21**						
Dissolved Organic Carbon	ND	0.15	0.30	mg/l							
LCS (W1I1193-BS1)					**Prepared: 09/19/21 Analyzed: 09/22/21**						
Dissolved Organic Carbon	0.998	0.15	0.30	mg/l	1.00		100	74-120		20	
Matrix Spike (W1I1193-MS1)	**Source: 1H25022-04**				**Prepared: 09/19/21 Analyzed: 09/22/21**						
Dissolved Organic Carbon	5.72	0.15	0.30	mg/l	2.00	2.46	163	74-120		20	MS-01
Matrix Spike Dup (W1I1193-MSD1)	**Source: 1H25022-04**				**Prepared: 09/19/21 Analyzed: 09/22/21**						
Dissolved Organic Carbon	5.63	0.15	0.30	mg/l	2.00	2.46	158	74-120	2	20	MS-01

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Quality Control Results

(Continued)

Metals - Low Level by 1600 Series Methods

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W1I0292 - EPA 1640											
Blank (W1I0292-BLK1)					**Prepared: 09/07/21 Analyzed: 09/10/21**						
Copper, Total	ND	0.0038	0.010	ug/l							
Zinc, Total	ND	0.036	0.20	ug/l							
LCS (W1I0292-BS1)					**Prepared: 09/07/21 Analyzed: 09/10/21**						
Copper, Total	10.4	0.0038	0.010	ug/l	10.0		104	83-109		25	
Zinc, Total	33.0	0.036	0.20	ug/l	30.0		110	68-132		30	
Matrix Spike (W1I0292-MS1)	**Source: 1H25022-01**				**Prepared: 09/07/21 Analyzed: 09/10/21**						
Copper, Total	20.5	0.0038	0.010	ug/l	10.0	12.4	81	83-109		25	MS-02
Zinc, Total	56.8	0.036	0.20	ug/l	30.0	22.4	115	68-132		30	
Matrix Spike (W1I0292-MS2)	**Source: 1H25022-10**				**Prepared: 09/07/21 Analyzed: 09/10/21**						
Copper, Total	9.91	0.0038	0.010	ug/l	10.0	0.0479	99	83-109		25	
Zinc, Total	32.1	0.036	0.20	ug/l	30.0	0.999	104	68-132		30	
Matrix Spike Dup (W1I0292-MSD1)	**Source: 1H25022-01**				**Prepared: 09/07/21 Analyzed: 09/10/21**						
Copper, Total	19.8	0.0038	0.010	ug/l	10.0	12.4	74	83-109	4	25	MS-02
Zinc, Total	53.1	0.036	0.20	ug/l	30.0	22.4	102	68-132	7	30	
Matrix Spike Dup (W1I0292-MSD2)	**Source: 1H25022-10**				**Prepared: 09/07/21 Analyzed: 09/10/21**						
Copper, Total	9.84	0.0038	0.010	ug/l	10.0	0.0479	98	83-109	0.7	25	
Zinc, Total	31.4	0.036	0.20	ug/l	30.0	0.999	101	68-132	2	30	
Batch: W1I0293 - EPA 1640											
Blank (W1I0293-BLK1)					**Prepared & Analyzed: 09/07/21**						
Copper, Dissolved	ND	0.0038	0.010	ug/l							
Zinc, Dissolved	ND	0.036	0.20	ug/l							
LCS (W1I0293-BS1)					**Prepared & Analyzed: 09/07/21**						
Copper, Dissolved	7.84	0.0038	0.010	ug/l	10.0		78	70-130		30	
Zinc, Dissolved	25.7	0.036	0.20	ug/l	30.0		86	68-132		30	
Matrix Spike (W1I0293-MS1)	**Source: 1H25022-01**				**Prepared & Analyzed: 09/07/21**						
Copper, Dissolved	14.2	0.0038	0.010	ug/l	10.0	6.75	74	70-130		30	
Zinc, Dissolved	42.4	0.036	0.20	ug/l	30.0	18.7	79	68-132		30	
Matrix Spike (W1I0293-MS2)	**Source: 1H25022-02**				**Prepared & Analyzed: 09/07/21**						
Copper, Dissolved	15.1	0.0038	0.010	ug/l	10.0	7.77	73	70-130		30	
Zinc, Dissolved	43.5	0.036	0.20	ug/l	30.0	19.5	80	68-132		30	
Matrix Spike Dup (W1I0293-MSD1)	**Source: 1H25022-01**				**Prepared & Analyzed: 09/07/21**						
Copper, Dissolved	14.1	0.0038	0.010	ug/l	10.0	6.75	73	70-130	0.9	30	
Zinc, Dissolved	43.0	0.036	0.20	ug/l	30.0	18.7	81	68-132	1	30	
Matrix Spike Dup (W1I0293-MSD2)	**Source: 1H25022-02**				**Prepared & Analyzed: 09/07/21**						
Copper, Dissolved	15.1	0.0038	0.010	ug/l	10.0	7.77	74	70-130	0.7	30	
Zinc, Dissolved	42.6	0.036	0.20	ug/l	30.0	19.5	77	68-132	2	30	

Certificate of Analysis

FINAL REPORT

WECK LABORATORIES, INC.

Wood - San Diego
9177 Sky Park Court, Ste A
San Diego, CA 92123

Project Number: Shelter Island Yacht Basin TMDL Summer Monitoring (Port of San Diego)

Project Manager: Barry Snyder

Reported: 10/06/2021 17:28

Notes and Definitions

Item	Definition
J	Estimated conc. detected <MRL and >MDL.
MS-01	The spike recovery for this QC sample is outside of established control limits possibly due to sample matrix interference.
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

1H25022

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CHAIN OF CUSTODY RECORD

STANDARD

Page 1 Of 1

CLIENT NAME: Wood Environment & Infrastructure Solutions, Inc.

ADDRESS: 9177 Sky Park Ct. San Diego, CA 92123

PROJECT: Shelter Island Yacht Basin TMDL 2021 Summer Monitoring (Port of San Diego)

PHONE: 858-300-4324

FAX: 858-300-4301

EMAIL: marisa.swiderski@woodplc.com barry.snyder@woodplc.com

PROJECT MANAGER: Marisa Swiderski

SAMPLER: Marisa Swiderski (MS) / Kate Buckley (KB)

ANALYSES REQUESTED:
- Total Copper[1] Method EPA 1640 MDL 0.0038 µg/L, RL= 0.01 µg/L
- Dissolved Copper[1,2] Method EPA 1640 MDL 0.0038 µg/L, RL= 0.01 µg/L
- Total Zinc[1] Method EPA 1640 MDL 0.036 µg/L, RL= 0.20 µg/L
- Dissolved Zinc[1,2] Method EPA 1640 MDL 0.036 µg/L, RL= 0.20 µg/L
- Total Organic Carbon (TOC) Method USEPA 5310B MDL = 0.016 mg/L, RL = 0.10 mg/L
- Dissolved Organic Carbon (DOC)[3] Method SM 5310B MDL = 0.016 mg/L, RL = 0.10 mg/L
- Total Suspended Solids Method USEPA 2540 D, MDL = 1 mg/L, RL = 5 mg/L

SPECIAL HANDLING:
- ☐ Same Day Rush 150%
- ☐ 24 Hour Rush 100%
- ☐ 48-72 Hour Rush 75%
- ☐ 4 - 5 Day Rush 30%
- ☐ Rush Extractions 50%
- ☑ 10 Business Days
- ☐ QA/QC Data Package

Charges will apply for weekends/holidays

Method of Shipment:

ID# (For lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	Total Copper	Dissolved Copper	Total Zinc	Dissolved Zinc	TOC	DOC	TSS				COMMENTS
	08/24/21	1425	seawater	SIYB-1	15	X	X	X	X	X	X	X				extra vol. analyze sample MS/MSD
	08/24/21	1520	seawater	SIYB-1 (REP)	7	X	X	X	X	X	X	X				
	08/24/21	1325	seawater	SIYB-2	7	X	X	X	X	X	X	X				
	08/24/21	1230	seawater	SIYB-3	7	X	X	X	X	X	X	X				
	08/24/21	1130	seawater	SIYB-4	7	X	X	X	X	X	X	X				
	08/24/21	1030	seawater	SIYB-5	7	X	X	X	X	X	X	X				
	08/24/21	0915	seawater	SIYB-6	7	X	X	X	X	X	X	X				
	08/24/21	0815	seawater	SIYB-REF-1	7	X	X	X	X	X	X	X				
	08/24/21	0735	seawater	SIYB-REF-2	7	X	X	X	X	X	X	X				
	08/24/21	0645	DI	SIYB-ER	7	X	X	X	X	X	X	X				
	08/24/21	1540	DI	SIYB-FB	7	X	X	X	X	X	X	X				

RELINQUISHED BY	DATE / TIME	RECEIVED BY
Marisa Swiderski (Wood)	08/25/2021 0805	Hector Sanchez
Hector Sanchez	8-25-21 1005	Jonathan 08/25/21 1005

SAMPLE CONDITION:
Actual Temperature: 3.7 °C
Received On Ice (Y) N
Preserved Y (N)
Evidence Seals Present Y (N)
Container Intact (Y) N
Preserved at Lab Y (N)

T0234

SAMPLE TYPE CODE:
AQ=Aqueous
NA= Non Aqueous
SL = Sludge
DW = Drinking Water
WW = Waste Water
RW = Rain Water
GW = Ground Water
SO = Soil
SW = Solid Waste
OL = Oil
OT = Other Matrix

SPECIAL REQUIREMENTS / BILLING INFORMATION

1) LAB ACTION: PRESERVE Cu/Zn IMMEDIATELY. HDPE Metals bottles have NO acid (HNO3) in bottle; 2) Diss. metals were field filtered using 0.45 um bottletop filt. system;
3) DOC samples were field filtered through 0.45 um Nylon filters; 4) FB = Field Blank; 5) ER = Equipment Rinsate (Equipment Blank);
6) Organic carbon will be measured by Weck using High Temperature Combustion Method (SM 5310 B); 7) Preserve extra of each sample for total and dissolved metals to archive;
8) SPIKE level at the following amounts: Copper = 10 ug/L, Zinc = 30 ug/L, TOC/DOC = 2.0 mg/L; 9) WECK will contact Wood PM within 24 hours if any sample anomalies are found;
10) Select pages from Wood QAPP included for reference.

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WOOD AQUATIC TOXICOLOGY LABORATORY TOXICITY REPORT

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Results of Toxicity Testing for Shelter Island Yacht Basin Total Maximum Daily Load Monitoring

Sample Collection: August 24, 2021
Wood Project Number: 2015100111

Submitted to:

Wood Environment & Infrastructure Solutions, Inc.
9177 Sky Park Court
San Diego, CA 92123

Testing Performed by:

Wood Environment & Infrastructure Solutions, Inc.
Aquatic Toxicology Laboratory
4905 Morena Blvd., Suite 1304
San Diego, California 92117

The Wood Aquatic Toxicology Laboratory is certified by the State of California Department of Health Services – Environmental Lab Accreditation Program (ELAP) under Certificate Number 3010. All test results were obtained following EPA Protocol guidelines and internal QA Program requirements. The data and test results have been reviewed and verified by the following laboratory representative:

Verified by: Steve Carlson Date: 1/10/2022.

INTRODUCTION

Located in the Port of San Diego, Shelter Island Yacht Basin (SIYB) was issued an Investigative Order (R9-2011-0036, amended from Resolution No. R9-2005-0019) from the San Diego Regional Water Quality Control Board that requires annual monitoring for the SIYB Dissolved Copper Total Maximum Daily Load (TMDL) program. The monitoring program requires the performance of water column toxicity testing at 7 locations within the basin area. The 7 sample sites are tested for chronic toxicity with the mussel species *Mytilus galloprovincialis*, and for acute toxicity with the Pacific topsmelt species *Atherinops affinis*. Testing was conducted during August 2021 as part of annual summer monitoring.

Staff for Wood Environment & Infrastructure Solutions, Inc. (Wood) collected and delivered all 7 samples to Wood's Aquatic Toxicology Laboratory located in San Diego, California. The samples were collected on August 24, 2021 and testing was initiated on August 25, 2021.

MATERIALS & METHODS

Sample Information

Client:	Port of San Diego
Project Name:	Shelter Island Yacht Basin Annual TMDL Monitoring
Monitoring Period:	August 2021
Sample IDs (7 sites):	SIYB-1, SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, and SIYB-REF-1
Sample Collection Date, Times:	8/24/2021, 08:15 – 14:25
Sample Receipt Date, Time:	8/24/2021, 17:20

Table 1. Water Quality Measured Upon Sample Receipt

Sample ID	Temp. (℃)	pH (units)	DO (mg/L)	Salinity (ppt)	Alkalinity (mg/L)	TRC (mg/L)
SIYB-1	7.8	7.93	7.8	34.4	113	<0.02
SIYB-2	6.6	7.95	7.9	34.5	108	<0.02
SIYB-3	11.4	7.93	7.7	34.5	107	<0.02
SIYB-4	7.5	7.94	7.8	34.5	110	<0.02
SIYB-5	5.9	7.91	7.9	34.9	115	<0.02
SIYB-6	16.5	7.86	7.3	34.9	111	<0.02
SIYB-REF-1	6.5	7.90	8.1	34.8	116	<0.02

DO = dissolved oxygen, TRC = total residual chlorine

Chronic Mussel Development Test Specifications

Test Period:	8/25/2021, 16:50 – 8/27/2021, 15:00
Test Organism:	*Mytilus galloprovincialis* (bivalve - mussel)
Test Organism Source:	Field-collected – Mission Bay (San Diego, CA)
Test Organism Age at start:	Fertilized embryos (<4 hours old)
Test Procedure:	48-hour embryo-larval development
Test Endpoint:	Combined survival & proportion normal (ASTM)
Test Concentrations:	Lab Control, 6.25, 12.5, 25, 50, and 100% sample
Treatment Concentrations:	Filter Control and 100% Filtered (1.2μm filter)
Lab Control/Dilution Water:	Natural seawater from the inlet at Scripps Institution of Oceanography (20-μm filtered)
Protocols Used:	EPA 1995 West Coast Manual (EPA/600/R-95/136); and ASTM 1998 (E 724-98).
EPA Test Acceptability Criteria:	Control: ≥50% survival; ≥90% proportion normal; and minimum significant difference (MSD) <25%
ASTM Test Acceptability Criteria:	Control: ≥70% combined survival/proportion normal
Reference Toxicant Test:	Lab Control, 2.5, 5.0, 10, 20, and 40 μg/L copper
Statistical Analysis Software:	CETIS™ v.1.9.3.0

<u>Calculating the mussel test endpoint:</u> Embryos within each test replicate are scored under a microscope by counting all larvae observed in the vial. Percent survival is evaluated by comparing the total number of larvae observed in each vial to an initial (time-zero) density count derived from 5 surrogate exposure chambers (vials) interspersed within the test and preserved immediately after adding embryos. Each larva is scored as normal or abnormal resulting in a second test endpoint; proportion normal. Normal development is exhibited by a clearly defined "D-shaped" shell with a clear straight line as a hinge, while abnormal development is exhibited by any clear abnormalities or differences to the normal "D-shaped" shell. This includes larva that have not fully developed a clear straight hinge (this is exhibited by a slightly curved hinge). Abnormal development was further enumerated to determine the magnitude of effect. The abnormal larvae were counted as having 1) a curved hinge, which indicates a moderate effect, or 2) more significant defects or abnormalities, which indicates a more severe effect. Examples of each of the larva (normal, abnormal with curved hinge, and abnormal with severe effects) are presented in Figure 1. A final combined surviving normal embryo endpoint is calculated by comparing the number of recovered normal embryos in each replicate test chamber to the average number of fertilized embryos counted in the time zero vials. Results for the combined

embryo development endpoint are presented herein in the main report, with supporting summaries and analyses of the individual percent survival and percent normal endpoints included in Appendix A

Figure 1. Images of Different Larva Development

1) Normal D-shape/straight hinge 2) Abnormal with curved hinge 3) Abnormal with severe effects

Pacific Topsmelt Acute Survival Test Specifications

Test Start Date, Time:	8/25/2021, 15:00 – 16:30
Test End Date, Time:	8/29/2021, 13:05 – 14:35
Test Organism:	*Atherinops affinis* (Pacific topsmelt)
Organism Source; Age at start:	Aquatic BioSystems (Fort Collins, CO); 13-days old
Test Procedure and Endpoint:	96-hour static-renewal acute survival test
Test Concentrations:	Lab Control, 25, 50, and 100% each sample
Replicates/Number of Organisms:	6 replicates/5 fish per replicate (30 fish/conc.)
Lab Control/Dilution Water:	Natural seawater collected from the inlet at Scripps Institution of Oceanography (34 ppt salinity)
USEPA Protocol:	EPA/821/R-02/012, 2002 Acute Manual
Test Acceptability Criteria:	≥90% mean survival in the control
Reference Toxicant Test:	Lab Control, 25, 50, 100, 200, and 400 μg/L copper
Statistical Software:	CETIS™ v1.9.3.0

RESULTS

Test results were evaluated using two USEPA methods of analysis. The results were first analyzed using the standard approach with multiple comparisons on a dilution series of concentrations to develop a No Observed Effect Concentration (NOEC). Then, the results were analyzed using the EPA Test of Significant Toxicity (TST) approach, as referenced in USEPA 2010. The TST approach applies a modified t-test that accounts for the statistical power of the test and the magnitude of the biological effect in determining the presence of toxicity. The instream waste concentration (IWC) is the 100% sample. The IWC is compared to the Control for statistical analysis. The TST results in a "Pass" if there are no biologically significant effects with the sample (non-toxic), or it will result in a "Fail" if there are significant effects (toxic).

Chronic Mussel Test:

For the chronic mussel development test, a standard dilution series of 6.25, 12.5, 25, 50, and 100% effluent was performed on the unfiltered sample from each of the 7 sites. The chronic mussel test resulted in less than a 3.0% effect in the undiluted sample from each of the 7 sites. Therefore, no toxicity was observed in any of the samples. The tests resulted in a NOEC = 100% and a TST result of Pass for all 7 sites. The chronic test results for the unfiltered samples are summarized and presented in Table 2.

The 100% concentration for each sample was also tested after filtering with a 1.2μm mesh screen to remove any potential algae or other native organisms. The 100% filtered sample was compared to a Filter Control (lab control water that received the same filtering treatment). The filtered samples produced similar results to the unfiltered samples. There was less than a 10% effect in each of the filtered samples, and no significant differences or toxicity was observed. All 7 filtered samples resulted in a NOEC = 100% and a TST result of Pass. Summary results for the filtered samples are presented in Table 3.

As described in the Methods section, abnormal larvae were further enumerated as either having a curved hinge (moderate effect) or having clear abnormalities or defects (severe effect). As with the fact that no toxicity was observed during this round of testing, likewise, almost no curved hinges were observed during this round also. The number of curved hinges was 0.3% or less in every sample concentration. Observations of curved hinges is shown in Table 4.

All raw data and associated statistical analyses for the mussel tests are provided for reference in Appendix A.

Table 2. Summary of Chronic Mussel Test Results: Unfiltered Samples

Sample Concentration (%)	Sample ID / Combined Survival & Proportion Normal (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Lab Control	89.1	87.4	84.5	83.3	84.7	81.0	83.8
6.25	83.5	83.9	88.1	83.4	87.3	79.7	83.2
12.5	85.7	87.8	89.4	89.3	84.3	85.9	85.9
25	83.0	85.8	86.6	87.1	89.9	89.0	85.8
50	86.3	87.5	86.9	87.4	82.4	84.9	79.5
100	88.6	85.3	87.9	87.5	86.7	84.9	89.6
NOEC	100	100	100	100	100	100	100
EC_{50}	>100	>100	>100	>100	>100	>100	>100
% Effect	0.6	2.5	-4.1	-5.0	-2.4	-4.9	-6.9
TST Result	Pass	Pass	Pass	Pass	Pass	Pass	Pass

NOEC = the highest concentration tested that results in No Observed Effect
EC_{50} = the concentration expected to cause a 50% adverse effect to the organisms
% Effect = the % effect of the IWC compared to control; a negative value indicates the IWC out-performed the control
TST = Test of Significant Toxicity; a "Pass" indicates no toxicity was observed with the sample

Table 3. Summary of Chronic Mussel Test Results: 1.2 μm Filtered Samples

Sample Concentration (%)	Sample ID / Combined Survival & Proportion Normal (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Filter Control	87.4	82.0	88.2	85.3	87.4	83.0	90.1
100 filtered	83.9	85.1	86.1	83.8	82.2	89.9	81.8
NOEC	100	100	100	100	100	100	100
% Effect	4.0	-3.7	2.4	1.7	5.9	-8.4	9.3
TST Result	Pass	Pass	Pass	Pass	Pass	Pass	Pass

NOEC = the highest concentration tested that results in No Observed Effect
% Effect = the % effect of the IWC compared to control; a negative value indicates the IWC out-performed the control
TST = Test of Significant Toxicity; a "Pass" indicates no toxicity was observed with the sample

Table 4. Summary of Chronic Mussel Test: Percentage of Curved Hinges

Sample Concentration (%)	Sample ID / Mean Number of Curved Hinges (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Lab Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.1	0.0	0.0	0.1	0.0	0.0	0.0
100	0.0	0.3	0.0	0.1	0.0	0.1	0.0
100 Filtered	0.2	0.2	0.0	0.1	0.1	0.0	0.0

Acute Pacific Topsmelt Test:

For the acute topsmelt survival test, the 7 sample sites were tested along with 4 sets of Lab Controls. There was one Lab Control per two sample sites (SIYB-REF-1 had its own Lab Control). All 4 Lab Controls were valid with 90% or greater survival. Also, all 7 sample sites resulted in a percent effect (from control) less than 7 percent in the undiluted concentrations with mean survival ranging from 90 to 97 percent in undiluted receiving water from all sites at the end of the 96-hr exposure period. This resulted in a NOEC = 100% and a TST result of Pass for all 7 samples. Therefore, no significant effects were observed with any of the samples for acute toxicity. A summary of the acute topsmelt test results is presented in Table 5. All raw data and associated statistical analyses for the topsmelt tests are provided for reference in Appendix B.

Table 5. Summary of Acute Topsmelt Test Results

Sample Concentration (%)	Sample ID / Mean Survival (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Lab Control	96.7	96.7	93.3	93.3	93.3	93.3	93.3
25	96.7	93.3	90.0	90.0	90.0	96.7	96.7
50	96.7	96.7	96.7	90.0	90.0	86.7	93.3
100	90.0	96.7	93.3	90.0	90.0	96.7	90.0
NOEC	100	100	100	100	100	100	100
LC_{50}	>100	>100	>100	>100	>100	>100	>100
% Effect	6.9	0.0	0.0	3.6	3.6	-3.6	3.6
TST Result	Pass	Pass	Pass	Pass	Pass	Pass	Pass

NOEC = the highest concentration tested that results in No Observed Effect
LC_{50} = the concentration expected to cause a lethal effect to 50% of the fish
% Effect = the % effect of the IWC compared to control; a negative value indicates the IWC out-performed the control
TST = Test of Significant Toxicity; a "Pass" indicates no toxicity was observed with the sample

QUALITY ASSURANCE

Samples were received by the lab in good condition the same day as collected. The samples were checked in, water quality measured, and then held in cold storage (4°C) until testing. Both chronic and acute tests were initiated the following day within the 36-hour holding time limit. For test organisms, the mussels were collected by Wood staff the morning of test initiation. The topsmelt were received by a commercial supplier 5-days prior to testing. The fish were held in-house and allowed to acclimate to test conditions. There was <10% mortality with the fish during holding, which is considered typical, as there is naturally some die-off of weaker fish within a population. The topsmelt were determined to be of good quality for initiating tests.

For the chronic mussel test, each sample was tested with its own Lab Control. All 7 Lab Controls met the EPA test acceptability criteria (TAC) of 50% or greater survival, with values ranging from 88% to 100% survival. The EPA TAC of 90% or greater proportion normal, 3 Lab Controls were slightly below this level, while 4 Lab Controls were slightly above this level. The controls ranged from 88% to 92% proportion normal. Since 4 Lab Controls met this TAC, test results were deemed valid. All 7 Lab Controls also met the ASTM TAC of 70% or greater for the combined survival and proportion normal endpoint, with values ranging from 81% to 89%. All samples were analyzed for the combined endpoint to determine percent effects and TST results.

For the acute topsmelt test, there were 4 Lab Controls conducted with the 7 samples (one control for every two samples). All 4 Lab Controls met the TAC of 90% or greater survival. Both acute and chronic tests were performed in accordance with EPA protocol guidelines and no major deviations were required during the testing period.

Any minor deviations or errors made with recordings are noted on the raw bench sheets for both test species. A list of data qualifier codes is provided in Appendix C. Sample receipt information and chain of custody forms are provided in Appendix D.

Concurrent reference toxicant tests were conducted with both species. Both acute and chronic tests met the TAC and were deemed valid. The median effect concentration (EC_{50}) for both tests was within two standard deviations of the historical control chart mean for the laboratory. This indicates both the mussels and the topsmelt were healthy and resulted in typical sensitivity to the copper toxicant. A summary of the reference toxicant results for both species is presented in Table 6. Raw data, statistical analysis, and control charts for the reference toxicant tests are provided in Appendix E.

Table 6. Summary of Copper Reference Toxicant Test Results

Test Species & Endpoint	NOEC (µg/L)	EC_{50} (µg/L)	Historical EC_{50} ± 2SD range (µg/L)
Chronic Mussel Combined Surviving/Normal Embryo Development	5.0	7.09	4.55 – 18.3
Acute Pacific Topsmelt 96-hour Survival	50	188	83.1 – 226

NOEC = the highest concentration tested that results in No Observed Effect
EC_{50} = the concentration expected to cause a 50% adverse effect to the test organisms
Historical EC_{50} = the mean EC_{50} for previous tests by the lab, presented as a range of ± two standard deviations

TOXICITY IDENTIFICATION EVALUATION (TIE)

Concurrent to the standard TMDL compliance toxicity tests a Phase I Toxicity Identification Evaluation (TIE) was performed on water collected from inner SIYB Site 1 in an attempt to identify a cause for toxicity should an effect be observed at this location. Ambient waters at the inner portion of the SIYB have consistently been found to cause toxicity to mussel embryo development during prior compliance monitoring efforts. All Phase I TIE treatments were successfully performed; however, during this sampling event toxicity was not observed at Site 1. Thus, the TIE conducted had no way to identify a cause of toxicity during this sampling event. A summary of methods used for the TIE are included in Appendix F.

REFERENCES

ASTM. 1998. Standard Guide for Conducting Static Acute Toxicity Tests Starting with Embryos of Four Species of Saltwater Bivalve Molluscs. ASTM E 724-98.

Tidepool Scientific Software, 2001-2015. CETIS: Comprehensive Environmental Toxicity Information System software, version 1.9.3.0.

USEPA (U.S. Environmental Protection Agency) 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136). The USEPA, Office of Research and Development, Washington, DC.

USEPA 2002. U.S. Environmental Protection Agency. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. 5th Edition. EPA/821/R-02/012. USEPA, Office of Water, Washington, DC.

USEPA 2010. Test of Significant Toxicity Implementation Document (EPA/833/R-10/003). The USEPA, Office of Wastewater Management, Washington, D

APPENDIX A

Chronic Mussel Development Test

Raw Data & Statistical Analyses

Site: SIYB-1

CETIS Summary Report

Report Date: 04 Oct-21 09:03 (p 1 of 4)
Test Code: 21-08-020 | 05-0166-5705

Bivalve Larval Survival and Development Test — Wood E&IS

Batch ID:	09-1445-6137	Test Type:	Development-Survival	Analyst:	
Start Date:	25 Aug-21 16:50	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Natural Seawater
Ending Date:	27 Aug-21 15:00	Species:	Mytilis galloprovincialis	Brine:	Not Applicable
Duration:	46h	Source:	Field Collected	Age:	

Sample ID:	19-1298-5617	Code:	21-W148	Client:	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 14:25 JU	Material:	Seawater	Project:	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:~~25~~ 20	Source:	Shelter Island Yacht Basin		
Sample Age:	26h	Station:	SIYB 1		

Comments:
101 = 100%(1.2um filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
11-9289-5765	Combined Proportion Norma	TST-Welch's t Test	3.8E-04	100% passed combined proportion normal
06-1048-4226	Combined Proportion Norma	TST-Welch's t Test	9.0E-07	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
09-2100-4515	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	7.68%
19-8195-6278	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.44%
03-0771-3068	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.55%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
19-8195-6278	Proportion Normal	Control Resp	0.8907	0.9	>>	Yes	Below Criteria
03-0771-3068	Survival Rate	Control Resp	1	0.5	>>	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8907	0.8752	0.9061	0.8697	0.9020	0.0056	0.0124	1.40%	0.00%
0	FC	5	0.8743	0.8505	0.8981	0.8525	0.9020	0.0086	0.0191	2.19%	1.84%
6.25		5	0.8353	0.7608	0.9097	0.7746	0.9016	0.0268	0.0599	7.18%	6.22%
12.5		5	0.8572	0.8105	0.9039	0.8197	0.9024	0.0168	0.0376	4.39%	3.76%
25		5	0.8303	0.7744	0.8863	0.7664	0.8849	0.0202	0.0451	5.43%	6.78%
50		5	0.8633	0.7919	0.9346	0.7828	0.9271	0.0257	0.0575	6.66%	3.08%
100		5	0.8855	0.8270	0.9440	0.8156	0.9314	0.0211	0.0471	5.32%	0.58%
101		5	0.8391	0.8099	0.8684	0.8115	0.8689	0.0105	0.0236	2.81%	5.78%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8907	0.8752	0.9061	0.8697	0.9020	0.0056	0.0124	1.40%	0.00%
0	FC	5	0.8852	0.8729	0.8975	0.8770	0.9020	0.0044	0.0099	1.12%	0.62%
6.25		5	0.8754	0.8464	0.9044	0.8527	0.9053	0.0104	0.0233	2.67%	1.72%
12.5		5	0.8803	0.8525	0.9082	0.8444	0.9024	0.0100	0.0225	2.55%	1.16%
25		5	0.8706	0.8505	0.8908	0.8486	0.8849	0.0073	0.0163	1.87%	2.25%
50		5	0.8936	0.8693	0.9179	0.8802	0.9271	0.0087	0.0196	2.19%	-0.33%
100		5	0.9043	0.8772	0.9314	0.8728	0.9314	0.0098	0.0219	2.42%	-1.53%
101		5	0.8585	0.8331	0.8839	0.8390	0.8889	0.0092	0.0205	2.39%	3.61%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
0	FC	5	0.9877	0.9661	1.0000	0.9631	1.0000	0.0078	0.0174	1.76%	1.23%
6.25		5	0.9533	0.8994	1.0000	0.9057	1.0000	0.0194	0.0434	4.56%	4.67%
12.5		5	0.9738	0.9279	1.0000	0.9221	1.0000	0.0165	0.0370	3.79%	2.62%
25		5	0.9541	0.8825	1.0000	0.8730	1.0000	0.0258	0.0576	6.04%	4.59%
50		5	0.9656	0.9032	1.0000	0.8893	1.0000	0.0225	0.0502	5.20%	3.44%
100		5	0.9787	0.9409	1.0000	0.9344	1.0000	0.0136	0.0305	3.11%	2.13%
101		5	0.9779	0.9354	1.0000	0.9221	1.0000	0.0153	0.0342	3.50%	2.21%

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9020	0.8930	0.8974	0.8911	0.8697
0	FC	0.8794	0.8525	0.8770	0.9020	0.8607
6.25		0.7746	0.8238	0.7828	0.8935	0.9016
12.5		0.9024	0.8916	0.8279	0.8444	0.8197
25		0.8074	0.7664	0.8486	0.8849	0.8443
50		0.8279	0.7828	0.8945	0.9271	0.8840
100		0.9314	0.8156	0.9160	0.8607	0.9038
101		0.8115	0.8521	0.8197	0.8435	0.8689

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9020	0.8930	0.8974	0.8911	0.8697
0	FC	0.8794	0.8851	0.8770	0.9020	0.8824
6.25		0.8552	0.8701	0.8527	0.8935	0.9053
12.5		0.9024	0.8916	0.8745	0.8444	0.8889
25		0.8834	0.8779	0.8486	0.8849	0.8583
50		0.8821	0.8802	0.8945	0.9271	0.8840
100		0.9314	0.8728	0.9160	0.8974	0.9038
101		0.8390	0.8521	0.8889	0.8435	0.8689

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.0000	1.0000	1.0000	1.0000	1.0000
0	FC	1.0000	0.9631	1.0000	1.0000	0.9754
6.25		0.9057	0.9467	0.9180	1.0000	0.9959
12.5		1.0000	1.0000	0.9467	1.0000	0.9221
25		0.9139	0.8730	1.0000	1.0000	0.9836
50		0.9385	0.8893	1.0000	1.0000	1.0000
100		1.0000	0.9344	1.0000	0.9590	1.0000
101		0.9672	1.0000	0.9221	1.0000	1.0000

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	221/245	242/271	245/273	221/248	227/261
0	FC	226/257	208/244	221/252	221/245	210/244
6.25		189/244	201/244	191/244	235/263	220/244
12.5		259/287	222/249	202/244	217/257	200/244
25		197/244	187/244	213/251	223/252	206/244
50		202/244	191/244	229/256	229/247	221/250
100		258/277	199/244	240/262	210/244	235/260
101		198/244	219/257	200/244	221/262	232/267

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	221/245	242/271	245/273	221/248	227/261
0	FC	226/257	208/235	221/252	221/245	210/238
6.25		189/221	201/231	191/224	235/263	220/243
12.5		259/287	222/249	202/231	217/257	200/225
25		197/223	187/213	213/251	223/252	206/240
50		202/229	191/217	229/256	229/247	221/250
100		258/277	199/228	240/262	210/234	235/260
101		198/236	219/257	200/225	221/262	232/267

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	244/244	244/244	244/244	244/244	244/244
0	FC	244/244	235/244	244/244	244/244	238/244
6.25		221/244	231/244	224/244	244/244	243/244
12.5		244/244	244/244	231/244	244/244	225/244
25		223/244	213/244	244/244	244/244	240/244
50		229/244	217/244	244/244	244/244	244/244
100		244/244	228/244	244/244	234/244	244/244
101		236/244	244/244	225/244	244/244	244/244

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-2100-4515	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	04 Oct-21 9:01	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100%(1.2um flitered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	7.68%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	1.827	2.362	0.099	8	CDF	0.1342	Non-Significant Effect
	12.5	1.16	2.362	0.099	8	CDF	0.3506	Non-Significant Effect
	25	2.048	2.362	0.099	8	CDF	0.0911	Non-Significant Effect
	50	0.8687	2.362	0.099	8	CDF	0.4794	Non-Significant Effect
	100	0.08433	2.362	0.099	8	CDF	0.8072	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0318707	0.0063741	5	1.465	0.2379	Non-Significant Effect
Error	0.104413	0.0043505	24			
Total	0.136283		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	6.824	15.09	0.2340	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9689	0.9031	0.5098	Normal Distribution

Combined Proportion Normal Summary

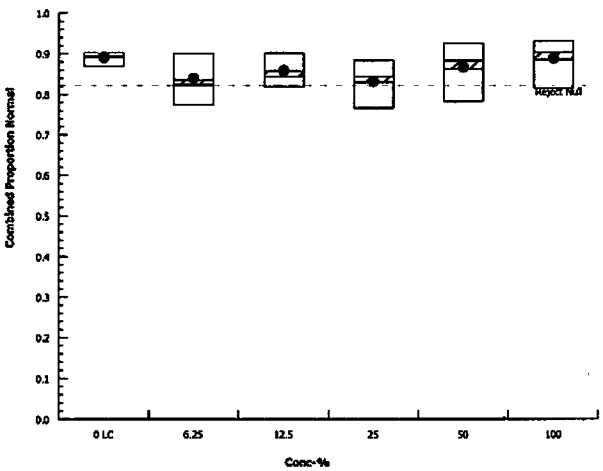
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8907	0.8752	0.9061	0.8930	0.8697	0.9020	0.0056	1.40%	0.00%
6.25		5	0.8353	0.7608	0.9097	0.8238	0.7746	0.9016	0.0268	7.18%	6.22%
12.5		5	0.8572	0.8105	0.9039	0.8444	0.8197	0.9024	0.0168	4.39%	3.76%
25		5	0.8303	0.7744	0.8863	0.8443	0.7664	0.8849	0.0202	5.43%	6.78%
50		5	0.8633	0.7919	0.9346	0.8840	0.7828	0.9271	0.0257	6.66%	3.08%
100		5	0.8855	0.8270	0.9440	0.9038	0.8156	0.9314	0.0211	5.32%	0.58%

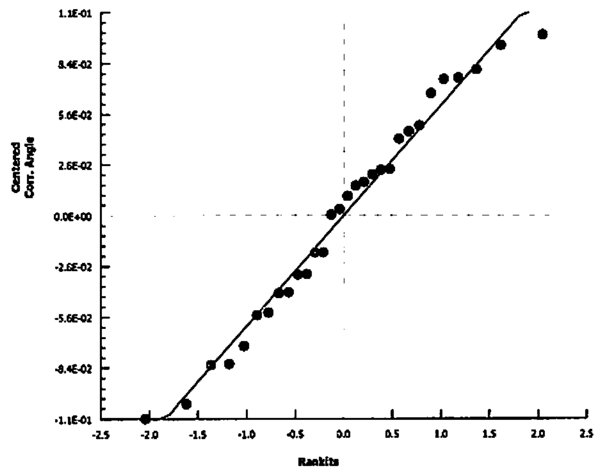
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.234	1.21	1.258	1.238	1.202	1.252	0.00873	1.58%	0.00%
6.25		5	1.158	1.055	1.261	1.138	1.076	1.252	0.03713	7.17%	6.17%
12.5		5	1.186	1.117	1.254	1.165	1.132	1.253	0.0246	4.64%	3.92%
25		5	1.149	1.074	1.223	1.165	1.066	1.225	0.02681	5.22%	6.92%
50		5	1.198	1.094	1.302	1.223	1.086	1.297	0.03733	6.97%	2.94%
100		5	1.231	1.141	1.321	1.256	1.127	1.306	0.03237	5.88%	0.29%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID: 09-2100-4515	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3	
Analyzed: 04 Oct-21 9:01	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes	

Graphics





TST for 100% vs. LC

Bivalve Larval Survival and Development Test			Wood E&IS
Analysis ID: 11-9289-5765	Endpoint: Combined Proportion Normal	CETIS Version: CETISv1.9.3	
Analyzed: 04 Oct-21 9:02	Analysis: Parametric Bioequivalence-Two Sample	Official Results: Yes	

Comments:
101 = 100%(1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	9.236	2.132	4	CDF	3.8E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.094E-05	3.094E-05	1	0.01101	0.9190	Non-Significant Effect
Error	0.02248	0.0028100	8			
Total	0.022511		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	13.75	23.15	0.0263	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9558	0.7411	0.7370	Normal Distribution

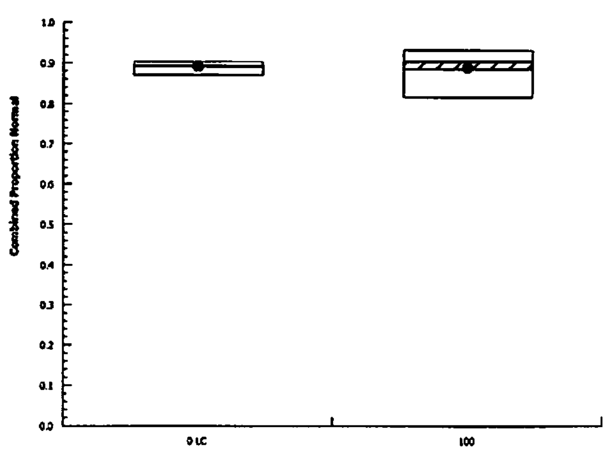
Combined Proportion Normal Summary

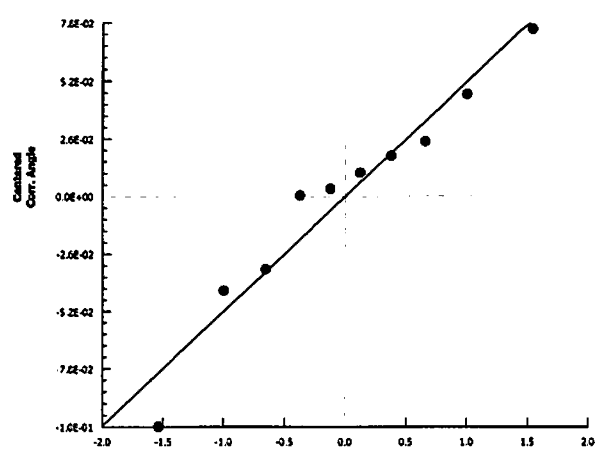
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8907	0.8752	0.9061	0.8930	0.8697	0.9020	0.0056	1.40%	0.00%
100		5	0.8855	0.8270	0.9440	0.9038	0.8156	0.9314	0.0211	5.32%	0.58%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.234	1.21	1.258	1.238	1.202	1.252	0.00873	1.58%	0.00%
100		5	1.231	1.141	1.321	1.256	1.127	1.306	0.03237	5.88%	0.29%

Graphics





TST for 100% Filtered vs. FC

Bivalve Larval Survival and Development Test			Wood E&IS

Analysis ID:	06-1048-4226	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	04 Oct-21 9:02	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100%(1.2um flitered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	14.47	1.895	7	CDF	9.0E-07	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0063207	0.0063207	1	6.678	0.0324	Significant Effect
Error	0.0075725	0.0009466	8			
Total	0.0138931		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.205	23.15	0.8611	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.92	0.7411	0.3566	Normal Distribution

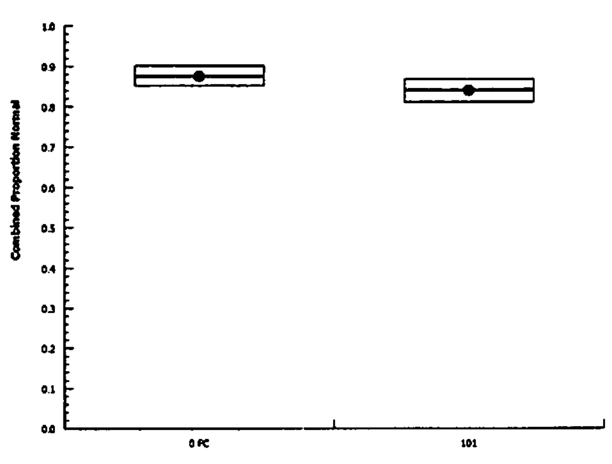
Combined Proportion Normal Summary

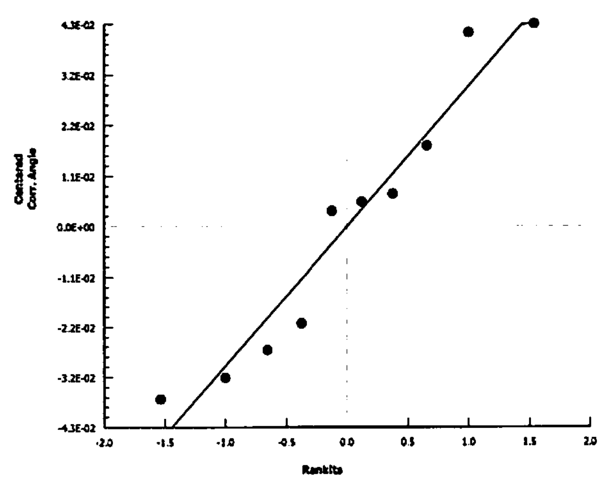
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8743	0.8505	0.8981	0.8770	0.8525	0.9020	0.0086	2.19%	0.00%
101		5	0.8391	0.8099	0.8684	0.8435	0.8115	0.8689	0.0105	2.81%	4.02%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.209	1.173	1.246	1.212	1.177	1.252	0.0131	2.42%	0.00%
101		5	1.159	1.119	1.199	1.164	1.122	1.2	0.01438	2.78%	4.16%

Graphics





Analyst: SC QA: BCS

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	19-8195-6278	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	04 Oct-21 9:00	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100%(1.2um flitered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.44%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	1.161	2.362	0.047	8	CDF	0.3505	Non-Significant Effect
	12.5	0.7843	2.362	0.047	8	CDF	0.5182	Non-Significant Effect
	25	1.554	2.362	0.047	8	CDF	0.2068	Non-Significant Effect
	50	-0.2778	2.362	0.047	8	CDF	0.9024	Non-Significant Effect
	100	-1.193	2.362	0.047	8	CDF	0.9904	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0101863	0.0020373	5	2.078	0.1035	Non-Significant Effect
Error	0.0235344	0.0009806	24			
Total	0.0337206		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.115	15.09	0.8330	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.982	0.9031	0.8760	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8907	0.8752	0.9061	0.8930	0.8697	0.9020	0.0056	1.40%	0.00%
6.25		5	0.8754	0.8464	0.9044	0.8701	0.8527	0.9053	0.0104	2.67%	1.72%
12.5		5	0.8803	0.8525	0.9082	0.8889	0.8444	0.9024	0.0100	2.55%	1.16%
25		5	0.8706	0.8505	0.8908	0.8779	0.8486	0.8849	0.0073	1.87%	2.25%
50		5	0.8936	0.8693	0.9179	0.8840	0.8802	0.9271	0.0087	2.19%	-0.33%
100		5	0.9043	0.8772	0.9314	0.9038	0.8728	0.9314	0.0098	2.42%	-1.53%

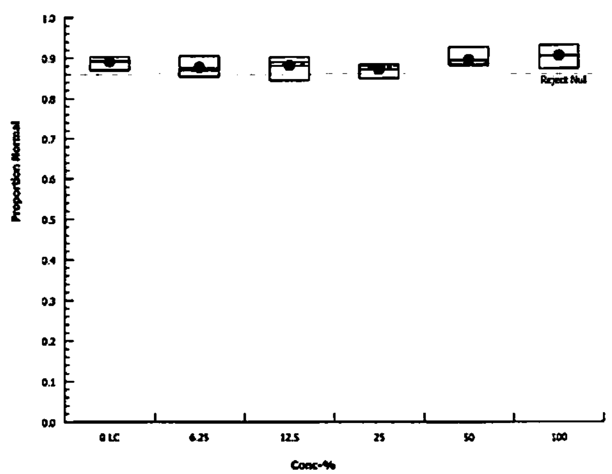
Angular (Corrected) Transformed Summary

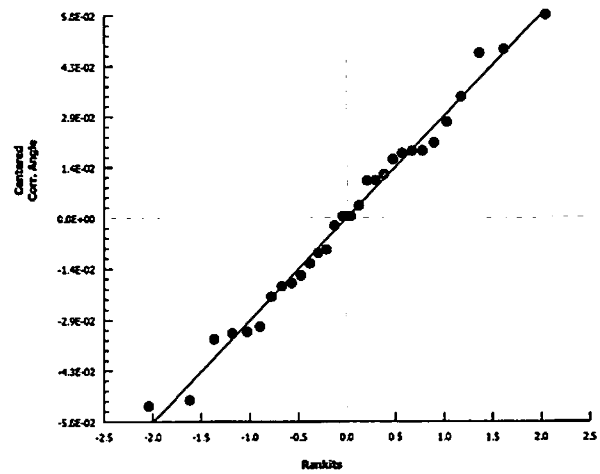
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.234	1.21	1.258	1.238	1.202	1.252	0.00873	1.58%	0.00%
6.25		5	1.211	1.167	1.256	1.202	1.177	1.258	0.01604	2.96%	1.86%
12.5		5	1.219	1.177	1.261	1.231	1.165	1.253	0.01511	2.77%	1.26%
25		5	1.203	1.174	1.233	1.214	1.171	1.225	0.01073	1.99%	2.49%
50		5	1.24	1.198	1.281	1.223	1.217	1.297	0.01497	2.70%	-0.45%
100		5	1.258	1.212	1.304	1.256	1.206	1.306	0.0166	2.95%	-1.92%

Bivalve Larval Survival and Development Test			**Wood E&IS**

Analysis ID:	19-8195-6278	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	04 Oct-21 9:00	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	03-0771-3068	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	04 Oct-21 9:00	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100%(1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.55%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	1.992	2.362	0.183	8	CDF	0.1008	Non-Significant Effect
	12.5	1.166	2.362	0.183	8	CDF	0.3482	Non-Significant Effect
	25	1.793	2.362	0.183	8	CDF	0.1419	Non-Significant Effect
	50	1.357	2.362	0.183	8	CDF	0.2734	Non-Significant Effect
	100	1.03	2.362	0.183	8	CDF	0.4068	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0741111	0.0148222	5	0.9882	0.4455	Non-Significant Effect
Error	0.359994	0.0149997	24			
Total	0.434105		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	8.479	3.895	9.8E-05	Unequal Variances
Variances	Mod Levene Equality of Variance Test	1.055	4.248	0.4167	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.911	0.9031	0.0158	Normal Distribution

Survival Rate Summary

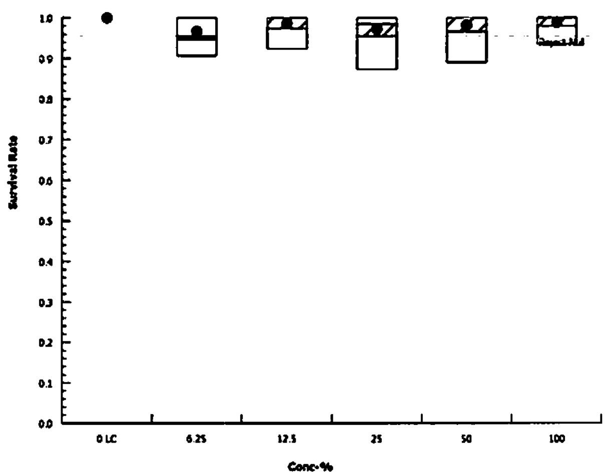
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		5	0.9533	0.8994	1.0000	0.9467	0.9057	1.0000	0.0194	4.56%	4.67%
12.5		5	0.9738	0.9279	1.0000	1.0000	0.9221	1.0000	0.0165	3.79%	2.62%
25		5	0.9541	0.8825	1.0000	0.9836	0.8730	1.0000	0.0258	6.04%	4.59%
50		5	0.9656	0.9032	1.0000	1.0000	0.8893	1.0000	0.0225	5.20%	3.44%
100		5	0.9787	0.9409	1.0000	1.0000	0.9344	1.0000	0.0136	3.11%	2.13%

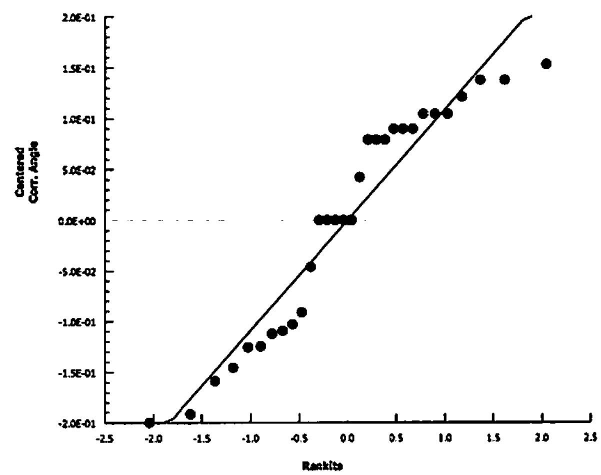
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.539	1.538	1.539	1.539	1.539	1.539	0	0.00%	0.00%
6.25		5	1.385	1.223	1.546	1.338	1.259	1.539	0.05812	9.39%	10.03%
12.5		5	1.448	1.293	1.604	1.539	1.288	1.539	0.05588	8.63%	5.87%
25		5	1.4	1.21	1.59	1.442	1.206	1.539	0.06853	10.95%	9.03%
50		5	1.434	1.251	1.617	1.539	1.232	1.539	0.06588	10.28%	6.83%
100		5	1.459	1.321	1.597	1.539	1.312	1.539	0.04961	7.60%	5.18%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID: 03-0771-3068	**Endpoint:**	Survival Rate		**CETIS Version:**	CETISv1.9.3
Analyzed: 04 Oct-21 9:00	**Analysis:**	Parametric-Control vs Treatments		**Official Results:**	Yes

Graphics





CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:40 (p 1 of 2)
Test Code/ID: 05-0166-5705/21-08-020

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21 1650	Species:	Mytilis galloprovincialis	Sample Code:	~~7285D841~~ 21-W148
End Date:	27 Aug-21 1500	Protocol:	EPA/600/R-95/136 (1995)	Sample Source:	Shelter Island Yacht Basin
Sample Date:	24 Aug-21 1425	Material:	Seawater	Sample Station:	SIYB 1

Comments:
101 = 100%(1.2um ~~filtered~~ Filtered) $\bar{x}$ = 244 (T0)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			31			231	201	BI 9/28/21
			32			260	235	
			33			273	245	
			34			261	227	
			35			262	221	2 curved hinge
			36			256	229	
			37			236	198	
			38			225	200	
			39			234	210	
			40			257	219	
			41			277	258	BI 9/29/21
			42			231	202	
			43			263	235	
			44			224	191	
			45			228	199	
			46			287	259	
			47			240	206	
			48			257	226	
			49			229	202	
			50			245	221	
			51			223	197	
			52			267	232	BI 10/1/21 1 curved hinge
			53			213	187	
			54			238	210	
			55			225	200	
			56			248	221	
			57			245	221	
			58			250	221	1 curved hinge
			59			257	217	
			60			247	229	
			61			262	240	

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			62			BI ~~190~~ 243	BI ~~172~~ 220	~~BI~~ 10/1/21 Mis-counted re-did
			63			221	189	
			64			249	222	
			65			252	223	BI 10/3/21
			66			217	191	
			67			251	213	
			68			271	242	
			69			252	221	
			70			235	208	

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:40 (p 1 of 2)
Test Code/ID: 05-0166-5705/21-08-020

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21	**Species:**	Mytilis galloprovincialis	**Sample Code:**	7205D811
End Date:	27 Aug-21	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	24 Aug-21	**Material:**	Seawater	**Sample Station:**	SIYB 1

Comments:
101 = 100%(1.2um flitered) TØ # Counted

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	48			240	214	AG 8/31/21
0	FC	2	70					
0	FC	3	69					
0	FC	4	57					
0	FC	5	54					
0	LC	1	50			233	209	AG 8/27/21 89.7
0	LC	2	68					
0	LC	3	33					
0	LC	4	56					
0	LC	5	34					
6.25		1	63					
6.25		2	31					
6.25		3	44					
6.25		4	43					
6.25		5	62					
12.5		1	46					
12.5		2	64					
12.5		3	42					
12.5		4	59					
12.5		5	55					
25		1	51					
25		2	53					
25		3	67					
25		4	65					
25		5	47					
50		1	49					
50		2	66					
50		3	36					
50		4	60					
50		5	58			250	221	1 curved - 0.004
100		1	41					

CETIS Test Data Worksheet

Test Code/ID: 05-0166-5705/21-08-020

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		2	45					
100		3	61					
100		4	39					
100		5	32			220	187	AG 8/31/21 85
101		1	37			229	187	81.7
101		2	40					
101		3	38					
101		4	35			262	221	2 curved = 0.0076
101		5	52			267	232	1 curved = 0.0037

QC: MS

$\bar{x} = 244$

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 1
Test No. 21-08-020

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (%)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.5	15.8	15.4
	Salinity (ppt)	34.0	34.3	35.0
	pH (units)	7.92	7.83	7.86
	DO (mg/L)	7.7	8.1	8.0
Filtered Control	Temp. (°C)	15.1	15.8	15.3
	Salinity (ppt)	34.2	34.5	35.6
	pH (units)	7.97	7.84	7.86
	DO (mg/L)	7.4	8.1	8.1
6.25	Temp. (°C)	15.1	15.5	15.3
	Salinity (ppt)	34.3	34.4	35.4
	pH (units)	7.96	7.90	7.88
	DO (mg/L)	7.9	8.2	8.1
12.5	Temp. (°C)	15.2	15.4	15.4
	Salinity (ppt)	34.2	34.4	35.5
	pH (units)	7.95	7.90	7.88
	DO (mg/L)	8.0	8.2	8.2
25	Temp. (°C)	15.2	15.5	15.4
	Salinity (ppt)	34.2	34.6	35.4
	pH (units)	7.92	7.89	7.87
	DO (mg/L)	8.0	8.1	8.2
50	Temp. (°C)	15.0	15.5	15.4
	Salinity (ppt)	34.3	34.7	35.5
	pH (units)	7.92	7.87	7.87
	DO (mg/L)	8.1	8.2	8.2
100	Temp. (°C)	15.0	15.4	15.5
	Salinity (ppt)	34.3	34.7	35.4
	pH (units)	7.91	7.90	7.87
	DO (mg/L)	7.9	8.1	8.1
100 Filtered (1.2µm)	Temp. (°C)	15.1	15.5	15.6
	Salinity (ppt)	34.3	34.4	35.5
	pH (units)	7.90	7.89	7.87
	DO (mg/L)	8.0	8.2	8.2
	Tech Initials:	AG	AG	SC

Source of Animals: Mission Bay / SIO
Date Received: 8/25/21

Comments:

Initial QC: SC 11/10/21
Final Review: BCS 11-16-21

Embryo-Larval Development Test

Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Test Date: 8/25/2021
Batch ID: SIO holding facility (collected May)
Analyst: AG
Test Type: 48hr Embryo Development

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilization End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts # per 100 µL

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1	500	59,68	63,58	70,79	75,60	66.5	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density: 665 / 500
Dil Factor: 1.33

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/~~24~~ 239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: 11/10/21 $\bar{X}$ = 244

Final Review: BCO 11-16-21

Site: SIYB-2

CETIS Summary Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Batch ID:	04-6863-6322	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	25 Aug-21 16:50	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	27 Aug-21 15:00	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	46h	**Source:**	Field Collected	**Age:**	

Sample ID:	02-8733-1730	**Code:**	21-W149	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 13:25	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	27h	**Station:**	SIYB 2		

Comments:
101 = 100% (1.2um filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
13-4765-1854	Combined Proportion Norma	TST-Welch's t Test	1.0E-04	100% passed combined proportion normal
14-1415-5998	Combined Proportion Norma	TST-Welch's t Test	0.0012	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
03-0457-5728	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	6.08%
01-1005-3445	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.1%
20-5722-4707	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.01%

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
01-1005-3445	Proportion Normal	Control Resp	0.8804	0.9	>>	Yes	Below Criteria
20-5722-4707	Survival Rate	Control Resp	0.9934	0.5	>>	Yes	Passes Criteria

 Analyst: SC QA: BCS

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8744	0.8590	0.8899	0.8645	0.8893	0.0056	0.0124	1.42%	0.00%
0	FC	5	0.8201	0.6821	0.9580	0.6230	0.8795	0.0497	0.1111	13.55%	6.22%
6.25		5	0.8386	0.7816	0.8957	0.7787	0.8858	0.0205	0.0459	5.48%	4.09%
12.5		5	0.8775	0.8483	0.9068	0.8391	0.9031	0.0106	0.0236	2.69%	-0.36%
25		5	0.8576	0.7874	0.9278	0.7705	0.9213	0.0253	0.0565	6.59%	1.92%
50		5	0.8751	0.8480	0.9022	0.8531	0.9057	0.0098	0.0218	2.50%	-0.07%
100		5	0.8526	0.8147	0.8905	0.8238	0.8975	0.0136	0.0305	3.58%	2.50%
101		5	0.8505	0.8210	0.8799	0.8261	0.8893	0.0106	0.0237	2.79%	2.74%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8804	0.8561	0.9046	0.8645	0.9118	0.0087	0.0195	2.22%	0.00%
0	FC	5	0.8725	0.8374	0.9077	0.8261	0.9035	0.0127	0.0283	3.24%	0.89%
6.25		5	0.8871	0.8702	0.9041	0.8667	0.9048	0.0061	0.0137	1.54%	-0.77%
12.5		5	0.8775	0.8483	0.9068	0.8391	0.9031	0.0106	0.0236	2.69%	0.32%
25		5	0.8820	0.8468	0.9171	0.8464	0.9213	0.0127	0.0283	3.21%	-0.18%
50		5	0.8839	0.8550	0.9128	0.8531	0.9095	0.0104	0.0233	2.63%	-0.41%
100		5	0.8910	0.8592	0.9228	0.8590	0.9186	0.0115	0.0256	2.87%	-1.21%
101		5	0.8648	0.8334	0.8961	0.8261	0.8930	0.0113	0.0253	2.92%	1.77%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9934	0.9802	1.0000	0.9754	1.0000	0.0048	0.0107	1.08%	0.00%
0	FC	5	0.9377	0.8055	1.0000	0.7541	1.0000	0.0476	0.1065	11.36%	5.61%
6.25		5	0.9459	0.8699	1.0000	0.8607	1.0000	0.0274	0.0612	6.47%	4.79%
12.5		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.66%
25		5	0.9721	0.9112	1.0000	0.8852	1.0000	0.0219	0.0490	5.04%	2.15%
50		5	0.9902	0.9684	1.0000	0.9590	1.0000	0.0078	0.0175	1.77%	0.33%
100		5	0.9574	0.9096	1.0000	0.9057	1.0000	0.0172	0.0385	4.02%	3.63%
101		5	0.9836	0.9629	1.0000	0.9590	1.0000	0.0074	0.0167	1.69%	0.99%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8866	0.8648	0.8893	0.8645	0.8669
0	FC	0.6230	0.8765	0.8770	0.8795	0.8443
6.25		0.8730	0.8858	0.7787	0.8033	0.8525
12.5		0.8391	0.8833	0.8852	0.9031	0.8770
25		0.8893	0.7705	0.9213	0.8464	0.8607
50		0.8531	0.8667	0.9057	0.8607	0.8893
100		0.8320	0.8696	0.8238	0.8975	0.8402
101		0.8443	0.8261	0.8525	0.8893	0.8402

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8866	0.8719	0.9118	0.8645	0.8669
0	FC	0.8261	0.8765	0.8770	0.8795	0.9035
6.25		0.8875	0.8858	0.9048	0.8909	0.8667
12.5		0.8391	0.8833	0.8852	0.9031	0.8770
25		0.8967	0.8704	0.9213	0.8464	0.8750
50		0.8531	0.8667	0.9095	0.8974	0.8930
100		0.9186	0.8696	0.8590	0.9087	0.8991
101		0.8803	0.8261	0.8631	0.8930	0.8613

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.0000	0.9918	0.9754	1.0000	1.0000
0	FC	0.7541	1.0000	1.0000	1.0000	0.9344
6.25		0.9836	1.0000	0.8607	0.9016	0.9836
12.5		1.0000	1.0000	1.0000	1.0000	1.0000
25		0.9918	0.8852	1.0000	1.0000	0.9836
50		1.0000	1.0000	0.9959	0.9590	0.9959
100		0.9057	1.0000	0.9590	0.9877	0.9344
101		0.9590	1.0000	0.9877	0.9959	0.9754

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	219/247	211/244	217/244	217/251	215/248
0	FC	152/244	220/251	214/244	219/249	206/244
6.25		213/244	225/254	190/244	196/244	208/244
12.5		219/261	227/257	216/244	233/258	214/244
25		217/244	188/244	234/254	226/267	210/244
50		209/245	234/270	221/244	210/244	217/244
100		203/244	220/253	201/244	219/244	205/244
101		206/244	228/276	208/244	217/244	205/244

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	219/247	211/242	217/238	217/251	215/248
0	FC	152/184	220/251	214/244	219/249	206/228
6.25		213/240	225/254	190/210	196/220	208/240
12.5		219/261	227/257	216/244	233/258	214/244
25		217/242	188/216	234/254	226/267	210/240
50		209/245	234/270	221/243	210/234	217/243
100		203/221	220/253	201/234	219/241	205/228
101		206/234	228/276	208/241	217/243	205/238

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	244/244	242/244	238/244	244/244	244/244
0	FC	184/244	244/244	244/244	244/244	228/244
6.25		240/244	244/244	210/244	220/244	240/244
12.5		244/244	244/244	244/244	244/244	244/244
25		242/244	216/244	244/244	244/244	240/244
50		244/244	244/244	243/244	234/244	243/244
100		221/244	244/244	234/244	241/244	228/244
101		234/244	244/244	241/244	243/244	238/244

CETIS Analytical Report

Report Date: 15 Oct-21 10:55 (p 1 of 10)
Test Code: 21-08-021 | 15-9954-4778

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	03-0457-5728	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:54	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	6.08%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	1.541	2.362	0.075	8	CDF	0.2110	Non-Significant Effect
		12.5	-0.1746	2.362	0.075	8	CDF	0.8797	Non-Significant Effect
		25	0.6266	2.362	0.075	8	CDF	0.5905	Non-Significant Effect
		50	-0.05384	2.362	0.075	8	CDF	0.8488	Non-Significant Effect
		100	0.9678	2.362	0.075	8	CDF	0.4343	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0116101	0.0023220	5	0.9315	0.4782	Non-Significant Effect
Error	0.0598288	0.0024929	24			
Total	0.0714389		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	8.319	15.09	0.1395	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9866	0.9031	0.9613	Normal Distribution

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8744	0.8590	0.8899	0.8669	0.8645	0.8893	0.0056	1.42%	0.00%
6.25		5	0.8386	0.7816	0.8957	0.8525	0.7787	0.8858	0.0205	5.48%	4.09%
12.5		5	0.8775	0.8483	0.9068	0.8833	0.8391	0.9031	0.0106	2.69%	-0.36%
25		5	0.8576	0.7874	0.9278	0.8607	0.7705	0.9213	0.0253	6.59%	1.92%
50		5	0.8751	0.8480	0.9022	0.8667	0.8531	0.9057	0.0098	2.50%	-0.07%
100		5	0.8526	0.8147	0.8905	0.8402	0.8238	0.8975	0.0136	3.58%	2.50%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.209	1.185	1.232	1.197	1.194	1.232	0.00847	1.57%	0.00%
6.25		5	1.16	1.083	1.237	1.177	1.081	1.226	0.02776	5.35%	4.02%
12.5		5	1.214	1.171	1.258	1.222	1.158	1.254	0.01573	2.90%	-0.46%
25		5	1.189	1.09	1.288	1.188	1.071	1.286	0.03579	6.73%	1.64%
50		5	1.211	1.169	1.252	1.197	1.177	1.259	0.01508	2.79%	-0.14%
100		5	1.178	1.123	1.233	1.16	1.138	1.245	0.01985	3.77%	2.53%

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8866	0.8648	0.8893	0.8645	0.8669
6.25		0.8730	0.8858	0.7787	0.8033	0.8525
12.5		0.8391	0.8833	0.8852	0.9031	0.8770
25		0.8893	0.7705	0.9213	0.8464	0.8607
50		0.8531	0.8667	0.9057	0.8607	0.8893
100		0.8320	0.8696	0.8238	0.8975	0.8402

Analyst: SL QA: BCS

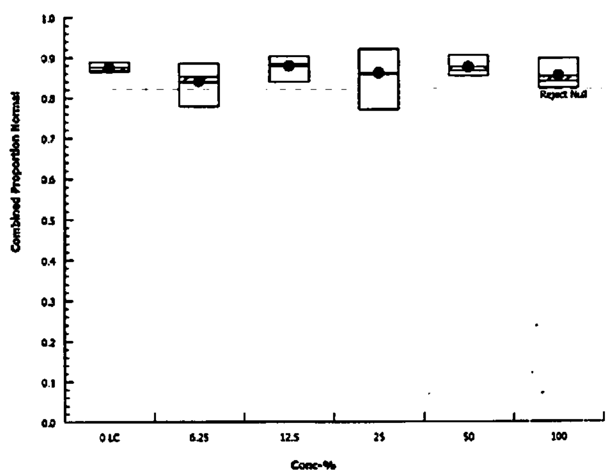
Bivalve Larval Survival and Development Test — **Wood E&IS**

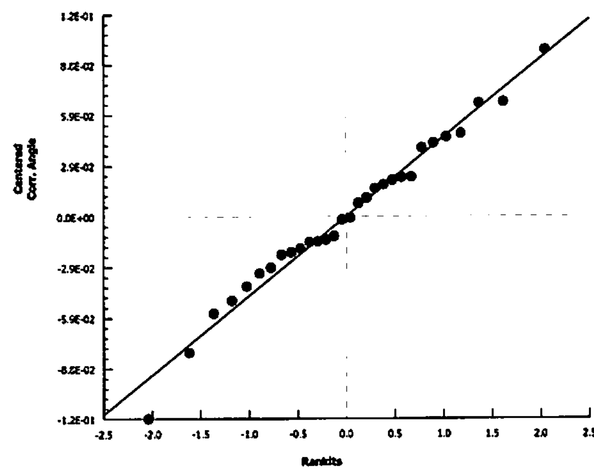
Analysis ID:	03-0457-5728	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:54	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.227	1.194	1.232	1.194	1.197
6.25		1.206	1.226	1.081	1.111	1.177
12.5		1.158	1.222	1.225	1.254	1.213
25		1.232	1.071	1.286	1.168	1.188
50		1.177	1.197	1.259	1.188	1.232
100		1.148	1.201	1.138	1.245	1.16

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	13-4765-1854	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:55	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	13.04	2.132	4	CDF	1.0E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0023349	0.0023349	1	2.006	0.1944	Non-Significant Effect
Error	0.0093121	0.0011640	8			
Total	0.011647		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	5.49	23.15	0.1278	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9122	0.7411	0.2965	Normal Distribution

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8744	0.8590	0.8899	0.8669	0.8645	0.8893	0.0056	1.42%	0.00%
100		5	0.8526	0.8147	0.8905	0.8402	0.8238	0.8975	0.0136	3.58%	2.50%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.209	1.185	1.232	1.197	1.194	1.232	0.00847	1.57%	0.00%
100		5	1.178	1.123	1.233	1.16	1.138	1.245	0.01985	3.77%	2.53%

Combined Proportion Normal Detail

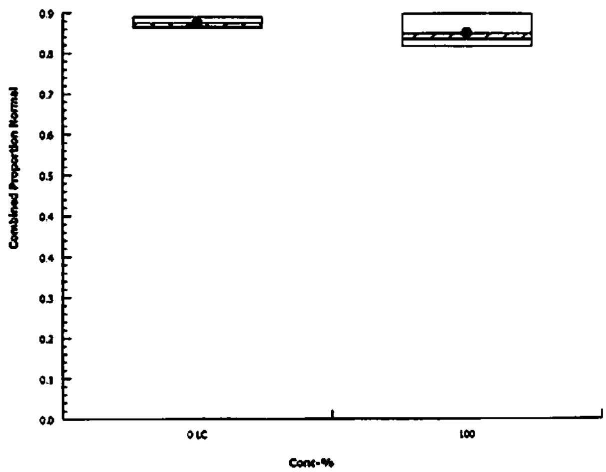
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8866	0.8648	0.8893	0.8645	0.8669
100		0.8320	0.8696	0.8238	0.8975	0.8402

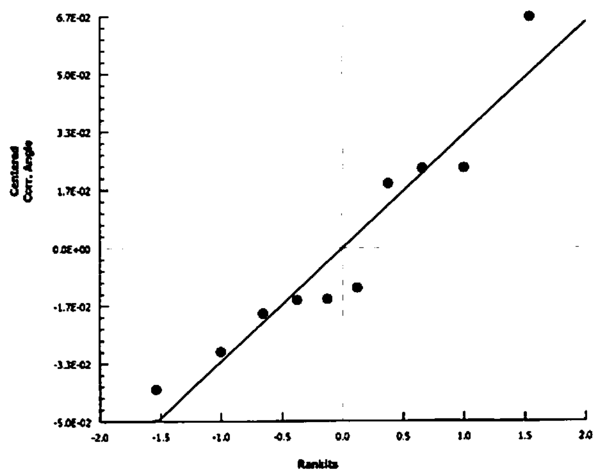
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.227	1.194	1.232	1.194	1.197
100		1.148	1.201	1.138	1.245	1.16

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID:	13-4765-1854	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:55	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Graphics





CETIS Analytical Report TST w/ FC vs. 100% filtered

Report Date: 15 Oct-21 10:55 (p 5 of 10)
Test Code: 21-08-021 | 15-9954-4778

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	14-1415-5998	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:55	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	6.764	2.132	4	CDF	0.0012	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0025025	0.0025025	1	0.2683	0.6185	Non-Significant Effect
Error	0.0746182	0.0093273	8			
Total	0.0771207		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	14.76	23.15	0.0231	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7526	0.7411	0.0038	Non-Normal Distribution

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8201	0.6821	0.9580	0.8765	0.6230	0.8795	0.0497	13.55%	0.00%
101		5	0.8505	0.8210	0.8799	0.8443	0.8261	0.8893	0.0106	2.79%	-3.71%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.143	0.9789	1.307	1.212	0.9096	1.216	0.05911	11.56%	0.00%
101		5	1.175	1.132	1.217	1.165	1.141	1.232	0.01539	2.93%	-2.77%

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	FC	0.6230	0.8765	0.8770	0.8795	0.8443
101		0.8443	0.8261	0.8525	0.8893	0.8402

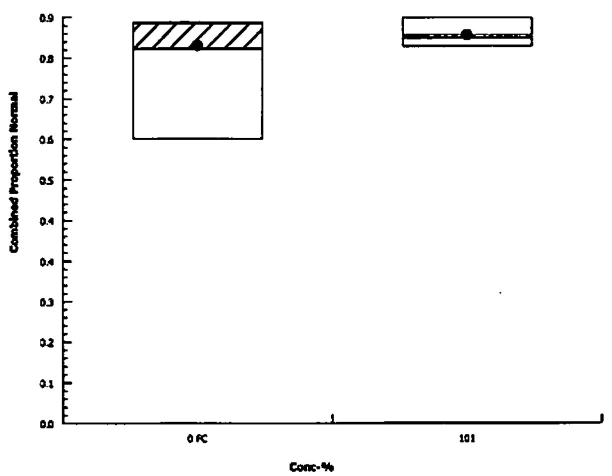
Angular (Corrected) Transformed Detail

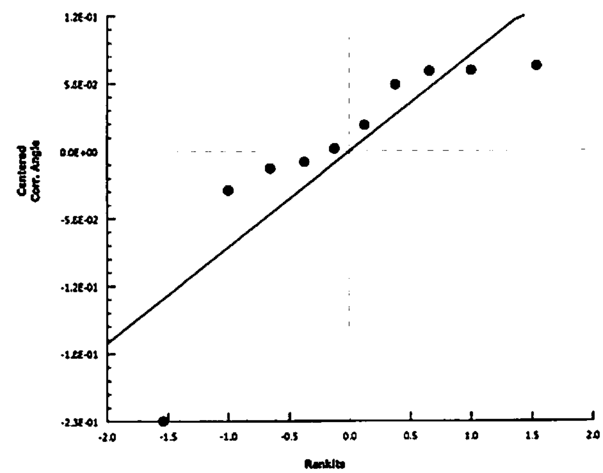
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	FC	0.9096	1.212	1.213	1.216	1.165
101		1.165	1.141	1.177	1.232	1.16

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	14-1415-5998	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:55	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	01-1005-3445	Endpoint:	Proportion Normal	CETIS Version:	CETISv1.9.3
Analyzed:	15 Oct-21 10:54	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.10%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-0.4468	2.362	0.053	8	CDF	0.9323	Non-Significant Effect
	12.5	0.1816	2.362	0.053	8	CDF	0.7741	Non-Significant Effect
	25	-0.1535	2.362	0.053	8	CDF	0.8747	Non-Significant Effect
	50	-0.2592	2.362	0.053	8	CDF	0.8986	Non-Significant Effect
	100	-0.7726	2.362	0.053	8	CDF	0.9693	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0014542	0.0002908	5	0.2279	0.9467	Non-Significant Effect
Error	0.0306335	0.0012764	24			
Total	0.0320877		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.096	15.09	0.8357	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9781	0.9031	0.7722	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8804	0.8561	0.9046	0.8719	0.8645	0.9118	0.0087	2.22%	0.00%
6.25		5	0.8871	0.8702	0.9041	0.8875	0.8667	0.9048	0.0061	1.54%	-0.77%
12.5		5	0.8775	0.8483	0.9068	0.8833	0.8391	0.9031	0.0106	2.69%	0.32%
25		5	0.8820	0.8468	0.9171	0.8750	0.8464	0.9213	0.0127	3.21%	-0.18%
50		5	0.8839	0.8550	0.9128	0.8930	0.8531	0.9095	0.0104	2.63%	-0.41%
100		5	0.8910	0.8592	0.9228	0.8991	0.8590	0.9186	0.0115	2.87%	-1.21%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.219	1.18	1.257	1.205	1.194	1.269	0.01394	2.56%	0.00%
6.25		5	1.229	1.202	1.255	1.229	1.197	1.257	0.009608	1.75%	-0.83%
12.5		5	1.214	1.171	1.258	1.222	1.158	1.254	0.01573	2.90%	0.34%
25		5	1.222	1.166	1.278	1.209	1.168	1.286	0.02006	3.67%	-0.28%
50		5	1.224	1.18	1.269	1.238	1.177	1.265	0.01614	2.95%	-0.48%
100		5	1.236	1.185	1.287	1.248	1.186	1.281	0.01829	3.31%	-1.43%

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8866	0.8719	0.9118	0.8645	0.8669
6.25		0.8875	0.8858	0.9048	0.8909	0.8667
12.5		0.8391	0.8833	0.8852	0.9031	0.8770
25		0.8967	0.8704	0.9213	0.8464	0.8750
50		0.8531	0.8667	0.9095	0.8974	0.8930
100		0.9186	0.8696	0.8590	0.9087	0.8991

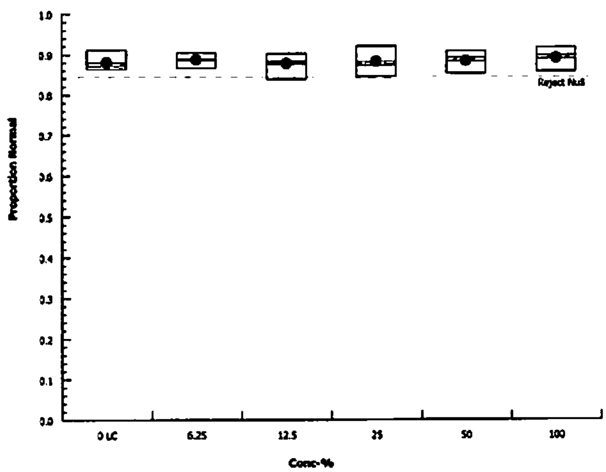
Bivalve Larval Survival and Development Test — Wood E&IS

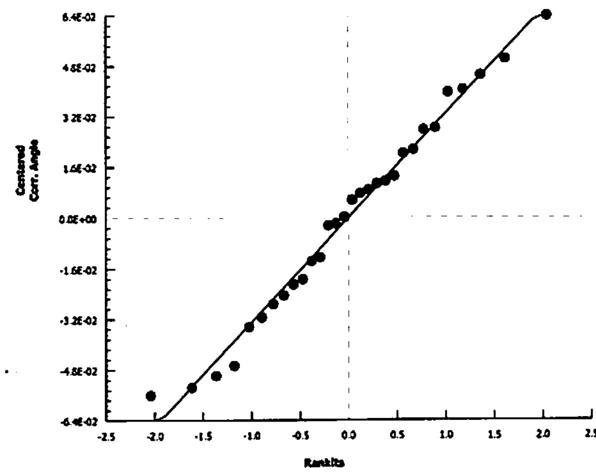
Analysis ID:	01-1005-3445	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:54	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.227	1.205	1.269	1.194	1.197
6.25		1.229	1.226	1.257	1.234	1.197
12.5		1.158	1.222	1.225	1.254	1.213
25		1.244	1.202	1.286	1.168	1.209
50		1.177	1.197	1.265	1.245	1.238
100		1.281	1.201	1.186	1.264	1.248

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	20-5722-4707	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:54	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.01%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	2.057	2.362	0.148	8	CDF	0.0895	Non-Significant Effect
	12.5	-0.5861	2.362	0.148	8	CDF	0.9511	Non-Significant Effect
	25	0.9058	2.362	0.148	8	CDF	0.4624	Non-Significant Effect
	50	0.1651	2.362	0.148	8	CDF	0.7800	Non-Significant Effect
	100	1.827	2.362	0.148	8	CDF	0.1342	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.110101	0.0220203	5	2.232	0.0840	Non-Significant Effect
Error	0.236758	0.0098649	24			
Total	0.346859		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.724	3.895	0.0123	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.842	4.248	0.1553	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.946	0.9031	0.1316	Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9934	0.9802	1.0000	1.0000	0.9754	1.0000	0.0048	1.08%	0.00%
6.25		5	0.9459	0.8699	1.0000	0.9836	0.8607	1.0000	0.0274	6.47%	4.79%
12.5		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-0.66%
25		5	0.9721	0.9112	1.0000	0.9918	0.8852	1.0000	0.0219	5.04%	2.15%
50		5	0.9902	0.9684	1.0000	0.9959	0.9590	1.0000	0.0078	1.77%	0.33%
100		5	0.9574	0.9096	1.0000	0.9590	0.9057	1.0000	0.0172	4.02%	3.63%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.502	1.433	1.571	1.539	1.413	1.539	0.0249	3.71%	0.00%
6.25		5	1.373	1.191	1.555	1.442	1.188	1.539	0.06555	10.68%	8.60%
12.5		5	1.539	1.538	1.539	1.539	1.539	1.539	0	0.00%	-2.45%
25		5	1.445	1.284	1.606	1.48	1.225	1.539	0.05794	8.97%	3.79%
50		5	1.492	1.403	1.58	1.507	1.367	1.539	0.03198	4.79%	0.69%
100		5	1.387	1.247	1.527	1.367	1.259	1.539	0.05041	8.13%	7.64%

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.0000	0.9918	0.9754	1.0000	1.0000
6.25		0.9836	1.0000	0.8607	0.9016	0.9836
12.5		1.0000	1.0000	1.0000	1.0000	1.0000
25		0.9918	0.8852	1.0000	1.0000	0.9836
50		1.0000	1.0000	0.9959	0.9590	0.9959
100		0.9057	1.0000	0.9590	0.9877	0.9344

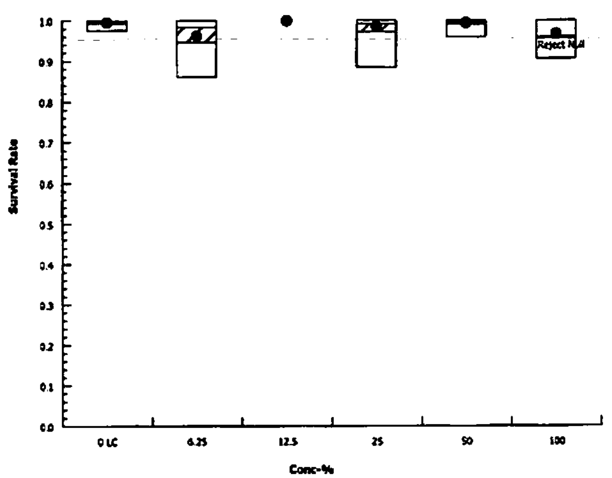
Bivalve Larval Survival and Development Test — **Wood E&IS**

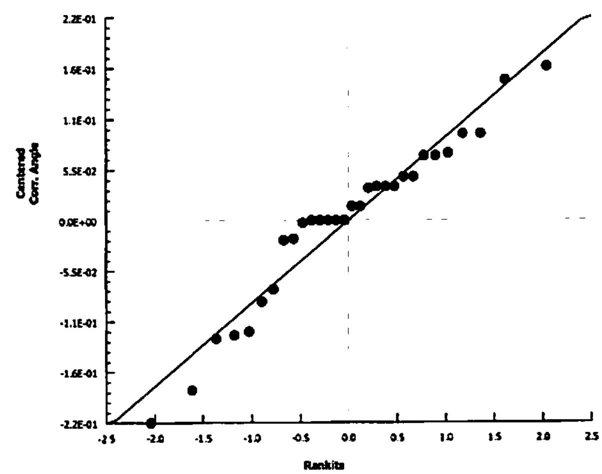
Analysis ID:	20-5722-4707	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 10:54	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.539	1.48	1.413	1.539	1.539
6.25		1.442	1.539	1.188	1.252	1.442
12.5		1.539	1.539	1.539	1.539	1.539
25		1.48	1.225	1.539	1.539	1.442
50		1.539	1.539	1.507	1.367	1.507
100		1.259	1.539	1.367	1.46	1.312

Graphics





CETIS Test Data Worksheet

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21 1650	**Species:**	Mytilis galloprovincialis	**Sample Code:**	~~11205592~~ 21-W149
End Date:	27 Aug-21 1500	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	24 Aug-21 1325	**Material:**	Seawater	**Sample Station:**	SIYB 2

Comments: Del= 1720
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			71			276	228	BI 10/6/21
			72			248	215	
			73			244	214	
			74			241	208	1 curved hinge
			75			270	234	
			76			240	213	
			77			244	214	
			78			220	196	BI 10/13/21
			79			261	219	
			80			242	211	
			81			184	152	check
			82			254	225	
			83			238	205	1 curved hinge
			84			251	220	
			85			240	208	
			86			234	210	
			87			251	217	1
			88			253	220	1 curved hinge
			89			210	190	
			90			234	206	BI 10/14/21
			91			247	219	
			92			216	188	
			93			257	227	
			94			267	226	
			95			234	201	
			96			243	217	
			97			258	233	
			98			245	209	
			99			240	210	
			100			238	217	
			101			242	217	BI 10/15/21

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			102			221	203	~~BI~~ 10/15/21
			103			249	219	
			104			241	219	
			105			228	205	3 curved hinge
			106			244	216	
			107			243	221	
			108			243	217	
			109			228	206	
			110			254	234	

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:49 (p 1 of 2)
Test Code/ID: 15-9954-4778/21-08-021

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21	**Species:**	Mytilis galloprovincialis	**Sample Code:**	11205592
End Date:	27 Aug-21	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	24 Aug-21	**Material:**	Seawater	**Sample Station:**	SIYB 2

Comments:
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	81			202	176	AG 8/31/21
0	FC	2	84					
0	FC	3	77					
0	FC	4	103					
0	FC	5	109			245	219	
0	LC	1	91					
0	LC	2	80					
0	LC	3	100					
0	LC	4	87					
0	LC	5	72					
6.25		1	76					
6.25		2	82					
6.25		3	89					
6.25		4	78					
6.25		5	85					
12.5		1	79					
12.5		2	93					
12.5		3	106					
12.5		4	97					
12.5		5	73					
25		1	101					
25		2	92					
25		3	110					
25		4	94					
25		5	99					
50		1	98					
50		2	75					
50		3	107					
50		4	86					
50		5	108					
100		1	102			218	198	

 Analyst: AG QA: KC 11/10/21

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		2	88			253		1 curved = 0.004
100		3	95					
100		4	104					
100		5	105			228		3 curved = 0.0132
101		1	90			217	189	AG 8/31/21
101		2	71					
101		3	74			241		1 curved = 0.00415
101		4	96					
101		5	83			238		1 curved = 0.0042

QC: MS

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 2
Test No. 21-08-021

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (%)	Water Quality Measurements			
	Parameter	**0hr**	**24hr**	**48hr**
Lab Control	Temp. (°C)	15.2	15.7	15.3
	Salinity (ppt)	34.0	34.5	35.4
	pH (units)	7.89	7.88	7.87
	DO (mg/L)	7.9	8.1	8.3
Filtered Control	Temp. (°C)	15.0	15.6	15.2
	Salinity (ppt)	34.3	34.5	35.5
	pH (units)	7.95	7.90	7.88
	DO (mg/L)	7.5	8.2	8.2
6.25	Temp. (°C)	14.9	15.7	15.3
	Salinity (ppt)	34.3	34.6	35.6
	pH (units)	7.94	7.90	7.90
	DO (mg/L)	7.9	8.2	8.3
12.5	Temp. (°C)	14.9	15.6	15.5
	Salinity (ppt)	34.3	34.6	35.6
	pH (units)	7.93	7.90	7.89
	DO (mg/L)	AG ~~3~~ 8.0	8.2	8.3
25	Temp. (°C)	14.8	15.7	15.5
	Salinity (ppt)	34.4	34.6	35.3
	pH (units)	7.89	7.89	7.89
	DO (mg/L)	8.0	8.2	8.2
50	Temp. (°C)	14.8	15.8	15.5
	Salinity (ppt)	34.4	34.6	35.5
	pH (units)	7.90	7.89	7.89
	DO (mg/L)	8.2	8.2	8.2
100	Temp. (°C)	14.8	15.7	15.5
	Salinity (ppt)	34.5	34.6	35.4
	pH (units)	7.89	7.90	7.87
	DO (mg/L)	8.0	8.2	8.2
100 Filtered (1.2µm)	Temp. (°C)	15.0	15.7	15.6
	Salinity (ppt)	33.8	34.0	34.8
	pH (units)	7.92	7.90	7.88
	DO (mg/L)	8.0	8.2	8.2
	Tech Initials:	AG	AG	SC

Source of Animals: Mission Bay/SIO
Date Received: 8/25/21

Comments:

Initial QC: SC 11/10/21

Final Review: BG 11-16-21

Embryo-Larval Development Test

Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Batch ID: SIO holding facility (collected May)
Test Type: 48hr Embryo Development

Test Date: 8/25/2021
Analyst: AG

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilzation End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1	500	59,68	63,58	70,79	75,60	66.5	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{665}{500}$ **Dil Factor** 1.33

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/~~24~~239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: JC 11/10/21 $\bar{X} = 244$

Final Review: BCS 11-16-21

Site: SIYB-3

CETIS Summary Report

Bivalve Larval Survival and Development Test					Wood E&IS
Batch ID: 06-7813-0376	**Test Type:**	Development-Survival	**Analyst:**		
Start Date: 25 Aug-21 16:50	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater	
Ending Date: 27 Aug-21 15:00	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable	
Duration: 46h	**Source:**	Field Collected	**Age:**		

Sample ID: 13-8390-0170	**Code:**	21-W150	**Client:**	Wood Environment and Infrastructure
Sample Date: 24 Aug-21 12:30	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date: 24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age: 28h	**Station:**	SIYB 3		

Comments:
101=100% (1.2um filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
07-8097-7314	Combined Proportion Norma	TST-Welch's t Test	2.7E-05	100% passed combined proportion normal
16-5000-3796	Combined Proportion Norma	TST-Welch's t Test	9.3E-05	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
11-4403-7371	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	10.1%
09-3103-8983	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.19%
18-7537-6164	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	12.3%

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
09-3103-8983	Proportion Normal	Control Resp	0.9114	0.9	>>	Yes	Passes Criteria
18-7537-6164	Survival Rate	Control Resp	0.927	0.5	>>	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8446	0.7789	0.9104	0.7869	0.9076	0.0237	0.0530	6.27%	0.00%
0	FC	5	0.8822	0.8155	0.9489	0.8320	0.9518	0.0240	0.0537	6.09%	-4.44%
6.25		5	0.8814	0.8219	0.9410	0.8115	0.9224	0.0215	0.0480	5.44%	-4.36%
12.5		5	0.8940	0.8398	0.9482	0.8279	0.9315	0.0195	0.0437	4.88%	-5.85%
25		5	0.8656	0.7990	0.9322	0.8115	0.9467	0.0240	0.0536	6.20%	-2.48%
50		5	0.8691	0.8093	0.9290	0.8197	0.9482	0.0216	0.0482	5.55%	-2.90%
100		5	0.8788	0.8237	0.9339	0.8238	0.9269	0.0199	0.0444	5.05%	-4.05%
101		5	0.8612	0.8154	0.9070	0.7992	0.8975	0.0165	0.0369	4.28%	-1.96%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9114	0.8713	0.9515	0.8609	0.9437	0.0144	0.0323	3.54%	0.00%
0	FC	5	0.9222	0.8864	0.9581	0.8750	0.9518	0.0129	0.0289	3.13%	-1.19%
6.25		5	0.9299	0.9066	0.9532	0.9027	0.9492	0.0084	0.0188	2.02%	-2.03%
12.5		5	0.9276	0.9193	0.9359	0.9174	0.9352	0.0030	0.0067	0.72%	-1.78%
25		5	0.9260	0.9075	0.9446	0.9095	0.9467	0.0067	0.0149	1.61%	-1.60%
50		5	0.9266	0.9052	0.9481	0.9048	0.9482	0.0077	0.0173	1.87%	-1.67%
100		5	0.9347	0.9198	0.9495	0.9220	0.9524	0.0053	0.0120	1.28%	-2.55%
101		5	0.9140	0.8796	0.9484	0.8755	0.9422	0.0124	0.0277	3.03%	-0.29%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9270	0.8592	0.9949	0.8648	1.0000	0.0244	0.0546	5.89%	0.00%
0	FC	5	0.9566	0.8955	1.0000	0.8934	1.0000	0.0220	0.0492	5.14%	-3.18%
6.25		5	0.9484	0.8761	1.0000	0.8730	1.0000	0.0260	0.0582	6.14%	-2.30%
12.5		5	0.9639	0.9018	1.0000	0.8852	1.0000	0.0224	0.0501	5.19%	-3.98%
25		5	0.9344	0.8737	0.9952	0.8730	1.0000	0.0219	0.0489	5.24%	-0.80%
50		5	0.9377	0.8861	0.9893	0.8852	1.0000	0.0186	0.0415	4.43%	-1.15%
100		5	0.9402	0.8859	0.9944	0.8934	1.0000	0.0196	0.0437	4.65%	-1.41%
101		5	0.9426	0.8878	0.9974	0.8811	1.0000	0.0197	0.0441	4.68%	-1.68%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8115	0.7869	0.8238	0.9076	0.8934
0	FC	0.8607	0.8402	0.9518	0.9262	0.8320
6.25		0.9180	0.9224	0.8115	0.9027	0.8525
12.5		0.9280	0.8730	0.9098	0.8279	0.9315
25		0.8811	0.9467	0.8115	0.8648	0.8238
50		0.8484	0.8566	0.8730	0.8197	0.9482
100		0.8238	0.9016	0.8402	0.9269	0.9016
101		0.8755	0.8975	0.7992	0.8689	0.8648

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8609	0.9100	0.9349	0.9076	0.9437
0	FC	0.8750	0.9193	0.9518	0.9339	0.9312
6.25		0.9492	0.9224	0.9296	0.9027	0.9455
12.5		0.9280	0.9261	0.9174	0.9352	0.9315
25		0.9307	0.9467	0.9296	0.9095	0.9136
50		0.9159	0.9048	0.9383	0.9259	0.9482
100		0.9220	0.9402	0.9318	0.9269	0.9524
101		0.8755	0.9399	0.9070	0.9422	0.9056

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9426	0.8648	0.8811	1.0000	0.9467
0	FC	0.9836	0.9139	1.0000	0.9918	0.8934
6.25		0.9672	1.0000	0.8730	1.0000	0.9016
12.5		1.0000	0.9426	0.9918	0.8852	1.0000
25		0.9467	1.0000	0.8730	0.9508	0.9016
50		0.9262	0.9467	0.9303	0.8852	1.0000
100		0.8934	0.9590	0.9016	1.0000	0.9467
101		1.0000	0.9549	0.8811	0.9221	0.9549

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	198/244	192/244	201/244	226/249	218/244
0	FC	210/244	205/244	237/249	226/244	203/244
6.25		224/244	226/245	198/244	232/257	208/244
12.5		232/250	213/244	222/244	202/244	231/248
25		215/244	231/244	198/244	211/244	201/244
50		207/244	209/244	213/244	200/244	238/251
100		201/244	220/244	205/244	241/260	220/244
101		218/249	219/244	195/244	212/244	211/244

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	198/230	192/211	201/215	226/249	218/231
0	FC	210/240	205/223	237/249	226/242	203/218
6.25		224/236	226/245	198/213	232/257	208/220
12.5		232/250	213/230	222/242	202/216	231/248
25		215/231	231/244	198/213	211/232	201/220
50		207/226	209/231	213/227	200/216	238/251
100		201/218	220/234	205/220	241/260	220/231
101		218/249	219/233	195/215	212/225	211/233

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	230/244	211/244	215/244	244/244	231/244
0	FC	240/244	223/244	244/244	242/244	218/244
6.25		236/244	244/244	213/244	244/244	220/244
12.5		244/244	230/244	242/244	216/244	244/244
25		231/244	244/244	213/244	232/244	220/244
50		226/244	231/244	227/244	216/244	244/244
100		218/244	234/244	220/244	244/244	231/244
101		244/244	233/244	215/244	225/244	233/244

CETIS Analytical Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	11-4403-7371	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 11:22	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101=100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	10.14%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	-1.136	2.362	0.113	8	CDF	0.9887	Non-Significant Effect
		12.5	-1.553	2.362	0.113	8	CDF	0.9968	Non-Significant Effect
		25	-0.6707	2.362	0.113	8	CDF	0.9602	Non-Significant Effect
		50	-0.7666	2.362	0.113	8	CDF	0.9688	Non-Significant Effect
		100	-1.039	2.362	0.113	8	CDF	0.9850	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0155572	0.0031114	5	0.5489	0.7375	Non-Significant Effect
Error	0.136034	0.0056681	24			
Total	0.151591		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.3008	15.09	0.9976	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9532	0.9031	0.2055	Normal Distribution

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8446	0.7789	0.9104	0.8238	0.7869	0.9076	0.0237	6.27%	0.00%
6.25		5	0.8814	0.8219	0.9410	0.9027	0.8115	0.9224	0.0215	5.44%	-4.36%
12.5		5	0.8940	0.8398	0.9482	0.9098	0.8279	0.9315	0.0195	4.88%	-5.85%
25		5	0.8656	0.7990	0.9322	0.8648	0.8115	0.9467	0.0240	6.20%	-2.48%
50		5	0.8691	0.8093	0.9290	0.8566	0.8197	0.9482	0.0216	5.55%	-2.90%
100		5	0.8788	0.8237	0.9339	0.9016	0.8238	0.9269	0.0199	5.05%	-4.05%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.17	1.076	1.264	1.138	1.091	1.262	0.03373	6.45%	0.00%
6.25		5	1.224	1.134	1.314	1.254	1.122	1.289	0.03237	5.91%	-4.62%
12.5		5	1.244	1.159	1.33	1.266	1.143	1.306	0.0308	5.54%	-6.32%
25		5	1.202	1.096	1.308	1.194	1.122	1.338	0.03835	7.13%	-2.73%
50		5	1.207	1.107	1.306	1.182	1.132	1.341	0.03572	6.62%	-3.12%
100		5	1.22	1.135	1.304	1.252	1.138	1.297	0.03034	5.56%	-4.23%

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8115	0.7869	0.8238	0.9076	0.8934
6.25		0.9180	0.9224	0.8115	0.9027	0.8525
12.5		0.9280	0.8730	0.9098	0.8279	0.9315
25		0.8811	0.9467	0.8115	0.8648	0.8238
50		0.8484	0.8566	0.8730	0.8197	0.9482
100		0.8238	0.9016	0.8402	0.9269	0.9016

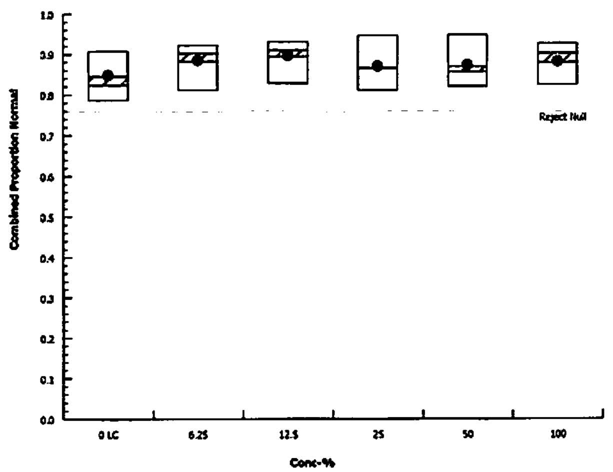
Bivalve Larval Survival and Development Test — Wood E&IS

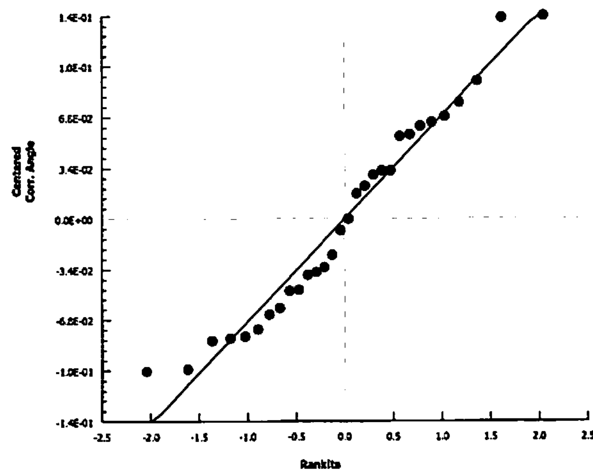
Analysis ID:	11-4403-7371	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 11:22	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.122	1.091	1.138	1.262	1.238
6.25		1.28	1.289	1.122	1.254	1.177
12.5		1.299	1.206	1.266	1.143	1.306
25		1.219	1.338	1.122	1.194	1.138
50		1.171	1.182	1.206	1.132	1.341
100		1.138	1.252	1.16	1.297	1.252

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	07-8097-7314	Endpoint:	Combined Proportion Normal	CETIS Version:	CETISv1.9.3
Analyzed:	15 Oct-21 11:23	Analysis:	Parametric Bioequivalence-Two Sample	Official Results:	Yes

Comments:
101=100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	8.656	1.895	7	CDF	2.7E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0061148	0.0061148	1	1.188	0.3074	Non-Significant Effect
Error	0.041173	0.0051466	8			
Total	0.0472878		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.236	23.15	0.8422	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8886	0.7411	0.1635	Normal Distribution

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8446	0.7789	0.9104	0.8238	0.7869	0.9076	0.0237	6.27%	0.00%
100		5	0.8788	0.8237	0.9339	0.9016	0.8238	0.9269	0.0199	5.05%	-4.05%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.17	1.076	1.264	1.138	1.091	1.262	0.03373	6.45%	0.00%
100		5	1.22	1.135	1.304	1.252	1.138	1.297	0.03034	5.56%	-4.23%

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8115	0.7869	0.8238	0.9076	0.8934
100		0.8238	0.9016	0.8402	0.9269	0.9016

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.122	1.091	1.138	1.262	1.238
100		1.138	1.252	1.16	1.297	1.252

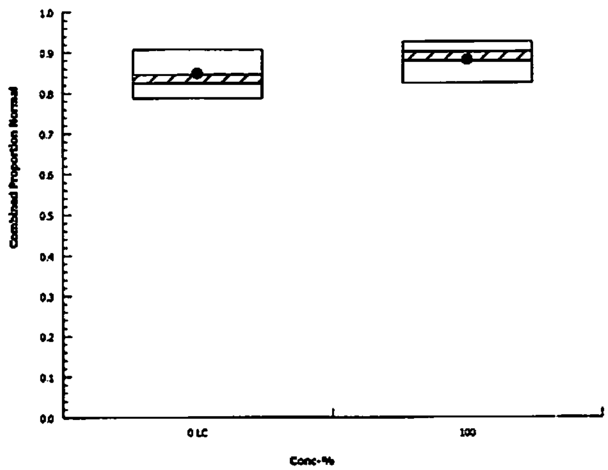
CETIS Analytical Report

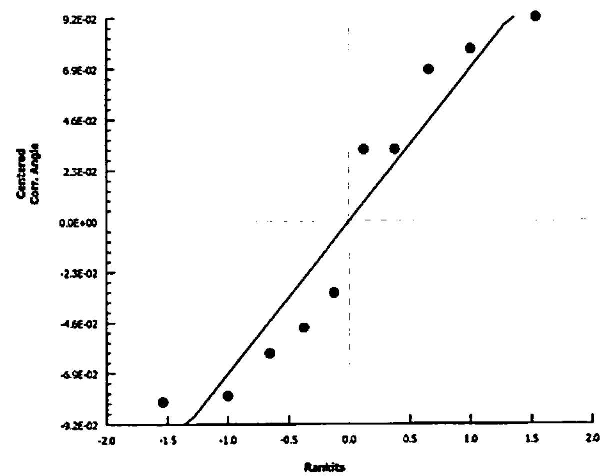
Report Date: 15 Oct-21 11:28 (p 4 of 10)
Test Code: 21-08-022 | 20-8209-3595

Bivalve Larval Survival and Development Test	**Wood E&IS**

Analysis ID:	07-8097-7314	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 11:23	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test Wood E&IS

Analysis ID:	16-5000-3796	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 11:27	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101=100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	7.145	1.895	7	CDF	9.3E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0034472	0.0034472	1	0.6485	0.4439	Non-Significant Effect
Error	0.0425246	0.0053156	8			
Total	0.0459718		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.019	23.15	0.3098	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9457	0.7411	0.6178	Normal Distribution

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8822	0.8155	0.9489	0.8607	0.8320	0.9518	0.0240	6.09%	0.00%
101		5	0.8612	0.8154	0.9070	0.8689	0.7992	0.8975	0.0165	4.28%	2.38%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.228	1.117	1.339	1.188	1.148	1.349	0.03997	7.28%	0.00%
101		5	1.191	1.127	1.255	1.2	1.106	1.245	0.023	4.32%	3.02%

Combined Proportion Normal Detail

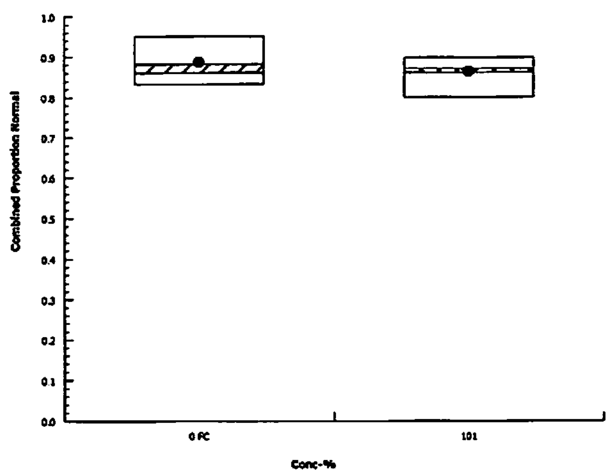
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	FC	0.8607	0.8402	0.9518	0.9262	0.8320
101		0.8755	0.8975	0.7992	0.8689	0.8648

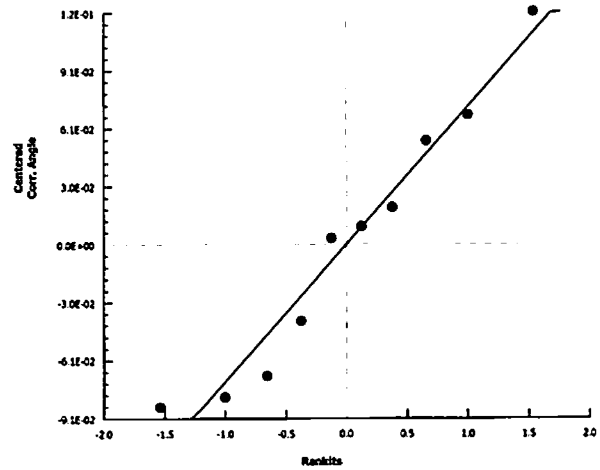
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	FC	1.188	1.16	1.349	1.296	1.148
101		1.21	1.245	1.106	1.2	1.194

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 16-5000-3796	Endpoint:	Combined Proportion Normal	CETIS Version:	CETISv1.9.3	
Analyzed: 15 Oct-21 11:27	Analysis:	Parametric Bioequivalence-Two Sample	Official Results:	Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-3103-8983	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 11:22	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101=100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.19%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-1.487	2.362	0.052	8	CDF	0.9961	Non-Significant Effect
	12.5	-1.215	2.362	0.052	8	CDF	0.9910	Non-Significant Effect
	25	-1.116	2.362	0.052	8	CDF	0.9880	Non-Significant Effect
	50	-1.185	2.362	0.052	8	CDF	0.9902	Non-Significant Effect
	100	-1.883	2.362	0.052	8	CDF	0.9989	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0047100	0.0009420	5	0.792	0.5659	Non-Significant Effect
Error	0.0285456	0.0011894	24			
Total	0.0332557		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	7.234	15.09	0.2038	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9742	0.9031	0.6579	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9114	0.8713	0.9515	0.9100	0.8609	0.9437	0.0144	3.54%	0.00%
6.25		5	0.9299	0.9066	0.9532	0.9296	0.9027	0.9492	0.0084	2.02%	-2.03%
12.5		5	0.9276	0.9193	0.9359	0.9280	0.9174	0.9352	0.0030	0.72%	-1.78%
25		5	0.9260	0.9075	0.9446	0.9296	0.9095	0.9467	0.0067	1.61%	-1.60%
50		5	0.9266	0.9052	0.9481	0.9259	0.9048	0.9482	0.0077	1.87%	-1.67%
100		5	0.9347	0.9198	0.9495	0.9318	0.9220	0.9524	0.0053	1.28%	-2.55%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.272	1.203	1.341	1.266	1.189	1.331	0.02477	4.35%	0.00%
6.25		5	1.305	1.259	1.35	1.302	1.254	1.343	0.01627	2.79%	-2.55%
12.5		5	1.299	1.283	1.315	1.299	1.279	1.313	0.005736	0.99%	-2.08%
25		5	1.296	1.26	1.332	1.302	1.265	1.338	0.01297	2.24%	-1.91%
50		5	1.298	1.256	1.34	1.295	1.257	1.341	0.01497	2.58%	-2.03%
100		5	1.313	1.282	1.344	1.307	1.288	1.351	0.01112	1.89%	-3.23%

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8609	0.9100	0.9349	0.9076	0.9437
6.25		0.9492	0.9224	0.9296	0.9027	0.9455
12.5		0.9280	0.9261	0.9174	0.9352	0.9315
25		0.9307	0.9467	0.9296	0.9095	0.9136
50		0.9159	0.9048	0.9383	0.9259	0.9482
100		0.9220	0.9402	0.9318	0.9269	0.9524

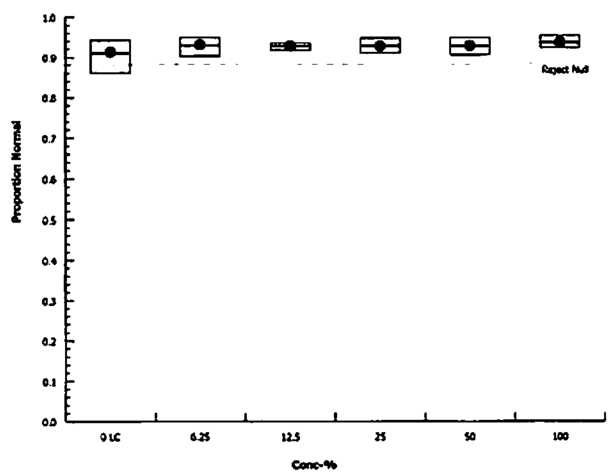
Bivalve Larval Survival and Development Test — Wood E&IS

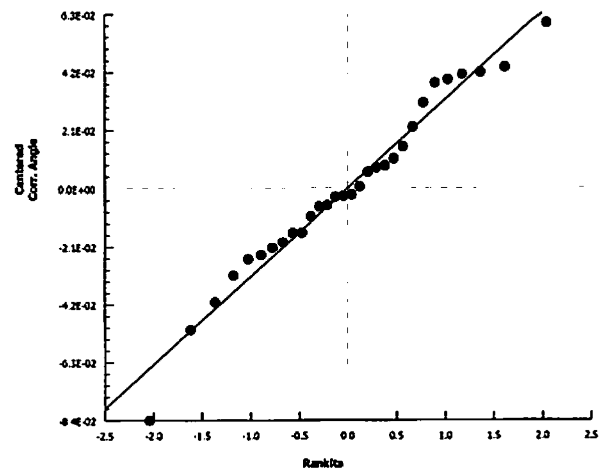
Analysis ID:	09-3103-8983	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 11:22	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.189	1.266	1.313	1.262	1.331
6.25		1.343	1.289	1.302	1.254	1.335
12.5		1.299	1.295	1.279	1.313	1.306
25		1.304	1.338	1.302	1.265	1.273
50		1.277	1.257	1.32	1.295	1.341
100		1.288	1.324	1.307	1.297	1.351

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	18-7537-6164	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Oct-21 11:22	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101=100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	12.26%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-0.7237	2.362	0.2	8	CDF	0.9652	Non-Significant Effect
	12.5	-1.167	2.362	0.2	8	CDF	0.9897	Non-Significant Effect
	25	-0.15	2.362	0.2	8	CDF	0.8738	Non-Significant Effect
	50	-0.1957	2.362	0.2	8	CDF	0.8847	Non-Significant Effect
	100	-0.2723	2.362	0.2	8	CDF	0.9013	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0347132	0.0069426	5	0.3888	0.8515	Non-Significant Effect
Error	0.428557	0.0178565	24			
Total	0.46327		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.3938	15.09	0.9955	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.937	0.9031	0.0757	Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9270	0.8592	0.9949	0.9426	0.8648	1.0000	0.0244	5.89%	0.00%
6.25		5	0.9484	0.8761	1.0000	0.9672	0.8730	1.0000	0.0260	6.14%	-2.30%
12.5		5	0.9639	0.9018	1.0000	0.9918	0.8852	1.0000	0.0224	5.19%	-3.98%
25		5	0.9344	0.8737	0.9952	0.9467	0.8730	1.0000	0.0219	5.24%	-0.80%
50		5	0.9377	0.8861	0.9893	0.9303	0.8852	1.0000	0.0186	4.43%	-1.15%
100		5	0.9402	0.8859	0.9944	0.9467	0.8934	1.0000	0.0196	4.65%	-1.41%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.324	1.155	1.493	1.329	1.194	1.539	0.06093	10.29%	0.00%
6.25		5	1.385	1.192	1.578	1.389	1.206	1.539	0.06963	11.24%	-4.62%
12.5		5	1.422	1.249	1.596	1.48	1.225	1.539	0.06247	9.82%	-7.45%
25		5	1.336	1.178	1.495	1.338	1.206	1.539	0.05707	9.55%	-0.96%
50		5	1.34	1.193	1.487	1.304	1.225	1.539	0.0529	8.83%	-1.25%
100		5	1.347	1.197	1.496	1.338	1.238	1.539	0.05392	8.95%	-1.74%

Survival Rate Detail

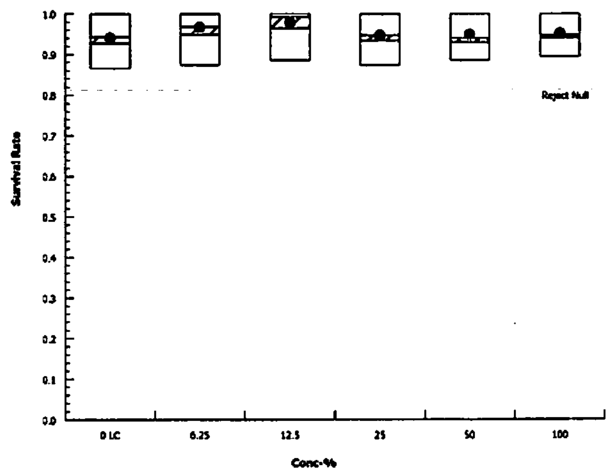
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9426	0.8648	0.8811	1.0000	0.9467
6.25		0.9672	1.0000	0.8730	1.0000	0.9016
12.5		1.0000	0.9426	0.9918	0.8852	1.0000
25		0.9467	1.0000	0.8730	0.9508	0.9016
50		0.9262	0.9467	0.9303	0.8852	1.0000
100		0.8934	0.9590	0.9016	1.0000	0.9467

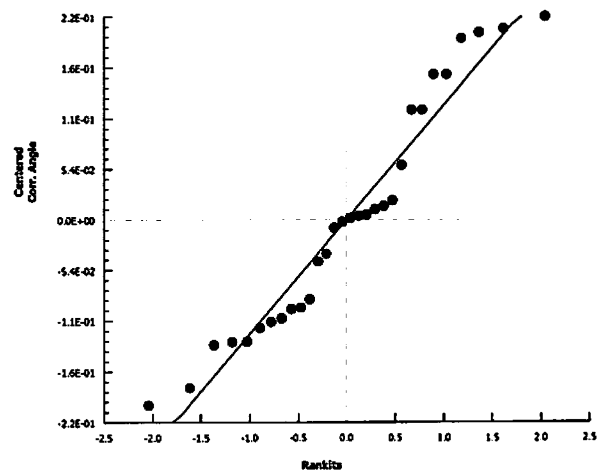
Bivalve Larval Survival and Development Test			Wood E&IS
Analysis ID: 18-7537-6164	Endpoint: Survival Rate	CETIS Version: CETISv1.9.3	
Analyzed: 15 Oct-21 11:22	Analysis: Parametric-Control vs Treatments	Official Results: Yes	

Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.329	1.194	1.219	1.539	1.338
6.25		1.389	1.539	1.206	1.539	1.252
12.5		1.539	1.329	1.48	1.225	1.539
25		1.338	1.539	1.206	1.347	1.252
50		1.296	1.338	1.304	1.225	1.539
100		1.238	1.367	1.252	1.539	1.338

Graphics





CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:44 (p 1 of 2)
Test Code/ID: 20-8209-3595/21-08-022

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21 1650	**Species:**	Mytilis galloprovincialis	**Sample Code:**	~~527CA40A~~ sc 21-W150
End Date:	27 Aug-21 1500	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	24 Aug-21 1230	**Material:**	Seawater	**Sample Station:**	SIYB 3

Comments: Del: 1720
101=100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			111			249	226	
			112			245	226	
			113			231	220	copepods observed
			114			236	224	
			115			220	201	
			116			257	232	
			117			232	211	
			118			260	241	
			119			251	238	
			120			227	213	
			121			233	211	
			122			249 ~~218~~ sc	~~249~~ 218	
			123			231	215	
			124			218	201	
			125			211	192	
			126			230	198	
			127			250	232	
			128			215	201	
			129			220	208	
			130			249	237	
			131			223	205	
			132			242	222	
			133			234	220	
			134			248	231	
			135			231	218	
			136			244	231	
			137			230	213	
			138			220	205	
			139			216	200	
			140			216	202	
			141			213	198	

Analyst: AG QA: sc 11/10/21

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			142			233	219	
			143			213	198	
			144			215	195	
			145			240	210	
			146			231	209	
			147			225	212	
			148			242	226	
			149			218	203	
			150			226	207	

Analyst: AG QA: JL

CETIS Test Data Worksheet

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 25 Aug-21	**Species:** Mytilis galloprovincialis	**Sample Code:** 527CA40A	
End Date: 27 Aug-21	**Protocol:** EPA/600/R-95/136 (1995)	**Sample Source:** Shelter Island Yacht Basin	
Sample Date: 24 Aug-21	**Material:** Seawater	**Sample Station:** SIYB 3	

Comments:
101=100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	145			240	210	AB 8/31/21
0	FC	2	131					
0	FC	3	130					
0	FC	4	148					
0	FC	5	149					
0	LC	1	126			230	198	
0	LC	2	125			211	192	
0	LC	3	128					
0	LC	4	111					
0	LC	5	135					
6.25		1	114					
6.25		2	112					
6.25		3	143					
6.25		4	116					
6.25		5	129					
12.5		1	127					
12.5		2	137					
12.5		3	132					
12.5		4	140					
12.5		5	134					
25		1	123					
25		2	136					
25		3	141					
25		4	117					
25		5	115					
50		1	150					
50		2	146					
50		3	120					
50		4	139					
50		5	119					
100		1	124			212	185	

Analyst: AB QA: 11/10/21

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		2	133					
100		3	138					
100		4	118					
100		5	113					
101		1	122			249	218	AG 8/31/21
101		2	142					
101		3	144					
101		4	147					
101		5	121					

QC: MS

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 3
Test No. 21-08-022

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (%)	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.8	15.7	15.4
	Salinity (ppt)	34.0	34.1	34.7
	pH (units)	7.90	7.88	7.88
	DO (mg/L)	7.8	8.1	8.1
Filtered Control	Temp. (°C)	15.0	15.5	15.2
	Salinity (ppt)	34.3	34.5	35.0
	pH (units)	7.95	7.87	7.88
	DO (mg/L)	7.4	8.1	8.2
6.25	Temp. (°C)	14.9	15.4	15.1
	Salinity (ppt)	34.3	34.4	35.1
	pH (units)	7.93	7.88	7.88
	DO (mg/L)	7.8	8.2	8.2
12.5	Temp. (°C)	15.0	15.3	15.2
	Salinity (ppt)	34.4	34.4	35.1
	pH (units)	7.92	7.88	7.88
	DO (mg/L)	8.0	8.2	8.2
25	Temp. (°C)	15.0	15.3	15.2
	Salinity (ppt)	34.3	34.6	35.2
	pH (units)	7.90	7.87	7.87
	DO (mg/L)	8.0	8.1	8.3
50	Temp. (°C)	14.7	15.2	15.3
	Salinity (ppt)	34.4	34.5	35.2
	pH (units)	7.90	7.87	7.87
	DO (mg/L)	8.1	8.2	8.2
100	Temp. (°C)	14.9	15.2	15.4
	Salinity (ppt)	34.4	34.5	35.0
	pH (units)	7.89	7.88	7.86
	DO (mg/L)	7.9	8.2	8.1
100 Filtered (1.2µm)	Temp. (°C)	14.9	15.2	15.4
	Salinity (ppt)	34.4	34.4	35.0
	pH (units)	7.88	7.87	7.87
	DO (mg/L)	8.0	8.2	8.2
	Tech Initials:	AG	AG	SC

Source of Animals: Mission Bay / SIO

Date Received: 8/25/21

Comments:

Initial QC: BC 11/10/21

Final Review: BCS 11-16-21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 8/25/2021
Batch ID: SIO holding facility (collected May) **Analyst:** AG
Test Type: 48hr Embryo Development

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilzation End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1	500	59,68	63,58	70,79	75,60	665	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density 665 / 500 **Dil Factor** 1.33

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: lc 11/10/21 $\bar{X}$ = 244 **Final Review:** BCS 11-16-21

Site: SIYB-4

CETIS Summary Report

Bivalve Larval Survival and Development Test — Wood E&IS

Batch ID:	17-8670-4792	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	25 Aug-21 16:50	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	27 Aug-21 15:00	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	46h	**Source:**	Field Collected	**Age:**	

Sample ID:	12-4867-2820	**Code:**	21-W151	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 11:30	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	29h	**Station:**	SIYB 4		

Comments:
101 = 100% (1.2um filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
09-9284-7183	Combined Proportion Norma	TST-Welch's t Test	1.1E-04	100% passed combined proportion normal
01-8062-0958	Combined Proportion Norma	TST-Welch's t Test	2.0E-05	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
09-1466-2662	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	8.88%
20-8217-6244	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.46%
14-2492-0832	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	9.11%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
20-8217-6244	Proportion Normal	Control Resp	0.9027	0.9	>>	Yes	Passes Criteria
14-2492-0832	Survival Rate	Control Resp	0.9238	0.5	>>	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8333	0.7442	0.9224	0.7172	0.8975	0.0321	0.0718	8.61%	0.00%
0	FC	5	0.8526	0.8022	0.9030	0.7869	0.8958	0.0182	0.0406	4.76%	-2.31%
6.25		5	0.8344	0.7817	0.8870	0.7869	0.8893	0.0190	0.0424	5.08%	-0.13%
12.5		5	0.8925	0.8624	0.9227	0.8672	0.9271	0.0108	0.0243	2.72%	-7.11%
25		5	0.8710	0.8503	0.8917	0.8443	0.8893	0.0075	0.0167	1.91%	-4.52%
50		5	0.8736	0.8240	0.9233	0.8391	0.9255	0.0179	0.0400	4.58%	-4.84%
100		5	0.8752	0.8021	0.9483	0.7951	0.9347	0.0263	0.0589	6.73%	-5.02%
101		5	0.8382	0.7909	0.8856	0.7951	0.8920	0.0170	0.0381	4.55%	-0.59%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9027	0.8683	0.9372	0.8745	0.9440	0.0124	0.0278	3.07%	0.00%
0	FC	5	0.8861	0.8542	0.9181	0.8488	0.9100	0.0115	0.0257	2.90%	1.84%
6.25		5	0.8846	0.8466	0.9225	0.8522	0.9234	0.0137	0.0306	3.46%	2.01%
12.5		5	0.8948	0.8651	0.9244	0.8672	0.9271	0.0107	0.0239	2.67%	0.88%
25		5	0.8910	0.8649	0.9171	0.8689	0.9156	0.0094	0.0210	2.36%	1.30%
50		5	0.8859	0.8451	0.9266	0.8391	0.9255	0.0147	0.0328	3.71%	1.86%
100		5	0.9116	0.8858	0.9373	0.8788	0.9347	0.0093	0.0207	2.27%	-0.98%
101		5	0.8770	0.8566	0.8975	0.8517	0.8920	0.0074	0.0164	1.87%	2.84%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9238	0.8199	1.0000	0.7910	1.0000	0.0374	0.0836	9.05%	0.00%
0	FC	5	0.9631	0.8899	1.0000	0.8648	1.0000	0.0264	0.0590	6.12%	-4.26%
6.25		5	0.9434	0.8935	0.9934	0.9016	1.0000	0.0180	0.0402	4.26%	-2.13%
12.5		5	0.9975	0.9907	1.0000	0.9877	1.0000	0.0025	0.0055	0.55%	-7.99%
25		5	0.9779	0.9518	1.0000	0.9549	1.0000	0.0094	0.0210	2.15%	-5.86%
50		5	0.9861	0.9618	1.0000	0.9590	1.0000	0.0088	0.0196	1.98%	-6.74%
100		5	0.9598	0.8911	1.0000	0.8689	1.0000	0.0247	0.0553	5.76%	-3.90%
101		5	0.9557	0.9081	1.0000	0.8975	1.0000	0.0172	0.0384	4.02%	-3.46%

 Analyst: SK QA: BCS

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8975	0.8797	0.7172	0.8566	0.8156
0	FC	0.7869	0.8708	0.8607	0.8488	0.8958
6.25		0.8279	0.8033	0.8645	0.7869	0.8893
12.5		0.8672	0.9067	0.8765	0.9271	0.8852
25		0.8770	0.8689	0.8755	0.8443	0.8893
50		0.8402	0.8566	0.9255	0.8391	0.9069
100		0.9347	0.8320	0.7951	0.9084	0.9057
101		0.7951	0.8920	0.8607	0.8197	0.8238

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9440	0.8797	0.9067	0.8745	0.9087
0	FC	0.9100	0.8708	0.9052	0.8488	0.8958
6.25		0.9099	0.8522	0.8645	0.8727	0.9234
12.5		0.8672	0.9067	0.8765	0.9271	0.8963
25		0.9106	0.8689	0.8755	0.8841	0.9156
50		0.8761	0.8819	0.9255	0.8391	0.9069
100		0.9347	0.8788	0.9151	0.9084	0.9208
101		0.8858	0.8920	0.8861	0.8696	0.8517

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9508	1.0000	0.7910	0.9795	0.8975
0	FC	0.8648	1.0000	0.9508	1.0000	1.0000
6.25		0.9098	0.9426	1.0000	0.9016	0.9631
12.5		1.0000	1.0000	1.0000	1.0000	0.9877
25		0.9631	1.0000	1.0000	0.9549	0.9713
50		0.9590	0.9713	1.0000	1.0000	1.0000
100		1.0000	0.9467	0.8689	1.0000	0.9836
101		0.8975	1.0000	0.9713	0.9426	0.9672

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	219/244	234/266	175/244	209/244	199/244
0	FC	192/244	236/271	210/244	219/258	232/259
6.25		202/244	196/244	217/251	192/244	217/244
12.5		235/271	243/268	220/251	229/247	216/244
25		214/244	232/267	218/249	206/244	217/244
50		205/244	209/244	236/255	219/261	224/247
100		229/245	203/244	194/244	228/251	221/244
101		194/244	223/250	210/244	200/244	201/244

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	219/232	234/266	175/193	209/239	199/219
0	FC	192/211	236/271	210/232	219/258	232/259
6.25		202/222	196/230	217/251	192/220	217/235
12.5		235/271	243/268	220/251	229/247	216/241
25		214/235	232/267	218/249	206/233	217/237
50		205/234	209/237	236/255	219/261	224/247
100		229/245	203/231	194/212	228/251	221/240
101		194/219	223/250	210/237	200/230	201/236

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	232/244	244/244	193/244	239/244	219/244
0	FC	211/244	244/244	232/244	244/244	244/244
6.25		222/244	230/244	244/244	220/244	235/244
12.5		244/244	244/244	244/244	244/244	241/244
25		235/244	244/244	244/244	233/244	237/244
50		234/244	237/244	244/244	244/244	244/244
100		244/244	231/244	212/244	244/244	240/244
101		219/244	244/244	237/244	230/244	236/244

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-1466-2662	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:03	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	8.88%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	0.04896	2.362	0.098	8	CDF	0.8185	Non-Significant Effect
		12.5	-1.98	2.362	0.098	8	CDF	0.9992	Non-Significant Effect
		25	-1.149	2.362	0.098	8	CDF	0.9891	Non-Significant Effect
		50	-1.318	2.362	0.098	8	CDF	0.9934	Non-Significant Effect
		100	-1.457	2.362	0.098	8	CDF	0.9957	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0292911	0.0058582	5	1.356	0.2756	Non-Significant Effect
Error	0.103701	0.0043209	24			
Total	0.132992		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	7.335	15.09	0.1969	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9706	0.9031	0.5557	Normal Distribution

Combined Proportion Normal Summary

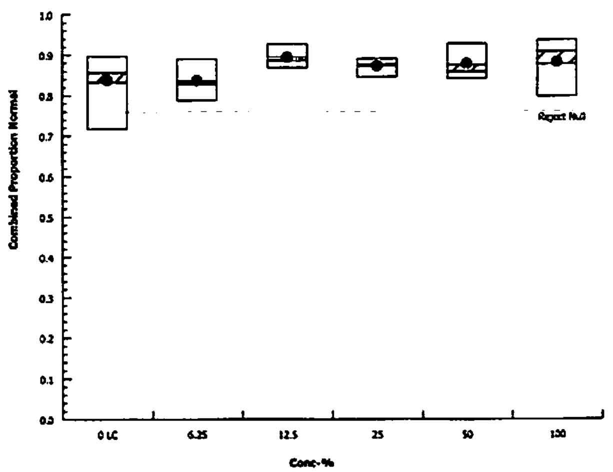
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8333	0.7442	0.9224	0.8566	0.7172	0.8975	0.0321	8.61%	0.00%
6.25		5	0.8344	0.7817	0.8870	0.8279	0.7869	0.8893	0.0190	5.08%	-0.13%
12.5		5	0.8925	0.8624	0.9227	0.8852	0.8672	0.9271	0.0108	2.72%	-7.11%
25		5	0.8710	0.8503	0.8917	0.8755	0.8443	0.8893	0.0075	1.91%	-4.52%
50		5	0.8736	0.8240	0.9233	0.8566	0.8391	0.9255	0.0179	4.58%	-4.84%
100		5	0.8752	0.8021	0.9483	0.9057	0.7951	0.9347	0.0263	6.73%	-5.02%

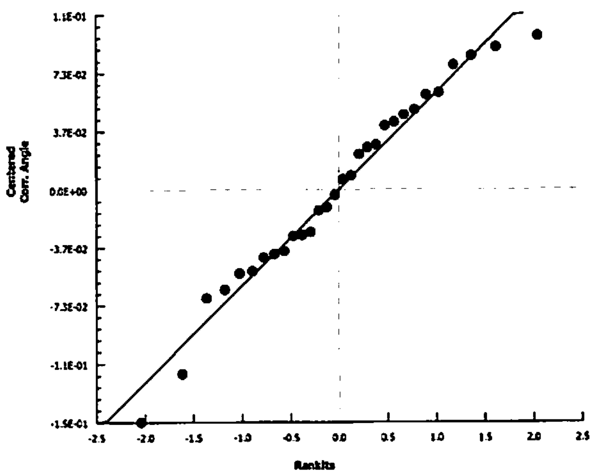
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.156	1.041	1.271	1.182	1.01	1.245	0.04148	8.02%	0.00%
6.25		5	1.154	1.082	1.226	1.143	1.091	1.232	0.02603	5.04%	0.18%
12.5		5	1.238	1.188	1.289	1.225	1.198	1.297	0.01805	3.26%	-7.12%
25		5	1.204	1.174	1.234	1.21	1.165	1.232	0.01096	2.04%	-4.13%
50		5	1.211	1.133	1.289	1.182	1.158	1.294	0.02801	5.17%	-4.74%
100		5	1.217	1.107	1.326	1.259	1.101	1.312	0.03945	7.25%	-5.24%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 09-1466-2662		**Endpoint:** Combined Proportion Normal		**CETIS Version:** CETISv1.9.3	
Analyzed: 12 Oct-21 17:03		**Analysis:** Parametric-Control vs Treatments		**Official Results:** Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-9284-7183	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:03	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	6.959	1.895	7	CDF	1.1E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0091747	0.0091747	1	1.12	0.3209	Non-Significant Effect
Error	0.0655446	0.0081931	8			
Total	0.0747193		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.106	23.15	0.9249	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9045	0.7411	0.2451	Normal Distribution

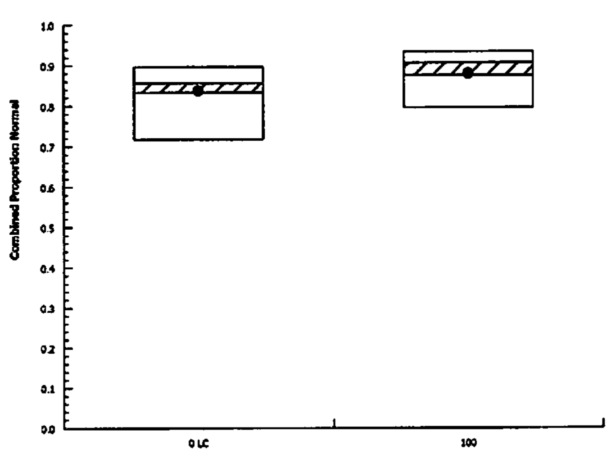
Combined Proportion Normal Summary

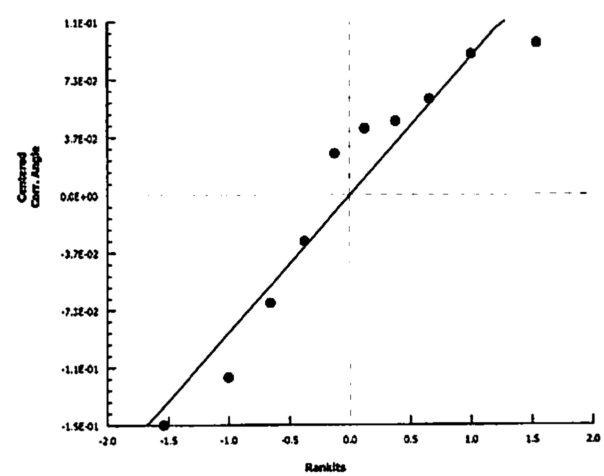
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8333	0.7442	0.9224	0.8566	0.7172	0.8975	0.0321	8.61%	0.00%
100		5	0.8752	0.8021	0.9483	0.9057	0.7951	0.9347	0.0263	6.73%	-5.02%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.156	1.041	1.271	1.182	1.01	1.245	0.04148	8.02%	0.00%
100		5	1.217	1.107	1.326	1.259	1.101	1.312	0.03945	7.25%	-5.24%

Graphics





CETIS Analytical Report TST w/ FC vs 100% Filtered

Report Date: 12 Oct-21 17:04 (p 4 of 8)
Test Code: 21-08-023 | 12-3695-2380

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	01-8062-0958	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:03	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	9.074	1.895	7	CDF	2.0E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0010178	0.0010178	1	0.3426	0.5745	Non-Significant Effect
Error	0.0237654	0.0029707	8			
Total	0.0247832		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.101	23.15	0.9280	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.982	0.7411	0.9751	Normal Distribution

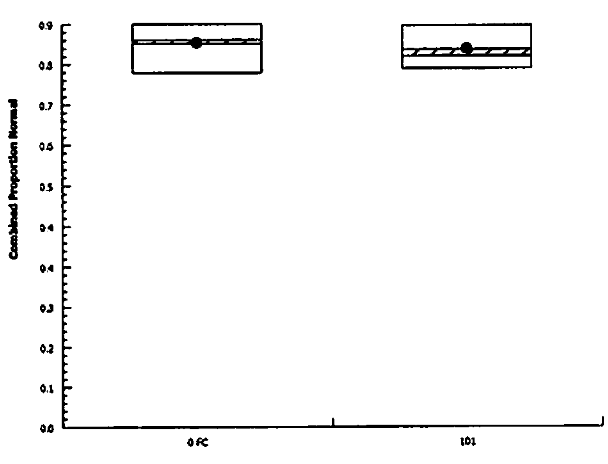
Combined Proportion Normal Summary

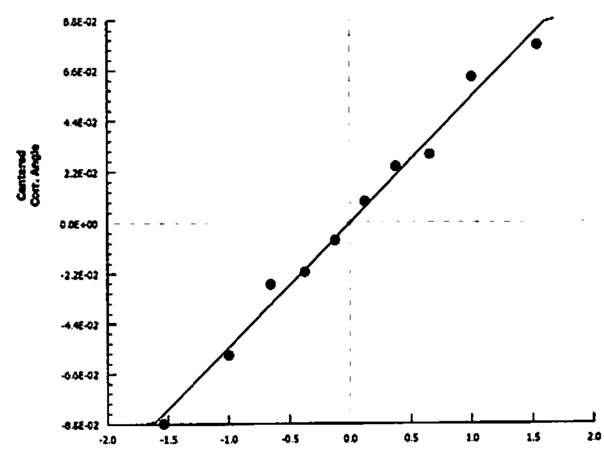
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8526	0.8022	0.9030	0.8607	0.7869	0.8958	0.0182	4.76%	0.00%
101		5	0.8382	0.7909	0.8856	0.8238	0.7951	0.8920	0.0170	4.55%	1.68%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.179	1.11	1.248	1.188	1.091	1.242	0.02495	4.73%	0.00%
101		5	1.159	1.093	1.225	1.138	1.101	1.236	0.02378	4.59%	1.71%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	20-8217-6244	Endpoint:	Proportion Normal	CETIS Version:	CETISv1.9.3
Analyzed:	12 Oct-21 17:02	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.46%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	1.075	2.362	0.065	8	CDF	0.3870	Non-Significant Effect
		12.5	0.5134	2.362	0.065	8	CDF	0.6411	Non-Significant Effect
		25	0.7511	2.362	0.065	8	CDF	0.5335	Non-Significant Effect
		50	0.9907	2.362	0.065	8	CDF	0.4240	Non-Significant Effect
		100	-0.507	2.362	0.065	8	CDF	0.9410	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0072691	0.0014538	5	0.7573	0.5892	Non-Significant Effect
Error	0.046073	0.0019197	24			
Total	0.0533421		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.145	15.09	0.9500	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9698	0.9031	0.5325	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9027	0.8683	0.9372	0.9067	0.8745	0.9440	0.0124	3.07%	0.00%
6.25		5	0.8846	0.8466	0.9225	0.8727	0.8522	0.9234	0.0137	3.46%	2.01%
12.5		5	0.8948	0.8651	0.9245	0.8963	0.8672	0.9271	0.0107	2.67%	0.88%
25		5	0.8910	0.8649	0.9171	0.8841	0.8689	0.9156	0.0094	2.36%	1.30%
50		5	0.8859	0.8451	0.9266	0.8819	0.8391	0.9255	0.0147	3.71%	1.86%
100		5	0.9116	0.8858	0.9373	0.9151	0.8788	0.9347	0.0093	2.27%	-0.98%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.256	1.195	1.317	1.26	1.209	1.332	0.02194	3.90%	0.00%
6.25		5	1.226	1.165	1.287	1.206	1.176	1.29	0.02197	4.01%	2.37%
12.5		5	1.242	1.193	1.291	1.243	1.198	1.297	0.01774	3.19%	1.13%
25		5	1.235	1.193	1.278	1.223	1.2	1.276	0.01529	2.77%	1.66%
50		5	1.229	1.165	1.293	1.22	1.158	1.294	0.02314	4.21%	2.19%
100		5	1.27	1.226	1.315	1.275	1.215	1.312	0.01599	2.81%	-1.12%

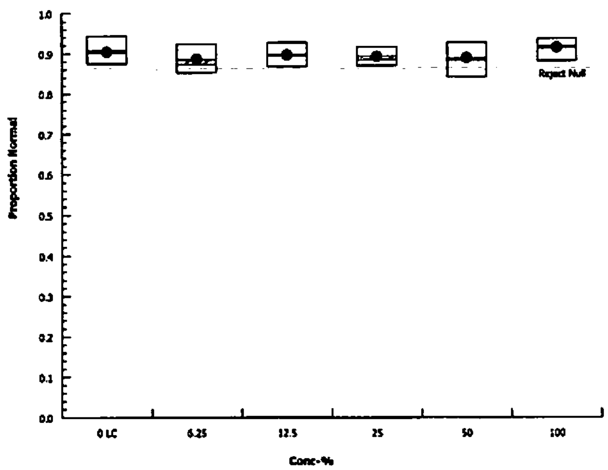
CETIS Analytical Report

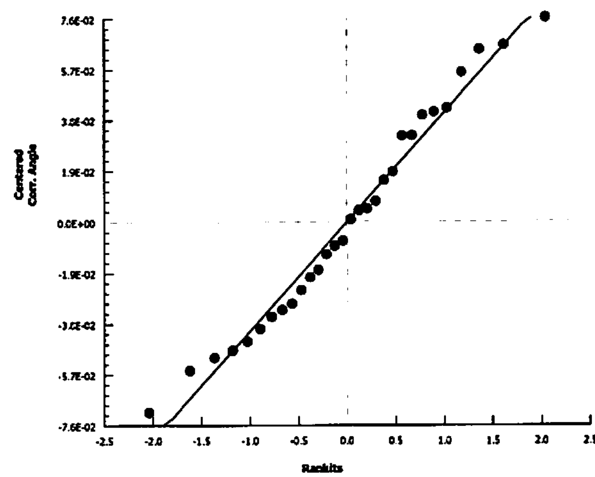
Report Date:	12 Oct-21 17:04 (p 6 of 8)
Test Code:	21-08-023 | 12-3695-2380

Bivalve Larval Survival and Development Test | **Wood E&IS**

Analysis ID:	20-8217-6244	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:02	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	14-2492-0832	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:02	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	9.11%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	-0.2986	2.362	0.172	8	CDF	0.9065	Non-Significant Effect
		12.5	-2.637	2.362	0.172	8	CDF	0.9999	Non-Significant Effect
		25	-1.533	2.362	0.172	8	CDF	0.9966	Non-Significant Effect
		50	-2.003	2.362	0.172	8	CDF	0.9996	Non-Significant Effect
		100	-1.109	2.362	0.172	8	CDF	0.9878	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.134272	0.0268545	5	2.023	0.1114	Non-Significant Effect
Error	0.318531	0.0132721	24			
Total	0.452804		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	8.12	15.09	0.1498	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9743	0.9031	0.6633	Normal Distribution

Survival Rate Summary

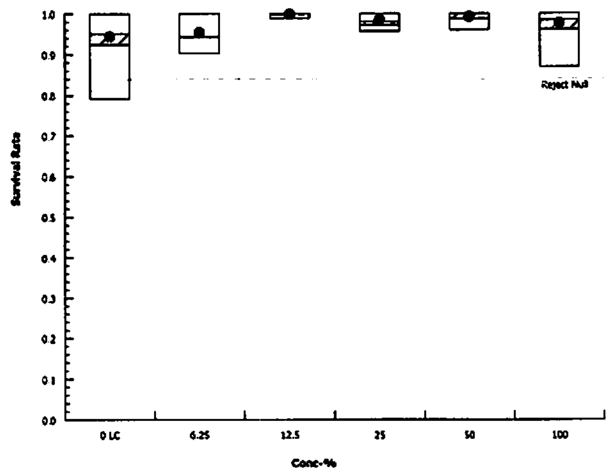
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9238	0.8199	1.0000	0.9508	0.7910	1.0000	0.0374	9.05%	0.00%
6.25		5	0.9434	0.8935	0.9934	0.9426	0.9016	1.0000	0.0180	4.26%	-2.13%
12.5		5	0.9975	0.9907	1.0000	1.0000	0.9877	1.0000	0.0025	0.55%	-7.99%
25		5	0.9779	0.9518	1.0000	0.9713	0.9549	1.0000	0.0094	2.15%	-5.86%
50		5	0.9861	0.9618	1.0000	1.0000	0.9590	1.0000	0.0088	1.98%	-6.74%
100		5	0.9598	0.8911	1.0000	0.9836	0.8689	1.0000	0.0247	5.76%	-3.90%

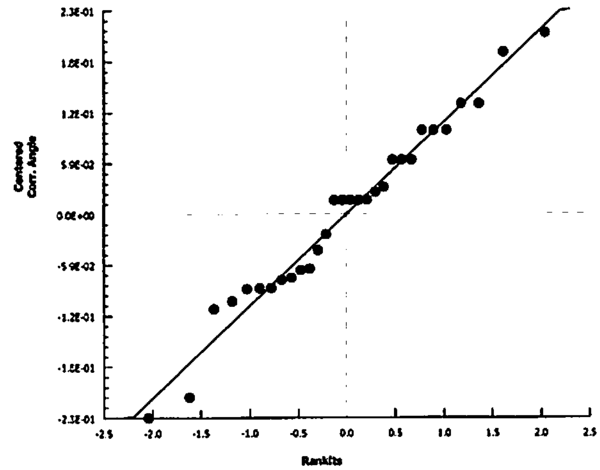
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.331	1.12	1.542	1.347	1.096	1.539	0.07593	12.76%	0.00%
6.25		5	1.353	1.209	1.496	1.329	1.252	1.539	0.05174	8.55%	-1.63%
12.5		5	1.523	1.479	1.567	1.539	1.46	1.539	0.01582	2.32%	-14.44%
25		5	1.443	1.332	1.553	1.401	1.357	1.539	0.03991	6.19%	-8.39%
50		5	1.477	1.37	1.583	1.539	1.367	1.539	0.03834	5.81%	-10.97%
100		5	1.412	1.232	1.591	1.442	1.2	1.539	0.06458	10.23%	-6.07%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 14-2492-0832	**Endpoint:**	Survival Rate		**CETIS Version:**	CETISv1.9.3
Analyzed: 12 Oct-21 17:02	**Analysis:**	Parametric-Control vs Treatments		**Official Results:**	Yes

Graphics





CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:46 (p 1 of 2)
Test Code/ID: 12-3695-2380/21-08-023

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 25 Aug-21 1650	Species: Mytilis galloprovincialis	Sample Code:	~~4A6D3C34~~ 21-W151
End Date: 27 Aug-21 1500	Protocol: EPA/600/R-95/136 (1995)	Sample Source:	Shelter Island Yacht Basin
Sample Date: 24 Aug-21 1130	Material: Seawater	Sample Station:	SIYB 4

Comments: Del. 1720
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			151			240	221	BI 9/17/21
			152			230	200	
			153			219	194	
			154			236	201	
			155			233	206	
			156			222	202	
			157			247	229	
			158			232	210	
			159			232	219	
			160			237	210	
			161			193	175	
			162			255	236	
			163			211	192	
			164			219	199	
			165			212	194	
			166			230	196	BI 9/28/21
			167			245	229	
			168			231	203	1curved hinge
			169			251	217	BI 10/3/21
			170			261	219	
			171			258	219	
			172			251	228	
			173			235	217	
			174			220	192	
			175			237	217	BI 10/5/21
			176			266	234	
			177			235	214	
			178			267	232	
			179			271	236	
			180			271	235	
			181			234	205	

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:46 (p 2 of 2)
Test Code/ID: 12-3695-2380/21-08-023

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			182			239	209	BI 10/5/21
			183			250	223	1 curved hinge
			184			249	218	
			185			268	243	
			186			237	209	
			187			251	220	BI 10/6/21
			188			259	232	
			189			241	216	
			190			247	224	1 curved hinge

Analyst: BI QA: JL

CETIS Test Data Worksheet

Test Code/ID: 12-3695-2380/21-08-023

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 25 Aug-21	**Species:** Mytilis galloprovincialis	**Sample Code:** 4A6D3C34	
End Date: 27 Aug-21	**Protocol:** EPA/600/R-95/136 (1995)	**Sample Source:** Shelter Island Yacht Basin	
Sample Date: 24 Aug-21	**Material:** Seawater	**Sample Station:** SIYB 4	

Comments:
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	163			224	197	
0	FC	2	179					
0	FC	3	158					
0	FC	4	171					
0	FC	5	188					
0	LC	1	159			207	224	
0	LC	2	176					
0	LC	3	161					
0	LC	4	182					
0	LC	5	164					
6.25		1	156					
6.25		2	166					
6.25		3	169					
6.25		4	174					
6.25		5	173					
12.5		1	180					
12.5		2	185					
12.5		3	187					
12.5		4	157					
12.5		5	189					
25		1	177					
25		2	178					
25		3	184					
25		4	155					
25		5	175					
50		1	181					
50		2	186					
50		3	162					
50		4	170					
50		5	190			247		1 curved = 0.004
100		1	167			212	192	

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		2	168			231		1 curved = 0.004
100		3	165					
100		4	172					
100		5	151					
101		1	153			236	203	AG 8/31/21
101		2	183			250		1 curved = 0.004
101		3	160					
101		4	152					
101		5	154			~~233~~ AG	~~203~~ AG	

QC: ms

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 4
Test No. 21-08-023

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (%)	Water Quality Measurements			
	Parameter	**0hr**	**24hr**	**48hr**
Lab Control	Temp. (°C)	15.6	15.8	15.4
	Salinity (ppt)	34.1	34.2	34.9
	pH (units)	7.92	7.91	7.87
	DO (mg/L)	~~8.5~~ 7.7	8.1	8.3
Filtered Control	Temp. (°C)	15.6	15.8	15.4
	Salinity (ppt)	34.4	34.5	35.3
	pH (units)	7.96	7.90	7.89
	DO (mg/L)	7.5	8.2	8.2
6.25	Temp. (°C)	15.6	15.8	15.8
	Salinity (ppt)	34.4	34.4	35.2
	pH (units)	7.94	7.92	7.88
	DO (mg/L)	7.8	8.1	8.2
12.5	Temp. (°C)	15.6	15.8	15.8
	Salinity (ppt)	34.4	34.5	35.1
	pH (units)	7.93	7.90	7.87
	DO (mg/L)	7.9	8.1	8.2
25	Temp. (°C)	15.5	15.8	15.8
	Salinity (ppt)	34.4	34.5	35.1 ~~7.88~~
	pH (units)	7.91	7.89	7.88
	DO (mg/L)	8.0	8.1	8.2
50	Temp. (°C)	15.5	15.8	15.8
	Salinity (ppt)	34.4	34.6	35.1
	pH (units)	7.90	7.88	7.87
	DO (mg/L)	8.1	8.2	8.3
100	Temp. (°C)	15.5	15.8	15.9
	Salinity (ppt)	34.5	34.4	34.9
	pH (units)	7.90	7.96	7.86
	DO (mg/L)	8.0	8.1	8.2
100 Filtered (1.2µm)	Temp. (°C)	15.4	15.9	15.9
	Salinity (ppt)	34.3	34.4	35.0
	pH (units)	7.90	7.89	7.86
	DO (mg/L)	7.9	8.1	8.2
	Tech Initials:	AG	AG	SC

Source of Animals: Mission Bay / SIO **Date Received:** 8/25/21

Comments:

Initial QC: SC 11/10/21

Final Review: BCS 11-16-21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 8/25/2021
Batch ID: SIO holding facility (collected May) **Analyst:** AG
Test Type: 48hr Embryo Development

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilzation End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1	500	59,68	63,58	70,79	75,60	66.5	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Stock Density **Dil Factor**

Adjust selected embryo stock to 500 embryos/mL. $\frac{665}{500}$ 1.33
Dilution Factor = Stock Density/mL/500

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/~~24~~239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: SC 11/10/21 $\bar{X}$ = 244 **Final Review:** BS 11-16-21

Site: SIYB-5

CETIS Summary Report

Report Date: 12 Oct-21 17:19
Test Code: 21-08-024 | 16-1568-8333

Bivalve Larval Survival and Development Test — Wood E&IS

Batch ID:	08-6056-2800	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	25 Aug-21 16:50	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	27 Aug-21 15:00	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	46h	**Source:**	Field Collected	**Age:**	

Sample ID:	13-6227-7681	**Code:**	21-W152	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 10:30	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	30h	**Station:**	SIYB 5		

Comments:
101 = 100% (1.2um filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
07-2799-8074	Combined Proportion Norma	TST-Welch's t Test	7.4E-05	100% passed combined proportion normal
03-6301-3018	Combined Proportion Norma	TST-Welch's t Test	1.1E-04	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
15-7665-8646	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	9.26%
17-7747-9677	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.32%
17-5636-8176	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	8.62%

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
17-7747-9677	Proportion Normal	Control Resp	0.902	0.9	>>	Yes	Passes Criteria
17-5636-8176	Survival Rate	Control Resp	0.9393	0.5	>>	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8469	0.7786	0.9153	0.7705	0.8975	0.0246	0.0550	6.50%	0.00%
0	FC	5	0.8737	0.8378	0.9095	0.8402	0.9139	0.0129	0.0289	3.31%	-3.15%
6.25		5	0.8730	0.8318	0.9141	0.8443	0.9262	0.0148	0.0332	3.80%	-3.07%
12.5		5	0.8430	0.7567	0.9292	0.7459	0.9402	0.0311	0.0695	8.24%	0.47%
25		5	0.8994	0.8525	0.9464	0.8443	0.9480	0.0169	0.0378	4.20%	-6.20%
50		5	0.8238	0.8113	0.8362	0.8156	0.8402	0.0045	0.0100	1.22%	2.74%
100		5	0.8674	0.8017	0.9332	0.8033	0.9315	0.0237	0.0530	6.10%	-2.42%
101		5	0.8221	0.7676	0.8767	0.7623	0.8607	0.0196	0.0439	5.34%	2.93%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9020	0.8901	0.9138	0.8898	0.9126	0.0043	0.0096	1.06%	0.00%
0	FC	5	0.9061	0.8784	0.9338	0.8764	0.9369	0.0100	0.0223	2.46%	-0.46%
6.25		5	0.9164	0.8946	0.9382	0.8884	0.9339	0.0079	0.0176	1.92%	-1.60%
12.5		5	0.9378	0.9248	0.9509	0.9207	0.9479	0.0047	0.0105	1.12%	-3.98%
25		5	0.9283	0.8906	0.9660	0.8918	0.9654	0.0136	0.0304	3.27%	-2.92%
50		5	0.9131	0.8835	0.9427	0.8844	0.9361	0.0107	0.0239	2.61%	-1.24%
100		5	0.9107	0.8735	0.9479	0.8777	0.9481	0.0134	0.0299	3.29%	-0.97%
101		5	0.9198	0.8921	0.9475	0.8986	0.9554	0.0100	0.0223	2.42%	-1.98%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9393	0.8570	1.0000	0.8443	1.0000	0.0297	0.0663	7.06%	0.00%
0	FC	5	0.9648	0.9109	1.0000	0.9098	1.0000	0.0194	0.0433	4.49%	-2.71%
6.25		5	0.9525	0.9210	0.9840	0.9262	0.9918	0.0113	0.0254	2.66%	-1.40%
12.5		5	0.8992	0.8025	0.9958	0.7869	1.0000	0.0348	0.0779	8.66%	4.28%
25		5	0.9689	0.9399	0.9978	0.9467	1.0000	0.0104	0.0233	2.40%	-3.14%
50		5	0.9025	0.8826	0.9223	0.8811	0.9221	0.0071	0.0160	1.77%	3.93%
100		5	0.9525	0.8921	1.0000	0.8811	1.0000	0.0218	0.0486	5.11%	-1.40%
101		5	0.8943	0.8280	0.9606	0.8279	0.9508	0.0239	0.0534	5.97%	4.80%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8607	0.8115	0.8975	0.7705	0.8945
0	FC	0.8764	0.8525	0.9139	0.8402	0.8852
6.25		0.8443	0.8648	0.8811	0.8484	0.9262
12.5		0.9402	0.8566	0.7459	0.8279	0.8443
25		0.8443	0.9016	0.9480	0.9139	0.8893
50		0.8156	0.8238	0.8238	0.8402	0.8156
100		0.8238	0.8811	0.8033	0.9315	0.8975
101		0.8607	0.7623	0.8607	0.7910	0.8361

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8898	0.9041	0.9087	0.9126	0.8945
0	FC	0.8764	0.9369	0.9139	0.9071	0.8963
6.25		0.9115	0.9254	0.9227	0.8884	0.9339
12.5		0.9402	0.9207	0.9479	0.9439	0.9364
25		0.8918	0.9322	0.9480	0.9654	0.9042
50		0.8844	0.9349	0.9178	0.9361	0.8924
100		0.8777	0.8848	0.9116	0.9315	0.9481
101		0.9052	0.8986	0.9251	0.9554	0.9148

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9672	0.8975	0.9877	0.8443	1.0000
0	FC	1.0000	0.9098	1.0000	0.9262	0.9877
6.25		0.9262	0.9344	0.9549	0.9549	0.9918
12.5		1.0000	0.9303	0.7869	0.8770	0.9016
25		0.9467	0.9672	1.0000	0.9467	0.9836
50		0.9221	0.8811	0.8975	0.8975	0.9139
100		0.9385	0.9959	0.8811	1.0000	0.9467
101		0.9508	0.8484	0.9303	0.8279	0.9139

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	210/244	198/244	219/244	188/244	229/256
0	FC	227/259	208/244	223/244	205/244	216/244
6.25		206/244	211/244	215/244	207/244	226/244
12.5		236/251	209/244	182/244	202/244	206/244
25		206/244	220/244	237/250	223/244	217/244
50		199/244	201/244	201/244	205/244	199/244
100		201/244	215/244	196/244	231/248	219/244
101		210/244	186/244	210/244	193/244	204/244

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	210/236	198/219	219/241	188/206	229/256
0	FC	227/259	208/222	223/244	205/226	216/241
6.25		206/226	211/228	215/233	207/233	226/242
12.5		236/251	209/227	182/192	202/214	206/220
25		206/231	220/236	237/250	223/231	217/240
50		199/225	201/215	201/219	205/219	199/223
100		201/229	215/243	196/215	231/248	219/231
101		210/232	186/207	210/227	193/202	204/223

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	236/244	219/244	241/244	206/244	244/244
0	FC	244/244	222/244	244/244	226/244	241/244
6.25		226/244	228/244	233/244	233/244	242/244
12.5		244/244	227/244	192/244	214/244	220/244
25		231/244	236/244	244/244	231/244	240/244
50		225/244	215/244	219/244	219/244	223/244
100		229/244	243/244	215/244	244/244	231/244
101		232/244	207/244	227/244	202/244	223/244

 Analyst: SC QA: BCS

CETIS Analytical Report

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	15-7665-8646	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:18	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	9.26%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	-0.808	2.362	0.104	8	CDF	0.9720	Non-Significant Effect
		12.5	0.04222	2.362	0.104	8	CDF	0.8205	Non-Significant Effect
		25	-1.793	2.362	0.104	8	CDF	0.9985	Non-Significant Effect
		50	0.8037	2.362	0.104	8	CDF	0.5092	Non-Significant Effect
		100	-0.6896	2.362	0.104	8	CDF	0.9621	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0390272	0.0078054	5	1.598	0.1987	Non-Significant Effect
Error	0.117229	0.0048845	24			
Total	0.156256		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	10.57	15.09	0.0605	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9802	0.9031	0.8301	Normal Distribution

Combined Proportion Normal Summary

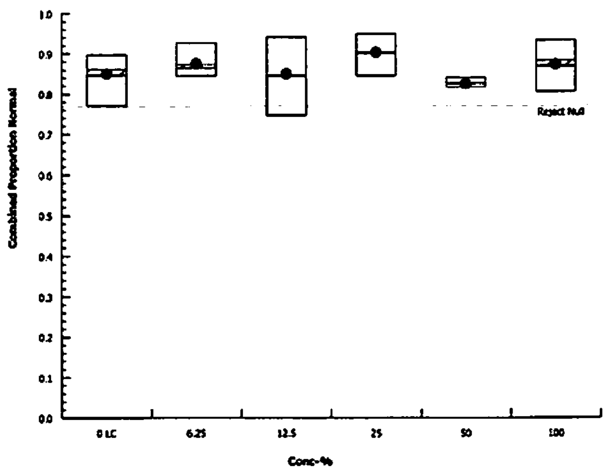
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8469	0.7786	0.9153	0.8607	0.7705	0.8975	0.0246	6.50%	0.00%
6.25		5	0.8730	0.8318	0.9141	0.8648	0.8443	0.9262	0.0148	3.80%	-3.07%
12.5		5	0.8430	0.7567	0.9292	0.8443	0.7459	0.9402	0.0311	8.24%	0.47%
25		5	0.8994	0.8525	0.9464	0.9016	0.8443	0.9480	0.0169	4.20%	-6.20%
50		5	0.8238	0.8113	0.8362	0.8238	0.8156	0.8402	0.0045	1.22%	2.74%
100		5	0.8674	0.8017	0.9332	0.8811	0.8033	0.9315	0.0237	6.10%	-2.42%

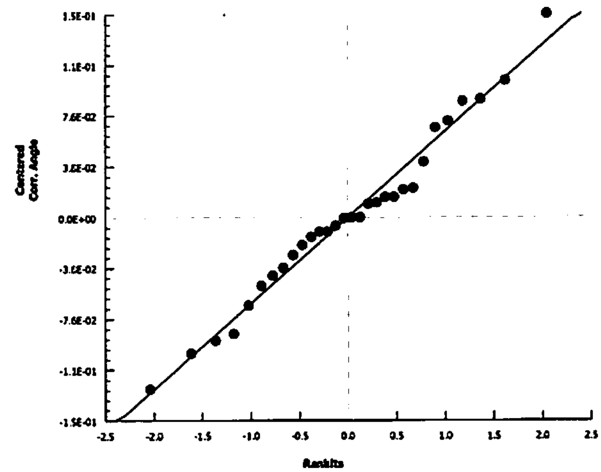
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.173	1.079	1.267	1.188	1.071	1.245	0.03384	6.45%	0.00%
6.25		5	1.209	1.143	1.275	1.194	1.165	1.296	0.02369	4.38%	-3.04%
12.5		5	1.171	1.046	1.297	1.165	1.042	1.324	0.04518	8.62%	0.16%
25		5	1.252	1.173	1.332	1.252	1.165	1.341	0.02853	5.09%	-6.76%
50		5	1.138	1.121	1.154	1.138	1.127	1.16	0.00595	1.17%	3.03%
100		5	1.204	1.105	1.302	1.219	1.111	1.306	0.03556	6.61%	-2.60%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 15-7665-8646		**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed: 12 Oct-21 17:18		**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	07-2799-8074	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:18	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	100*	7.411	1.895	7	CDF	7.4E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0023229	0.0023229	1	0.3856	0.5519	Non-Significant Effect
Error	0.0481983	0.0060248	8			
Total	0.0505212		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.104	23.15	0.9258	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9243	0.7411	0.3945	Normal Distribution

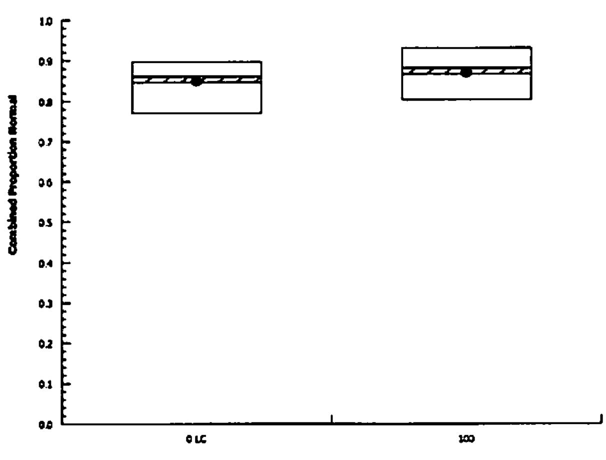
Combined Proportion Normal Summary

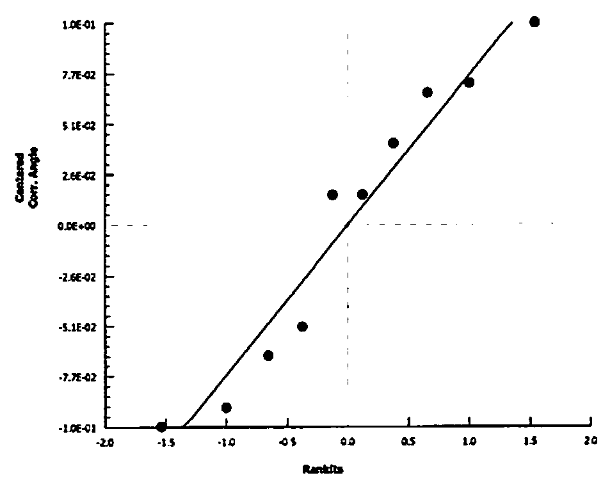
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8469	0.7786	0.9153	0.8607	0.7705	0.8975	0.0246	6.50%	0.00%
100		5	0.8674	0.8017	0.9332	0.8811	0.8033	0.9315	0.0237	6.10%	-2.42%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.173	1.079	1.267	1.188	1.071	1.245	0.03384	6.45%	0.00%
100		5	1.204	1.105	1.302	1.219	1.111	1.306	0.03556	6.61%	-2.60%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	03-6301-3018	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:19	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	7.833	1.943	6	CDF	1.1E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0128174	0.0128174	1	4.931	0.0571	Non-Significant Effect
Error	0.0207929	0.0025991	8			
Total	0.0336103		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.641	23.15	0.6432	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9376	0.7411	0.5270	Normal Distribution

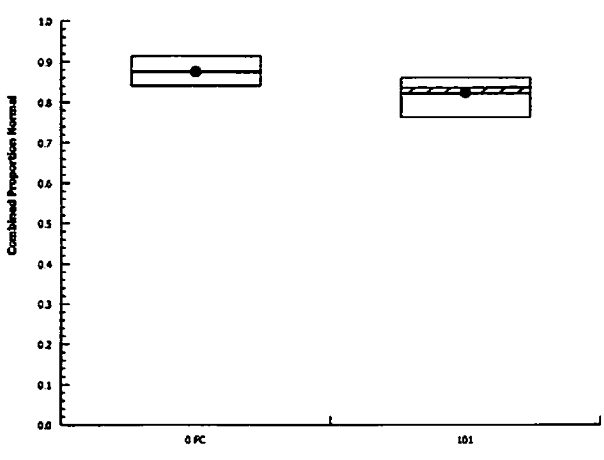
Combined Proportion Normal Summary

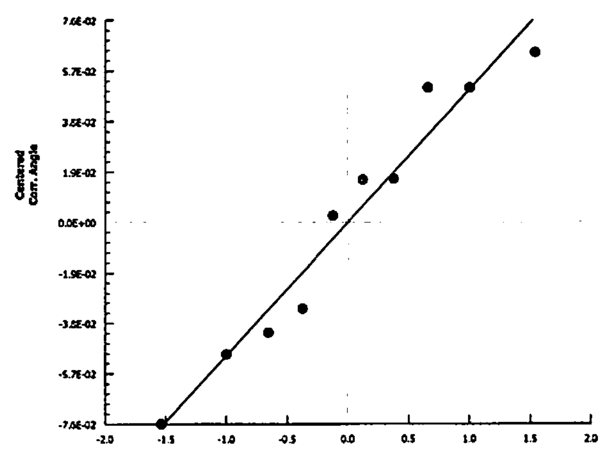
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8737	0.8378	0.9095	0.8764	0.8402	0.9139	0.0129	3.31%	0.00%
101		5	0.8221	0.7676	0.8767	0.8361	0.7623	0.8607	0.0196	5.34%	5.90%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.209	1.154	1.264	1.212	1.16	1.273	0.01984	3.67%	0.00%
101		5	1.138	1.067	1.208	1.154	1.062	1.188	0.02542	5.00%	5.92%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	17-7747-9677	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:17	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.32%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	-1.007	2.362	0.061	8	CDF	0.9836	Non-Significant Effect
		12.5	-2.588	2.362	0.061	8	CDF	0.9999	Non-Significant Effect
		25	-2.016	2.362	0.061	8	CDF	0.9993	Non-Significant Effect
		50	-0.8163	2.362	0.061	8	CDF	0.9726	Non-Significant Effect
		100	-0.7023	2.362	0.061	8	CDF	0.9632	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0148856	0.0029771	5	1.785	0.1541	Non-Significant Effect
Error	0.0400328	0.0016680	24			
Total	0.0549184		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	8.503	15.09	0.1306	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9707	0.9031	0.5581	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9020	0.8901	0.9138	0.9041	0.8898	0.9126	0.0043	1.06%	0.00%
6.25		5	0.9164	0.8946	0.9382	0.9227	0.8884	0.9339	0.0079	1.92%	-1.60%
12.5		5	0.9378	0.9248	0.9509	0.9402	0.9207	0.9479	0.0047	1.12%	-3.98%
25		5	0.9283	0.8906	0.9660	0.9322	0.8918	0.9654	0.0136	3.27%	-2.92%
50		5	0.9131	0.8835	0.9427	0.9178	0.8844	0.9361	0.0107	2.61%	-1.24%
100		5	0.9107	0.8735	0.9479	0.9116	0.8777	0.9481	0.0134	3.29%	-0.97%

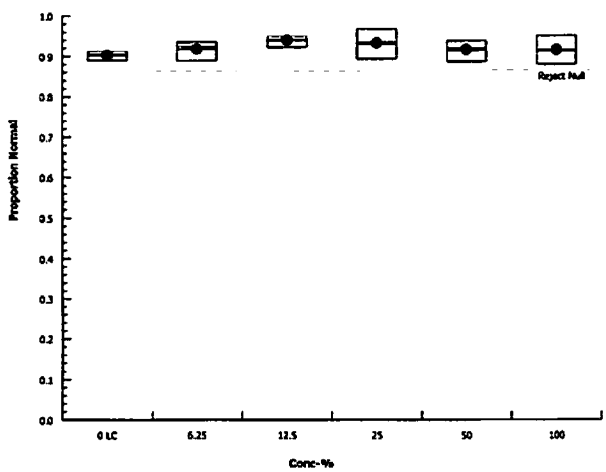
Angular (Corrected) Transformed Summary

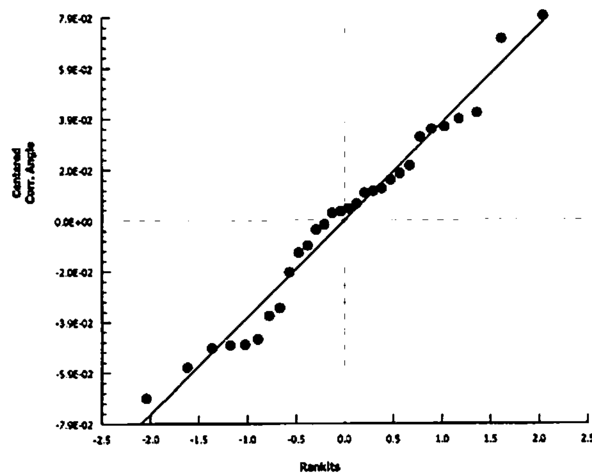
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.253	1.233	1.273	1.256	1.232	1.271	0.007175	1.28%	0.00%
6.25		5	1.279	1.24	1.317	1.289	1.23	1.311	0.01384	2.42%	-2.08%
12.5		5	1.319	1.293	1.346	1.324	1.285	1.341	0.009466	1.60%	-5.34%
25		5	1.305	1.229	1.38	1.307	1.236	1.384	0.02709	4.64%	-4.16%
50		5	1.274	1.221	1.326	1.28	1.224	1.315	0.0189	3.32%	-1.68%
100		5	1.271	1.204	1.338	1.269	1.214	1.341	0.02405	4.23%	-1.45%

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	17-7747-9677	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:17	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID:	17-5636-8176	Endpoint:	Survival Rate	CETIS Version:	CETISv1.9.3
Analyzed:	12 Oct-21 17:17	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	8.62%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-0.01114	2.362	0.174	8	CDF	0.8366	Non-Significant Effect
	12.5	1.082	2.362	0.174	8	CDF	0.3840	Non-Significant Effect
	25	-0.6725	2.362	0.174	8	CDF	0.9604	Non-Significant Effect
	50	1.428	2.362	0.174	8	CDF	0.2480	Non-Significant Effect
	100	-0.3389	2.362	0.174	8	CDF	0.9142	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0929897	0.0185979	5	1.364	0.2728	Non-Significant Effect
Error	0.327351	0.0136396	24			
Total	0.420341		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	11.01	15.09	0.0511	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9669	0.9031	0.4592	Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9393	0.8570	1.0000	0.9672	0.8443	1.0000	0.0297	7.06%	0.00%
6.25		5	0.9525	0.9210	0.9840	0.9549	0.9262	0.9918	0.0113	2.66%	-1.40%
12.5		5	0.8992	0.8025	0.9958	0.9016	0.7869	1.0000	0.0348	8.66%	4.28%
25		5	0.9689	0.9399	0.9978	0.9672	0.9467	1.0000	0.0104	2.40%	-3.14%
50		5	0.9025	0.8826	0.9223	0.8975	0.8811	0.9221	0.0071	1.77%	3.93%
100		5	0.9525	0.8921	1.0000	0.9467	0.8811	1.0000	0.0218	5.11%	-1.40%

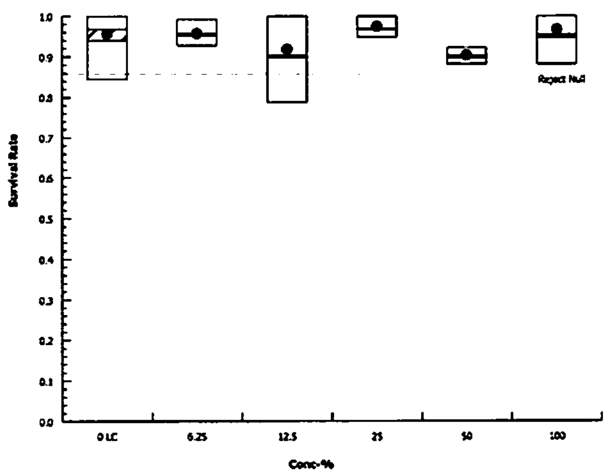
Angular (Corrected) Transformed Summary

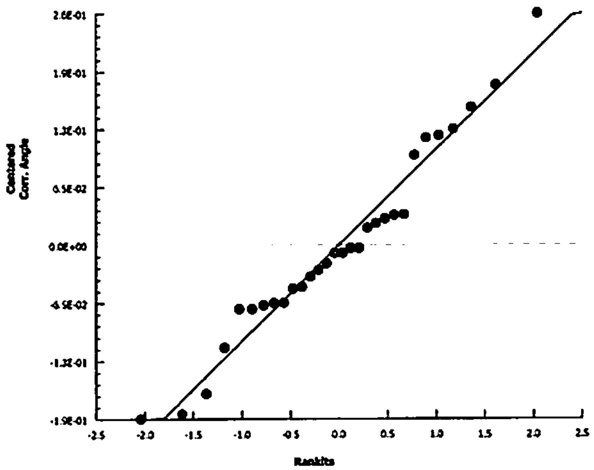
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.359	1.169	1.55	1.389	1.165	1.539	0.06853	11.27%	0.00%
6.25		5	1.36	1.271	1.45	1.357	1.296	1.48	0.03233	5.31%	-0.06%
12.5		5	1.28	1.075	1.484	1.252	1.091	1.539	0.07369	12.88%	5.88%
25		5	1.409	1.304	1.514	1.389	1.338	1.539	0.03774	5.99%	-3.65%
50		5	1.254	1.22	1.288	1.245	1.219	1.288	0.01208	2.15%	7.76%
100		5	1.384	1.217	1.552	1.338	1.219	1.539	0.06021	9.72%	-1.84%

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	17-5636-8176	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:17	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:47 (p 1 of 2)
Test Code/ID: 16-1568-8333/21-08-~~24~~ 024

Bivalve Larval Survival and Development Test				Wood E&IS
Start Date: 25 Aug-21 1650	Species: Mytilis galloprovincialis		Sample Code: ~~5132B531~~ 21-W152	
End Date: 27 Aug-21 1500	Protocol: EPA/600/R-95/136 (1995)		Sample Source: Shelter Island Yacht Basin	
Sample Date: 24 Aug-21 1030	Material: Seawater		Sample Station: SIYB 5	

Comments: Del 1720
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			191			251	236	BI 9/14/21
			192			226	205	
			193			232	210	
			194			215	196	
			195			228	211	
			196			227	210	
			197			226	206	
			198			214	202	
			199			223	199	
			200			233	215	
			201			242	226	
			202			244	223	
			203			240	217	BI 9/15/21
			204			241	216	
			205			248	231	
			206			231	219	
			207			250	237	
			208			219	201	
			209			192	182	
			210			231	223	
			211			215	201	
			212			223	204	
			213			222	208	
			214			202	193	
			215			219	205	
			216			207	186	1 curved hinge
			217			206	188	
			218			256	229	BI 9/16/21
			219			227	209	
			220			233	207	
			221			259	227	

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			222			243	215	BI 9/16/21
			223			219	198	
			224			231	206	
			225			225	199	
			226			241	219	
			227			220	206	
			228			229	201	
			229			236	220	
			230			236	210	BI 9/17/21

Analyst: BI QA: [illegible]

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:47 (p 1 of 2)
Test Code/ID: 16-1568-8333/21-08-24

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21	**Species:**	Mytilis galloprovincialis	**Sample Code:**	5132B531
End Date:	27 Aug-21	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	24 Aug-21	**Material:**	Seawater	**Sample Station:**	SIYB 5

Comments:
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	221			248	220	A6 8/31/21
0	FC	2	213					
0	FC	3	202					
0	FC	4	192					
0	FC	5	204					
0	LC	1	230			228	197	
0	LC	2	223					
0	LC	3	226					
0	LC	4	217					
0	LC	5	218					
6.25		1	197					
6.25		2	195					
6.25		3	200					
6.25		4	220					
6.25		5	201					
12.5		1	191					
12.5		2	219					
12.5		3	209					
12.5		4	198					
12.5		5	227					
25		1	224					
25		2	229					
25		3	207					
25		4	210					
25		5	203					
50		1	225					
50		2	211					
50		3	208					
50		4	215					
50		5	199					
100		1	228			232	204	

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		2	222					
100		3	194					
100		4	205					
100		5	206					
101		1	193			225	199	
101		2	216					1 curved: 0.004
101		3	196					
101		4	214					
101		5	212					

QC: MS

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 5
Test No. 21-08-024

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (%)	Water Quality Measurements			
	Parameter	**0hr**	**24hr**	**48hr**
Lab Control	Temp. (°C)	15.8	15.8	15.4
	Salinity (ppt)	34.3	34.3	34.8
	pH (units)	7.93	7.86	787
	DO (mg/L)	7.7	8.1	82
Filtered Control	Temp. (°C)	15.8	15.8	15.3
	Salinity (ppt)	34.4	34.3	34.8
	pH (units)	7.95	7.88	7.87
	DO (mg/L)	7.5	8.1	8.2
6.25	Temp. (°C)	15.8	15.8	15.2
	Salinity (ppt)	34.4	34.4	34.9
	pH (units)	7.91	7.85	7.87
	DO (mg/L)	7.9	8.1	8.2
12.5	Temp. (°C)	15.8	15.8	15.3
	Salinity (ppt)	34.4	34.4	34.9
	pH (units)	7.91	7.88	7.87
	DO (mg/L)	7.9	8.1	8.2
25	Temp. (°C)	15.9	15.8	15.2
	Salinity (ppt)	34.4	34.4	34.9
	pH (units)	7.91	7.84	7.89
	DO (mg/L)	7.9	8.1	8.3
50	Temp. (°C)	15.8	15.9	15.4
	Salinity (ppt)	34.5	34.5	35.0
	pH (units)	7.88	7.83	7.89
	DO (mg/L)	8.1	8.1	8.2
100	Temp. (°C)	15.8	15.9	15.4
	Salinity (ppt)	34.5	34.4	35.0
	pH (units)	7.86	7.83	7.88
	DO (mg/L)	7.9	8.1	8.2
100 Filtered (1.2µm)	Temp. (°C)	15.8	15.9	15.5
	Salinity (ppt)	34.4	34.3	34.9
	pH (units)	7.86	7.83	7.88
	DO (mg/L)	7.8	AG ~~7~~ 8.1	8.2
	Tech Initials:	AG	AG	SC

Source of Animals: Mission Bay/SIO
Date Received: 8/25/21

Comments:

Initial QC: JL 11/10/21

Final Review: BCS 11-16-21

Embryo-Larval Development Test

Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 8/25/2021
Batch ID: SIO holding facility (collected May) **Analyst:** AG
Test Type: 48hr Embryo Development

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilzation End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1	500	59,68	63,58	70,79	75,60	66.5	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density 665 / 500 **Dil Factor** 1.33

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/~~24~~239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: JC 11/10/21 $\bar{X}$ = 244 **Final Review:** BCS 11-16-21

Site: SIYB-6

CETIS Summary Report

Test Code: 21-08-025 | 15-4181-4252

Bivalve Larval Survival and Development Test — Wood E&IS

Batch ID:	02-7040-3804	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	25 Aug-21 16:50	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	27 Aug-21 15:00	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	46h	**Source:**	Field Collected	**Age:**	

Sample ID:	08-4532-4306	**Code:**	21-W153	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 09:15	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	32h	**Station:**	SIYB 6		

Comments:
101 = 100% (1.2um filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
20-5644-9095	Combined Proportion Norma	TST-Welch's t Test	1.5E-04	100% passed combined proportion normal
21-2449-7413	Combined Proportion Norma	TST-Welch's t Test	7.1E-05	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
00-4024-2825	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	12.2%
01-7872-1164	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.98%
05-8760-7634	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	16.7%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
01-7872-1164	Proportion Normal	Control Resp	0.9156	0.9	>>	Yes	Passes Criteria
05-8760-7634	Survival Rate	Control Resp	0.8844	0.5	>>	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8098	0.7430	0.8766	0.7418	0.8852	0.0241	0.0538	6.64%	0.00%
0	FC	5	0.8295	0.7611	0.8979	0.7623	0.8770	0.0246	0.0551	6.64%	-2.43%
6.25		5	0.7974	0.7044	0.8904	0.6885	0.8968	0.0335	0.0749	9.40%	1.54%
12.5		5	0.8590	0.7780	0.9400	0.7500	0.9180	0.0292	0.0652	7.59%	-6.07%
25		5	0.8902	0.8504	0.9300	0.8566	0.9303	0.0143	0.0321	3.60%	-9.92%
50		5	0.8486	0.7833	0.9139	0.8033	0.9274	0.0235	0.0526	6.20%	-4.79%
100		5	0.8492	0.7770	0.9214	0.7869	0.9305	0.0260	0.0581	6.84%	-4.86%
101		5	0.8993	0.8307	0.9680	0.8115	0.9434	0.0247	0.0553	6.14%	-11.05%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9156	0.8823	0.9489	0.8733	0.9474	0.0120	0.0268	2.93%	0.00%
0	FC	5	0.9219	0.9039	0.9399	0.9068	0.9386	0.0065	0.0145	1.57%	-0.68%
6.25		5	0.9122	0.8863	0.9380	0.8850	0.9363	0.0093	0.0208	2.28%	0.37%
12.5		5	0.9379	0.9070	0.9689	0.9118	0.9697	0.0111	0.0249	2.66%	-2.44%
25		5	0.9235	0.8959	0.9512	0.8970	0.9467	0.0100	0.0223	2.41%	-0.86%
50		5	0.9121	0.8942	0.9299	0.8919	0.9274	0.0064	0.0144	1.57%	0.39%
100		5	0.9273	0.8998	0.9548	0.9000	0.9531	0.0099	0.0222	2.39%	-1.27%
101		5	0.9240	0.8960	0.9520	0.8921	0.9465	0.0101	0.0226	2.44%	-0.92%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8844	0.8213	0.9475	0.8074	0.9344	0.0227	0.0508	5.74%	0.00%
0	FC	5	0.9000	0.8231	0.9769	0.8320	0.9672	0.0277	0.0619	6.88%	-1.76%
6.25		5	0.8754	0.7569	0.9940	0.7459	1.0000	0.0427	0.0955	10.91%	1.02%
12.5		5	0.9156	0.8396	0.9915	0.8197	0.9754	0.0274	0.0612	6.68%	-3.52%
25		5	0.9639	0.9293	0.9985	0.9221	0.9959	0.0125	0.0279	2.89%	-8.99%
50		5	0.9303	0.8643	0.9964	0.8730	1.0000	0.0238	0.0532	5.72%	-5.19%
100		5	0.9164	0.8304	1.0000	0.8607	1.0000	0.0310	0.0692	7.55%	-3.61%
101		5	0.9730	0.9146	1.0000	0.8893	1.0000	0.0210	0.0470	4.83%	-10.01%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.7951	0.8852	0.7910	0.7418	0.8361
0	FC	0.8770	0.8770	0.7623	0.8525	0.7787
6.25		0.8197	0.7992	0.7828	0.8968	0.6885
12.5		0.8852	0.8525	0.9180	0.7500	0.8893
25		0.8566	0.8730	0.9303	0.9180	0.8730
50		0.8115	0.8033	0.8770	0.8238	0.9274
100		0.7869	0.8115	0.8320	0.9305	0.8852
101		0.9426	0.9180	0.8115	0.8811	0.9434

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9238	0.9474	0.8733	0.9188	0.9148
0	FC	0.9386	0.9068	0.9118	0.9163	0.9360
6.25		0.8850	0.9198	0.9363	0.8968	0.9231
12.5		0.9391	0.9541	0.9697	0.9150	0.9118
25		0.8970	0.9467	0.9342	0.9372	0.9025
50		0.8919	0.9202	0.9030	0.9178	0.9274
100		0.9100	0.9429	0.9531	0.9305	0.9000
101		0.9465	0.9256	0.9124	0.8921	0.9434

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8607	0.9344	0.9057	0.8074	0.9139
0	FC	0.9344	0.9672	0.8361	0.9303	0.8320
6.25		0.9262	0.8689	0.8361	1.0000	0.7459
12.5		0.9426	0.8934	0.9467	0.8197	0.9754
25		0.9549	0.9221	0.9959	0.9795	0.9672
50		0.9098	0.8730	0.9713	0.8975	1.0000
100		0.8648	0.8607	0.8730	1.0000	0.9836
101		0.9959	0.9918	0.8893	0.9877	1.0000

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	194/244	216/244	193/244	181/244	204/244
0	FC	214/244	214/244	186/244	208/244	190/244
6.25		200/244	195/244	191/244	226/252	168/244
12.5		216/244	208/244	224/244	183/244	217/244
25		209/244	213/244	227/244	224/244	213/244
50		198/244	196/244	214/244	201/244	230/248
100		192/244	198/244	203/244	241/259	216/244
101		230/244	224/244	198/244	215/244	250/265

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	194/210	216/228	193/221	181/197	204/223
0	FC	214/228	214/236	186/204	208/227	190/203
6.25		200/226	195/212	191/204	226/252	168/182
12.5		216/230	208/218	224/231	183/200	217/238
25		209/233	213/225	227/243	224/239	213/236
50		198/222	196/213	214/237	201/219	230/248
100		192/211	198/210	203/213	241/259	216/240
101		230/243	224/242	198/217	215/241	250/265

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	210/244	228/244	221/244	197/244	223/244
0	FC	228/244	236/244	204/244	227/244	203/244
6.25		226/244	212/244	204/244	244/244	182/244
12.5		230/244	218/244	231/244	200/244	238/244
25		233/244	225/244	243/244	239/244	236/244
50		222/244	213/244	237/244	219/244	244/244
100		211/244	210/244	213/244	244/244	240/244
101		243/244	242/244	217/244	241/244	244/244

Analyst: SC QA: BCS

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	00-4024-2825	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	12.20%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.2654	2.362	0.12	8	CDF	0.7433	Non-Significant Effect
	12.5	-1.372	2.362	0.12	8	CDF	0.9944	Non-Significant Effect
	25	-2.234	2.362	0.12	8	CDF	0.9997	Non-Significant Effect
	50	-1.056	2.362	0.12	8	CDF	0.9858	Non-Significant Effect
	100	-1.092	2.362	0.12	8	CDF	0.9872	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0541595	0.0108319	5	1.693	0.1747	Non-Significant Effect
Error	0.153577	0.0063990	24			
Total	0.207736		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.454	15.09	0.9183	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9718	0.9031	0.5890	Normal Distribution

Combined Proportion Normal Summary

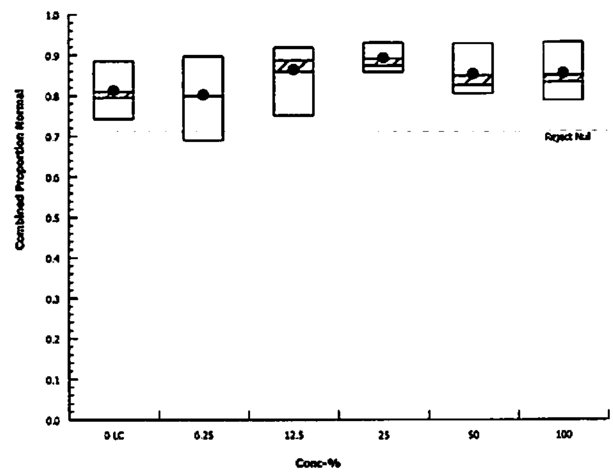
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8098	0.7430	0.8766	0.7951	0.7418	0.8852	0.0241	6.64%	0.00%
6.25		5	0.7974	0.7044	0.8904	0.7992	0.6885	0.8968	0.0335	9.40%	1.54%
12.5		5	0.8590	0.7780	0.9400	0.8852	0.7500	0.9180	0.0292	7.59%	-6.07%
25		5	0.8902	0.8504	0.9300	0.8730	0.8566	0.9303	0.0143	3.60%	-9.92%
50		5	0.8486	0.7833	0.9139	0.8238	0.8033	0.9274	0.0235	6.20%	-4.79%
100		5	0.8492	0.7770	0.9214	0.8320	0.7869	0.9305	0.0260	6.84%	-4.86%

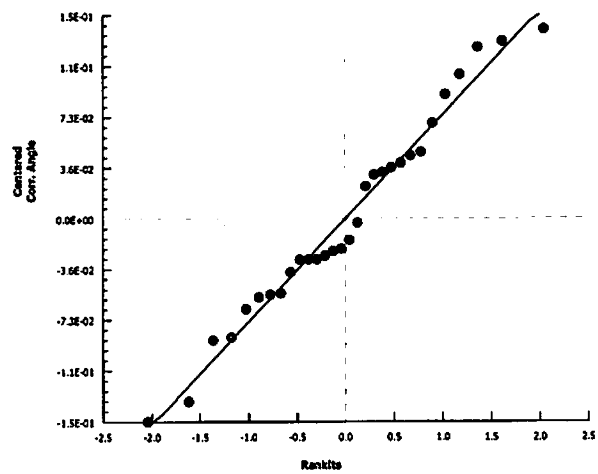
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.123	1.035	1.21	1.101	1.038	1.225	0.03153	6.28%	0.00%
6.25		5	1.109	0.9912	1.228	1.106	0.9787	1.244	0.04256	8.58%	1.20%
12.5		5	1.192	1.082	1.303	1.225	1.047	1.28	0.03981	7.47%	-6.18%
25		5	1.236	1.17	1.302	1.206	1.182	1.304	0.02365	4.28%	-10.07%
50		5	1.176	1.078	1.274	1.138	1.111	1.298	0.03525	6.70%	-4.76%
100		5	1.178	1.071	1.285	1.148	1.091	1.304	0.03856	7.32%	-4.92%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 00-4024-2825	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3	
Analyzed: 12 Oct-21 17:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes	

Graphics





CETIS Analytical Report

TST w/ LC vs. 100%

Test Code: 21-08-025 | 15-4181-4252

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	20-5644-9095	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:33	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	7.428	1.943	6	CDF	1.5E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0076358	0.0076358	1	1.231	0.2994	Non-Significant Effect
Error	0.0496139	0.0062017	8			
Total	0.0572496		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.496	23.15	0.7059	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.921	0.7411	0.3651	Normal Distribution

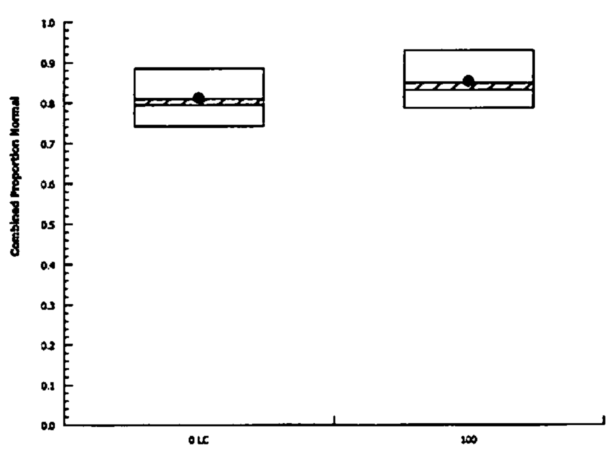
Combined Proportion Normal Summary

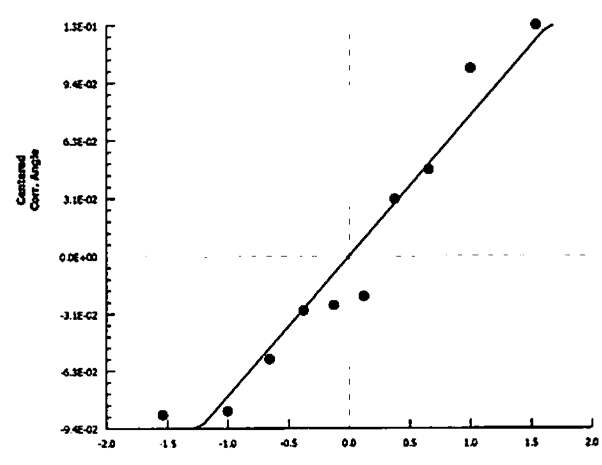
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8098	0.7430	0.8766	0.7951	0.7418	0.8852	0.0241	6.64%	0.00%
100		5	0.8492	0.7770	0.9214	0.8320	0.7869	0.9305	0.0260	6.84%	-4.86%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.123	1.035	1.21	1.101	1.038	1.225	0.03153	6.28%	0.00%
100		5	1.178	1.071	1.285	1.148	1.091	1.304	0.03856	7.32%	-4.92%

Graphics





CETIS Analytical Report

TST w/ FC vs 100% Filtered

Report Date: 12 Oct-21 17:34 (p 4 of 8)
Test Code: 21-08-025 | 15-4181-4252

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	21-2449-7413	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:34	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	8.529	1.943	6	CDF	7.1E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0287558	0.0287558	1	4.423	0.0686	Non-Significant Effect
Error	0.0520152	0.0065019	8			
Total	0.0807711		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.464	23.15	0.7208	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8744	0.7411	0.1126	Normal Distribution

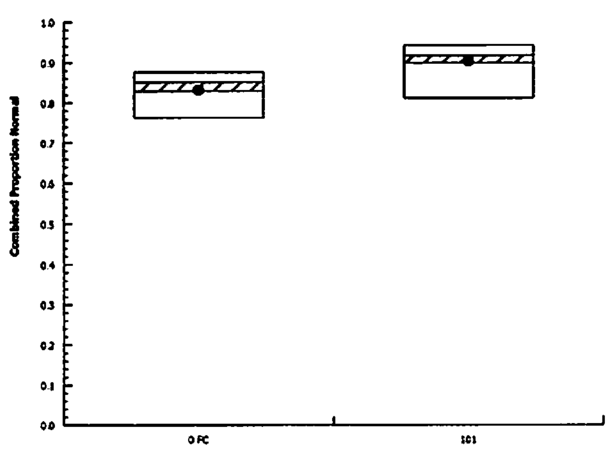
Combined Proportion Normal Summary

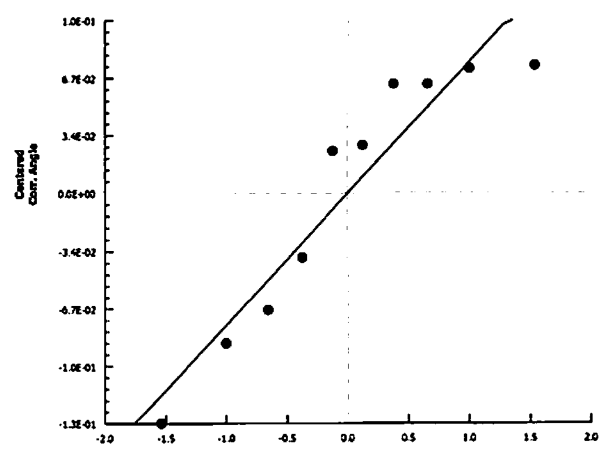
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8295	0.7611	0.8979	0.8525	0.7623	0.8770	0.0246	6.64%	0.00%
101		5	0.8993	0.8307	0.9680	0.9180	0.8115	0.9434	0.0247	6.14%	-8.42%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.149	1.059	1.239	1.177	1.062	1.213	0.03249	6.32%	0.00%
101		5	1.256	1.147	1.365	1.28	1.122	1.331	0.03931	7.00%	-9.34%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	01-7872-1164	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.98%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.2708	2.362	0.063	8	CDF	0.7412	Non-Significant Effect
	12.5	-1.669	2.362	0.063	8	CDF	0.9978	Non-Significant Effect
	25	-0.5267	2.362	0.063	8	CDF	0.9437	Non-Significant Effect
	50	0.3112	2.362	0.063	8	CDF	0.7255	Non-Significant Effect
	100	-0.8031	2.362	0.063	8	CDF	0.9716	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0103438	0.0020688	5	1.162	0.3564	Non-Significant Effect
Error	0.0427313	0.0017805	24			
Total	0.0530751		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.177	15.09	0.8242	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9641	0.9031	0.3930	Normal Distribution

Proportion Normal Summary

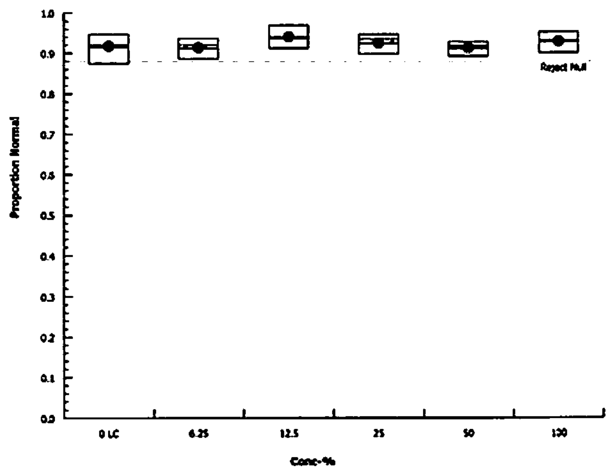
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9156	0.8823	0.9489	0.9188	0.8733	0.9474	0.0120	2.93%	0.00%
6.25		5	0.9122	0.8863	0.9380	0.9198	0.8850	0.9363	0.0093	2.28%	0.37%
12.5		5	0.9379	0.9070	0.9689	0.9391	0.9118	0.9697	0.0111	2.66%	-2.44%
25		5	0.9235	0.8959	0.9512	0.9342	0.8970	0.9467	0.0100	2.41%	-0.86%
50		5	0.9121	0.8942	0.9299	0.9178	0.8919	0.9274	0.0064	1.57%	0.39%
100		5	0.9273	0.8998	0.9548	0.9305	0.9000	0.9531	0.0099	2.39%	-1.27%

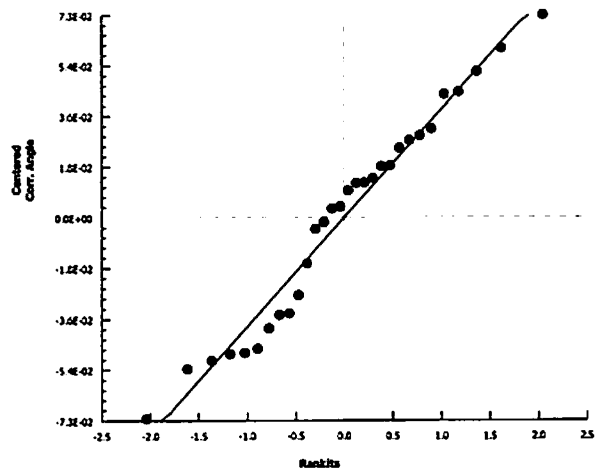
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.279	1.22	1.338	1.282	1.207	1.339	0.02123	3.71%	0.00%
6.25		5	1.272	1.226	1.317	1.284	1.225	1.316	0.0164	2.88%	0.57%
12.5		5	1.323	1.257	1.39	1.322	1.269	1.396	0.02401	4.06%	-3.48%
25		5	1.293	1.241	1.344	1.311	1.244	1.338	0.01859	3.22%	-1.10%
50		5	1.27	1.239	1.302	1.28	1.236	1.298	0.01122	1.98%	0.65%
100		5	1.3	1.247	1.353	1.304	1.249	1.352	0.01921	3.30%	-1.68%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID: 01-7872-1164		**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed: 12 Oct-21 17:32		**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	05-8760-7634	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	16.72%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-0.1978	2.362	0.198	8	CDF	0.8851	Non-Significant Effect
	12.5	-0.7216	2.362	0.198	8	CDF	0.9650	Non-Significant Effect
	25	-1.955	2.362	0.198	8	CDF	0.9992	Non-Significant Effect
	50	-1.213	2.362	0.198	8	CDF	0.9910	Non-Significant Effect
	100	-1.007	2.362	0.198	8	CDF	0.9836	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0892407	0.0178481	5	1.017	0.4296	Non-Significant Effect
Error	0.42122	0.0175508	24			
Total	0.510461		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	4.595	15.09	0.4672	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9594	0.9031	0.2994	Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8844	0.8213	0.9475	0.9057	0.8074	0.9344	0.0227	5.74%	0.00%
6.25		5	0.8754	0.7569	0.9940	0.8689	0.7459	1.0000	0.0427	10.91%	1.02%
12.5		5	0.9156	0.8396	0.9915	0.9426	0.8197	0.9754	0.0274	6.68%	-3.52%
25		5	0.9639	0.9293	0.9985	0.9672	0.9221	0.9959	0.0125	2.89%	-8.99%
50		5	0.9303	0.8643	0.9964	0.9098	0.8730	1.0000	0.0238	5.72%	-5.19%
100		5	0.9164	0.8304	1.0000	0.8730	0.8607	1.0000	0.0310	7.55%	-3.61%

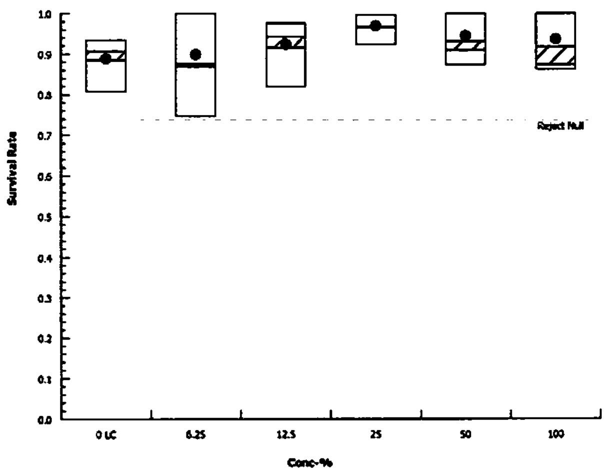
Angular (Corrected) Transformed Summary

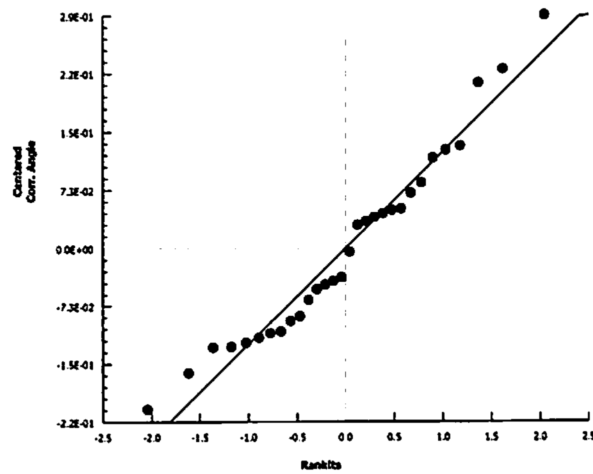
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.23	1.133	1.326	1.259	1.116	1.312	0.03465	6.30%	0.00%
6.25		5	1.246	1.014	1.479	1.2	1.042	1.539	0.08372	15.02%	-1.35%
12.5		5	1.29	1.156	1.424	1.329	1.132	1.413	0.04826	8.37%	-4.92%
25		5	1.393	1.293	1.494	1.389	1.288	1.507	0.03637	5.84%	-13.32%
50		5	1.331	1.161	1.502	1.266	1.206	1.539	0.06132	10.30%	-8.27%
100		5	1.314	1.109	1.519	1.206	1.188	1.539	0.07375	12.55%	-6.86%

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID: 05-8760-7634		**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed: 12 Oct-21 17:32		**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Test Data Worksheet

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21 1650	Species:	Mytilis galloprovincialis	Sample Code:	~~3262A012~~ 21-W153
End Date:	27 Aug-21 1500	Protocol:	EPA/600/R-95/136 (1995)	Sample Source:	Shelter Island Yacht Basin
Sample Date:	24 Aug-21 0915	Material:	Seawater	Sample Station:	SIYB 6

Comments: DEV 1720
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			231			233	209	BI 9/9/21
			232			241	215	
			233			225	213	
			234			243	227	
			235			211	192	
			236			248	230	
			237			204	191	
			238			242	224	
			239			222	198	BI 9/10/21
			240			236	214	
			241			228	214	
			242			252	226	
			243			231	224	
			244			243	230	
			245			213	196	
			246			259	241	
			247			237	214	
			248			230	216	
			249			240	216	
			250			226	200	BI 9/13/21
			251			223	204	
			252			227	208	
			253			204	186	
			254			228	216	
			255			219	201	
			256			197	181	
			257			212	195	
			258			217	198	
			259			265	250	
			260			200	183	
			261			238	217	

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:47 (p 2 of 2)
Test Code/ID: 15-4181-4252/21-08-025

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			262			213	203	BI 9/13/21 1 curved hinge
			263			182	168	
			264			203	190	
			265			218	208	
			266			239	224	
			267			236	213	BI 9/14/21
			268			221	193	
			269			210	198	
			270			210	194	

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:47 (p 1 of 2)
Test Code/ID: 15-4181-4252/21-08-025

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21	**Species:**	Mytilis galloprovincialis	**Sample Code:**	3262A012
End Date:	27 Aug-21	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	24 Aug-21	**Material:**	Seawater	**Sample Station:**	SIYB 6

Comments:
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	241			217 ~~215~~ AG	196	debris observed AG 8/31/21
0	FC	2	240					
0	FC	3	253					
0	FC	4	252					
0	FC	5	264					
0	LC	1	270			209	187	
0	LC	2	254					
0	LC	3	268					
0	LC	4	256					
0	LC	5	251					
6.25		1	250					
6.25		2	257					
6.25		3	237					
6.25		4	242					
6.25		5	263					
12.5		1	248					
12.5		2	265					
12.5		3	243					
12.5		4	260					
12.5		5	261					
25		1	231					
25		2	233					
25		3	234					
25		4	266					
25		5	267					
50		1	239					
50		2	245					
50		3	247					
50		4	255					
50		5	236					
100		1	235			211	193	

CETIS Test Data Worksheet

Test Code/ID: 15-4181-4252/21-08-025

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		2	269					
100		3	262					1 curved = 0.004
100		4	246					
100		5	249					
101		1	244			238	210	~~debris present~~ AG
101		2	238					
101		3	258					
101		4	232					
101		5	259					

QC: MS

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 6
Test No. 21-08-025

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (%)	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	MS ~~34.~~ 16.0	15.6	15.6
	Salinity (ppt)	34.4	34.4	34.7
	pH (units)	7.95	7.88	7.88
	DO (mg/L)	7.8 AG	8.2	8.1
Filtered Control	Temp. (°C)	16.0 (A)	15.5	15.4
	Salinity (ppt)	34.2	34.2	34.9
	pH (units)	7.92	7.88	7.88
	DO (mg/L)	7.6	8.2	8.2
6.25	Temp. (°C)	MS ~~3~~ 16.0 (A)	15.4	15.3
	Salinity (ppt)	34.4	34.3	34.8
	pH (units)	7.92	7.88	7.88
	DO (mg/L)	7.9	8.1	8.2
12.5	Temp. (°C)	16.0 (A)	15.5	15.3
	Salinity (ppt)	34.4	34.4	34.9
	pH (units)	7.89	7.87	7.87
	DO (mg/L)	7.9	8.2	8.2
25	Temp. (°C)	16.0 (A)	15.5	15.4
	Salinity (ppt)	34.4	34.4	34.9
	pH (units)	7.88	7.87	7.87
	DO (mg/L)	8.0	8.2	8.2
50	Temp. (°C)	16.0 (A)	15.5	15.4
	Salinity (ppt)	34.4	34.5	35.0
	pH (units)	7.85	7.86	7.87
	DO (mg/L)	8.0	8.2	8.2
100	Temp. (°C)	16.0 (A)	15.5	15.4
	Salinity (ppt)	34.5	34.5	35.0
	pH (units)	7.84	7.84	7.86
	DO (mg/L)	7.7	8.1	8.2
100 Filtered (1.2µm)	Temp. (°C)	MS ~~34.~~ 16.0 (A)	15.5	15.5
	Salinity (ppt)	34.4	34.4	34.9
	pH (units)	7.83	7.84	7.87
	DO (mg/L)	7.8	8.1	8.2
	Tech Initials:	MS	AG	SC

Source of Animals: Mission Bay ISID
Date Received: 8/25/21

Comments: (A) Taken from temperature surrogate

Initial QC: SC 11/10/21

Final Review: BCS 11-16-21

Embryo-Larval Development Test

Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Test Date: 8/25/2021
Batch ID: SIO holding facility (collected May)
Analyst: AG
Test Type: 48hr Embryo Development

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilization End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1	500	59,68	63,58	70,79	75,60	66.5	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{665}{500}$ **Dil Factor** 1.33

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/~~24~~239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: AG 11/10/21 $\bar{X}$ = 244

Final Review: BCS 11-16-21

Site: SIYB-REF-1

CETIS Summary Report

Bivalve Larval Survival and Development Test — Wood E&IS

Batch ID:	17-3070-7160	Test Type:	Development-Survival	Analyst:	
Start Date:	25 Aug-21 16:50	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Natural Seawater
Ending Date:	27 Aug-21 15:00	Species:	Mytilis galloprovincialis	Brine:	Not Applicable
Duration:	46h	Source:	Field Collected	Age:	

Sample ID:	15-4471-6516	Code:	21-W154	Client:	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 08:15	Material:	Seawater	Project:	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	Source:	Shelter Island Yacht Basin		
Sample Age:	33h	Station:	SIYB REF1		

Comments:
101 = 100% (1.2um filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
07-3721-6112	Combined Proportion Norma	TST-Welch's t Test	2.0E-05	100% passed combined proportion normal
09-1681-6488	Combined Proportion Norma	TST-Welch's t Test	0.0034	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
21-1272-3725	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	11.8%
06-4567-6783	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.76%
12-9731-7255	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	10.7%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
06-4567-6783	Proportion Normal	Control Resp	0.8877	0.9	>>	Yes	Below Criteria
12-9731-7255	Survival Rate	Control Resp	0.9443	0.5	>>	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8382	0.7503	0.9261	0.7500	0.9139	0.0316	0.0708	8.44%	0.00%
0	FC	5	0.9014	0.8326	0.9701	0.8115	0.9562	0.0248	0.0554	6.14%	-7.54%
6.25		5	0.8315	0.7571	0.9058	0.7500	0.8952	0.0268	0.0599	7.20%	0.80%
12.5		5	0.8590	0.7915	0.9265	0.7705	0.9180	0.0243	0.0544	6.33%	-2.48%
25		5	0.8575	0.7571	0.9580	0.7377	0.9312	0.0362	0.0809	9.43%	-2.31%
50		5	0.7951	0.7117	0.8785	0.6926	0.8811	0.0300	0.0672	8.45%	5.14%
100		5	0.8959	0.8515	0.9404	0.8361	0.9221	0.0160	0.0358	4.00%	-6.88%
101		5	0.8180	0.7290	0.9071	0.7008	0.8852	0.0321	0.0717	8.77%	2.41%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8877	0.8443	0.9311	0.8482	0.9370	0.0156	0.0350	3.94%	0.00%
0	FC	5	0.9224	0.8932	0.9516	0.8949	0.9562	0.0105	0.0235	2.55%	-3.91%
6.25		5	0.9115	0.8777	0.9454	0.8883	0.9554	0.0122	0.0273	2.99%	-2.68%
12.5		5	0.9187	0.9019	0.9354	0.9009	0.9383	0.0060	0.0135	1.47%	-3.48%
25		5	0.9140	0.8941	0.9338	0.8911	0.9312	0.0072	0.0160	1.75%	-2.96%
50		5	0.9197	0.8807	0.9587	0.8818	0.9471	0.0140	0.0314	3.41%	-3.60%
100		5	0.9239	0.9053	0.9424	0.9139	0.9492	0.0067	0.0149	1.62%	-4.07%
101		5	0.9005	0.8771	0.9238	0.8814	0.9245	0.0084	0.0188	2.09%	-1.44%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9443	0.8563	1.0000	0.8361	1.0000	0.0317	0.0708	7.50%	0.00%
0	FC	5	0.9770	0.9133	1.0000	0.8852	1.0000	0.0230	0.0513	5.25%	-3.47%
6.25		5	0.9131	0.8189	1.0000	0.8279	1.0000	0.0339	0.0759	8.31%	3.30%
12.5		5	0.9352	0.8596	1.0000	0.8361	1.0000	0.0273	0.0610	6.52%	0.95%
25		5	0.9377	0.8383	1.0000	0.8279	1.0000	0.0358	0.0800	8.53%	0.69%
50		5	0.8639	0.7924	0.9355	0.7787	0.9303	0.0258	0.0576	6.67%	8.51%
100		5	0.9697	0.9270	1.0000	0.9139	1.0000	0.0154	0.0344	3.54%	-2.69%
101		5	0.9082	0.8154	1.0000	0.7951	0.9672	0.0334	0.0747	8.23%	3.82%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.7828	0.7500	0.9139	0.8482	0.8960
0	FC	0.8949	0.8115	0.9340	0.9562	0.9102
6.25		0.8730	0.7910	0.8952	0.8484	0.7500
12.5		0.7705	0.8730	0.8770	0.8566	0.9180
25		0.9057	0.8115	0.9016	0.9312	0.7377
50		0.8033	0.6926	0.8811	0.8033	0.7951
100		0.9180	0.9221	0.8893	0.8361	0.9139
101		0.8525	0.8484	0.8852	0.8033	0.7008

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8604	0.8971	0.9370	0.8482	0.8960
0	FC	0.8949	0.9167	0.9340	0.9562	0.9102
6.25		0.8987	0.9554	0.8952	0.9200	0.8883
12.5		0.9216	0.9383	0.9145	0.9009	0.9180
25		0.9057	0.9252	0.9167	0.9312	0.8911
50		0.9378	0.8895	0.9471	0.9423	0.8818
100		0.9492	0.9259	0.9156	0.9148	0.9139
101		0.8851	0.8961	0.9153	0.9245	0.8814

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9098	0.8361	0.9754	1.0000	1.0000
0	FC	1.0000	0.8852	1.0000	1.0000	1.0000
6.25		0.9713	0.8279	1.0000	0.9221	0.8443
12.5		0.8361	0.9303	0.9590	0.9508	1.0000
25		1.0000	0.8770	0.9836	1.0000	0.8279
50		0.8566	0.7787	0.9303	0.8525	0.9016
100		0.9672	0.9959	0.9713	0.9139	1.0000
101		0.9631	0.9467	0.9672	0.8689	0.7951

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	191/244	183/244	223/244	218/257	224/250
0	FC	230/257	198/244	269/288	240/251	223/245
6.25		213/244	193/244	222/248	207/244	183/244
12.5		188/244	213/244	214/244	209/244	235/256
25		240/265	198/244	220/244	230/247	180/244
50		196/244	169/244	215/244	196/244	194/244
100		224/244	225/244	217/244	204/244	223/244
101		208/244	207/244	216/244	196/244	171/244

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	191/222	183/204	223/238	218/257	224/250
0	FC	230/257	198/216	269/288	240/251	223/245
6.25		213/237	193/202	222/248	207/225	183/206
12.5		188/204	213/227	214/234	209/232	235/256
25		240/265	198/214	220/240	230/247	180/202
50		196/209	169/190	215/227	196/208	194/220
100		224/236	225/243	217/237	204/223	223/244
101		208/235	207/231	216/236	196/212	171/194

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	222/244	204/244	238/244	244/244	244/244
0	FC	244/244	216/244	244/244	244/244	244/244
6.25		237/244	202/244	244/244	225/244	206/244
12.5		204/244	227/244	234/244	232/244	244/244
25		244/244	214/244	240/244	244/244	202/244
50		209/244	190/244	227/244	208/244	220/244
100		236/244	243/244	237/244	223/244	244/244
101		235/244	231/244	236/244	212/244	194/244

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	21-1272-3725	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:46	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	11.75%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.2129	2.362	0.129	8	CDF	0.7629	Non-Significant Effect
	12.5	-0.4907	2.362	0.129	8	CDF	0.9388	Non-Significant Effect
	25	-0.5559	2.362	0.129	8	CDF	0.9474	Non-Significant Effect
	50	1.08	2.362	0.129	8	CDF	0.3848	Non-Significant Effect
	100	-1.499	2.362	0.129	8	CDF	0.9962	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0554578	0.0110916	5	1.499	0.2273	Non-Significant Effect
Error	0.177573	0.0073989	24			
Total	0.233031		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.984	15.09	0.8513	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9442	0.9031	0.1178	Normal Distribution

Combined Proportion Normal Summary

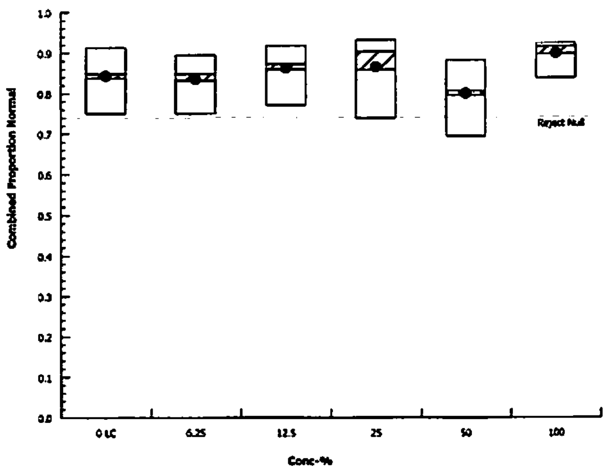
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8382	0.7503	0.9261	0.8482	0.7500	0.9139	0.0316	8.44%	0.00%
6.25		5	0.8315	0.7571	0.9058	0.8484	0.7500	0.8952	0.0268	7.20%	0.80%
12.5		5	0.8590	0.7915	0.9265	0.8730	0.7705	0.9180	0.0243	6.33%	-2.48%
25		5	0.8575	0.7571	0.9580	0.9016	0.7377	0.9312	0.0362	9.43%	-2.31%
50		5	0.7951	0.7117	0.8785	0.8033	0.6926	0.8811	0.0300	8.45%	5.14%
100		5	0.8959	0.8515	0.9404	0.9139	0.8361	0.9221	0.0160	4.00%	-6.88%

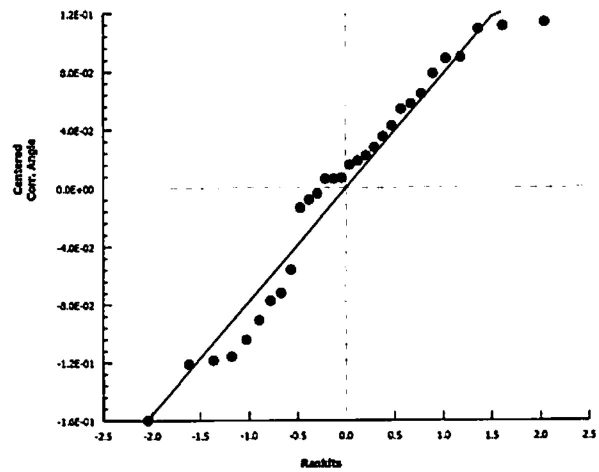
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.164	1.043	1.285	1.171	1.047	1.273	0.04349	8.35%	0.00%
6.25		5	1.152	1.053	1.251	1.171	1.047	1.241	0.03561	6.91%	1.00%
12.5		5	1.191	1.096	1.285	1.206	1.071	1.28	0.03399	6.38%	-2.29%
25		5	1.194	1.054	1.334	1.252	1.033	1.305	0.05051	9.46%	-2.60%
50		5	1.105	1.001	1.209	1.111	0.9831	1.219	0.03735	7.56%	5.05%
100		5	1.245	1.176	1.314	1.273	1.154	1.288	0.02486	4.46%	-7.01%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 21-1272-3725	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3	
Analyzed: 12 Oct-21 17:46	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes	

Graphics





CETIS Analytical Report

TST w/ LC vs. 100%

Report Date:	12 Oct-21 17:47 (p 3 of 8)
Test Code:	21-08-026 | 08-0749-4416

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	07-3721-6112	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:46	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	9.084	1.895	7	CDF	2.0E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0166303	0.0166303	1	2.651	0.1421	Non-Significant Effect
Error	0.0501793	0.0062724	8			
Total	0.0668096		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.06	23.15	0.3042	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9485	0.7411	0.6506	Normal Distribution

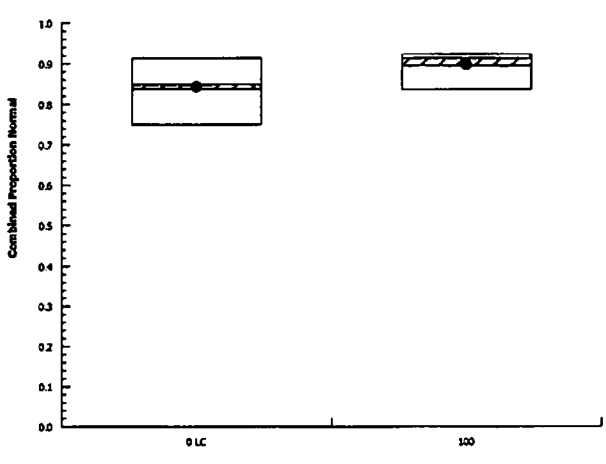
Combined Proportion Normal Summary

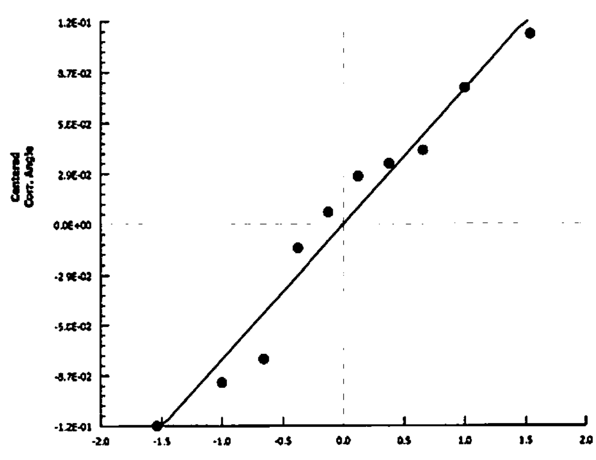
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8382	0.7503	0.9261	0.8482	0.7500	0.9139	0.0316	8.44%	0.00%
100		5	0.8959	0.8515	0.9404	0.9139	0.8361	0.9221	0.0160	4.00%	-6.88%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.164	1.043	1.285	1.171	1.047	1.273	0.04349	8.35%	0.00%
100		5	1.245	1.176	1.314	1.273	1.154	1.288	0.02486	4.46%	-7.01%

Graphics





CETIS Analytical Report

TST w/ FC vs 100% filtered

Report Date: 12 Oct-21 17:51 (p 1 of 1)
Test Code: 21-08-026 | 08-0749-4416

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-1681-6488	Endpoint:	Combined Proportion Normal	CETIS Version:	CETISv1.9.3
Analyzed:	12 Oct-21 17:51	Analysis:	Parametric Bioequivalence-Two Sample	Official Results:	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	3.796	1.895	7	CDF	0.0034	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0389219	0.0389219	1	4.844	0.0589	Non-Significant Effect
Error	0.0642802	0.0080350	8			
Total	0.103202		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	0.9999	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8905	0.7411	0.1717	Normal Distribution

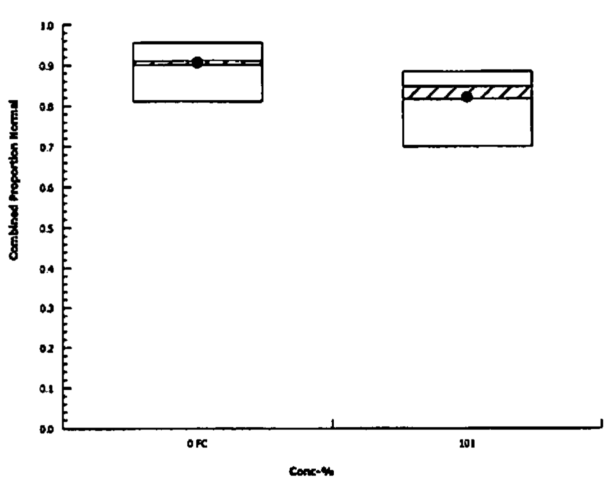
Combined Proportion Normal Summary

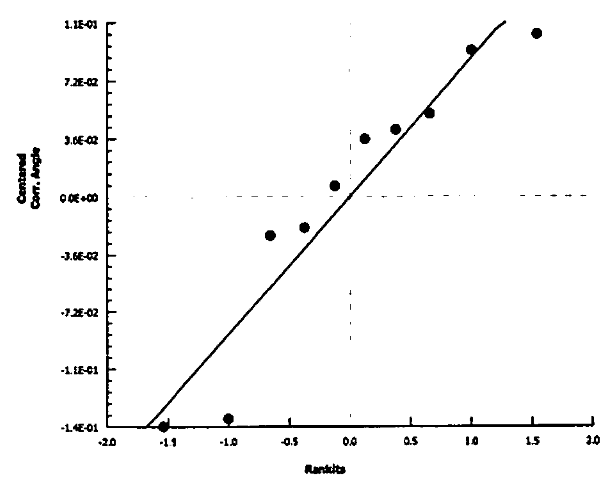
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.9014	0.8326	0.9701	0.9102	0.8115	0.9562	0.0248	6.14%	0.00%
101		5	0.8180	0.7290	0.9071	0.8484	0.7008	0.8852	0.0321	8.77%	9.25%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.26	1.149	1.371	1.266	1.122	1.36	0.04009	7.11%	0.00%
101		5	1.135	1.024	1.246	1.171	0.9921	1.225	0.04009	7.90%	9.90%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	06-4567-6783	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:45	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.76%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-1.427	2.362	0.066	8	CDF	0.9953	Non-Significant Effect
	12.5	-1.797	2.362	0.066	8	CDF	0.9986	Non-Significant Effect
	25	-1.498	2.362	0.066	8	CDF	0.9962	Non-Significant Effect
	50	-1.983	2.362	0.066	8	CDF	0.9992	Non-Significant Effect
	100	-2.16	2.362	0.066	8	CDF	0.9996	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0116126	0.0023225	5	1.204	0.3373	Non-Significant Effect
Error	0.0463037	0.0019293	24			
Total	0.0579163		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	5.029	15.09	0.4123	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9745	0.9031	0.6677	Normal Distribution

Proportion Normal Summary

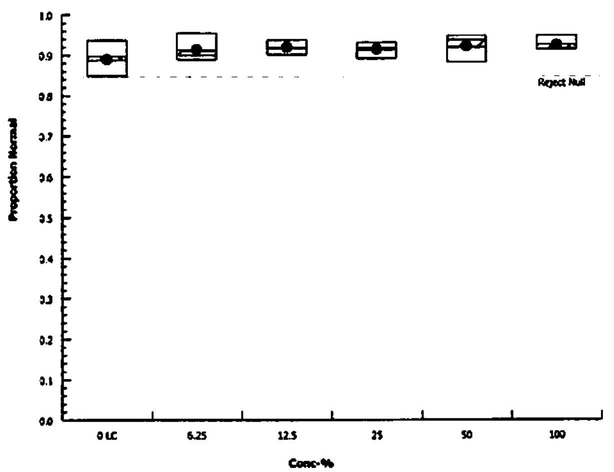
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8877	0.8443	0.9311	0.8960	0.8482	0.9370	0.0156	3.94%	0.00%
6.25		5	0.9115	0.8777	0.9454	0.8987	0.8883	0.9554	0.0122	2.99%	-2.68%
12.5		5	0.9187	0.9019	0.9354	0.9180	0.9009	0.9383	0.0060	1.47%	-3.48%
25		5	0.9140	0.8941	0.9338	0.9167	0.8911	0.9312	0.0072	1.75%	-2.96%
50		5	0.9197	0.8807	0.9587	0.9378	0.8818	0.9471	0.0140	3.41%	-3.60%
100		5	0.9239	0.9053	0.9424	0.9156	0.9139	0.9492	0.0067	1.62%	-4.07%

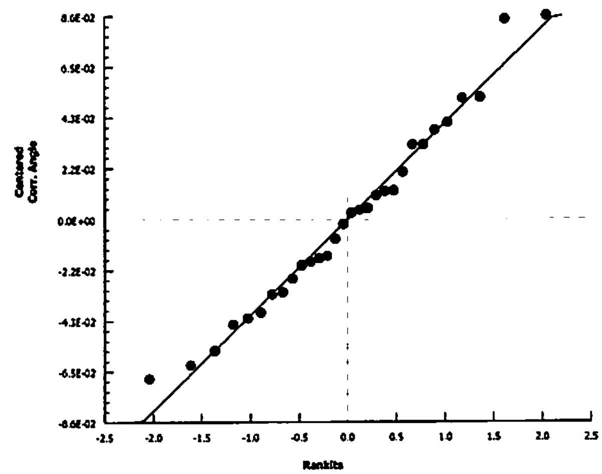
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.232	1.161	1.304	1.242	1.171	1.317	0.02569	4.66%	0.00%
6.25		5	1.272	1.207	1.337	1.247	1.23	1.358	0.02335	4.10%	-3.22%
12.5		5	1.282	1.251	1.313	1.28	1.25	1.32	0.01121	1.95%	-4.05%
25		5	1.274	1.239	1.309	1.278	1.234	1.305	0.01263	2.22%	-3.38%
50		5	1.288	1.217	1.358	1.319	1.22	1.339	0.02543	4.42%	-4.47%
100		5	1.292	1.255	1.329	1.276	1.273	1.343	0.01335	2.31%	-4.87%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 06-4567-6783		**Endpoint:** Proportion Normal		**CETIS Version:** CETISv1.9.3	
Analyzed: 12 Oct-21 17:45		**Analysis:** Parametric-Control vs Treatments		**Official Results:** Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	12-9731-7255	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:45	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2um filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	10.70%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.8114	2.362	0.218	8	CDF	0.5057	Non-Significant Effect
	12.5	0.4328	2.362	0.218	8	CDF	0.6758	Non-Significant Effect
	25	0.07605	2.362	0.218	8	CDF	0.8099	Non-Significant Effect
	50	1.979	2.362	0.218	8	CDF	0.1031	Non-Significant Effect
	100	-0.4265	2.362	0.218	8	CDF	0.9292	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.1529	0.0305799	5	1.43	0.2494	Non-Significant Effect
Error	0.513173	0.0213822	24			
Total	0.666072		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.042	15.09	0.6936	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9595	0.9031	0.3016	Normal Distribution

Survival Rate Summary

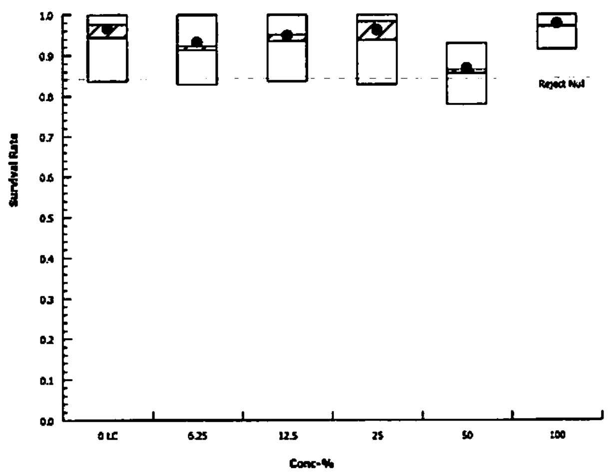
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9443	0.8563	1.0000	0.9754	0.8361	1.0000	0.0317	7.50%	0.00%
6.25		5	0.9131	0.8189	1.0000	0.9221	0.8279	1.0000	0.0339	8.31%	3.30%
12.5		5	0.9352	0.8596	1.0000	0.9508	0.8361	1.0000	0.0273	6.52%	0.95%
25		5	0.9377	0.8383	1.0000	0.9836	0.8279	1.0000	0.0358	8.53%	0.69%
50		5	0.8639	0.7924	0.9355	0.8566	0.7787	0.9303	0.0258	6.67%	8.51%
100		5	0.9697	0.9270	1.0000	0.9713	0.9139	1.0000	0.0154	3.54%	-2.69%

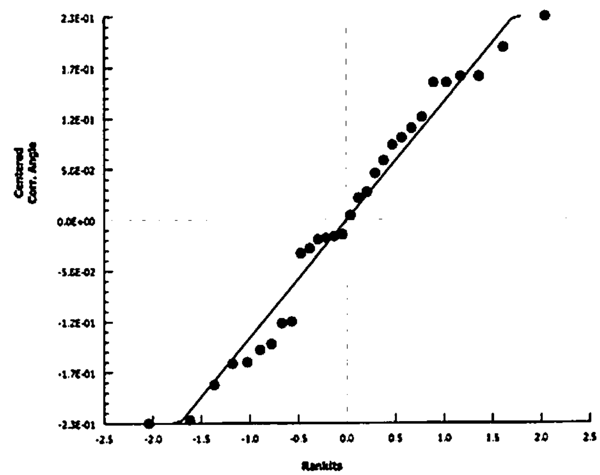
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.382	1.171	1.593	1.413	1.154	1.539	0.07604	12.30%	0.00%
6.25		5	1.307	1.101	1.513	1.288	1.143	1.539	0.07412	12.68%	5.43%
12.5		5	1.342	1.171	1.513	1.347	1.154	1.539	0.06173	10.28%	2.90%
25		5	1.375	1.144	1.606	1.442	1.143	1.539	0.08319	13.53%	0.51%
50		5	1.199	1.094	1.304	1.182	1.081	1.304	0.03771	7.03%	13.24%
100		5	1.422	1.291	1.553	1.401	1.273	1.539	0.04721	7.43%	-2.85%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	12-9731-7255	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 17:45	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Analyst: SC QA: BCS

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:48 (p 1 of 2)
Test Code/ID: 08-0749-4416/21-08-026

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 25 Aug-21 1650	Species: Mytilis galloprovincialis	Sample Code: ~~5C1280E4~~ 21-W154	
End Date: 27 Aug-21 1500	Protocol: EPA/600/R-95/136 (1995)	Sample Source: Shelter Island Yacht Basin	
Sample Date: 24 Aug-21 0815	Material: Seawater	Sample Station: SIYB REF	

Comments: Del 1720
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			271			235	208	BI 9/7/21
			272			238	223	
			273			190	169	
			274			223	204	
			275			227	213	
			276			209	196	
			277			208	196	
			278			250	224	
			279			214	198	
			280			202	193	
			281			194	171	
			282			204	188	BI 9/8/21
			283			202	180	
			284			231	207	
			285			257	230	
			286			265	240	
			287			236	216	
			288			256	235	
			289			216	198	
			290			212	~~198~~ 196 BI	
			291			248	222	
			292			225	207	
			293			244	223	
			294			240	220	
			295			245	223	
			296			236	224	
			297			288	269	
			298			247	230	
			299			251	240	
			300			234	214	
			301			BI ~~253~~ 243	225	

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			302			220	194	BI 9/8/21
			303			232	209	
			304			237	213	BI 9/9/21
			305			206	183	
			306			237	217	
			307			227	215	
			308			222	191	
			309			257	218	
			310			204	183	

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:48 (p 1 of 2)
Test Code/ID: 08-0749-4416/21-08-026

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 25 Aug-21	**Species:** Mytilis galloprovincialis	**Sample Code:** 5C1280E4	
End Date: 27 Aug-21	**Protocol:** EPA/600/R-95/136 (1995)	**Sample Source:** Shelter Island Yacht Basin	
Sample Date: 24 Aug-21	**Material:** Seawater	**Sample Station:** SIYB REF	

Comments:
101 = 100% (1.2um filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	285			224	202	AG 8/31/21
0	FC	2	289					
0	FC	3	297					
0	FC	4	299					
0	FC	5	295					
0	LC	1	308			218	195	
0	LC	2	310					
0	LC	3	272					
0	LC	4	309					
0	LC	5	278					
6.25		1	304					
6.25		2	280					
6.25		3	291					
6.25		4	292					
6.25		5	305					
12.5		1	282					
12.5		2	275					
12.5		3	300					
12.5		4	303					
12.5		5	288					
25		1	286					
25		2	279					
25		3	294					
25		4	298					
25		5	283					
50		1	276					
50		2	273					
50		3	307					
50		4	277					
50		5	302					
100		1	296			214	193	

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:48 (p 2 of 2)
Test Code/ID: 08-0749-4416/21-08-026

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		2	301					
100		3	306					
100		4	274					
100		5	293					
101		1	271			228	203	
101		2	284					
101		3	287					
101		4	290					
101		5	281					

QC: MS

Analyst: AG QA: XL

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB REF
Test No. 21-08-026

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (%)	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.7	15.8	15.5
	Salinity (ppt)	34.4	34.3	34.6
	pH (units)	7.93	7.87	7.87
	DO (mg/L)	7.8	8.1	8.2
Filtered Control	Temp. (°C)	16.0 (A)	15.7	15.3
	Salinity (ppt)	34.2	34.2	34.7
	pH (units)	7.94	7.86	7.87
	DO (mg/L)	7.5	8.1	8.2
6.25	Temp. (°C)	15.6	15.5	15.3
	Salinity (ppt)	34.4	34.4	34.8
	pH (units)	7.91	7.87	7.87
	DO (mg/L)	7.9	8.2	8.3
12.5	Temp. (°C)	15.6	15.4	15.4
	Salinity (ppt)	34.4	34.4	34.8
	pH (units)	7.90	7.85	7.87
	DO (mg/L)	7.9	8.3	8.3
25	Temp. (°C)	15.7	15.6	15.3
	Salinity (ppt)	34.4	34.4	34.9
	pH (units)	7.89	7.86	7.87
	DO (mg/L)	8.0	8.2	8.2
50	Temp. (°C)	15.8	15.7	15.4
	Salinity (ppt)	34.4	34.5	34.8
	pH (units)	7.87	7.85	7.87
	DO (mg/L)	8.1	8.2	8.2
100	Temp. (°C)	15.8	15.5	15.3
	Salinity (ppt)	34.5	34.3	34.9
	pH (units)	7.85	7.85	7.86
	DO (mg/L)	7.9	8.1	8.1
100 Filtered (1.2µm)	Temp. (°C)	15.9	15.7	15.4
	Salinity (ppt)	34.3	34.3	34.8
	pH (units)	7.83	7.84	7.86
	DO (mg/L)	7.8	8.1	8.2
	Tech Initials:	MS	AB	SC

Source of Animals: Mission Bay/SIO

Date Received: 8/25/21

Comments: (A) Taken from temperature surrogate

Initial QC: SC 11/10/21

Final Review: BCS 11-16-21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 8/25/2021
Batch ID: SIO holding facility (collected May) **Analyst:** AG
Test Type: 48hr Embryo Development

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilization End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1	500	59,68	63,58	70,79	75,60	665	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density 665 / 500 **Dil Factor** 1.33

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: AG 11/10/21 $\bar{X}$ = 244 **Final Review:** BCS 11-16-21

APPENDIX B

Acute Topsmelt Test

Raw Data & Statistical Analyses

CETIS Summary Report

Report Date: 31 Aug-21 09:54 (p 1 of 1)
Test Code: 21-08-013 | 03-4106-0231

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	13-7773-2528	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	25 Aug-21 15:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	29 Aug-21 13:05	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	94h	**Source:**	Aquatic Biosystems, CO	**Age:**	13d

Sample ID:	11-0159-0252	**Code:**	21-W148	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 14:25	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	25h	**Station:**	SIYB 1		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
19-7921-1245	96h Survival Rate	TST-Welch's t Test	0.0095	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
07-4144-0840	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	12.2%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	0.00%
25		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	0.00%
50		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	0.00%
100		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	6.90%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	1.0000	1.0000	1.0000	0.8000	1.0000	1.0000
25		1.0000	1.0000	0.8000	1.0000	1.0000	1.0000
50		0.8000	1.0000	1.0000	1.0000	1.0000	1.0000
100		0.8000	1.0000	1.0000	1.0000	0.8000	0.8000

CETIS Analytical Report

Report Date:	31 Aug-21 09:54 (p 1 of 2)
Test Code:	21-08-013 | 03-4106-0231

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Analysis ID:	07-4144-0840	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 9:53	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	12.24%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	25	39	26	2	10	Asymp	0.7500	Non-Significant Effect
	50	39	26	2	10	Asymp	0.7500	Non-Significant Effect
	100	33	26	2	10	Asymp	0.3382	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.028354	0.0094513	3	0.8333	0.4913	Non-Significant Effect
Error	0.226832	0.0113416	20			
Total	0.255186		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.6531	11.34	0.8842	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.738	0.884	3.3E-05	Non-Normal Distribution

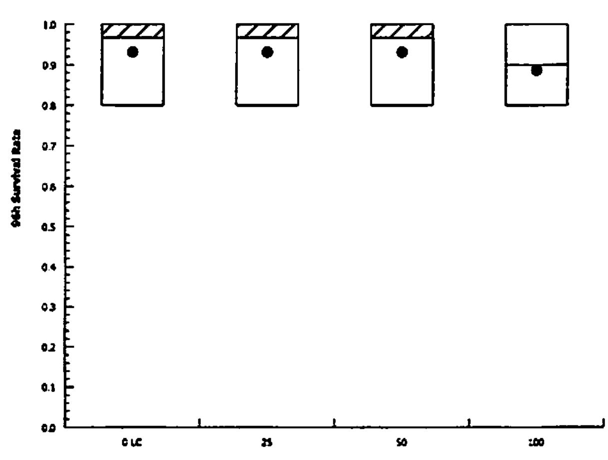
96h Survival Rate Summary

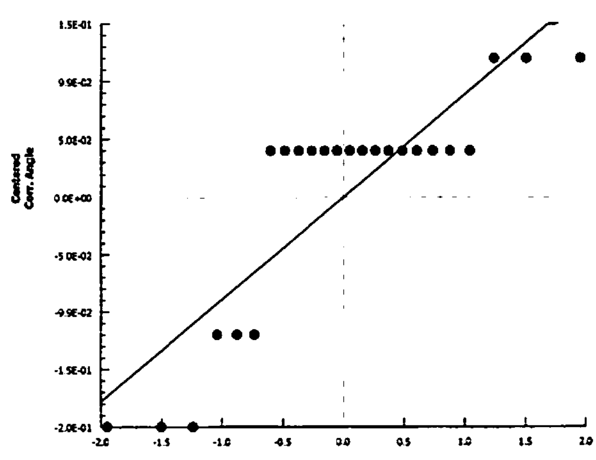
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%
25		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%
50		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	6.90%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%
25		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%
50		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	6.08%

Graphics





002-883-387-8 CETIS™ v1.9.3.0 Analyst: SC QA: BCS

CETIS Analytical Report

Pacific Topsmelt 96-h Acute Survival Test	Wood E&IS

Analysis ID:	19-7921-1245	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 9:53	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	2.931	1.397	8	CDF	0.0095	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0189026	0.0189026	1	1.429	0.2596	Non-Significant Effect
Error	0.132318	0.0132318	10			
Total	0.151221		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.8	14.94	0.5345	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8435	0.8025	0.0306	Normal Distribution

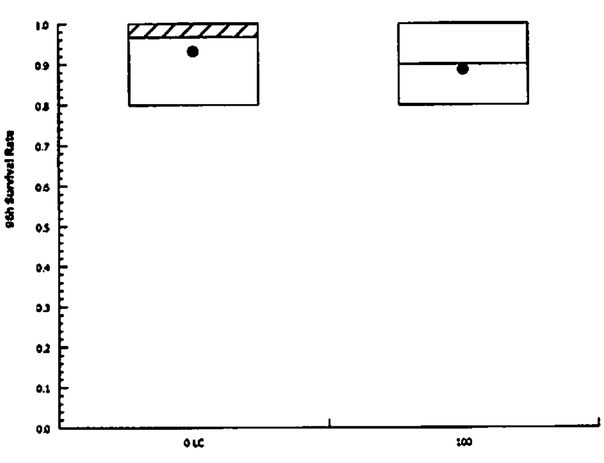
96h Survival Rate Summary

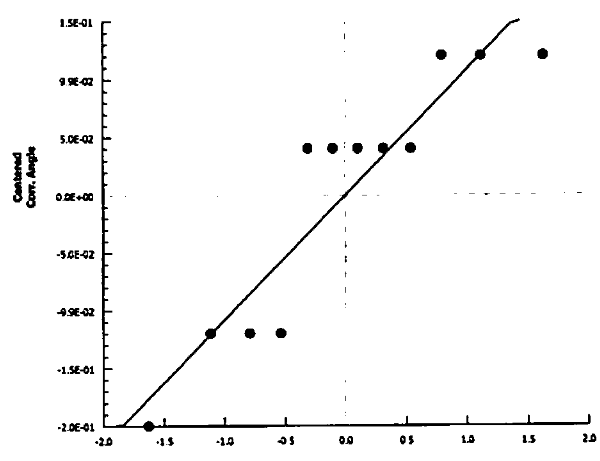
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	6.90%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	6.08%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-1
Test No. 21-08-013

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1500
End Date/Time: 8/29/21 1305

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #1	A	5	5	~~4~~ 5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	4
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	4	4
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
50	A	5	5	5	4	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
100	A	5	5	4	4	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	4	4
	F	5	4	4	4	4
	A					
	B					
	C					
	D					
	E					
	F					
	Tech Initials:	SC	AO	AO	SC	AO

Water Quality Parameter	0	24	48f	48i	72	96
Temp. (°C)	20.8	20.8	20.9	20.9	20.9	20.8
Salinity (ppt)	34.3	34.3	34.3	34.0	34.4	34.3
pH (units)	7.95	7.79	7.69	7.76	7.71	7.73
DO (mg/L)	7.0	6.6	6.5	~~8.1~~ 7.1	6.3	6.2
Temp. (°C)	20.7	20.5	20.9	20.9	20.8	20.7
Salinity (ppt)	34.3	34.4	34.4	34.1	34.4	34.4
pH (units)	7.95	7.80	7.69	7.95	7.71	7.72
DO (mg/L)	7.2	6.3	6.1	~~8.5~~ 7.1	6.2	6.2
Temp. (°C)	20.5	20.3	20.9	20.9	20.8	20.7
Salinity (ppt)	34.4	34.5	34.4	34.1	34.5	34.5
pH (units)	7.94	7.80	7.75	7.95	7.71	7.72
DO (mg/L)	7.4	6.4	5.9	7.5	6.3	6.2
Temp. (°C)	20.5	20.3	20.9	20.8	20.7	20.7
Salinity (ppt)	34.4	34.5	34.5	34.1	34.5	34.6
pH (units)	7.93	7.80	7.77	7.91	7.69	7.71
DO (mg/L)	7.6	6.4	5.9	8.0	6.3	6.2
Temp. (°C)						
Salinity (ppt)						
pH (units)						
DO (mg/L)						
Tech Initials:	SC	AO	AO	AO	SC	AO

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AO	SC	SC
Initials (PM):					

Comments:

QC Check: SC 8/31/21

Final Review: BCS 11-16-21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

CETIS Summary Report

Report Date: 31 Aug-21 10:03 (p 1 of 1)
Test Code: 21-08-014 | 13-1952-9451

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	13-7773-2528	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	25 Aug-21 15:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	29 Aug-21 13:15	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	94h	**Source:**	Aquatic Biosystems, CO	**Age:**	13d

Sample ID:	20-9123-0491	**Code:**	21-W149	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 13:25	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	26h	**Station:**	SIYB 2		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
10-4090-7331	96h Survival Rate	TST-Welch's t Test	3.1E-04	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
18-1157-9202	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	12.0%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	0.00%
25		6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	3.45%
50		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	0.00%
100		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	1.0000	1.0000	1.0000	0.8000	1.0000	1.0000
25		1.0000	1.0000	0.8000	1.0000	1.0000	0.8000
50		1.0000	1.0000	1.0000	0.8000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	0.8000	1.0000

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	18-1157-9202	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:02	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	12.03%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	36	26	2	10	Asymp	0.5503	Non-Significant Effect
		50	39	26	2	10	Asymp	0.7500	Non-Significant Effect
		100	39	26	2	10	Asymp	0.7500	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0070885	0.0023628	3	0.2174	0.8832	Non-Significant Effect
Error	0.21738	0.010869	20			
Total	0.224469		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.411	11.34	0.9380	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6264	0.884	1.2E-06	Non-Normal Distribution

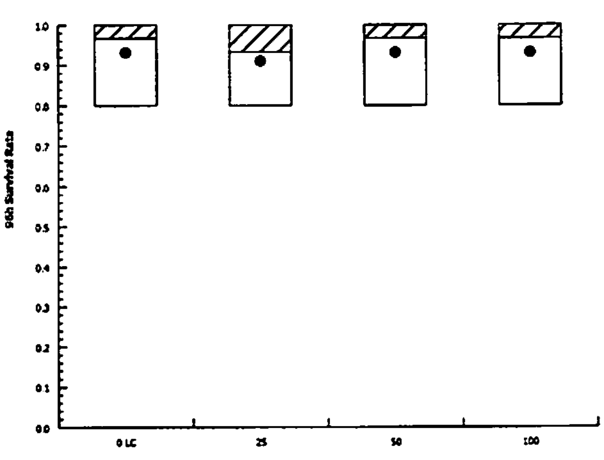
96h Survival Rate Summary

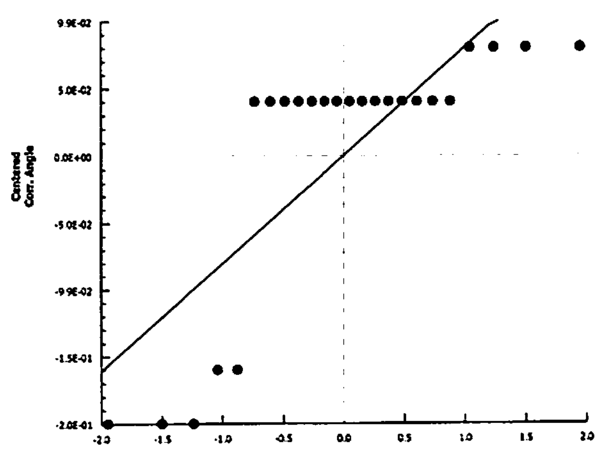
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%
25		6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	3.45%
50		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%
100		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%
25		6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	3.04%
50		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%
100		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%

Graphics





CETIS Analytical Report

Pacific Topsmelt 96-h Acute Survival Test					Wood E&IS
Analysis ID: 10-4090-7331		**Endpoint:** 96h Survival Rate		**CETIS Version:** CETISv1.9.3	
Analyzed: 31 Aug-21 10:03		**Analysis:** Parametric Bioequivalence-Two Sample		**Official Results:** Yes	

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	5.137	1.383	9	CDF	3.1E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.0945132	0.0094513	10			
Total	0.0945132		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	14.94	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.4647	0.8025	9.8E-06	Non-Normal Distribution

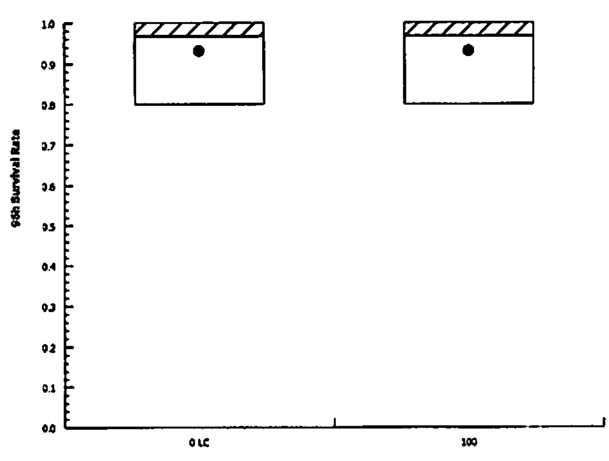
96h Survival Rate Summary

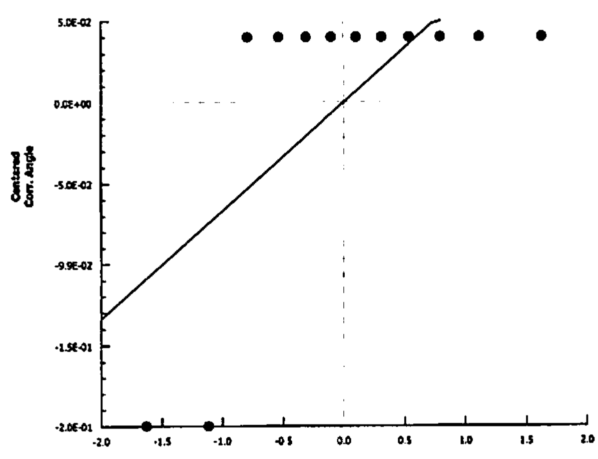
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%
100		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%
100		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	0.00%

Graphics





Analyst: SC QA: BCS

96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-2
Test No. 21-08-014

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1515
End Date/Time: 8/29/21 ~~1305~~ 1315 AG

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #1	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	4
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	4	4
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	4	4
50	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	4	4
	E	5	5	5	5	5
	F	5	5	5	5	5
100	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	4	4
	F	5	5	5	5	5
	A					
	B					
	C					
	D					
	E					
	F					
Tech Initials:		SC	AG	AG	SC	AG

Water Quality

Sample ID (%)	Parameter	0	24	48f	48i	72	96
LC #1	Temp. (°C)	20.8	20.8	20.9	20.9	20.9	20.8
	Salinity (ppt)	34.3	34.3	34.~~6~~3 AG	34.0	34.4	34.3
	pH (units)	7.95	7.79	~~7.7~~ 7.69	7.76	7.71	7.73
	DO (mg/L)	7.0	6.6	~~6.1~~ 6.5 AG	7.1	6.3	6.2
25	Temp. (°C)	20.5	20.3	20.7	20.8	20.8	20.7
	Salinity (ppt)	34.3	34.5	34.5	34.1	34.4	34.4
	pH (units)	7.94	7.81	7.72	7.99	7.70	7.73
	DO (mg/L)	7.3	6.5	6.1	7.1	6.3	6.2
50	Temp. (°C)	20.5	20.2	20.6	20.9	20.8	20.7
	Salinity (ppt)	34.4	34.5	34.5	34.1	34.5	34.4
	pH (units)	7.94	7.82	7.73	7.98	7.71	7.72
	DO (mg/L)	7.4	6.5	6.1	7.3	6.2	6.1
100	Temp. (°C)	20.6	20.1	20.7	20.9	20.6	20.7
	Salinity (ppt)	34.5	34.6	34.6	34.2	34.5	34.5
	pH (units)	7.92	7.85	7.73	7.93	7.71	7.72
	DO (mg/L)	7.7	6.6	6.1	7.8	6.3	6.2
	Temp. (°C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
	Tech Initials:	SC	AG	AG	AG	SC	AG

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AG	SC	SC
Initials (PM):					

Comments:

QC Check: SC 8/31/21

Final Review: BCS 11-16-21

CETIS Summary Report

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	08-9929-2881	Test Type:	Survival (96h)	Analyst:	
Start Date:	25 Aug-21 15:30	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Natural Seawater
Ending Date:	29 Aug-21 13:30	Species:	Atherinops affinis	Brine:	Not Applicable
Duration:	94h	Source:	Aquatic Biosystems, CO	Age:	13d

Sample ID:	05-4142-2531	Code:	21-W150	Client:	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 12:30	Material:	Ambient Sample	Project:	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	Source:	Shelter Island Yacht Basin		
Sample Age:	27h	Station:	SIYB 3		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
02-8866-5761	96h Survival Rate	TST-Welch's t Test	0.0105	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
19-6128-7694	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	15.7%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	0.00%
25		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	3.57%
50		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	-3.57%
100		6	0.9333	0.7620	1.0000	0.6000	1.0000	0.0667	0.1633	17.50%	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.8000	1.0000	1.0000	0.8000	1.0000	1.0000
25		0.8000	1.0000	1.0000	1.0000	0.8000	0.8000
50		1.0000	1.0000	1.0000	0.8000	1.0000	1.0000
100		1.0000	0.6000	1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 31 Aug-21 10:08 (p 1 of 2)
Test Code: 21-08-015 | 13-6361-6486

Pacific Topsmelt 96-h Acute Survival Test				Wood E&IS

Analysis ID:	19-6128-7694	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:08	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	15.72%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	25	36	26	2	10	Asymp	0.5503	Non-Significant Effect
	50	42	26	2	10	Asymp	0.8900	Non-Significant Effect
	100	41	26	1	10	Asymp	0.8513	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.018939	0.0063130	3	0.3291	0.8043	Non-Significant Effect
Error	0.383654	0.0191827	20			
Total	0.402593		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.124	11.34	0.5470	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7782	0.884	1.3E-04	Non-Normal Distribution

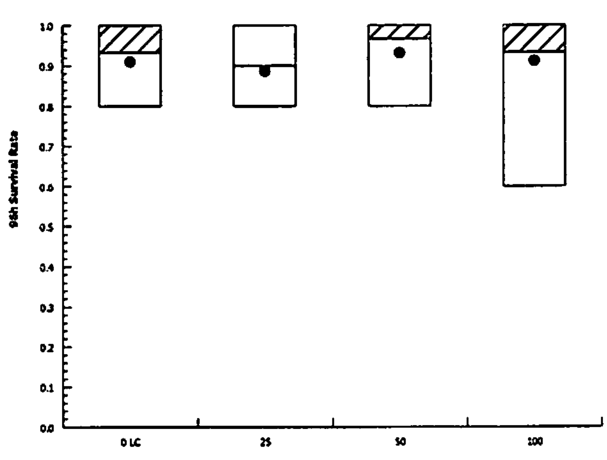
96h Survival Rate Summary

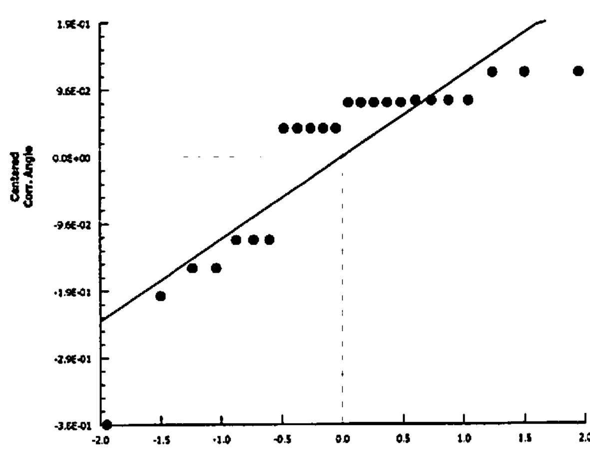
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
25		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%
50		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	-3.57%
100		6	0.9333	0.7620	1.0000	1.0000	0.6000	1.0000	0.0667	17.50%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
25		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.14%
50		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	-3.14%
100		6	1.269	1.072	1.465	1.345	0.8861	1.345	0.07653	14.78%	-0.22%

Graphics





Pacific Topsmelt 96-h Acute Survival Test					Wood E&IS
Analysis ID: 02-8866-5761	**Endpoint:** 96h Survival Rate			**CETIS Version:** CETISv1.9.3	
Analyzed: 31 Aug-21 10:08	**Analysis:** Parametric Bioequivalence-Two Sample			**Official Results:** Yes	

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	2.962	1.415	7	CDF	0.0105	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.426E-05	2.426E-05	1	0.0009653	0.9758	Non-Significant Effect
Error	0.251336	0.0251336	10			
Total	0.25136		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.324	14.94	0.3761	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6003	0.8025	1.1E-04	Non-Normal Distribution

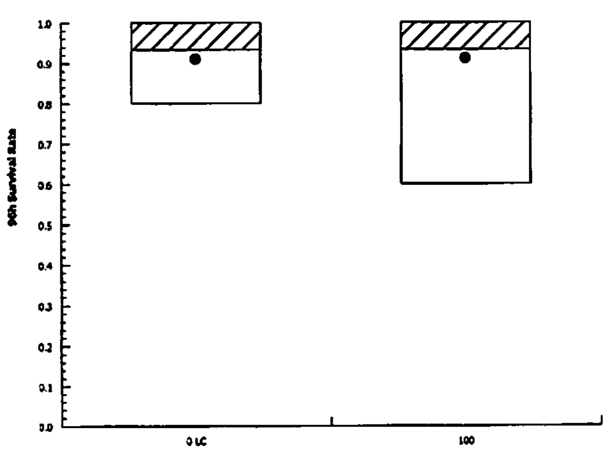
96h Survival Rate Summary

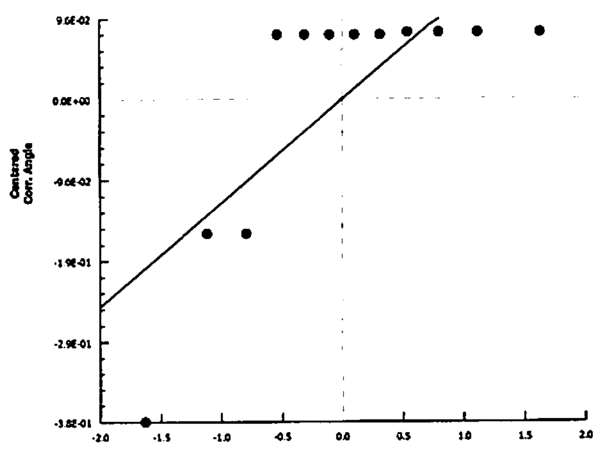
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
100		6	0.9333	0.7620	1.0000	1.0000	0.6000	1.0000	0.0667	17.50%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
100		6	1.269	1.072	1.465	1.345	0.8861	1.345	0.07653	14.78%	-0.22%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-3
Test No. 21-08-015

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1530
End Date/Time: 8/29/21 1330

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #2	A	5	5	5	4	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	4	4
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	4	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	4	4
	F	5	5	5	4	4
50	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	4	4
	E	5	5	5	5	5
	F	5	5	5	5	5
100	A	5	5	5	5	5
	B	5	5	4	3	3
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
	A					
	B					
	C					
	D					
	E					
	F					
	Tech Initials:	SC	AG	AG	SC	AG

Sample ID (%)	Water Quality Parameter	0	24	48f	48i	72	96
LC #2	Temp. (C)	20.6	20.2	20.7	20.8	20.5	20.6
	Salinity (ppt)	34.4	34.5	34.5	34.1	34.5	34.4
	pH (units)	7.96	7.84	7.73	7.98	7.72	7.75
	DO (mg/L)	7.1	6.5	6.1	6.8	6.4	6.3
25	Temp. (C)	20.5	20.1	20.4	20.8	20.5	20.5
	Salinity (ppt)	34.4	34.5	34.5	34.1	34.5	34.5
	pH (units)	7.95	7.84	7.74	7.99	7.72	7.74
	DO (mg/L)	7.3	6.5	6.1	7.1	6.3	6.2
50	Temp. (C)	20.5	20.1	20.6	20.8	20.6	20.5
	Salinity (ppt)	34.4	34.6	34.6	34.2	34.5	34.4
	pH (units)	7.94	7.84	7.74	7.98	7.72	7.74
	DO (mg/L)	7.4	6.5	6.1	7.2	6.3	6.2
100	Temp. (C)	20.6	20.1	20.6	20.8	20.6	20.6
	Salinity (ppt)	34.5	34.6	34.6	34.2	34.6	34.5
	pH (units)	7.92	7.83	7.73	7.93	7.71	7.71
	DO (mg/L)	7.6	6.5	6.0	7.9	6.3	6.2
	Temp. (C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
	Tech Initials:	SC	AG	AG	AG	SC	AG

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AG	SC	SC
Initials (PM):					

Comments:

QC Check: SC 8/31/21

Final Review: BCS 11-16-21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

CETIS Summary Report

Report Date:	31 Aug-21 10:14 (p 1 of 1)
Test Code:	21-08-016 | 18-0467-0494

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Batch ID:	02-4863-1998	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	25 Aug-21 15:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	29 Aug-21 13:45	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	94h	**Source:**	Aquatic Biosystems, CO	**Age:**	13d

Sample ID:	09-9262-2401	**Code:**	21-W151	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 11:30	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	28h	**Station:**	SIYB 4		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
18-2169-1429	96h Survival Rate	TST-Welch's t Test	0.0222	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
06-7663-2996	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	16.7%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	0.00%
25		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	3.57%
50		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	3.57%
100		6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	3.57%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.8000	1.0000	1.0000	0.8000	1.0000	1.0000
25		0.8000	0.8000	0.8000	1.0000	1.0000	1.0000
50		0.8000	1.0000	0.8000	0.8000	1.0000	1.0000
100		0.8000	1.0000	1.0000	0.6000	1.0000	1.0000

Analyst: SC QA: BCS

Pacific Topsmelt 96-h Acute Survival Test			Wood E&IS
Analysis ID: 06-7663-2996	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.9.3	
Analyzed: 31 Aug-21 10:13	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	16.68%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	36	26	2	10	Asymp	0.5503	Non-Significant Effect
		50	36	26	2	10	Asymp	0.5503	Non-Significant Effect
		100	38	26	2	10	Asymp	0.6884	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0067863	0.0022621	3	0.1047	0.9564	Non-Significant Effect
Error	0.432265	0.0216132	20			
Total	0.439051		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.339	11.34	0.7200	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7746	0.884	1.2E-04	Non-Normal Distribution

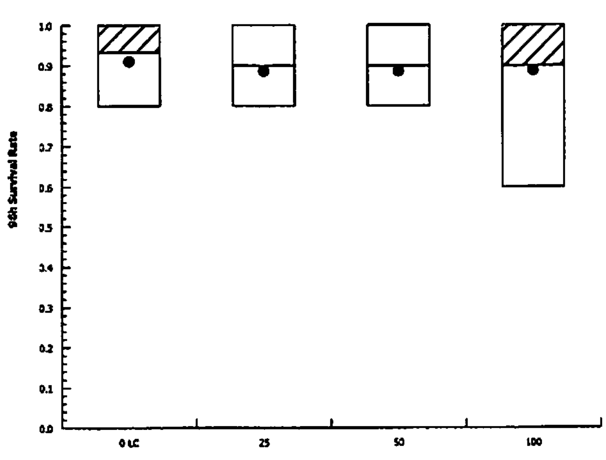
96h Survival Rate Summary

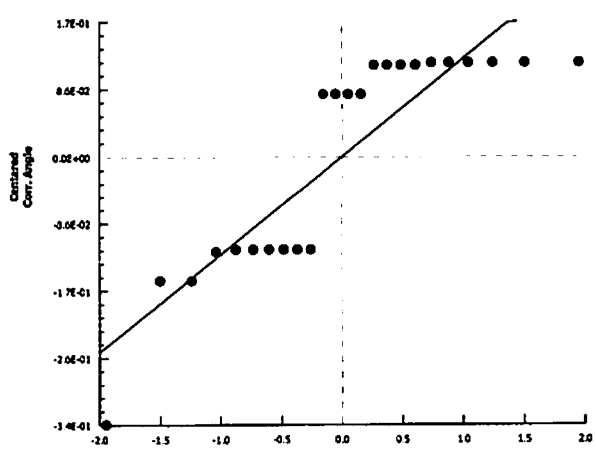
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
25		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%
50		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%
100		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
25		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.14%
50		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.14%
100		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	2.91%

Graphics





Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	18-2169-1429	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:13	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	2.445	1.415	7	CDF	0.0222	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0040727	0.0040727	1	0.1554	0.7017	Non-Significant Effect
Error	0.262141	0.0262141	10			
Total	0.266214		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.467	14.94	0.3442	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.756	0.8025	0.0031	Non-Normal Distribution

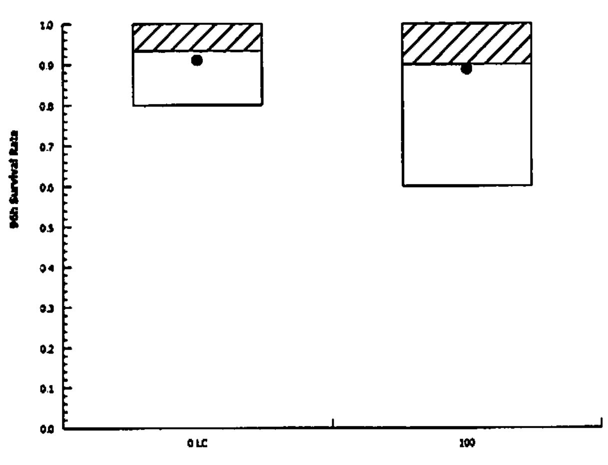
96h Survival Rate Summary

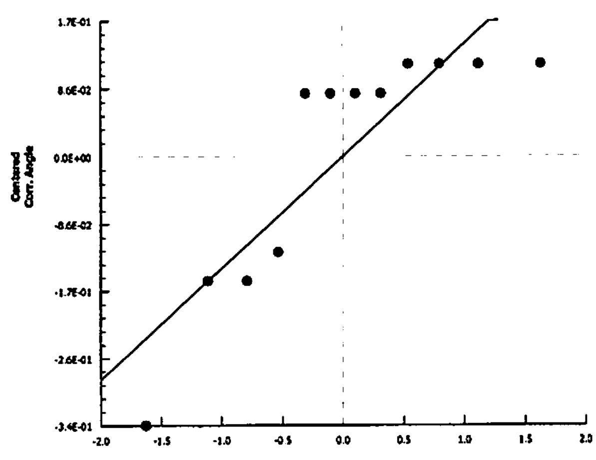
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
100		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
100		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	2.91%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-4
Test No. 21-08-016

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1545
End Date/Time: 8/29/21 1345

Counts

Sample ID (%)	Rep	0	24	48	72	96
LC #2	A	5	5	5	4	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	4	4
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	4	4
	B	5	5	5	4	4
	C	5	5	5	4	4
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
50	A	5	5	5	4	4
	B	5	5	5	5	5
	C	5	5	4	4	4
	D	5	5	5	4	4
	E	5	5	5	5	5
	F	5	5	5	5	5
100	A	5	5	4	4	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	3	3
	E	5	5	5	5	5
	F	5	5	5	5	5
	A					
	B					
	C					
	D					
	E					
	F					
	Tech Initials:	SC	AG	AG	SC	AG

Water Quality

Parameter	0	24	48f	48i	72	96
Temp. (°C)	20.6	20.2	20.7	20.8	20.5	20.6
Salinity (ppt)	34.4	34.5	34.5	34.1	34.5	34.4
pH (units)	7.96	7.84	7.73	7.98	7.72	7.75
DO (mg/L)	7.1	6.5	6.1	6.8	6.4	6.3
Temp. (°C)	20.5	19.8	20.6	20.9	20.4	20.5
Salinity (ppt)	34.4	34.6	34.7	34.2	34.5	34.6
pH (units)	7.94	7.83	7.71	7.96	7.71	7.72
DO (mg/L)	7.3	6.8	6.9	7.1	6.4	6.3
Temp. (°C)	20.5	20.1	20.6	20.9	20.4	20.5
Salinity (ppt)	34.5	34.5	34.6	34.1	34.6	34.6
pH (units)	7.94	7.84	7.71	7.97	7.71	7.72
DO (mg/L)	7.4	6.7	6.8	7.3	6.3	6.2
Temp. (°C)	20.5	20.1	20.7	20.9	20.4	20.5
Salinity (ppt)	34.5	34.5	34.5	34.2	34.7	34.6
pH (units)	7.93	7.84	7.73	7.94	7.72	7.71
DO (mg/L)	7.6	6.7	6.1	7.8	6.4	6.3
Temp. (°C)						
Salinity (ppt)						
pH (units)						
DO (mg/L)						
Tech Initials:	SC	AG	AG	AG	SC	AG

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AG	SC	SC
Initials (PM):					

Comments:

QC Check: SC 8/31/21

Final Review: BCS 11-16-21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

CETIS Summary Report

Report Date: 31 Aug-21 10:19 (p 1 of 1)
Test Code: 21-08-017 | 20-2241-4000

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	07-5124-6281	Test Type:	Survival (96h)	Analyst:	
Start Date:	25 Aug-21 16:00	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Natural Seawater
Ending Date:	29 Aug-21 14:00	Species:	Atherinops affinis	Brine:	Not Applicable
Duration:	94h	Source:	Aquatic Biosystems, CO	Age:	13d

Sample ID:	18-4680-5909	Code:	21-W152	Client:	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 10:30	Material:	Ambient Sample	Project:	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	Source:	Shelter Island Yacht Basin		
Sample Age:	29h	Station:	SIYB 5		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
08-4384-1037	96h Survival Rate	TST-Welch's t Test	0.0054	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
11-9591-4197	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	18.5%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	0.00%
25		6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	3.57%
50		6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	3.57%
100		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	3.57%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	1.0000	1.0000	0.8000	1.0000	0.8000	1.0000
25		1.0000	0.8000	1.0000	1.0000	0.6000	1.0000
50		0.6000	0.8000	1.0000	1.0000	1.0000	1.0000
100		0.8000	1.0000	1.0000	1.0000	0.8000	0.8000

Pacific Topsmelt 96-h Acute Survival Test					**Wood E&IS**
Analysis ID:	11-9591-4197	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:19	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	18.54%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	38	26	2	10	Asymp	0.6884	Non-Significant Effect
		50	38	26	2	10	Asymp	0.6884	Non-Significant Effect
		100	36	26	2	10	Asymp	0.5503	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0064598	0.0021533	3	0.08069	0.9698	Non-Significant Effect
Error	0.533734	0.0266867	20			
Total	0.540194		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.607	11.34	0.6577	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7533	0.884	5.6E-05	Non-Normal Distribution

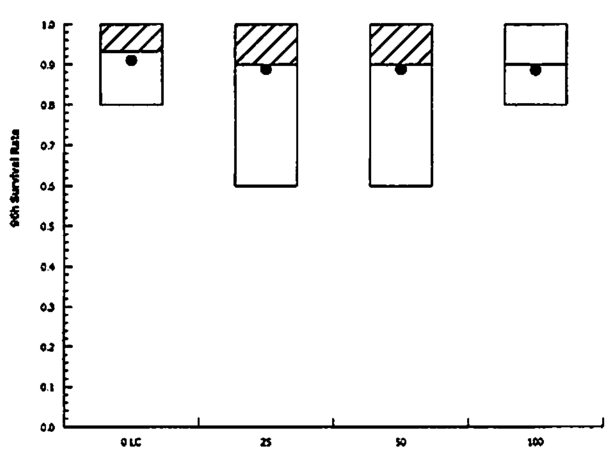
96h Survival Rate Summary

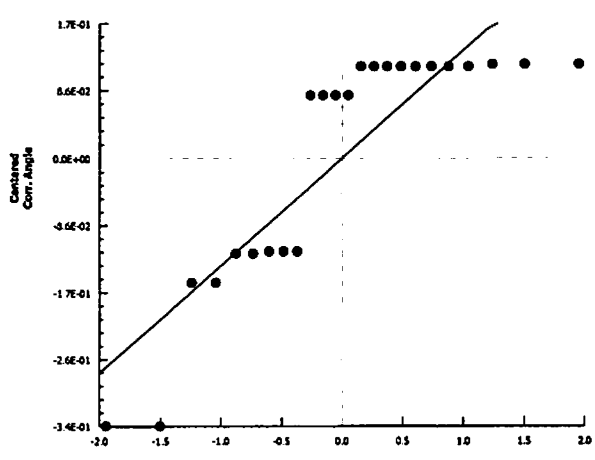
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
25		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	3.57%
50		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	3.57%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
25		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	2.91%
50		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	2.91%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.14%

Graphics





Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	08-4384-1037	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:19	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	3.201	1.383	9	CDF	0.0054	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0047257	0.0047257	1	0.2941	0.5995	Non-Significant Effect
Error	0.160672	0.0160672	10			
Total	0.165398		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.125	14.94	0.9003	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7633	0.8025	0.0037	Non-Normal Distribution

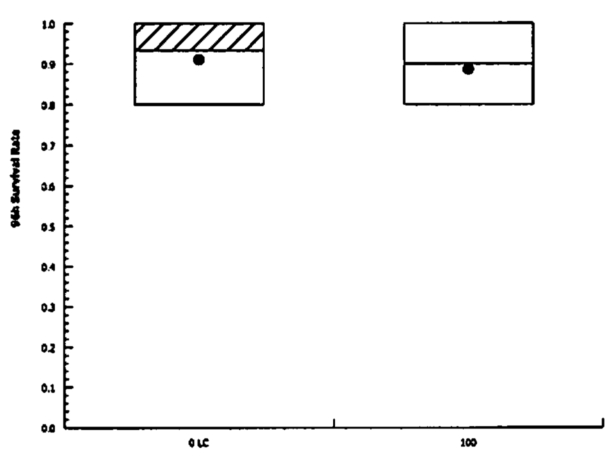
96h Survival Rate Summary

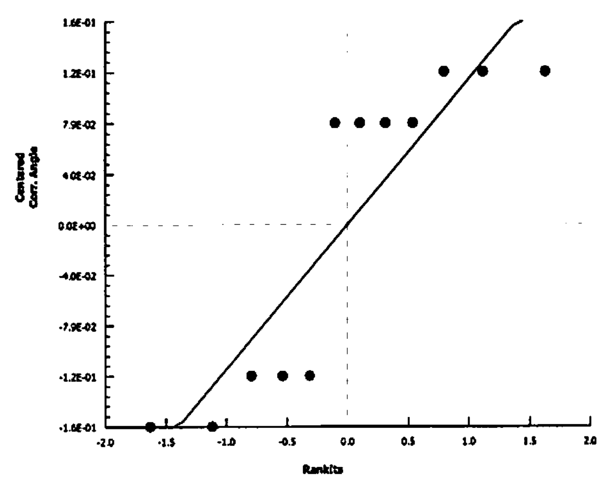
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.14%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-5
Test No. 21-08-017

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1600
End Date/Time: 8/29/21 1400

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #3	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	4	4
	D	5	5	5	5	5
	E	5	5	5	4	4
	F	5	5	5	5	5
25	A	5	5	5	5	5
	B	5	5	4	4	4
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	4	3	3
	F	5	5	5	5	5
50	A	5	5	4	3	3
	B	5	5	4	4	4
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
100	A	5	5	5	4	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	4	4
	F	5	5	5	4	4
	A					
	B					
	C					
	D					
	E					
	F					
	Tech Initials:	SC	AG	AG	SC	AG

Sample ID (%)	Water Quality Parameter	0	24	48f	48i	72	96
LC #3	Temp. (°C)	20.5	20.2	20.4	20.6	20.7	20.6
	Salinity (ppt)	34.4	34.5	34.5	34.1	34.6	34.5
	pH (units)	7.97	7.85	7.74	7.95	7.72	7.75
	DO (mg/L)	7.2	6.6	6.1	7.0	6.2	6.2
25	Temp. (°C)	20.5	20.3	20.7	20.5	20.7	20.6
	Salinity (ppt)	34.5	34.6	34.6	34.2	34.6	34.5
	pH (units)	7.96	7.85	7.74	7.93	7.71	7.70
	DO (mg/L)	7.3	6.6	6.1	7.2	6.2	6.2
50	Temp. (°C)	20.6	20.2	20.4	20.5	20.6	20.5
	Salinity (ppt)	34.5	34.4	34.6	34.2	34.6	34.5
	pH (units)	7.94	7.85	7.74	7.92	7.71	7.70
	DO (mg/L)	7.4	6.5	6.2	7.4	6.1	6.1
100	Temp. (°C)	20.8	20.3	20.5	20.5	20.6	20.5
	Salinity (ppt)	34.6	34.6	34.7	34.3	34.7	34.7
	pH (units)	7.90	7.84	7.74	7.90	7.71	7.71
	DO (mg/L)	7.5	6.5	6.3	8.1	6.2	6.1
	Temp. (°C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
	Tech Initials:	SC	AG	AG	AG	SC	AG

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13 d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AG	SC	SC
Initials (PM):					

Comments:

QC Check: SC 8/31/21

Final Review: BCS 11-16-21

CETIS Summary Report

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Batch ID:	00-2818-8388	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	25 Aug-21 16:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	29 Aug-21 14:15	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	94h	**Source:**	Aquatic Biosystems, CO	**Age:**	13d

Sample ID:	00-8314-9833	**Code:**	21-W153	**Client:**	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 09:15	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	**Source:**	Shelter Island Yacht Basin		
Sample Age:	31h	**Station:**	SIYB 6		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
00-2998-5463	96h Survival Rate	TST-Welch's t Test	2.9E-04	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
01-7295-5522	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	12.7%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	0.00%
25		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	-3.57%
50		6	0.8667	0.7583	0.9751	0.8000	1.0000	0.0422	0.1033	11.92%	7.14%
100		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	-3.57%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	1.0000	1.0000	0.8000	1.0000	0.8000	1.0000
25		0.8000	1.0000	1.0000	1.0000	1.0000	1.0000
50		0.8000	1.0000	0.8000	1.0000	0.8000	0.8000
100		1.0000	0.8000	1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 31 Aug-21 10:25 (p 1 of 2)
Test Code: 21-08-018 | 02-1534-7122

Pacific Topsmelt 96-h Acute Survival Test Wood E&IS

Analysis ID:	01-7295-5522	Endpoint:	96h Survival Rate	CETIS Version:	CETISv1.9.3
Analyzed:	31 Aug-21 10:25	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	12.73%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	25	42	26	2	10	Asymp	0.8900	Non-Significant Effect
	50	33	26	2	10	Asymp	0.3382	Non-Significant Effect
	100	42	26	2	10	Asymp	0.8900	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0567079	0.0189026	3	1.538	0.2354	Non-Significant Effect
Error	0.245734	0.0122867	20			
Total	0.302442		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.5052	11.34	0.9178	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8716	0.884	0.0056	Non-Normal Distribution

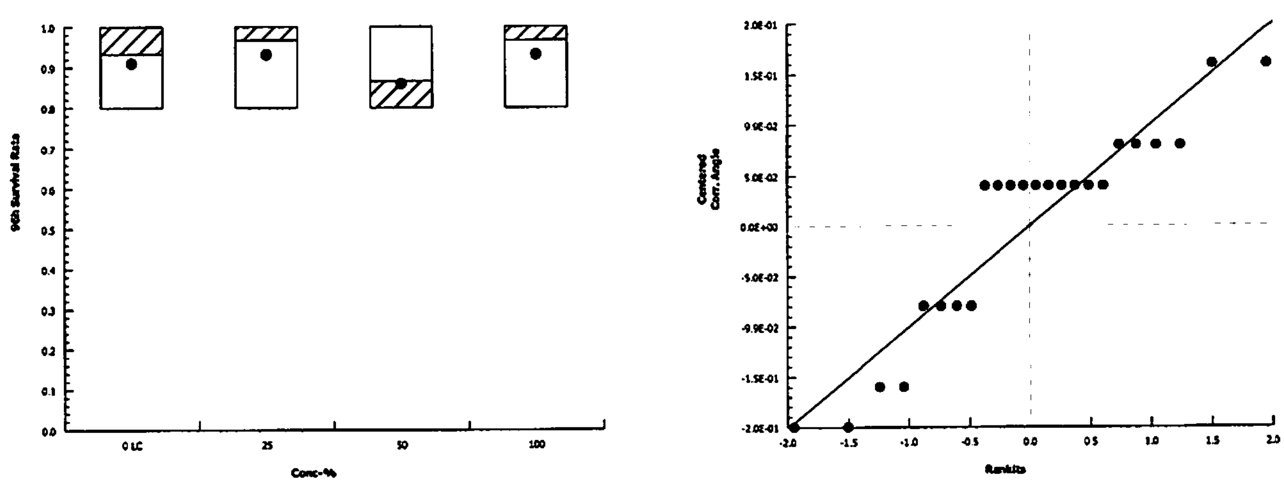
96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
25		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	-3.57%
50		6	0.8667	0.7583	0.9751	0.8000	0.8000	1.0000	0.0422	11.92%	7.14%
100		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	-3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
25		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	-3.14%
50		6	1.187	1.057	1.316	1.107	1.107	1.345	0.0502	10.36%	6.27%
100		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	-3.14%

Graphics



Analyst: SC QA: BCS

CETIS Analytical Report

Report Date:	31 Aug-21 10:25 (p 2 of 2)
Test Code:	21-08-018 | 02-1534-7122

Pacific Topsmelt 96-h Acute Survival Test					**Wood E&IS**
Analysis ID:	00-2998-5463	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:25	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	5.187	1.383	9	CDF	2.9E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0047257	0.0047257	1	0.3846	0.5490	Non-Significant Effect
Error	0.122867	0.0122867	10			
Total	0.127593		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.6	14.94	0.6186	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7008	0.8025	8.6E-04	Non-Normal Distribution

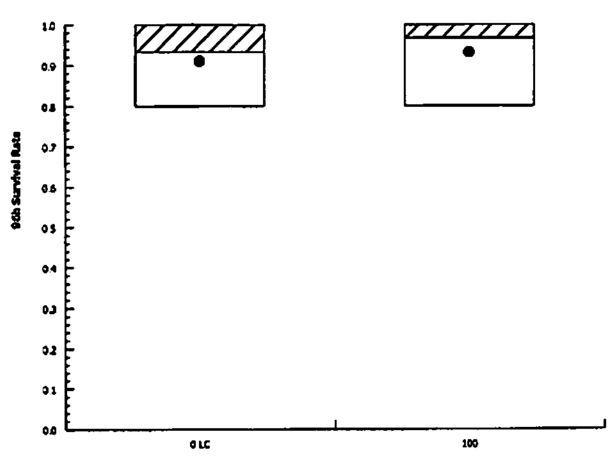
96h Survival Rate Summary

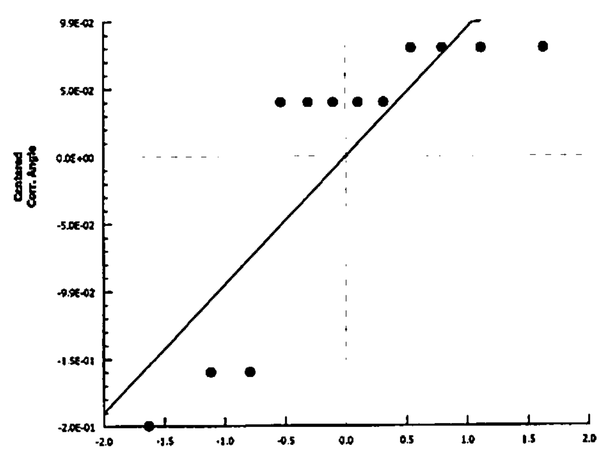
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
100		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	-3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
100		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	-3.14%

Graphics





Analyst: SC QA: BCS

96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-6
Test No. 21-08-018

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1615
End Date/Time: 8/29/21 1415

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #3	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	4	4
	D	5	5	5	5	5
	E	5	5	5	4	4
	F	5	5	5	5	5
25	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
50	A	5	5	4	4	4
	B	5	5	5	5	5
	C	5	5	5	4	4
	D	5	5	5	5	5
	E	5	5	4	4	4
	F	5	5	5	4	4
100	A	5	5	5	5	5
	B	5	5	5	5	4
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
	A					
	B					
	C					
	D					
	E					
	F					
	Tech Initials:	SC	AG	AF	SC	AG

Water Quality Parameter	0	24	48f	48i	72	96
Temp. (°C)	20.5	20.2	20.4	20.6	20.7	20.6
Salinity (ppt)	34.4	34.5	34.5	34.1	34.6	34.5
pH (units)	7.97	7.85	7.75	7.95	7.72	7.75
DO (mg/L)	7.2	6.6	6.1	7.0	6.2	6.2
Temp. (°C)	20.5	20.2	20.7	20.5	20.7	20.6
Salinity (ppt)	34.4	34.5	34.5	34.1	34.7	34.6
pH (units)	7.99	7.85	7.75	7.91	7.71	7.74
DO (mg/L)	7.3	6.6	6.2	7.3	6.2	6.1
Temp. (°C)	20.6	20.2	20.7	20.4	20.6	20.5
Salinity (ppt)	34.5	34.5	34.6	34.1	34.6	34.6
pH (units)	7.92	7.85	7.75	7.91	7.71	7.74
DO (mg/L)	7.3	6.7	6.2	7.5	6.2	6.1
Temp. (°C)	20.8	20.2	20.7	20.3	20.6	20.5
Salinity (ppt)	34.6	34.6	34.7	34.2	34.6	34.6
pH (units)	7.89	7.83	7.74	7.90	7.70	7.74
DO (mg/L)	7.4	6.6	6.3	7.9	6.2	6.2
Temp. (°C)						
Salinity (ppt)						
pH (units)						
DO (mg/L)						
Tech Initials:	SC	AG	AG	AG	SC	AG

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AF	SC	SC
Initials (PM):					

Comments:

QC Check: JC 8/31/21

Final Review: BCS 11-16-21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

CETIS Summary Report

Report Date: 31 Aug-21 10:33 (p 1 of 1)
Test Code: 21-08-019 | 14-2628-2402

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	00-2551-0481	Test Type:	Survival (96h)	Analyst:	
Start Date:	25 Aug-21 16:30	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Natural Seawater
Ending Date:	29 Aug-21 14:35	Species:	Atherinops affinis	Brine:	Not Applicable
Duration:	94h	Source:	Aquatic Biosystems, CO	Age:	13d

Sample ID:	08-0466-4703	Code:	21-W154	Client:	Wood Environment and Infrastructure
Sample Date:	24 Aug-21 08:15	Material:	Ambient Sample	Project:	SIYB TMDL Monitoring
Receipt Date:	24 Aug-21 17:20	Source:	Shelter Island Yacht Basin		
Sample Age:	32h	Station:	SIYB REF1		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
12-9613-0106	96h Survival Rate	TST-Welch's t Test	0.0143	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
10-2500-2072	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	15.5%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9333	0.7620	1.0000	0.6000	1.0000	0.0667	0.1633	17.50%	0.00%
25		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	-3.57%
50		6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	0.00%
100		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	3.57%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.6000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	0.8000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	0.8000	1.0000	0.8000	1.0000
100		1.0000	0.8000	0.8000	1.0000	1.0000	0.8000

CETIS Analytical Report

Report Date: 31 Aug-21 10:33 (p 1 of 2)
Test Code: 21-08-019 | 14-2628-2402

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Analysis ID:	10-2500-2072	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:32	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	15.47%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	39.5	26	1	10	Asymp	0.7782	Non-Significant Effect
		50	37	26	1	10	Asymp	0.6212	Non-Significant Effect
		100	34.5	26	1	10	Asymp	0.4419	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.018939	0.0063130	3	0.3291	0.8043	Non-Significant Effect
Error	0.383654	0.0191827	20			
Total	0.402593		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.124	11.34	0.5470	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7782	0.884	1.3E-04	Non-Normal Distribution

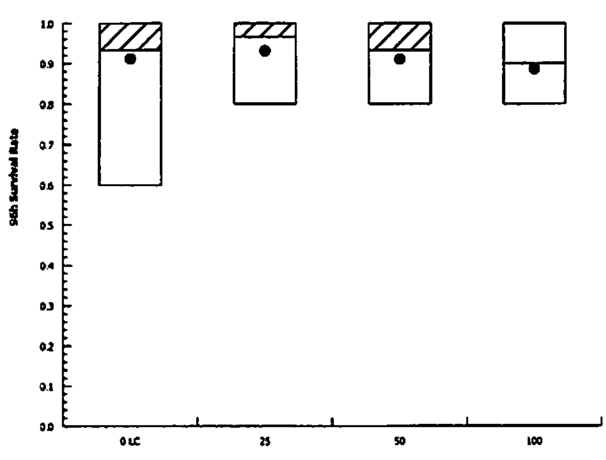
96h Survival Rate Summary

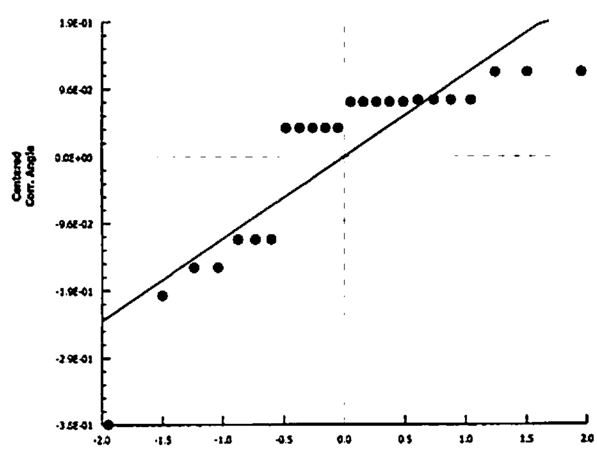
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.7620	1.0000	1.0000	0.6000	1.0000	0.0667	17.50%	0.00%
25		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	-3.57%
50		6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.269	1.072	1.465	1.345	0.8861	1.345	0.07653	14.78%	0.00%
25		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	-2.90%
50		6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.22%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.35%

Graphics





Pacific Topsmelt 96-h Acute Survival Test					Wood E&IS
Analysis ID: 12-9613-0106	**Endpoint:** 96h Survival Rate		**CETIS Version:** CETISv1.9.3		
Analyzed: 31 Aug-21 10:32	**Analysis:** Parametric Bioequivalence-Two Sample		**Official Results:** Yes		

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	2.603	1.383	9	CDF	0.0143	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0054271	0.0054271	1	0.2081	0.6580	Non-Significant Effect
Error	0.260787	0.0260787	10			
Total	0.266214		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.066	14.94	0.4448	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.745	0.8025	0.0024	Non-Normal Distribution

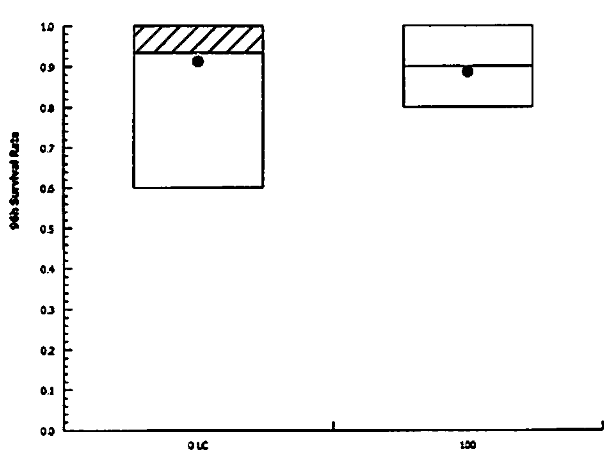
96h Survival Rate Summary

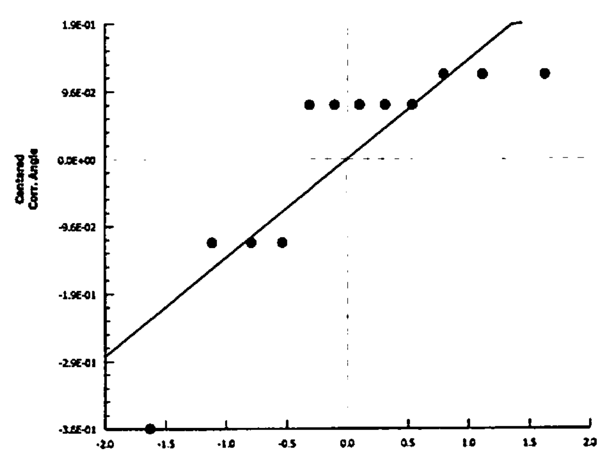
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.7620	1.0000	1.0000	0.6000	1.0000	0.0667	17.50%	0.00%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.269	1.072	1.465	1.345	0.8861	1.345	0.07653	14.78%	0.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.35%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-REF-1
Test No. 21-08-019

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1630
End Date/Time: 8/29/21 1435

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #4	A	5	5	4	3	3
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	5	5
	B	5	5	5	4	4
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
50	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	4
	D	5	5	5	5	5
	E	5	5	5	4	4
	F	5	5	5	5	5
100	A	5	5	5	5	5
	B	5	5	5	4	4
	C	5	5	5	4	4
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	4	4
	A					
	B					
	C					
	D					
	E					
	F					
Tech Initials:		SC	AB	AB	SC	AB

Water Quality Parameter	0	24	48f	48l	72	96
Temp. (°C)	20.5	20.2	20.5	20.6	20.4	20.5
Salinity (ppt)	34.3	34.4	34.6	34.2	34.6	34.5
pH (units)	7.95	7.87	7.74	7.92	7.73	7.76
DO (mg/L)	7.2	6.5	6.5	6.9	6.3	6.2
Temp. (°C)	20.5	20.1	20.5	20.3	20.3	20.4
Salinity (ppt)	34.4	34.5	34.6	34.2	34.7	34.7
pH (units)	7.95	7.81	7.73	7.92	7.72	7.74
DO (mg/L)	7.3	6.6	6.1	7.2	6.2	6.1
Temp. (°C)	20.6	20.2	20.5	20.2	20.3	20.4
Salinity (ppt)	34.5	34.5	34.7	34.1	34.7	34.8
pH (units)	7.93	7.86	7.72	7.90	7.72	7.73
DO (mg/L)	7.4	6.6	5.9	7.4	6.7	6.1
Temp. (°C)	20.8	20.1	20.4	20.2	20.1	20.
Salinity (ppt)	34.5	34.6	34.7	34.1	34.8	34.8
pH (units)	7.90	7.85	7.71	7.89	7.72	7.73
DO (mg/L)	7.5	6.6	5.9	7.9	6.3	6.1
Temp. (°C)						
Salinity (ppt)						
pH (units)						
DO (mg/L)						
Tech Initials:	SC	AB	AB	AB	SC	AB

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13 d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AB	SC	SC
Initials (PM):					

Comments:

QC Check: SC 8/31/21

Final Review: BCS 11-16-21

APPENDIX C

List of Data Qualifier Codes

Data Qualifier Codes

QC1: Temperatures out of recommended range; corrective action taken

QC2: Temperatures out of recommended range; no action taken, test terminated

QC3: Test initiated on aeration due to anticipated drop in dissolved oxygen

QC4: Dissolved oxygen percent saturation <110

QC5: Survival counts not recorded due to poor visibility

QC6: Inadequate sample volume remaining; 50% renewal performed

QC7: Inadequate sample volume remaining; no renewal performed

APPENDIX D
Sample Receipt Information
& Chain of Custody Form

Sample Check-In: Effluent/Water

Wood Aquatic Toxicology Laboratory
4905 Morena Blvd, Ste. 1304
San Diego, CA 92117

Client: POSD - SIYB
Project Name: SIYB TMDL - Summer Monitoring
Test ID Numbers: 21-08-013 to 026

Sample ID:	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1	
Sample Number:	21-W148	21-W149	21-W150	21-W151	21-W152	21-W153	21-W154	
Collection Date/Time:	8/24/21 1425	8/24/21 1325	8/24/21 1230	8/24/21 1130	8/24/21 1030	8/24/21 0915	8/24/21 0815	
Receipt Date/Time:	8/24/21 1720	→	→	→	→	→	→	
Total Sample Volume (L):	28L	14L	14L	14L	14L	14L	14L	
Receipt Temp (°C):	7.8	6.6	11.4	7.5	5.9	16.5	6.5	
Appropriate Temp (Y/N)[1]:	Y	Y	Y	Y	Y	Y	Y	
pH (units):	7.93	7.95	7.93	7.94	7.91	7.86	7.90	
DO (mg/L):	7.8	7.9	7.7	7.8	7.9	7.3	8.1	
Conductivity (µS/cm)[2]:	–	–	–	–	–	–	–	
Salinity (ppt):	34.4	34.5	34.5	34.5	34.9	34.9	34.8	
Alkalinity (mg/L):	113	108	107	110	115	111	116	
Hardness (mg/L)[2]:	–	–	–	–	–	–	–	
Total Chlorine (mg/L)[3]:	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Free Chlorine (mg/L)[3]:	–	–	–	–	–	–	–	
Technician Initials:	AG/SC	AG/SC	AG/SC	AG/SC	AG/SC	AG/SC	AG/SC	

Notes:

[1] Temperature should be 0 - 6°C if received > 24 hours past collection

[2] Only measured on samples with less than 3 ppt salinity

[3] If total chlorine is above 0.10 mg/L, the free chlorine will be measured

[4] Debris, odor, and color is described only if observed in the sample

Sample Descriptions[4]:
All 7 samples = clear + colorless

Test Organism: Mussels/Topsmelt Dilution Water: Nat-SW, Art-SW, RW, DMW, Other________ Salinity 34 ppt

Additional Control:________ Salinity________

Initial QC: JC 8/31/21

Final Review: BCS 11-16-21

wood.

Wood Aquatic Toxicology Lab
4905 Morena Blvd, Ste. 1304
San Diego, CA 92117
Phone: (858) 299-5368

Chain of Custody Form

Page 1 of 1

Client/Send Report To:

Company: Wood E & I Solutions, Inc.
Address: 9177 Sky Park Court
San Diego, CA 92123
Contact/PM: Marisa Swiderski
Phone Number: (808)772-8740
Email Address: marisa.swiderski@woodplc.com

Project Information (if needed):

Project Name: 2021 SIYB TMDL Summer Monitoring
Project No.: 2015100111
PO Number:

Personal Cooler Shipped:
Return Requested: YES____ NO____.

Analysis Requested (write out or use codes below)

Sample ID	Collection Date	Collection Time	Sample Volume	Sample Type: Grab/Comp.	Sample Number (for lab use)	Aa-a	Mg-dv	TIE					Receipt Temp (°C)
SIYB-1	8/24/2021	1425	28L	Grab		X	X	X					7.8
SIYB-2	8/24/2021	1325	14L	Grab		X	X						6.6
SIYB-3	8/24/2021	1230	14L	Grab		X	X						11.4
SIYB-4	8/24/2021	1130	14L	Grab		X	X						7.5
SIYB-5	8/24/2021	1030	14L	Grab		X	X						5.9
SIYB-6	8/24/2021	0915	14L	Grab		X	X						16.5
SIYB-REF-1	8/24/2021	0815	14L	Grab		X	X						6.5

Samples Collected By:
MS/KB

Additional Comments: Concurrent ref. tox. test for both species (copper concentrations of 0, 25, 50, 100, 200, 400 ug/L for topsmelt and 0, 2.5, 5.0, 10, 20 and 40 µg/L for bivalve).
Topsmelt tests at 3 concentrations (25, 50, 100%) and a control; 6 reps/sample.
Bivalve tests at 5 concentrations (6.25, 12.5, 25, 50, and 100%), and a control; and a 100% filtered undiluted sample (Look for Noctiluca sp.); 5 reps/sample.

Samples Shipped via: Hand Delivered
Condition Upon Receipt: Good

Relinquished/Shipped By:	Received By:	Relinquished By:	Received By:
Signature: Marisa Swiderski	Signature: [signature]	Signature:	Signature:
Print Name: Marisa Swiderski	Print Name: Alexi Gabriel	Print Name:	Print Name:
Date/Time: 08/24/2021 1720	Date/Time: 8/24/21 1720	Date/Time:	Date/Time:

Test Codes (marine):

Mp-c: Chronic Kelp
Hr-dv: Chronic Abalone
Aa-a: Acute Topsmelt
Aa-c: Chronic Topsmelt
Mb-a: Acute Menidia/Silverside
Mb-c: Chronic Menidia/Silverside
Ab-a: Acute Mysid Shrimp
Ab-c: Chronic Mysid Shrimp
Sp-c: Chronic Urchin Fertilization
Sp-dv: Chronic Urchin Development
Mg-dv: Chronic Mussel Development
Other: Write out the test organism

Test Codes (freshwater):

Cd-a: Acute Ceriodaphnia
Cd-c: Chronic Ceriodaphnia
Pp-a: Acute Fathead Minnow
Pp-c: Chronic Fathead Minno
Sc-c: Chronic Green Algae
Ha-a: Acute Hyalella amphipod
Ha-c: Chronic Hyalella amphipod
T-22: CA Title 22 Hazardous Waste

APPENDIX E

Reference Toxicant Test

Statistical Analysis, Control Chart, and Raw Data

Chronic Mussel

Reference Toxicant Test

CETIS Summary Report

Bivalve Larval Survival and Development Test	Wood E&IS

Batch ID:	00-7871-1993	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	25 Aug-21 16:50	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Diluted Natural Seawater
Ending Date:	27 Aug-21 15:00	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	46h	**Source:**	Field Collected	**Age:**	

Sample ID:	09-4865-9728	**Code:**	210825mgrd	**Client:**	Internal
Sample Date:	25 Aug-21	**Material:**	Total Copper	**Project:**	
Receipt Date:	25 Aug-21	**Source:**	Reference Toxicant		
Sample Age:	17h	**Station:**			

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
05-7223-3377	Combined Proportion Norma	Dunnett Multiple Comparison Test	5	10	7.071		5.57%
21-0463-2870	Proportion Normal	Dunnett Multiple Comparison Test	< 2.5	2.5	n/a		2.5% ✓
09-4740-4198	Survival Rate	Steel Many-One Rank Sum Test	20	40	28.28		16.7%

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU ✓
09-6353-7527	Combined Proportion Norma	Trimmed Spearman-Kärber	EC50	7.088	7.037	7.139	

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
21-0463-2870	Proportion Normal	Control Resp	0.9022	0.9	>>	Yes	Passes Criteria
09-4740-4198	Survival Rate	Control Resp	0.9746	0.5	>>	Yes	Passes Criteria
05-7223-3377	Combined Proportion Norma	PMSD	0.05574	<<	0.25	No	Passes Criteria

Combined Proportion Normal Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8795	0.8363	0.9227	0.8238	0.9137	0.0156	0.0348	3.96%	0.00%
2.5		5	0.8369	0.7849	0.8888	0.7787	0.8852	0.0187	0.0418	5.00%	4.84%
5		5	0.8454	0.7859	0.9048	0.7787	0.8902	0.0214	0.0479	5.66%	3.88%
10		5	0.0434	0.0335	0.0534	0.0328	0.0533	0.0036	0.0080	18.39%	95.06%
20		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Proportion Normal Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9022	0.8901	0.9143	0.8894	0.9137	0.0044	0.0097	1.08%	0.00%
2.5		5	0.8708	0.8509	0.8907	0.8482	0.8926	0.0072	0.0160	1.84%	3.48%
5		5	0.8626	0.8290	0.8962	0.8190	0.8902	0.0121	0.0271	3.14%	4.39%
10		5	0.0486	0.0383	0.0588	0.0410	0.0583	0.0037	0.0083	17.03%	94.62%
20		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9746	0.9378	1.0000	0.9262	1.0000	0.0132	0.0296	3.04%	0.00%
2.5		5	0.9607	0.9215	0.9998	0.9180	0.9918	0.0141	0.0316	3.29%	1.43%
5		5	0.9795	0.9446	1.0000	0.9467	1.0000	0.0126	0.0281	2.87%	-0.50%
10		5	0.8951	0.8033	0.9869	0.7951	1.0000	0.0331	0.0739	8.26%	8.16%
20		5	0.7270	0.2613	1.0000	0.0615	0.9385	0.1677	0.3751	51.59%	25.40%
40		5	0.0590	0.0473	0.0707	0.0492	0.0738	0.0042	0.0094	15.99%	93.94%

Analyst: SC QA: BCS

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8730	0.8238	0.9137	0.8852	0.9016
2.5		0.7787	0.8852	0.8279	0.8238	0.8689
5		0.7787	0.8115	0.8902	0.8715	0.8750
10		0.0533	0.0410	0.0492	0.0328	0.0410
20		0.0000	0.0000	0.0000	0.0000	0.0000
40		0.0000	0.0000	0.0000	0.0000	0.0000

Proportion Normal Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9025	0.8894	0.9137	0.8963	0.9091
2.5		0.8482	0.8926	0.8670	0.8701	0.8760
5		0.8190	0.8571	0.8902	0.8715	0.8750
10		0.0583	0.0459	0.0563	0.0412	0.0410
20		0.0000	0.0000	0.0000	0.0000	0.0000
40		0.0000	0.0000	0.0000	0.0000	0.0000

Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9672	0.9262	1.0000	0.9877	0.9918
2.5		0.9180	0.9918	0.9549	0.9467	0.9918
5		0.9508	0.9467	1.0000	1.0000	1.0000
10		0.9139	0.8934	0.8730	0.7951	1.0000
20		0.8689	0.8279	0.9385	0.9385	0.0615
40		0.0738	0.0574	0.0492	0.0533	0.0615

Combined Proportion Normal Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	213/244	201/244	233/255	216/244	220/244
2.5		190/244	216/244	202/244	201/244	212/244
5		190/244	198/244	219/246	217/249	217/248
10		13/244	10/244	12/244	8/244	10/244
20		0/244	0/244	0/244	0/244	0/244
40		0/244	0/244	0/244	0/244	0/244

Proportion Normal Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	213/236	201/226	233/255	216/241	220/242
2.5		190/224	216/242	202/233	201/231	212/242
5		190/232	198/231	219/246	217/249	217/248
10		13/223	10/218	12/213	8/194	10/244
20		0/212	0/202	0/229	0/229	0/15
40		0/18	0/14	0/12	0/13	0/15

Survival Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	236/244	226/244	244/244	241/244	242/244
2.5		224/244	242/244	233/244	231/244	242/244
5		232/244	231/244	244/244	244/244	244/244
10		223/244	218/244	213/244	194/244	244/244
20		212/244	202/244	229/244	229/244	15/244
40		18/244	14/244	12/244	13/244	15/244

CETIS Analytical Report

Report Date:	12 Oct-21 18:13 (p 1 of 4)
Test Code:	210825mgrd | 01-4286-8892

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	05-7223-3377	Endpoint:	Combined Proportion Normal	CETIS Version:	CETISv1.9.3
Analyzed:	12 Oct-21 18:13	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	5	10	7.071		5.57%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		2.5	1.888	2.227	0.072	8	CDF	0.0912	Non-Significant Effect
		5	1.504	2.227	0.072	8	CDF	0.1688	Non-Significant Effect
		10*	31.09	2.227	0.072	8	CDF	7.0E-07	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.55877	1.18626	3	450	<1.0E-37	Significant Effect
Error	0.0421782	0.0026361	16			
Total	3.60095		19			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	4.389	11.34	0.2224	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9463	0.866	0.3145	Normal Distribution

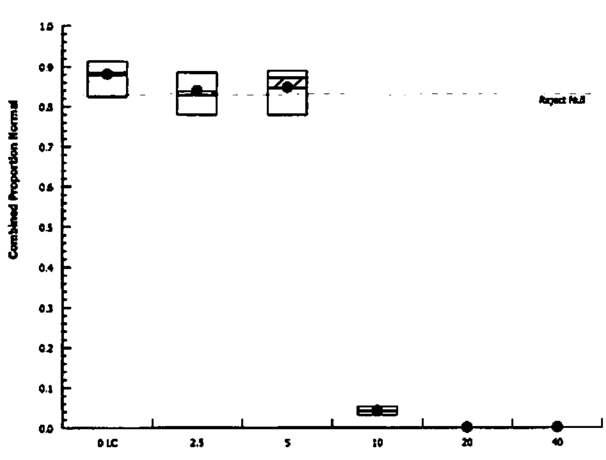
Combined Proportion Normal Summary

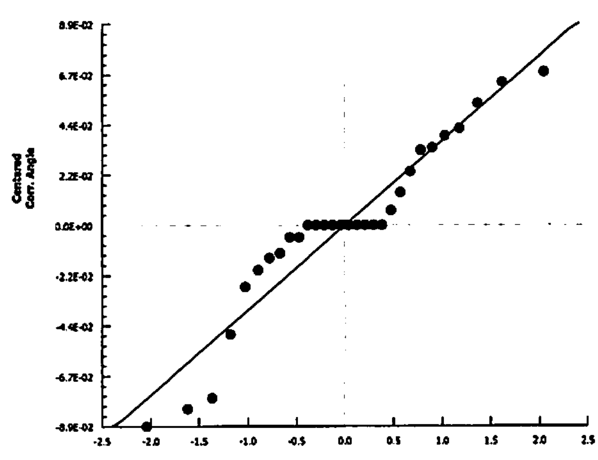
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8795	0.8363	0.9227	0.8852	0.8238	0.9137	0.0156	3.96%	0.00%
2.5		5	0.8369	0.7849	0.8888	0.8279	0.7787	0.8852	0.0187	5.00%	4.84%
5		5	0.8454	0.7859	0.9048	0.8715	0.7787	0.8902	0.0214	5.66%	3.88%
10		5	0.0434	0.0335	0.0534	0.0410	0.0328	0.0533	0.0036	18.39%	95.06%
20		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Angular (Corrected) Transformed Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.219	1.154	1.283	1.225	1.138	1.273	0.02322	4.26%	0.00%
2.5		5	1.157	1.087	1.228	1.143	1.081	1.225	0.02537	4.90%	5.03%
5		5	1.17	1.089	1.251	1.204	1.081	1.233	0.02912	5.57%	4.01%
10		5	0.2093	0.1847	0.2338	0.2039	0.1821	0.2329	0.008842	9.45%	82.83%
20		5	0.03201	0.03201	0.03202	0.03201	0.03201	0.03201	0	0.00%	97.37%
40		5	0.03201	0.03201	0.03202	0.03201	0.03201	0.03201	0	0.00%	97.37%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID: 21-0463-2870	Endpoint: Proportion Normal	CETIS Version:	CETISv1.9.3
Analyzed: 12 Oct-21 18:12	Analysis: Parametric-Control vs Treatments	Official Results:	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	< 2.5	2.5	n/a		2.50%

Dunnett Multiple Comparison Test

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		2.5*	3.018	2.227	0.036	8	CDF	0.0107	Significant Effect
		5*	3.711	2.227	0.036	8	CDF	0.0026	Significant Effect
		10*	62.98	2.227	0.036	8	CDF	7.0E-07	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.72116	1.24039	3	1850	<1.0E-37	Significant Effect
Error	0.0107287	0.0006705	16			
Total	3.73189		19			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.23	11.34	0.3575	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9693	0.866	0.7408	Normal Distribution

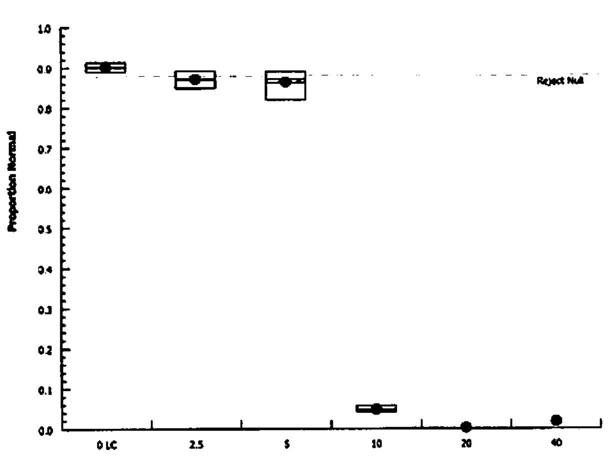
Proportion Normal Summary

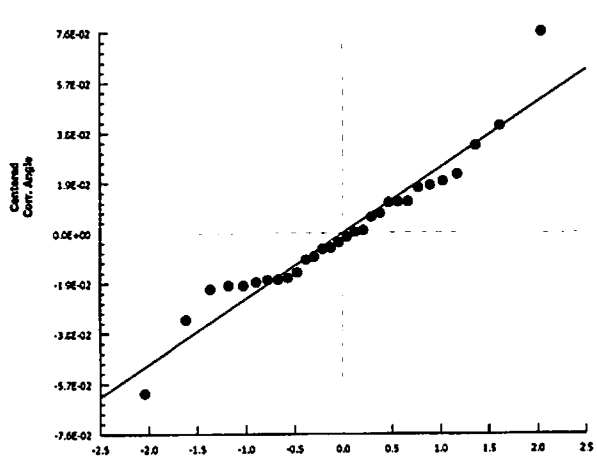
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9022	0.8901	0.9143	0.9025	0.8894	0.9137	0.0044	1.08%	0.00%
2.5		5	0.8708	0.8509	0.8907	0.8701	0.8482	0.8926	0.0072	1.84%	3.48%
5		5	0.8626	0.8290	0.8962	0.8715	0.8190	0.8902	0.0121	3.14%	4.39%
10		5	0.0486	0.0383	0.0588	0.0459	0.0410	0.0583	0.0037	17.03%	94.62%
20		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Angular (Corrected) Transformed Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.253	1.233	1.273	1.253	1.232	1.273	0.007329	1.31%	0.00%
2.5		5	1.204	1.174	1.233	1.202	1.171	1.237	0.0107	1.99%	3.94%
5		5	1.192	1.145	1.24	1.204	1.131	1.233	0.01718	3.22%	4.85%
10		5	0.2215	0.1978	0.2453	0.2158	0.2039	0.2439	0.008549	8.63%	82.32%
20		5	0.05302	-5.43E-05	0.1061	0.03435	0.03305	0.1295	0.01912	80.62%	95.77%
40		5	0.1331	0.1205	0.1457	0.134	0.1181	0.1448	0.004542	7.63%	89.38%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-4740-4198	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 18:12	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	20	40	28.28		16.70%

Steel Many-One Rank Sum Test

Control vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	2.5	24	16	1	8	Asymp	0.5394	Non-Significant Effect
	5	30.5	16	1	8	Asymp	0.9573	Non-Significant Effect
	10	19.5	16	1	8	Asymp	0.1589	Non-Significant Effect
	20	17	16	0	8	Asymp	0.0549	Non-Significant Effect
	40*	15	16	0	8	Asymp	0.0191	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	5.3829	1.07658	5	24.92	<1.0E-37	Significant Effect
Error	1.03695	0.0432063	24			
Total	6.41985		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	30.1	15.09	1.4E-05	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7656	0.9031	1.6E-05	Non-Normal Distribution

Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9746	0.9378	1.0000	0.9877	0.9262	1.0000	0.0132	3.04%	0.00%
2.5		5	0.9607	0.9215	0.9998	0.9549	0.9180	0.9918	0.0141	3.29%	1.43%
5		5	0.9795	0.9446	1.0000	1.0000	0.9467	1.0000	0.0126	2.87%	-0.50%
10		5	0.8951	0.8033	0.9869	0.8934	0.7951	1.0000	0.0331	8.26%	8.16%
20		5	0.7270	0.2613	1.0000	0.8689	0.0615	0.9385	0.1677	51.59%	25.40%
40		5	0.0590	0.0473	0.0707	0.0574	0.0492	0.0738	0.0042	15.99%	93.94%

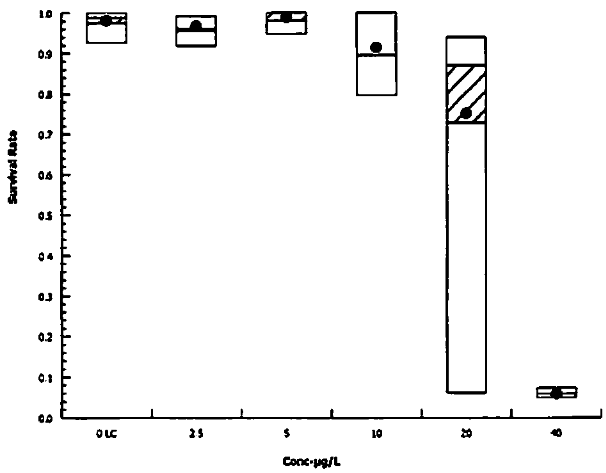
Angular (Corrected) Transformed Summary

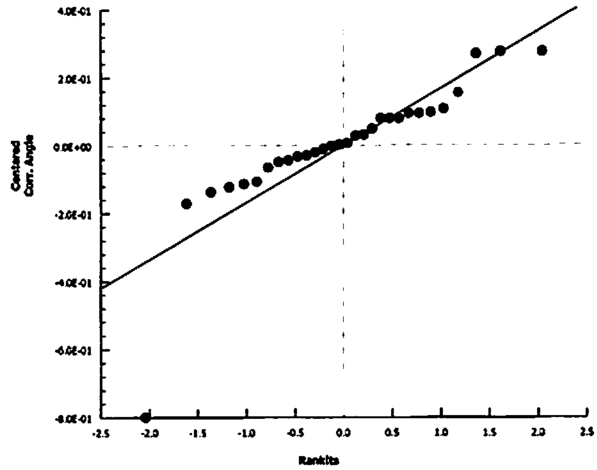
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.433	1.317	1.549	1.46	1.296	1.539	0.04179	6.52%	0.00%
2.5		5	1.387	1.276	1.498	1.357	1.28	1.48	0.04002	6.45%	3.18%
5		5	1.46	1.327	1.594	1.539	1.338	1.539	0.0481	7.36%	-1.93%
10		5	1.271	1.07	1.473	1.238	1.101	1.539	0.07275	12.79%	11.25%
20		5	1.047	0.4859	1.608	1.2	0.2506	1.32	0.202	43.15%	26.93%
40		5	0.2448	0.2204	0.2692	0.2419	0.2236	0.2751	0.008795	8.03%	82.91%

Bivalve Larval Survival and Development Test | **Wood E&IS**

Analysis ID:	09-4740-4198	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	12 Oct-21 18:12	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Report Date:	12 Oct-21 18:13 (p 1 of 1)
Test Code:	210825mgrd | 01-4286-8892

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-6353-7527	Endpoint:	Combined Proportion Normal	CETIS Version:	CETISv1.9.3
Analyzed:	12 Oct-21 18:13	Analysis:	Trimmed Spearman-Kärber	Official Results:	Yes

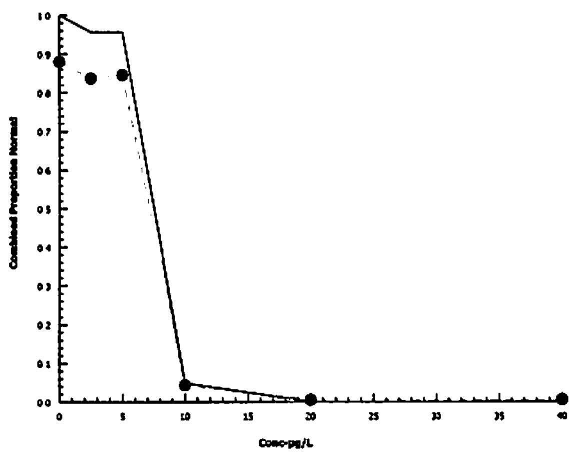
Trimmed Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0.1202	4.38%	0.8505	0.001571	7.088	7.037	7.139

Combined Proportion Normal Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	LC	5	0.8795	0.8238	0.9137	0.0348	3.96%	0.0%	1083/1231	0.8795	0.0%
2.5		5	0.8369	0.7787	0.8852	0.0418	5.00%	4.84%	1021/1220	0.8411	4.36%
5		5	0.8454	0.7787	0.8902	0.0479	5.66%	3.88%	1041/1231	0.8411	4.36%
10		5	0.0434	0.0328	0.0533	0.0080	18.39%	95.06%	53/1220	0.04344	95.06%
20		5	0.0000	0.0000	0.0000	0.0000		100.0%	0/1220	0	100.0%
40		5	0.0000	0.0000	0.0000	0.0000		100.0%	0/1220	0	100.0%

Graphics



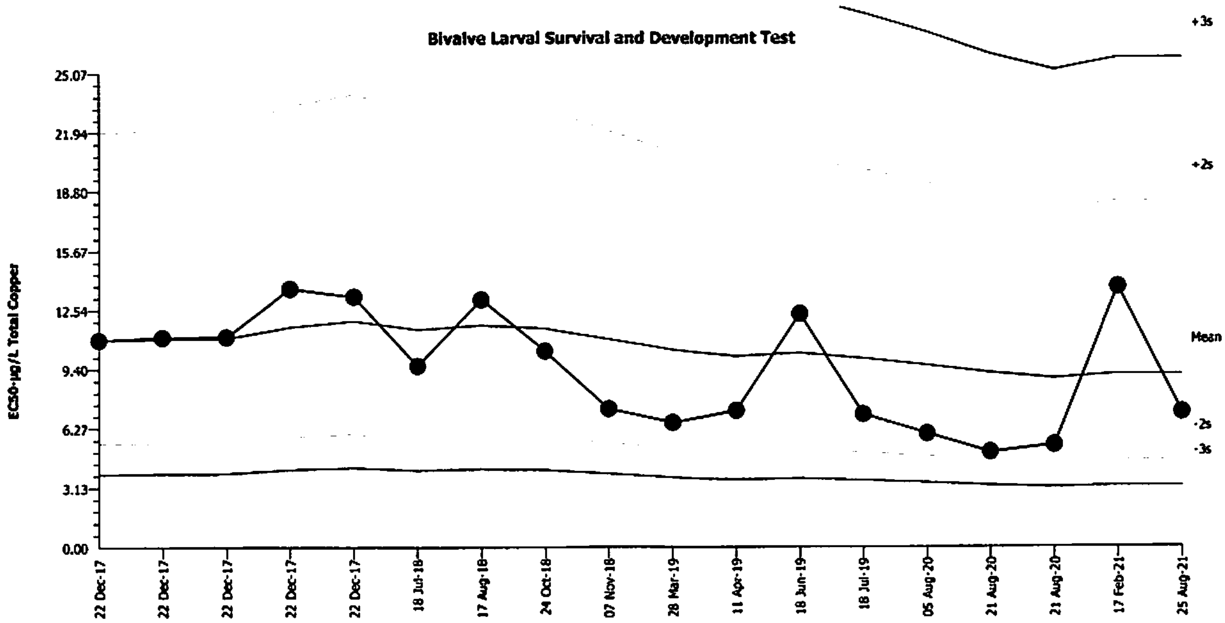
Analyst: SC QA: BCS

CETIS QC Plot

Report Date: 12 Oct-21 18:16 (1 of 1)

Bivalve Larval Survival and Development Test — **Wood E&IS**

Test Type:	Development-Survival	**Organism:**	Mytilis galloprovincialis (Bay Mussel)	**Material:**	Total Copper
Protocol:	EPA/600/R-95/136 (1995)	**Endpoint:**	Combined Proportion Normal	**Source:**	Reference Toxicant-REF



Mean:	9.125	**Count:**	17	**-2s Warning Limit:**	4.552	**-3s Action Limit:**	3.215
Sigma:	n/a	**CV:**	35.80%	**+2s Warning Limit:**	18.28	**+3s Action Limit:**	25.88

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2017	Dec	22	15:00	10.95	1.821	0.5236			13-8076-0092	04-7666-8867
2			22	15:00	11.1	1.98	0.5649			18-9173-1279	00-8804-3805
3			22	15:00	11.13	2.004	0.5711			19-1537-3013	20-7428-0259
4			22	15:10	13.69	4.562	1.166			05-2148-4604	14-2190-9809
5			22	15:10	13.26	4.136	1.075			07-4924-1298	02-9536-6591
6	2018	Jul	18	12:30	9.593	0.4685	0.144			17-4700-2672	19-1834-7581
7		Aug	17	18:15	13.11	3.982	1.042			06-6531-4070	03-3159-5721
8		Oct	24	14:25	10.37	1.248	0.3689			10-5049-1350	21-2167-7967
9		Nov	7	14:40	7.288	-1.836	-0.6465			21-2560-8966	08-1725-7308
10	2019	Mar	28	15:00	6.57	-2.555	-0.9449			01-1205-3490	09-9916-0601
11		Apr	11	15:05	7.2	-1.924	-0.6814			09-5126-5022	11-0264-5925
12		Jun	18	15:35	12.33	3.205	0.8659			20-1050-4622	12-9168-6963
13		Jul	18	14:55	7	-2.125	-0.7626			14-0843-5203	16-2395-2147
14	2020	Aug	5	16:15	5.97	-3.155	-1.22			01-5363-1852	03-9719-1127
15			21	17:45	4.994	-4.131	-1.734			02-6167-5910	09-0147-8078
16			21	17:45	5.371	-3.754	-1.525			09-7758-0702	07-5383-0657
17	2021	Feb	17	16:05	13.75	4.625	1.18			02-0888-9810	19-5282-1839
18		Aug	25	16:50	7.088	-2.037	-0.7267			01-4286-8892	09-6353-7527

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:18 (p 1 of 1)
Test Code/ID: 01-4286-8892/210825mgrd

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21 1650	**Species:**	Mytilis galloprovincialis	**Sample Code:**	210825mgrd
End Date:	27 Aug-21 1500	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Reference Toxicant
Sample Date:	25 Aug-21	**Material:**	Total Copper	**Sample Station:**	

Conc-µg/L	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			1			248	217	
			2			242	212	
			3			212	0	
			4			241	216	
			5			231	201	
			6			18	0	
			7			249	217	
			8			229	0	
			9			194	8	
			10			226	201	
			11			255	233	
			12			229	0	
			13			236	213	
			14			242	220	
			15			218	10	
			16			15	0	
			17			213	12	
			18			231	198	
			19			14	0	
			20			224	190	
			21			232	190	
			22			233	202	
			23			223	13	
			24			12	0	
			25			202	0	
			26			242	216	
			27			15	0	
			28			244	10	
			29			246	219	
			30			13	0	

Analyst: AG QA: [illegible] 11/10/21

CETIS Test Data Worksheet

Report Date: 17 Aug-21 13:18 (p 1 of 1)
Test Code/ID: 01-4286-8892/210825mgrd

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	25 Aug-21	**Species:**	Mytilis galloprovincialis	**Sample Code:**	210825mgrd
End Date:	27 Aug-21	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Reference Toxicant
Sample Date:	25 Aug-21	**Material:**	Total Copper	**Sample Station:**	

Conc-µg/L	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	LC	1	13			AG ~~226~~	~~201~~ AG	
0	LC	2	10			226	201	AG 8/31/21
0	LC	3	11					
0	LC	4	4					
0	LC	5	14					
2.5		1	20			224	190	
2.5		2	26					
2.5		3	22					
2.5		4	5					
2.5		5	2					
5		1	21			232	190	
5		2	18					
5		3	29					
5		4	7					
5		5	1					
10		1	23			AG ~~220~~ 223	AG 213	
10		2	15					
10		3	17					
10		4	9					
10		5	28					
20		1	3			212	0	
20		2	25					
20		3	8					
20		4	12					
20		5	16			15	0	
40		1	6					
40		2	19					
40		3	24					
40		4	30					
40		5	27					

QC: MS

Analyst: AG QA: SC 11/10/21

Water Quality for Bivalve Development

Client: Internal
Project ID: Cu Reftox
Test No. 210825mgrd

Test Species: *M. galloprovincialis*
Start Date/Time: 8/25/2021 1650
End Date/Time: 8/27/2021 1500

Test Conc. (µg/L)	Parameter	Water Quality Measurements 0hr	24hr	48hr
Lab Control	Temp. (°C)	15.9	15.8	15.5
	Salinity (ppt)	34.2	34.2	34.5
	pH (units)	7.87	7.86	7.89
	DO (mg/L)	7.8	8.1	8.1
2.5	Temp. (°C)	15.5	15.8	15.4
	Salinity (ppt)	34.4	34.3	34.6
	pH (units)	7.91	7.86	7.89
	DO (mg/L)	7.9	8.1	8.2
5	Temp. (°C)	15.4	15.7	15.3
	Salinity (ppt)	34.4	34.4	34.8
	pH (units)	7.90	7.86	7.88
	DO (mg/L)	8.0	8.2	8.2
10	Temp. (°C)	15.5	15.8	15.3
	Salinity (ppt)	34.4	34.3	34.8
	pH (units)	7.90	7.85	7.88
	DO (mg/L)	8.0	8.2	8.2
20	Temp. (°C)	15.5	15.8	15.3
	Salinity (ppt)	34.3	34.3	34.7
	pH (units)	7.89	7.85	7.88
	DO (mg/L)	8.0	8.1	8.2
40	Temp. (°C)	15.6	15.8	15.4
	Salinity (ppt)	34.2	34.1	34.7
	pH (units)	7.90	7.85	7.88
	DO (mg/L)	8.0	8.1	8.2
	Temp. (°C)			
	Salinity (ppt)			
	pH (units)			
	DO (mg/L)			
	Temp. (°C)			
	Salinity (ppt)			
	pH (units)			
	DO (mg/L)			
	Tech Initials:	MS	AG	SC

Source of Animals: Mission Bay | SIO

Date Received: 8/25/21

Comments:

Initial QC: BC 11/10/21

Final Review: BCS 11-16-21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 8/25/2021
Batch ID: SIO holding facility (collected May) **Analyst:** AG
Test Type: 48hr Embryo Development

Task	
Spawning Induction	1115
Spawning Begins	1215
# Males/# Females	6/2
Spawn Condition	good
Fertilization Initiated	1320
Fertilzation End/Eggs Rinsed	1345/1410
Embryo Counts	1515
Test Initiation	1650

Embryo Density Counts **# per 100 µL**

Stock #	**Stock Volume (mL)**	**Rep 1**	**Rep 2**	**Rep 3**	**Rep 4**	**Mean #/100 µL**	**Mean #/mL (x10)**
Stock 1	500	59,68	63,58	70,79	75,60	66.5	665
Stock 2	500						
Stock 3							

Cell Division:

	% Divided
Stock 1	97
Stock 2	95
Stock 3	

Selected Stock:	1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{665}{500}$ **Dil Factor** 1.33

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: TØ1=255/264 TØ2= 230/236, TØ3=256/269, TØ4=218/229, TØ5=234/241
~~TØ6=234/240, TØ7=~~
TØ6=229/237, TØ7=230/239, TØ8=240/251, TØ9=228/236, TØ10=229/235

QA Review: 11/10/21 $\bar{X}$ = 244 **Final Review:** BCS 11-16-21

Acute Topsmelt

Reference Toxicant Test

CETIS Summary Report

Report Date: 31 Aug-21 10:40 (p 1 of 1)
Test Code: 210825aara | 03-9028-8227

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	02-2329-3985	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	25 Aug-21 16:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Diluted Natural Seawater
Ending Date:	29 Aug-21 14:45	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	94h	**Source:**	Aquatic Biosystems, CO	**Age:**	13d

Sample ID:	16-2741-5705	**Code:**	210825aara	**Client:**	Internal
Sample Date:	25 Aug-21	**Material:**	Total Copper	**Project:**	
Receipt Date:	25 Aug-21	**Source:**	Reference Toxicant		
Sample Age:	17h	**Station:**			

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
06-0355-5495	96h Survival Rate	Dunnett Multiple Comparison Test	50	100	70.71		16.3%

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU ✓
05-7488-9745	96h Survival Rate	Trimmed Spearman-Kärber	LC50	188.1	156.2	226.6	

96h Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	3.33%
50		6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	6.67%
100		6	0.7667	0.5213	1.0000	0.4000	1.0000	0.0955	0.2338	30.50%	23.33%
200		6	0.6667	0.5583	0.7751	0.6000	0.8000	0.0422	0.1033	15.49%	33.33%
400		6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

96h Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	0.8000	1.0000
50		1.0000	0.8000	1.0000	0.8000	1.0000	1.0000
100		0.4000	0.6000	1.0000	1.0000	0.8000	0.8000
200		0.6000	0.6000	0.6000	0.8000	0.6000	0.8000
400		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Analyst: SC QA: JC 9/30/21

Pacific Topsmelt 96-h Acute Survival Test				Wood E&IS
Analysis ID: 06-0355-5495	Endpoint: 96h Survival Rate		CETIS Version: CETISv1.9.3	
Analyzed: 31 Aug-21 10:39	Analysis: Parametric-Control vs Treatments		Official Results: Yes	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	50	100	70.71		16.30%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	0.4748	2.274	0.190	10	CDF	0.6143	Non-Significant Effect
		50	0.9496	2.274	0.190	10	CDF	0.4010	Non-Significant Effect
		100*	3.182	2.274	0.190	10	CDF	0.0068	Significant Effect
		200*	4.612	2.274	0.190	10	CDF	1.9E-04	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.650977	0.162744	4	7.763	3.3E-04	Significant Effect
Error	0.524105	0.0209642	25			
Total	1.17508		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	5.307	4.177	0.0031	Unequal Variances
Variances	Mod Levene Equality of Variance Test	2.269	4.177	0.0902	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9341	0.9031	0.0633	Normal Distribution

96h Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	3.33%
50		6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	6.67%
100		6	0.7667	0.5213	1.0000	0.8000	0.4000	1.0000	0.0955	30.50%	23.33%
200		6	0.6667	0.5583	0.7751	0.6000	0.6000	0.8000	0.0422	15.49%	33.33%
400		6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

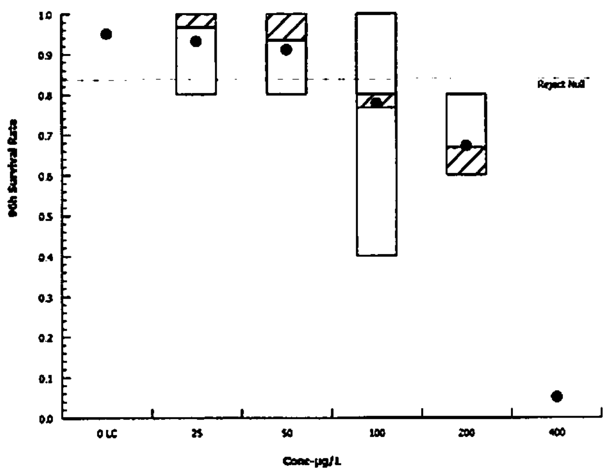
Angular (Corrected) Transformed Summary

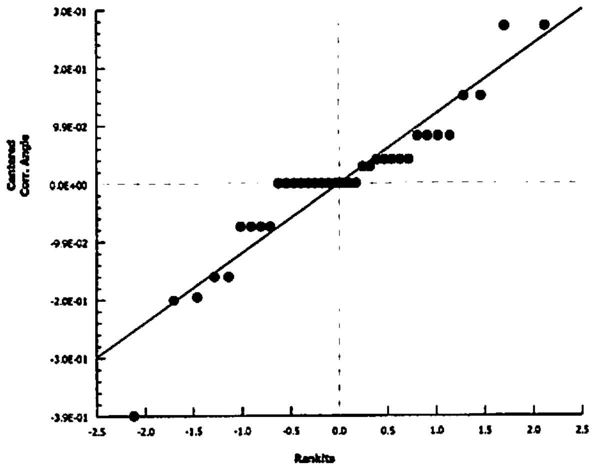
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.345	1.345	1.345	1.345	1.345	1.345	0	0.00%	0.00%
25		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	2.95%
50		6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	5.90%
100		6	1.079	0.8072	1.351	1.107	0.6847	1.345	0.1058	24.02%	19.77%
200		6	0.9598	0.84	1.08	0.8861	0.8861	1.107	0.04661	11.89%	28.66%
400		6	0.2255	0.2255	0.2255	0.2255	0.2255	0.2255	0	0.00%	83.24%

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Analysis ID:	06-0355-5495	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:39	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Report Date: 31 Aug-21 10:40 (p 1 of 1)
Test Code: 210825aara | 03-9028-8227

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	05-7488-9745	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	31 Aug-21 10:39	**Analysis:**	Trimmed Spearman-Kärber	**Official Results:**	Yes

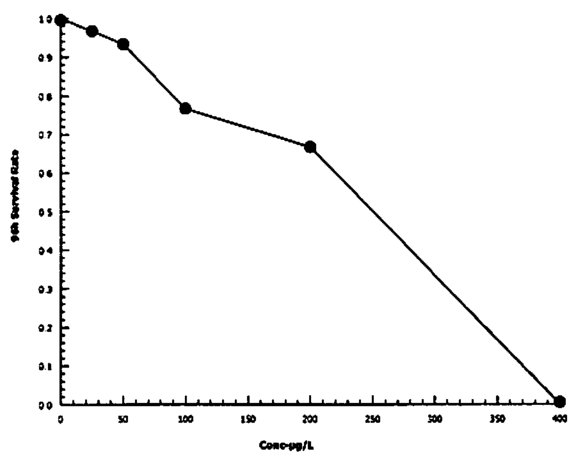
Trimmed Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	LC50	95% LCL	95% UCL
Control Threshold	0	3.33%	2.274	0.04041	188.1	156.2	226.6

96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	LC	6	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	30/30	1	0.0%
25		6	0.9667	0.8000	1.0000	0.0817	8.45%	3.33%	29/30	0.9667	3.33%
50		6	0.9333	0.8000	1.0000	0.1033	11.07%	6.67%	28/30	0.9333	6.67%
100		6	0.7667	0.4000	1.0000	0.2338	30.50%	23.33%	23/30	0.7667	23.33%
200		6	0.6667	0.6000	0.8000	0.1033	15.49%	33.33%	20/30	0.6667	33.33%
400		6	0.0000	0.0000	0.0000	0.0000		100.0%	0/30	0	100.0%

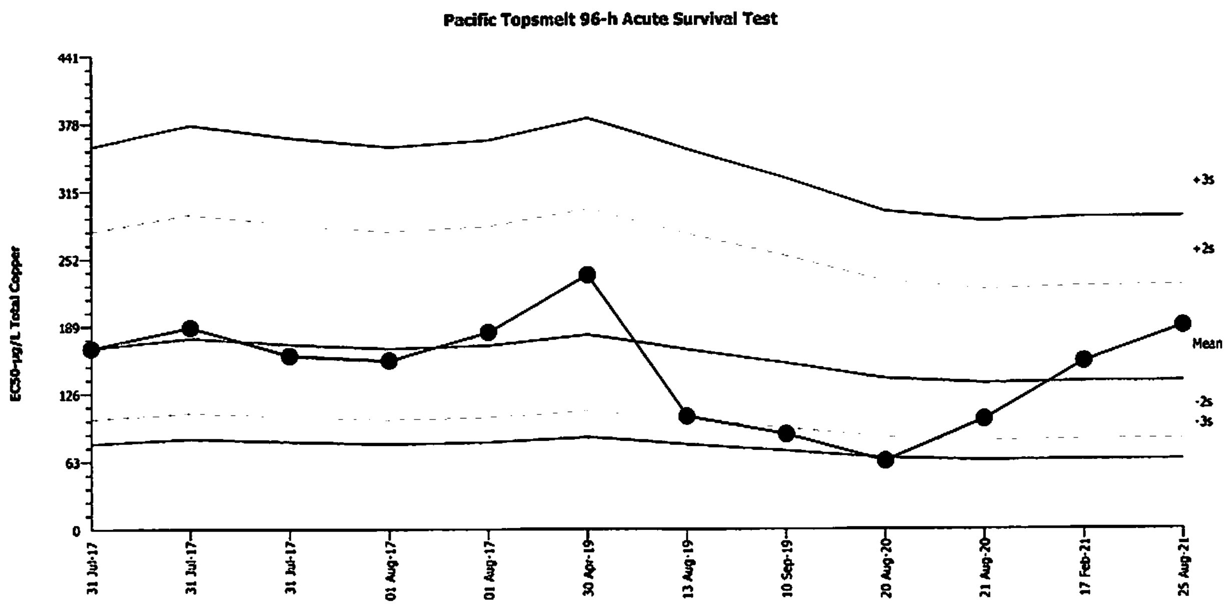
Graphics



CETIS QC Plot Topsmelt : Acute Survival

Pacific Topsmelt 96-h Acute Survival Test **Wood E&IS**

Test Type:	Survival (96h)	**Organism:**	Atherinops affinis (Topsmelt)	**Material:**	Total Copper
Protocol:	EPA/821/R-02-012 (2002)	**Endpoint:**	96h Survival Rate	**Source:**	Reference Toxicant-REF



Mean:	137	**Count:**	11	**-2s Warning Limit:**	83.08	**-3s Action Limit:**	64.7
Sigma:	n/a	**CV:**	25.40%	**+2s Warning Limit:**	225.8	**+3s Action Limit:**	290

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2017	Jul	31	16:00	168.3	31.3	0.8232			19-5584-5627	06-5699-4422
2			31	16:10	187.7	50.71	1.26			08-6518-1949	12-2976-8720
3			31	16:20	161.5	24.51	0.6584			16-0803-3194	14-0325-5692
4		Aug	1	14:20	156.9	19.91	0.5429			21-0766-0876	04-5806-5680
5			1	14:30	183.1	46.13	1.161			08-2262-5738	12-8323-6897
6	2019	Apr	30	15:00	236.6	99.55	2.185	(+)		01-1235-0968	05-2157-6049
7		Aug	13	17:20	104.8	-32.21	-1.072			15-7782-6769	06-7735-0148
8		Sep	10	16:30	88.01	-48.99	-1.77			00-1845-1071	18-3128-5862
9	2020	Aug	20	11:30	63	-74.01	-3.108	(-)	(-)	10-0704-2056	18-4092-2436
10			21	16:40	101.7	-35.34	-1.193			04-1235-4342	09-8231-6847
11	2021	Feb	17	18:00	155.3	18.34	0.5024			20-5527-3551	01-0267-4966
12		Aug	25	16:45	188.1	51.11	1.268			03-9028-8227	05-7488-9745

96hr Marine Acute Test with 48hr Renewal

Client: Internal
Sample ID: Cu Reference Toxicant
Test No. 210825aara

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 8/25/21 1645
End Date/Time: 8/29/21 1445

Sample ID (µg/L Cu)	Rep	Counts 0	24	48	72	96
LC ~~#~~ #5 SC	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	4
	F	5	5	5	5	5
50	A	5	5	5	5	5
	B	5	5	5	4	4
	C	5	5	5	5	5
	D	5	5	5	5	4
	E	5	5	5	5	5
	F	5	5	5	5	5
100	A	5	5	4	3	2
	B	5	4	4	4	3
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	4
	F	5	5	4	4	4
200	A	5	5	4	4	3
	B	5	5	4	3	3
	C	5	4	4	3	3
	D	5	5	5	4	4
	E	5	4	4	3	3
	F	5	5	4	4	4
400	A	5	0	All Dead		
	B	5	0			
	C	5	0			
	D	5	0			
	E	5	0			
	F	5	0			
	Tech Initials:	SC	AG	AG	SC	AG

Water Quality

Parameter	0	24	48f	48l	72	96
Temp. (°C)	20.6	20.4	20.6	20.8	20.4	20.5
Salinity (ppt)	30.1	30.1	30.3	30.0	30.2	30.4
pH (units)	7.93	7.78	7.59	7.97	7.71	7.74
DO (mg/L)	7.0	6.5	5.5	~~8~~ 7.1 AG	6.0	6.1
Temp. (°C)	20.6	20.1	19.9	20.8	20.4	20.5
Salinity (ppt)	30.1	30.1	30.3	29.9	30.4	30.5
pH (units)	7.90	7.82	7.61	7.97	7.71	7.75
DO (mg/L)	7.2	6.5	6.1	7.1	6.1	6.1
Temp. (°C)	20.6	20.2	~~20~~ 19.8 AG	20.8	20.3	20.5
Salinity (ppt)	30.1	30.1	30.4	29.9	30.4	30.5
pH (units)	7.88	7.82	7.64	7.97	7.70	7.71
DO (mg/L)	7.3	6.5	6.3	7.1	6.2	6.1
Temp. (°C)	20.5	20.2	19.7	20.7	20.2	20.4
Salinity (ppt)	30.1	30.1	30.6	29.8	30.5	30.5
pH (units)	7.86	7.81	7.64	7.96	7.70	7.71
DO (mg/L)	7.3	6.4	6.6	7.1	6.2	6.1
Temp. (°C)	20.5	20.2	19.7	20.5	20.2	20.1
Salinity (ppt)	30.0	30.1	30.5	29.8	30.7	30.5
pH (units)	7.84	7.79	7.64	7.94	7.68	7.69
DO (mg/L)	7.3	6.6	6.0	7.1	6.4	6.1
Temp. (°C)	20.5	20.2		All Dead		
Salinity (ppt)	30.0	30.1				
pH (units)	7.79	7.79				
DO (mg/L)	7.3	6.7				
Tech Initials:	SC	AG	AG	AG	SC	AG

Date Animals Received: 8/20/21 ABS
Age of Animals at Test Start: 13d

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	AG	SC	SC
Initials (PM):					

Comments:

QC Check: SC 8/31/21

Final Review: SC 9/30/21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

APPENDIX F

Phase I Toxicity Identification Methods

APPENDIX F

Shelter Island Yacht Basin Copper TMDL Compliance Program
Toxicity Identification Evaluation (TIE) Methods and Results Summary
August 24, 2021 Sampling Event

Toxicity Identification Evaluation (TIE)

Concurrent to the standard TMDL compliance toxicity tests a Toxicity Identification Evaluation (TIE) was performed on water collected from inner SIYB Site 1 in an attempt to identify a cause for toxicity should an effect again be observed at this location. Ambient waters at the inner portion of the SIYB have consistently been found to cause toxicity to mussel embryo development during prior compliance monitoring efforts. In addition to toxicity, dissolved copper concentrations at the inner SIYB locations have also consistently exceeded both ambient bay water quality objectives, and concentrations found to cause toxicity to mussel embryos in clean laboratory water. Based on consistent toxic effects during prior monitoring efforts and because toxicity may be transient and lost rapidly in samples after collection, a decision was made to perform a Phase I TIE concurrent to the standard dry weather toxicity testing event in August 2021. Details of the TIE approach for the SIYB are provided in Attachment C of an updated SIYB TMDL Work Plan dated August 2021, with the treatments employed summarized below. Guidelines for conducting TIEs have been published by the USEPA (1991, 1993a, 1993b, 1996, 2007).

Phase I TIE – Toxicant Characterization

Phase I chemical characterization treatments followed standard EPA protocols and cover broad classes of potential inorganic and organic compounds to capture effects related not only to copper but other possible unmonitored toxicants as well. Phase I TIE methods involve the systematic examination and elimination of specific classes of contaminants responsible for toxicity. This procedure narrows the list of potential causes of toxicity in a complex sample by identifying specific chemical and physical characteristics of contaminants responsible for toxicity. Results provide an indication of the class to which problematic constituents belong. The specific treatments performed for SIYB and classes of compounds they address are summarized in **Table F-1.** Method details for each treatment are detailed in a project-specific standard operating procedure available upon request.

Table F-1. Phase I Toxicant Characterization

Phase I Procedure	Primary Compounds Addressed/ Purpose
Baseline (unmanipulated sample)	None. Used for treatment effectiveness comparison
Filtration (0.45 μm) or Centrifugation	Pollutants associated with particles, and algae and/or microorganism effects
Aeration	Volatile or oxidizable compounds; surfactants
C8 or C18 Column Solid-Phase Extraction	Non-polar organics and metal chelates. *These columns can remove some metals, so this step helps verify metals vs organics.
C8 or C18 Column Solvent Elution	Recovers toxicity due to non-polar organics
Cation Exchange Column	Removes cationic compounds including various trace metals
Oxidant Reduction (STS Addition) – 50 mg/L	Constituents reduced by sodium thiosulfate; also chelates some cationic trace metals
Metal Chelation (EDTA Addition) – 15 and 30 mg/L	Divalent cationic metals

TIE Results

All Phase I TIE treatments were successfully performed with all associated laboratory controls meeting standard test acceptability criteria. However, during this sampling event toxicity was not observed at Site 1. Thus, the TIE conducted had no way to identify a cause of toxicity during this sampling event. Results for the TIE are therefore not included herein for this event.

References

Schiff, K., J. Brown, D. Diehl, and D. Greenstein. 2007. Extent and magnitude of copper contamination in marinas of the San Diego region, California, USA. *Marine Pollution Bulletin* 54(3):322–328.

US EPA. 1991. Methods for Aquatic Toxicity Identification Evaluation - Phase I Toxicity Characterization Procedures, 2nd Edition, (EPA/600/6-91/003).

US EPA. 1993a. Methods for Aquatic Toxicity Identification Evaluations - Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity. (EPA/600/R-92/080).

US EPA. 1993b. Methods for Aquatic Toxicity Identification Evaluations - Phase III Toxicity Conformation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081).

US EPA. 1996. Marine Toxicity Identification Evaluation (TIE) – Phase I Guidance Document (EPA/600/R-96/054).

US EPA. 2007. Sediment Toxicity Identification Evaluation (TIE). Phases I, II, and III Guidance Document. EPA/600/R-07/080. September 2007.

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APPENDIX E

CORRESPONDENCE AND AGENCY MEMORANDA

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LETTER FROM THE REGIONAL BOARD REGARDING COMMENTS ON 2012 SIYB TMDL MONITORING AND PROGRESS REPORT

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Attachment A

Water Boards

California Regional Water Quality Control Board, San Diego Region

July 26, 2013

Mr. Wayne Darbeau
President/CEO
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

In reply refer to:
Place ID:650648:WChiu

Subject: Comments on 2012 Shelter Island Yacht Basin Total Maximum Daily Load Monitoring and Progress Report

Mr. Darbeau:

In accordance with Provision A.3 of Investigative Order No. R9-2011-0036, as amended, the San Diego Unified Port District (Port District) submitted the *2012 Shelter Island Yacht Basin Total Maximum Daily Load Monitoring and Progress Report* (Report) to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) on March 29, 2013. The San Diego Water Board has reviewed the Report and offers the following comments.

Compliance with Dissolved Copper Total Maximum Daily Load (TMDL)

The Shelter Island Yacht Basin (SIYB) TMDL includes the following compliance schedule:

Stage	Required Dissolved Copper Load Reduction	Compliance Date
1	0%	December 1, 2007
2	10%	December 1, 2012
3	40%	December 1, 2017
4	76%	December 1, 2022

The Port District's *Shelter Island Yacht Basin TMDL Implementation Compliance Monitoring Plan* (Monitoring Plan) proposed utilizing data associated with the conversion of boat hulls from copper based anti-fouling paints (AFPs) to alternative AFPs for the purpose of determining compliance with the first load reduction required by the December 1, 2012 compliance date. Based on the data submitted and information provided in the Report, the 10 percent reduction in dissolved copper loading required to demonstrate compliance with the SIYB TMDL by the December 1, 2012 compliance date was achieved.

Because of the progress that the Port District has been able to achieve by implementing the *Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load Implementation Plan*

(Implementation Plan), the San Diego Water Board continues to support the dissolved copper load reduction approach described in the Implementation Plan. Converting boat hulls to alternative AFPs with little or no copper is still expected to have the greatest effect on reducing dissolved copper loads discharged to SIYB.

As long as the Port District continues implementing the Implementation Plan and demonstrates progress toward attainment of the dissolved copper load reduction required by the December 1, 2017 compliance date, the San Diego Water Board will continue to forego using its regulatory authority to implement the SIYB TMDL by regulating the discharge of dissolved copper to SIYB under waste discharge requirements (WDRs), conditional waivers of WDRs, waste discharge prohibitions, or through the issuance of enforcement actions. The San Diego Water Board will re-evaluate its regulatory options for implementing the SIYB TMDL after reviewing and considering each subsequent Annual Monitoring and Progress Report.

Monitoring Program Modification Recommendations

In the Report, the Port District recommended several modifications to the monitoring and data collection for the monitoring program, including the following:

a. Remove the free copper ion activity measurement from future monitoring because of the lack of USEPA guidance and time constraints caused by the instrument calibration process;

b. Include the Test of Significant Toxicity (TST) calculation as an additional statistical analysis for reporting toxicity data;

c. Remove the collection of hull registration data (i.e., vessel registration numbers) because of concerns expressed that this information may become part of a public document; and

d. To more accurately calculate the amount of copper loading to SIYB, allow the assumption that vessels with aged copper AFPs have a copper release (i.e. leaching or loading) rate similar to low copper AFPs (0.45 kg/yr) because the research (provided in Appendix E in the Report) indicates copper leach rates degrade over time, particularly after the first 2-3 years after application.

The information and documentation provided to support the Port District's recommendations to modify the monitoring and data collection for the monitoring program are acceptable to the San Diego Water Board. Please revise the Monitoring Plan in accordance with the recommended modifications described and submit it to the San Diego Water Board by September 30, 2013.

In closing, the San Diego Water Board appreciates the Port District's continued leadership and efforts towards achieving the required dissolved copper load reductions in SIYB.

In the subject line of any response, please include the reference number Place ID:650648:wchiu. For questions or comments, please contact Wayne Chiu by phone at 858-637-5558, or by email at wchiu@waterboards.ca.gov.

Respectfully,

David W. Gibson
Executive Officer

DWG:dtb:esb:wc

cc: Bay Club Marina
2131 Shelter Island Drive
San Diego, California 92106

Half Moon Anchorage
2131 Shelter Island Drive
San Diego, California 92106

San Diego Yacht Club
1011 Anchorage Lane
San Diego, California 92106

Shelter Island Marina
2051 Shelter Island Drive
San Diego, California 92106

Silver Gate Yacht Club
2091 Shelter Island Drive
San Diego, California 92106

Southwestern Yacht Club
2702 Qualtrough Street
San Diego, California 92106

Tech Staff Info & Use	
Order No.	R9-2001-0036
Party (GT/CIWQS) ID	NA
File No.	NA
WDID	NA
NPDES No.	NA
Reg. Measure ID	NA
Place ID	650648
Person ID	NA
Inspection ID	NA

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LETTER TO THE REGIONAL BOARD REQUESTING VERIFICATION OF 2017 INTERIM COMPLIANCE

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PORT of SAN DIEGO
Waterfront of Opportunity

June 28, 2018

California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700
Attn: Mr. Wayne Chiu,

Subject: Request for verification of interim and final compliance targets for the Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load Monitoring (TMDL)

Dear Mr. Chiu,

We thank you for meeting with the San Diego Unified Port District (Port) and Shelter Island Master Leaseholders Group (SIMLG) on May 24, 2018 to discuss the progress on the Shelter Island Yacht Basin TMDL and receive the findings from the 2017 TMDL Monitoring and Progress Report (2017 Report). We appreciate your time and commitment to this project.

As presented in the 2017 Report and discussed at the meeting, the District and the SIMLG continue to make diligent efforts to implement best management practices and reduce copper loads. We believe we continue to be in compliance with the TMDL. Moreover, as presented in the 2017 Report, a 45.4% load reduction was documented which surpasses the 2017 interim load reduction compliance target of 40%. It is our understanding from that meeting, that the 2017 interim target has been achieved. In addition, we also clarified that compliance with the final TMDL phase is the requirement to reduce copper loading to 567kg/yr., a 76% load reduction.

Having a clear understanding of compliance is critical as we approach the final phase of this TMDL and set our sights on successfully meeting the 76% loading reduction requirement. As such, the District is providing this letter to (1) memorialize our discussion at the May 24th meeting, and (2) respectfully request written confirmation from the Regional Board for the following items:

1. Confirmation that the 45.4% load reduction identified in 2017 Report and its supporting data satisfies the 2017 interim compliance target.

2. Confirmation of the final compliance target (567 kg/yr. copper loading) and compliance expectations (compliance based on copper loading).

We look forward to receiving your response. On behalf of the District we appreciate your continued support and participation and look forward to working with you as we embark on the final phase of this TMDL.

Please feel free to contact me at (619) 725-6073 or Kelly Tait at (619) 686-6372 if you have any questions on the TMDL Report or any other copper reduction efforts the District is undertaking.

Respectfully,

Karen Holman
Director, Environmental Protection
San Diego Unified Port District

KH/aa
CC via email:
Randa Coniglio, Jason H. Giffen, Kelly Tait, John Carter, Port
Shelter Island Master Leaseholders Group
Sharon Cloward, SDPTA

D2#1525641

LETTER FROM THE REGIONAL BOARD REGARDING REVIEW OF 2017 SIYB TMDL

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September 11, 2018

Karen Holman
Director, Environmental Protection
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

In reply refer to / attn:
CW-650648:jhaas

Via email only: kholman@portofsandiego.org

Subject: REVIEW OF 2017 MONITORING REPORT, SHELTER ISLAND YACHT BASIN COPPER TMDL

Dear Ms. Holman,

Staff of the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) have reviewed the 2017 TMDL Monitoring and Progress Report (2017 Report) submitted in March 2018 regarding progress on the Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load (Shelter Island TMDL). The Shelter Island Yacht Basin is a popular recreational marina located in the north end of San Diego Bay. The San Diego Water Board appreciates the San Diego Unified Port District (Port District) efforts to protect and restore water quality so that the Basin's water can support beneficial uses for people and wildlife.

The most sensitive beneficial uses of the Yacht Basin's waters are those designated for protection of marine aquatic life and aquatic dependent wildlife. Those beneficial uses are threatened or impaired due to elevated levels of dissolved copper. Copper used in antifouling paints to prevent buildup of marine organisms on a vessel's hull can leach into the environment where, even at low concentrations, it is toxic to a variety of aquatic organisms and is persistent in the environment. The combination of the large number of recreational vessels and reduced tidal flushing at Shelter Island Yacht Basin has resulted in concentrations of dissolved copper that exceed numeric water quality objectives for dissolved copper and narrative water quality objectives for toxicity and pesticides.

Twenty-two years ago (in 1996), the San Diego Water Board placed the Shelter Island Yacht Basin on the Clean Water Act Section 303(d) List of Water Quality Limited Segments due to elevated levels of dissolved copper in the water column. The San Diego Water Board adopted the Shelter Island TMDL in 2005, and the USEPA granted final approval of the TMDL in February 2006.

The TMDL calculated and established a loading capacity for dissolved copper discharges into the Shelter Island Yacht Basin of 1.6 kilograms/day or 567 kilograms/year. That meant that a 76 percent overall reduction of residual copper loading to the Yacht Basin would be required to restore the marine aquatic life and aquatic dependent wildlife beneficial uses. The TMDL established a phased compliance schedule for achieving that reduction as follows:

Interim Loading Targets for Attainment of the TMDL			
Stage	Time Period	Percent Reduction from Current Estimated Loading	Estimated Interim Target Loading (kg/year of dissolved Cu)
Stage 1	Years 1-2	0%	n/a
Stage 2	Years 2-7	10%	1,900
Stage 3	Years 7-12	40%	1,300
Stage 4	Years 12-17	76%	567

The TMDL schedule was based on a timeline intended to minimize adverse economic impact to the boating community from the transition to alternative boat hull paints that were less toxic than the paints used when the TMDL was adopted in 2005. The TMDL schedule recognized that within 15 years, new boats docked in the Yacht Basin could reasonably be painted with nontoxic or less toxic coatings, and that the copper coating on existing boats could reasonably be replaced with nontoxic or less toxic coatings during routine hull stripping.

Notably, in 2013 Governor Brown signed Assembly Bill 425 (Atkins) and directed the Department of Pesticide Regulation (DPR) to establish a leach rate for copper-based antifouling paints to protect aquatic environments from the effects of exposure to copper-based antifouling paints. In January 2018 DPR issued its final decision to establish a maximum allowable copper leach rate of 9.5 $\mu g/cm^2$/day for all copper-based antifouling paint and coating products labeled for use on recreational vessels. DPR's new restrictions on copper-based antifouling paints and coatings became effective as of July 1, 2018.[1]

The Port District's 2017 Report marks the end of Stage 3 of the interim loading targets, and suggests that overall the Yacht Basin is meeting the 40 percent reduction target as a result of improved use of best management practices and vessel conversions to less toxic hull coatings.

Thus, in large part to the leadership of the Port District, loadings of dissolved copper have been significantly reduced even prior to the new DPR rule. With DPR's copper paint regulations newly in effect, both the Port District and the San Diego Water Board expect to see reductions in dissolved copper over the next few years.

[1] Information on DPR's program is at
https://www.cdpr.ca.gov/docs/registration/reevaluation/chemicals/antifoulant_paints.htm

(footnote continued on next page)

The 2017 Report also provides some water quality measurements to assess the status of the beneficial uses. Consistent with results of previous years, the 2017 data show dissolved copper continues to exceed the Water Quality Objectives at most sampling locations,[2] although only the two stations farthest inside the basin had statistically significant effects on developing mussel larvae (stations SIYB-1 and SIYB-2, see Attachment 1). While the dissolved copper loading rates are an indicator of progress toward TMDL attainment, ultimately water quality data as reported to the USEPA pursuant to Clean Water Act sections 305b and 303d will determine whether the beneficial uses are attained.

Both the Port District and the San Diego Water Board have recognized that the new DPR paint regulations cannot solely be relied upon to achieve the TMDL's final target and restore the impaired beneficial uses.[3] Ongoing and additional efforts by the Port District to ensure best management practices for paints and associated marina activities, combined with the new DPR regulations, provide a pathway for success. The San Diego Water Board has confidence in the Port District's leadership toward achieving the TMDL targets and restoring the beneficial uses.

For further questions regarding the Shelter Island TMDL, please contact Jeremy Haas at 619-521-3009 or Jeremy.Haas@waterboards.ca.gov.

Respectfully,

JAMES G. SMITH
Assistant Executive Officer

JGS:jch

Attachment: Shelter Island Yacht Basin Sampling Locations, from 2017 Report

cc via email:
Kelly Tait, San Diego Unified Port District
Sharon Cloward, San Diego Unified Port District Tenants Association
Ruth Kolb, City of San Diego
Sue Keydel, USEPA Region IX
Jeremy Haas, Cynthia Gorham, Laurie Walsh, Wayne Chiu, San Diego Water Board

---

[2] Five of the six sampling stations exceeded the California Toxics Rule (CTR) criterion continuous concentration (CCC) water quality objective (WQO) of 3.1 µg/L, and four of the six stations exceeded the CTR acute criterion maximum concentration (CMC) WQO (4.8 µg/L).

[3] See Feb. 24, 2015 letter to DPR from the Port District and San Diego Water Board.

Attachment: Shelter Island Yacht Basin sampling locations. Figure 2-1 from the 2017 Report

Figure 2-1. Shelter Island Yacht Basin TMDL Sampling Station Locations

REGIONAL BOARD EXECUTIVE OFFICER’S REPORT (OCTOBER 2018)

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and viable ecological habitat. These activities, in combination with military land use activities and natural environmental conditions, have the potential to cause contaminated soil to become airborne and accumulate in areas where impacts to human and ecological receptors could occur, such as the military housing, school, and playground just east of the Agricultural Fields.

Discharges from the West Agricultural Fields and Maintenance Facility Compound to the Creek, Estuary, and Pacific Ocean pose a threat to water quality, designated beneficial uses, and ecological and human receptors. San Diego Water Board staff will continue efforts to stop these discharges and will update the Board as new information becomes available.

4. Shelter Island Yacht Basin Dissolved Copper TMDL Meets Stage 3 Milestone on Time

Staff Contact: Jeremy Haas

The Shelter Island Yacht Basin

The Shelter Island Yacht Basin is a popular recreational marina located in the north end of San Diego Bay. Twenty-two years ago (in 1996), the San Diego Water Board placed the Shelter Island Yacht Basin on the Clean Water Act Section 303(d) List of Water Quality Limited Segments due to elevated levels of dissolved copper in the water column. The San Diego Water Board adopted the Shelter Island TMDL in 2005, and the USEPA granted final approval of the TMDL in February 2006. Since then the San Diego Unified Port District (Port District) has been working with marinas and the boating community in the Yacht Basin to reduce copper loading. Earlier this year, the Port District submitted the 2017 annual report on the progress of the Shelter Island TMDL.

The Port District's 2017 Report demonstrates that overall the Yacht Basin is meeting the 40 percent reduction target set by the San Diego Water Board as an interim loading target to be met by 2018. The Port attributes the success to improved use of best management practices and vessel conversions to less toxic hull coatings.

The most sensitive beneficial uses of the Yacht Basin's waters are those designated for protection of marine aquatic life and aquatic dependent wildlife. Those beneficial uses are threatened or impaired due to elevated levels of dissolved copper. Copper used in antifouling paints to prevent buildup of marine organisms on a vessel's hull can leach into the environment where, even at low concentrations, it is toxic to a variety of aquatic organisms and is persistent in the environment.

The TMDL required that a 76 percent overall reduction of residual copper loading to the Yacht Basin to restore the marine aquatic life and aquatic dependent wildlife beneficial uses. The TMDL established a phased compliance schedule for achieving that reduction as follows:

Interim Loading Targets for Attainment of the Shelter Island Yacht Basin Dissolved Copper TMDL			
Stage	Time Period	Percent Reduction from Current Estimated Loading	Estimated Interim Target Loading (kg/year of dissolved Cu)
Stage 1	Years 1-2	0%	n/a
Stage 2	Years 2-7	10%	1,900
Stage 3	Years 7-12	40%	1,300
Stage 4	Years 12-17	76%	567

Notably, in 2013 Governor Brown signed Assembly Bill 425 (Atkins) and directed the Department of Pesticide Regulation (DPR) to establish a leach rate for copper-based antifouling paints to protect aquatic environments from the effects of exposure to copper-based antifouling paints. In January 2018 DPR issued its final decision to establish a maximum allowable copper leach rate of 9.5 $\mu g/cm^2$/day for all copper-based antifouling paint and coating products labeled for use on recreational vessels. DPR's new restrictions on copper-based antifouling paints and coatings became effective as of July 1, 2018.[4]

The 2017 Annual Report also provides some water quality measurements to assess the status of the beneficial uses. Consistent with results of previous years, the 2017 data show dissolved copper continues to exceed the Water Quality Objectives at most sampling locations,[5] although only the two stations farthest inside the basin had statistically significant effects on developing mussel larvae (stations SIYB-1 and SIYB-2, see Attachment 1). While the dissolved copper loading rates are an indicator of progress toward TMDL attainment, ultimately water quality data as reported to the USEPA pursuant to Clean Water Act sections 305b and 303d will determine whether the beneficial uses are attained.

Both the Port District and the San Diego Water Board have recognized that the new DPR paint regulations cannot solely be relied upon to achieve the TMDL's final target and restore the impaired beneficial uses. Ongoing and additional efforts by the Port District to ensure best management practices for paints and associated marina activities, combined with the new DPR regulations, provide a pathway for success.

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[4] Information on DPR's program is at https://www.cdpr.ca.gov/docs/registration/reevaluation/chemicals/antifoulant_paints.htm

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[5] Five of the six sampling stations exceeded the California Toxics Rule (CTR) criterion continuous concentration (CCC) water quality objective (WQO) of 3.1 µg/L, and four of the six stations exceeded the CTR acute criterion maximum concentration (CMC) WQO (4.8 µg/L).

In conclusion, in large part to the leadership of the Port District, loadings of dissolved copper have been significantly reduced even prior to the new DPR rule. With DPR's copper paint regulations newly in effect, reductions in dissolved copper should be observed over the next few years.

5. Partnering for a Cleaner River Bed, San Diego River

Staff Contact: Sheila Christine McQuaid Moran

It all started with a question – Can the Water Board help? Even though we were not sure how, our answer was "yes" because this project spoke directly to the Water Board's mission "to protect, enhance, and restore the quality of California's water resources" and aligned with the goals of our region's Practical Vision. In the end, not only was it possible, it made a significant impact and strengthened meaningful relationships with public and private partners.

What were we asked to do? The San Diego River Park Foundation (Foundation) needed us to combine services with the California Department of Fish and Wildlife (CDFW) to provide temporary dumpsters for the cleanup efforts of the Foundation to remove thousands of pounds of trash left behind after law enforcement cleared out a large transient encampment along the river in April 2017. Media coverage at the time provided perspective of what the Foundation was facing with this cleanup. One of the articles stated the encampment spanned almost an acre along the San Diego River near the 5900 block of Fairmont Avenue and was filled with tents, trash, waste, and what appeared to be a chop shop for stolen bicycles.[6] Another article estimated that encampment held about 50 tons of trash.[7] Both shared concerns for human health hazards and destruction of the habitat in that area as debris went right up to the edge of the river.

While we could not offer staff to assist in the cleanup, we could find funds to help with proper disposal of the waste. This would be a new type of partnership for us and required review and input from the State Water Board Division of Administrative Services (DAS). Initially, we considered the dumpsters and waste hauling to be a service, which could be done with a fairly simple service order. However, upon review of our request, DAS suggested the activities better aligned with the purposes of the State Board's Cleanup and Abatement Account (CAA) managed by the Division of Financial Assistance (DFA). Switching course and working with DAS, DFA, the Foundation, and potential contractors, we rapidly secured $4,836.00 to cover up to six dumpsters for the cleanup and disposal of waste from the large abandoned encampment during the period of May 17, 2017 – June 30, 2017 (see [June 2017 EO Report]).

Our continued task beyond the initial setup of funding was to manage the CAA contract and be a liaison between the Foundation and our contractor, EDCO Disposal Corporation (EDCO), to coordinate the delivery and removal of the dumpsters during the last month and a half of Fiscal Year 16. However, the contractor unexpectedly decided not to charge for tonnage fees. As a result, money left from the original cleanups in Fiscal Year 16 could support cleanups further down the river to the end of Fiscal Year 17 (June 2018). We coordinated dumpsters for a few more events until we estimated funds would be fully expended. Again, EDCO, the contractor, surprised us by listing all the dumpsters provided in Fiscal Year 17 as donations instead of

[6] https://www.10news.com/news/volunteers-clean-up-massive-homeless-encampment-along-san-diego-river-in-mission-valley

[7] https://www.kpbs.org/news/2017/apr/26/volunteers-clean-large-san-diego-homeless-camp/

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MARINA AND YACHT CLUB SELF-CERTIFICATION FORMS

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Marina Self-Certification Form

February 24, 2022

I certify that the 2021 Bay Club Marina vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

Michael J. Ardelt

Michael Ardelt
General Mgr.
619-224-8888 EXT. 335
Bay Club Hotel & Marina

Marina Self-Certification Form
[3/15/22]

I certify that the 2021 [Crows Nest Yachts] vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

Patricia
Gibbons
Office Manager
Crows Nest Yachts

Marina Self-Certification Form

February 28, 2022

I certify that the 2021 Gold Coast Anchorage vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

Tom Nielsen
Vice President
Nielsen Beaumont Marine

Marina Self-Certification Form

02/24/22

I certify that the 2021 Half Moon Marina vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

NAME- Lani LoCoco

POSITION/TITLE- Marina Manager

COMPANY NAME- Half Moon Marina

Marina Self-Certification Form

3/15/2022
Date

I certify that the 2021 Kona Kai Marina vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

NAME: Adam Veres
POSITION/TITLE: Dockmaster
COMPANY NAME: Kona Kai

Marina Self-Certification Form

3/17/2022
Date

I certify that the 2021 LPYC vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

E.F. Taliaferro

NAME: Frank Taliaferro
POSITION/TITLE: Comador
COMPANY NAME:

Marina Self-Certification Form

03-02-2022
Date

I certify that the 2021 San Diego Yacht Club vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

NAME: Stephanie Beachley
POSITION/TITLE: Marina Manager
COMPANY NAME: San Diego Yacht Club

Marina Self-Certification Form

February 24, 2022

I certify that the 2021 Shelter Island Marina] vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

Joe Ravitch
Dockmaster
Shelter Island Marina

Marina Self-Certification Form

March 4, 2022

I certify that the 2021 Silver Gate Yacht Club's vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

Celeste Leginski

Celeste Leginski

Club Manager

Silver Gate Yacht Club

Marina Self-Certification Form
March 12, 2022

I certify that the 2021 Southwestern Yacht Club vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

Mark Pearcy
Port Captain
Southwestern Yacht Club

Marina Self-Certification Form

3-7-2022
Date

I certify that the 2021 ~~Silver Seas Yachts~~ Tonga Landing vessel hull paint data submitted to the Port of San Diego for the Shelter Island Yacht Basin Dissolved Copper TMDL Annual Report has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that I will retain all records gathered in preparation for this report for a period of five (5) years following my submittal of the data to the Port.

NAME: Cortland Berlin
POSITION/TITLE: Manager
COMPANY NAME: Silver Seas Yachts.

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STATE WATER BOARD RESOLUTION NO. 2005-0071

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STATE WATER BOARD
RESOLUTION NO. 2005-0071

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN DIEGO REGION TO ESTABLISH A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR DISSOLVED COPPER IN SHELTER ISLAND YACHT BASIN

WHEREAS:

1. The San Diego Regional Water Quality Control Board (San Diego Water Board) adopted a revised Water Quality Control Plan for the San Diego Region (Basin Plan) on September 8, 1994. The adopted Basin Plan was approved by the State Water Resources Control Board (State Water Board) on December 13, 1994 and by the Office of Administrative Law (OAL) on April 26, 1995.

2. On February 9, 2005, the San Diego Water Board adopted Resolution No. R9-2005-0019 (Attachment) amending the Basin Plan to establish a TMDL for dissolved copper in Shelter Island Yacht Basin.

3. San Diego Water Board staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act and other State laws and regulations.

4. San Diego Water Board found that the additions of this amendment would result in no adverse effect on wildlife, and the amendment would be consistent with the State Antidegradation Policy (State Water Board Resolution No. 68-16) and federal antidegradation requirements.

5. The State Water Board finds that the Basin Plan amendment is in conformance with Water Code section 13240, which specifies that Regional Water Boards may revise Basin Plans, and section 13242, which requires a program of implementation of water quality objectives. The State Water Board also finds that the TMDL as reflected in the Basin Plan amendment is consistent with the requirements of federal Clean Water Act section 303(d).

6. State Water Board staff determined that provisions of the amendment as adopted warranted minor, non-substantive clarification of the language of various provisions.

7. If and when additional water bodies are listed on the 303(d) list due to copper from the use of antifouling paint on boat hulls, the State Water Board expects similar requirements will be imposed upon all such water bodies to the extent similar conditions exist.

8. The State Water Board finds, in view of increasing impairment of coastal marinas from copper-based antifouling paints, that there is a need for statewide consistency in regulation.

9. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by OAL. The TMDL must also be approved by the U.S. Environmental Protection Agency (USEPA).

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan to establish a TMDL for dissolved copper in Shelter Island Yacht Basin as adopted in San Diego Water Board Resolution No. R9-2005-0019 and as corrected by the San Diego Water Board Executive Officer.

2. Authorizes the Executive Director to transmit the amendment and administrative record for this action to OAL and the TMDL to USEPA for approval.

3. The State Water Board recognizes that the Department of Pesticide Regulation (DPR) has committed resources to address this issue, including initiating regulatory measures to address copper-based antifouling paints. The State Water Board encourages DPR to expeditiously pursue the appropriate scientific and regulatory avenues to address water quality concerns associated with copper-based antifouling paints. If after two years DPR or USEPA have not taken action to adequately address the impacts of copper-based antifouling paints on water quality, the San Diego Water Board, in conjunction with the State Water Board, shall work with all coastal Regional Water Boards to develop a state policy for water quality control to address water quality impairments in coastal marinas from copper-based antifouling paints.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 22, 2005.

AYE: Tam M. Doduc
Peter S. Silva
Arthur G. Baggett, Jr.
Richard Katz
Gerald D. Secundy

NO: None.

ABSENT: None.

ABSTAIN: None.

Debbie Irvin

Debbie Irvin
Clerk to the Board

APPENDIX F

2021 SIYB DISSOLVED COPPER WINTER MONITORING TECHNICAL MEMORANDUM

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FINAL
2021 SHELTER ISLAND YACHT BASIN
DISSOLVED COPPER WINTER MONITORING
TECHNICAL MEMORANDUM

Submitted to:

Port of San Diego

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
9177 Sky Park Court
San Diego, California 92123

February 2022

Wood Project No. 2015100105

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ACRONYMS AND ABBREVIATIONS

ASTM	ASTM International
CCC	criterion continuous concentration
CMC	criterion maximum concentration
COC	chain-of-custody
CTD	conductivity, temperature, and depth
DO	dissolved oxygen
DOC	dissolved organic carbon
EC_{50}	median effective concentration
ELAP	California Environmental Laboratory Accreditation Program
ER	equipment rinsate
FB	field blank
J-flag	estimated value
LC_{50}	median lethal concentration
LCS	laboratory control sample
LIMS	Laboratory Information Management System
Monitoring Plan	SIYB Dissolved Copper TMDL Monitoring Plan
MS	matrix spike
MSD	matrix spike duplicate
ND	non-detect
NELAP	National Environmental Laboratory Accreditation Program
NOEC	no observed effect concentration
PDF	Portable Document Format
PMSD	percent minimum significant difference
Port	San Diego Unified Port District
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
REF	reference
Regional Board	San Diego Regional Water Quality Control Board
SBE	Sea-Bird Electronics
SD	standard deviation
SIYB	Shelter Island Yacht Basin
SM	Standard Method
SOP	standard operating procedure
SWAMP	Surface Water Ambient Monitoring Program
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TOC	total organic carbon
TSS	total suspended solids
TST	test of significant toxicity
USEPA	United States Environmental Protection Agency
Weck	Weck Laboratories, Inc.
Wood	Wood Environment & Infrastructure Solutions, Inc.
WQO	water quality objective
YSI	YSI Incorporated

UNITS OF MEASURE

~	approximately
%	percent
±	plus or minus
°C	degree(s) Celsius
<	less than
>	greater than
≥	greater than or equal to
µg/L	microgram(s) per liter
µm	micrometer(s) or micron(s)
µS/cm	microSiemens per centimeter
dd/ddd.ddddd°	decimal degrees
mg/L	milligram(s) per liter
mL	milliliter(s)
ppt	part(s) per thousand

1.0 INTRODUCTION

This technical memorandum presents the results of the winter water quality monitoring event conducted in Shelter Island Yacht Basin (SIYB) in February 2021. This winter monitoring event was conducted to supplement the annual SIYB Dissolved Copper Total Maximum Daily Load (TMDL) compliance monitoring, which occurs in the summer. This study was completed through the combined efforts of the San Diego Unified Port District (Port) and Wood Environment & Infrastructure Solutions, Inc. (Wood).

Since 2011, surface water quality monitoring has been performed annually in the summer in SIYB as part of the SIYB TMDL Monitoring Program. By sampling in the summer for compliance monitoring, dissolved copper concentrations are likely to be at their highest levels in the water column because the release rates of copper from antifouling paints are higher at warmer sea surface temperatures and there is a greater frequency of hull cleaning and vessel usage. As a result, the sampling design for compliance monitoring provides the most conservative estimate for dissolved copper concentrations in SIYB.

In contrast, dissolved copper concentrations are expected to be lower in the winter due to the cooler sea surface temperatures and the lower frequency of hull cleaning and vessel usage relative to the summer months. Therefore, a supplemental winter monitoring event was added to the SIYB TMDL Monitoring Program in 2021 to provide a better understanding of the seasonal variability of dissolved copper levels and toxicity in SIYB and at the reference locations in San Diego Bay.

This technical memorandum presents the results for the 2021 winter monitoring event in SIYB and includes the following:

- Field and laboratory methods to assess water quality, including quality assurance (QA) and quality control (QC) procedures;
- Water quality monitoring data, including results from chemical and toxicological evaluations of surface water samples collected in February 2021; and
- A QA/QC summary assessing data quality and usability.

2.0 METHODS

This section describes the field methods used to assess dissolved copper levels and toxicity in SIYB, as well as QA/QC procedures used during water quality monitoring and data analysis.

2.1 Water Quality Monitoring

Water samples were collected and analyzed in accordance with the SIYB TMDL Monitoring Plan (Wood, 2020a). The methods used were consistent with those employed during the annual summer TMDL compliance monitoring and those of prior studies conducted by the San Diego Regional Water Quality Control Board (Regional Board) in SIYB (Regional Board, 2005).

2.1.1 Sampling Station Locations

Samples were collected at six stations within SIYB and two[1] reference stations in the main channel of San Diego Bay (Table 2-1 and Figure 2-1). Target sampling locations were consistent with those sampled during prior summer TMDL compliance monitoring events.

All stations were located using the Differential Global Positioning System. To the greatest extent possible, samples were collected within approximately ±3 meters of the target coordinates. During the 2021 winter monitoring event, two sampling locations (SIYB-3 and SIYB-4) had to be relocated due to the presence of approximately 20 vessels moored at the La Playa Anchorage, which precluded the field team from sampling at the designated sampling locations. As a result of these obstructions, it was determined in the field to move the SIYB-3 sampling location approximately 10 meters east and the SIYB-4 sampling location approximately 60 meters east-northeast to open water. Target and actual sampling locations are shown in Table 2-1 and Figure 2-1.

Table 2-1.
Sampling Location Coordinates

Station	Target Sampling Coordinates		Actual Sampling Coordinates	
	Latitude (dd.ddddd°)	Longitude (ddd.ddddd°)	Latitude (dd.ddddd°)	Longitude (ddd.ddddd°)
SIYB-1	32.71821	-117.22601	32.71822	-117.22597
SIYB-2	32.71412	-117.22921	32.71412	-117.22922
SIYB-3[a]	32.71550	-117.22989	32.71550	-117.22974
SIYB-4[b]	32.71683	-117.23203	32.71707	-117.23142
SIYB-5	32.71217	-117.23297	32.71216	-117.23298
SIYB-6	32.70858	-117.23514	32.70879	-117.23513
SIYB-REF-1	32.70406	-117.23232	32.70407	-117.23230
SIYB-REF-2	32.70926	-117.22544	32.70924	-117.22542

Notes:
a. During the 2021 winter sampling event, approximately 20 vessels were moored at the La Playa Cove Anchorage, which precluded the field team from sampling at the designated sampling location at Station SIYB-3. As a result of these obstructions, it was determined in the field to move the SIYB-3 sampling location approximately 10 meters east to open water.
b. During the 2021 winter sampling event, approximately 20 vessels were moored at the La Playa Cove Anchorage, which precluded the field team from sampling at the designated sampling location at Station SIYB-4. As a result of these obstructions, it was determined in the field to move the SIYB-4 sampling location approximately 60 meters east-northeast to open water.
dd/ddd.ddddd° = decimal degrees; REF = reference; SIYB = Shelter Island Yacht Basin

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[1] A supplemental second reference station (SIYB-REF-2) was added as a sampling location starting in 2020 to provide a better understanding of the background conditions within San Diego Bay outside of SIYB.

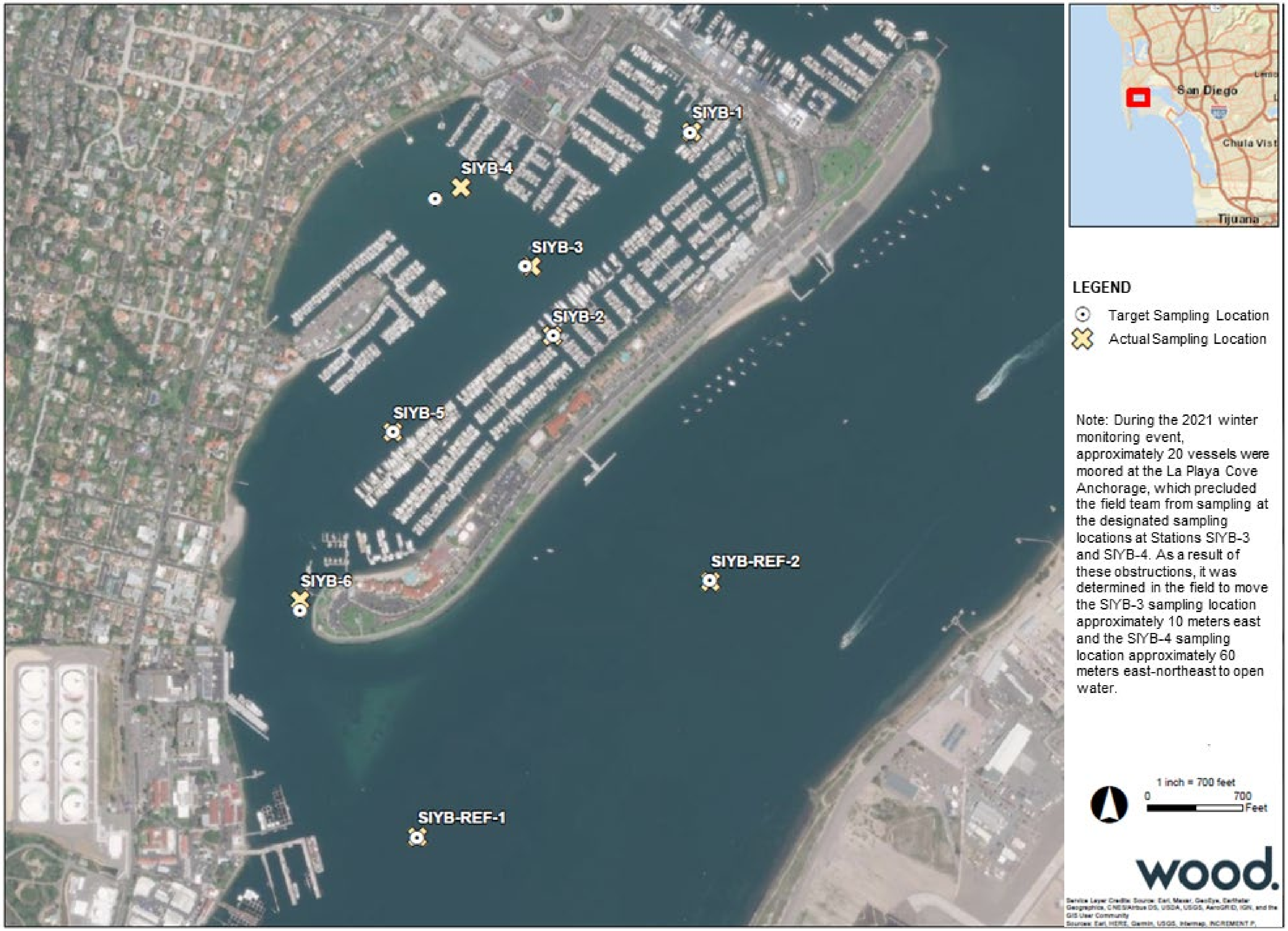

Figure 2-1. Shelter Island Yacht Basin TMDL Sampling Locations for the 2021 Winter Monitoring Event

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2.1.2 Sampling Date

Surface water at the eight sampling locations was sampled on February 16, 2021. In accordance with the Monitoring Plan, water sampling bracketed slack high tide, as depicted in Figure 2-2.

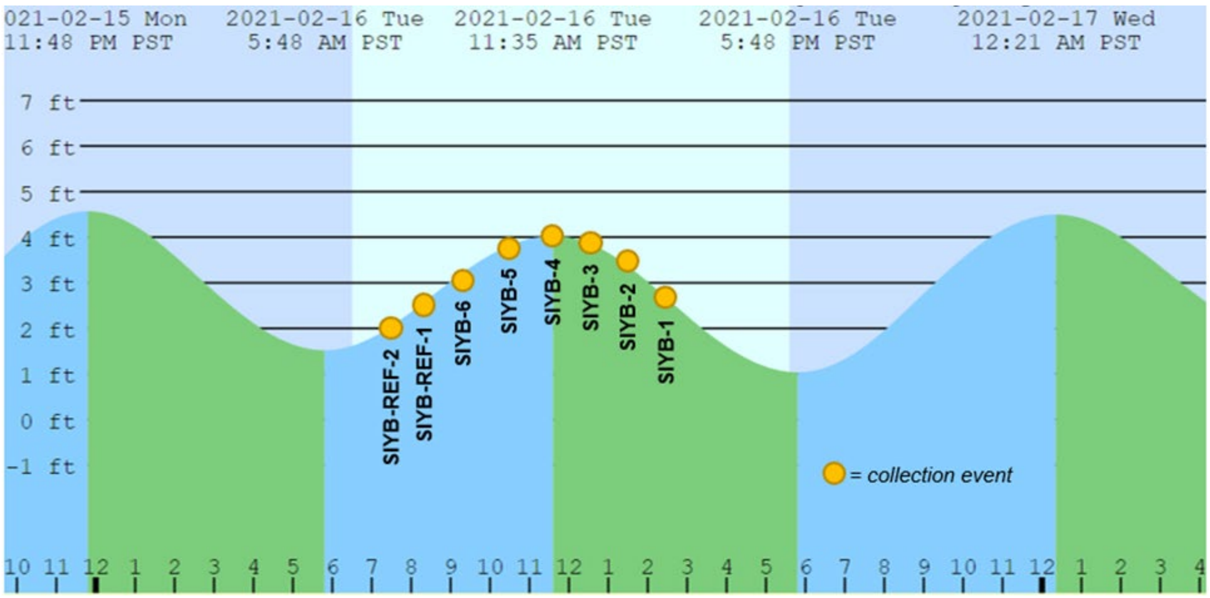

Figure 2-2. February 16, 2021 Sample Collection Times Versus Tide
Note: High tide on 02/16/2021 was +4.03 feet at 11:35AM (https://tidesandcurrents.noaa.gov/waterlevels.html?id=9410170)

2.1.3 Sample Collection

Discrete water samples were collected from the surface (i.e., 1 meter below the surface) at each station using a Niskin bottle deployed from a sample collection vessel. Surface Water Ambient Monitoring Program (SWAMP)-defined “clean hands” techniques (State Water Resources Control Board [SWRCB], 2014) were used, consistent with the project-specific and approved SIYB TMDL Quality Assurance Project Plan (QAPP) (Wood, 2020b). As required by SWAMP protocols, the monitoring program included collection of one field replicate. The field replicate sample consisted of a second complete set of samples collected at one of the sampling stations (SIYB-1 in the 2021 winter monitoring event). The purpose of the field replicate is to assess variability in sampling procedures as well as ambient conditions. In addition to the field replicate, an equipment rinsate (ER) blank and field blank (FB) were collected using laboratory-provided deionized water. The ER blank was collected prior to sampling, and the field blank was collected immediately after the collection of the last sample at SIYB-1.

After collection, samples for dissolved metals analyses were filtered in the field through a 0.45-micron (µm) glass fiber filter using a bottle top vacuum filtration system. Water samples were transferred to labeled containers for analysis of total and dissolved copper and zinc, total organic carbon (TOC), dissolved organic carbon (DOC), total suspended solids (TSS), and toxicity[2].

[2] Because the sample from SIYB-REF-2 was only collected to assess variability in dissolved copper levels at the reference stations, this sample was not tested for toxicity.

Field measurements were taken at each station for temperature, conductivity, salinity, pH, and dissolved oxygen (DO) using a hand-held YSI Incorporated (YSI) Pro Plus data sonde. Field data sheets, including field measurements and detailed field notes, are provided in Appendix A.

Following the collection and preservation of water samples, a top-to-bottom water quality profile of temperature, conductivity, salinity, pH, DO, and light transmittance using a Sea-Bird Electronics (SBE) Conductivity, Temperature, and Depth (CTD) profile instrument was performed at each station[3]. In situ analytical methods and detection limits are listed in Table 2-2.

Table 2-2.
In Situ Analytical Methods and Detection Limits

Water Quality Measurement	Method	Instrument Sensitivity
Temperature	SBE CTD and YSI Pro Plus	± 0.1 °C
Specific Conductance	SBE CTD and YSI Pro Plus	± 1 μS/cm
Salinity	SBE CTD and YSI Pro Plus	± 0.1 ppt
pH	SBE CTD and YSI Pro Plus	± 0.1 pH unit
Dissolved Oxygen	SBE CTD and YSI Pro Plus	± 0.1 mg/L
Light Transmittance	SBE CTD	± 0.1%

Notes:
± = plus or minus; % = percent; °C = degrees Celsius; μS/cm = microSiemens per centimeter; CTD = conductivity, temperature, and depth; mg/L = milligram(s) per liter; ppt = part(s) per thousand; SBE = Sea-Bird Electronics; YSI = YSI Incorporated

All samples were logged on a chain-of-custody (COC) form, and then placed in a cooler on ice. Samples were stored at or below 4 degrees Celsius (°C) in the dark until delivered to the appropriate laboratory for analysis. Water chemistry analyses were conducted by Weck Laboratories, Inc. (Weck) located in the City of Industry, California; toxicity tests were conducted at the Wood Aquatic Toxicology Lab of San Diego, California. Both laboratories are accredited through the National Environmental Laboratory Accreditation Program (NELAP) and/or California Environmental Laboratory Accreditation Program (ELAP).

2.1.4 Equipment Decontamination and Cleaning

The Niskin bottle was cleaned prior to sampling with clean, soapy water followed by a thorough rinse with deionized water. Upon deployment, the Niskin bottle received a thorough site water rinse at each station prior to sample collection. After collection, water samples were transferred using the “clean-hands” method from the Niskin bottle to laboratory-certified, contaminant-free sample bottles.

2.1.5 COVID-19 Safety Protocols

<u>Field</u>

The project-specific Monitoring Plan (Wood, 2020a) and Health and Safety Plan (Wood, 2020c) were revised in 2020 to include additional safety protocols to prevent the spread of COVID-19. Field staff were required to drive to the field site in separate vehicles to allow for social distancing. Prior to sampling, field staff were required to certify that they had no known exposure to persons with COVID-19 within the past 14 days and had no symptoms of COVID-19 (e.g., fever, cough,

[3] Due to field collection schedule limitations, a CTD water quality profile was not performed at station SIYB-REF-2.

sore throat, or breathing difficulty). Face coverings were worn by all personnel for the duration of the field operations. In addition, field staff distanced and remained on the rear deck of the vessel in the open air to the maximum possible extent.

Laboratory

Additional COVID-19 safety protocols were also implemented by chemistry and toxicology laboratory staff including, but not limited to, the following:

- All personnel were required to check their temperature prior to entering the laboratory and review questions related to personal health before starting work.
- All personnel were required to wear a mask or face covering at all times while in the laboratory.
- In-house personnel were required to maintain a safe social distance (i.e., a minimum of 6 feet) from each other as much as possible.
- All client meetings and communication were performed through digital media (i.e., no in-person communication).

There were no changes to standard laboratory procedures, and all samples were analyzed in accordance with the test methods, as described in Section 2.1.6.

2.1.6 Laboratory Analyses

After collection was completed, samples were transported to the laboratory under customary COC protocols. Samples were analyzed for total and dissolved copper, total and dissolved zinc, TOC, DOC, and TSS, following certified United States Environmental Protection Agency (USEPA) or Standard Method (SM) test methods. The laboratory analytical methods and target detection and reporting limits are specified in Table 2-3. Actual final method detection and reporting limits are provided in the chemistry laboratory report in Appendix B.

Table 2-3.
Laboratory Analytical Methods

Water Quality Measurement	Method	Target Method Detection Limit	Target Reporting Limit
Total Copper	USEPA 1640	0.0038 µg/L	0.010 µg/L
Dissolved Copper	USEPA 1640	0.0038 µg/L	0.010 µg/L
Total Zinc	USEPA 1640	0.036 µg/L	0.20 µg/L
Dissolved Zinc	USEPA 1640	0.036 µg/L	0.20 µg/L
TOC	SM 5310 B	0.016 mg/L	0.10 mg/L
DOC	SM 5310 B	0.016 mg/L	0.10 mg/L
TSS	SM 2540 D	1.0 mg/L	5.0 mg/L

Notes:
µg/L = microgram(s) per liter; DOC = dissolved organic carbon; mg/L = milligram(s) per liter; SM = Standard Method; TOC = total organic carbon; TSS = total suspended solids; USEPA = United States Environmental Protection Agency

Toxicity testing consisted of a 96-hour acute bioassay test using Pacific topsmelt (*Atherinops affinis*), as well as a 48-hour chronic bioassay test using mussel larvae (*Mytilus galloprovincialis*), as described in Section 2.1.6.1 and 2.1.6.2.

2.1.6.1 Topsmelt 96-Hour Acute Bioassay

The topsmelt acute toxicity test was initiated on February 17, 2021 following the procedures described in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA, 2002). Juvenile topsmelt were exposed for 96 hours to three sample concentrations (0.5 dilution series) and a control. Each concentration was tested with six replicates and five topsmelt per replicate. Water quality measurements of DO, temperature, pH, and salinity were conducted daily. Test conditions are summarized in Table 2-4. After 96 hours, percent survival was reported and calculated. The test was considered acceptable if mean survival was greater than or equal to 90% in the controls.

Table 2-4.
Conditions for the 96-Hour Pacific Topsmelt Bioassay

96-Hour Acute Fish Survival Bioassay Conditions	
Samples Tested[a]	SIYB-1, SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, SIYB-REF-1
Date Sampled	February 16, 2021
Test Dates	February 17–21, 2021
Test Species	Pacific topsmelt (*Atherinops affinis*)
Test Protocol	USEPA Acute Manual, 2002 (EPA/821/R-02/012)
Test Acceptability Criterion	≥90% mean survival in the laboratory control
Test Type and Duration	Acute survival/96-hour static-renewal (48-hour water renewal)
Organism Supplier	Aquatic BioSystems, Fort Collins, Colorado
Feeding	Artemia nauplii 1x daily
Control Water Source	Scripps Pier seawater
Acclimation Time	5 days
Age at Test Initiation	14 days old
Test Concentrations	0 (laboratory control), 25, 50, and 100% sample
Replicates per Sample	6
Organisms Exposed per Replicate	5
Exposure Volume	250 mL

Notes:
a. Because the sample from SIYB-REF-2 was only collected to assess variability in dissolved copper levels at the reference stations, this sample was not tested for toxicity.
≥ = greater than or equal to; mL = milliliter(s); % = percent; REF = reference; SIYB = Shelter Island Yacht Basin; USEPA = United States Environmental Protection Agency

A 96-hour reference toxicant test using copper chloride was conducted concurrently with the topsmelt acute toxicity test to evaluate the relative sensitivity of test organisms to a single known chemical, as well as the laboratory's proficiency with the test procedure. The topsmelt reference toxicant tests were conducted with copper concentrations of 0, 25, 50, 100, 200, and 400 micrograms per liter (µg/L). The reference toxicant test was conducted concurrently with the SIYB acute toxicity test and used test organisms from the same batch. Following test termination, the median lethal concentration (LC_{50}) was calculated and compared with historical laboratory reference toxicant test data for this species. Test organisms are considered appropriately sensitive when the test LC_{50} is within two standard deviations of the historical laboratory mean.

2.1.6.2 Bivalve 48-Hour Bioassay

The 48-hour bivalve larvae test was initiated on February 17, 2021 for all samples collected in SIYB and followed the procedures described in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (USEPA, 1995).

Bivalves were exposed to five sample concentrations and a control. Each concentration was tested with five replicates and approximately 250 larvae were targeted for inoculation into each replicate. Daily water quality measurements included DO, temperature, pH, and salinity. Test conditions are summarized in Table 2-5.

After test termination, the percentage of surviving embryos with normal development was calculated to determine whether normality had been significantly reduced. The test was considered acceptable if (1) at least 50% of larvae survived in the controls, and (2) an average of 90% of surviving larvae developed normally in the controls. In addition, the percent minimum significant difference in the test must be less than 25. A combined endpoint of normal surviving embryos is reported.

Table 2-5.
Conditions for the 48-Hour Mussel Development Bioassay

48-Hour Chronic Bivalve Survival and Shell Development Bioassay Conditions	
Samples Tested[a]	SIYB-1, SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, SIYB-REF-1
Date Sampled	February 16, 2021
Test Dates	February 17–19, 2021
Test Species	Mediterranean mussel *(Mytilus galloprovincialis)*
Test Protocol	USEPA/600/R-95/136 (USEPA, 1995); ASTM, 1998
Test Acceptability Criteria	Mean percent survival in the laboratory control must be 50%, and 90% of surviving organisms must have normal shell development. The PMSD in the test must be less than 25.
Test Type/Duration	Bivalve larvae survival and development (endpoint reported as normal development of surviving embryos) – Static/48 hours
Organism Source	Mission Bay, San Diego, California
Control Water Source	Scripps Pier seawater, 20-μm filtered
Age Class of Mussels Exposed	<4 hour-old embryos
Test Concentrations	0 (laboratory control), 6.25, 12.5, 25, 50, and 100% sample
Replicates/Sample	5
Initial Density of Organisms Exposed per Replicate	~250
Exposure Volume	10 mL

Notes:
a. Because the sample from SIYB-REF-2 was only collected to assess variability in dissolved copper levels at the reference stations, this sample was not tested for toxicity.
~ = approximately; < = less than; μm = micrometer(s); % = percent; ASTM = ASTM International; mL = milliliter(s); PMSD = percent minimum significant difference; REF = reference; SIYB = Shelter Island Yacht Basin; USEPA = United States Environmental Protection Agency

A 48-hour reference toxicant test using copper chloride was conducted concurrently with the project samples to evaluate the relative sensitivity of test organisms and the laboratory's proficiency with the test procedure. The bivalve reference toxicant test was conducted with copper concentrations of 0, 2.5, 5.0, 10, 20, and 40 µg/L. The same batch of test organisms was used for both the reference toxicant test and the project samples. At test termination, the median effective concentration (EC_{50}) was calculated and compared with historical laboratory reference toxicant test data for this species. Test organisms are considered to be responsive and appropriately sensitive if the test EC_{50} was within two standard deviations of the respective historical laboratory mean.

2.1.7 Toxicity Statistical Analyses

Determinations of toxicity using the 96-hour topsmelt and 48-hour mussel bioassays were statistically assessed using the Comprehensive Environmental Toxicity Information System™, Tidepool Scientific Software. Survival of topsmelt fish and normal development of surviving mussel embryos in each test dilution from SIYB were compared with organism performance observed in control exposures to clean seawater collected from the end of the pier at Scripps Institution of Oceanography in La Jolla, California. Results were used to determine LC_{50} and EC_{50} values. If fish survival and normal embryo development in the controls did not differ significantly from those of the treatments, then conditions within were considered nontoxic at the station. The test of significant toxicity (TST) method was used to identify any samples that exhibited a statistically significant difference from the control (USEPA, 2010).

2.2 Quality Assurance and Quality Control

This section describes the QA/QC procedures for all field activities and laboratory analyses. Specific QA/QC procedures are provided in detail in the approved project-specific SIYB TMDL QAPP (Wood, 2020b).

2.2.1 Field QA/QC

Sampling process QA/QC included preparation prior to, during, and after sample collection to minimize the possibility of compromising sample integrity. The sample collection team was trained in and followed field sampling standard operating procedures (SOPs), as described in the SIYB Monitoring Plan and QAPP (Wood, 2020a and 2020b). Additionally, Port-approved field QA checklists were used throughout the sampling event to ensure that all procedures were consistent at each station, all samples were collected in exactly the same manner at every station, and all required field data were properly recorded (see Appendix A).

COC procedures were used for all samples throughout the collection, transport, and analytical process. Completed COC forms are provided in the laboratory reports in Appendix B (chemistry) and Appendix C (toxicity). The project-specific Monitoring Plan and QAPP (Wood, 2020a and 2020b) provide more information regarding COC procedures.

2.2.2 Laboratory Analytical QA/QC

The QA objectives for chemical analysis conducted by the participating analytical laboratories are provided in their individual laboratory QA manuals and in the project-specific QAPP (Wood, 2020b). Results of all laboratory QA/QC analyses are reported in Appendix B (chemistry) and Appendix C (toxicity). Any QC samples that failed to meet the specified QA/QC criteria in the methodology or QAPP were identified, and the corresponding data were appropriately qualified. A QA/QC summary is included as Section 4.0 of this report.

2.3 Data Review and Management

Field and laboratory data were reviewed for completeness and accuracy prior to data analysis and reporting, and were stored in a database, as described in Sections 2.3.1 and 2.3.2.

2.3.1 Data Review

After the monitoring event, field data sheets were checked for completeness and accuracy by the field staff and the QA reviewer. In addition, all sample COC forms were checked against sample labels at the end of the day prior to sample transport to the laboratories. In the analytical laboratory, technicians documented sample receipt in laboratory logbooks, and samples were logged into the electronic Laboratory Information Management System (LIMS) for sample tracking purposes to ensure that holding times were met and samples were efficiently analyzed. Logbooks were maintained at each instrument to provide hardcopy documentation of analytical runs, and data generated by each instrument were directly uploaded to the LIMS system for data review and processing. Data validation was performed within the LIMS and included application of both performance-based and project-specific QC criteria to reject or accept specific data. Data for laboratory analyses were entered directly onto data sheets. The technician who generated the data had primary responsibility for the accuracy and completeness of the data. Each technician reviewed the data to ensure the following:

- The sample description information was correct and complete.
- The analysis information was correct and complete.
- The results were correct and complete.
- The documentation was complete.

All data were subsequently reviewed and verified by each section supervisor and released to the laboratory project manager to determine whether data quality objectives had been met for final reporting, and whether appropriate corrective actions had been taken when necessary. Any necessary corrective actions were coordinated with the laboratory project manager, the laboratory QA/QC director, and the Wood project manager for resolution.

2.3.2 Data Management

All laboratories supplied analytical results in Adobe Portable Document Format (PDF) files. After completion of the data review by participating team laboratories, laboratory results were forwarded to Wood for review and reporting. All laboratory records that were submitted, including any raw data, are included in Appendices B and C with each laboratory report.

3.0 RESULTS

This section provides the results of the winter water quality monitoring event performed in SIYB on February 16, 2021.

3.1 Surface Water Chemistry

Surface water samples were tested for concentrations of total and dissolved copper and zinc, DOC, TOC, and TSS. Water chemistry results are summarized in Table 3-1; the complete analytical chemistry laboratory report is in Appendix B. A QA/QC summary of all analytical laboratory data is in Section 4.1.

Table 3-1.
Chemistry Results for SIYB Surface Waters, February 2021 Event

Station	Dissolved Copper (µg/L)	Total Copper (µg/L)	Dissolved Zinc (µg/L)	Total Zinc (µg/L)	DOC (mg/L)	TOC (mg/L)	TSS (mg/L)
SIYB-1	**10**	9.4	38	34	1.3	1.7	6
SIYB-2	**8.3**	7.6	31	28	1.3	1.8	4 J
SIYB-3	**7.5**	6.9	29	25	2.0	1.8	3 J
SIYB-4	**8.2**	8.7	30	28	1.4	1.4	8
SIYB-5	**6.3**	6.1	20	21	1.7	1.7	4 J
SIYB-6	1.8	1.8	6.2	6.2	1.5	1.1	4 J
SIYB-REF-1	1.1	1.0	3.6	3.6	1.2	1.2	3 J
SIYB-REF-2	1.8	1.6	6.3	6.0	1.2	1.8	5

Notes:
Values in **bold** are above the USEPA National Recommended Water Quality criterion continuous concentration (CCC) for dissolved copper of 3.1 µg/L in marine waters. No values were above the CCC for dissolved zinc of 81 µg/L.
µg/L = microgram(s) per liter; DOC = dissolved organic carbon; J = estimated value; mg/L = milligram(s) per liter; REF = reference; SIYB = Shelter Island Yacht Basin; TOC = total organic carbon; TSS = total suspended solids

Dissolved Copper – Dissolved copper levels within SIYB ranged from 1.8 to 10 µg/L, with increasing concentrations moving from the mouth (SIYB-6) to the head of the basin (SIYB-1). The concentrations of dissolved copper at the reference stations (SIYB-REF-1 and SIYB-REF-2) were 1.1 µg/L and 1.8 µg/L, respectively. Dissolved copper concentrations at five of the six SIYB stations exceeded the dissolved copper criterion continuous concentration (CCC) water quality objective (WQO) of 3.1 µg/L and criterion maximum concentration (CMC) WQO of 4.8 µg/L. The concentrations of dissolved copper at the outermost station in SIYB (SIYB-6), as well as both reference stations located outside of SIYB, were below both WQOs.

Total Copper – Total copper concentrations measured in SIYB followed a similar spatial pattern, ranging from 1.8 µg/L at the outermost station (SIYB-6) to 9.4 µg/L at the innermost station (SIYB-1). The total copper concentrations at the reference stations (SIYB-REF-1 and SIYB-REF-2) were 1.0 µg/L and 1.6 µg/L, respectively.

Dissolved Zinc – Dissolved zinc concentrations in SIYB followed a spatial pattern similar to that of dissolved copper. Concentrations ranged from 6.2 to 38 µg/L within SIYB (lowest at SIYB-6 and highest at SIYB-1). The concentrations at SIYB-REF-1 and SIYB-REF-2 were 3.6 µg/L and 6.3 µg/L, respectively. Dissolved zinc levels in SIYB were well below the USEPA CCC of 81 µg/L.

Total Zinc – Total zinc concentrations followed a similar spatial pattern, with values ranging from 6.2 µg/L at SIYB-6 to 34 µg/L at SIYB-1. The concentrations of total zinc at SIYB-REF-1 and SIYB-REF-2 were 3.6 µg/L and 6.0 µg/L, respectively.

DOC – DOC concentrations in the water column, which have been shown to affect the bioavailability of free copper, were relatively consistent at all samples in SIYB, ranging from 1.3 milligrams per liter (mg/L) to 2.0 mg/L. The concentration of DOC at both reference stations outside of SIYB was 1.2 mg/L.

TOC – Similarly, measured concentrations of TOC were relatively consistent for all samples in SIYB, ranging from 1.1 mg/L to 1.8 mg/L. The concentrations of TOC at SIYB-REF-1 and SIYB-REF-2 were 1.2 mg/L and 1.8 mg/L, respectively.

TSS – Measured concentrations of TSS were relatively consistent for all six stations in SIYB, ranging from 3 (J) mg/L at SIYB-3 to 8 mg/L at SIYB-4. The concentrations of TSS at SIYB-REF-1 and SIYB-REF-2 were 3 (J) mg/L and 5 mg/L, respectively.

3.1.1 Comparison of SIYB Dissolved Copper Levels over Time

An average basin-wide dissolved copper concentration was calculated (excluding the reference stations) for comparison with the prior SIYB TMDL monitoring results (Figure 3-1). The basin-wide average concentration of dissolved copper measured in February 2021 was 7.0 µg/L ± 1.2 µg/L (mean ± standard error), which is slightly lower than that observed in during the previous two monitoring events conducted in the summers of 2019 and 2020. Decreases in copper were primarily observed at the innermost stations (SIYB-1 through SIYB-3) during the 2021 winter monitoring event compared to the most recent summer monitoring event conducted in August 2020 (Figure 3-2).

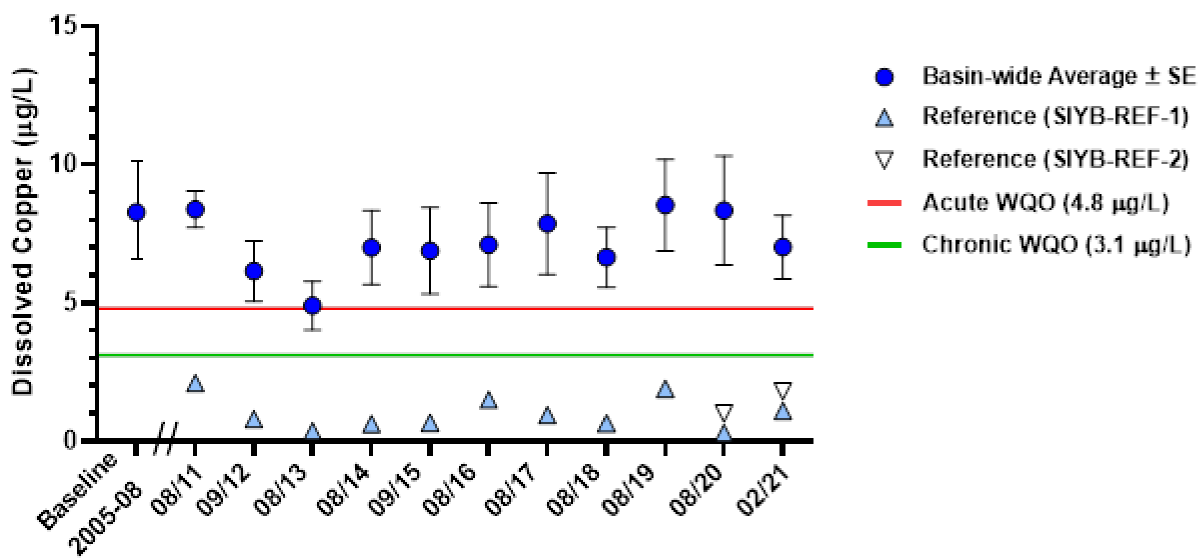

Figure 3-1. Basin-wide Average Dissolved Copper Concentrations in SIYB Over Time

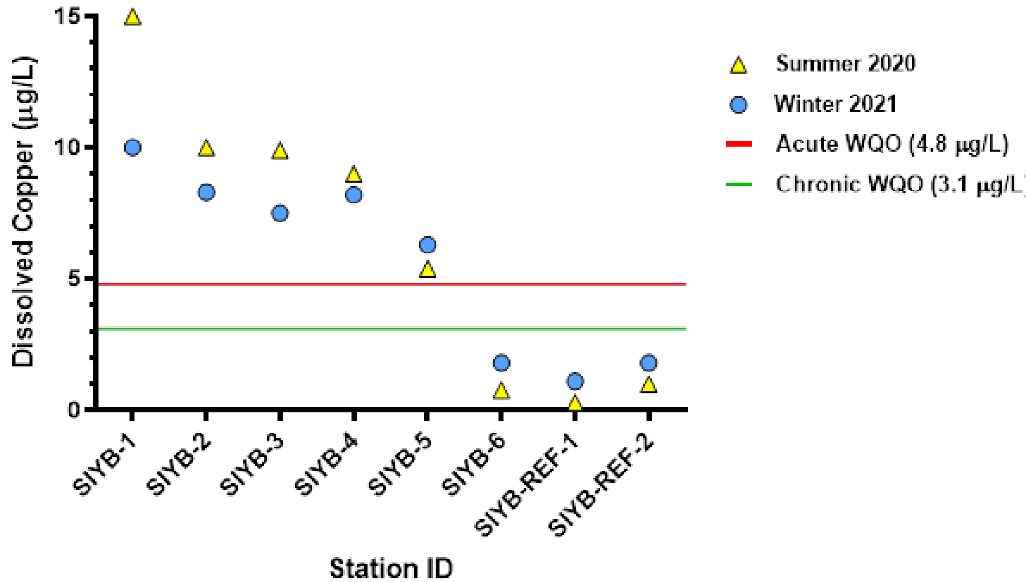

Figure 3-2. Dissolved Copper Concentrations by Station

3.2 Toxicity

Surface water samples were also tested for toxicity using an acute 96-hour survival exposure with Pacific topsmelt and a chronic 48-hour survival and development test using Mediterranean mussel embryos, as described in the following sections.

3.2.1 Pacific Topsmelt 96-Hour Acute Bioassay

Results of the Pacific topsmelt acute toxicity tests conducted on SIYB surface water samples are summarized in Table 3-2. The complete laboratory report prepared by Wood Aquatic Toxicology Laboratory is included in Appendix C. A QA/QC summary of all toxicity data is in Section 4.2.

Table 3-2.
Results of the 96-Hour Pacific Topsmelt Bioassay

Concentration (% Sample)	Station/Mean Survival (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Laboratory Control	90.0	90.0	90.0	90.0	90.0	90.0	93.3
25	90.0	86.7	96.7	90.0	83.3	93.3	86.7
50	90.0	86.7	90.0	86.7	86.7	90.0	90.0
100	86.7	90.0	90.0	86.7	90.0	93.3	90.0
Test Results							
TST (Pass/Fail)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
NOEC (%)	100	100	100	100	100	100	100
LC_{50} (%)	>100	>100	>100	>100	>100	>100	>100

Notes:
The reference toxicant LC_{50} value (155 µg/L copper) for this test was within two standard deviations of the Wood Aquatic Toxicology Laboratory historical mean (77.3–237 µg/L copper), indicating typical organism sensitivity to copper.
µg/L = microgram(s) per liter; > = greater than; % = percent; LC_{50} = concentration estimated to be lethal to 50% of the organisms; NOEC = no observed effect concentration; REF = reference; SIYB = Shelter Island Yacht Basin; TST (Pass/Fail) = test of significant toxicity; TST Pass = sample is nontoxic according to the TST calculation; TST Fail = sample is toxic according to the TST calculation; USEPA = United States Environmental Protection Agency

A Pacific topsmelt acute toxicity test is considered acceptable if mean survival is greater than or equal to 90% in the controls. Pacific topsmelt survival ranged from 90% to 93% in all laboratory controls (Table 3-2), which meets the test acceptability criterion of 90%; therefore, tests were deemed valid.

No acute toxicity was observed in any of the undiluted samples tested. The LC_{50} for all samples was greater than 100%, indicating that surface water samples collected in SIYB and at reference station SIYB-REF-1 during the 2021 winter monitoring event were nontoxic to topsmelt.

3.2.2 Bivalve Larvae 48-Hour Chronic Bioassay

Results of the mussel development tests conducted on SIYB surface water samples are summarized in Table 3-3. Results are presented as a combined endpoint of survival and development per the USEPA (1995) protocol. The complete laboratory report prepared by Wood Aquatic Toxicology Laboratory is included in Appendix C. A QA/QC summary of all toxicity data is in Section 4.2.

Table 3-3.
Results of the 48-Hour Bivalve Larvae Bioassay

Concentration (% Sample)	Station/Mean Combined Survival and Normal Development						
	SIYB-1	**SIYB-2**	**SIYB-3**	**SIYB-4**	**SIYB-5**	**SIYB-6**	**SIYB-REF-1**
Laboratory Control	89.7	89.7	91.4	90.5	91.5	90.2	90.4
Filter Control	90.9	88.8	90.3	90.6	88.3	89.1	92.4
6.25	91.9	88.3	91.3	89.5	90.2	91.9	88.7
12.5	87.9	88.5	90.1	91.9	90.1	88.2	91.5
25	90.0	88.9	89.5	89.5	91.1	91.3	91.4
50	87.3	87.1	90.6	92.2	88.7	91.9	92.1
100	**40.7**	87.8	90.9	91.4	89.1	90.8	90.1
100 (1.2-µm filtered)[a]	**67.3**	86.5	89.4	87.8	90.0	91.4	88.5
Test Results							
TST (Pass/Fail) unfiltered sample	Fail	Pass	Pass	Pass	Pass	Pass	Pass
TST (Pass/Fail) filtered sample	Fail	Pass	Pass	Pass	Pass	Pass	Pass
EC_{50} (% unfiltered sample)	93.2	>100	>100	>100	>100	>100	>100
EC_{50} (% filtered sample)	>100	>100	>100	>100	>100	>100	>100

Notes:
Values in **bold** indicate a statistically significant decrease compared to control.
The reference toxicant EC_{50} value (13.8 µg/L copper) for this test was within two standard deviations of the Wood Aquatic Toxicology Laboratory historical mean (4.49–17.6 µg/L copper), indicating typical organism sensitivity to copper.
a. Each undiluted sample was also tested filtered through 1.2-µm filter to remove potentially harmful native algae that might interfere with test organism performance.
µg/L = microgram(s) per liter; µm = micrometer(s); > = greater than; % = percent; EC_{50} = concentration estimated to cause an adverse effect on 50% of the organisms; REF = reference; SIYB = Shelter Island Yacht Basin; TST (Pass/Fail) = test of significant toxicity; TST Pass = sample is nontoxic according to the TST calculation; TST Fail = sample is toxic according to the TST calculation

Bivalve tests were conducted as a dilution series (6.25, 12.5, 25, 50, and 100% sample concentrations) and included a 1.2 µm-filtered treatment on 100% sample concentrations only. Filtration on the 100% concentration samples was conducted to safeguard against potential undesirable effects from resident organisms in the raw water samples.

A bivalve larvae test is considered acceptable (i.e., valid) if at least 50% of the control larvae survived and an average of 90% of surviving control larvae developed normally. Control survival for the winter 2021 tests ranged from 97.6% to 100%, which exceeds the test acceptability criteria of 50% survival (see toxicity report in Appendix C). Bivalve larvae normality in the controls ranged from 89.7% (rounds up to 90%) to 92.0%, which meets the test acceptability criteria of 90% normal development. Based upon these high levels of control survival and normal development, the 2021 winter SIYB bivalve larvae tests met the required test acceptability criteria, and the tests were deemed valid.

A statistically significant decrease in the combined survival and development endpoint using the TST test was observed in one of the six samples tested (SIYB-1) from within the basin. Exposure of bivalve larvae to the undiluted and unfiltered SIYB-1 sample (i.e., 100% concentration) resulted in 40.7% combined survival and normal development. These effects were statistically significant compared to the laboratory control (89.7% combined survival and normal development) using both the USEPA 1995 statistical approach and the TST analysis. For the undiluted and filtered samples tested, a statistically significant decrease in the combined survival and normal development endpoint was also observed in the SIYB-1 sample (67.3% combined survival and normal development). The EC_{50} values were reported as 93.2% and greater than (>) 100% for the unfiltered and filtered SIYB-1 samples, respectively. Bivalve larvae toxicity was not observed in samples collected from any of the other stations in SIYB or the reference station (SIYB-REF-1).

4.0 QUALITY ASSURANCE AND QUALITY CONTROL

This section provides an assessment of data quality and usability for the analytical chemistry results (Section 4.1) and toxicity results (Section 4.2). The chemistry laboratory report prepared by Weck (Appendix B) and toxicity laboratory report prepared by Wood Aquatic Toxicology Laboratory (Appendix C) also include detailed QA/QC sections.

4.1 Analytical Chemistry QA/QC

All chemistry samples were submitted to the analytical laboratory on the day after they were collected (February 17, 2021). The samples were received in good condition at Weck at 2.7°C and on ice. The samples for dissolved metals analyses were field-filtered by Wood and preserved by the laboratory immediately upon receipt. All samples met holding time requirements for analysis.

Analytical chemistry results underwent a thorough QA/QC evaluation; they were determined to meet the data quality objectives in the QAPP and were deemed acceptable for reporting purposes, with the qualifications noted in the QA section of the laboratory report (these issues are summarized below). The analytical chemistry laboratory report in Appendix B has a specific QA/QC section that highlights any qualified data.

The following information summarizes the relevant data QA/QC-related findings associated with the 2021 SIYB TMDL winter monitoring event:

- **Issue** – Seawater samples were diluted for copper and zinc between 1 to 10 times due to matrix interference, resulting in elevated detection limits.
    - **Resolution** – The analytical laboratory routinely dilutes samples to ensure sample concentrations are within instrument calibration ranges. Diluting the samples also allows the laboratory to provide more accurate results by eliminating the potential matrix effect often observed in metal analyses of seawater samples. The final analyte concentrations reported by the laboratory are well above the associated reporting limits for all affected samples. Therefore, the analytical QA/QC officer determined that there is no impact on data usability.
- **Issue** – Similar to results in previous events (e.g., 2016–2020) low-level detections of dissolved and total copper and zinc were observed in the ER blank and FB. Low-level detection of total zinc was observed in the method blank.
    - **Resolution** – Ideally, the level of metals in these QA samples should be very low or non-detect (ND). Total and dissolved concentrations of copper and zinc were lower in the FB than the ER, indicating that the low-level detections reported in the ER sample may be due to potential trace contamination of the Niskin sampler. However, the concentrations of copper and zinc in the ER were negligible relative to sample concentrations measured within SIYB and therefore are not considered a significant data bias.
- **Issue** – Dissolved concentrations for copper were higher than the corresponding total copper concentrations in 7 of the 9 station samples (3–20% higher). Similarly, dissolved zinc concentrations were higher than the corresponding total zinc concentrations in 5 of the 9 station samples (5–16% higher).

- **Resolution** – Review of the analytic blank, ER, and FB results for copper did not indicate any significant contamination that may have resulted during field filtration or laboratory analysis. The laboratory (Weck) was consulted to evaluate possible analytical details that may have influenced these deviations. They include:
  - Different calibration run between the total metals and dissolved metals, which can result in slight differences in the calculated result.
  - Different dilutions performed between total and dissolved metals, with a small margin of error in performing dilutions.
  - Concentrations of total and dissolved copper in the lab blanks were reported as ND (including the dissolved filtration step) ruling out the possibility of lab contamination in the dissolved aliquot.

  These slight deviations are not considered significant enough to warrant retesting or recollection of samples and/or reconfirmation testing. There may be a slight high bias of total zinc based on contamination noted in the method blank, but most site samples were significantly higher than the method blank concentration of 0.913 µg/L. All results were reported within acceptance criteria determined by the method and SOP and therefore considered usable for their intended data purposes and reported as provided by the laboratory.

- **Issue** – All results were within the laboratory's current performance limits, with the exception of several matrix spike (MS) and matrix spike duplicate (MSD) recoveries for total and dissolved copper, which ranged from 82 to 116%. These recoveries were slightly outside of control criteria of 83 to 109%.
  - **Resolution** – All affected results are flagged appropriately in the final data reports. The laboratory's control limits for metals are updated annually, so minor exceedances due to tighter control limits are not unexpected and these limits are representative of inherent method variability over time.
- **Issue** – Spiking levels were appropriate as requested for all analytes with the exception of the DOC/TOC laboratory control samples (LCS), which were spiked at 1 mg/L (one-half of the MS/MSD spike level of 2 mg/L).
  - **Resolution** – There is no data impact from the lower DOC/TOC LCS spiking level. Results are therefore considered usable for their intended data purposes and are reported as provided by the laboratory.
- **Issue** – Low-level detections of DOC/TOC were observed in the ER blank and the FB.
  - **Resolution** – Trace detections of DOC and TOC measured in the ER and FB are of a range similar to those of previous events and may be representative of trace field and/or laboratory contamination. Corresponding laboratory QA/QC samples met all project-specific limits in the QAPP. As similar low-level detections have been observed in previous events, extra care is taken in the field to ensure that sampling equipment is thoroughly cleaned and rinsed prior to collection of each sample. However, due to the ubiquitous nature of these constituents, some combined low-level contamination from the field and analytical testing is expected, even under clean room conditions. These low-level detections are not considered significant enough to warrant retesting or recollection of samples and testing. All

results are considered usable for their intended data purposes and are reported as provided by the laboratory.

- **Issue** – DOC values in a few cases (4 of 10 samples) were higher than the TOC values reported for the same sample.
    - **Resolution** – Water samples for TOC and DOC analyses are dispensed to separate sample vials in the field, and laboratory analyses are conducted separately. This sample collection and testing approach can sometimes result in TOC levels being slightly lower than DOC levels. The magnitudes of these minor differences are in general agreement with results from previous events. Corresponding laboratory QA/QC samples met all QAPP limits, and concentrations measured in the associated laboratory blanks were very low to ND. The differences were not considered significant enough to warrant retesting or recollection of samples and testing. All results are considered usable for their intended data purposes and are reported as provided by the laboratory.

4.2 Toxicity QA/QC

Field Observations

On February 10, 2021, as well as the day prior to sample collection (February 15, 2021), reconnaissance surveys were conducted in SIYB to evaluate the study area for the presence of algal blooms and for general water clarity. In addition to these visual assessments, the reconnaissance surveys also included collection of water samples that were sent to the laboratory to be analyzed for the presence of harmful algal species. The analyses showed that the water clarity in SIYB was acceptable and that the collected water samples did not contain an abundance of harmful algae species. Based upon these findings, it was determined that the sample collection should proceed as planned.

Sample Receipt

Samples were delivered on ice and received in the laboratory in good condition on the same day that they were collected (February 16, 2021). The topsmelt and mussel tests were initiated on February 17, 2021 within the 36-hour holding time requirement.

Toxicity Test Validity

The laboratory controls for both the Pacific topsmelt survival and bivalve embryo development tests met the corresponding minimum test acceptability criteria set by the USEPA. Both tests were performed in accordance with USEPA protocols, with no major deviations required during testing. All toxicity test data is considered valid and acceptable for reporting purposes with no qualifiers. A detailed QA/QC summary of the toxicity test results provided by Wood Aquatic Toxicology Laboratory is included in Appendix C.

Reference Toxicant Tests

Concurrent reference toxicant results for the Pacific topsmelt test and the bivalve larvae test are summarized in Table 3-4 and Table 3-5, respectively. The controls for the Pacific topsmelt and bivalve larvae reference toxicant tests both met corresponding minimum test acceptability criteria, and tests were deemed valid. The calculated LC_{50} for the Pacific topsmelt and EC_{50} value for the bivalve embryo test were within the acceptable ranges (i.e., within two standard deviations of the laboratory historical means), indicating that the test organisms used during this round of testing exhibited typical sensitivity to copper.

Table 3-4.
Summary of Reference Toxicant Test Results for Pacific Topsmelt

Copper Chloride Reference Toxicant Test			
Concentration (µg/L Copper)	**Mean Percent Survival**	**LC_{50} (µg/L Copper)**	**Historical LC_{50} ± 2SD Range (µg/L Copper)**
Laboratory Control	90	155	77.3 – 237
25	85		
50	90		
100	80		
200	20		
400	5		

Notes:
µg/L = microgram(s) per liter; LC_{50} = concentration estimated to be lethal to 50% of the organisms; SD = standard deviation

Table 3-5.
Summary of Reference Toxicant Test Results for Bivalve Larvae

Copper Chloride Reference Toxicant Test			
Concentration (µg/L Copper)	**Mean Combined Survival and Normal Development**	**EC_{50} (µg/L Copper)**	**Historical EC_{50} ± 2SD Range (µg/L Copper)**
Laboratory Control	89.6	13.8	4.49 – 17.6
2.5	87.7		
5.0	89.5		
10	83.8		
20	2.5		
40	0		

Notes:
µg/L = microgram(s) per liter; EC_{50} = concentration estimated to cause an adverse effect on 50% of the organisms; SD = standard deviation

Curved Hinged Larvae

During the 2014 TMDL compliance monitoring, it was noted that some of the abnormal larvae (approximately 70%) were enumerated as “abnormal” because they had a slightly curved-hinged shell (i.e., bean-shaped) rather than a straight-hinged D-shaped shell.[4] To evaluate the recurrence of this observation for future TMDL bivalve larvae tests, the laboratory scored the larvae as (1) larvae with a fully developed shell with a straight-hinged D-shape, (2) partially

[4] Photographs of bivalve larvae with slightly curved hinged shells were included in the 2014 SIYB TMDL report (AMEC Environment & Infrastructure, Inc., 2015).

developed larvae with a concave or curved hinge, and (3) larvae that fail to develop a shell or display severe morphological defects.

Approximately 8.3% and 3.4% of the bivalve embryos in the undiluted, unfiltered samples for SIYB-1 and SIYB-2, respectively, were partially developed but did not possess a straight hinge. One of these samples, from SIYB-1, resulted in statistically significant toxicity to bivalve larvae. Samples from the remaining five sites (including the reference site) had 0.2% or fewer bivalve embryos with curved hinges. A complete summary of the curved hinges observed in samples collecting during the 2021 winter monitoring event is included in the Wood Aquatic Toxicology Laboratory report contained in Appendix C. Per the USEPA protocol, all embryos with a curved hinge, regardless of the stage of their development, are still considered abnormal for data analysis and reporting purposes.

5.0 REFERENCES

AMEC Environment & Infrastructure, Inc. 2015. 2014 Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load. Monitoring and Progress Report. March.

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California State Water Resources Control Board (SWRCB) (2014). *Collections of Water and Bed Sediment Samples with Associated Field Measurements and Physical Habitat in California*. Version 1.1. Updated March 2014. http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/collect_bed_sediment_update.pdf

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USEPA. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA-600-R-95-136. EPA Office of Research and Development. Narragansett, RI.

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USEPA. 2010. National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document. EPA-833-R-10-003. June 2010.

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Wood. 2020b. Quality Assurance Project Plan for Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load. August 2020.

Wood. 2020c. Site-Specific Health and Safety Plan for the Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load Monitoring. San Diego, California. August 2020.

APPENDIX A

FIELD DATA SHEETS AND QA CHECKLISTS

FIELD DATA SHEETS

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-ER

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 0630

Time Started: (hh:mm) 0640

Ended: (hh:mm) 0705

Time of Sample Collection: 0640

Time of CTD Cast: NA

GPS: (WGS84) Lat. NA

Long. NA

Tide (ft): NA

Time of Slack High Tide: NA

Water Depth (ft): NA

Wind (mph): ~4mph W

Weather conditions: mostly cloudy, calm

Surface Water Conditions: NA

Water Visibility (ft): NA

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	NA	NA	NA	NA	NA
During sample collection					
End of sample collection					
Average value					

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes:

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-REF-2

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 0725

Time Started: (hh:mm) 0725

Ended: (hh:mm) 0730

Time of Sample Collection: 0730

Time of CTD Cast: NA

GPS: (WGS84)

Lat. ~~32.709216~~ XB 32.70924

Long. ~~117.22537~~ XB -117.22542

Tide (ft): 2.01 ft.

Time of Slack High Tide: 1135

Water Depth (ft): 49 ft.

Wind (mph): ~4 mph W

Weather conditions: partly cloudy, calm

Surface Water Conditions: mostly calm, slight texture

Water Visibility (ft): 10' 7"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	15.0	51803	34.08	8.00	8.16
During sample collection					
End of sample collection			NR		
Average value					

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes:

NR = Not recorded; only one set of readings taken while live boating

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-REF-1

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 0737

Time Started: (hh:mm) 0815

Ended: (hh:mm) 0849

Time of Sample Collection: 0815

Time of CTD Cast: 0840

GPS: (WGS84) Lat. 32.70407 Long. -117.23230

Tide (ft): 2.3 ft

Time of Slack High Tide: 1135

Water Depth (ft): 67 ft.

Wind (mph): ~5 mph W

Weather conditions: partly cloudy, calm

Surface Water Conditions: mostly calm, slight texture

Water Visibility (ft): 10'7"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	14.9	51827	34.10	8.02	8.20
During sample collection	14.9	51826	34.09	8.02	8.23
End of sample collection	14.9	51810	34.08	8.03	8.27
Average value	14.9	51821	34.09	8.02	8.23

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes:

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-6

Date: (mm/dd/yyyy) 02/10/2021

Time on Station: (hh:mm) 0855

Time Started: (hh:mm) 0915

Ended: (hh:mm) 1000

Time of Sample Collection: 0915

Time of CTD Cast: 0958

GPS: (WGS84) Lat. 32.70879 Long. -117.23513

Tide (ft): 3.1 ft

Time of Slack High Tide: 1135

Water Depth (ft): 17 ft

Wind (mph): 5-8mph W

Weather conditions: partly cloudy, slight breeze/wind

Surface Water Conditions: mostly calm, slight texture, incoming current

Water Visibility (ft): 11' 0"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	15.0	51790	34.07	8.00	7.94
During sample collection	15.0	51789	34.07	8.01	8.10
End of sample collection	15.0	51781	34.07	8.02	7.92
Average value	15.0	51787	34.07	8.01	7.99

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes:

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-5

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 1010

Time Started: (hh:mm) 1030

Ended: (hh:mm) 1105

Time of Sample Collection: 1030

Time of CTD Cast: 1100

GPS: (WGS84) Lat. 32.71216 Long. -117.23298

Tide (ft): 3.89 ft.

Time of Slack High Tide: 1135

Water Depth (ft): 23 ft.

Wind (mph): 7mph W

Weather conditions: partly cloudy, breezy

Surface Water Conditions: light texture

Water Visibility (ft): 10' 1"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	15.3	51763	34.06	7.99	7.78
During sample collection	15.3	51759	34.06	7.98	7.75
End of sample collection	15.4	51751	34.05	7.98	7.71
Average value	15.3	51758	34.06	7.98	7.75

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes: Topside cleaning/maintenance (using mechanical polishers) on nearby vessel ~30 m's (slip F2), East.
- ~~Potential~~ confirmed hull cleaner activity 60-70 m E (hand cart observed on dock, diver not seen).

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-4

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 11:17

Time Started: (hh:mm) 1130

Ended: (hh:mm) 1158

Time of Sample Collection: 1130

Time of CTD Cast: 1155

GPS: (WGS84) Lat. 32.71712 07 KB

Long. -117.23138 42 KB

Tide (ft): 4.14 ft.

Time of Slack High Tide: 1135

Water Depth (ft): 16 ft

Wind (mph): ~10 mph W

Weather conditions: partly cloudy, breezy

Surface Water Conditions: light to mild texture on water

Water Visibility (ft): 7'7"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	15.7	51705	34.03	7.96	7.54
During sample collection	15.7	51715	34.03	7.96	7.57
End of sample collection	15.8	51726	34.04	7.96	7.59
Average value	15.7	51715	34.03	7.96	7.57

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes: Moved sampling location ~60-65 m ENE due to several vessels (~20) on anchorage.

PORT OF SAN DIEGO
SIYB DISSOLVED COPPER TMDL
2021 WINTER EVENT

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-3

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 1210

Time Started: (hh:mm) 1230

Ended: (hh:mm) 1300

Time of Sample Collection: 1230

Time of CTD Cast: 1258

GPS: (WGS84) Lat. 32.71550 Long. -117.22974

Tide (ft): 4.1 ft

Time of Slack High Tide: 1135

Water Depth (ft): 19 ft

Wind (mph): ~12 mph WNW

Weather conditions: partly cloudy, breezy/windy

Surface Water Conditions: Mild texture on water

Water Visibility (ft): 7'2"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	15.7	51728	34.04	7.98	7.73
During sample collection	15.7	51725	34.04	7.98	7.68
End of sample collection	15.8	51723	34.04	7.97	7.71
Average value	15.7	51725	34.04	7.98	7.71

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes: Repositioned due moored vessel near station location (~ ~~11.5m~~ 90 m E) KB; and sailing course (several vessels). See photos

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-2

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 1322

Time Started: (hh:mm) 1330

Ended: (hh:mm) 1352

Time of Sample Collection: 1330

Time of CTD Cast: 1350

GPS: (WGS84) Lat. 32.71412 Long. 117.22922

Tide (ft): 3.58 ft.

Time of Slack High Tide: 1135

Water Depth (ft): 15 ft.

Wind (mph): 10 mph W

Weather conditions: partly cloudy, breezy

Surface Water Conditions: light texture on surface

Water Visibility (ft): 8' 1"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	15.9	51728	34.04	7.98	7.77
During sample collection	15.8	51725	34.04	7.97	7.75
End of sample collection	15.9	51721	34.04	7.97	7.75
Average value	15.9	51725	34.04	7.97	7.76

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes: Did not anchor on site due to proximity to marina vessel entrance. Motor turned off for 3 min prior to sampling, electric motor used to keep vessel on site (within 3m).

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-1

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 1403

Time Started: (hh:mm) 1425

Ended: (hh:mm) 1505

Time of Sample Collection: 1425

Time of CTD Cast: 1500

GPS: (WGS84) Lat. 32.71822 Long. -117.22597

Tide (ft): 2.86 ft

Time of Slack High Tide: 1135

Water Depth (ft): 17 ft.

Wind (mph): ~10mph W

Weather conditions: partly cloudy, breezy

Surface Water Conditions: light texture, mostly calm

Water Visibility (ft): 8'2"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	16.1	51705	34.05	7.97	7.60
During sample collection	16.2	51714	34.04	7.96	7.64
End of sample collection	16.0	51716	34.04	7.97	7.63
Average value	16.1	51712	34.04	7.97	7.62

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes: Topside cleaning/maintenance observed on slip #31 ~50m from sampling location.

2.1m from target sampling location.

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-1-REP

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) 1500

Time Started: (hh:mm) 1510

Ended: (hh:mm) 1527

Time of Sample Collection: 1510

Time of CTD Cast: NA

GPS: (WGS84) Lat. 32.71823 Long. -117.22600

Tide (ft): 2.34 ft

Time of Slack High Tide: 1135

Water Depth (ft): 17 ft

Wind (mph): 8mph WSW

Weather conditions: partly cloudy, breezy

Surface Water Conditions: light texture

Water Visibility (ft): 8' 2"

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station	16.2	51710	34.04	7.96	7.65
During sample collection	16.1	51710	34.03	7.96	7.63
End of sample collection	16.1	51700	34.04	7.97	7.65
Average value	16.1	51707	34.04	7.96	7.64

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes: ~1.4m from target
Topside cleaning on vessel in slip #31, ~50m from sampling location.

FIELD WATER QUALITY DATA SHEET

Station Identification: SIYB-FB

Date: (mm/dd/yyyy) 02/16/2021

Time on Station: (hh:mm) NA

Time Started: (hh:mm) 1535

Ended: (hh:mm) 1545

Time of Sample Collection: 1535

Time of CTD Cast: N/A

GPS: (WGS84) Lat. N/A

Long. N/A

Tide (ft): N/A

Time of Slack High Tide: N/A

Water Depth (ft): N/A

Wind (mph): 6 mph WSW

Weather conditions: partly cloudy, light breeze

Surface Water Conditions: light texture

Water Visibility (ft): N/A

Time of Measurement	Temperature (°C)	Sp. Cond. (µS/cm)	Salinity (ppt)	pH	DO (mg/L)
Upon arrival on station			N/A		
During sample collection					
End of sample collection					
Average value					

*Water quality measured at the same depth as sample collection (i.e., within 1 meter from the surface).

Notes:

FIELD QA CHECKLISTS

FIELD SAMPLING QA CHECKLIST

Station Location: Eq. Rinsate **Date/Time:** 2/16/~~20~~ 21

Mark each box with Y, N, or NA Collected at Dock 06:32 BJS

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	NA
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	NA
Tide recorded	NA
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	NA
Time of sampling recorded	Y
Water depth at sample site recorded	NA
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	NA

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	NA
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	NA
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	NA
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	NA
Sampling depth recorded	NA
Sample bottles filled in the following order: metals, organics, ~~toxicity~~	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and ~~field blank~~ have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs analytical by Weck courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

None

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: Ref 2 **Date/Time:** 2/16/21

Mark each box with Y, N, or NA collected 07:30

arrive 7:25

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off) NA - live boat collection	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	N/A

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, ~~toxicity~~	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	~~Y~~ NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs analytical by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

None

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 2/17/21 9:15

Print Name/Company: Barry J Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: Ref - 1 **Date/Time:** 2/16/21
on site 0744
Collect @ 08:15

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	N/A

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage.

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs analytical by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

None

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-6 **Date/Time:** 02/16/21
on site. 0855
collection 0915

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	N
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station None observed	Y

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Analytical by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

None

Signature of QA/QC Personnel: Barry J. Snyder

Date/Time 2/17/21 9:15

Print Name/Company: Barry Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-5 **Date/Time:** 2/16/21
on site 10:08
sampling time 10:30

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	Y

2. Sampling procedures: top side cleaning ongoing to east @ 30-40 m potential hull cleaning activity 60-70m to the east. ← confirmed

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Analytical by week Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

None

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-4 **Date/Time:** 2/16/21
arrived 11:17
collected 11:30

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	N *
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	Y

* ~ 20 vessels ~~and~~ moored in anchorage. Needed to move site away from vessel that was blocking the site. Picked site equi-distance from vessels + SDYC. See Field notes for additional info.

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Analytical by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

The mooring field was occupied by about 20 vessels. There was a sail boat directly over our site. We needed to move the site to move open water approximately 60-65 meters from the actual SIYB-4 collection site.

Signature of QA/QC Personnel: Barry J. Snyder

Date/Time 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-3 **Date/Time:** 2/16/2021

Mark each box with Y, N, or NA

arrive 12:10
sample 12:30

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y N*
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	N*
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station none	Y

2. Sampling procedures: ~220 vesseles in the mooring field. Vessel moored directly over our site. Need to reposition ~~11.5 m~~ ~~29.9~~ 10m East. Also, sailing course located adjacent to site.

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Analytical by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Vessels moored in mooring field. Needed to move site ~ 10 m to east. Vessel moored directly over the SIYB-3 site. Also needed to moor away from sailing course.

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-2 **Date/Time:** 2/16/21
arrive 13:22
collection 13:30

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	N*
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station none observed	Y

2. Sampling procedures: * Needed to live boat using the electric trolling motor to stay on position. Safety reasons

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	NA
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Amalytical by Weck courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Need to live boat on site using electric trolling to maintain sampling site due to safety issues - ~~decas~~ decision made by boat captain since this location is in a boat channal fairway.

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB-1 **Date/Time:** 2/16/21
arrive 1403
Collect 1425

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station none observed	Y

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	Y

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Analytical by Weck Carrier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

None

Signature of QA/QC Personnel: Barry J. Snyder **Date/Time** 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB - 1 Rep **Date/Time:** 2/16/21

Mark each box with Y, N, or NA

on site 1500
collection 1510

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	Y
Tide recorded	Y
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by ~~Secchi~~ disk)	Y
Time of sampling recorded	Y
Water depth at sample site recorded	Y
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station none observed	Y

2. Sampling procedures: Top side cleaning ~ 50 m to the East

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	Y
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	Y
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	Y
Sampling depth recorded	Y
Sample bottles filled in the following order: metals, organics, ~~toxicity~~	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rins~~ate~~ blank and field blank have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	Y

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Analytical by Weck Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion Y

Additional Notes:

Top side cleaning ~ 50 m to east

Signature of QA/QC Personnel: Barry J. Snyder

Print Name/Company: Barry J. Snyder Wood

Date/Time 2/17/21 9:15

FIELD SAMPLING QA CHECKLIST

Station Location: SIYB - Field Blank **Date/Time:** 2/16/21

collection 1535

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are being recorded:

Port QA personnel has received a blank field sheet	Y
Vessel has been anchored (or tied off)	Y
Station GPS coordinates (approx. ± 3 m) and station identification verified and recorded	NA
Tide recorded	NA
Weather conditions recorded	Y
Surface water conditions (incl. currents) recorded (including H_2O clarity by Secchi disk)	NA
Time of sampling recorded	NA
Water depth at sample site recorded	NA
General site observations recorded	Y
Check for boat cleaning operations in the area – if active, move to a new station	NA

2. Sampling procedures:

A. Water Samples

Field staff wearing fresh, powder-free nitrile gloves	Y
Vessel engine has been shut off for 3-5 minutes prior to sampling	Y
SWAMP protocols utilized to avoid sample contamination (i.e., clean hands/dirty hands technique)	Y
Sampling instrument given site water rinse prior to deployment	NA
Sample bottles correctly labeled and match the station identification	Y
Sample bottles correctly labeled with date and time in accordance with Table 10 in the QAPP	Y
Sample bottles are lab-certified, contaminant-free in accordance with Table 10 in the QAPP	Y
Sample bottles contain correct preservative in accordance with Table 10 in the QAPP	Y
Samples bottles and containers are the correct type in accordance with Table 10 in the QAPP	Y
Sampling depth delineated on sampling instrument with a clear marking (sampling must occur within 1 m of surface)	NA
pH and salinity readings taken 3 times: when arriving on station, while water samples are collected and again while sample bottles are being filled	NA
Sampling depth recorded	NA
Sample bottles filled in the following order: metals, organics, toxicity	Y
Staff avoided contaminating samples at all times	Y

FIELD SAMPLING QA CHECKLIST

COC seals have been placed over individual sample bottles	Y
Equipment rinsate blank and field blank have been collected (if applicable)	Y
Site replicate (i.e., duplicate) collected (if applicable)	NA

3. Data Recording:

Water samples properly logged on COC form	Y
Proper persons have signed the COC	Y
Field notes have been recorded for this site before moving to the next	Y

4. Sample Storage:

Water samples properly stored on ice in a cooler	Y
Cooler and samples hand delivered to labs Analytical by Walk Courier	Y
Completed COC included with courier to hand deliver to labs	Y

5. PPE properly removed and disposed of upon station completion NA

last station

Additional Notes:

None

Signature of QA/QC Personnel: Barry J. Snyder

Date/Time 2/17/21 9:15

Print Name/Company: Barry J. Snyder Wood

APPENDIX B

WECK LABORATORIES CHEMISTRY REPORT

WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Work Orders:	1B17011	**Report Date:**	3/24/2021
		Received Date:	2/17/2021
Project:	Shelter Island Yacht Basin TMDL Winter Monitoring	**Turnaround Time:**	Normal
		Phones:	(858) 278-3600
		Fax:	(858) 278-5300
		P.O. #:	
Attn:	Barry Snyder	**Billing Code:**	
Client:	Wood - San Diego 9177 Sky Park Court, Ste A San Diego, CA 92123		

DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • ISO17025 ANAB #L2457.01 • LACSD #10143 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear Barry Snyder,

Enclosed are the results of analyses for samples received 2/17/21 with the Chain-of-Custody document. The samples were received in good condition, at 2.7 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:

Chris Samatmanakit
Project Manager

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FINAL REPORT

Wood - San Diego
9177 Sky Park Court, Ste A
San Diego, CA 92123

Project Number: Shelter Island Yacht Basin TMDL Winter Monitoring

Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Sample Summary

Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
SIYB-1	Marisa Swiderski/Kate Buckley	1B17011-01	Sea Water	02/16/21 14:25	
SIYB-1 (REP)	Marisa Swiderski/Kate Buckley	1B17011-02	Sea Water	02/16/21 15:10	
SIYB-2	Marisa Swiderski/Kate Buckley	1B17011-03	Sea Water	02/16/21 13:30	
SIYB-3	Marisa Swiderski/Kate Buckley	1B17011-04	Sea Water	02/16/21 12:30	
SIYB-4	Marisa Swiderski/Kate Buckley	1B17011-05	Sea Water	02/16/21 11:30	
SIYB-5	Marisa Swiderski/Kate Buckley	1B17011-06	Sea Water	02/16/21 10:30	
SIYB-6	Marisa Swiderski/Kate Buckley	1B17011-07	Sea Water	02/16/21 09:15	
SIYB-REF-1	Marisa Swiderski/Kate Buckley	1B17011-08	Sea Water	02/16/21 08:15	
SIYB-REF-2	Marisa Swiderski/Kate Buckley	1B17011-09	Sea Water	02/16/21 07:30	
SIYB-ER	Marisa Swiderski/Kate Buckley	1B17011-10	Water	02/16/21 06:45	
SIYB-FB	Marisa Swiderski/Kate Buckley	1B17011-11	Water	02/16/21 15:35	

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Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Sample Results

Sample: SIYB-1 Sampled: 02/16/21 14:25 by Marisa Swiderski/Kate Buckley

1B17011-01 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1B1023 **Preparation:** _NONE (WETCHEM)			**Prepared:** 02/18/21 09:19				**Analyst:** ism
Total Suspended Solids	**6**		5	mg/l	1	02/19/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0298 **Preparation:** SM 5310B_comb			**Prepared:** 03/04/21 13:04				**Analyst:** jlp
Total Organic Carbon (TOC)	**1.7**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0724 **Preparation:** SM 5310B_comb			**Prepared:** 03/11/21 10:32				**Analyst:** jlp
Dissolved Organic Carbon	**1.3**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1559 **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:11				**Analyst:** ALN
Copper, Total	**9.4**	0.038	0.10	ug/l	10	03/11/21	
Zinc, Total	**34**	0.36	2.0	ug/l	10	03/11/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1560 **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:14				**Analyst:** ALN
Copper, Dissolved	**10**	0.038	0.10	ug/l	10	03/16/21	
Zinc, Dissolved	**38**	0.36	2.0	ug/l	10	03/16/21	

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Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Sample Results

(Continued)

Sample: SIYB-1 (REP) — Sampled: 02/16/21 15:10 by Marisa Swiderski/Kate Buckley

1B17011-02 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 02/18/21 09:19				**Analyst:** ism
Total Suspended Solids	**4**		5	mg/l	1	02/19/21	J
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb			**Prepared:** 03/04/21 13:04				**Analyst:** jlp
Total Organic Carbon (TOC)	**1.8**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb			**Prepared:** 03/11/21 10:32				**Analyst:** jlp
Dissolved Organic Carbon	**1.5**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:11				**Analyst:** ALN
Copper, Total	**10**	0.038	0.10	ug/l	10	03/11/21	
Zinc, Total	**48**	0.36	2.0	ug/l	10	03/11/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:14				**Analyst:** ALN
Copper, Dissolved	**12**	0.038	0.10	ug/l	10	03/15/21	
Zinc, Dissolved	**42**	0.36	2.0	ug/l	10	03/16/21	

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Sample Results

(Continued)

Sample: SIYB-2 — Sampled: 02/16/21 13:30 by Marisa Swiderski/Kate Buckley

1B17011-03 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 02/18/21 09:19				**Analyst:** ism
Total Suspended Solids	**4**		5	mg/l	1	02/19/21	J
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb			**Prepared:** 03/04/21 13:04				**Analyst:** jlp
Total Organic Carbon (TOC)	**1.8**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb			**Prepared:** 03/11/21 10:32				**Analyst:** jlp
Dissolved Organic Carbon	**1.3**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:11				**Analyst:** ALN
Copper, Total	**7.6**	0.038	0.10	ug/l	10	03/11/21	
Zinc, Total	**28**	0.36	2.0	ug/l	10	03/11/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:14				**Analyst:** ALN
Copper, Dissolved	**8.3**	0.038	0.10	ug/l	10	03/16/21	
Zinc, Dissolved	**31**	0.36	2.0	ug/l	10	03/16/21	

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Project Manager: Barry Snyder

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Sample Results

(Continued)

Sample: SIYB-3 — Sampled: 02/16/21 12:30 by Marisa Swiderski/Kate Buckley

1B17011-04 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 02/18/21 09:19 — **Analyst:** ism							
Total Suspended Solids	**3**		5	mg/l	1	02/19/21	J
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb — **Prepared:** 03/04/21 13:04 — **Analyst:** jlp							
Total Organic Carbon (TOC)	**1.8**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb — **Prepared:** 03/11/21 10:32 — **Analyst:** jlp							
Dissolved Organic Carbon	**2.0**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:11 — **Analyst:** ALN							
Copper, Total	**6.9**	0.038	0.10	ug/l	10	03/11/21	
Zinc, Total	**25**	0.36	2.0	ug/l	10	03/11/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:14 — **Analyst:** ALN							
Copper, Dissolved	**7.5**	0.038	0.10	ug/l	10	03/16/21	
Zinc, Dissolved	**29**	0.36	2.0	ug/l	10	03/16/21	

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Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Sample Results

(Continued)

Sample: SIYB-4 — Sampled: 02/16/21 11:30 by Marisa Swiderski/Kate Buckley

1B17011-05 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 02/18/21 09:19 — **Analyst:** ism							
Total Suspended Solids	**8**		5	mg/l	1	02/19/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb — **Prepared:** 03/04/21 13:04 — **Analyst:** jlp							
Total Organic Carbon (TOC)	**1.4**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb — **Prepared:** 03/11/21 10:32 — **Analyst:** jlp							
Dissolved Organic Carbon	**1.4**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:11 — **Analyst:** ALN							
Copper, Total	**8.7**	0.038	0.10	ug/l	10	03/11/21	
Zinc, Total	**28**	0.36	2.0	ug/l	10	03/11/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:14 — **Analyst:** ALN							
Copper, Dissolved	**8.2**	0.038	0.10	ug/l	10	03/16/21	
Zinc, Dissolved	**30**	0.36	2.0	ug/l	10	03/16/21	

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Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Sample Results

(Continued)

Sample: SIYB-5 — 1B17011-06 (Sea Water)

Sampled: 02/16/21 10:30 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 02/18/21 09:19 — **Analyst:** ism							
Total Suspended Solids	**4**		5	mg/l	1	02/19/21	J
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb — **Prepared:** 03/04/21 13:04 — **Analyst:** jlp							
Total Organic Carbon (TOC)	**1.7**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb — **Prepared:** 03/11/21 10:32 — **Analyst:** jlp							
Dissolved Organic Carbon	**1.7**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:11 — **Analyst:** ALN							
Copper, Total	**6.1**	0.038	0.10	ug/l	10	03/11/21	
Zinc, Total	**21**	0.36	2.0	ug/l	10	03/11/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:14 — **Analyst:** ALN							
Copper, Dissolved	**6.3**	0.019	0.050	ug/l	5	03/17/21	
Zinc, Dissolved	**20**	0.036	0.20	ug/l	1	03/16/21	

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Project Number: Shelter Island Yacht Basin TMDL Winter Monitoring

Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Sample Results

(Continued)

Sample: SIYB-6 — 1B17011-07 (Sea Water)

Sampled: 02/16/21 9:15 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 02/18/21 09:19				**Analyst:** ism
Total Suspended Solids	**4**		5	mg/l	1	02/19/21	J
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb			**Prepared:** 03/04/21 13:04				**Analyst:** jlp
Total Organic Carbon (TOC)	**1.1**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb			**Prepared:** 03/11/21 10:32				**Analyst:** jlp
Dissolved Organic Carbon	**1.5**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:11				**Analyst:** ALN
Copper, Total	**1.8**	0.0038	0.010	ug/l	1	03/11/21	
Zinc, Total	**6.2**	0.036	0.20	ug/l	1	03/11/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:14				**Analyst:** ALN
Copper, Dissolved	**1.8**	0.0038	0.010	ug/l	1	03/16/21	
Zinc, Dissolved	**6.2**	0.036	0.20	ug/l	1	03/16/21	

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Project Manager: Barry Snyder

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Sample Results

(Continued)

Sample: SIYB-REF-1 — Sampled: 02/16/21 8:15 by Marisa Swiderski/Kate Buckley

1B17011-08 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 02/18/21 09:19 — **Analyst:** ism							
Total Suspended Solids	**3**		5	mg/l	1	02/19/21	J
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb — **Prepared:** 03/04/21 13:04 — **Analyst:** jlp							
Total Organic Carbon (TOC)	**1.2**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb — **Prepared:** 03/11/21 10:32 — **Analyst:** jlp							
Dissolved Organic Carbon	**1.2**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:11 — **Analyst:** ALN							
Copper, Total	**1.0**	0.0038	0.010	ug/l	1	03/11/21	
Zinc, Total	**3.6**	0.036	0.20	ug/l	1	03/11/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:14 — **Analyst:** ALN							
Copper, Dissolved	**1.1**	0.0038	0.010	ug/l	1	03/16/21	
Zinc, Dissolved	**3.6**	0.036	0.20	ug/l	1	03/16/21	

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Project Manager: Barry Snyder

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Sample Results

(Continued)

Sample: SIYB-REF-2 — Sampled: 02/16/21 7:30 by Marisa Swiderski/Kate Buckley

1B17011-09 (Sea Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D — **Instr:** OVEN15							
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM) — **Prepared:** 02/18/21 09:19 — **Analyst:** ism							
Total Suspended Solids	**5**		5	mg/l	1	02/19/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb — **Prepared:** 03/04/21 13:04 — **Analyst:** jlp							
Total Organic Carbon (TOC)	**1.8**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B — **Instr:** TOC02							
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb — **Prepared:** 03/11/21 10:32 — **Analyst:** jlp							
Dissolved Organic Carbon	**1.2**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:11 — **Analyst:** ALN							
Copper, Total	**1.6**	0.0038	0.010	ug/l	1	03/11/21	
Zinc, Total	**6.0**	0.036	0.20	ug/l	1	03/11/21	
Method: EPA 1640 — **Instr:** ICPMS03							
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum — **Prepared:** 02/26/21 15:14 — **Analyst:** ALN							
Copper, Dissolved	**1.8**	0.0038	0.010	ug/l	1	03/16/21	
Zinc, Dissolved	**6.3**	0.036	0.20	ug/l	1	03/16/21	

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Certificate of Analysis

FINAL REPORT

Wood - San Diego
9177 Sky Park Court, Ste A
San Diego, CA 92123

Project Number: Shelter Island Yacht Basin TMDL Winter Monitoring

Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Sample Results

(Continued)

Sample: SIYB-ER
1B17011-10 (Water)

Sampled: 02/16/21 6:45 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1B1023 — **Preparation:** _NONE (WETCHEM)			**Prepared:** 02/18/21 09:19				**Analyst:** ism
Total Suspended Solids	**0.1**		5	mg/l	1	02/19/21	J
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0298 — **Preparation:** SM 5310B_comb			**Prepared:** 03/04/21 13:04				**Analyst:** jlp
Total Organic Carbon (TOC)	**0.49**	0.096	0.30	mg/l	1	03/04/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0724 — **Preparation:** SM 5310B_comb			**Prepared:** 03/11/21 10:32				**Analyst:** jlp
Dissolved Organic Carbon	**0.76**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1559 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:11				**Analyst:** ALN
Copper, Total	**0.043**	0.0038	0.010	ug/l	1	03/11/21	
Zinc, Total	**0.49**	0.036	0.20	ug/l	1	03/11/21	
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1560 — **Preparation:** Preconcentration with IC Colum			**Prepared:** 02/26/21 15:14				**Analyst:** ALN
Copper, Dissolved	**0.097**	0.0038	0.010	ug/l	1	03/17/21	
Zinc, Dissolved	**0.19**	0.036	0.20	ug/l	1	03/17/21	J

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Sample Results

(Continued)

Sample: SIYB-FB
1B17011-11 (Water)

Sampled: 02/16/21 15:35 by Marisa Swiderski/Kate Buckley

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 2540D			**Instr:** OVEN15				
Batch ID: W1B1023	**Preparation:** _NONE (WETCHEM)		**Prepared:** 02/18/21 09:19				**Analyst:** ism
Total Suspended Solids	**0.4**		5	mg/l	1	02/19/21	J
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0383	**Preparation:** SM 5310B_comb		**Prepared:** 03/05/21 13:49				**Analyst:** jlp
Total Organic Carbon (TOC)	**0.38**	0.096	0.30	mg/l	1	03/05/21	
Method: SM 5310B			**Instr:** TOC02				
Batch ID: W1C0724	**Preparation:** SM 5310B_comb		**Prepared:** 03/11/21 10:32				**Analyst:** jlp
Dissolved Organic Carbon	**0.34**	0.016	0.30	mg/l	1	03/11/21	
Metals - Low Level by 1600 Series Methods							
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1559	**Preparation:** Preconcentration with IC Colum		**Prepared:** 02/26/21 15:11				**Analyst:** ALN
Copper, Total	**0.028**	0.0038	0.010	ug/l	1	03/11/21	
Zinc, Total	**0.047**	0.036	0.20	ug/l	1	03/11/21	J
Method: EPA 1640			**Instr:** ICPMS03				
Batch ID: W1B1560	**Preparation:** Preconcentration with IC Colum		**Prepared:** 02/26/21 15:14				**Analyst:** ALN
Copper, Dissolved	**0.024**	0.0038	0.010	ug/l	1	03/17/21	
Zinc, Dissolved	ND	0.036	0.20	ug/l	1	03/17/21	

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Project Number: Shelter Island Yacht Basin TMDL Winter Monitoring

Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Quality Control Results

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W1B1023 - SM 2540D											
Blank (W1B1023-BLK1)					Prepared: 02/18/21 Analyzed: 02/19/21						
Total Suspended Solids	ND		5	mg/l							
LCS (W1B1023-BS1)					Prepared: 02/18/21 Analyzed: 02/19/21						
Total Suspended Solids	63.3		5	mg/l	61.8		102	90-110			
Duplicate (W1B1023-DUP1)	Source: 1B16010-01				Prepared: 02/18/21 Analyzed: 02/19/21						
Total Suspended Solids	30.0		5	mg/l		29.0			3	20	
Duplicate (W1B1023-DUP2)	Source: 1B17011-01				Prepared: 02/18/21 Analyzed: 02/19/21						
Total Suspended Solids	5.70		5	mg/l		5.50			4	20	
Batch: W1C0298 - SM 5310B											
Blank (W1C0298-BLK1)					Prepared & Analyzed: 03/04/21						
Total Organic Carbon (TOC)	ND	0.096	0.30	mg/l							
LCS (W1C0298-BS1)					Prepared & Analyzed: 03/04/21						
Total Organic Carbon (TOC)	1.09	0.096	0.30	mg/l	1.00		109	80-120		10	
Matrix Spike (W1C0298-MS1)	Source: 1B16109-03				Prepared & Analyzed: 03/04/21						
Total Organic Carbon (TOC)	7.72	0.096	0.30	mg/l	5.00	2.49	105	80-120		10	
Matrix Spike (W1C0298-MS2)	Source: 1B17011-01				Prepared & Analyzed: 03/04/21						
Total Organic Carbon (TOC)	3.59	0.096	0.30	mg/l	2.00	1.75	92	80-120		10	
Matrix Spike Dup (W1C0298-MSD1)	Source: 1B16109-03				Prepared & Analyzed: 03/04/21						
Total Organic Carbon (TOC)	7.14	0.096	0.30	mg/l	5.00	2.49	93	80-120	8	10	
Matrix Spike Dup (W1C0298-MSD2)	Source: 1B17011-01				Prepared & Analyzed: 03/04/21						
Total Organic Carbon (TOC)	3.45	0.096	0.30	mg/l	2.00	1.75	85	80-120	4	10	
Batch: W1C0383 - SM 5310B											
Blank (W1C0383-BLK1)					Prepared & Analyzed: 03/05/21						
Total Organic Carbon (TOC)	ND	0.096	0.30	mg/l							
LCS (W1C0383-BS1)					Prepared & Analyzed: 03/05/21						
Total Organic Carbon (TOC)	1.01	0.096	0.30	mg/l	1.00		101	80-120		10	
Matrix Spike (W1C0383-MS1)	Source: 1B17011-11				Prepared & Analyzed: 03/05/21						
Total Organic Carbon (TOC)	2.64	0.096	0.30	mg/l	2.00	0.375	113	80-120		10	
Matrix Spike Dup (W1C0383-MSD1)	Source: 1B17011-11				Prepared & Analyzed: 03/05/21						
Total Organic Carbon (TOC)	2.62	0.096	0.30	mg/l	2.00	0.375	112	80-120	1	10	
Batch: W1C0724 - SM 5310B											
Blank (W1C0724-BLK1)					Prepared & Analyzed: 03/11/21						
Dissolved Organic Carbon	ND	0.016	0.30	mg/l							
LCS (W1C0724-BS1)					Prepared & Analyzed: 03/11/21						
Dissolved Organic Carbon	1.06	0.016	0.30	mg/l	1.00		106	80-120		20	
LCS (W1C0724-BS2)					Prepared & Analyzed: 03/11/21						
Dissolved Organic Carbon	2.07	0.016	0.30	mg/l	2.00		104	80-120		20	
Matrix Spike (W1C0724-MS1)	Source: 1B17011-01				Prepared & Analyzed: 03/11/21						

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Reported: 03/24/2021 10:57

Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W1C0724 - SM 5310B (Continued)											
Matrix Spike (W1C0724-MS1)	**Source: 1B17011-01**				**Prepared & Analyzed: 03/11/21**						
Dissolved Organic Carbon	3.11	0.016	0.30	mg/l	2.00	1.34	89	80-120		20	
Matrix Spike Dup (W1C0724-MSD1)	**Source: 1B17011-01**				**Prepared & Analyzed: 03/11/21**						
Dissolved Organic Carbon	3.11	0.016	0.30	mg/l	2.00	1.34	89	80-120	0.2	20	

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Quality Control Results

(Continued)

Metals - Low Level by 1600 Series Methods

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W1B1559 - EPA 1640											
Blank (W1B1559-BLK1)				**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	ND	0.0038	0.010	ug/l							
Zinc, Total	0.913	0.036	0.20	ug/l							B-06
Blank (W1B1559-BLK2)				**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	ND	0.0038	0.010	ug/l							
Zinc, Total	ND	0.036	0.20	ug/l							
LCS (W1B1559-BS1)				**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	8.34	0.038	0.10	ug/l	10.0		83	83-109		25	
Zinc, Total	26.7	0.36	2.0	ug/l	30.0		89	80-118		25	
LCS (W1B1559-BS2)				**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	8.42	0.038	0.10	ug/l	10.0		84	83-109		25	
Zinc, Total	27.8	0.36	2.0	ug/l	30.0		93	80-118		25	
Matrix Spike (W1B1559-MS1)	**Source: 1B17011-01**			**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	20.5	0.038	0.10	ug/l	10.0	9.37	111	83-109		25	MS-02
Zinc, Total	62.5	0.36	2.0	ug/l	30.0	34.2	94	80-118		25	
Matrix Spike (W1B1559-MS2)	**Source: 1B17011-11**			**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	8.35	0.038	0.10	ug/l	10.0	ND	83	83-109		25	
Zinc, Total	29.4	0.36	2.0	ug/l	30.0	ND	98	80-118		25	
Matrix Spike Dup (W1B1559-MSD1)	**Source: 1B17011-01**			**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	20.4	0.038	0.10	ug/l	10.0	9.37	110	83-109	0.2	25	MS-02
Zinc, Total	62.6	0.36	2.0	ug/l	30.0	34.2	95	80-118	0.2	25	
Matrix Spike Dup (W1B1559-MSD2)	**Source: 1B17011-11**			**Prepared: 02/26/21**	**Analyzed: 03/11/21**						
Copper, Total	8.24	0.038	0.10	ug/l	10.0	ND	82	83-109	1	25	MS-02
Zinc, Total	27.7	0.36	2.0	ug/l	30.0	ND	92	80-118	6	25	
Batch: W1B1560 - EPA 1640											
Blank (W1B1560-BLK1)				**Prepared: 02/26/21**	**Analyzed: 03/16/21**						
Copper, Dissolved	ND	0.0038	0.010	ug/l							
Zinc, Dissolved	ND	0.036	0.20	ug/l							
Blank (W1B1560-BLK2)				**Prepared: 02/26/21**	**Analyzed: 03/15/21**						
Copper, Dissolved	ND	0.0038	0.010	ug/l							
LCS (W1B1560-BS1)				**Prepared: 02/26/21**	**Analyzed: 03/16/21**						
Copper, Dissolved	9.66	0.038	0.10	ug/l	10.0		97	83-109		25	
Zinc, Dissolved	29.6	0.36	2.0	ug/l	30.0		99	80-118		25	
LCS (W1B1560-BS2)				**Prepared: 02/26/21**	**Analyzed: 03/15/21**						
Copper, Dissolved	10.6	0.038	0.10	ug/l	10.0		106	83-109		25	
Matrix Spike (W1B1560-MS1)	**Source: 1B17011-01**			**Prepared: 02/26/21**	**Analyzed: 03/16/21**						
Copper, Dissolved	20.8	0.038	0.10	ug/l	10.0	10.5	103	83-109		25	
Zinc, Dissolved	69.9	0.36	2.0	ug/l	30.0	38.3	105	80-118		25	
Matrix Spike (W1B1560-MS2)	**Source: 1B17011-11**			**Prepared: 02/26/21**	**Analyzed: 03/17/21**						

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Project Number: Shelter Island Yacht Basin TMDL Winter Monitoring
Project Manager: Barry Snyder

Reported: 03/24/2021 10:57

Quality Control Results (Continued)

Metals - Low Level by 1600 Series Methods (Continued)

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W1B1560 - EPA 1640 (Continued)											
Matrix Spike (W1B1560-MS2)	**Source: 1B17011-11**				**Prepared: 02/26/21**	**Analyzed: 03/17/21**					
Copper, Dissolved	11.6	0.038	0.10	ug/l	10.0	ND	116	83-109		25	MS-01
Zinc, Dissolved	32.1	0.36	2.0	ug/l	30.0	ND	107	80-118		25	
Matrix Spike (W1B1560-MS3)	**Source: 1B17011-11**				**Prepared: 02/26/21**	**Analyzed: 03/15/21**					
Copper, Dissolved	10.3	0.038	0.10	ug/l	10.0	ND	103	83-109		25	
Matrix Spike Dup (W1B1560-MSD1)	**Source: 1B17011-01**				**Prepared: 02/26/21**	**Analyzed: 03/16/21**					
Copper, Dissolved	21.5	0.038	0.10	ug/l	10.0	10.5	110	83-109	4	25	MS-02
Zinc, Dissolved	73.4	0.36	2.0	ug/l	30.0	38.3	117	80-118	5	25	
Matrix Spike Dup (W1B1560-MSD2)	**Source: 1B17011-11**				**Prepared: 02/26/21**	**Analyzed: 03/17/21**					
Copper, Dissolved	10.1	0.038	0.10	ug/l	10.0	ND	101	83-109	14	25	
Zinc, Dissolved	32.2	0.36	2.0	ug/l	30.0	ND	107	80-118	0.5	25	
Matrix Spike Dup (W1B1560-MSD3)	**Source: 1B17011-11**				**Prepared: 02/26/21**	**Analyzed: 03/15/21**					
Copper, Dissolved	10.8	0.038	0.10	ug/l	10.0	ND	108	83-109	5	25	

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Notes and Definitions

Item	Definition
B-06	This analyte was found in the method blank, which was possibly contaminated during sample preparation. The batch was accepted since this analyte was either not detected or more than 10 times of the blank value for all the samples in the batch.
J	Estimated conc. detected <MRL and >MDL.
MS-01	The spike recovery for this QC sample is outside of established control limits possibly due to sample matrix interference.
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

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APPENDIX C

WOOD AQUATIC TOXICOLOGY LABORATORY TOXICITY REPORT

Results of Toxicity Testing for Shelter Island Yacht Basin Total Maximum Daily Load Monitoring

Sample Collection: February 16, 2021
Wood Project Number: 2015100105

Submitted to:

Wood Environment & Infrastructure Solutions, Inc.
9177 Sky Park Court
San Diego, CA 92123

Testing Performed by:

wood.

Wood Environment & Infrastructure Solutions, Inc.
Aquatic Toxicology Laboratory
4905 Morena Blvd., Suite 1304
San Diego, California 92117

The Wood Aquatic Toxicology Laboratory is certified by the State of California Department of Health Services – Environmental Lab Accreditation Program (ELAP) under Certificate Number 3010. All test results were obtained following EPA Protocol guidelines and internal QA Program requirements. The data and test results have been reviewed and verified by the following laboratory representative:

Verified by: Steve Carlson Date: 4/16/2021.

INTRODUCTION

Located in the Port of San Diego, Shelter Island Yacht Basin (SIYB) was issued an Investigative Order (R9-2011-0036, amended from Resolution No. R9-2005-0019) from the San Diego Regional Water Quality Control Board that requires annual monitoring for the SIYB Dissolved Copper Total Maximum Daily Load (TMDL) program. The monitoring program requires the performance of water column toxicity testing at 7 locations within the basin area. The 7 sample sites are tested for chronic toxicity with the mussel species *Mytilus galloprovincialis*, and for acute toxicity with the Pacific topsmelt species *Atherinops affinis*. Annual monitoring is typically conducted during the summer. However, this supplemental round of testing was performed during the winter.

Staff for Wood Environment & Infrastructure Solutions, Inc. (Wood) collected and delivered all 7 samples to Wood's Aquatic Toxicology Laboratory located in San Diego, California. The samples were collected on February 16, 2021 and the tests were performed on February 17, 2021.

MATERIALS & METHODS

Sample Information

Client:	Port of San Diego
Project Name:	Shelter Island Yacht Basin Annual TMDL Monitoring
Monitoring Period:	February 2021
Sample IDs (7 sites):	SIYB-1, SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, and SIYB-REF-1
Sample Collection Date, Times:	2/16/2021, 08:15 – 14:25
Sample Receipt Date, Time:	2/16/2021, 17:10

Table 1. Water Quality Measured Upon Sample Receipt

Sample ID	Temp. (℃)	pH (units)	DO (mg/L)	Salinity (ppt)	Alkalinity (mg/L)	TRC (mg/L)
SIYB-1	4.5	7.52	7.8	34.0	104	<0.02
SIYB-2	4.0	7.67	7.8	33.8	116	<0.02
SIYB-3	3.0	7.69	7.8	33.9	120	<0.02
SIYB-4	4.0	7.75	7.7	33.9	122	<0.02
SIYB-5	4.0	7.79	7.9	33.8	114	<0.02
SIYB-6	3.0	7.81	7.8	33.7	115	<0.02
SIYB-REF-1	4.0	7.83	8.1	33.7	106	<0.02

DO = dissolved oxygen, TRC = total residual chlorine

Chronic Mussel Development Test Specifications

Test Period:	2/17/2021, 16:05 – 2/19/2021, 15:45
Test Organism:	*Mytilus galloprovincialis* (bivalve - mussel)
Test Organism Source:	Field-collected – Mission Bay (San Diego, CA)
Test Organism Age at start:	Fertilized embryos (<4 hours old)
Test Procedure:	48-hour embryo-larval development
Test Endpoint:	Combined survival & proportion normal (ASTM)
Test Concentrations:	Lab Control, 6.25, 12.5, 25, 50, and 100% sample
Treatment Concentrations:	Filter Control and 100% Filtered (1.2μm filter)
Lab Control/Dilution Water:	Natural seawater from the inlet at Scripps Institution of Oceanography (20-μm filtered)
Protocols Used:	EPA 1995 West Coast Manual (EPA/600/R-95/136); and ASTM 1998 (E 724-98).
EPA Test Acceptability Criteria:	Control: ≥50% survival; ≥90% proportion normal; and minimum significant difference (MSD) <25%
ASTM Test Acceptability Criteria:	Control: ≥70% combined survival/proportion normal
Reference Toxicant Test:	Lab Control, 2.5, 5.0, 10, 20, and 40 μg/L copper
Statistical Analysis Software:	CETIS™ v.1.9.3.0

Calculating the mussel test endpoint: Embryos within each test replicate are scored under a microscope by counting all larvae observed in the vial. Percent survival is evaluated by comparing the total number of larvae observed in each vial to an initial (time-zero) density count derived from 5 surrogate exposure chambers (vials) interspersed within the test and preserved immediately after adding embryos. Each larva is scored as normal or abnormal resulting in a second test endpoint; proportion normal. Normal development is exhibited by a clearly defined "D-shaped" shell with a clear straight line as a hinge, while abnormal development is exhibited by any clear abnormalities or differences to the normal "D-shaped" shell. This includes larva that have not fully developed a clear straight hinge (this is exhibited by a slightly curved hinge). Abnormal development was further enumerated to determine the magnitude of effect. The abnormal larvae were counted as having 1) a curved hinge, which indicates a moderate effect, or 2) more significant defects or abnormalities, which indicates a more severe effect. Examples of each of the larva (normal, abnormal with curved hinge, and abnormal with severe effects) are presented in Figure 1. A final combined surviving normal embryo endpoint is calculated by comparing the number of recovered normal embryos in each replicate test chamber to the average number of fertilized embryos counted in the time zero vials. Results for the combined embryo development endpoint are presented herein in the main report, with supporting summaries and analyses of the individual percent survival and percent normal endpoints included in Appendix A

Figure 1. Images of Different Larva Development

1) Normal D-shape/straight hinge 2) Abnormal with curved hinge 3) Abnormal with severe effects

Pacific Topsmelt Acute Survival Test Specifications

Test Start Date, Time:	2/17/2021, 16:30 – 17:30
Test End Date, Time:	2/21/2021, 15:30 – 16:30
Test Organism:	*Atherinops affinis* (Pacific topsmelt)
Organism Source; Age at start:	Aquatic BioSystems (Fort Collins, CO); 14-days old
Test Procedure and Endpoint:	96-hour static-renewal acute survival test
Test Concentrations:	Lab Control, 25, 50, and 100% each sample
Replicates/Number of Organisms:	6 replicates/5 fish per replicate (30 fish/conc.)
Lab Control/Dilution Water:	Natural seawater collected from the inlet at Scripps Institution of Oceanography (34 ppt salinity)
USEPA Protocol:	EPA/821/R-02/012, 2002 Acute Manual
Test Acceptability Criteria:	≥90% mean survival in the control
Reference Toxicant Test:	Lab Control, 25, 50, 100, 200, and 400 µg/L copper
Statistical Software:	CETIS™ v1.9.3.0

RESULTS

Test results were evaluated using two USEPA methods of analysis. The results were first analyzed using the standard approach with multiple comparisons on a dilution series of concentrations to develop a No Observed Effect Concentration (NOEC). Then, the results were analyzed using the EPA Test of Significant Toxicity (TST) approach, as referenced in USEPA 2010. The TST approach applies a modified t-test that accounts for the statistical power of the test and the magnitude of the biological effect in determining the presence of toxicity. The instream waste concentration (IWC) is the 100% sample. The IWC is compared to the Control for statistical analysis. The TST results in a "Pass" if there are no biologically significant effects with the sample (non-toxic), or it will result in a "Fail" if there are significant effects (toxic).

Chronic Mussel Test:

For the chronic mussel development test, a standard 5-concentration dilution series was performed on the unfiltered sample from each of the 7 sites. Sample sites SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, and SIYB-REF-1 all resulted in a percent effect (from control) of less than 3 percent in the undiluted concentration. This resulted in a NOEC = 100% and a TST result of Pass for the six sample sites. Receiving water from a single sample location (SIYB-1) resulted in a significant effect in the 100% concentration for the combined surviving/normal endpoint. There was a 54.7 percent effect observed. This resulted in a NOEC = 50% and a TST result of Fail. Summary results for the unfiltered samples are presented in Table 2.

The 100% concentration for each sample was also tested after filtering with a 1.2μm mesh screen to remove any potential algae or other native organisms. The 100% filtered sample was compared to a Filter Control (lab control water that received the same filtering treatment). The filtered samples produced similar results to the unfiltered samples. The filtered samples of SIYB-2, SIYB-3, SIYB-4, SIYB-5, SIYB-6, and SIYB-REF-1 all showed no significant effects and Passed the TST analysis. The filtered sample of SIYB-1 did result in a significant effect and a Fail with the TST. However, the filtering process did reduce the amount of toxicity observed. There was a 54.7 percent effect in the unfiltered sample for the combined surviving/normal endpoint, which was reduced to 25.9 percent after filtering. Summary results for the filtered samples are presented in Table 3.

As described in the Methods section, abnormal larvae were further enumerated as either having a curved hinge (moderate effect) or having clear abnormalities or defects (severe effect). During this round of testing, the frequency of curved hinges observed remained low as shown in Table 4. The greatest effect was observed in the 100% concentration of SIYB-1 with 8.3% having a curved hinge. The next greatest effect was observed in the 100% concentration of SIYB-2 with 3.4% having a curved hinge. Results were similar, but slightly greater in the filtered samples. The remaining five sites all had 0.2% or fewer embryos with curved hinges with and without filtration.

All raw data and associated statistical analyses for the mussel tests are provided for reference in Appendix A.

Acute Pacific Topsmelt Test:

For the acute topsmelt survival test, the 7 sample sites were tested along with 4 sets of Lab Controls. There was one Lab Control per two sample sites (SIYB-REF-1 had its own Lab Control). All 4 Lab Controls were valid with 90% or greater survival. Also, all 7 sample sites resulted in a percent effect (from control) less than 4 percent in the undiluted concentrations with mean survival ranging from 87 to 93 percent in undiluted receiving water from all sites at the end of the 96-hr exposure period. This resulted in a NOEC = 100% and a TST result of Pass for all 7 samples. Therefore, no significant effects were observed with any of the samples for acute toxicity. A summary of the acute topsmelt test results is presented in Table 5. All raw data and associated statistical analyses for the topsmelt tests are provided for reference in Appendix A.

Table 2. Summary of Chronic Mussel Test Results: Unfiltered Samples

Sample Concentration (%)	Sample ID / Combined Survival & Proportion Normal (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Lab Control	89.7	89.7	91.4	90.5	91.5	90.2	90.4
6.25	91.9	88.3	91.3	89.5	90.2	91.9	88.7
12.5	87.9	88.5	90.1	91.9	90.1	88.2	91.5
25	90.0	88.9	89.5	89.5	91.1	91.3	91.4
50	87.3	87.1	90.6	92.2	88.7	91.9	92.1
100	**40.7 ***	87.8	90.9	91.4	89.1	90.8	90.1
NOEC	50	100	100	100	100	100	100
EC_{50}	93.2	>100	>100	>100	>100	>100	>100
% Effect	**54.7**	2.2	0.5	-1.0	2.6	-0.7	0.4
TST Result	**Fail**	Pass	Pass	Pass	Pass	Pass	Pass

* **A bold value** indicates a statistically significant effect was observed
NOEC = the highest concentration tested that results in No Observed Effect
EC_{50} = the concentration expected to cause a 50% adverse effect to the organisms
% Effect = the percent effect of IWC compared to the control; a negative value indicates it out-performed the control
TST = Test of Significant Toxicity; a "Pass" indicates no toxicity was observed with the sample

Table 3. Summary of Chronic Mussel Test Results: 1.2 μm Filtered Samples

Sample Concentration (%)	Sample ID / Combined Survival & Proportion Normal (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Filter Control	90.9	88.8	90.3	90.6	88.3	89.1	92.4
100 filtered	**67.3 ***	86.5	89.4	87.8	90.0	91.4	88.5
% Effect	**25.9**	2.6	1.0	3.1	-1.9	-2.5	4.2
TST Result	**Fail**	Pass	Pass	Pass	Pass	Pass	Pass

*** A bold value** indicates a statistically significant effect was observed
% Effect = the percent effect of IWC compared to the control; a negative value indicates it out-performed the control
TST = Test of Significant Toxicity; a "Pass" indicates no toxicity was observed with the sample

Table 4. Summary of Chronic Mussel Test: Percentage of Curved Hinges

Sample Concentration (%)	Sample ID / Mean Number of Curved Hinges (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Lab Control	0.0	0.5	0.0	0.1	0.0	0.0	0.0
6.25	0.0	0.0	0.0	0.1	0.0	0.0	0.0
12.5	0.0	0.0	0.0	0.1	0.0	0.0	0.1
25	0.0	0.1	0.0	0.0	0.0	0.0	0.0
50	1.6	0.0	0.1	0.0	0.0	0.1	0.1
100	8.3	3.4	0.0	0.1	0.0	0.0	0.0
100 Filtered	11.4	3.7	0.2	0.1	0.0	0.0	0.0

Table 5. Summary of Acute Topsmelt Test Results

Sample Concentration (%)	Sample ID / Mean Survival (%)						
	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB-REF-1
Lab Control	90.0	90.0	90.0	90.0	90.0	90.0	93.3
25	90.0	86.7	96.7	90.0	83.3	93.3	86.7
50	90.0	86.7	90.0	86.7	86.7	90.0	90.0
100	86.7	90.0	90.0	86.7	90.0	93.3	90.0
NOEC	100	100	100	100	100	100	100
LC_{50}	>100	>100	>100	>100	>100	>100	>100
% Effect	3.7	0.0	0.0	3.7	0.0	-3.7	3.6
TST Result	Pass	Pass	Pass	Pass	Pass	Pass	Pass

NOEC = the highest concentration tested that results in No Observed Effect
LC_{50} = the concentration expected to cause a lethal effect to 50% of the fish
% Effect = the percent effect of IWC compared to the control; a negative value indicates it out-performed the control
TST = Test of Significant Toxicity; a "Pass" indicates no toxicity was observed with the sample

QUALITY ASSURANCE

Samples were received by the lab in good condition the same day as collected. The samples were checked in, water quality measured, and then held in cold storage (4°C) until testing. Both chronic and acute tests were initiated the following day within the 36-hour holding time limit. For test organisms, the mussels were collected by Wood staff the morning of test initiation. The topsmelt were received by a commercial supplier 5-days prior to testing. The fish were held in-house and allowed to acclimate to test conditions. There was <10% mortality with the fish during holding, which is considered typical, as there is naturally some die-off of weaker fish within a population. The topsmelt were determined to be of good quality for initiating tests.

For the chronic mussel test, each sample was tested with its own Lab Control. All 7 Lab Controls met the EPA test acceptability criteria (TAC) of 50% or greater survival and 90% or greater for proportion normal (one control had 89.7%, which rounds up to 90%). The tests also met the ASTM TAC of 70% or greater for the combined survival and proportion normal endpoint. All samples were analyzed for the combined endpoint to determine percent effects and TST results.

For the acute topsmelt test, there were 4 Lab Controls conducted with the 7 samples (one control for every two samples). All 4 Lab Controls met the TAC of 90% or greater survival. Both acute and chronic tests were performed in accordance with EPA protocol guidelines and no major deviations were required during the testing period.

Any minor deviations or errors made with recordings are noted on the raw bench sheets for both test species. A list of data qualifier codes is provided in Appendix C. Sample receipt information and chain of custody forms are provided in Appendix D.

Concurrent reference toxicant tests were conducted with both species. Both acute and chronic tests met the TAC and were deemed valid. The median effect concentration (EC_{50}) for both tests was within two standard deviations of the historical control chart mean for the laboratory. This indicates both the mussels and the topsmelt were healthy and resulted in typical sensitivity to the copper toxicant. A summary of the reference toxicant results for both species is presented in Table 6. Raw data, statistical analysis, and control charts for the reference toxicant tests are provided in Appendix E.

Table 6. Summary of Copper Reference Toxicant Test Results

Test Species & Endpoint	NOEC (µg/L)	EC_{50} (µg/L)	Historical EC_{50} ± 2SD range (µg/L)
Chronic Mussel Combined Surviving/Normal Embryo Development	10	13.8	4.49 – 17.6
Acute Pacific Topsmelt 96-hour Survival	100	155	77.3 – 237

NOEC = the highest concentration tested that results in No Observed Effect
EC_{50} = the concentration expected to cause a 50% adverse effect to the test organisms
Historical EC_{50} = the mean EC_{50} for previous tests by the lab, presented as a range of ± two standard deviations

REFERENCES

ASTM. 1998. Standard Guide for Conducting Static Acute Toxicity Tests Starting with Embryos of Four Species of Saltwater Bivalve Molluscs. ASTM E 724-98.

Tidepool Scientific Software, 2001-2015. CETIS: Comprehensive Environmental Toxicity Information System software, version 1.9.3.0.

USEPA (U.S. Environmental Protection Agency) 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136). The USEPA, Office of Research and Development, Washington, DC.

USEPA 2002. U.S. Environmental Protection Agency. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. 5th Edition. EPA/821/R-02/012. USEPA, Office of Water, Washington, DC.

USEPA 2010. Test of Significant Toxicity Implementation Document (EPA/833/R-10/003). The USEPA, Office of Wastewater Management, Washington, DC.

APPENDIX A

Chronic Mussel Development Test

Raw Data & Statistical Analyses

Site: SIYB-1

CETIS Summary Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Batch ID:	08-3673-1534	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	17 Feb-21 16:05	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	19 Feb-21 15:45	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	48h	**Source:**	Field Collected	**Age:**	

Sample ID:	08-8076-3358	**Code:**	21-W053	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 14:25	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	26h (4.5 °C)	**Station:**	SIYB 1		

Comments:
101 = 100% (1.2 micron filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
19-9951-8555	Combined Proportion Norma	TST-Welch's t Test	1.0000	100% failed combined proportion normal
12-7823-9086	Combined Proportion Norma	TST-Welch's t Test	0.2301	101% failed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
17-6312-7212	Combined Proportion Norma	Dunnett Multiple Comparison Test	50	100	70.71	2	5.18% ✓
12-3759-7282	Proportion Normal	Dunnett Multiple Comparison Test	50	100	70.71	2	3.42% ✓
09-4841-6753	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	5.24% ✓

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
12-3759-7282	Proportion Normal	Control Resp	0.9197	0.9	>>	Yes	Passes Criteria
09-4841-6753	Survival Rate	Control Resp	0.9756	0.5	>>	Yes	Passes Criteria
17-6312-7212	Combined Proportion Norma	PMSD	0.05179	<<	0.25	No	Passes Criteria

Analyst: KG QA: SC 3/25/21

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8971	0.8615	0.9326	0.8473	0.9198	0.0128	0.0286	3.19%	0.00%
0	FC	5	0.9086	0.8797	0.9376	0.8702	0.9275	0.0104	0.0233	2.56%	-1.29%
6.25		5	0.9189	0.8978	0.9401	0.8971	0.9345	0.0076	0.0170	1.85%	-2.43%
12.5		5	0.8793	0.8210	0.9376	0.7977	0.9164	0.0210	0.0469	5.34%	1.99%
25		5	0.8999	0.8604	0.9394	0.8588	0.9313	0.0142	0.0318	3.54%	-0.31%
50		5	0.8730	0.8381	0.9079	0.8397	0.9043	0.0126	0.0281	3.22%	2.69%
100		5	0.4067	0.3530	0.4604	0.3359	0.4542	0.0194	0.0433	10.64%	54.66%
101		5	0.6733	0.6438	0.7029	0.6468	0.7023	0.0107	0.0238	3.54%	24.94%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9197	0.9065	0.9330	0.9077	0.9297	0.0048	0.0107	1.16%	0.00%
0	FC	5	0.9156	0.8969	0.9342	0.8976	0.9346	0.0067	0.0150	1.64%	0.46%
6.25		5	0.9189	0.8978	0.9401	0.8971	0.9345	0.0076	0.0170	1.85%	0.09%
12.5		5	0.9038	0.8810	0.9265	0.8782	0.9255	0.0082	0.0184	2.03%	1.74%
25		5	0.9240	0.8886	0.9593	0.8964	0.9683	0.0127	0.0285	3.08%	-0.46%
50		5	0.8972	0.8779	0.9166	0.8828	0.9212	0.0070	0.0156	1.74%	2.45%
100		5	0.4200	0.3749	0.4652	0.3621	0.4577	0.0163	0.0363	8.65%	54.33%
101		5	0.6787	0.6407	0.7168	0.6468	0.7160	0.0137	0.0306	4.51%	26.20%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9756	0.9303	1.0000	0.9122	1.0000	0.0163	0.0365	3.74%	0.00%
0	FC	5	0.9924	0.9759	1.0000	0.9695	1.0000	0.0059	0.0132	1.33%	-1.72%
6.25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-2.50%
12.5		5	0.9725	0.9257	1.0000	0.9084	1.0000	0.0169	0.0377	3.88%	0.31%
25		5	0.9740	0.9442	1.0000	0.9504	1.0000	0.0108	0.0241	2.47%	0.16%
50		5	0.9733	0.9264	1.0000	0.9198	1.0000	0.0169	0.0378	3.88%	0.23%
100		5	0.9672	0.9238	1.0000	0.9275	1.0000	0.0156	0.0349	3.61%	0.86%
101		5	0.9924	0.9794	1.0000	0.9809	1.0000	0.0047	0.0105	1.05%	-1.72%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8473	0.9198	0.9008	0.9091	0.9084
0	FC	0.9214	0.9209	0.9275	0.8702	0.9032
6.25		0.9341	0.9236	0.8971	0.9053	0.9345
12.5		0.8855	0.8961	0.9164	0.9008	0.7977
25		0.8588	0.9019	0.9313	0.9296	0.8779
50		0.8828	0.8909	0.8397	0.9043	0.8473
100		0.3359	0.4191	0.4122	0.4122	0.4542
101		0.6468	0.6908	0.6528	0.6738	0.7023

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9289	0.9234	0.9077	0.9091	0.9297
0	FC	0.9214	0.9209	0.9346	0.8976	0.9032
6.25		0.9341	0.9236	0.8971	0.9053	0.9345
12.5		0.9027	0.8961	0.9164	0.9255	0.8782
25		0.8964	0.9019	0.9683	0.9296	0.9237
50		0.8828	0.8909	0.8871	0.9043	0.9212
100		0.3621	0.4191	0.4426	0.4186	0.4577
101		0.6468	0.7043	0.6528	0.6738	0.7160

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9122	0.9962	0.9924	1.0000	0.9771
0	FC	1.0000	1.0000	0.9924	0.9695	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000
12.5		0.9809	1.0000	1.0000	0.9733	0.9084
25		0.9580	1.0000	0.9618	1.0000	0.9504
50		1.0000	1.0000	0.9466	1.0000	0.9198
100		0.9275	1.0000	0.9313	0.9847	0.9924
101		1.0000	0.9809	1.0000	1.0000	0.9809

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	222/262	241/262	236/262	250/275	238/262
0	FC	258/280	256/278	243/262	228/262	252/279
6.25		255/273	266/288	244/272	239/264	257/275
12.5		232/262	250/279	252/275	236/262	209/262
25		225/262	239/265	244/262	251/270	230/262
50		241/273	245/275	220/262	255/282	222/262
100		88/262	114/272	108/262	108/262	119/262
101		174/269	181/262	173/265	188/279	184/262

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	222/239	241/261	236/260	250/275	238/256
0	FC	258/280	256/278	243/260	228/254	252/279
6.25		255/273	266/288	244/272	239/264	257/275
12.5		232/257	250/279	252/275	236/255	209/238
25		225/251	239/265	244/252	251/270	230/249
50		241/273	245/275	220/248	255/282	222/241
100		88/243	114/272	108/244	108/258	119/260
101		174/269	181/257	173/265	188/279	184/257

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	239/262	261/262	260/262	262/262	256/262
0	FC	262/262	262/262	260/262	254/262	262/262
6.25		262/262	262/262	262/262	262/262	262/262
12.5		257/262	262/262	262/262	255/262	238/262
25		251/262	262/262	252/262	262/262	249/262
50		262/262	262/262	248/262	262/262	241/262
100		243/262	262/262	244/262	258/262	260/262
101		262/262	257/262	262/262	262/262	257/262

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	19-9951-8555	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 16:44	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% failed combined proportion normal

TST-Welch's t Test

Control	vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100	-9.784	1.895	7	CDF	1.0000	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.770121	0.770121	1	388.3	<1.0E-37	Significant Effect
Error	0.0158664	0.0019833	8			
Total	0.785987		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.007	23.15	0.9951	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8031	0.7411	0.0158	Normal Distribution

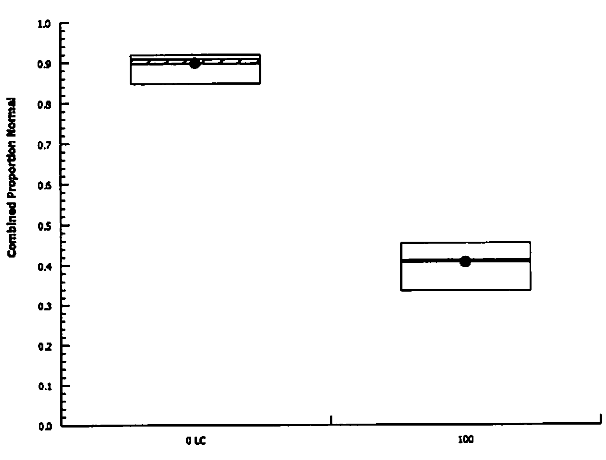
Combined Proportion Normal Summary

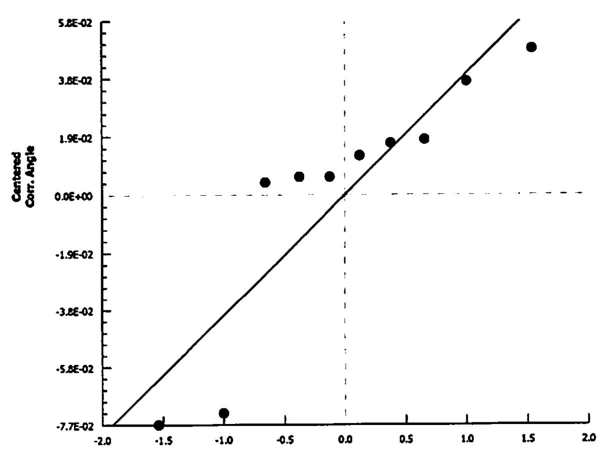
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8971	0.8615	0.9326	0.9084	0.8473	0.9198	0.0128	3.19%	0.00%
100		5	0.4067	0.3530	0.4604	0.4122	0.3359	0.4542	0.0194	10.64%	54.66%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.246	1.191	1.302	1.263	1.169	1.284	0.01995	3.58%	0.00%
100		5	0.6912	0.636	0.7464	0.6972	0.6182	0.7395	0.01988	6.43%	44.54%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	12-7823-9086	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 16:44	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% failed combined proportion normal

TST-Welch's t Test

Control vs	Conc-%	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control	101	0.7814	1.895	7	CDF	0.2301	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.229292	0.229292	1	212.8	4.8E-07	Significant Effect
Error	0.0086218	0.0010777	8			
Total	0.237913		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.338	23.15	0.4310	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.904	0.7411	0.2422	Normal Distribution

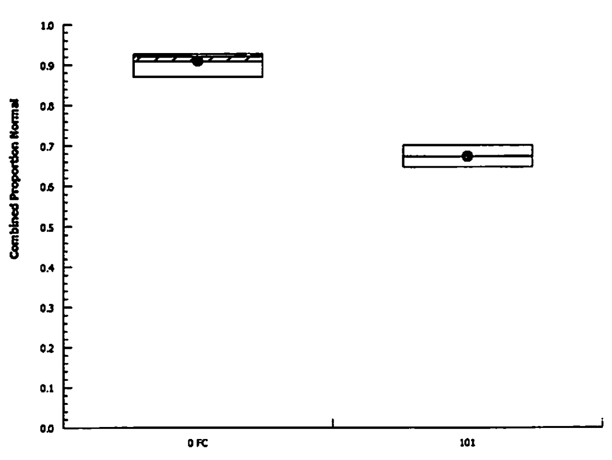
Combined Proportion Normal Summary

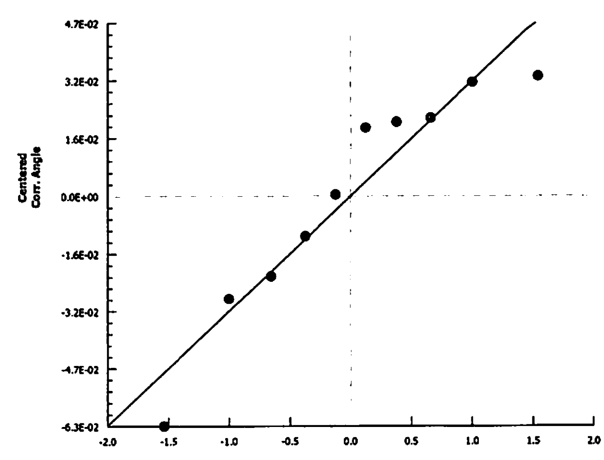
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.9086	0.8797	0.9376	0.9209	0.8702	0.9275	0.0104	2.56%	0.00%
101		5	0.6733	0.6438	0.7029	0.6738	0.6468	0.7023	0.0107	3.54%	25.90%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.265	1.217	1.314	1.286	1.202	1.298	0.01738	3.07%	0.00%
101		5	0.9626	0.931	0.9941	0.9629	0.9344	0.9937	0.01136	2.64%	23.93%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	12-3759-7282	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 16:45	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	50	100	70.71	2	3.42%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.03545	2.362	0.054	8	CDF	0.8226	Non-Significant Effect
	12.5	1.207	2.362	0.054	8	CDF	0.3315	Non-Significant Effect
	25	-0.5248	2.362	0.054	8	CDF	0.9434	Non-Significant Effect
	50	1.697	2.362	0.054	8	CDF	0.1660	Non-Significant Effect
	100*	25.31	2.362	0.054	8	CDF	7.6E-07	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.35374	0.270747	5	206.9	<1.0E-37	Significant Effect
Error	0.0314107	0.0013088	24			
Total	1.38515		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	5.321	15.09	0.3779	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9684	0.9031	0.4956	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9197	0.9065	0.9330	0.9234	0.9077	0.9297	0.0048	1.16%	0.00%
6.25		5	0.9189	0.8978	0.9401	0.9236	0.8971	0.9345	0.0076	1.85%	0.09%
12.5		5	0.9038	0.8810	0.9265	0.9027	0.8782	0.9255	0.0082	2.03%	1.74%
25		5	0.9240	0.8886	0.9593	0.9237	0.8964	0.9683	0.0127	3.08%	-0.46%
50		5	0.8972	0.8779	0.9166	0.8909	0.8828	0.9212	0.0070	1.74%	2.45%
100		5	0.4200	0.3749	0.4652	0.4191	0.3621	0.4577	0.0163	8.65%	54.33%

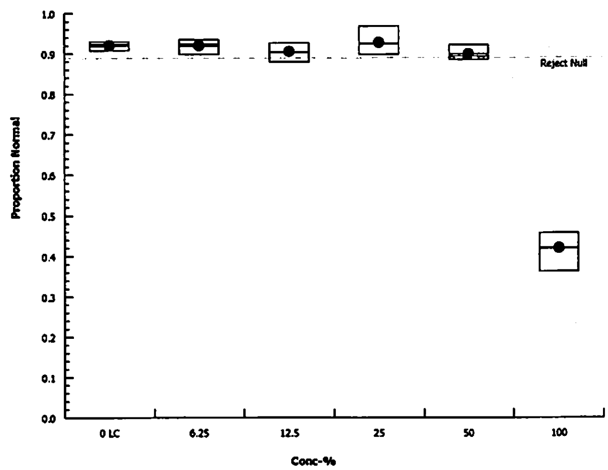
Angular (Corrected) Transformed Summary

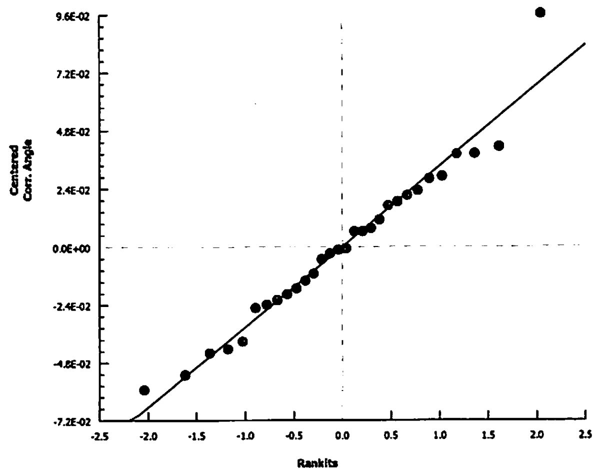
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.284	1.26	1.308	1.29	1.262	1.302	0.008723	1.52%	0.00%
6.25		5	1.283	1.245	1.322	1.291	1.244	1.312	0.01384	2.41%	0.06%
12.5		5	1.256	1.218	1.295	1.254	1.214	1.294	0.01389	2.47%	2.15%
25		5	1.296	1.223	1.369	1.291	1.243	1.392	0.02639	4.55%	-0.94%
50		5	1.245	1.212	1.278	1.234	1.221	1.286	0.0118	2.12%	3.02%
100		5	0.7049	0.6589	0.7509	0.7042	0.6457	0.743	0.01656	5.25%	45.10%

Bivalve Larval Survival and Development Test | **Wood E&IS**

Analysis ID:	12-3759-7282	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 16:45	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	09-4841-6753	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 16:45	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	5.24%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-1.488	2.362	0.152	8	CDF	0.9961	Non-Significant Effect
	12.5	0.1217	2.362	0.152	8	CDF	0.7949	Non-Significant Effect
	25	0.1757	2.362	0.152	8	CDF	0.7762	Non-Significant Effect
	50	-0.06195	2.362	0.152	8	CDF	0.8510	Non-Significant Effect
	100	0.4578	2.362	0.152	8	CDF	0.6652	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.048963	0.0097926	5	0.9471	0.4690	Non-Significant Effect
Error	0.248154	0.0103397	24			
Total	0.297117		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.97	3.895	0.0091	Unequal Variances
Variances	Mod Levene Equality of Variance Test	1.108	4.248	0.3905	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9206	0.9031	0.0278	Normal Distribution

Survival Rate Summary

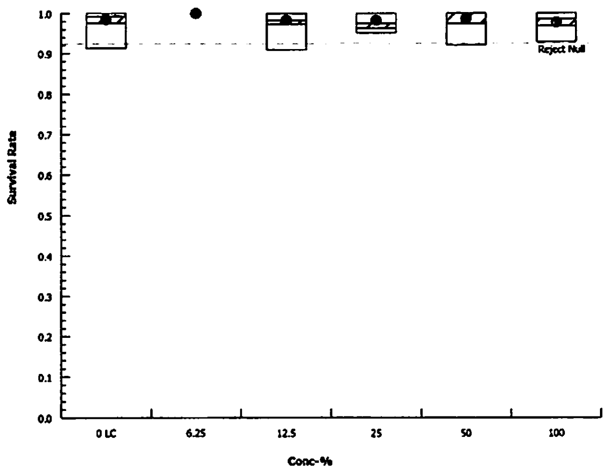
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9756	0.9303	1.0000	0.9924	0.9122	1.0000	0.0163	3.74%	0.00%
6.25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.50%
12.5		5	0.9725	0.9257	1.0000	0.9809	0.9084	1.0000	0.0169	3.88%	0.31%
25		5	0.9740	0.9442	1.0000	0.9618	0.9504	1.0000	0.0108	2.47%	0.16%
50		5	0.9733	0.9264	1.0000	1.0000	0.9198	1.0000	0.0169	3.88%	0.23%
100		5	0.9672	0.9238	1.0000	0.9847	0.9275	1.0000	0.0156	3.61%	0.86%

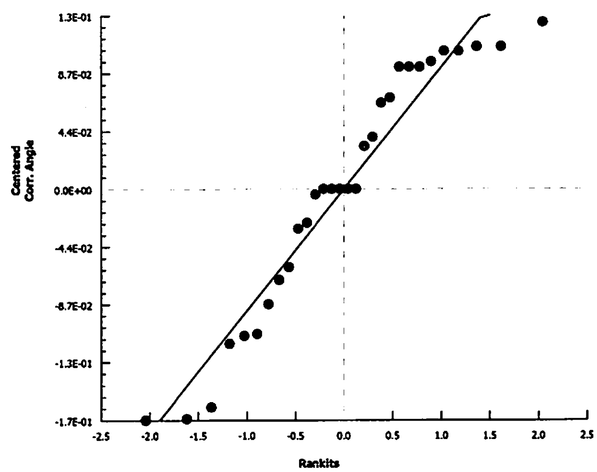
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.444	1.311	1.577	1.483	1.27	1.54	0.04789	7.42%	0.00%
6.25		5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	-6.63%
12.5		5	1.436	1.294	1.578	1.432	1.263	1.54	0.05113	7.96%	0.54%
25		5	1.433	1.311	1.555	1.374	1.346	1.54	0.04391	6.85%	0.78%
50		5	1.448	1.291	1.606	1.54	1.284	1.54	0.0568	8.77%	-0.28%
100		5	1.415	1.28	1.549	1.447	1.298	1.54	0.04843	7.65%	2.04%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	09-4841-6753	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 16:45	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Report Date: 15 Apr-21 12:17 (p 1 of 1)
Test Code: 21-02-008 | 02-4998-8946

Bivalve Larval Survival and Development Test Point Estimate (EC50) **Wood E&IS**

Analysis ID:	15-8081-4388	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Apr-21 12:16	**Analysis:**	Trimmed Spearman-Kärber	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

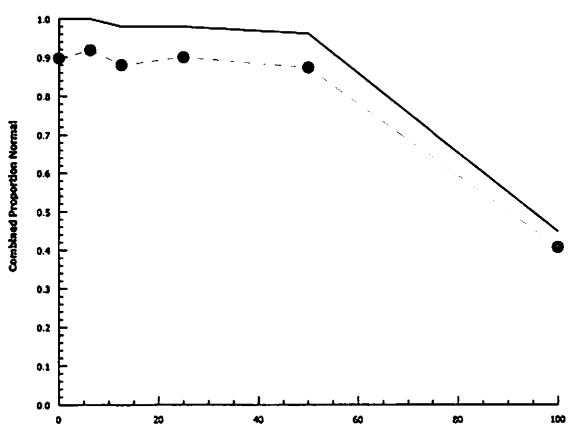
Trimmed Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0.1028	44.80%	1.97	0.00721	93.22	90.18	96.37

Combined Proportion Normal Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	LC	5	0.8971	0.8473	0.9198	0.0286	3.19%	0.0%	1187/1323	0.908	0.0%
6.25		5	0.9189	0.8971	0.9345	0.0170	1.85%	-2.43%	1261/1372	0.908	0.0%
12.5		5	0.8793	0.7977	0.9164	0.0469	5.34%	1.99%	1179/1340	0.8896	2.03%
25		5	0.8999	0.8588	0.9313	0.0318	3.54%	-0.31%	1189/1321	0.8896	2.03%
50		5	0.8730	0.8397	0.9043	0.0281	3.22%	2.69%	1183/1354	0.873	3.86%
100		5	0.4067	0.3359	0.4542	0.0433	10.64%	54.66%	537/1320	0.4067	55.21%

Graphics



CETIS Analytical Report

Report Date:	30 Mar-21 14:17 (p 1 of 2)
Test Code:	21-02-008 | 02-4998-8946

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	17-0758-8616	Endpoint:	Proportion ~~Normal~~ sc w/Curved Hinges	CETIS Version:	CETISv1.9.3
Analyzed:	30 Mar-21 14:16	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Angular (Corrected)	C > T	101	> 101	n/a	0.9901

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	12.5	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	50	40	16	0	8	Asymp	1.0000	Non-Significant Effect
	100	40	16	0	8	Asymp	1.0000	Non-Significant Effect
	101	40	16	0	8	Asymp	1.0000	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.552694	0.0921157	6	204.4	<1.0E-37	Significant Effect
Error	0.012617	0.0004506	28			
Total	0.565311		34			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	91.58	16.81	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8236	0.9146	6.1E-05	Non-Normal Distribution

Proportion ~~Normal Summary~~ sc w/Curved Hinges

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
6.25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
12.5		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
50		5	0.0157	0.0069	0.0245	0.0183	0.0041	0.0218	0.0032	44.95%	
100		5	0.0830	0.0592	0.1068	0.0820	0.0625	0.1047	0.0086	23.13%	
101		5	0.1137	0.0910	0.1364	0.1089	0.1004	0.1450	0.0082	16.07%	

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0312	0.0302	0.0321	0.0310	0.0302	0.0324	0.0004	2.53%	0.00%
6.25		5	0.0302	0.0296	0.0308	0.0303	0.0295	0.0308	0.0002	1.56%	3.04%
12.5		5	0.0310	0.0298	0.0322	0.0312	0.0299	0.0324	0.0004	3.22%	0.45%
25		5	0.0312	0.0305	0.0319	0.0315	0.0304	0.0317	0.0003	1.82%	-0.12%
50		5	0.1221	0.0799	0.1642	0.1357	0.0645	0.1483	0.0152	27.83%	-291.91%
100		5	0.2907	0.2474	0.3341	0.2904	0.2527	0.3294	0.0156	12.02%	-833.51%
101		5	0.3432	0.3086	0.3779	0.3364	0.3223	0.3906	0.0125	8.12%	-1002.06%

Proportion ~~Normal~~ sc curved Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0000	0.0000	0.0000	0.0000	0.0000
6.25		0.0000	0.0000	0.0000	0.0000	0.0000
12.5		0.0000	0.0000	0.0000	0.0000	0.0000
25		0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0183	0.0218	0.0202	0.0142	0.0041
100		0.0658	0.0625	0.0820	0.1047	0.1000
101		0.1450	0.1012	0.1132	0.1004	0.1089

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	17-0758-8616	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:16	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

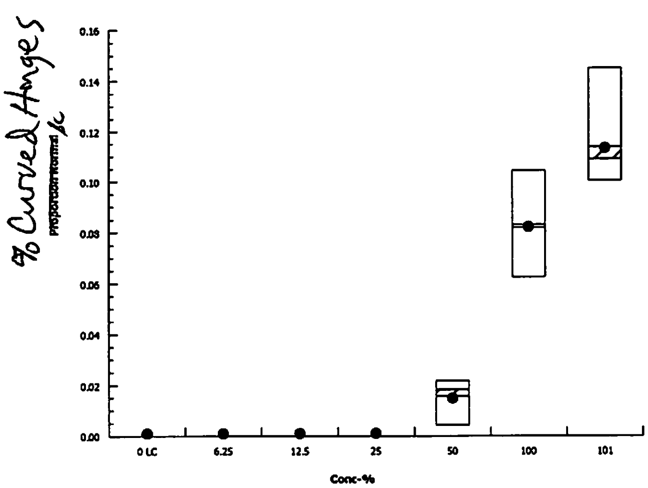
Angular (Corrected) Transformed Detail

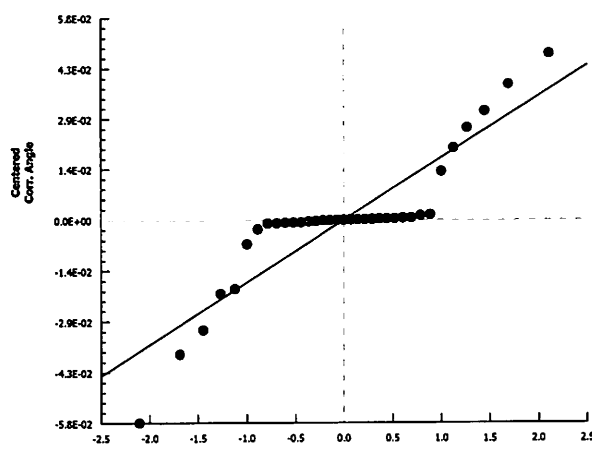
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0324	0.0310	0.0310	0.0302	0.0313
6.25		0.0303	0.0295	0.0303	0.0308	0.0302
12.5		0.0312	0.0299	0.0302	0.0313	0.0324
25		0.0316	0.0307	0.0315	0.0304	0.0317
50		0.1357	0.1483	0.1425	0.1194	0.0645
100		0.2595	0.2527	0.2904	0.3294	0.3218
101		0.3906	0.3237	0.3432	0.3223	0.3364

Proportion ~~Normal~~ Curved Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0/239	0/261	0/260	0/275	0/256
6.25		0/273	0/288	0/272	0/264	0/275
12.5		0/257	0/279	0/275	0/255	0/238
25		0/251	0/265	0/252	0/270	0/249
50		5/273	6/275	5/248	4/282	1/241
100		16/243	17/272	20/244	27/258	26/260
101		39/269	26/257	30/265	28/279	28/257

Graphics





Embryo-Larval Development Test
Scoring Worksheet

Client: Wood/ SIYB
Project ID: SIYB 1
Test No.: 21-02-008

Test Species: *M. galloprovincialis*
Start Date: 2/17/21 1605
End Date: 2/19/21 1545

x̄ = 262

Random #	# Counted	# Normal	Abnormal: Number Curved Shell	Abnormal: All Other Abnormal	Tech Initials / Notes
31	265	173	30	62	AC
32	282	255	4	23	
33	256	238	0	18	
34	~~251~~ 279	188	28	63	
35	241	222	1	18	
36	275	257	0	18	
37	257	232	0	25	
38	~~258~~ 257	184	28	45	
39	275	250	0	25	
40	260	243	0	17	
41	273	241	5	27	
42	272	114	17	141	
43	279	250	0	29	
44	279	252	1	26	
45	269	174	39	56	
46	244	108	20	116	
47	~~265~~ 264	239	0	25	
48	257	181	26	50	
49	254	228	0	26	
50	248	220	5	~~24~~ 23	
51	261	241	0	20	
52	252	244	0	18	
53	255	236	0	19	
54	258	108	27	123	
55	243	88	16	139	
56	278	256	0	22	
57	239	222	0	17	
58	270	251	0	19	
59	238	209	0	29	
60	275	252	0	23	
61	251	225	0	26	
62	265	239	0	26	
63	249	230	0	19	
64	272	244	0	28	
65	280 ~~270~~	258	0	22	
66	275	245	6	24	
67	273	255	0	18	
68	260	119	26	115	
69	288	266	0	22	
70	260	236	0	24	

QC Check: AG

Final Review: SC 3/25/21

CETIS Test Data Worksheet

Report Date: 16 Feb-21 17:34 (p 1 of 2)
Test Code/ID: 02-4998-8946/21-02-008

Bivalve Larval Survival and Development Test — **Wood E&IS**

Start Date: 17 Feb-21 1605	**Species:** Mytilis galloprovincialis	**Sample Code:** ~~347F61DE~~ AG 21-W053
End Date: 19 Feb-21 1545	**Protocol:** EPA/600/R-95/136 (1995)	**Sample Source:** Shelter Island Yacht Basin
Sample Date: 16 Feb-21 1428	**Material:** Seawater	**Sample Station:** SIYB 1

Comments:
101 = 100% (1.2 micron filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	65					
0	FC	2	56					
0	FC	3	40					
0	FC	4	49					
0	FC	5	44					
0	LC	1	57					
0	LC	2	51			261	241	AG 2/22/21
0	LC	3	70					
0	LC	4	39					
0	LC	5	33					
6.25		1	67					
6.25		2	69					
6.25		3	64					
6.25		4	47					
6.25		5	36					
12.5		1	37					
12.5		2	43					
12.5		3	60					
12.5		4	53					
12.5		5	59					
25		1	61					
25		2	62					
25		3	52					
25		4	58					
25		5	63					
50		1	41					
50		2	66					
50		3	50					
50		4	32					
50		5	35					
100		1	55					
100		2	42					

CETIS Test Data Worksheet

Report Date: 16 Feb-21 17:34 (p 2 of 2)
Test Code/ID: 02-4998-8946/21-02-008

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		3	46					
100		4	54					
100		5	68			260	119	26 curved abnormal, copepod observed
101		1	45					
101		2	48					
101		3	31					
101		4	34					
101		5	38					

QC: AG

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 1
Test No. 21-02-008 & 21-02-015

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (%)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.2	15.2	15.0
	Salinity (ppt)	33.9	33.9	34.1
	pH (units)	7.72	7.70	7.60
	DO (mg/L)	7.6	8.2	8.2
Filtered Control	Temp. (°C)	15.3	15.0	14.8
	Salinity (ppt)	33.6	33.8	34.0
	pH (units)	7.71	7.67	7.57
	DO (mg/L)	7.0	8.1	8.3
6.25	Temp. (°C)	15.2	14.9	14.7
	Salinity (ppt)	34.0	34.0	34.1
	pH (units)	7.74	7.67	7.52
	DO (mg/L)	8.1	8.1	8.4
12.5	Temp. (°C)	15.1	14.9	14.8
	Salinity (ppt)	34.0	34.0	34.2
	pH (units)	7.76	7.66	7.53
	DO (mg/L)	8.2	8.2	8.3
25	Temp. (°C)	15.1	15.1	14.8
	Salinity (ppt)	34.0	34.0	34.2
	pH (units)	7.76	7.66	7.53
	DO (mg/L)	8.3	8.3	8.3
50	Temp. (°C)	15.0	15.0	14.8
	Salinity (ppt)	33.8	33.8	34.1
	pH (units)	7.77	7.65	7.54
	DO (mg/L)	8.4	8.3	8.3
100	Temp. (°C)	15.0	14.9	14.7
	Salinity (ppt)	33.9	33.9	34.2
	pH (units)	7.78	7.69	7.54
	DO (mg/L)	8.4	8.3	8.3
100 Filtered (1.2µm)	Temp. (°C)	14.8	14.9	14.6
	Salinity (ppt)	33.4	33.4	33.7
	pH (units)	7.80	7.69	7.55
	DO (mg/L)	8.1	8.3	8.4
	Tech Initials:	AG	AG	JW

Source of Animals: Mission Bay

Date Received: 2/17/21

Comments:

QC: AG 3/15/21

Final Review: SC 3/25/21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Batch ID: 2/17 collection
Test Type: Mussel Development

Test Date: 2/17/2021
Analyst: AG

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325 / 1355 / 1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts # per 100 µL

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided	
Stock 1	99	collected 2/17
Stock 2	99	collected 2/09
Stock 3	98	

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{1385}{500}$ **Dil Factor** 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: $QC_1 = 223/245$

$T\emptyset_1 = 271$, $T\emptyset_2 = 267$ $T\emptyset_3 = 255$ $T\emptyset_4 = 263$ $T\emptyset_5 = 256$ $T\emptyset\ x = 262$

QA Review: AG 3/18/21

Final Review: JC 3/25/21

Site: SIYB-2

CETIS Summary Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Batch ID:	02-1239-8151	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	17 Feb-21 16:05	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	19 Feb-21 15:45	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	48h	**Source:**	Field Collected	**Age:**	

Sample ID:	16-3839-2560	**Code:**	21-W054	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 13:30	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	27h (4 °C)	**Station:**	SIYB 2		

Comments:
101 = 100% (1.2 micron filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
06-1940-8780	Combined Proportion Norma	TST-Welch's t Test	2.0E-05	100% passed combined proportion normal
13-4075-0870	Combined Proportion Norma	TST-Welch's t Test	2.9E-06	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
09-9970-3654	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.25%
05-3019-3346	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.45%
03-6448-4165	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	2.42%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
05-3019-3346	Proportion Normal	Control Resp	0.8972	0.9	>>	Yes	Below Criteria (1)
03-6448-4165	Survival Rate	Control Resp	1	0.5	>>	Yes	Passes Criteria

(1) 89.72% proportion Normal rounds up to test acceptability criteria of 90% or greater. All other controls were greater than 90% TAC. thus, test was deemed acceptable.

Analyst: AG QA: SC 3/25/21

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8972	0.8672	0.9272	0.8787	0.9336	0.0108	0.0242	2.69%	0.00%
0	FC	5	0.8876	0.8508	0.9245	0.8435	0.9252	0.0133	0.0297	3.34%	1.07%
6.25		5	0.8833	0.8646	0.9021	0.8626	0.9000	0.0068	0.0151	1.71%	1.54%
12.5		5	0.8847	0.8559	0.9135	0.8511	0.9057	0.0104	0.0232	2.62%	1.39%
25		5	0.8892	0.8604	0.9180	0.8511	0.9123	0.0104	0.0232	2.61%	0.89%
50		5	0.8714	0.8299	0.9130	0.8282	0.9046	0.0150	0.0335	3.84%	2.87%
100		5	0.8776	0.8379	0.9172	0.8473	0.9198	0.0143	0.0319	3.64%	2.18%
101		5	0.8647	0.8471	0.8822	0.8439	0.8817	0.0063	0.0142	1.64%	3.63%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8972	0.8672	0.9272	0.8787	0.9336	0.0108	0.0242	2.69%	0.00%
0	FC	5	0.8929	0.8670	0.9188	0.8701	0.9252	0.0093	0.0209	2.34%	0.48%
6.25		5	0.8980	0.8760	0.9200	0.8736	0.9150	0.0079	0.0177	1.97%	-0.09%
12.5		5	0.8956	0.8843	0.9068	0.8849	0.9057	0.0040	0.0090	1.01%	0.18%
25		5	0.8974	0.8854	0.9094	0.8878	0.9123	0.0043	0.0097	1.08%	-0.02%
50		5	0.9159	0.8851	0.9467	0.8876	0.9444	0.0111	0.0248	2.71%	-2.08%
100		5	0.8939	0.8643	0.9236	0.8706	0.9305	0.0107	0.0239	2.67%	0.36%
101		5	0.8724	0.8367	0.9081	0.8439	0.9203	0.0129	0.0288	3.30%	2.76%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
0	FC	5	0.9939	0.9769	1.0000	0.9695	1.0000	0.0061	0.0137	1.37%	0.61%
6.25		5	0.9840	0.9528	1.0000	0.9427	1.0000	0.0112	0.0251	2.55%	1.60%
12.5		5	0.9878	0.9673	1.0000	0.9618	1.0000	0.0074	0.0165	1.67%	1.22%
25		5	0.9908	0.9654	1.0000	0.9542	1.0000	0.0092	0.0205	2.07%	0.92%
50		5	0.9519	0.9000	1.0000	0.8931	1.0000	0.0187	0.0418	4.39%	4.81%
100		5	0.9817	0.9538	1.0000	0.9466	1.0000	0.0101	0.0225	2.29%	1.83%
101		5	0.9916	0.9683	1.0000	0.9580	1.0000	0.0084	0.0188	1.89%	0.84%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9336	0.8819	0.8811	0.8787	0.9107
0	FC	0.8832	0.9252	0.8865	0.8435	0.8997
6.25		0.8736	0.8931	0.8874	0.9000	0.8626
12.5		0.8511	0.9057	0.8702	0.8969	0.8996
25		0.8878	0.9014	0.9123	0.8511	0.8935
50		0.8931	0.9046	0.8876	0.8435	0.8282
100		0.8473	0.8473	0.8746	0.8989	0.9198
101		0.8439	0.8608	0.8643	0.8727	0.8817

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9336	0.8819	0.8811	0.8787	0.9107
0	FC	0.8832	0.9252	0.8865	0.8701	0.8997
6.25		0.8736	0.9141	0.8874	0.9000	0.9150
12.5		0.8849	0.9057	0.8872	0.9004	0.8996
25		0.8878	0.9014	0.9123	0.8920	0.8935
50		0.9213	0.9331	0.8876	0.9444	0.8930
100		0.8952	0.8706	0.8746	0.8989	0.9305
101		0.8439	0.8608	0.8643	0.8727	0.9203

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.0000	1.0000	1.0000	1.0000	1.0000
0	FC	1.0000	1.0000	1.0000	0.9695	1.0000
6.25		1.0000	0.9771	1.0000	1.0000	0.9427
12.5		0.9618	1.0000	0.9809	0.9962	1.0000
25		1.0000	1.0000	1.0000	0.9542	1.0000
50		0.9695	0.9695	1.0000	0.8931	0.9275
100		0.9466	0.9733	1.0000	1.0000	0.9885
101		1.0000	1.0000	1.0000	1.0000	0.9580

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	267/286	254/288	252/286	239/272	265/291
0	FC	257/291	272/294	250/282	221/262	278/309
6.25		242/277	234/262	260/293	252/280	226/262
12.5		223/262	269/297	228/262	235/262	251/279
25		269/303	265/294	260/285	223/262	260/291
50		234/262	237/262	237/267	221/262	217/262
100		222/262	222/262	251/287	240/267	241/262
101		227/269	235/273	242/280	233/267	231/262

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	267/286	254/288	252/286	239/272	265/291
0	FC	257/291	272/294	250/282	221/254	278/309
6.25		242/277	234/256	260/293	252/280	226/247
12.5		223/252	269/297	228/257	235/261	251/279
25		269/303	265/294	260/285	223/250	260/291
50		234/254	237/254	237/267	221/234	217/243
100		222/248	222/255	251/287	240/267	241/259
101		227/269	235/273	242/280	233/267	231/251

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	262/262	262/262	262/262	262/262	262/262
0	FC	262/262	262/262	262/262	254/262	262/262
6.25		262/262	256/262	262/262	262/262	247/262
12.5		252/262	262/262	257/262	261/262	262/262
25		262/262	262/262	262/262	250/262	262/262
50		254/262	254/262	262/262	234/262	243/262
100		248/262	255/262	262/262	262/262	259/262
101		262/262	262/262	262/262	262/262	251/262

CETIS Analytical Report

TST of 100% vs. LC

Report Date:	15 Mar-21 17:21 (p 1 of 8)
Test Code:	21-02-009 | 03-3723-3897

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	06-1940-8780	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 17:19	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	10.67	1.943	6	CDF	2.0E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0023338	0.0023338	1	1.105	0.3239	Non-Significant Effect
Error	0.0168982	0.0021123	8			
Total	0.019232		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.437	23.15	0.7340	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8814	0.7411	0.1353	Normal Distribution

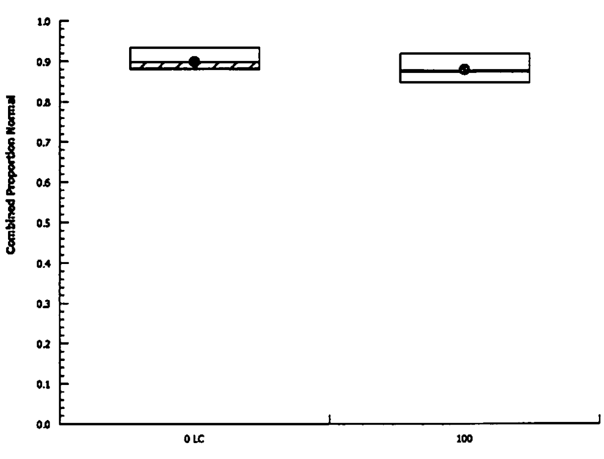
Combined Proportion Normal Summary

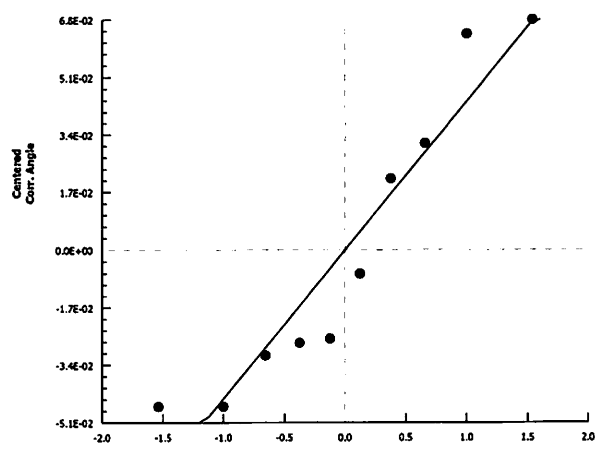
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8972	0.8672	0.9272	0.8819	0.8787	0.9336	0.0108	2.69%	0.00%
100		5	0.8776	0.8379	0.9172	0.8746	0.8473	0.9198	0.0143	3.64%	2.18%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.246	1.195	1.298	1.22	1.215	1.31	0.01862	3.34%	0.00%
100		5	1.216	1.154	1.278	1.209	1.169	1.284	0.02232	4.11%	2.45%

Graphics





Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	13-4075-0870	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 17:20	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	14.86	1.943	6	CDF	2.9E-06	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0033624	0.0033624	1	2.56	0.1483	Non-Significant Effect
Error	0.0105078	0.0013135	8			
Total	0.0138701		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	5.199	23.15	0.1393	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.96	0.7411	0.7860	Normal Distribution

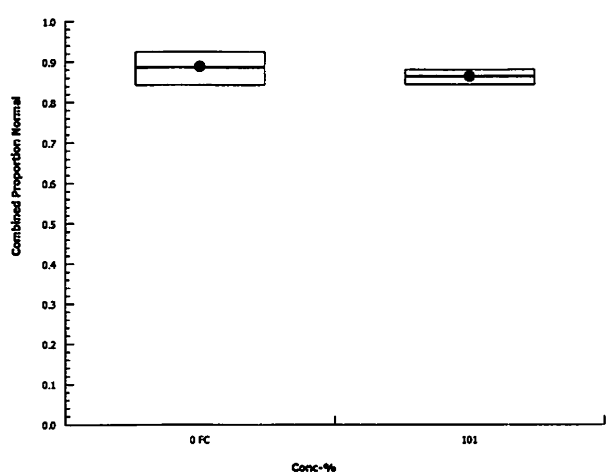
Combined Proportion Normal Summary

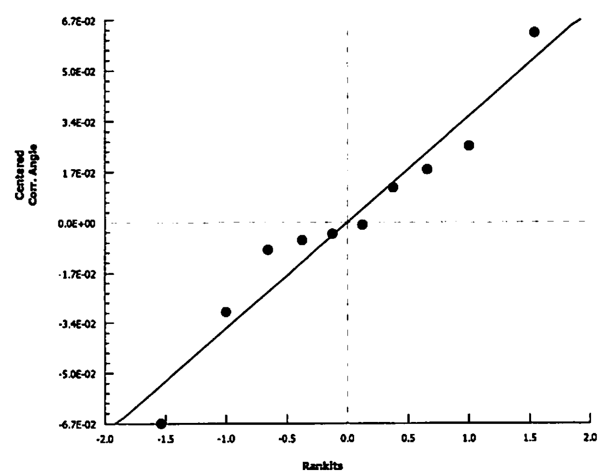
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8876	0.8508	0.9245	0.8865	0.8435	0.9252	0.0133	3.34%	0.00%
101		5	0.8647	0.8471	0.8822	0.8643	0.8439	0.8817	0.0063	1.64%	2.59%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.231	1.173	1.289	1.227	1.164	1.294	0.02099	3.81%	0.00%
101		5	1.194	1.169	1.22	1.194	1.165	1.22	0.009206	1.72%	2.98%

Graphics





Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	09-9970-3654	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 17:20	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.25%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.9197	2.362	0.060	8	CDF	0.4561	Non-Significant Effect
	12.5	0.8075	2.362	0.060	8	CDF	0.5075	Non-Significant Effect
	25	0.5291	2.362	0.060	8	CDF	0.6342	Non-Significant Effect
	50	1.568	2.362	0.060	8	CDF	0.2027	Non-Significant Effect
	100	1.197	2.362	0.060	8	CDF	0.3357	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0047799	0.000956	5	0.5866	0.7101	Non-Significant Effect
Error	0.0391133	0.0016297	24			
Total	0.0438933		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.482	15.09	0.7792	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9594	0.9031	0.2982	Normal Distribution

Combined Proportion Normal Summary

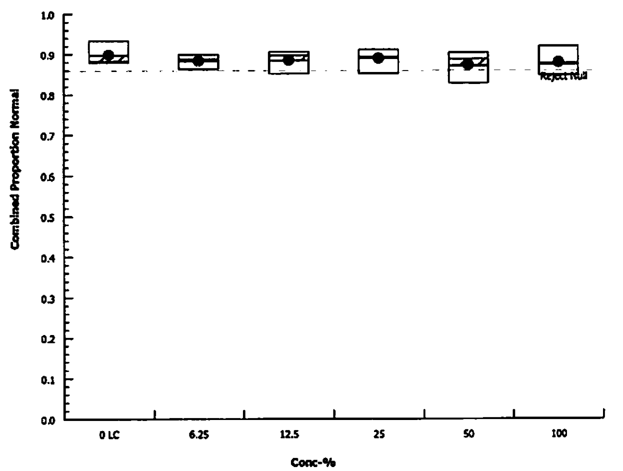
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8972	0.8672	0.9272	0.8819	0.8787	0.9336	0.0108	2.69%	0.00%
6.25		5	0.8833	0.8646	0.9021	0.8874	0.8626	0.9000	0.0068	1.71%	1.54%
12.5		5	0.8847	0.8559	0.9135	0.8969	0.8511	0.9057	0.0104	2.62%	1.39%
25		5	0.8892	0.8604	0.9180	0.8935	0.8511	0.9123	0.0104	2.61%	0.89%
50		5	0.8714	0.8299	0.9130	0.8876	0.8282	0.9046	0.0150	3.84%	2.87%
100		5	0.8776	0.8379	0.9172	0.8746	0.8473	0.9198	0.0143	3.64%	2.18%

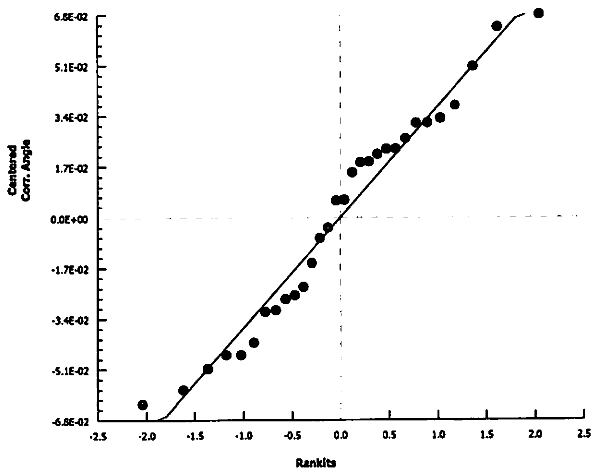
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.246	1.195	1.298	1.22	1.215	1.31	0.01862	3.34%	0.00%
6.25		5	1.223	1.194	1.252	1.229	1.191	1.249	0.01047	1.91%	1.88%
12.5		5	1.226	1.181	1.27	1.244	1.175	1.259	0.01595	2.91%	1.65%
25		5	1.233	1.188	1.277	1.238	1.175	1.27	0.01605	2.91%	1.08%
50		5	1.206	1.145	1.268	1.229	1.143	1.257	0.02211	4.10%	3.21%
100		5	1.216	1.154	1.278	1.209	1.169	1.284	0.02232	4.11%	2.45%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID:	09-9970-3654	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 17:20	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	05-3019-3346	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 17:20	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.45%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-0.01858	2.362	0.05	8	CDF	0.8388	Non-Significant Effect
	12.5	0.203	2.362	0.05	8	CDF	0.7665	Non-Significant Effect
	25	0.05971	2.362	0.05	8	CDF	0.8151	Non-Significant Effect
	50	-1.548	2.362	0.05	8	CDF	0.9968	Non-Significant Effect
	100	0.2589	2.362	0.05	8	CDF	0.7457	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0052009	0.0010402	5	0.9308	0.4786	Non-Significant Effect
Error	0.0268202	0.0011175	24			
Total	0.0320211		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	7.151	15.09	0.2097	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9616	0.9031	0.3403	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8972	0.8672	0.9272	0.8819	0.8787	0.9336	0.0108	2.69%	0.00%
6.25		5	0.8980	0.8760	0.9200	0.9000	0.8736	0.9150	0.0079	1.97%	-0.09%
12.5		5	0.8956	0.8843	0.9068	0.8996	0.8849	0.9057	0.0040	1.01%	0.18%
25		5	0.8974	0.8854	0.9094	0.8935	0.8878	0.9123	0.0043	1.08%	-0.02%
50		5	0.9159	0.8851	0.9467	0.9213	0.8876	0.9444	0.0111	2.71%	-2.08%
100		5	0.8939	0.8643	0.9236	0.8952	0.8706	0.9305	0.0107	2.67%	0.36%

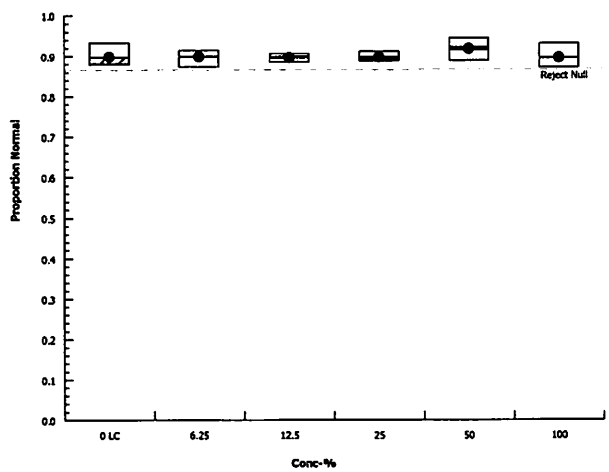
Angular (Corrected) Transformed Summary

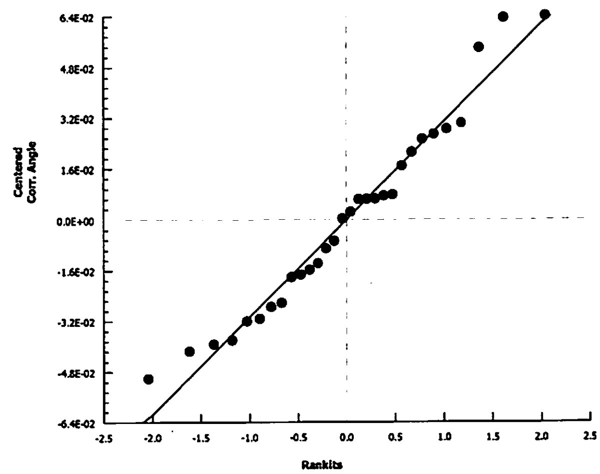
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.246	1.195	1.298	1.22	1.215	1.31	0.01862	3.34%	0.00%
6.25		5	1.247	1.211	1.283	1.249	1.207	1.275	0.013	2.33%	-0.03%
12.5		5	1.242	1.224	1.26	1.248	1.225	1.259	0.006592	1.19%	0.34%
25		5	1.245	1.225	1.265	1.238	1.229	1.27	0.007233	1.30%	0.10%
50		5	1.279	1.223	1.335	1.286	1.229	1.333	0.0201	3.51%	-2.63%
100		5	1.241	1.191	1.291	1.241	1.203	1.304	0.01804	3.25%	0.44%

Analyst: Nb QA: fr

Bivalve Larval Survival and Development Test			Wood E&IS
Analysis ID: 05-3019-3346	**Endpoint:** Proportion Normal	**CETIS Version:** CETISv1.9.3	
Analyzed: 15 Mar-21 17:20	**Analysis:** Parametric-Control vs Treatments	**Official Results:** Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	03-6448-4165	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 17:21	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	2.42%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	1.249	2.362	0.125	8	CDF	0.3145	Non-Significant Effect
	12.5	1.146	2.362	0.125	8	CDF	0.3565	Non-Significant Effect
	25	0.696	2.362	0.125	8	CDF	0.5588	Non-Significant Effect
	50*	3.139	2.362	0.125	8	CDF	0.0093	Significant Effect
	100	1.552	2.362	0.125	8	CDF	0.2076	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0779076	0.0155815	5	2.21	0.0865	Non-Significant Effect
Error	0.169184	0.0070493	24			
Total	0.247091		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	2.599	3.895	0.0515	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.131	4.248	0.3798	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9373	0.9031	0.0767	Normal Distribution

Survival Rate Summary

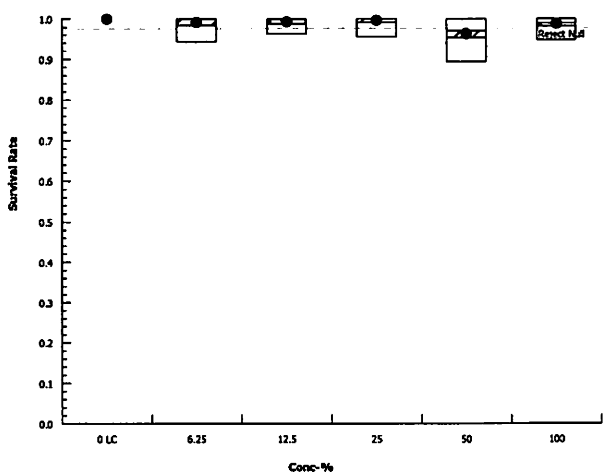
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		5	0.9840	0.9528	1.0000	1.0000	0.9427	1.0000	0.0112	2.55%	1.60%
12.5		5	0.9878	0.9673	1.0000	0.9962	0.9618	1.0000	0.0074	1.67%	1.22%
25		5	0.9908	0.9654	1.0000	1.0000	0.9542	1.0000	0.0092	2.07%	0.92%
50		5	0.9519	0.9000	1.0000	0.9695	0.8931	1.0000	0.0187	4.39%	4.81%
100		5	0.9817	0.9538	1.0000	0.9885	0.9466	1.0000	0.0101	2.29%	1.83%

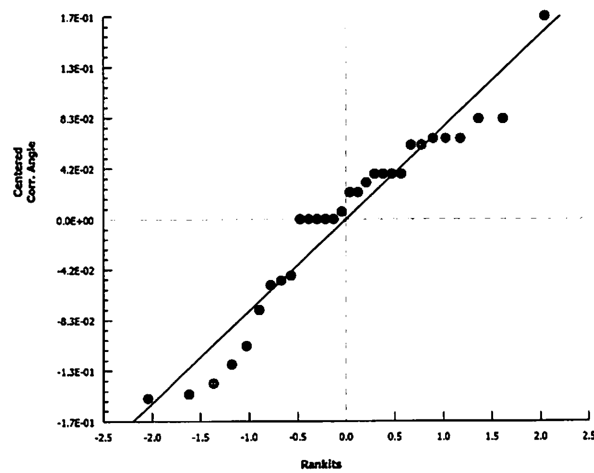
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	0.00%
6.25		5	1.474	1.354	1.593	1.54	1.329	1.54	0.04303	6.53%	4.31%
12.5		5	1.479	1.388	1.57	1.509	1.374	1.54	0.03278	4.96%	3.95%
25		5	1.503	1.4	1.606	1.54	1.355	1.54	0.03696	5.50%	2.40%
50		5	1.373	1.231	1.516	1.395	1.238	1.54	0.05135	8.36%	10.82%
100		5	1.458	1.349	1.566	1.464	1.338	1.54	0.03912	6.00%	5.35%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	03-6448-4165	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	15 Mar-21 17:21	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	15-5846-8854	**Endpoint:**	Proportion ~~Normal~~ sc w/Curved Hinges	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:28	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	101	> 101	n/a	0.9901	63.22%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	17.5	16	1	8	Asymp	0.0792	Non-Significant Effect
	12.5	17.5	16	1	8	Asymp	0.0792	Non-Significant Effect
	25	19	16	1	8	Asymp	0.1478	Non-Significant Effect
	50	17.5	16	1	8	Asymp	0.0792	Non-Significant Effect
	100	40	16	0	8	Asymp	1.0000	Non-Significant Effect
	101	40	16	0	8	Asymp	1.0000	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.162451	0.0270751	6	95.8	<1.0E-37	Significant Effect
Error	0.0079137	0.0002826	28			
Total	0.170364		34			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	55.97	16.81	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9374	0.9146	0.0467	Normal Distribution

Proportion ~~Normal Summary~~ sc w/Curved Hinges

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0049	0.0010	0.0089	0.0069	0.0000	0.0074	0.0014	64.15%	0.00%
6.25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
12.5		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
25		5	0.0008	0.0000	0.0030	0.0000	0.0000	0.0040	0.0008	223.61%	83.78%
50		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
100		5	0.0340	0.0217	0.0463	0.0300	0.0242	0.0471	0.0044	29.13%	-589.41%
101		5	0.0365	0.0267	0.0462	0.0335	0.0279	0.0476	0.0035	21.60%	-639.08%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0682	0.0382	0.0982	0.0830	0.0296	0.0859	0.0108	35.44%	0.00%
6.25		5	0.0304	0.0291	0.0318	0.0301	0.0292	0.0318	0.0005	3.50%	55.36%
12.5		5	0.0305	0.0293	0.0318	0.0310	0.0290	0.0315	0.0005	3.36%	55.25%
25		5	0.0360	0.0171	0.0550	0.0293	0.0287	0.0633	0.0068	42.32%	47.18%
50		5	0.0316	0.0306	0.0326	0.0314	0.0306	0.0327	0.0004	2.50%	53.63%
100		5	0.1840	0.1505	0.2175	0.1740	0.1562	0.2187	0.0121	14.67%	-169.75%
101		5	0.1913	0.1655	0.2170	0.1839	0.1678	0.2200	0.0093	10.85%	-180.45%

Proportion ~~Normal~~ sc curved Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0000	0.0069	0.0035	0.0074	0.0069
6.25		0.0000	0.0000	0.0000	0.0000	0.0000
12.5		0.0000	0.0000	0.0000	0.0000	0.0000
25		0.0000	0.0000	0.0000	0.0040	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000
100		0.0242	0.0471	0.0418	0.0300	0.0270
101		0.0335	0.0476	0.0321	0.0412	0.0279

Analyst: AG QA: [illegible]

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	15-5846-8854	**Endpoint:**	Proportion ~~Normal~~ SC Curved	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:28	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

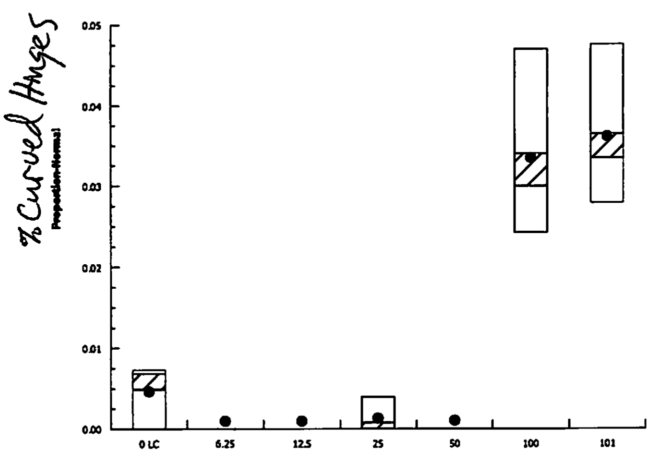
Angular (Corrected) Transformed Detail

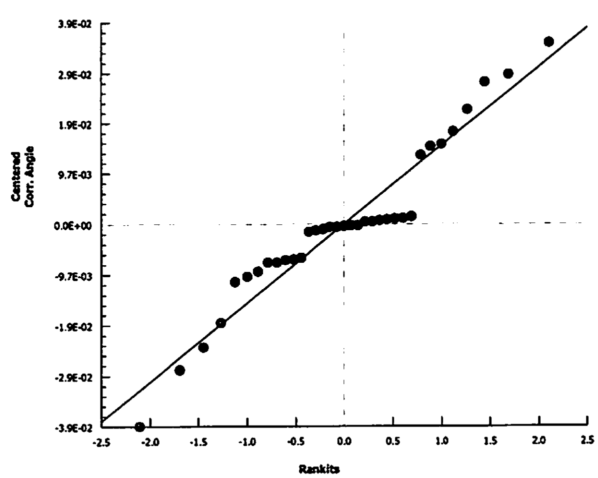
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0296	0.0834	0.0592	0.0859	0.0830
6.25		0.0301	0.0313	0.0292	0.0299	0.0318
12.5		0.0315	0.0290	0.0312	0.0310	0.0299
25		0.0287	0.0292	0.0296	0.0633	0.0293
50		0.0314	0.0314	0.0306	0.0327	0.0321
100		0.1562	0.2187	0.2059	0.1740	0.1651
101		0.1839	0.2200	0.1803	0.2044	0.1678

Proportion ~~Normal~~ SC curved Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0/286	2/288	1/286	2/272	2/291
6.25		0/277	0/256	0/293	0/280	0/247
12.5		0/252	0/297	0/257	0/261	0/279
25		0/303	0/294	0/285	1/250	0/291
50		0/254	0/254	0/267	0/234	0/243
100		6/248	12/255	12/287	8/267	7/259
101		9/269	13/273	9/280	11/267	7/251

Graphics





Embryo-Larval Development Test
Scoring Worksheet

Client: Wood/ SIYB
Project ID: SIYB 2
Test No.: 21-02-009

Test Species: *M. galloprovincialis*
Start Date: 2/17/211605
End Date: 2/19/21 1545

Random #	# Counted	# Normal	Abnormal: Number Curved Shell	Abnormal: All Other Abnormal	Tech Initials / Notes
71	280	242	9	29	BI
72	267	240	8	19	BI
73	288	254	2	32	BI
74	291	265	2	24	BI
75	243	217	0	26	BI
76	~~249~~ 250	223	1	26	BI
77	267	233	11	23	BI
78	259	241	7	11	BI
79	254	234	0	20	BI
80	286	252	1	33	BI
81	294	272	0	22	BI
82	291	257	0	34	BI
83	286	267	0	19	BI
84	297	269	0	28	BI
85	272	239	2	31	BI
86	254	221	0	33	BI
87	282	250	1	31	BI
88	279	251	0	28	BI
89	277	242	0	35	BI
90	291	260	0	31	BI
91	293	260	0	33	BI
92	251	231	7	13	BI
93	257	228	0	29	BI
94	234	221	0	13	BI
95	261	235	0	26	BI
96	248	222	6	20	BI
97	287	251	12	24	BI
98	273	235	13	25	BI
99	255	222	12	21	BI
100	285	260	0	25	BI
101	294	265	0	29	BI
102	269	227	9	33	BI
103	267	237	0	30	BI
104	252	223	0	29	BI
105	309	278	0	31	BI
106	280	252	0	28	BI
107	247	226	0	21	BI
108	256	234	0	22	BI
109	303	269	0	34	BI
110	254	237	0	17	BI

QC Check: AG

Final Review: SC 3/25/21

CETIS Test Data Worksheet

Report Date: 16 Feb-21 17:36 (p 1 of 2)
Test Code/ID: 03-3723-3897/21-02-009

Bivalve Larval Survival and Development Test — **Wood E&IS**

Start Date:	17 Feb-21 1605	**Species:**	Mytilis galloprovincialis	**Sample Code:**	~~21-02-00~~ 21-W054
End Date:	19 Feb-21 1548	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	16 Feb-21 1330	**Material:**	Seawater	**Sample Station:**	SIYB 2

Comments:
101 = 100% (1.2 micron filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	82					
0	FC	2	81					
0	FC	3	87					
0	FC	4	86					
0	FC	5	105					
0	LC	1	83			276	260	1 curved abnormal
0	LC	2	73					
0	LC	3	80					
0	LC	4	85					
0	LC	5	74					
6.25		1	89					
6.25		2	108					
6.25		3	91					
6.25		4	106					
6.25		5	107					
12.5		1	104					
12.5		2	84					
12.5		3	93					
12.5		4	95					
12.5		5	88					
25		1	109					
25		2	101					
25		3	100					
25		4	76					
25		5	90					
50		1	79					
50		2	110					
50		3	103					
50		4	94					
50		5	75					
100		1	96			240	212	12 curved abnormal
100		2	99					

Analyst: AK QA: JC

CETIS Test Data Worksheet

Test Code/ID: 03-3723-3897/21-02-009

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		3	97					
100		4	72					
100		5	78					
101		1	102					
101		2	98					
101		3	71					
101		4	77					
101		5	92					

QC: AG

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 2
Test No. 21-02-009 & 21-02-016

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (%)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.2	14.7	14.8
	Salinity (ppt)	33.8	34.0	34.2
	pH (units)	7.80	7.67	7.58
	DO (mg/L)	8.0	8.3	8.4
Filtered Control	Temp. (°C)	15.3	14.7	14.8
	Salinity (ppt)	33.8	33.9	34.1
	pH (units)	7.81	7.68	7.58
	DO (mg/L)	7.2	8.1	8.4
6.25	Temp. (°C)	15.2	14.7	14.7
	Salinity (ppt)	34.0	34.0	34.2
	pH (units)	7.81	7.67	7.59
	DO (mg/L)	7.7	8.2	8.4
12.5	Temp. (°C)	15.0	14.8	14.7
	Salinity (ppt)	34.0	34.1	34.3
	pH (units)	7.80	7.79	7.59
	DO (mg/L)	8.1	8.3	8.4
25	Temp. (°C)	15.1	14.9	14.8
	Salinity (ppt)	34.0	34.1	34.4
	pH (units)	7.80	7.70	7.59
	DO (mg/L)	8.2	8.3	8.4
50	Temp. (°C)	15.2	14.9	14.9
	Salinity (ppt)	34.0	34.0	34.2
	pH (units)	7.80	7.78	7.59
	DO (mg/L)	8.3	8.3	8.3
100	Temp. (°C)	15.1	14.9	14.9
	Salinity (ppt)	33.9	33.9	34.2
	pH (units)	7.80	7.74	7.60
	DO (mg/L)	8.4	8.4	8.4
100 Filtered (1.2µm)	Temp. (°C)	14.7	15.0	14.8
	Salinity (ppt)	33.5	33.5	33.7
	pH (units)	7.82	7.70	7.60
	DO (mg/L)	8.1	8.3	8.4
	Tech Initials:	AG	AG	JW

Source of Animals: Mission Bay
Date Received: 2/17/21

Comments:

QC: AG 3/15/21

Final: JL 3/25/21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 2/17/2021
Batch ID: 2/17 collection **Analyst:** AG
Test Type: Mussel Development

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325 /1355/1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided	
Stock 1	99	collected 2/17
Stock 2	99	collected 2/09
Stock 3	98	

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{1385}{500}$ **Dil Factor** 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: QC_1 = 223/245

$T\emptyset_1$ = 271, $T\emptyset_2$ = 267 $T\emptyset_3$ = 255 $T\emptyset_4$ = 263 $T\emptyset_5$ = 256 $T\emptyset\ \bar{x}$ = 262

QA Review: AG 3/15/21 **Final Review:** JC 3/25/21

Site: SIYB-3

CETIS Summary Report

Report Date: 22 Mar-21 14:44
Test Code: 21-02-010 | 10-5420-3905

Bivalve Larval Survival and Development Test — Wood E&IS

Batch ID:	09-4550-9278	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	17 Feb-21 16:05	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	19 Feb-21 15:45	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	48h	**Source:**	Field Collected	**Age:**	

Sample ID:	00-8387-3530	**Code:**	21-W055	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 12:30	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	28h (3 °C)	**Station:**	SIYB 3		

Comments:
101= 100% (1.2 micron filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
07-6260-6938	Combined Proportion Norma	TST-Welch's t Test	4.6E-05	100% passed combined proportion normal
11-9501-7492	Combined Proportion Norma	TST-Welch's t Test	<1.0E-37	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
11-4131-2352	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.66%
11-9391-8046	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.05%
05-3837-7589	Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	1.81%

Test Acceptability

				TAC Limits			
Analysis ID	**Endpoint**	**Attribute**	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
11-9391-8046	Proportion Normal	Control Resp	0.9164	0.9	>>	Yes	Passes Criteria
05-3837-7589	Survival Rate	Control Resp	0.9969	0.5	>>	Yes	Passes Criteria

Analyst: AG QA: SC 3/25/21

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9135	0.8901	0.9369	0.8881	0.9338	0.0084	0.0188	2.06%	0.00%
0	FC	5	0.9032	0.8846	0.9217	0.8901	0.9265	0.0067	0.0149	1.65%	1.13%
6.25		5	0.9125	0.8873	0.9376	0.8797	0.9303	0.0090	0.0202	2.22%	0.12%
12.5		5	0.9013	0.8848	0.9178	0.8878	0.9160	0.0059	0.0133	1.47%	1.34%
25		5	0.8947	0.8760	0.9134	0.8791	0.9169	0.0067	0.0151	1.68%	2.06%
50		5	0.9062	0.8754	0.9370	0.8810	0.9410	0.0111	0.0248	2.74%	0.80%
100		5	0.9092	0.8657	0.9527	0.8473	0.9331	0.0157	0.0350	3.85%	0.47%
101		5	0.8940	0.8810	0.9070	0.8817	0.9046	0.0047	0.0105	1.17%	2.13%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9164	0.8887	0.9440	0.8881	0.9419	0.0100	0.0223	2.43%	0.00%
0	FC	5	0.9032	0.8846	0.9217	0.8901	0.9265	0.0067	0.0149	1.65%	1.44%
6.25		5	0.9125	0.8873	0.9376	0.8797	0.9303	0.0090	0.0202	2.22%	0.43%
12.5		5	0.9034	0.8828	0.9241	0.8878	0.9266	0.0074	0.0166	1.84%	1.41%
25		5	0.8947	0.8760	0.9134	0.8791	0.9169	0.0067	0.0151	1.68%	2.36%
50		5	0.9155	0.8837	0.9472	0.8810	0.9410	0.0114	0.0256	2.79%	0.10%
100		5	0.9255	0.9183	0.9327	0.9182	0.9331	0.0026	0.0058	0.62%	-1.00%
101		5	0.8974	0.8876	0.9072	0.8860	0.9046	0.0035	0.0079	0.88%	2.07%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9969	0.9885	1.0000	0.9847	1.0000	0.0031	0.0068	0.68%	0.00%
0	FC	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.31%
6.25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.31%
12.5		5	0.9977	0.9914	1.0000	0.9885	1.0000	0.0023	0.0051	0.51%	-0.08%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.31%
50		5	0.9901	0.9625	1.0000	0.9504	1.0000	0.0099	0.0222	2.24%	0.69%
100		5	0.9824	0.9337	1.0000	0.9122	1.0000	0.0176	0.0393	4.00%	1.45%
101		5	0.9962	0.9856	1.0000	0.9809	1.0000	0.0038	0.0085	0.86%	0.08%

Bivalve Larval Survival and Development Test — **Wood E&IS**

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8881	0.9011	0.9170	0.9275	0.9338
0	FC	0.8901	0.8973	0.8929	0.9265	0.9091
6.25		0.9071	0.9247	0.8797	0.9303	0.9205
12.5		0.9160	0.8878	0.9151	0.8936	0.8939
25		0.8900	0.8852	0.9169	0.8791	0.9024
50		0.8893	0.9222	0.9410	0.8810	0.8974
100		0.8473	0.9182	0.9251	0.9222	0.9331
101		0.9046	0.8934	0.8860	0.8817	0.9044

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8881	0.9011	0.9170	0.9419	0.9338
0	FC	0.8901	0.8973	0.8929	0.9265	0.9091
6.25		0.9071	0.9247	0.8797	0.9303	0.9205
12.5		0.9266	0.8878	0.9151	0.8936	0.8939
25		0.8900	0.8852	0.9169	0.8791	0.9024
50		0.9357	0.9222	0.9410	0.8810	0.8974
100		0.9289	0.9182	0.9251	0.9222	0.9331
101		0.9046	0.8934	0.8860	0.8988	0.9044

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.0000	1.0000	1.0000	0.9847	1.0000
0	FC	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000
12.5		0.9885	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		0.9504	1.0000	1.0000	1.0000	1.0000
100		0.9122	1.0000	1.0000	1.0000	1.0000
101		1.0000	1.0000	1.0000	0.9809	1.0000

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	262/295	246/273	243/265	243/262	254/272
0	FC	251/282	236/263	250/280	252/272	260/286
6.25		244/269	258/279	234/266	267/287	243/264
12.5		240/262	269/303	248/271	252/282	236/264
25		275/309	239/270	276/301	240/273	268/297
50		233/262	249/270	255/271	237/269	245/273
100		222/262	247/269	247/267	249/270	265/284
101		237/262	243/272	272/307	231/262	246/272

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	262/295	246/273	243/265	243/258	254/272
0	FC	251/282	236/263	250/280	252/272	260/286
6.25		244/269	258/279	234/266	267/287	243/264
12.5		240/259	269/303	248/271	252/282	236/264
25		275/309	239/270	276/301	240/273	268/297
50		233/249	249/270	255/271	237/269	245/273
100		222/239	247/269	247/267	249/270	265/284
101		237/262	243/272	272/307	231/257	246/272

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	262/262	262/262	262/262	258/262	262/262
0	FC	262/262	262/262	262/262	262/262	262/262
6.25		262/262	262/262	262/262	262/262	262/262
12.5		259/262	262/262	262/262	262/262	262/262
25		262/262	262/262	262/262	262/262	262/262
50		249/262	262/262	262/262	262/262	262/262
100		239/262	262/262	262/262	262/262	262/262
101		262/262	262/262	262/262	257/262	262/262

CETIS Analytical Report

TST for 100% vs. LC

Test Code: 21-02-010 | 10-5420-3905

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	07-6260-6938	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 14:42	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101= 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	11.38	2.015	5	CDF	4.6E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	7.231E-05	7.231E-05	1	0.03387	0.8586	Non-Significant Effect
Error	0.0170808	0.0021351	8			
Total	0.0171531		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.852	23.15	0.3345	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8404	0.7411	0.0447	Normal Distribution

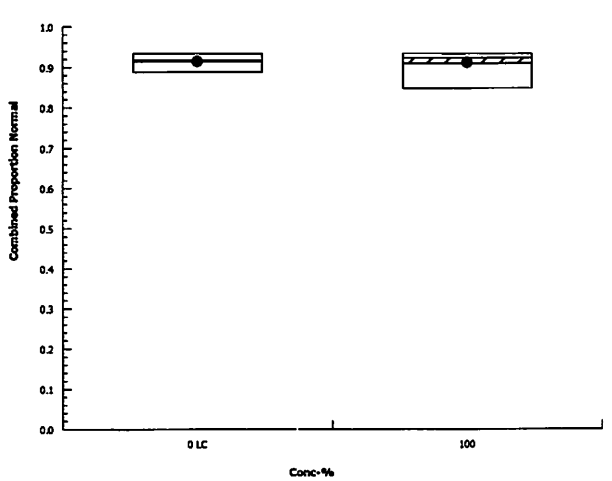
Combined Proportion Normal Summary

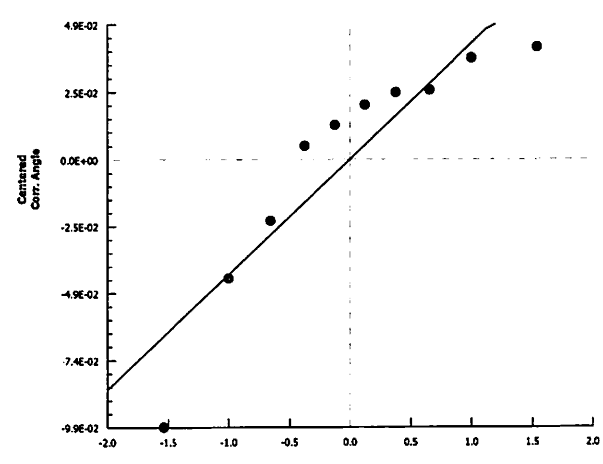
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9135	0.8901	0.9369	0.9170	0.8881	0.9338	0.0084	2.06%	0.00%
100		5	0.9092	0.8657	0.9527	0.9222	0.8473	0.9331	0.0157	3.85%	0.47%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.274	1.232	1.315	1.279	1.23	1.311	0.01489	2.61%	0.00%
100		5	1.268	1.198	1.338	1.288	1.169	1.309	0.02515	4.43%	0.42%

Graphics





Analyst: AB QA: [illegible]

CETIS Analytical Report

TST for 100% Filtered vs. FC

Report Date: 22 Mar-21 14:44 (p 2 of 8)
Test Code: 21-02-010 | 10-5420-3905

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID:	11-9501-7492	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 14:43	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101= 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	25.8	1.895	7	CDF	<1.0E-37	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0006098	0.0006098	1	1.266	0.2931	Non-Significant Effect
Error	0.0038524	0.0004815	8			
Total	0.0044622		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.338	23.15	0.4309	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9079	0.7411	0.2666	Normal Distribution

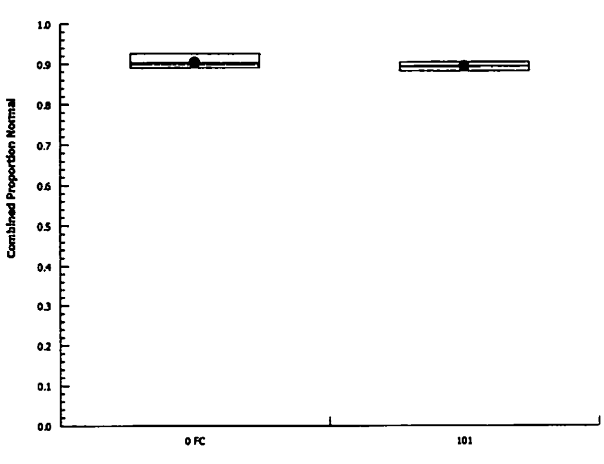
Combined Proportion Normal Summary

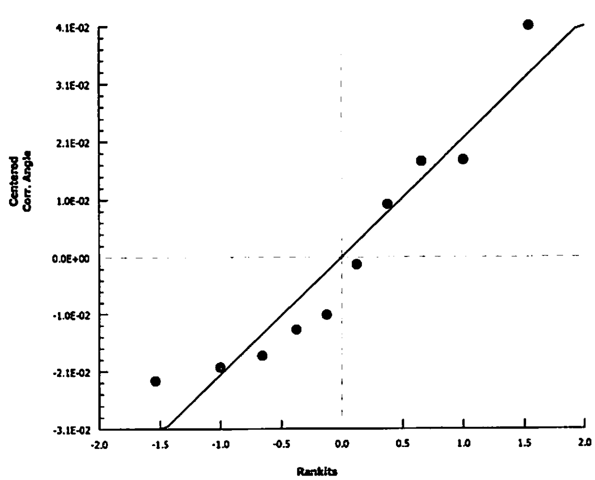
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.9032	0.8846	0.9217	0.8973	0.8901	0.9265	0.0067	1.65%	0.00%
101		5	0.8940	0.8810	0.9070	0.8934	0.8817	0.9046	0.0047	1.17%	1.01%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.255	1.223	1.287	1.245	1.233	1.296	0.01162	2.07%	0.00%
101		5	1.239	1.218	1.261	1.238	1.22	1.257	0.007596	1.37%	1.24%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	11-4131-2352	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 14:43	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101= 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.66%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.07471	2.362	0.056	8	CDF	0.8103	Non-Significant Effect
	12.5	0.9139	2.362	0.056	8	CDF	0.4587	Non-Significant Effect
	25	1.365	2.362	0.056	8	CDF	0.2704	Non-Significant Effect
	50	0.4969	2.362	0.056	8	CDF	0.6483	Non-Significant Effect
	100	0.2253	2.362	0.056	8	CDF	0.7583	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0040628	0.0008126	5	0.5703	0.7220	Non-Significant Effect
Error	0.0341973	0.0014249	24			
Total	0.0382601		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	4.273	15.09	0.5108	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9535	0.9031	0.2095	Normal Distribution

Combined Proportion Normal Summary

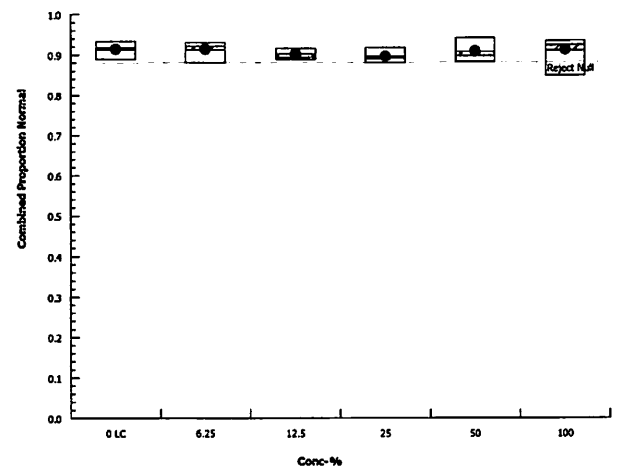
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9135	0.8901	0.9369	0.9170	0.8881	0.9338	0.0084	2.06%	0.00%
6.25		5	0.9125	0.8873	0.9376	0.9205	0.8797	0.9303	0.0090	2.22%	0.12%
12.5		5	0.9013	0.8848	0.9178	0.8939	0.8878	0.9160	0.0059	1.47%	1.34%
25		5	0.8947	0.8760	0.9134	0.8900	0.8791	0.9169	0.0067	1.68%	2.06%
50		5	0.9062	0.8754	0.9370	0.8974	0.8810	0.9410	0.0111	2.74%	0.80%
100		5	0.9092	0.8657	0.9527	0.9222	0.8473	0.9331	0.0157	3.85%	0.47%

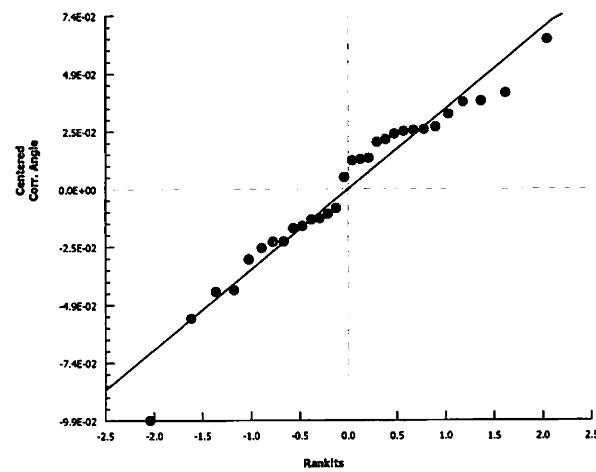
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.274	1.232	1.315	1.279	1.23	1.311	0.01489	2.61%	0.00%
6.25		5	1.272	1.229	1.315	1.285	1.217	1.304	0.01548	2.72%	0.14%
12.5		5	1.252	1.224	1.28	1.239	1.229	1.277	0.01005	1.80%	1.71%
25		5	1.241	1.21	1.272	1.233	1.216	1.278	0.0112	2.02%	2.56%
50		5	1.262	1.207	1.317	1.245	1.219	1.325	0.01974	3.50%	0.93%
100		5	1.268	1.198	1.338	1.288	1.169	1.309	0.02515	4.43%	0.42%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	11-4131-2352	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 14:43	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test | **Wood E&IS**

Analysis ID:	11-9391-8046	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 14:43	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101= 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.05%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.366	2.362	0.049	8	CDF	0.7036	Non-Significant Effect
	12.5	1.14	2.362	0.049	8	CDF	0.3593	Non-Significant Effect
	25	1.848	2.362	0.049	8	CDF	0.1296	Non-Significant Effect
	50	0.05367	2.362	0.049	8	CDF	0.8170	Non-Significant Effect
	100	-0.7254	2.362	0.049	8	CDF	0.9653	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0090334	0.0018067	5	1.671	0.1800	Non-Significant Effect
Error	0.0259523	0.0010814	24			
Total	0.0349858		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	6.669	15.09	0.2464	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9698	0.9031	0.5342	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9164	0.8887	0.9440	0.9170	0.8881	0.9419	0.0100	2.43%	0.00%
6.25		5	0.9125	0.8873	0.9376	0.9205	0.8797	0.9303	0.0090	2.22%	0.43%
12.5		5	0.9034	0.8828	0.9241	0.8939	0.8878	0.9266	0.0074	1.84%	1.41%
25		5	0.8947	0.8760	0.9134	0.8900	0.8791	0.9169	0.0067	1.68%	2.36%
50		5	0.9155	0.8837	0.9472	0.9222	0.8810	0.9410	0.0114	2.79%	0.10%
100		5	0.9255	0.9183	0.9327	0.9251	0.9182	0.9331	0.0026	0.62%	-1.00%

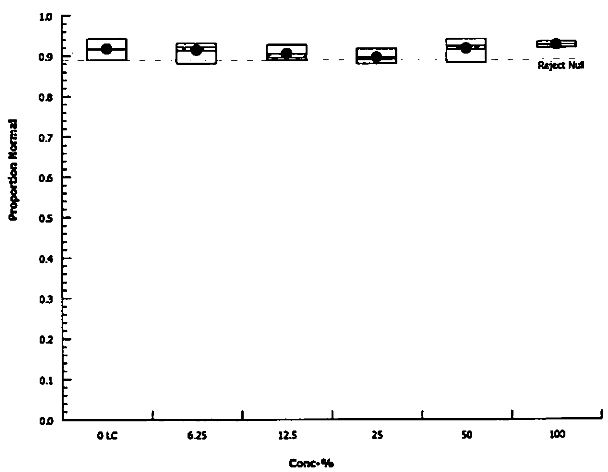
Angular (Corrected) Transformed Summary

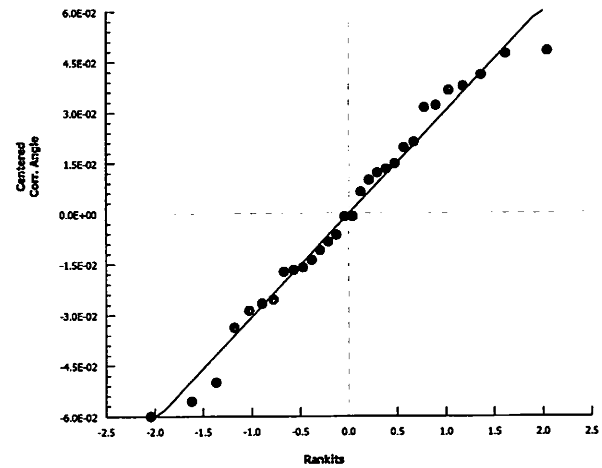
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.279	1.229	1.33	1.279	1.23	1.327	0.01809	3.16%	0.00%
6.25		5	1.272	1.229	1.315	1.285	1.217	1.304	0.01548	2.72%	0.59%
12.5		5	1.256	1.22	1.291	1.239	1.229	1.297	0.01288	2.29%	1.85%
25		5	1.241	1.21	1.272	1.233	1.216	1.278	0.0112	2.02%	3.00%
50		5	1.278	1.222	1.335	1.288	1.219	1.325	0.02037	3.56%	0.09%
100		5	1.294	1.281	1.308	1.294	1.281	1.309	0.004923	0.85%	-1.18%

Bivalve Larval Survival and Development Test | **Wood E&IS**

Analysis ID:	11-9391-8046	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 14:43	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	05-3837-7589	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 14:43	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101= 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	1.81%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	30	16	1	8	Asymp	0.9446	Non-Significant Effect
	12.5	28	16	1	8	Asymp	0.8627	Non-Significant Effect
	25	30	16	1	8	Asymp	0.9446	Non-Significant Effect
	50	27	16	1	8	Asymp	0.8003	Non-Significant Effect
	100	27	16	1	8	Asymp	0.8003	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0116171	0.0023234	5	0.5583	0.7307	Non-Significant Effect
Error	0.0998848	0.0041619	24			
Total	0.111502		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.97	3.895	0.0091	Unequal Variances
Variances	Mod Levene Equality of Variance Test	0.5583	4.248	0.7305	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6929	0.9031	1.2E-06	Non-Normal Distribution

Survival Rate Summary

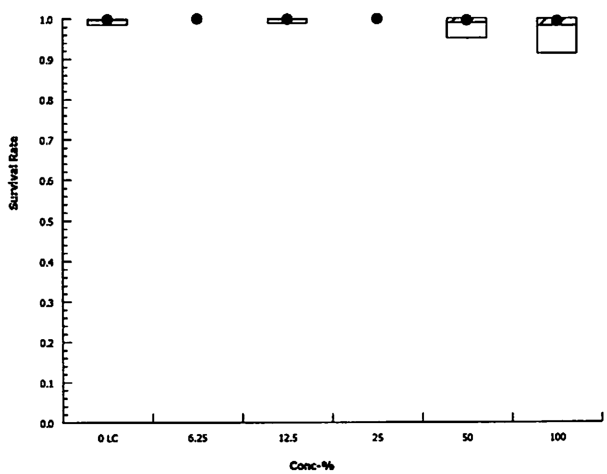
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9969	0.9885	1.0000	1.0000	0.9847	1.0000	0.0031	0.68%	0.00%
6.25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-0.31%
12.5		5	0.9977	0.9914	1.0000	1.0000	0.9885	1.0000	0.0023	0.51%	-0.08%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-0.31%
50		5	0.9901	0.9625	1.0000	1.0000	0.9504	1.0000	0.0099	2.24%	0.69%
100		5	0.9824	0.9337	1.0000	1.0000	0.9122	1.0000	0.0176	4.00%	1.45%

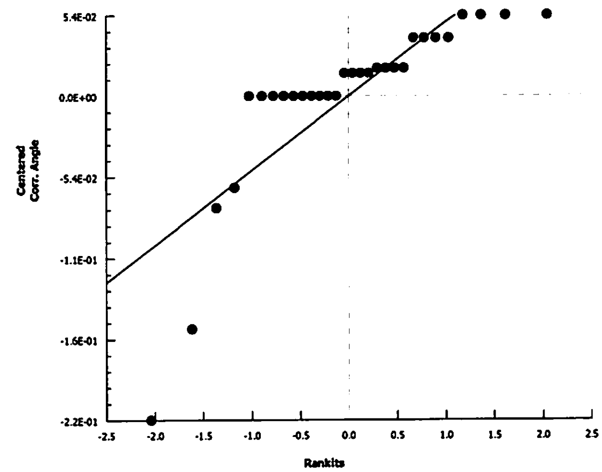
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.521	1.47	1.573	1.54	1.447	1.54	0.0186	2.73%	0.00%
6.25		5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	-1.22%
12.5		5	1.525	1.482	1.567	1.54	1.464	1.54	0.01526	2.24%	-0.22%
25		5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	-1.22%
50		5	1.501	1.394	1.609	1.54	1.346	1.54	0.03875	5.77%	1.32%
100		5	1.486	1.336	1.636	1.54	1.27	1.54	0.05398	8.12%	2.33%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 05-3837-7589		**Endpoint:** Survival Rate		**CETIS Version:** CETISv1.9.3	
Analyzed: 22 Mar-21 14:43		**Analysis:** Nonparametric-Control vs Treatments		**Official Results:** Yes	

Graphics





CETIS Analytical Report

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	17-5778-6557	**Endpoint:**	Proportion ~~Normal~~ w/Curved Hinges	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:34	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101= 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Angular (Corrected)	C > T	101	> 101	n/a	0.9901

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	12.5	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	50	30	16	1	8	Asymp	0.9557	Non-Significant Effect
	100	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	101	32.5	16	1	8	Asymp	0.9904	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0007143	0.0001191	6	1.808	0.1337	Non-Significant Effect
Error	0.0018438	6.585E-05	28			
Total	0.0025582		34			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	75.66	16.81	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7432	0.9146	1.9E-06	Non-Normal Distribution

Proportion ~~Normal~~ SC Curved Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
6.25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
12.5		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
50		5	0.0007	0.0000	0.0028	0.0000	0.0000	0.0037	0.0007	223.61%	
100		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
101		5	0.0015	0.0000	0.0040	0.0000	0.0000	0.0037	0.0009	136.93%	

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0303	0.0294	0.0313	0.0303	0.0291	0.0311	0.0003	2.49%	0.00%
6.25		5	0.0303	0.0296	0.0309	0.0305	0.0295	0.0308	0.0002	1.76%	0.11%
12.5		5	0.0302	0.0290	0.0313	0.0304	0.0287	0.0311	0.0004	3.08%	0.54%
25		5	0.0294	0.0283	0.0305	0.0290	0.0285	0.0304	0.0004	3.04%	3.01%
50		5	0.0367	0.0201	0.0533	0.0305	0.0304	0.0606	0.0060	36.35%	-21.11%
100		5	0.0307	0.0295	0.0319	0.0305	0.0297	0.0324	0.0004	3.21%	-1.32%
101		5	0.0424	0.0216	0.0632	0.0312	0.0285	0.0607	0.0075	39.43%	-39.86%

Proportion ~~Normal~~ SC Curved Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0000	0.0000	0.0000	0.0000	0.0000
6.25		0.0000	0.0000	0.0000	0.0000	0.0000
12.5		0.0000	0.0000	0.0000	0.0000	0.0000
25		0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0037
100		0.0000	0.0000	0.0000	0.0000	0.0000
101		0.0000	0.0037	0.0000	0.0000	0.0037

Analyst: AG QA: [illegible]

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	17-5778-6557	**Endpoint:**	Proportion ~~Normal~~ % curved	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:34	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

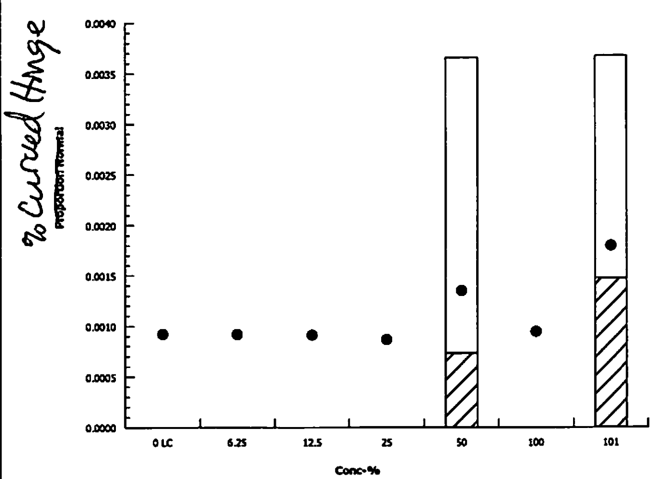
Angular (Corrected) Transformed Detail

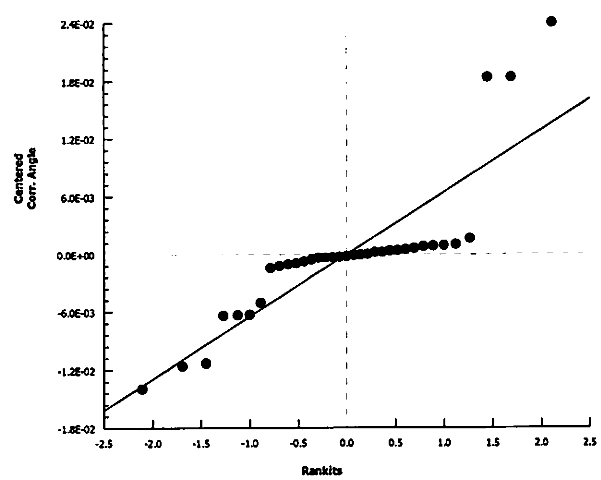
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0291	0.0303	0.0307	0.0311	0.0303
6.25		0.0305	0.0299	0.0307	0.0295	0.0308
12.5		0.0311	0.0287	0.0304	0.0298	0.0308
25		0.0285	0.0304	0.0288	0.0303	0.0290
50		0.0317	0.0304	0.0304	0.0305	0.0606
100		0.0324	0.0305	0.0306	0.0304	0.0297
101		0.0309	0.0607	0.0285	0.0312	0.0607

Proportion ~~Normal~~ % curved Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0/295	0/273	0/265	0/258	0/272
6.25		0/269	0/279	0/266	0/287	0/264
12.5		0/259	0/303	0/271	0/282	0/264
25		0/309	0/270	0/301	0/273	0/297
50		0/249	0/270	0/271	0/269	1/273
100		0/239	0/269	0/267	0/270	0/284
101		0/262	1/272	0/307	0/257	1/272

Graphics





Embryo-Larval Development Test
Scoring Worksheet

Client: Wood/ SIYB
Project ID: SIYB 3
Test No.: 21-02-010

Test Species: *M. galloprovincialis*
Start Date: 2/17/21, 1605
End Date: 2/19/21, 1545

Random #	# Counted	# Normal	Abnormal: Number Curved Shell	Abnormal: All Other Abnormal	Tech Initials / Notes
111	286	260	0	26	BI
112	279	258	0	21	BI
113	262	237	0	25	BI
114	267	247	0	20	BI
115	249	233	0	16	BI
116	258	243	0	15	BI
117	287	267	0	20	BI
118	259	240	0	19	BI
119	269	247	0	22	BI
120	264	236	0	28	BI
121	239	222	0	17	BI
122	270	239	0	31	BI
123	270	249	0	21	BI
124	269	237	0	32	BI
125	303	269	0	34	BI
126	273	240	0	33	BI
127	269	244	0	25	BI
128	282	252	0	30	BI
129	273	245	1	27	BI
130	272	252	0	20	BI
131	257	231	0	26	BI
132	295	262	0	33	BI
133	284	265	0	19	BI
134	272	243	1	28	BI
135	282	251	0	31	BI
136	266	234	0	32	BI
137	272	246	1	25	BI
138	273	246	0	27	BI
139	265	243	0	22	BI
140	263	236	0	27	BI
141	301	276	0	25	BI
142	272	254	0	18	BI
143	264	243	0	21	BI
144	280	250	0	30	BI
145	297	268	0	29	BI
146	271	255	0	16	BI
147	309	275	0	34	BI
148	270	249	0	21	BI
149	307	272	0	35	BI
150	271	248	0	23	BI

QC Check: AO

Final Review: JC 3/25/21

CETIS Test Data Worksheet

Test Code/ID: 10-5420-3905/21-02-010

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	17 Feb-21 1605	**Species:**	Mytilis galloprovincialis	**Sample Code:**	~~4FFCEFA~~ 21-W055
End Date:	19 Feb-21 1545	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	16 Feb-21 1230	**Material:**	Seawater	**Sample Station:**	SIYB 3

Comments:
101= 100% (1.2 micron filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	135					
0	FC	2	140					
0	FC	3	144					
0	FC	4	130					
0	FC	5	111			~~280~~	~~246~~	
0	LC	1	132			280	249	
0	LC	2	138			267	243	
0	LC	3	139					
0	LC	4	116					
0	LC	5	142					
6.25		1	127					
6.25		2	112					
6.25		3	136					
6.25		4	117					
6.25		5	143					
12.5		1	118					
12.5		2	125					
12.5		3	150					
12.5		4	128					
12.5		5	120					
25		1	147					
25		2	122					
25		3	141					
25		4	126					
25		5	145					
50		1	115					
50		2	148					
50		3	146					
50		4	124					
50		5	129					
100		1	121			234	216	3 curved abnormal
100		2	119					

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		3	114					
100		4	123					
100		5	133					
101		1	113					
101		2	134					
101		3	149					
101		4	131					
101		5	137					

QC=SC

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 3
Test No. 21-010 & 21-017

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (%)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.2	14.7	15.0
	Salinity (ppt)	33.9	34.1	34.2
	pH (units)	7.81	7.75	7.60
	DO (mg/L)	8.0	8.3	8.4
Filtered Control	Temp. (°C)	15.3	15.0	14.9
	Salinity (ppt)	33.9	34.0	34.1
	pH (units)	7.83	7.60	7.60
	DO (mg/L)	7.6	8.0	8.3
6.25	Temp. (°C)	15.3	15.0	14.9
	Salinity (ppt)	34.1	34.0	34.2
	pH (units)	7.83	7.70	7.60
	DO (mg/L)	8.1	8.2	8.4
12.5	Temp. (°C)	15.3	15.1	14.9
	Salinity (ppt)	34.0	34.1	34.2
	pH (units)	7.82	7.70	7.60
	DO (mg/L)	8.1	8.3	8.4
25	Temp. (°C)	15.3	15.2	15.0
	Salinity (ppt)	34.0	34.1	34.3
	pH (units)	7.82	~~7.6~~ 7.71 AG	7.60
	DO (mg/L)	8.2	8.3	8.4
50	Temp. (°C)	15.2	15.1	15.0
	Salinity (ppt)	34.0	34.0	34.2
	pH (units)	7.83	7.70	7.61
	DO (mg/L)	8.2	8.3	8.4
100	Temp. (°C)	15.2	15.1	15.0
	Salinity (ppt)	33.9	34.0	34.1
	pH (units)	7.84	7.71	7.61
	DO (mg/L)	8.4	8.4	8.4
100 Filtered (1.2µm)	Temp. (°C)	15.1	15.2	15.3
	Salinity (ppt)	33.2	33.3	33.4
	pH (units)	7.85	7.70	7.60
	DO (mg/L)	8.3	8.3	8.3
	Tech Initials:	AG	AG	KB

Source of Animals: Mission Bay **Date Received:** 2/17/21

Comments:

QC: AG 3/15/21

Final Review: JC 3/25/21

Embryo-Larval Development Test

Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Batch ID: 2/17 Collection
Test Type: Mussel Development

Test Date: 2/17/2021
Analyst: AG

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325 /1355/1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided
Stock 1	99
Stock 2	99
Stock 3	98

collected 2/17
collected 2/09

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density 1385 / 500 **Dil Factor** 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: QC_1 = 223/245

$T\emptyset_1 = 271$, $T\emptyset_2 = 267$ $T\emptyset_3 = 255$ $T\emptyset_4 = 263$ $T\emptyset_5 = 256$ $T\emptyset\ \bar{x} = 262$

QA Review: AG 3/15/21

Final Review: JC 3/25/21

Site: SIYB-4

CETIS Summary Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Batch ID:	15-5192-7632	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	17 Feb-21 16:05	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	19 Feb-21 15:45	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	48h	**Source:**	Field Collected	**Age:**	

Sample ID:	14-9979-4774	**Code:**	21-W056	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 11:30	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	29h (4 °C)	**Station:**	SIYB 4		

Comments:
101 = 100% (1.2 micron filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
14-7232-2775	Combined Proportion Norma	TST-Welch's t Test	6.2E-05	100% passed combined proportion normal
09-1375-0688	Combined Proportion Norma	TST-Welch's t Test	2.5E-06	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
00-7329-8149	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.12%
09-0705-8980	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.55%
18-9501-6702	Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	2.33%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
09-0705-8980	Proportion Normal	Control Resp	0.9076	0.9	>>	Yes	Passes Criteria
18-9501-6702	Survival Rate	Control Resp	0.9969	0.5	>>	Yes	Passes Criteria

Analyst: RG QA: SC 3/25/21

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9048	0.8912	0.9184	0.8921	0.9160	0.0049	0.0110	1.21%	0.00%
0	FC	5	0.9060	0.8872	0.9248	0.8931	0.9291	0.0068	0.0152	1.67%	-0.13%
6.25		5	0.8949	0.8603	0.9295	0.8473	0.9176	0.0125	0.0279	3.12%	1.09%
12.5		5	0.9187	0.8939	0.9435	0.8967	0.9453	0.0089	0.0200	2.18%	-1.54%
25		5	0.8947	0.8570	0.9324	0.8454	0.9248	0.0136	0.0304	3.39%	1.11%
50		5	0.9220	0.9003	0.9437	0.9057	0.9485	0.0078	0.0175	1.90%	-1.90%
100		5	0.9138	0.8801	0.9474	0.8855	0.9448	0.0121	0.0271	2.96%	-0.99%
101		5	0.8776	0.8496	0.9055	0.8451	0.9018	0.0101	0.0225	2.57%	3.01%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9076	0.8884	0.9269	0.8921	0.9302	0.0069	0.0155	1.71%	0.00%
0	FC	5	0.9131	0.8933	0.9329	0.8947	0.9291	0.0071	0.0159	1.74%	-0.60%
6.25		5	0.9112	0.8951	0.9273	0.8946	0.9289	0.0058	0.0130	1.43%	-0.39%
12.5		5	0.9201	0.8953	0.9449	0.8967	0.9453	0.0089	0.0200	2.17%	-1.37%
25		5	0.8947	0.8570	0.9324	0.8454	0.9248	0.0136	0.0304	3.39%	1.42%
50		5	0.9220	0.9003	0.9437	0.9057	0.9485	0.0078	0.0175	1.90%	-1.58%
100		5	0.9415	0.9205	0.9625	0.9217	0.9667	0.0076	0.0169	1.80%	-3.73%
101		5	0.8803	0.8534	0.9071	0.8451	0.9018	0.0097	0.0216	2.46%	3.02%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9969	0.9885	1.0000	0.9847	1.0000	0.0031	0.0068	0.68%	0.00%
0	FC	5	0.9924	0.9712	1.0000	0.9618	1.0000	0.0076	0.0171	1.72%	0.46%
6.25		5	0.9824	0.9337	1.0000	0.9122	1.0000	0.0176	0.0393	4.00%	1.45%
12.5		5	0.9985	0.9942	1.0000	0.9924	1.0000	0.0015	0.0034	0.34%	-0.15%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.31%
50		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.31%
100		5	0.9710	0.9207	1.0000	0.9160	1.0000	0.0181	0.0405	4.17%	2.60%
101		5	0.9969	0.9885	1.0000	0.9847	1.0000	0.0031	0.0068	0.68%	0.00%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8942	0.9129	0.8921	0.9088	0.9160
0	FC	0.8947	0.8931	0.9291	0.8997	0.9134
6.25		0.9046	0.8946	0.9176	0.9104	0.8473
12.5		0.9453	0.9319	0.9160	0.9037	0.8967
25		0.8454	0.8906	0.9011	0.9118	0.9248
50		0.9485	0.9191	0.9288	0.9057	0.9078
100		0.8855	0.8855	0.9448	0.9217	0.9313
101		0.8664	0.8814	0.8451	0.8932	0.9018

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8942	0.9129	0.8921	0.9088	0.9302
0	FC	0.8947	0.9286	0.9291	0.8997	0.9134
6.25		0.9046	0.8946	0.9176	0.9104	0.9289
12.5		0.9453	0.9319	0.9231	0.9037	0.8967
25		0.8454	0.8906	0.9011	0.9118	0.9248
50		0.9485	0.9191	0.9288	0.9057	0.9078
100		0.9431	0.9667	0.9448	0.9217	0.9313
101		0.8798	0.8814	0.8451	0.8932	0.9018

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.0000	1.0000	1.0000	1.0000	0.9847
0	FC	1.0000	0.9618	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	0.9122
12.5		1.0000	1.0000	0.9924	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000
100		0.9389	0.9160	1.0000	1.0000	1.0000
101		0.9847	1.0000	1.0000	1.0000	1.0000

Bivalve Larval Survival and Development Test — **Wood E&IS**

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	279/312	241/264	281/315	269/296	240/262
0	FC	238/266	234/262	249/268	260/289	253/277
6.25		256/283	263/294	245/267	254/279	222/262
12.5		259/274	260/279	240/262	272/301	243/271
25		246/291	236/265	246/273	248/272	246/266
50		258/272	250/272	248/267	240/265	266/293
100		232/262	232/262	274/290	259/281	244/262
101		227/262	260/295	240/284	251/281	248/275

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	279/312	241/264	281/315	269/296	240/258
0	FC	238/266	234/252	249/268	260/289	253/277
6.25		256/283	263/294	245/267	254/279	222/239
12.5		259/274	260/279	240/260	272/301	243/271
25		246/291	236/265	246/273	248/272	246/266
50		258/272	250/272	248/267	240/265	266/293
100		232/246	232/240	274/290	259/281	244/262
101		227/258	260/295	240/284	251/281	248/275

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	262/262	262/262	262/262	262/262	258/262
0	FC	262/262	252/262	262/262	262/262	262/262
6.25		262/262	262/262	262/262	262/262	239/262
12.5		262/262	262/262	260/262	262/262	262/262
25		262/262	262/262	262/262	262/262	262/262
50		262/262	262/262	262/262	262/262	262/262
100		246/262	240/262	262/262	262/262	262/262
101		258/262	262/262	262/262	262/262	262/262

CETIS Analytical Report

TST for 100% vs. LC

Report Date:	22 Mar-21 15:02 (p 1 of 7)
Test Code:	21-02-011 | 18-8292-2395

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	14-7232-2775	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:01	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	14.73	2.132	4	CDF	6.2E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0008123	0.0008123	1	0.602	0.4601	Non-Significant Effect
Error	0.0107934	0.0013492	8			
Total	0.0116057		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	6.797	23.15	0.0902	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9481	0.7411	0.6459	Normal Distribution

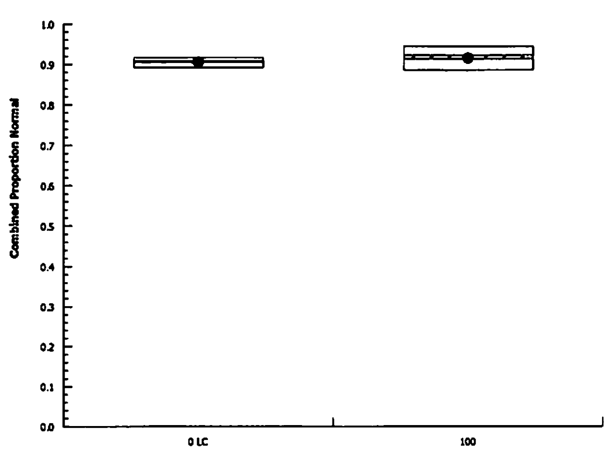
Combined Proportion Normal Summary

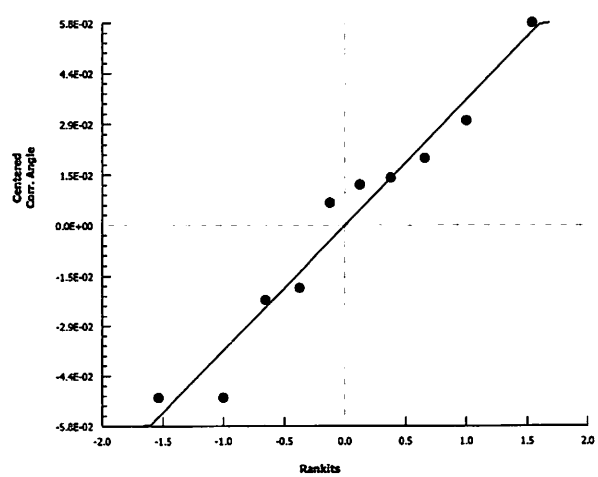
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9048	0.8912	0.9184	0.9088	0.8921	0.9160	0.0049	1.21%	0.00%
100		5	0.9138	0.8801	0.9474	0.9217	0.8855	0.9448	0.0121	2.96%	-0.99%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.258	1.234	1.281	1.264	1.236	1.277	0.00832	1.48%	0.00%
100		5	1.276	1.215	1.336	1.287	1.226	1.334	0.02169	3.80%	-1.43%

Graphics





Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	09-1375-0688	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:01	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	15.25	1.943	6	CDF	2.5E-06	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0051923	0.0051923	1	5.543	0.0464	Significant Effect
Error	0.0074936	0.0009367	8			
Total	0.0126859		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.619	23.15	0.6521	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.955	0.7411	0.7274	Normal Distribution

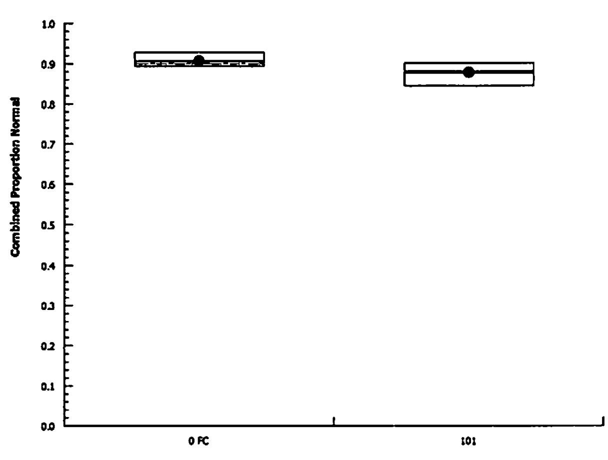
Combined Proportion Normal Summary

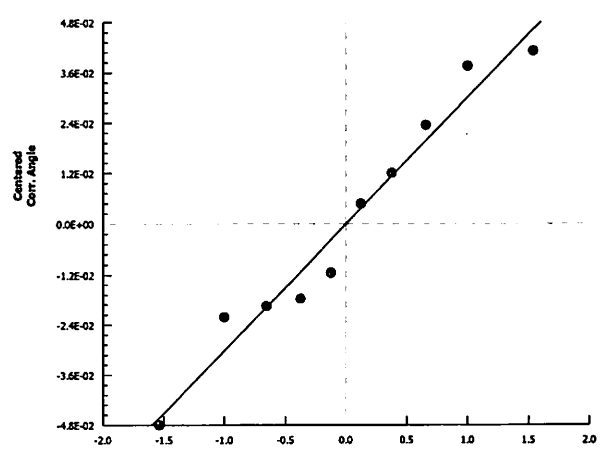
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.9060	0.8872	0.9248	0.8997	0.8931	0.9291	0.0068	1.67%	0.00%
101		5	0.8776	0.8496	0.9055	0.8814	0.8451	0.9018	0.0101	2.57%	3.14%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.26	1.227	1.293	1.248	1.238	1.301	0.01196	2.12%	0.00%
101		5	1.214	1.172	1.257	1.219	1.166	1.252	0.01522	2.80%	3.62%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	00-7329-8149	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:02	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.12%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.5973	2.362	0.059	8	CDF	0.6037	Non-Significant Effect
	12.5	-1.032	2.362	0.059	8	CDF	0.9848	Non-Significant Effect
	25	0.5916	2.362	0.059	8	CDF	0.6063	Non-Significant Effect
	50	-1.265	2.362	0.059	8	CDF	0.9923	Non-Significant Effect
	100	-0.719	2.362	0.059	8	CDF	0.9648	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0104726	0.0020945	5	1.333	0.2841	Non-Significant Effect
Error	0.037707	0.0015711	24			
Total	0.0481796		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.554	15.09	0.6152	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9683	0.9031	0.4941	Normal Distribution

Combined Proportion Normal Summary

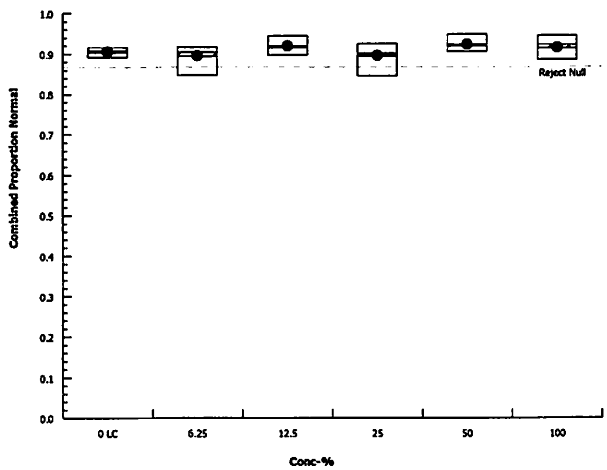
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9048	0.8912	0.9184	0.9088	0.8921	0.9160	0.0049	1.21%	0.00%
6.25		5	0.8949	0.8603	0.9295	0.9046	0.8473	0.9176	0.0125	3.12%	1.09%
12.5		5	0.9187	0.8939	0.9435	0.9160	0.8967	0.9453	0.0089	2.18%	-1.54%
25		5	0.8947	0.8570	0.9324	0.9011	0.8454	0.9248	0.0136	3.39%	1.11%
50		5	0.9220	0.9003	0.9437	0.9191	0.9057	0.9485	0.0078	1.90%	-1.90%
100		5	0.9138	0.8801	0.9474	0.9217	0.8855	0.9448	0.0121	2.96%	-0.99%

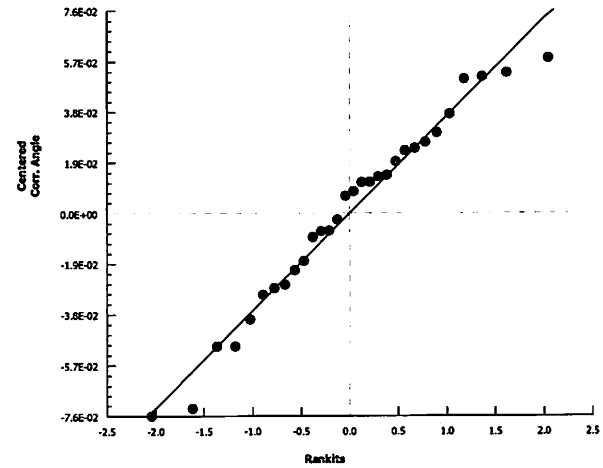
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.258	1.234	1.281	1.264	1.236	1.277	0.00832	1.48%	0.00%
6.25		5	1.243	1.189	1.296	1.257	1.169	1.28	0.0194	3.49%	1.19%
12.5		5	1.283	1.237	1.33	1.277	1.244	1.335	0.01673	2.92%	-2.06%
25		5	1.243	1.183	1.302	1.251	1.167	1.293	0.02141	3.85%	1.18%
50		5	1.289	1.247	1.331	1.282	1.259	1.342	0.01519	2.64%	-2.52%
100		5	1.276	1.215	1.336	1.287	1.226	1.334	0.02169	3.80%	-1.43%

Bivalve Larval Survival and Development Test			**Wood E&IS**
Analysis ID: 00-7329-8149	**Endpoint:** Combined Proportion Normal	**CETIS Version:** CETISv1.9.3	
Analyzed: 22 Mar-21 15:02	**Analysis:** Parametric-Control vs Treatments	**Official Results:** Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	09-0705-8980	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:02	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.55%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	25	0.8509	2.227	0.053	8	CDF	0.3920	Non-Significant Effect
	50	-1.112	2.227	0.053	8	CDF	0.9707	Non-Significant Effect
	100	-2.779	2.227	0.053	8	CDF	0.9996	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0207124	0.0069041	3	4.915	0.0131	Significant Effect
Error	0.022474	0.0014046	16			
Total	0.0431864		19			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.175	11.34	0.7590	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9657	0.866	0.6625	Normal Distribution

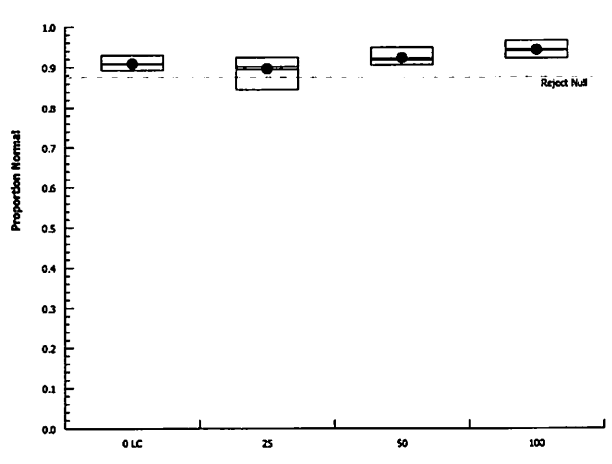
Proportion Normal Summary

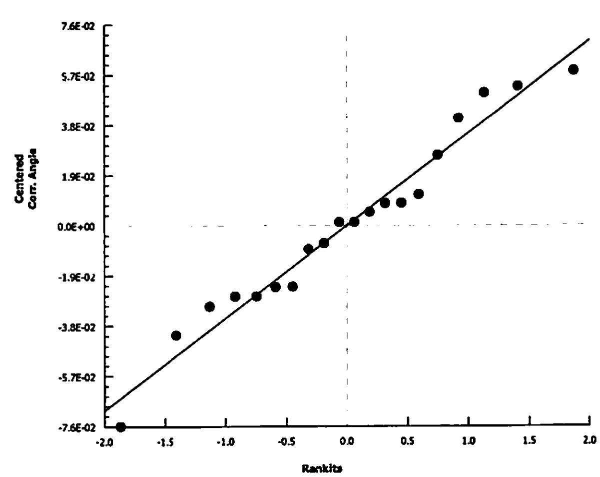
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9076	0.8884	0.9269	0.9088	0.8921	0.9302	0.0069	1.71%	0.00%
25		5	0.8947	0.8570	0.9324	0.9011	0.8454	0.9248	0.0136	3.39%	1.42%
50		5	0.9220	0.9003	0.9437	0.9191	0.9057	0.9485	0.0078	1.90%	-1.58%
100		5	0.9415	0.9205	0.9625	0.9431	0.9217	0.9667	0.0076	1.80%	-3.73%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.263	1.229	1.297	1.264	1.236	1.303	0.01221	2.16%	0.00%
25		5	1.243	1.183	1.302	1.251	1.167	1.293	0.02141	3.85%	1.60%
50		5	1.289	1.247	1.331	1.282	1.259	1.342	0.01519	2.64%	-2.09%
100		5	1.329	1.282	1.376	1.33	1.287	1.387	0.01689	2.84%	-5.22%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	18-9501-6702	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:02	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	2.33%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	27	16	1	8	Asymp	0.8003	Non-Significant Effect
	12.5	28	16	1	8	Asymp	0.8627	Non-Significant Effect
	25	30	16	1	8	Asymp	0.9446	Non-Significant Effect
	50	30	16	1	8	Asymp	0.9446	Non-Significant Effect
	100	24	16	1	8	Asymp	0.5394	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0363037	0.0072607	5	1.259	0.3136	Non-Significant Effect
Error	0.13841	0.0057671	24			
Total	0.174714		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	9.922	3.895	3.1E-05	Unequal Variances
Variances	Mod Levene Equality of Variance Test	1.333	4.248	0.2951	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8137	0.9031	1.2E-04	Non-Normal Distribution

Survival Rate Summary

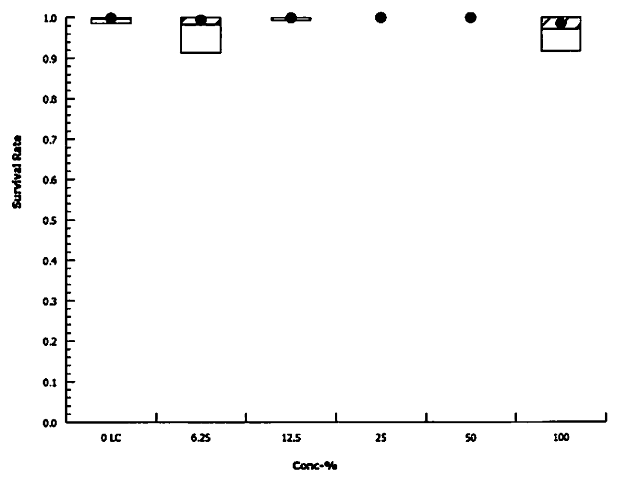
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9969	0.9885	1.0000	1.0000	0.9847	1.0000	0.0031	0.68%	0.00%
6.25		5	0.9824	0.9337	1.0000	1.0000	0.9122	1.0000	0.0176	4.00%	1.45%
12.5		5	0.9985	0.9942	1.0000	1.0000	0.9924	1.0000	0.0015	0.34%	-0.15%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-0.31%
50		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-0.31%
100		5	0.9710	0.9207	1.0000	1.0000	0.9160	1.0000	0.0181	4.17%	2.60%

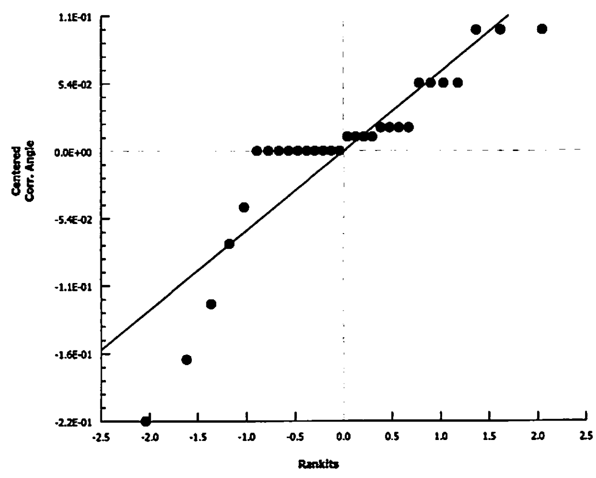
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.521	1.47	1.573	1.54	1.447	1.54	0.0186	2.73%	0.00%
6.25		5	1.486	1.336	1.636	1.54	1.27	1.54	0.05398	8.12%	2.33%
12.5		5	1.529	1.497	1.56	1.54	1.483	1.54	0.01132	1.66%	-0.48%
25		5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	-1.22%
50		5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	-1.22%
100		5	1.444	1.278	1.609	1.54	1.277	1.54	0.05944	9.21%	5.11%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	18-9501-6702	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:02	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Report Date:	30 Mar-21 14:41 (p 1 of 2)
Test Code:	21-02-011 | 18-8292-2395

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	01-4269-1357	**Endpoint:**	Proportion ~~Normal~~ SC w/ Curved Hinges	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:40	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	101	> 101	n/a	0.9901	66.32%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	28	16	1	8	Asymp	0.8838	Non-Significant Effect
	12.5	28	16	1	8	Asymp	0.8838	Non-Significant Effect
	25	25	16	1	8	Asymp	0.6693	Non-Significant Effect
	50	25	16	1	8	Asymp	0.6693	Non-Significant Effect
	100	28	16	1	8	Asymp	0.8838	Non-Significant Effect
	101	28	16	1	8	Asymp	0.8838	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0004342	7.237E-05	6	0.3988	0.8734	Non-Significant Effect
Error	0.0050804	0.0001814	28			
Total	0.0055146		34			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	42.77	16.81	1.7E-07	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7107	0.9146	5.5E-07	Non-Normal Distribution

Proportion ~~Normal~~ SC Curved Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0006	0.0000	0.0024	0.0000	0.0000	0.0032	0.0006	223.61%	0.00%
6.25		5	0.0007	0.0000	0.0026	0.0000	0.0000	0.0034	0.0007	223.61%	-7.14%
12.5		5	0.0007	0.0000	0.0028	0.0000	0.0000	0.0037	0.0007	223.61%	-14.96%
25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
50		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
100		5	0.0008	0.0000	0.0029	0.0000	0.0000	0.0038	0.0008	223.61%	-20.23%
101		5	0.0014	0.0000	0.0054	0.0000	0.0000	0.0071	0.0014	223.61%	-124.20%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0351	0.0203	0.0500	0.0308	0.0283	0.0564	0.0053	33.96%	0.00%
6.25		5	0.0362	0.0208	0.0516	0.0306	0.0297	0.0584	0.0056	34.34%	-3.02%
12.5		5	0.0361	0.0192	0.0530	0.0304	0.0288	0.0605	0.0061	37.72%	-2.81%
25		5	0.0303	0.0296	0.0310	0.0303	0.0293	0.0307	0.0003	1.86%	13.88%
50		5	0.0302	0.0295	0.0310	0.0303	0.0292	0.0307	0.0003	1.98%	13.94%
100		5	0.0370	0.0198	0.0543	0.0319	0.0294	0.0618	0.0062	37.56%	-5.42%
101		5	0.0409	0.0107	0.0712	0.0302	0.0291	0.0845	0.0109	59.55%	-16.44%

Proportion ~~Normal~~ SC Curved Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0000	0.0000	0.0032	0.0000	0.0000
6.25		0.0000	0.0034	0.0000	0.0000	0.0000
12.5		0.0037	0.0000	0.0000	0.0000	0.0000
25		0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000
100		0.0000	0.0000	0.0000	0.0000	0.0038
101		0.0000	0.0000	0.0000	0.0071	0.0000

Analyst: SC/AG QA: SC

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	01-4269-1357	**Endpoint:**	Proportion ~~Normal~~ SC Curved	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:40	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

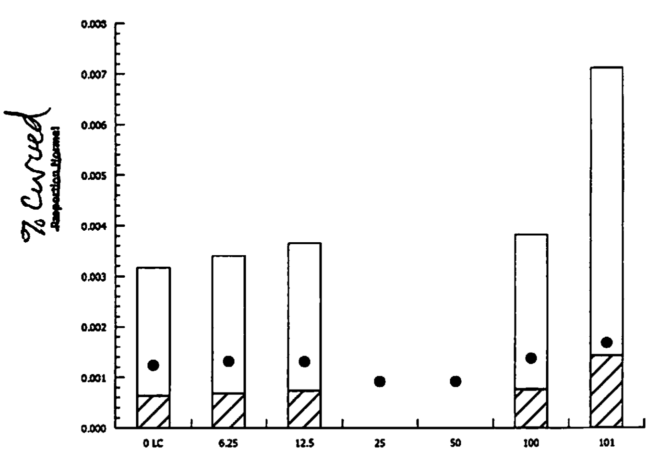
Angular (Corrected) Transformed Detail

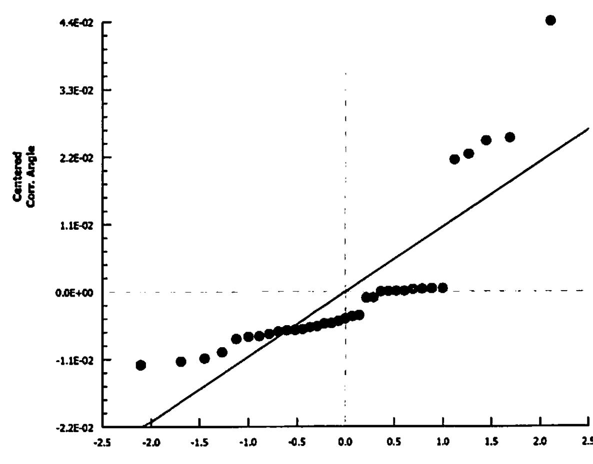
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0283	0.0308	0.0564	0.0291	0.0311
6.25		0.0297	0.0584	0.0306	0.0299	0.0324
12.5		0.0605	0.0299	0.0310	0.0288	0.0304
25		0.0293	0.0307	0.0303	0.0303	0.0307
50		0.0303	0.0303	0.0306	0.0307	0.0292
100		0.0319	0.0323	0.0294	0.0298	0.0618
101		0.0311	0.0291	0.0297	0.0845	0.0302

Proportion ~~Normal~~ SC Curved Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0/312	0/264	1/315	0/296	0/258
6.25		0/283	1/294	0/267	0/279	0/239
12.5		1/274	0/279	0/260	0/301	0/271
25		0/291	0/265	0/273	0/272	0/266
50		0/272	0/272	0/267	0/265	0/293
100		0/246	0/240	0/290	0/281	1/262
101		0/258	0/295	0/284	2/281	0/275

Graphics





Embryo-Larval Development Test
Scoring Worksheet

Client: Wood/ SIYB
Project ID: SIYB 4
Test No.: 21-02-011

Test Species: *M. galloprovincialis*
Start Date: 2/17/21,1605
End Date: 2/19/21,1545

Random #	# Counted	# Normal	Abnormal: Number Curved Shell	Abnormal: All Other Abnormal	Tech Initials / Notes
151	290	274	0	16	BI
152	265	236	0	29	BI
153	260	240	0	20	BI
154	301	272	0	29	BI
155	272	248	0	24	BI
156	265	240	0	25	BI
157	272	250	0	22	BI
158	283	256	0	27	BI
159	281	259	0	22	BI
160	268	249	0	19	BI
161	267	248	0	19	BI
162	267	245	0	22	BI
163	258	240	0	18	BI
164	266	238	0	28	BI
165	284	240	0	44	BI
166	246	232	0	14	BI
167	266	246	0	20	BI
168	279	260	0	19	BI
169	264	241	0	23	BI
170	295	260	0	35	BI
171	279	254	0	25	BI
172	258	227	0	31	BI
173	275	248	0	27	BI
174	294	263	~~0~~ BI 1	31	BI AG re-count
175	296	269	0	27	BI
176	281	251	2	28	BI -
177	271	243	0	28	BI
178	274	259	BI ~~14~~ 1	14	BI
179	277	253	1	23	BI
180	289	260	0	29	BI
181	315	281	1	33	BI
182	272	258	0	14	BI
183	312	279	0	33	BI
184	293	266	0	27	BI
185	262	244	1	17	BI
186	273	246	0	27	BI
187	~~2854~~ BI 252	234	0	18	BI
188	291	246	0	35	BI
189	239	222	0	17	BI
190	240	232	0	8	BI

QC Check: AO

Final Review: SL 3/25/21

CETIS Test Data Worksheet

Report Date: 16 Feb-21 17:41 (p 1 of 2)
Test Code/ID: 18-8292-2395/21-02-011

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 17 Feb-21 1605 **Species:** Mytilis galloprovincialis **Sample Code:** ~~59650D50~~ 21-W056
End Date: 19 Feb-21 1546 **Protocol:** EPA/600/R-95/136 (1995) **Sample Source:** AG Shelter Island Yacht Basin
Sample Date: 16 Feb-21 1130 **Material:** Seawater **Sample Station:** SIYB 4

Comments:
101 = 100% (1.2 micron filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	164					
0	FC	2	187					
0	FC	3	160					
0	FC	4	180					
0	FC	5	179					
0	LC	1	183			304	275	AG
0	LC	2	169					
0	LC	3	181					
0	LC	4	175					
0	LC	5	163					
6.25		1	158					
6.25		2	174					
6.25		3	162					
6.25		4	171					
6.25		5	189					
12.5		1	178					
12.5		2	168					
12.5		3	153					
12.5		4	154					
12.5		5	177					
25		1	188					
25		2	152					
25		3	186					
25		4	155					
25		5	167					
50		1	182					
50		2	157					
50		3	161					
50		4	156					
50		5	184					
100		1	166			244	223	AG 4 curved abnormal
100		2	190					

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		3	151					
100		4	159					
100		5	185					
101		1	172					
101		2	170					
101		3	165					
101		4	176					
101		5	173					

QC: [initials]

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 4
Test No. 21-02-011 & 21-02-018

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (%)	Parameter	0hr	24hr	48hr
		Water Quality Measurements		
Lab Control	Temp. (°C)	15.4	15.1	15.3
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.84	7.77	7.58
	DO (mg/L)	7.9	8.3	8.3
Filtered Control	Temp. (°C)	15.4	15.2	15.2
	Salinity (ppt)	34.0	34.0	34.1
	pH (units)	7.83	7.71	7.60
	DO (mg/L)	7.5	8.2	8.3
6.25	Temp. (°C)	15.5	15.2	15.2
	Salinity (ppt)	34.0	34.1	34.2
	pH (units)	7.83	7.72	7.60
	DO (mg/L)	7.9	8.3	8.3
12.5	Temp. (°C)	15.6	15.3	15.3
	Salinity (ppt)	34.0	34.1	34.3
	pH (units)	7.83	7.70	7.61
	DO (mg/L)	8.1	8.3	8.4
25	Temp. (°C)	15.5	15.2	15.2
	Salinity (ppt)	34.0	34.1	34.2
	pH (units)	7.82	7.70	7.61
	DO (mg/L)	8.2	8.3	8.4
50	Temp. (°C)	15.5	15.2	15.1
	Salinity (ppt)	34.0	34.0	34.1
	pH (units)	7.83	7.65	7.62
	DO (mg/L)	8.2	8.3	8.4
100	Temp. (°C)	15.3	15.2	15.2
	Salinity (ppt)	33.9	34.0	34.1
	pH (units)	7.85	7.71	7.62
	DO (mg/L)	8.3	8.3	8.4
100 Filtered (1.2µm)	Temp. (°C)	15.4	15.2	15.4
	Salinity (ppt)	33.5	33.6	33.7
	pH (units)	7.85	7.70	7.60
	DO (mg/L)	8.1	8.3	8.3
	Tech Initials:	AG	AG	KB

Source of Animals: Mission Bay

Date Received: 2/17/21

Comments:

QC: AG 3/15/21

Final QC: JC 3/25/21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 2/17/2021
Batch ID: 2/17 Collection **Analyst:** AG
Test Type: Mussel Development

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325 /1355/1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided	
Stock 1	99	collected 2/17
Stock 2	99	collected 2/09
Stock 3	98	

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{1385}{500}$ **Dil Factor** 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: QC_1 = 223/245

$T\emptyset_1$ = 271, $T\emptyset_2$ = 267 $T\emptyset_3$ = 255 $T\emptyset_4$ = 263 $T\emptyset_5$ = 256 $T\emptyset\, \bar{x}$ = 262

QA Review: AG 3/15/21 **Final Review:** JC 3/25/21

Site: SIYB-5

CETIS Summary Report

Bivalve Larval Survival and Development Test	Wood E&IS

Batch ID:	05-8315-2958	Test Type:	Development-Survival	Analyst:	
Start Date:	17 Feb-21 16:05	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Natural Seawater
Ending Date:	19 Feb-21 15:45	Species:	Mytilis galloprovincialis	Brine:	Not Applicable
Duration:	48h	Source:	Field Collected	Age:	

Sample ID:	12-7006-8980	Code:	21-W057	Client:	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 ~~09:15~~ 1030	Material:	Seawater	Project:	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	Source:	Shelter Island Yacht Basin		
Sample Age:	~~31h~~ 30h (4 °C)	Station:	SIYB 5		

Comments:
101 = 100% (1.2 micron filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
06-7189-0027	Combined Proportion Norma	TST-Welch's t Test	2.9E-04	100% passed combined proportion normal
14-9810-9813	Combined Proportion Norma	TST-Welch's t Test	9.3E-06	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
13-6316-7108	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	4.63%
01-9101-2699	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	2.67%
00-3694-6160	Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	2.85%

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
01-9101-2699	Proportion Normal	Control Resp	0.9163	0.9	>>	Yes	Passes Criteria
00-3694-6160	Survival Rate	Control Resp	0.9985	0.5	>>	Yes	Passes Criteria

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9149	0.8887	0.9411	0.8893	0.9427	0.0094	0.0211	2.31%	0.00%
0	FC	5	0.8834	0.8269	0.9398	0.8092	0.9261	0.0203	0.0455	5.15%	3.45%
6.25		5	0.9024	0.8786	0.9263	0.8740	0.9239	0.0086	0.0192	2.13%	1.36%
12.5		5	0.9013	0.8845	0.9182	0.8885	0.9236	0.0061	0.0136	1.50%	1.48%
25		5	0.9112	0.8739	0.9486	0.8664	0.9392	0.0135	0.0301	3.30%	0.40%
50		5	0.8872	0.8535	0.9208	0.8473	0.9158	0.0121	0.0271	3.06%	3.03%
100		5	0.8913	0.8260	0.9567	0.7977	0.9212	0.0235	0.0526	5.91%	2.58%
101		5	0.9001	0.8757	0.9244	0.8787	0.9228	0.0088	0.0196	2.18%	1.62%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9163	0.8925	0.9401	0.8962	0.9427	0.0086	0.0192	2.09%	0.00%
0	FC	5	0.9125	0.8902	0.9347	0.8914	0.9339	0.0080	0.0179	1.96%	0.42%
6.25		5	0.9065	0.8907	0.9224	0.8935	0.9239	0.0057	0.0127	1.41%	1.06%
12.5		5	0.9013	0.8845	0.9182	0.8885	0.9236	0.0061	0.0136	1.50%	1.63%
25		5	0.9218	0.9010	0.9425	0.9053	0.9392	0.0075	0.0167	1.81%	-0.60%
50		5	0.9042	0.8767	0.9318	0.8731	0.9328	0.0099	0.0222	2.46%	1.31%
100		5	0.9112	0.8990	0.9233	0.8970	0.9212	0.0044	0.0098	1.07%	0.56%
101		5	0.9001	0.8757	0.9244	0.8787	0.9228	0.0088	0.0196	2.18%	1.77%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9985	0.9942	1.0000	0.9924	1.0000	0.0015	0.0034	0.34%	0.00%
0	FC	5	0.9687	0.8966	1.0000	0.8664	1.0000	0.0260	0.0580	5.99%	2.98%
6.25		5	0.9954	0.9827	1.0000	0.9771	1.0000	0.0046	0.0102	1.03%	0.31%
12.5		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.15%
25		5	0.9885	0.9568	1.0000	0.9427	1.0000	0.0115	0.0256	2.59%	0.99%
50		5	0.9817	0.9308	1.0000	0.9084	1.0000	0.0183	0.0410	4.17%	1.68%
100		5	0.9779	0.9164	1.0000	0.8893	1.0000	0.0221	0.0495	5.06%	2.06%
101		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-0.15%

Bivalve Larval Survival and Development Test — **Wood E&IS**

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8893	0.9074	0.9057	0.9294	0.9427
0	FC	0.8092	0.8914	0.8779	0.9124	0.9261
6.25		0.8740	0.9239	0.9091	0.8935	0.9117
12.5		0.9004	0.8885	0.9236	0.8929	0.9013
25		0.9064	0.9390	0.9053	0.9392	0.8664
50		0.9158	0.8969	0.9026	0.8473	0.8731
100		0.9194	0.9212	0.9104	0.9078	0.7977
101		0.8805	0.8787	0.9125	0.9228	0.9058

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8962	0.9074	0.9057	0.9294	0.9427
0	FC	0.9339	0.8914	0.8984	0.9124	0.9261
6.25		0.8945	0.9239	0.9091	0.8935	0.9117
12.5		0.9004	0.8885	0.9236	0.8929	0.9013
25		0.9064	0.9390	0.9053	0.9392	0.9190
50		0.9158	0.8969	0.9026	0.9328	0.8731
100		0.9194	0.9212	0.9104	0.9078	0.8970
101		0.8805	0.8787	0.9125	0.9228	0.9058

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9924	1.0000	1.0000	1.0000	1.0000
0	FC	0.8664	1.0000	0.9771	1.0000	1.0000
6.25		0.9771	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	0.9427
50		1.0000	1.0000	1.0000	0.9084	1.0000
100		1.0000	1.0000	1.0000	1.0000	0.8893
101		1.0000	1.0000	1.0000	1.0000	1.0000

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	233/262	245/270	269/297	250/269	247/262
0	FC	212/262	271/304	230/262	250/274	263/284
6.25		229/262	255/276	270/297	260/291	258/283
12.5		244/271	239/269	254/275	275/308	274/304
25		242/267	277/295	239/264	247/263	227/262
50		272/297	261/291	278/308	222/262	234/268
100		251/273	269/292	254/279	256/282	209/262
101		258/293	268/305	271/297	251/272	250/276

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	233/260	245/270	269/297	250/269	247/262
0	FC	212/227	271/304	230/256	250/274	263/284
6.25		229/256	255/276	270/297	260/291	258/283
12.5		244/271	239/269	254/275	275/308	274/304
25		242/267	277/295	239/264	247/263	227/247
50		272/297	261/291	278/308	222/238	234/268
100		251/273	269/292	254/279	256/282	209/233
101		258/293	268/305	271/297	251/272	250/276

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	260/262	262/262	262/262	262/262	262/262
0	FC	227/262	262/262	256/262	262/262	262/262
6.25		256/262	262/262	262/262	262/262	262/262
12.5		262/262	262/262	262/262	262/262	262/262
25		262/262	262/262	262/262	262/262	247/262
50		262/262	262/262	262/262	238/262	262/262
100		262/262	262/262	262/262	262/262	233/262
101		262/262	262/262	262/262	262/262	262/262

CETIS Analytical Report

TST for 100% vs. LC

Report Date:	22 Mar-21 15:14 (p 1 of 8)
Test Code:	21-02-012 | 05-1574-1646

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	06-7189-0027	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:13	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	7.708	2.015	5	CDF	2.9E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0032499	0.0032499	1	0.8787	0.3760	Non-Significant Effect
Error	0.0295871	0.0036984	8			
Total	0.0328369		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.959	23.15	0.2112	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8259	0.7411	0.0298	Normal Distribution

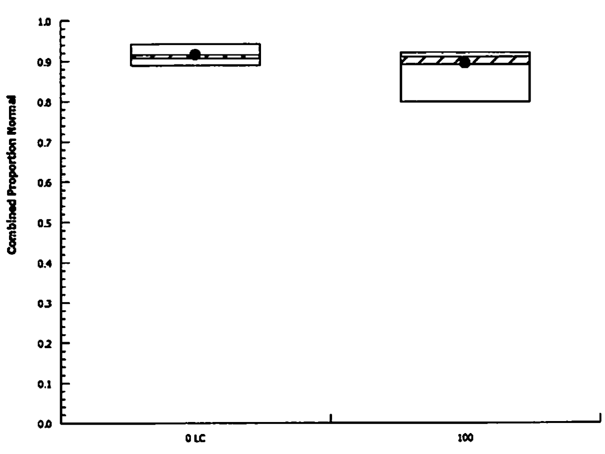
Combined Proportion Normal Summary

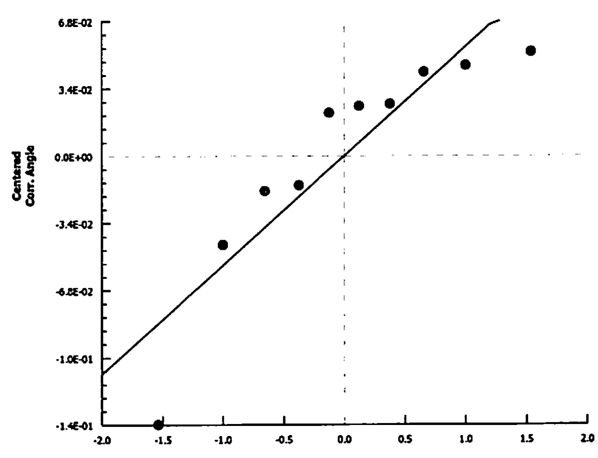
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9149	0.8887	0.9411	0.9074	0.8893	0.9427	0.0094	2.31%	0.00%
100		5	0.8913	0.8260	0.9567	0.9104	0.7977	0.9212	0.0235	5.91%	2.58%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.277	1.229	1.325	1.262	1.232	1.329	0.01727	3.03%	0.00%
100		5	1.241	1.145	1.336	1.267	1.104	1.286	0.03437	6.19%	2.82%

Graphics





Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	14-9810-9813	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:13	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	12.18	1.943	6	CDF	9.3E-06	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0013962	0.0013962	1	0.4896	0.5039	Non-Significant Effect
Error	0.0228117	0.0028515	8			
Total	0.0242078		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	4.321	23.15	0.1853	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9433	0.7411	0.5905	Normal Distribution

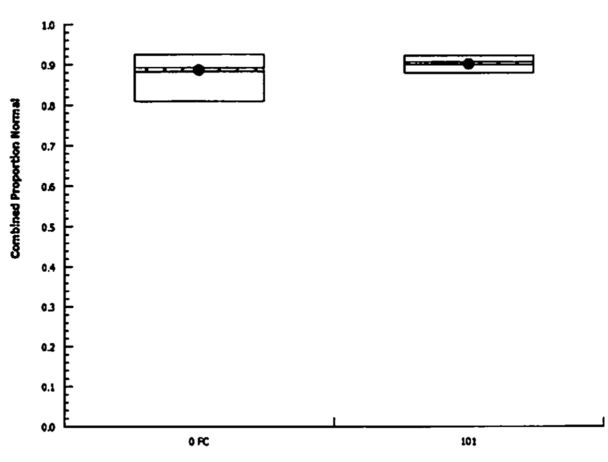
Combined Proportion Normal Summary

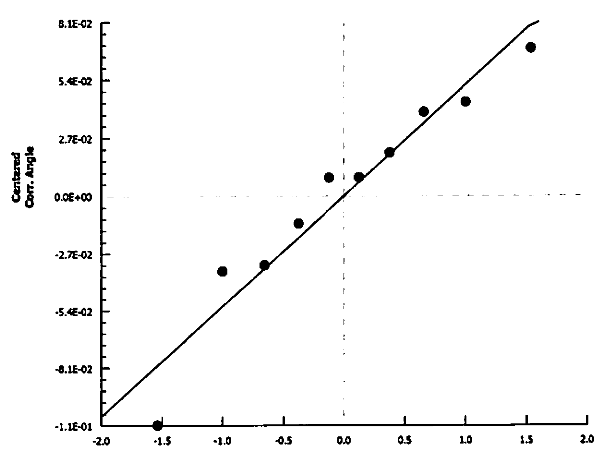
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8834	0.8269	0.9398	0.8914	0.8092	0.9261	0.0203	5.15%	0.00%
101		5	0.9001	0.8757	0.9244	0.9058	0.8787	0.9228	0.0088	2.18%	-1.89%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.227	1.142	1.311	1.235	1.119	1.295	0.03043	5.55%	0.00%
101		5	1.25	1.21	1.291	1.259	1.215	1.289	0.01464	2.62%	-1.93%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	13-6316-7108	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:13	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	4.63%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.7457	2.362	0.071	8	CDF	0.5360	Non-Significant Effect
	12.5	0.8246	2.362	0.071	8	CDF	0.4996	Non-Significant Effect
	25	0.1716	2.362	0.071	8	CDF	0.7777	Non-Significant Effect
	50	1.556	2.362	0.071	8	CDF	0.2063	Non-Significant Effect
	100	1.203	2.362	0.071	8	CDF	0.3331	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0078933	0.0015787	5	0.7029	0.6267	Non-Significant Effect
Error	0.0539005	0.0022459	24			
Total	0.0617938		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	6.107	15.09	0.2960	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9078	0.9031	0.0131	Normal Distribution

Combined Proportion Normal Summary

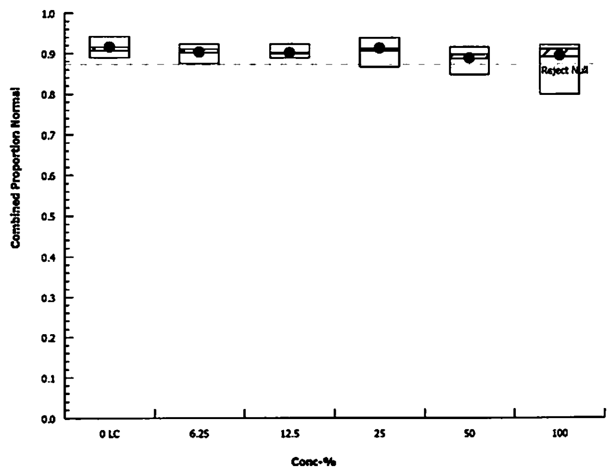
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9149	0.8887	0.9411	0.9074	0.8893	0.9427	0.0094	2.31%	0.00%
6.25		5	0.9024	0.8786	0.9263	0.9091	0.8740	0.9239	0.0086	2.13%	1.36%
12.5		5	0.9013	0.8845	0.9182	0.9004	0.8885	0.9236	0.0061	1.50%	1.48%
25		5	0.9112	0.8739	0.9486	0.9064	0.8664	0.9392	0.0135	3.30%	0.40%
50		5	0.8872	0.8535	0.9208	0.8969	0.8473	0.9158	0.0121	3.06%	3.03%
100		5	0.8913	0.8260	0.9567	0.9104	0.7977	0.9212	0.0235	5.91%	2.58%

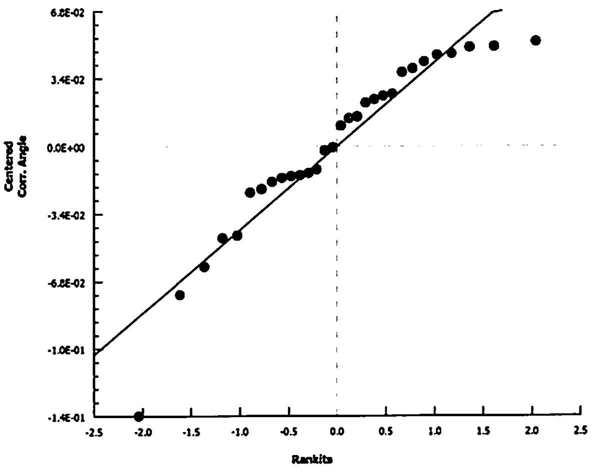
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.277	1.229	1.325	1.262	1.232	1.329	0.01727	3.03%	0.00%
6.25		5	1.254	1.215	1.294	1.265	1.208	1.291	0.01431	2.55%	1.75%
12.5		5	1.252	1.223	1.281	1.25	1.23	1.291	0.01048	1.87%	1.94%
25		5	1.271	1.207	1.336	1.26	1.197	1.322	0.02335	4.11%	0.40%
50		5	1.23	1.178	1.282	1.244	1.169	1.276	0.01887	3.43%	3.65%
100		5	1.241	1.145	1.336	1.267	1.104	1.286	0.03437	6.19%	2.82%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID: 13-6316-7108		**Endpoint:** Combined Proportion Normal		**CETIS Version:** CETISv1.9.3	
Analyzed: 22 Mar-21 15:13		**Analysis:** Parametric-Control vs Treatments		**Official Results:** Yes	

Graphics





CETIS Analytical Report

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	01-9101-2699	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:14	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	2.67%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.9919	2.362	0.043	8	CDF	0.4235	Non-Significant Effect
	12.5	1.472	2.362	0.043	8	CDF	0.2333	Non-Significant Effect
	25	-0.5339	2.362	0.043	8	CDF	0.9446	Non-Significant Effect
	50	1.149	2.362	0.043	8	CDF	0.3556	Non-Significant Effect
	100	0.5634	2.362	0.043	8	CDF	0.6190	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0047896	0.0009579	5	1.144	0.3646	Non-Significant Effect
Error	0.0200906	0.0008371	24			
Total	0.0248802		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.261	15.09	0.6598	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9689	0.9031	0.5092	Normal Distribution

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9163	0.8925	0.9401	0.9074	0.8962	0.9427	0.0086	2.09%	0.00%
6.25		5	0.9065	0.8907	0.9224	0.9091	0.8935	0.9239	0.0057	1.41%	1.06%
12.5		5	0.9013	0.8845	0.9182	0.9004	0.8885	0.9236	0.0061	1.50%	1.63%
25		5	0.9218	0.9010	0.9425	0.9190	0.9053	0.9392	0.0075	1.81%	-0.60%
50		5	0.9042	0.8767	0.9318	0.9026	0.8731	0.9328	0.0099	2.46%	1.31%
100		5	0.9112	0.8990	0.9233	0.9104	0.8970	0.9212	0.0044	1.07%	0.56%

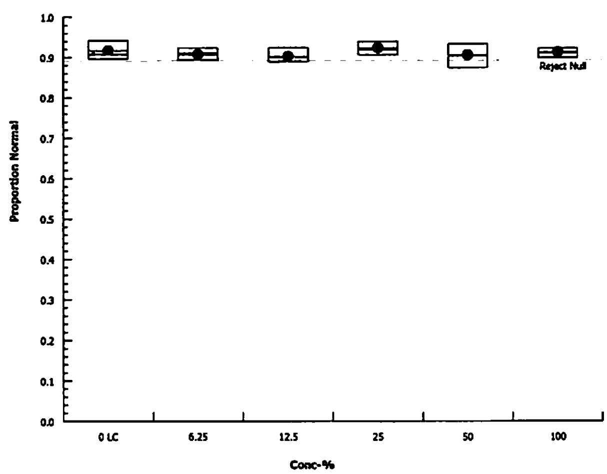
Angular (Corrected) Transformed Summary

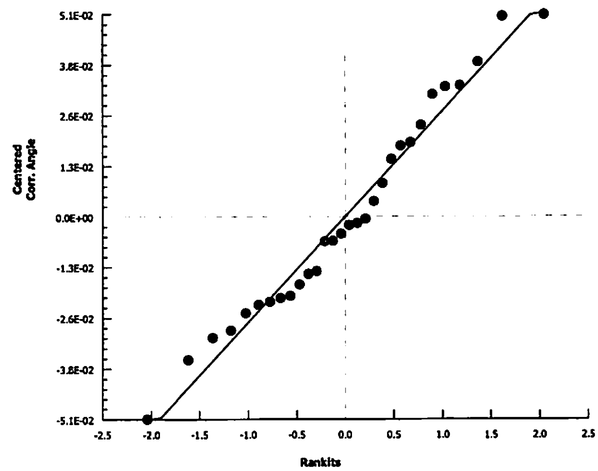
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.279	1.235	1.323	1.262	1.243	1.329	0.01592	2.78%	0.00%
6.25		5	1.261	1.233	1.288	1.265	1.238	1.291	0.009875	1.75%	1.42%
12.5		5	1.252	1.223	1.281	1.25	1.23	1.291	0.01048	1.87%	2.11%
25		5	1.289	1.25	1.328	1.282	1.258	1.322	0.01406	2.44%	-0.76%
50		5	1.258	1.211	1.305	1.253	1.207	1.309	0.01696	3.01%	1.64%
100		5	1.268	1.247	1.29	1.267	1.244	1.286	0.007632	1.35%	0.81%

Analyst: AV QA: SC

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 01-9101-2699	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3	
Analyzed: 22 Mar-21 15:14	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	00-3694-6160	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:14	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	2.85%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	27	16	1	8	Asymp	0.8003	Non-Significant Effect
	12.5	30	16	1	8	Asymp	0.9446	Non-Significant Effect
	25	27	16	1	8	Asymp	0.8003	Non-Significant Effect
	50	27	16	1	8	Asymp	0.8003	Non-Significant Effect
	100	27	16	1	8	Asymp	0.8003	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0151866	0.0030373	5	0.3898	0.8509	Non-Significant Effect
Error	0.187024	0.0077927	24			
Total	0.202211		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	2.772	3.895	0.0410	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.3898	4.248	0.8493	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6963	0.9031	1.4E-06	Non-Normal Distribution

Survival Rate Summary

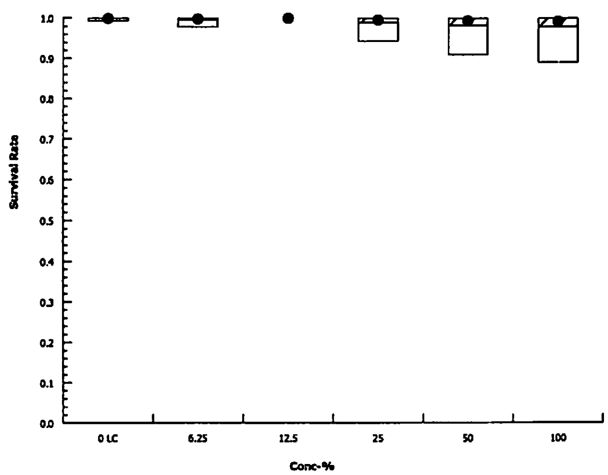
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9985	0.9942	1.0000	1.0000	0.9924	1.0000	0.0015	0.34%	0.00%
6.25		5	0.9954	0.9827	1.0000	1.0000	0.9771	1.0000	0.0046	1.03%	0.31%
12.5		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-0.15%
25		5	0.9885	0.9568	1.0000	1.0000	0.9427	1.0000	0.0115	2.59%	0.99%
50		5	0.9817	0.9308	1.0000	1.0000	0.9084	1.0000	0.0183	4.17%	1.68%
100		5	0.9779	0.9164	1.0000	1.0000	0.8893	1.0000	0.0221	5.06%	2.06%

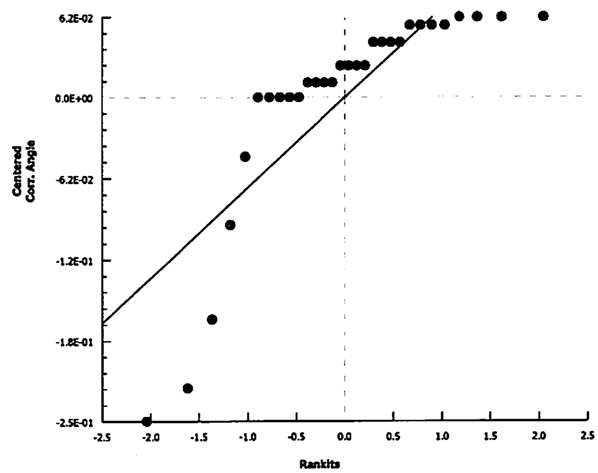
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.529	1.497	1.56	1.54	1.483	1.54	0.01132	1.66%	0.00%
6.25		5	1.516	1.448	1.583	1.54	1.419	1.54	0.0242	3.57%	0.84%
12.5		5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	-0.74%
25		5	1.498	1.381	1.615	1.54	1.329	1.54	0.04214	6.29%	2.02%
50		5	1.485	1.331	1.638	1.54	1.263	1.54	0.05532	8.33%	2.88%
100		5	1.478	1.307	1.649	1.54	1.232	1.54	0.06165	9.33%	3.29%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	00-3694-6160	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:14	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Embryo-Larval Development Test
Scoring Worksheet

Client: Wood/ SIYB
Project ID: SIYB 5
Test No.: 21-02-012

Test Species: *M. galloprovincialis*
Start Date: 2/17/21, 1605
End Date: 2/19/21, 1545

Random #	# Counted	# Normal	Abnormal Number Curved Shell	Abnormal All Other Abnormal	Tech Initials / Notes
191	292	269	0	23	BI
192	304	271	0	33	BI
193	256	230	0	26	BI
194	276	255	0	21	BI
195	227	212	0	15	BI
196	270	245	0	25	BI
197	238	222	0	16	BI
198	269	250	0	19	BI
199	274	250	0	24	BI
200	256	229	0	27	BI
201	272	251	0	21	BI
202	282	256	0	26	BI
203	271	244	0	27	BI
204	269	239	0	30	BI
205	308	275	0	33	BI
206	247	227	0	20	BI
207	264	239	0	25	BI
208	275	254	0	21	BI
209	291	261	0	30	BI
210	308	278	0	30	BI
211	293	258	0	35	BI
212	276	250	0	26	BI
213	284	263	0	21	BI
214	297	269	0	28	BI
215	273	251	0	22	BI
216	262	247	0	15	BI
217	283	258	0	25	BI
218	291	260	0	31	BI
219	268	234	0	24	BI
220	295	277	0	18	BI
221	297	271	0	26	BI
222	304	274	0	30	BI
223	305	268	0	37	BI
224	263	247	0	16	BI
225	233	209	0	24	BI
226	260	233	0	27	BI
227	267	242	0	25	BI
228	279	254	0	25	BI
229	297	272	0	25	BI
230	297	270	0	27	BI

QC Check: AO

Final Review: SC 3/26/21

CETIS Test Data Worksheet

Report Date: 16 Feb-21 17:44 (p 1 of 2)
Test Code/ID: 05-1574-1646/21-02-012

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	17 Feb-21 1605	**Species:**	Mytilis galloprovincialis	**Sample Code:**	~~4BB3B6F4~~ 21-W057
End Date:	19 Feb-21 1545	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Shelter Island Yacht Basin
Sample Date:	16 Feb-21 1030	**Material:**	Seawater	**Sample Station:**	SIYB 5

Comments:
101 = 100% (1.2 micron filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	195					
0	FC	2	192					
0	FC	3	193					
0	FC	4	199					
0	FC	5	213					
0	LC	1	226			244	224	AG
0	LC	2	196					
0	LC	3	214					
0	LC	4	198					
0	LC	5	216					
6.25		1	200					
6.25		2	194					
6.25		3	230					
6.25		4	218					
6.25		5	217					
12.5		1	203					
12.5		2	204					
12.5		3	208					
12.5		4	205					
12.5		5	222					
25		1	227					
25		2	220					
25		3	207					
25		4	224					
25		5	206					
50		1	229					
50		2	209					
50		3	210					
50		4	197					
50		5	219					
100		1	215			262	248	AG
100		2	191					

CETIS Test Data Worksheet

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		3	228					
100		4	202					
100		5	225					
101		1	211					
101		2	223					
101		3	221					
101		4	201					
101		5	212					

QC: SC

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 5
Test No. 21-02-012 & 21-02-019

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (%)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.5	14.7	15.1
	Salinity (ppt)	34.0	34.0	33.8
	pH (units)	7.86	7.73	7.61
	DO (mg/L)	7.9	8.3	8.3
Filtered Control	Temp. (°C)	15.6	14.7	15.0
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.85	7.70	7.61
	DO (mg/L)	7.7	8.2	8.4
6.25	Temp. (°C)	15.5	14.7	14.9
	Salinity (ppt)	34.1	34.1	34.1
	pH (units)	7.85	7.71	7.59
	DO (mg/L)	8.0	8.2	8.3
12.5	Temp. (°C)	15.6	14.9	15.0
	Salinity (ppt)	34.1	34.1	34.1
	pH (units)	7.85	7.70	7.59
	DO (mg/L)	8.1	8.3	8.4
25	Temp. (°C)	15.6	14.8	14.9
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.85	7.70	7.59
	DO (mg/L)	8.2	8.3	8.4
50	Temp. (°C)	15.5	14.7	14.9
	Salinity (ppt)	34.0	34.1	34.0
	pH (units)	7.85	7.71	7.59
	DO (mg/L)	8.3	8.3	8.4
100	Temp. (°C)	15.3	14.8	14.9
	Salinity (ppt)	33.9	34.0	34.0
	pH (units)	7.86	7.71	7.60
	DO (mg/L)	8.5	8.4	8.4
100 Filtered (1.2µm)	Temp. (°C)	15.2	14.9	15.2
	Salinity (ppt)	33.4	33.5	33.4
	pH (units)	7.88	7.71	7.58
	DO (mg/L)	8.1	8.3	8.3
	Tech Initials:	AG	AG	KB

Source of Animals: Mission Bay

Date Received: 2/17/21

Comments:

QC: AG 3/15/21

Final QC: BC 3/25/21

Embryo-Larval Development Test

Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Batch ID: 2/17 collection
Test Type: Mussel Development

Test Date: 2/17/2021
Analyst: AG

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325/1355/1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided	
Stock 1	99	collected 2/17
Stock 2	99	collected 2/09
Stock 3	98	

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{1385}{500}$ **Dil Factor** 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: QC₁ = 223/245

TØ₁ = 271, TØ₂ = 267 TØ₃ = 255 TØ₄ = 263 TØ₅ = 256 TØ x = 262

QA Review: AG 3/15/21

Final Review: JC 3/25/21

Site: SIYB-6

CETIS Summary Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Batch ID:	06-9188-9613	**Test Type:**	Development-Survival	**Analyst:**	
Start Date:	17 Feb-21 16:05	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date:	19 Feb-21 15:45	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration:	48h	**Source:**	Field Collected	**Age:**	

Sample ID:	18-4771-1400	**Code:**	21-W058	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 09:15	**Material:**	Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	31h (3 °C)	**Station:**	SIYB 6		

Comments:
101 = 100% (1.2 micron filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
17-3987-9043	Combined Proportion Norma	TST-Welch's t Test	2.8E-04	100% passed combined proportion normal
15-0228-5273	Combined Proportion Norma	TST-Welch's t Test	1.1E-05	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
14-2542-9611	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	6.06%
12-0992-3912	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.05%
08-1972-3835	Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	3.04%

Test Acceptability

				TAC Limits			
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
12-0992-3912	Proportion Normal	Control Resp	0.9114	0.9	>>	Yes	Passes Criteria
08-1972-3835	Survival Rate	Control Resp	0.9893	0.5	>>	Yes	Passes Criteria

Analyst: AW QA: JC 3/26/21

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9017	0.8678	0.9356	0.8550	0.9197	0.0122	0.0273	3.03%	0.00%
0	FC	5	0.8913	0.8415	0.9410	0.8321	0.9301	0.0179	0.0401	4.50%	1.16%
6.25		5	0.9188	0.9063	0.9312	0.9071	0.9331	0.0045	0.0100	1.09%	-1.89%
12.5		5	0.8823	0.8141	0.9505	0.8206	0.9363	0.0246	0.0549	6.23%	2.16%
25		5	0.9127	0.9001	0.9253	0.9007	0.9220	0.0045	0.0101	1.11%	-1.21%
50		5	0.9191	0.8922	0.9460	0.8855	0.9405	0.0097	0.0216	2.35%	-1.93%
100		5	0.9076	0.8429	0.9723	0.8321	0.9621	0.0233	0.0521	5.74%	-0.65%
101		5	0.9137	0.9009	0.9266	0.9030	0.9288	0.0046	0.0104	1.14%	-1.33%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9114	0.9001	0.9227	0.9000	0.9197	0.0041	0.0091	1.00%	0.00%
0	FC	5	0.9156	0.9002	0.9310	0.9008	0.9301	0.0056	0.0124	1.36%	-0.46%
6.25		5	0.9216	0.9051	0.9381	0.9071	0.9380	0.0059	0.0133	1.44%	-1.12%
12.5		5	0.9038	0.8683	0.9393	0.8680	0.9363	0.0128	0.0286	3.16%	0.83%
25		5	0.9127	0.9001	0.9253	0.9007	0.9220	0.0045	0.0101	1.11%	-0.14%
50		5	0.9233	0.9055	0.9410	0.9062	0.9405	0.0064	0.0143	1.55%	-1.30%
100		5	0.9353	0.9135	0.9572	0.9127	0.9621	0.0079	0.0176	1.88%	-2.63%
101		5	0.9137	0.9009	0.9266	0.9030	0.9288	0.0046	0.0104	1.14%	-0.26%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9893	0.9596	1.0000	0.9466	1.0000	0.0107	0.0239	2.42%	0.00%
0	FC	5	0.9733	0.9271	1.0000	0.9237	1.0000	0.0166	0.0372	3.82%	1.62%
6.25		5	0.9969	0.9885	1.0000	0.9847	1.0000	0.0031	0.0068	0.68%	-0.77%
12.5		5	0.9756	0.9319	1.0000	0.9237	1.0000	0.0157	0.0352	3.60%	1.39%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-1.08%
50		5	0.9954	0.9827	1.0000	0.9771	1.0000	0.0046	0.0102	1.03%	-0.62%
100		5	0.9702	0.9104	1.0000	0.8893	1.0000	0.0215	0.0482	4.96%	1.93%
101		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-1.08%

Bivalve Larval Survival and Development Test — **Wood E&IS**

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8550	0.9179	0.9161	0.9197	0.9000
0	FC	0.9192	0.9048	0.9301	0.8702	0.8321
6.25		0.9167	0.9132	0.9331	0.9237	0.9071
12.5		0.9293	0.8970	0.9363	0.8206	0.8282
25		0.9158	0.9217	0.9220	0.9007	0.9032
50		0.9355	0.9188	0.8855	0.9405	0.9152
100		0.8779	0.8321	0.9621	0.9333	0.9328
101		0.9030	0.9288	0.9178	0.9053	0.9138

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9032	0.9179	0.9161	0.9197	0.9000
0	FC	0.9192	0.9048	0.9301	0.9231	0.9008
6.25		0.9167	0.9132	0.9331	0.9380	0.9071
12.5		0.9293	0.8970	0.9363	0.8884	0.8680
25		0.9158	0.9217	0.9220	0.9007	0.9032
50		0.9355	0.9188	0.9062	0.9405	0.9152
100		0.9127	0.9356	0.9621	0.9333	0.9328
101		0.9030	0.9288	0.9178	0.9053	0.9138

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9466	1.0000	1.0000	1.0000	1.0000
0	FC	1.0000	1.0000	1.0000	0.9427	0.9237
6.25		1.0000	1.0000	1.0000	0.9847	1.0000
12.5		1.0000	1.0000	1.0000	0.9237	0.9542
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	0.9771	1.0000	1.0000
100		0.9618	0.8893	1.0000	1.0000	1.0000
101		1.0000	1.0000	1.0000	1.0000	1.0000

Analyst: AG QA: [illegible]

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	224/262	246/268	284/310	252/274	261/290
0	FC	273/297	247/273	253/272	228/262	218/262
6.25		253/276	242/265	265/284	242/262	254/280
12.5		276/297	270/301	250/267	215/262	217/262
25		272/297	259/281	260/282	263/292	252/279
50		261/279	249/271	232/262	253/269	259/283
100		230/262	218/262	254/264	252/270	250/268
101		242/268	261/281	268/292	239/264	265/290

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	224/248	246/268	284/310	252/274	261/290
0	FC	273/297	247/273	253/272	228/247	218/242
6.25		253/276	242/265	265/284	242/258	254/280
12.5		276/297	270/301	250/267	215/242	217/250
25		272/297	259/281	260/282	263/292	252/279
50		261/279	249/271	232/256	253/269	259/283
100		230/252	218/233	254/264	252/270	250/268
101		242/268	261/281	268/292	239/264	265/290

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	248/262	262/262	262/262	262/262	262/262
0	FC	262/262	262/262	262/262	247/262	242/262
6.25		262/262	262/262	262/262	258/262	262/262
12.5		262/262	262/262	262/262	242/262	250/262
25		262/262	262/262	262/262	262/262	262/262
50		262/262	262/262	256/262	262/262	262/262
100		252/262	233/262	262/262	262/262	262/262
101		262/262	262/262	262/262	262/262	262/262

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	17-3987-9043	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:25	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	7.768	2.015	5	CDF	2.8E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0007345	0.0007345	1	0.1486	0.7099	Non-Significant Effect
Error	0.0395484	0.0049436	8			
Total	0.0402829		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	4.223	23.15	0.1919	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9277	0.7411	0.4254	Normal Distribution

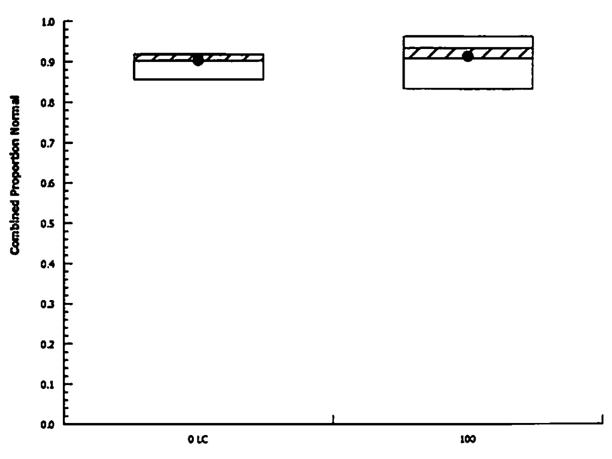
Combined Proportion Normal Summary

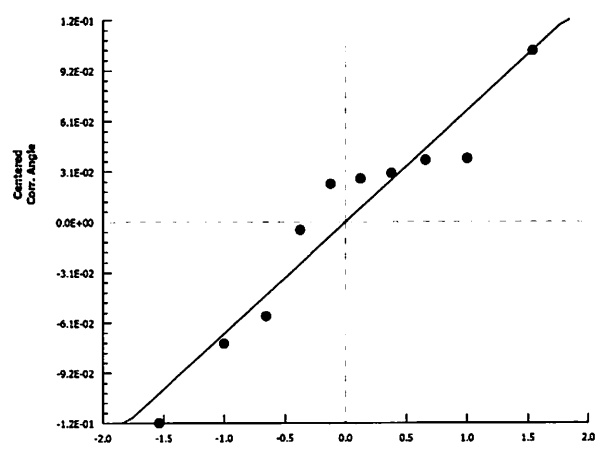
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9017	0.8678	0.9356	0.9161	0.8550	0.9197	0.0122	3.03%	0.00%
100		5	0.9076	0.8429	0.9723	0.9328	0.8321	0.9621	0.0233	5.74%	-0.65%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.254	1.2	1.308	1.277	1.18	1.284	0.01946	3.47%	0.00%
100		5	1.271	1.16	1.382	1.309	1.149	1.375	0.03999	7.03%	-1.37%

Graphics





Bivalve Larval Survival and Development Test	**Wood E&IS**

Analysis ID:	15-0228-5273	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:26	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control		101*	15.13	2.015	5	CDF	1.1E-05	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0029526	0.0029526	1	1.366	0.2761	Non-Significant Effect
Error	0.017292	0.0021615	8			
Total	0.0202446		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	11.32	23.15	0.0374	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9714	0.7411	0.9033	Normal Distribution

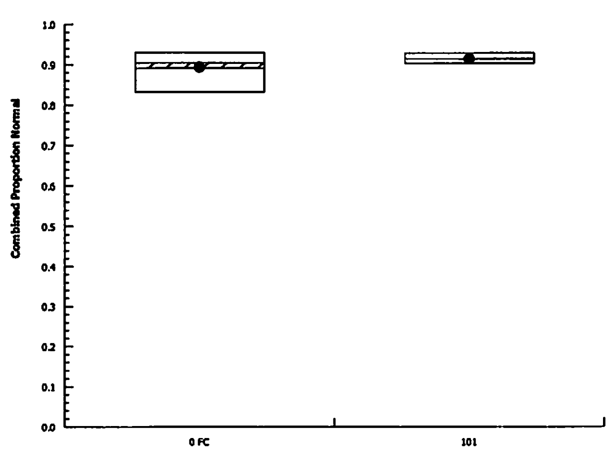
Combined Proportion Normal Summary

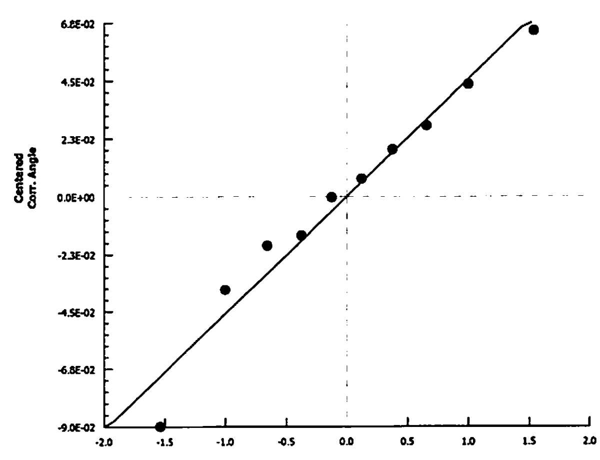
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.8913	0.8415	0.9410	0.9048	0.8321	0.9301	0.0179	4.50%	0.00%
101		5	0.9137	0.9009	0.9266	0.9138	0.9030	0.9288	0.0046	1.14%	-2.52%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.239	1.16	1.317	1.257	1.149	1.303	0.02819	5.09%	0.00%
101		5	1.273	1.25	1.296	1.273	1.254	1.301	0.008375	1.47%	-2.77%

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	14-2542-9611	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:26	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	6.06%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-0.784	2.362	0.085	8	CDF	0.9702	Non-Significant Effect
	12.5	0.7307	2.362	0.085	8	CDF	0.5429	Non-Significant Effect
	25	-0.479	2.362	0.085	8	CDF	0.9371	Non-Significant Effect
	50	-0.8412	2.362	0.085	8	CDF	0.9743	Non-Significant Effect
	100	-0.4764	2.362	0.085	8	CDF	0.9367	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0112788	0.0022558	5	0.6969	0.6310	Non-Significant Effect
Error	0.0776847	0.0032369	24			
Total	0.0889635		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	15.07	15.09	0.0101	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9607	0.9031	0.3219	Normal Distribution

Combined Proportion Normal Summary

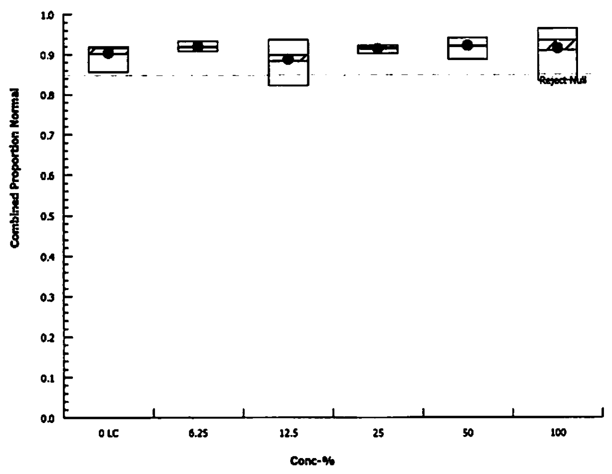
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9017	0.8678	0.9356	0.9161	0.8550	0.9197	0.0122	3.03%	0.00%
6.25		5	0.9188	0.9063	0.9312	0.9167	0.9071	0.9331	0.0045	1.09%	-1.89%
12.5		5	0.8823	0.8141	0.9505	0.8970	0.8206	0.9363	0.0246	6.23%	2.16%
25		5	0.9127	0.9001	0.9253	0.9158	0.9007	0.9220	0.0045	1.11%	-1.21%
50		5	0.9191	0.8922	0.9460	0.9188	0.8855	0.9405	0.0097	2.35%	-1.93%
100		5	0.9076	0.8429	0.9723	0.9328	0.8321	0.9621	0.0233	5.74%	-0.65%

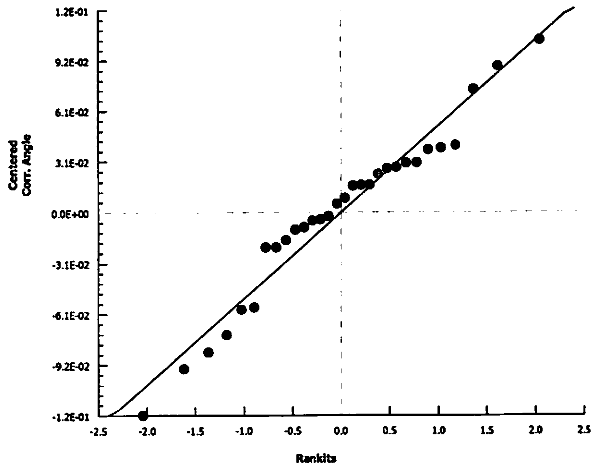
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.254	1.2	1.308	1.277	1.18	1.284	0.01946	3.47%	0.00%
6.25		5	1.282	1.259	1.305	1.278	1.261	1.309	0.008285	1.44%	-2.25%
12.5		5	1.228	1.121	1.334	1.244	1.133	1.316	0.03838	6.99%	2.10%
25		5	1.271	1.249	1.293	1.276	1.25	1.288	0.007994	1.41%	-1.37%
50		5	1.284	1.236	1.332	1.282	1.226	1.324	0.01736	3.02%	-2.41%
100		5	1.271	1.16	1.382	1.309	1.149	1.375	0.03999	7.03%	-1.37%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 14-2542-9611	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3	
Analyzed: 22 Mar-21 15:26	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	12-0992-3912	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:26	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.05%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	-0.9689	2.362	0.046	8	CDF	0.9818	Non-Significant Effect
	12.5	0.5465	2.362	0.046	8	CDF	0.6265	Non-Significant Effect
	25	-0.1205	2.362	0.046	8	CDF	0.8665	Non-Significant Effect
	50	-1.133	2.362	0.046	8	CDF	0.9886	Non-Significant Effect
	100	-2.389	2.362	0.046	8	CDF	0.9998	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0105417	0.0021083	5	2.196	0.0882	Non-Significant Effect
Error	0.0230421	0.0009601	24			
Total	0.0335838		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	6.641	15.09	0.2487	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.977	0.9031	0.7406	Normal Distribution

Proportion Normal Summary

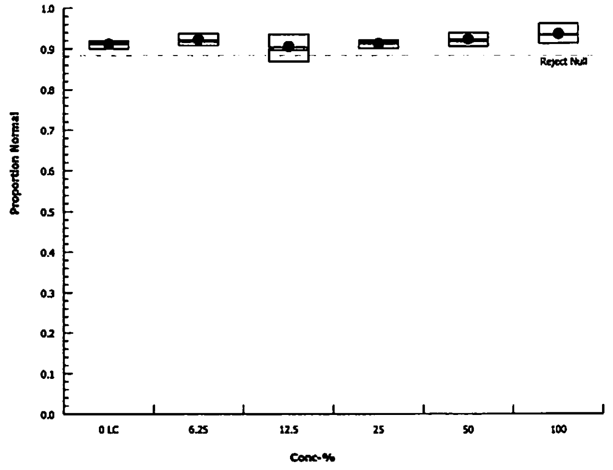
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9114	0.9001	0.9227	0.9161	0.9000	0.9197	0.0041	1.00%	0.00%
6.25		5	0.9216	0.9051	0.9381	0.9167	0.9071	0.9380	0.0059	1.44%	-1.12%
12.5		5	0.9038	0.8683	0.9393	0.8970	0.8680	0.9363	0.0128	3.16%	0.83%
25		5	0.9127	0.9001	0.9253	0.9158	0.9007	0.9220	0.0045	1.11%	-0.14%
50		5	0.9233	0.9055	0.9410	0.9188	0.9062	0.9405	0.0064	1.55%	-1.30%
100		5	0.9353	0.9135	0.9572	0.9333	0.9127	0.9621	0.0079	1.88%	-2.63%

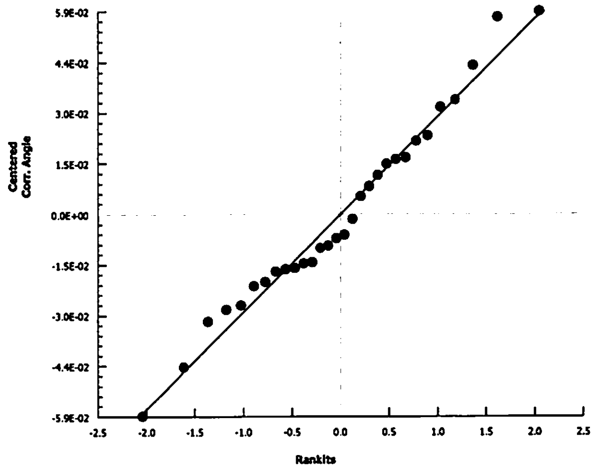
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.269	1.249	1.289	1.277	1.249	1.284	0.007103	1.25%	0.00%
6.25		5	1.288	1.257	1.319	1.278	1.261	1.319	0.01119	1.94%	-1.50%
12.5		5	1.258	1.197	1.319	1.244	1.199	1.316	0.02201	3.91%	0.84%
25		5	1.271	1.249	1.293	1.276	1.25	1.288	0.007994	1.41%	-0.19%
50		5	1.291	1.257	1.325	1.282	1.26	1.324	0.01217	2.11%	-1.75%
100		5	1.316	1.269	1.362	1.31	1.271	1.375	0.01674	2.85%	-3.69%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 12-0992-3912		**Endpoint:** Proportion Normal		**CETIS Version:** CETISv1.9.3	
Analyzed: 22 Mar-21 15:26		**Analysis:** Parametric-Control vs Treatments		**Official Results:** Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	08-1972-3835	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:26	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.04%

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	28	16	1	8	Asymp	0.8627	Non-Significant Effect
	12.5	25	16	1	8	Asymp	0.6353	Non-Significant Effect
	25	30	16	1	8	Asymp	0.9446	Non-Significant Effect
	50	28	16	1	8	Asymp	0.8627	Non-Significant Effect
	100	25	16	1	8	Asymp	0.6353	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0369752	0.0073950	5	0.9466	0.4693	Non-Significant Effect
Error	0.187483	0.0078118	24			
Total	0.224458		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	6.601	3.895	5.4E-04	Unequal Variances
Variances	Mod Levene Equality of Variance Test	1.017	4.248	0.4367	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8666	0.9031	0.0014	Non-Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9893	0.9596	1.0000	1.0000	0.9466	1.0000	0.0107	2.42%	0.00%
6.25		5	0.9969	0.9885	1.0000	1.0000	0.9847	1.0000	0.0031	0.68%	-0.77%
12.5		5	0.9756	0.9319	1.0000	1.0000	0.9237	1.0000	0.0157	3.60%	1.39%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-1.08%
50		5	0.9954	0.9827	1.0000	1.0000	0.9771	1.0000	0.0046	1.03%	-0.62%
100		5	0.9702	0.9104	1.0000	1.0000	0.8893	1.0000	0.0215	4.96%	1.93%

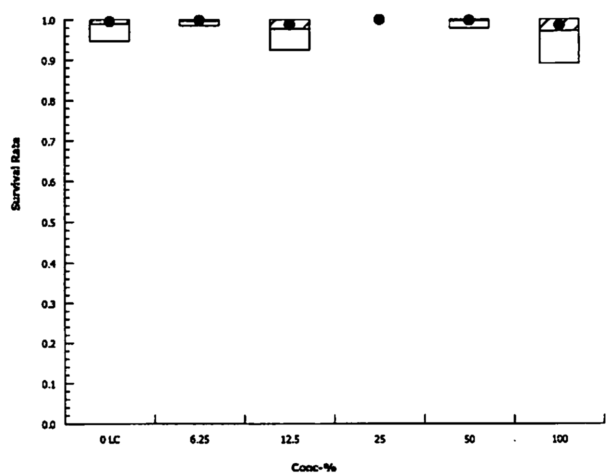
Angular (Corrected) Transformed Summary

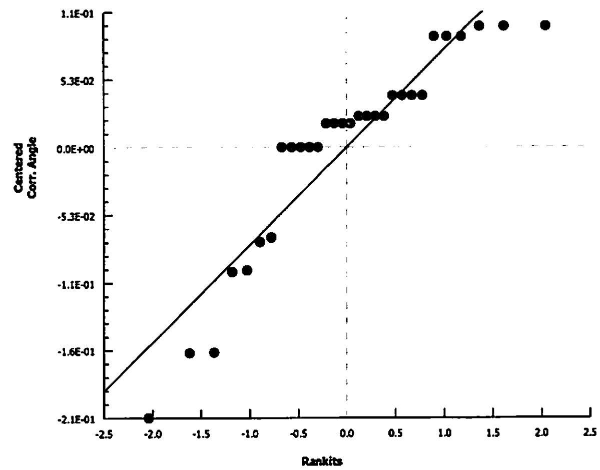
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.499	1.387	1.612	1.54	1.338	1.54	0.04048	6.04%	0.00%
6.25		5	1.521	1.47	1.573	1.54	1.447	1.54	0.0186	2.73%	-1.46%
12.5		5	1.453	1.303	1.603	1.54	1.291	1.54	0.05409	8.32%	3.09%
25		5	1.54	1.54	1.54	1.54	1.54	1.54	0	0.00%	-2.70%
50		5	1.516	1.448	1.583	1.54	1.419	1.54	0.0242	3.57%	-1.09%
100		5	1.445	1.272	1.618	1.54	1.232	1.54	0.06227	9.64%	3.62%

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	08-1972-3835	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:26	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Report Date: 30 Mar-21 14:47 (p 1 of 2)
Test Code: 21-02-013 | 04-2220-2488

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	18-6379-3765	**Endpoint:**	Proportion ~~Normal~~ sc w/ Curved Hinge	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:47	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100% (1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Angular (Corrected)	C > T	101	> 101	n/a	0.9901

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	12.5	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	50	30	16	1	8	Asymp	0.9557	Non-Significant Effect
	100	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	101	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0005254	8.756E-05	6	1.054	0.4130	Non-Significant Effect
Error	0.0023266	8.309E-05	28			
Total	0.0028520		34			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	98.47	16.81	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.4595	0.9146	3.2E-10	Non-Normal Distribution

Proportion ~~Normal~~ sc Curved Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
6.25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
12.5		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
50		5	0.0014	0.0000	0.0053	0.0000	0.0000	0.0071	0.0014	223.61%	
100		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
101		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0301	0.0285	0.0316	0.0302	0.0284	0.0318	0.0006	4.20%	0.00%
6.25		5	0.0303	0.0296	0.0311	0.0301	0.0297	0.0311	0.0003	2.00%	-0.82%
12.5		5	0.0304	0.0286	0.0323	0.0306	0.0288	0.0322	0.0007	4.92%	-1.29%
25		5	0.0296	0.0291	0.0301	0.0298	0.0290	0.0299	0.0002	1.36%	1.63%
50		5	0.0413	0.0115	0.0710	0.0305	0.0299	0.0842	0.0107	58.18%	-37.23%
100		5	0.0312	0.0300	0.0324	0.0308	0.0304	0.0328	0.0004	3.09%	-3.82%
101		5	0.0300	0.0291	0.0308	0.0298	0.0293	0.0308	0.0003	2.28%	0.33%

Proportion ~~Normal~~ sc Curved Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0000	0.0000	0.0000	0.0000	0.0000
6.25		0.0000	0.0000	0.0000	0.0000	0.0000
12.5		0.0000	0.0000	0.0000	0.0000	0.0000
25		0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0071
100		0.0000	0.0000	0.0000	0.0000	0.0000
101		0.0000	0.0000	0.0000	0.0000	0.0000

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	18-6379-3765	**Endpoint:**	Proportion ~~Normal~~ SC curved	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:47	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

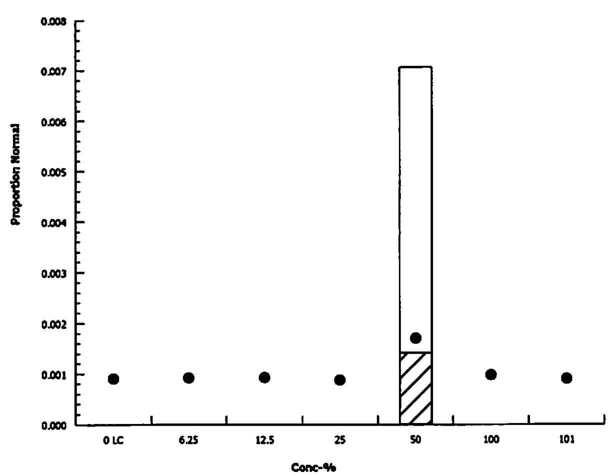
Angular (Corrected) Transformed Detail

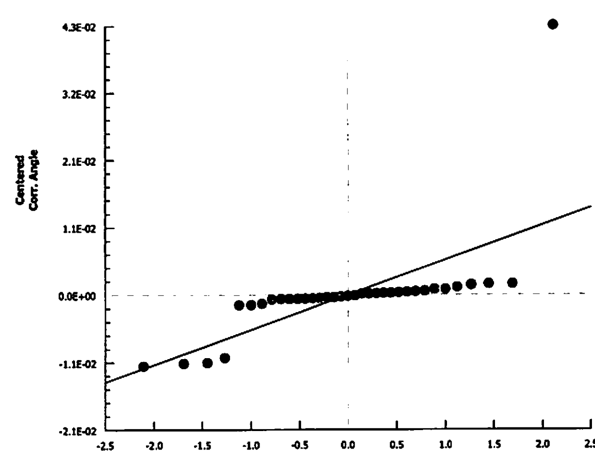
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0318	0.0306	0.0284	0.0302	0.0294
6.25		0.0301	0.0307	0.0297	0.0311	0.0299
12.5		0.0290	0.0288	0.0306	0.0322	0.0316
25		0.0290	0.0298	0.0298	0.0293	0.0299
50		0.0299	0.0304	0.0313	0.0305	0.0842
100		0.0315	0.0328	0.0308	0.0304	0.0306
101		0.0306	0.0298	0.0293	0.0308	0.0294

Proportion ~~Normal~~ SC curved Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0/248	0/268	0/310	0/274	0/290
6.25		0/276	0/265	0/284	0/258	0/280
12.5		0/297	0/301	0/267	0/242	0/250
25		0/297	0/281	0/282	0/292	0/279
50		0/279	0/271	0/256	0/269	2/283
100		0/252	0/233	0/264	0/270	0/268
101		0/268	0/281	0/292	0/264	0/290

Graphics





Embryo-Larval Development Test
Scoring Worksheet

Client: Wood/ SIYB
Project ID: SIYB 6
Test No.: 21-02-013

Test Species: *M. galloprovincialis*
Start Date: 2/17/21 1605
End Date: 2/19/21 1545

Random #	# Counted	# Normal	Abnormal: Number Curved Shell	Abnormal: All Other Abnormal	Tech Initials / Notes
231	310	284	0	26	BI
232	258	242	0	16	BI
233	281	261	0	20	BI
234	283	259	2	24	BI
235	279	252	0	27	BI
236	284	265	0	19	BI
237	268	250	0	18	BI
238	233	218	0	15	BI
239	265	242	0	23	BI
240	280	254	0	26	BI
241	276	253	0	23	BI
242	248	224	0	24	BI
243	270	252	0	18	BI
244	273	247	0	26	BI
245	247	228	0	19	BI
246	282	260	0	22	BI
247	250	217	0	33	BI
248	297	273	0	24	BI
249	269	253	0	16	BI
250	252	230	0	22	BI
251	~~283~~ 268	~~262~~ 242	0	~~21~~ 26	BI Bad Counter
252	~~321~~ ~~261~~ 279 BI	~~302~~ 261 BI	0	BI ~~49~~ 18	BI (Clicker) - Re-
253	~~305~~ 274	~~286~~ 252	0	~~19~~ 22	BI did #251-258
254	~~271~~ 242	~~242~~ 218	0	~~29~~ 24	BI
255	~~307~~ 264	~~281~~ 239	0	~~26~~ 25	BI
256	~~325~~ 281	~~299~~ 259	0	~~26~~ 22	BI
257	~~318~~ 292	~~296~~ 268	0	~~22~~ 24	BI
258	BI ~~336~~ 268	BI ~~314~~ 246	0	22	BI
259	264	254	0	10	BI
260	242	215	0	27	BI
261	271	249	0	22	BI
262	292	263	0	29	BI
263	290	265	0	25	BI
264	256	232	0	24	BI
265	272	253	0	19	BI
266	301	270	0	31	BI
267	267	250	0	17	BI
268	297	272	0	25	BI
269	290	261	0	29	BI
270	297	276	0	21	BI

QC Check: AC

Final Review: JC 3/26/21

CETIS Test Data Worksheet

Report Date: 16 Feb-21 17:46 (p 1 of 2)
Test Code/ID: 04-2220-2488/21-02-013

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 17 Feb-21 1605	**Species:** Mytilis galloprovincialis	**Sample Code:** ~~6E21D0A8~~ 21-W058	
End Date: 19 Feb-21 1548	**Protocol:** EPA/600/R-95/136 (1995)	**Sample Source:** Shelter Island Yacht Basin	
Sample Date: 16 Feb-21 0915	**Material:** Seawater	**Sample Station:** SIYB 6	

Comments:
101 = 100% (1.2 micron filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	248					
0	FC	2	244					
0	FC	3	265					
0	FC	4	245					
0	FC	5	254					
0	LC	1	242			248	225	AG
0	LC	2	258					
0	LC	3	231					
0	LC	4	253					
0	LC	5	269			AG ~~248~~	AG ~~225~~	
6.25		1	241			263	241	AG
6.25		2	239					
6.25		3	236					
6.25		4	232					
6.25		5	240					
12.5		1	270					
12.5		2	266					
12.5		3	267					
12.5		4	260					
12.5		5	247					
25		1	268					
25		2	256					
25		3	246					
25		4	262					
25		5	235					
50		1	252					
50		2	261					
50		3	264					
50		4	249					
50		5	234					
100		1	250			243	224	AG
100		2	238					

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		3	259					
100		4	243					
100		5	237					
101		1	251					
101		2	233					
101		3	257					
101		4	255					
101		5	263					

QC = JC

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB 6
Test No. 21-02-013 & 21-02-020

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (%)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.6	14.8	15.2
	Salinity (ppt)	34.0	34.1	34.0
	pH (units)	7.87	7.71	7.56
	DO (mg/L)	8.0	8.3	8.3
Filtered Control	Temp. (°C)	15.7	14.7	15.0
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.87	7.70	7.58
	DO (mg/L)	7.9	8.1	8.3
6.25	Temp. (°C)	15.6	14.9	15.0
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.80	7.71	7.60
	DO (mg/L)	7.9	8.2	8.3
12.5	Temp. (°C)	15.6	14.9	15.0
	Salinity (ppt)	34.1	34.1	34.2
	pH (units)	7.80	7.71	7.61
	DO (mg/L)	8.1	8.2	8.4
25	Temp. (°C)	15.7	15.0	15.0
	Salinity (ppt)	34.0	34.1	34.2
	pH (units)	7.84	7.72	7.61
	DO (mg/L)	8.2	8.3	8.4
50	Temp. (°C)	15.7	14.9	15.1
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.85	7.71	7.61
	DO (mg/L)	8.2	8.3	8.3
100	Temp. (°C)	15.4	14.9	15.1
	Salinity (ppt)	33.9	34.0	34.1
	pH (units)	7.87	7.73	7.63
	DO (mg/L)	8.4	8.3	8.3
100 Filtered (1.2µm)	Temp. (°C)	15.5	15.0	15.1
	Salinity (ppt)	33.6	33.6	33.8
	pH (units)	7.88	7.73	7.62
	DO (mg/L)	8.0	8.3	8.3
	Tech Initials:	AG	AG	KB

Source of Animals: Mission Bay

Date Received: 2/17/21

Comments:

QC: AG 3/18/21

Final QC: BC 3/26/21

Embryo-Larval Development Test

Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Batch ID: 2/17 Collection
Test Type: Mussel Development

Test Date: 2/17/2021
Analyst: AG

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325 / 1355 / 1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts — **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided	
Stock 1	99	collected 2/17
Stock 2	99	collected 2/09
Stock 3	98	

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{1385}{500}$ **Dil Factor** 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: QC₁ = 223/245

TØ₁ = 271, TØ₂ = 267 TØ₃ = 255 TØ₄ = 263 TØ₅ = 256 TØ x̄ = 262

QA Review: AG 3/15/21

Final Review: JC 3/25/21

Site: SIYB-REF

CETIS Summary Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Batch ID: 12-7419-7528	**Test Type:**	Development-Survival	**Analyst:**	
Start Date: 17 Feb-21 16:05	**Protocol:**	EPA/600/R-95/136 (1995)	**Diluent:**	Natural Seawater
Ending Date: 19 Feb-21 15:45	**Species:**	Mytilis galloprovincialis	**Brine:**	Not Applicable
Duration: 48h	**Source:**	Field Collected	**Age:**	

Sample ID: 19-8670-5299	**Code:** 21-W059	**Client:**	Wood Environment and Infrastructure
Sample Date: 16 Feb-21 08:15	**Material:** Seawater	**Project:**	SIYB TMDL Monitoring
Receipt Date: 16 Feb-21 17:10	**Source:** Shelter Island Yacht Basin		
Sample Age: 32h (4 °C)	**Station:** SIYB REF1		

Comments:
101 = 100%(1.2 micron filtered)

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
04-5708-9601	Combined Proportion Norma	TST-Welch's t Test	8.6E-06	100% passed combined proportion normal
15-6589-2038	Combined Proportion Norma	TST-Welch's t Test	0.0010	101% passed combined proportion normal

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
01-5390-9047	Combined Proportion Norma	Dunnett Multiple Comparison Test	100	> 100	n/a	1	5.11%
17-5052-8398	Proportion Normal	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.3%
04-8752-6326	Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	3.82%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
17-5052-8398	Proportion Normal	Control Resp	0.917	0.9	>>	Yes	Passes Criteria
04-8752-6326	Survival Rate	Control Resp	0.9863	0.5	>>	Yes	Passes Criteria

Analyst: AB QA: SL 3/26/21

Bivalve Larval Survival and Development Test — **Wood E&IS**

Combined Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9043	0.8795	0.9291	0.8893	0.9268	0.0089	0.0200	2.21%	0.00%
0	FC	5	0.9243	0.9138	0.9348	0.9167	0.9366	0.0038	0.0084	0.91%	-2.21%
6.25		5	0.8867	0.8202	0.9533	0.8053	0.9351	0.0240	0.0536	6.04%	1.95%
12.5		5	0.9147	0.8978	0.9316	0.8974	0.9323	0.0061	0.0136	1.49%	-1.15%
25		5	0.9139	0.8735	0.9543	0.8588	0.9446	0.0145	0.0325	3.56%	-1.06%
50		5	0.9212	0.9115	0.9308	0.9107	0.9286	0.0035	0.0078	0.85%	-1.86%
100		5	0.9005	0.8637	0.9374	0.8626	0.9345	0.0133	0.0297	3.30%	0.42%
101		5	0.8851	0.8138	0.9564	0.7824	0.9146	0.0257	0.0575	6.49%	2.12%

Proportion Normal Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9170	0.8983	0.9356	0.8906	0.9268	0.0067	0.0150	1.64%	0.00%
0	FC	5	0.9243	0.9138	0.9348	0.9167	0.9366	0.0038	0.0084	0.91%	-0.80%
6.25		5	0.9198	0.8991	0.9405	0.8947	0.9351	0.0074	0.0167	1.81%	-0.31%
12.5		5	0.9154	0.8983	0.9326	0.8974	0.9323	0.0062	0.0138	1.51%	0.17%
25		5	0.9266	0.8900	0.9632	0.8789	0.9529	0.0132	0.0295	3.18%	-1.05%
50		5	0.9300	0.9073	0.9527	0.9107	0.9600	0.0082	0.0183	1.97%	-1.42%
100		5	0.9143	0.8971	0.9316	0.8968	0.9345	0.0062	0.0139	1.52%	0.29%
101		5	0.9177	0.9046	0.9307	0.9075	0.9300	0.0047	0.0105	1.15%	-0.08%

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9863	0.9629	1.0000	0.9656	1.0000	0.0084	0.0188	1.91%	0.00%
0	FC	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-1.39%
6.25		5	0.9641	0.8937	1.0000	0.8702	1.0000	0.0254	0.0567	5.88%	2.24%
12.5		5	0.9992	0.9971	1.0000	0.9962	1.0000	0.0008	0.0017	0.17%	-1.32%
25		5	0.9863	0.9703	1.0000	0.9733	1.0000	0.0057	0.0128	1.30%	0.00%
50		5	0.9908	0.9654	1.0000	0.9542	1.0000	0.0092	0.0205	2.07%	-0.46%
100		5	0.9847	0.9608	1.0000	0.9618	1.0000	0.0086	0.0193	1.96%	0.15%
101		5	0.9649	0.8800	1.0000	0.8435	1.0000	0.0306	0.0684	7.08%	2.17%

Bivalve Larval Survival and Development Test — Wood E&IS

Combined Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.8893	0.9255	0.8906	0.8893	0.9268
0	FC	0.9366	0.9294	0.9184	0.9167	0.9205
6.25		0.9351	0.8664	0.9320	0.8947	0.8053
12.5		0.9059	0.9160	0.9323	0.8974	0.9220
25		0.9198	0.9275	0.9188	0.8588	0.9446
50		0.9107	0.9160	0.9286	0.9222	0.9283
100		0.9193	0.9084	0.8626	0.8779	0.9345
101		0.9122	0.9075	0.7824	0.9146	0.9088

Proportion Normal Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9209	0.9255	0.8906	0.9209	0.9268
0	FC	0.9366	0.9294	0.9184	0.9167	0.9205
6.25		0.9351	0.9116	0.9320	0.8947	0.9254
12.5		0.9059	0.9195	0.9323	0.8974	0.9220
25		0.9377	0.9529	0.9188	0.8789	0.9446
50		0.9107	0.9600	0.9286	0.9222	0.9283
100		0.9193	0.9119	0.8968	0.9091	0.9345
101		0.9300	0.9075	0.9276	0.9146	0.9088

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9656	1.0000	1.0000	0.9656	1.0000
0	FC	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	0.9504	1.0000	1.0000	0.8702
12.5		1.0000	0.9962	1.0000	1.0000	1.0000
25		0.9809	0.9733	1.0000	0.9771	1.0000
50		1.0000	0.9542	1.0000	1.0000	1.0000
100		1.0000	0.9962	0.9618	0.9656	1.0000
101		0.9809	1.0000	0.8435	1.0000	1.0000

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	233/262	261/282	236/265	233/262	266/287
0	FC	266/284	250/269	259/282	242/264	243/264
6.25		245/262	227/262	274/294	272/304	211/262
12.5		260/287	240/262	248/266	245/273	260/282
25		241/262	243/262	249/271	225/262	290/307
50		255/280	240/262	247/266	249/270	272/293
100		262/285	238/262	226/262	230/262	257/275
101		239/262	255/281	205/262	257/281	249/274

Proportion Normal Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	233/253	261/282	236/265	233/253	266/287
0	FC	266/284	250/269	259/282	242/264	243/264
6.25		245/262	227/249	274/294	272/304	211/228
12.5		260/287	240/261	248/266	245/273	260/282
25		241/257	243/255	249/271	225/256	290/307
50		255/280	240/250	247/266	249/270	272/293
100		262/285	238/261	226/252	230/253	257/275
101		239/257	255/281	205/221	257/281	249/274

Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	253/262	262/262	262/262	253/262	262/262
0	FC	262/262	262/262	262/262	262/262	262/262
6.25		262/262	249/262	262/262	262/262	228/262
12.5		262/262	261/262	262/262	262/262	262/262
25		257/262	255/262	262/262	256/262	262/262
50		262/262	250/262	262/262	262/262	262/262
100		262/262	261/262	252/262	253/262	262/262
101		257/262	262/262	221/262	262/262	262/262

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	04-5708-9601	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:47	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100%(1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	100% passed combined proportion normal

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		100*	12.34	1.943	6	CDF	8.6E-06	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	6.359E-05	6.359E-05	1	0.03466	0.8569	Non-Significant Effect
Error	0.0146767	0.0018346	8			
Total	0.0147403		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.045	23.15	0.5055	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9304	0.7411	0.4518	Normal Distribution

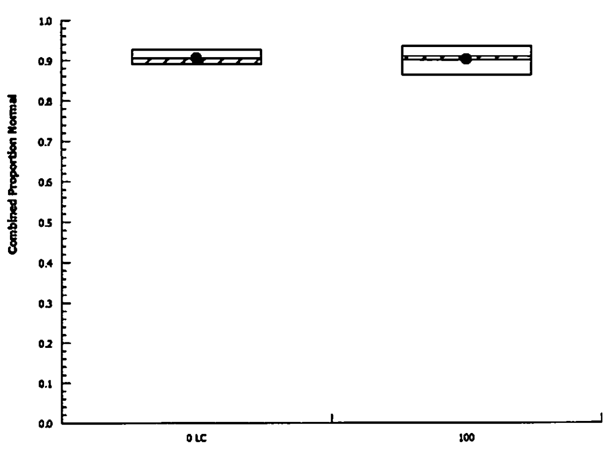
Combined Proportion Normal Summary

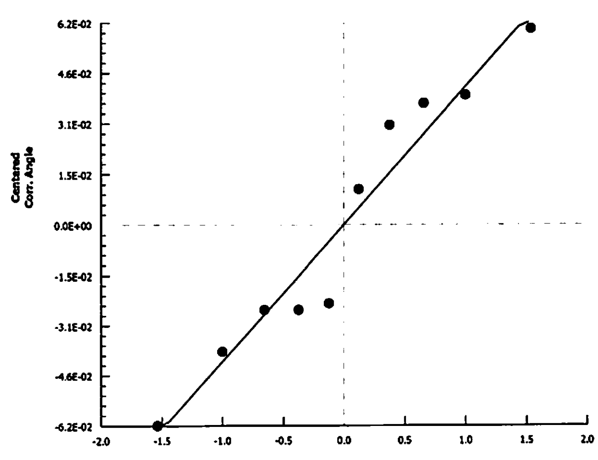
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9043	0.8795	0.9291	0.8906	0.8893	0.9268	0.0089	2.21%	0.00%
100		5	0.9005	0.8637	0.9374	0.9084	0.8626	0.9345	0.0133	3.30%	0.42%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.258	1.215	1.301	1.234	1.232	1.297	0.01552	2.76%	0.00%
100		5	1.253	1.191	1.314	1.263	1.191	1.312	0.0222	3.96%	0.40%

Graphics





CETIS Analytical Report

TST for 100% Filtered vs. FC

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	15-6589-2038	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:48	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Comments:
101 = 100%(1.2 micron filtered)

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.75	101% passed combined proportion normal

TST-Welch's t Test

Control vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:5%)
Filter Control	101*	7.103	2.132	4	CDF	0.0010	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0094061	0.0094061	1	2.724	0.1375	Non-Significant Effect
Error	0.027625	0.0034531	8			
Total	0.0370311		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	25.29	23.15	0.0085	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7149	0.7411	0.0013	Non-Normal Distribution

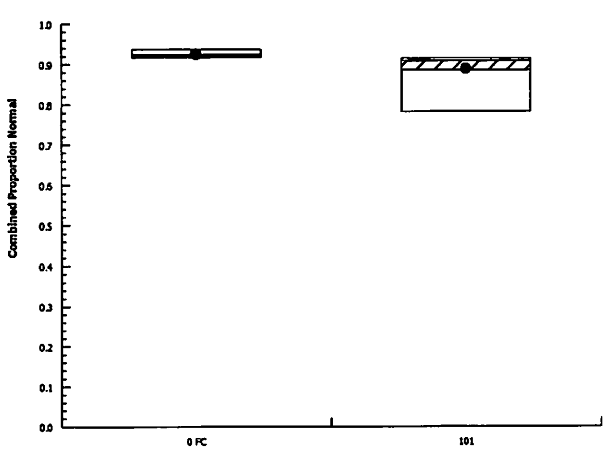
Combined Proportion Normal Summary

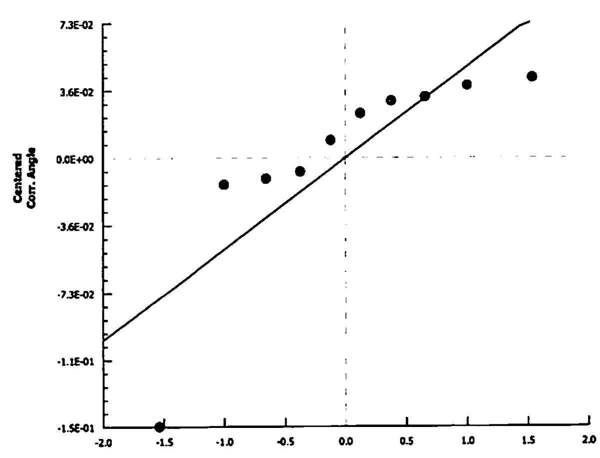
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	0.9243	0.9138	0.9348	0.9205	0.9167	0.9366	0.0038	0.91%	0.00%
101		5	0.8851	0.8138	0.9564	0.9088	0.7824	0.9146	0.0257	6.49%	4.24%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	FC	5	1.292	1.272	1.313	1.285	1.278	1.316	0.007249	1.25%	0.00%
101		5	1.231	1.13	1.332	1.264	1.086	1.274	0.03645	6.62%	4.75%

Graphics





Analyst: [signature] QA: [signature]

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	01-5390-9047	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:48	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100%(1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	5.11%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.7576	2.362	0.073	8	CDF	0.5305	Non-Significant Effect
	12.5	-0.5678	2.362	0.073	8	CDF	0.9489	Non-Significant Effect
	25	-0.6101	2.362	0.073	8	CDF	0.9538	Non-Significant Effect
	50	-0.932	2.362	0.073	8	CDF	0.9799	Non-Significant Effect
	100	0.163	2.362	0.073	8	CDF	0.7807	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0092243	0.0018449	5	0.7712	0.5798	Non-Significant Effect
Error	0.057411	0.0023921	24			
Total	0.0666353		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	11.68	15.09	0.0395	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9653	0.9031	0.4192	Normal Distribution

Combined Proportion Normal Summary

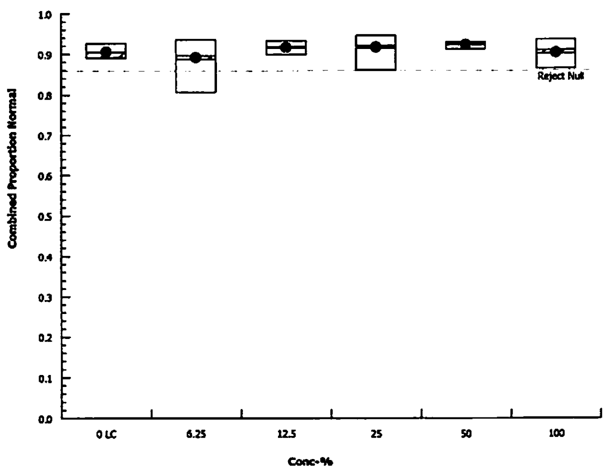
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9043	0.8795	0.9291	0.8906	0.8893	0.9268	0.0089	2.21%	0.00%
6.25		5	0.8867	0.8202	0.9533	0.8947	0.8053	0.9351	0.0240	6.04%	1.95%
12.5		5	0.9147	0.8978	0.9316	0.9160	0.8974	0.9323	0.0061	1.49%	-1.15%
25		5	0.9139	0.8735	0.9543	0.9198	0.8588	0.9446	0.0145	3.56%	-1.06%
50		5	0.9212	0.9115	0.9308	0.9222	0.9107	0.9286	0.0035	0.85%	-1.86%
100		5	0.9005	0.8637	0.9374	0.9084	0.8626	0.9345	0.0133	3.30%	0.42%

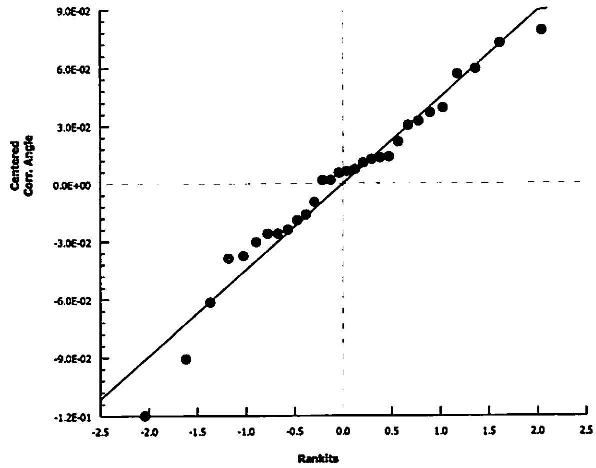
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.258	1.215	1.301	1.234	1.232	1.297	0.01552	2.76%	0.00%
6.25		5	1.234	1.131	1.337	1.24	1.114	1.313	0.03706	6.71%	1.86%
12.5		5	1.275	1.245	1.306	1.277	1.245	1.308	0.01095	1.92%	-1.40%
25		5	1.277	1.208	1.345	1.284	1.186	1.333	0.02454	4.30%	-1.50%
50		5	1.286	1.269	1.304	1.288	1.267	1.3	0.006436	1.12%	-2.29%
100		5	1.253	1.191	1.314	1.263	1.191	1.312	0.0222	3.96%	0.40%

Bivalve Larval Survival and Development Test					Wood E&IS
Analysis ID: 01-5390-9047		**Endpoint:** Combined Proportion Normal		**CETIS Version:** CETISv1.9.3	
Analyzed: 22 Mar-21 15:48		**Analysis:** Parametric-Control vs Treatments		**Official Results:** Yes	

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	17-5052-8398	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:48	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100%(1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.30%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		6.25	-0.2483	2.362	0.052	8	CDF	0.8963	Non-Significant Effect
		12.5	0.1286	2.362	0.052	8	CDF	0.7925	Non-Significant Effect
		25	-0.9548	2.362	0.052	8	CDF	0.9811	Non-Significant Effect
		50	-1.171	2.362	0.052	8	CDF	0.9898	Non-Significant Effect
		100	0.2185	2.362	0.052	8	CDF	0.7608	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0041496	0.0008299	5	0.6897	0.6360	Non-Significant Effect
Error	0.0288778	0.0012032	24			
Total	0.0330273		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.956	15.09	0.5558	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9827	0.9031	0.8924	Normal Distribution

Proportion Normal Summary

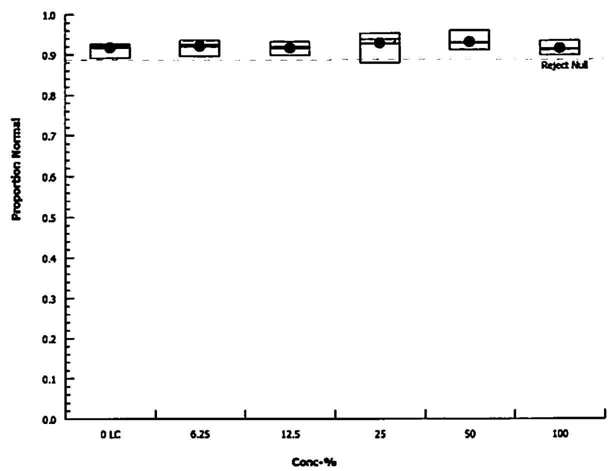
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9170	0.8983	0.9356	0.9209	0.8906	0.9268	0.0067	1.64%	0.00%
6.25		5	0.9198	0.8991	0.9405	0.9254	0.8947	0.9351	0.0074	1.81%	-0.31%
12.5		5	0.9154	0.8983	0.9326	0.9195	0.8974	0.9323	0.0062	1.51%	0.17%
25		5	0.9266	0.8900	0.9632	0.9377	0.8789	0.9529	0.0132	3.18%	-1.05%
50		5	0.9300	0.9073	0.9527	0.9283	0.9107	0.9600	0.0082	1.97%	-1.42%
100		5	0.9143	0.8971	0.9316	0.9119	0.8968	0.9345	0.0062	1.52%	0.29%

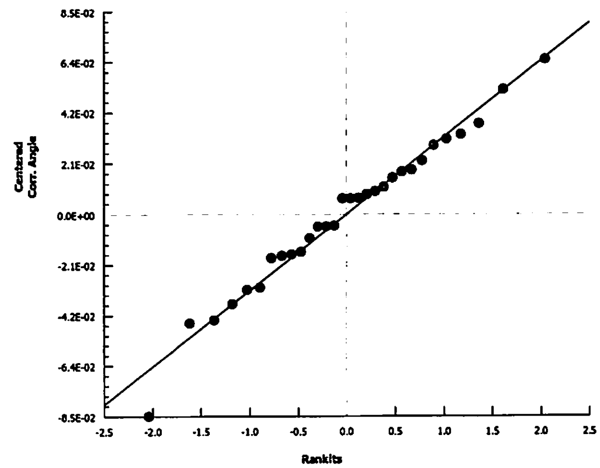
Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.279	1.247	1.312	1.286	1.234	1.297	0.01163	2.03%	0.00%
6.25		5	1.285	1.247	1.322	1.294	1.24	1.313	0.01344	2.34%	-0.43%
12.5		5	1.276	1.246	1.307	1.283	1.245	1.308	0.01107	1.94%	0.22%
25		5	1.3	1.233	1.367	1.319	1.215	1.352	0.02414	4.15%	-1.64%
50		5	1.305	1.257	1.353	1.3	1.267	1.369	0.01718	2.94%	-2.01%
100		5	1.275	1.243	1.306	1.269	1.244	1.312	0.01129	1.98%	0.37%

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	17-5052-8398	**Endpoint:**	Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:48	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	04-8752-6326	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:48	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100%(1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	3.82%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	0.7675	2.362	0.136	8	CDF	0.5259	Non-Significant Effect
	12.5	-0.9758	2.362	0.136	8	CDF	0.9822	Non-Significant Effect
	25	0.1775	2.362	0.136	8	CDF	0.7756	Non-Significant Effect
	50	-0.4398	2.362	0.136	8	CDF	0.9313	Non-Significant Effect
	100	0.1433	2.362	0.136	8	CDF	0.7875	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0291539	0.0058308	5	0.7076	0.6235	Non-Significant Effect
Error	0.197771	0.0082405	24			
Total	0.226925		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	13.87	15.09	0.0164	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9189	0.9031	0.0252	Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9863	0.9629	1.0000	1.0000	0.9656	1.0000	0.0084	1.91%	0.00%
6.25		5	0.9641	0.8937	1.0000	1.0000	0.8702	1.0000	0.0254	5.88%	2.24%
12.5		5	0.9992	0.9971	1.0000	1.0000	0.9962	1.0000	0.0008	0.17%	-1.32%
25		5	0.9863	0.9703	1.0000	0.9809	0.9733	1.0000	0.0057	1.30%	0.00%
50		5	0.9908	0.9654	1.0000	1.0000	0.9542	1.0000	0.0092	2.07%	-0.46%
100		5	0.9847	0.9608	1.0000	0.9962	0.9618	1.0000	0.0086	1.96%	0.15%

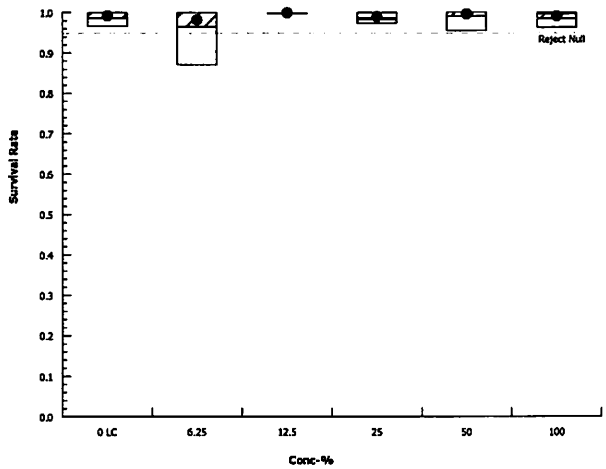
Angular (Corrected) Transformed Summary

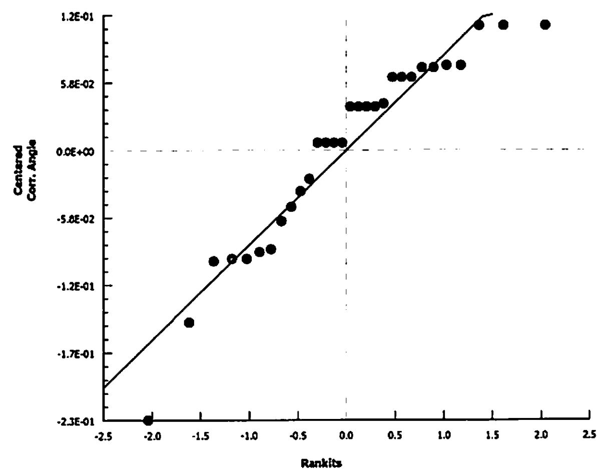
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.478	1.372	1.583	1.54	1.384	1.54	0.0381	5.76%	0.00%
6.25		5	1.434	1.242	1.625	1.54	1.202	1.54	0.06894	10.75%	2.98%
12.5		5	1.534	1.517	1.551	1.54	1.509	1.54	0.006186	0.90%	-3.79%
25		5	1.467	1.385	1.55	1.432	1.407	1.54	0.02983	4.55%	0.69%
50		5	1.503	1.4	1.606	1.54	1.355	1.54	0.03696	5.50%	-1.71%
100		5	1.469	1.366	1.573	1.509	1.374	1.54	0.03729	5.67%	0.56%

Bivalve Larval Survival and Development Test | **Wood E&IS**

Analysis ID:	04-8752-6326	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 15:48	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Report Date:	30 Mar-21 14:52 (p 1 of 2)
Test Code:	21-02-014 | 09-2122-5670

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	10-0386-6015	**Endpoint:**	Proportion ~~Normal~~ SC w/ Curved Hinge	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:51	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Comments:
101 = 100%(1.2 micron filtered)

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Angular (Corrected)	C > T	101	> 101	n/a	0.9901

Steel Many-One Rank Sum Test

Control vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	6.25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	12.5	30	16	1	8	Asymp	0.9557	Non-Significant Effect
	25	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	50	30	16	1	8	Asymp	0.9557	Non-Significant Effect
	100	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect
	101	27.5	16	1	8	Asymp	0.8571	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0002248	3.746E-05	6	0.7273	0.6314	Non-Significant Effect
Error	0.0014423	5.151E-05	28			
Total	0.0016671		34			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	56.12	16.81	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6375	0.9146	4.5E-08	Non-Normal Distribution

Proportion ~~Normal~~ SC curved Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
6.25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
12.5		5	0.0007	0.0000	0.0026	0.0000	0.0000	0.0035	0.0007	223.61%	
25		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
50		5	0.0007	0.0000	0.0028	0.0000	0.0000	0.0037	0.0007	223.61%	
100		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
101		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.0306	0.0295	0.0317	0.0307	0.0295	0.0314	0.0004	2.96%	0.00%
6.25		5	0.0307	0.0285	0.0330	0.0309	0.0287	0.0331	0.0008	5.94%	-0.43%
12.5		5	0.0361	0.0202	0.0521	0.0307	0.0298	0.0591	0.0057	35.47%	-18.20%
25		5	0.0305	0.0291	0.0320	0.0312	0.0285	0.0313	0.0005	3.86%	0.14%
50		5	0.0365	0.0195	0.0535	0.0307	0.0292	0.0609	0.0061	37.55%	-19.22%
100		5	0.0307	0.0297	0.0318	0.0310	0.0296	0.0315	0.0004	2.68%	-0.51%
101		5	0.0309	0.0290	0.0329	0.0302	0.0298	0.0336	0.0007	5.20%	-1.19%

Proportion ~~Normal~~ SC curved Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0000	0.0000	0.0000	0.0000	0.0000
6.25		0.0000	0.0000	0.0000	0.0000	0.0000
12.5		0.0035	0.0000	0.0000	0.0000	0.0000
25		0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0037	0.0000
100		0.0000	0.0000	0.0000	0.0000	0.0000
101		0.0000	0.0000	0.0000	0.0000	0.0000

CETIS Analytical Report

Report Date:	30 Mar-21 14:52 (p 2 of 2)
Test Code:	21-02-014 | 09-2122-5670

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	10-0386-6015	**Endpoint:**	Proportion ~~Normal~~ curved	**CETIS Version:**	CETISv1.9.3
Analyzed:	30 Mar-21 14:51	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Angular (Corrected) Transformed Detail

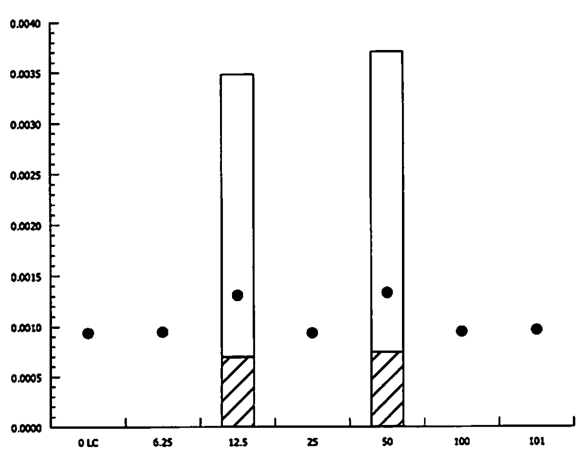
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.0314	0.0298	0.0307	0.0314	0.0295
6.25		0.0309	0.0317	0.0292	0.0287	0.0331
12.5		0.0591	0.0310	0.0307	0.0303	0.0298
25		0.0312	0.0313	0.0304	0.0313	0.0285
50		0.0299	0.0316	0.0307	0.0609	0.0292
100		0.0296	0.0310	0.0315	0.0314	0.0302
101		0.0312	0.0298	0.0336	0.0298	0.0302

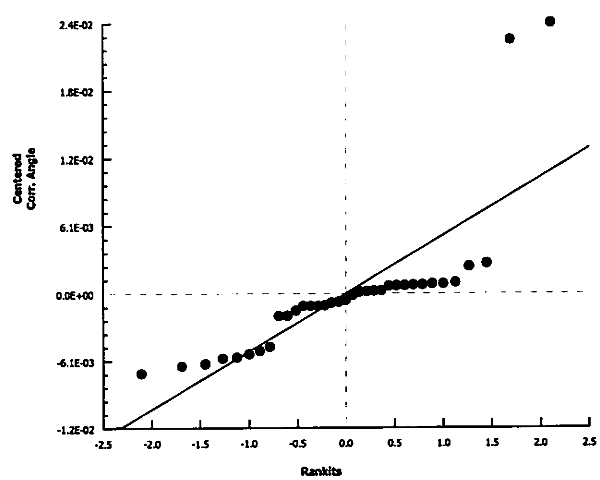
Proportion ~~Normal~~ curved Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0/253	0/282	0/265	0/253	0/287
6.25		0/262	0/249	0/294	0/304	0/228
12.5		1/287	0/261	0/266	0/273	0/282
25		0/257	0/255	0/271	0/256	0/307
50		0/280	0/250	0/266	1/270	0/293
100		0/285	0/261	0/252	0/253	0/275
101		0/257	0/281	0/221	0/281	0/274

Graphics

% curved





Embryo-Larval Development Test
Scoring Worksheet

Client: Wood/ SIYB
Project ID: SIYB REF1
Test No.: 21-02-014

Test Species: *M. galloprovincialis*
Start Date: 2/17/21 1605
End Date: 2/19/21 1545

Random #	# Counted	# Normal	Abnormal Number Curved Shell	Abnormal All Other Abnormal	Tech Initials / Notes
271	287	266	0	21	BI
272	249	227	0	22	BI
273	293	272	0	21	BI
274	264	242	0	22	BI
275	269	250	0	19	BI
276	273	245	0	28	BI
277	255	243	0	12	BI
278	221	205	0	16	BI
279	266	247	0	19	BI
280	287	260	1	26	BI
281	307	290	0	17	BI
282	294	274	0	20	BI
283	275	257	0	18	BI
284	253	233	0	20	BI
285	253	233	0	20	BI
286	274	249	0	25	BI
287	250	240	0	10	BI
288	270	249	1	20	BI
289	282	260	0	22	BI*
290	257	239	0	18	BI
291	266	248	0	18	BI
292	228	211	0	17	BI
293	261	240	0	21	BI
294	281	257	0	24	BI
295	280	255	0	25	BI
296	265	236	0	29	BI
297	252	226	0	26	BI
298	284	266	0	18	BI
299	282	259	0	23	BI
300	253	230	0	23	BI
301	304	272	0	32	BI
302	257	241	0	16	BI
303	262	245	0	17	BI
304	271	249	0	22	BI
305	261	238	0	23	BI
306	256	225	0	31	BI
307	285	262	0 BI	23	BI
308	264	243	~~0~~ BI 1	21	BI
309	281	255	0	26	BI
310	282	261	0	21	BI

QC Check: AG

Final Review: JC 3/26/21

CETIS Test Data Worksheet

Test Code/ID: 09-2122-5670/21-02-014

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date: 17 Feb-21 1605	**Species:** Mytilis galloprovincialis	**Sample Code:** ~~766AB793~~ 21-W059
End Date: 19 Feb-21 1545	**Protocol:** EPA/600/R-95/136 (1995)	**Sample Source:** Shelter Island Yacht Basin
Sample Date: 16 Feb-21 0815	**Material:** Seawater	**Sample Station:** SIYB REF1

Comments:
101 = 100%(1.2 micron filtered)

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	FC	1	298					
0	FC	2	275					
0	FC	3	299					
0	FC	4	274					
0	FC	5	308					
0	LC	1	284			253	230	AG
0	LC	2	310					
0	LC	3	296					
0	LC	4	285					
0	LC	5	271					
6.25		1	303					
6.25		2	272					
6.25		3	282					
6.25		4	301					
6.25		5	292					
12.5		1	280					
12.5		2	293					
12.5		3	291					
12.5		4	276					
12.5		5	289					
25		1	302					
25		2	277					
25		3	304					
25		4	306					
25		5	281					
50		1	295					
50		2	287					
50		3	279			254	235	AG
50		4	288					
50		5	273					
100		1	307			288	264	AG
100		2	305					

Analyst: AG QA: JL

CETIS Test Data Worksheet

Report Date: 16 Feb-21 17:51 (p 2 of 2)
Test Code/ID: 09-2122-5670/21-02-014

Conc-%	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
100		3	297					
100		4	300					
100		5	283					
101		1	290					
101		2	309					
101		3	278					
101		4	294					
101		5	286					

QC = lc

Water Quality for Bivalve Development

Client: Wood - Port of San Diego
Project ID: SIYB REF
Test No. 21-02-014 & 21-02-021

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (%)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.7	15.0	15.1
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.86	7.74	7.61
	DO (mg/L)	7.9	8.3	8.3
Filtered Control	Temp. (°C)	15.7	15.1	14.9
	Salinity (ppt)	34.1	34.2	34.3
	pH (units)	7.85	7.70	7.61
	DO (mg/L)	7.5	8.3	8.4
6.25	Temp. (°C)	15.6	15.1	14.9
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.85	7.70	7.62
	DO (mg/L)	7.7	8.3	8.3
12.5	Temp. (°C)	15.7	15.0	14.9
	Salinity (ppt)	34.0	34.2	34.2
	pH (units)	7.85	7.70	7.62
	DO (mg/L)	8.0	8.3	8.3
25	Temp. (°C)	15.7	15.1	14.9
	Salinity (ppt)	34.1	34.1	34.2
	pH (units)	7.86	7.69	7.63
	DO (mg/L)	8.1	8.3	8.3
50	Temp. (°C)	15.8	15.0	14.9
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.87	7.71	7.63
	DO (mg/L)	8.2	8.3	8.3
100	Temp. (°C)	15.5	15.0	14.9
	Salinity (ppt)	33.9	34.0	34.1
	pH (units)	7.89	7.73	7.64
	DO (mg/L)	8.5	8.4	8.3
100 Filtered (1.2µm)	Temp. (°C)	15.5	15.0	15.0
	Salinity (ppt)	33.9	34.1	34.1
	pH (units)	7.90	7.72	7.65
	DO (mg/L)	8.2	8.3	8.3
	Tech Initials:	AG	AG	KB

Source of Animals: Mission Bay

Date Received: 2/17/21

Comments:

QC: AG 3/15

Final QC: KC 3/26/21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis*
Batch ID: 2/17 collection
Test Type: Mussel Development

Test Date: 2/17/2021
Analyst: AG

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325 /1355/1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts # per 100 µL

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided
Stock 1	99
Stock 2	99
Stock 3	98

collected 2/17
collected 2/09

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density 1385 / 500

Dil Factor 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: QC_1 = 223/245

$T\emptyset_1$ = 271, $T\emptyset_2$ = 267 $T\emptyset_3$ = 255 $T\emptyset_4$ = 263 $T\emptyset_5$ = 256 $T\emptyset\ \bar{x}$ = 262

QA Review: AG 3/15/21

Final Review: JC 3/25/21

APPENDIX B

Acute Topsmelt Test

Raw Data & Statistical Analyses

Site: SIYB-1

CETIS Summary Report

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Batch ID:	11-8724-1525	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 16:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	21 Feb-21 15:30	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	95h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	01-6132-8562	**Code:**	21-W053	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 14:25	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	26h (4.5 °C)	**Station:**	SIYB 1		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
13-5764-4186	96h Survival Rate	TST-Welch's t Test	0.0061	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
04-9408-2668	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	17.3%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
25		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
50		6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	0.00%
100		6	0.8667	0.7583	0.9751	0.8000	1.0000	0.0422	0.1033	11.92%	3.70%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.8000	1.0000	0.8000	0.8000	1.0000	1.0000
25		1.0000	0.8000	0.8000	0.8000	1.0000	1.0000
50		0.6000	1.0000	0.8000	1.0000	1.0000	1.0000
100		1.0000	0.8000	0.8000	0.8000	1.0000	0.8000

Analyst: AG QA: JC 3/25/21

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	04-9408-2668	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 16:25	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	17.35%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	39	26	2	10	Asymp	0.7500	Non-Significant Effect
		50	40.5	26	2	10	Asymp	0.8290	Non-Significant Effect
		100	36	26	2	10	Asymp	0.5503	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0074635	0.0024878	3	0.1151	0.9502	Non-Significant Effect
Error	0.432265	0.0216132	20			
Total	0.439728		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.339	11.34	0.7200	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8064	0.884	3.8E-04	Non-Normal Distribution

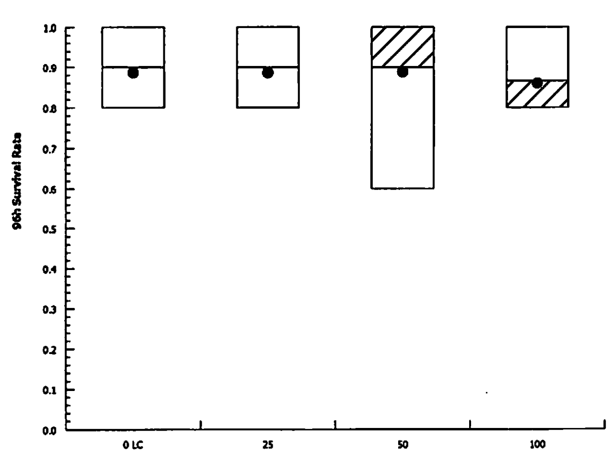
96h Survival Rate Summary

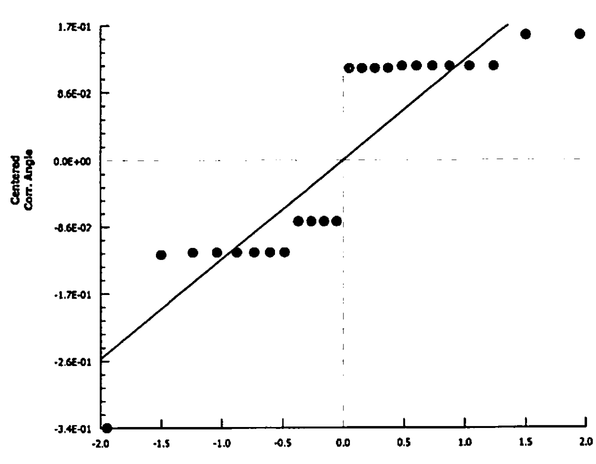
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
25		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
50		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	0.00%
100		6	0.8667	0.7583	0.9751	0.8000	0.8000	1.0000	0.0422	11.92%	3.70%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
25		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
50		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	-0.23%
100		6	1.187	1.057	1.316	1.107	1.107	1.345	0.0502	10.36%	3.24%

Graphics





Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	13-5764-4186	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 16:25	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	3.122	1.383	9	CDF	0.0061	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0047257	0.0047257	1	0.2941	0.5995	Non-Significant Effect
Error	0.160672	0.0160672	10			
Total	0.165398		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.125	14.94	0.9003	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7633	0.8025	0.0037	Non-Normal Distribution

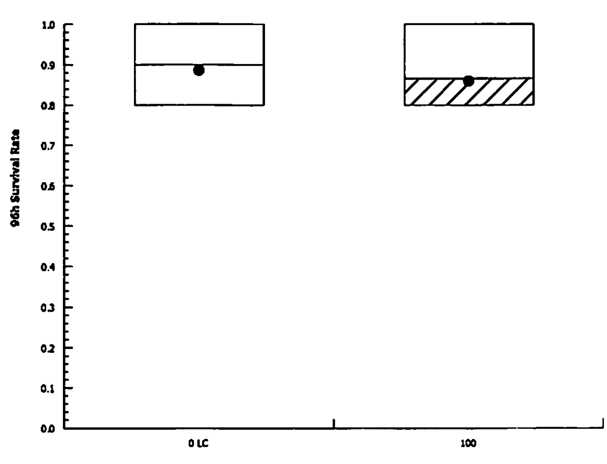
96h Survival Rate Summary

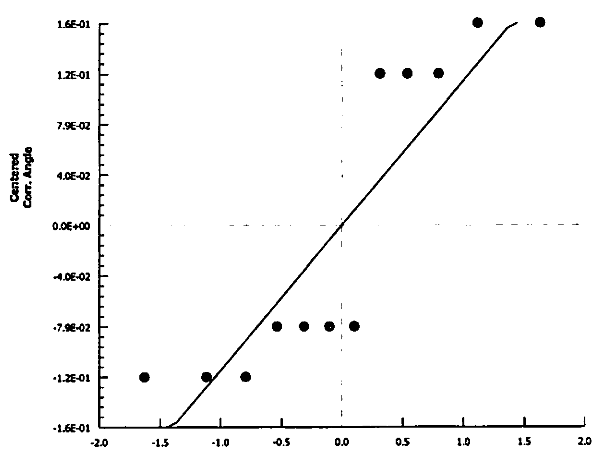
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
100		6	0.8667	0.7583	0.9751	0.8000	0.8000	1.0000	0.0422	11.92%	3.70%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
100		6	1.187	1.057	1.316	1.107	1.107	1.345	0.0502	10.36%	3.24%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-1
Test No. 21-02-001

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 2/17/21 1630
End Date/Time: 2/21/21 1530

Sample ID (%)	Rep	Counts 0	24	48	72	96	Water Quality Parameter	0	24	48f	48i	72	96
LC #1	A	5	5	5	5	4	Temp. (°C)	20.9	21.5	20.9	20.5	21.5	21.3
	B	5	5	5	5	5	Salinity (ppt)	34.4	34.3	34.4	33.8	33.9	34.0
	C	5	5	5	5	4	pH (units)	7.81	7.69	7.55	7.73	7.74	7.74
	D	5	5	5	5	4	DO (mg/L)	7.4	6.5	6.6	7.3	6.6	6.8 AD
	E	5	5	5	5	5							
	F	5	5	5	5	5							
25	A	5	5	5	5	5	Temp. (°C)	20.8	21.6	21.3	20.4	21.4	21.3
	B	5	5	4	4	4	Salinity (ppt)	34.5	34.4	34.3	33.9	34.2	34.0
	C	5	5	5	5	4	pH (units)	7.82	7.69	7.51	7.72	7.72	7.70
	D	5	5	4	~~5~~ 4 AG	4	DO (mg/L)	7.5	6.5	6.4	7.5	6.7	6.7
	E	5	5	5	5	5							
	F	5	5	5	5	5							
50	A	5	5	5	5	3	Temp. (°C)	20.7	21.4	21.5	20.3	21.3	21.3
	B	5	5	5	5	5	Salinity (ppt)	34.5	34.3	34.2	33.9	34.2	34.0
	C	5	5	5	5	4	pH (units)	7.82	7.70	7.53	7.66	7.72	7.70
	D	5	5	5	5	5	DO (mg/L)	7.5	6.7	6.7	7.6	6.8	6.8
	E	5	5	5	5	5							
	F	5	5	5	5	5							
100	A	5	5	5	5	5	Temp. (°C)	20.6	21.4	21.6	20.1	21.2	21.3
	B	5	5	5	5	4	Salinity (ppt)	34.4	34.2	34.2	33.8	34.2	34.0
	C	5	5	5	5	4	pH (units)	7.82	7.70	7.54	7.58	7.72	7.70
	D	5	5	5	5	4	DO (mg/L)	7.6	6.7	6.4	7.9	6.8	6.7
	E	5	5	5	5	5							
	F	5	5	5	5	4							
	A						Temp. (°C)						
	B						Salinity (ppt)						
	C						pH (units)						
	D						DO (mg/L)						
	E												
	F												
	Tech Initials:	SC	SC	AG	AG	SL	Tech Initials:	SL	AG	JW	JW	AG	AD

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	JW	AG	AD
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: SC 3/25/21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

Site: SIYB-2

CETIS Summary Report

Test Code: 21-02-002 | 04-5541-5888

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	16-0768-0932	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 16:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	21 Feb-21 15:30	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	95h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	15-0362-9679	**Code:**	21-W054	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 13:30	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	27h (4 °C)	**Station:**	SIYB 2		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
02-2695-3741	96h Survival Rate	TST-Welch's t Test	0.0029	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
13-6624-7704	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	17.2%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
25		6	0.8667	0.7583	0.9751	0.8000	1.0000	0.0422	0.1033	11.92%	3.70%
50		6	0.8667	0.6953	1.0000	0.6000	1.0000	0.0667	0.1633	18.84%	3.70%
100		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.8000	1.0000	0.8000	0.8000	1.0000	1.0000
25		0.8000	0.8000	1.0000	0.8000	1.0000	0.8000
50		0.6000	1.0000	1.0000	1.0000	0.8000	0.8000
100		0.8000	1.0000	1.0000	0.8000	1.0000	0.8000

Analyst: AG QA: SC 3/25/21

CETIS Analytical Report

Report Date: 24 Mar-21 16:56 (p 1 of 2)
Test Code: 21-02-002 | 04-5541-5888

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	13-6624-7704	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 16:50	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	17.18%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	36	26	2	10	Asymp	0.5503	Non-Significant Effect
		50	37.5	26	2	10	Asymp	0.6554	Non-Significant Effect
		100	39	26	2	10	Asymp	0.7500	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0088105	0.0029368	3	0.1385	0.9358	Non-Significant Effect
Error	0.424168	0.0212084	20			
Total	0.432979		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.194	11.34	0.7544	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8224	0.884	7.0E-04	Non-Normal Distribution

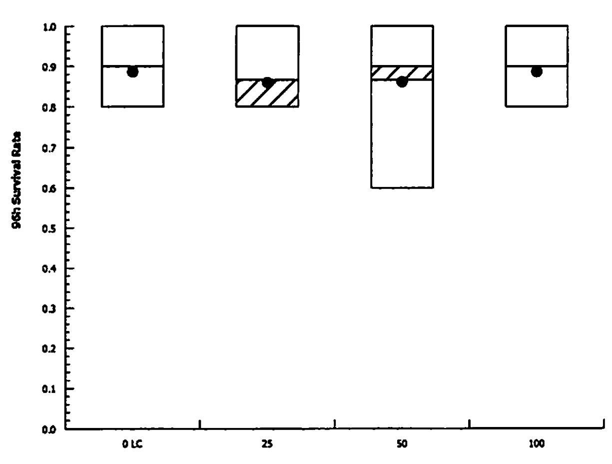
96h Survival Rate Summary

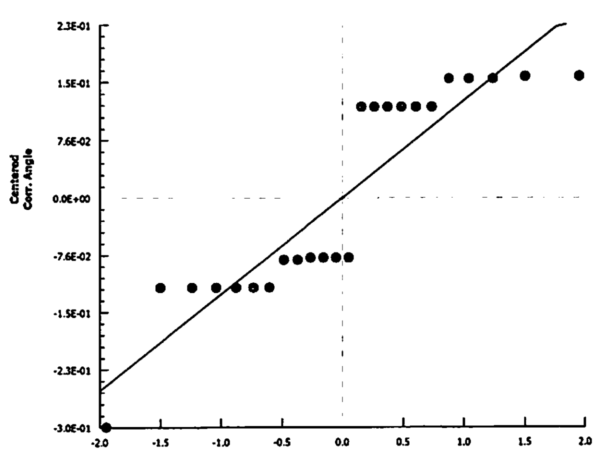
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
25		6	0.8667	0.7583	0.9751	0.8000	0.8000	1.0000	0.0422	11.92%	3.70%
50		6	0.8667	0.6953	1.0000	0.9000	0.6000	1.0000	0.0667	18.84%	3.70%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
25		6	1.187	1.057	1.316	1.107	1.107	1.345	0.0502	10.36%	3.24%
50		6	1.189	0.9911	1.388	1.226	0.8861	1.345	0.07712	15.88%	3.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%

Graphics





Analyst: QA:

Pacific Topsmelt 96-h Acute Survival Test					Wood E&IS
Analysis ID: 02-2695-3741	**Endpoint:**	96h Survival Rate		**CETIS Version:**	CETISv1.9.3
Analyzed: 24 Mar-21 16:50	**Analysis:**	Parametric Bioequivalence-Two Sample		**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	3.596	1.383	9	CDF	0.0029	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.170124	0.0170124	10			
Total	0.170124		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	14.94	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6498	0.8025	2.9E-04	Non-Normal Distribution

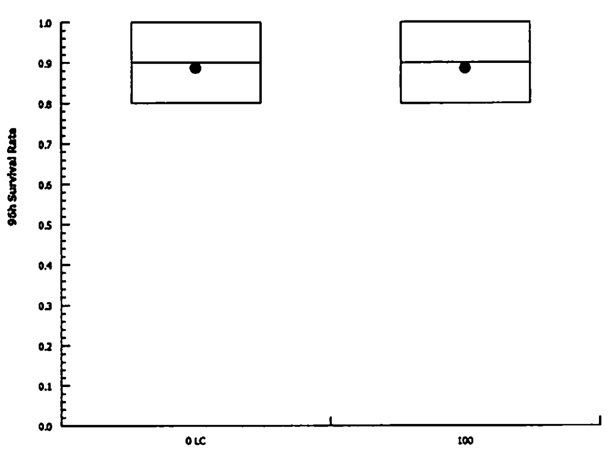
96h Survival Rate Summary

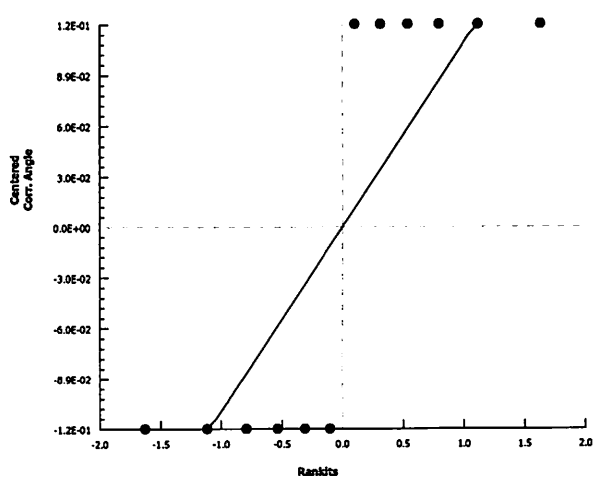
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-2
Test No. 21-02-002

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 2/17/21 1630
End Date/Time: 2/21/21 1530

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #1	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	4
	D	5	5	5	5	4
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	5	4
	B	5	5	5	5	4
	C	5	5	5	5	5
	D	5	5	5	5	4
	E	5	5	5	5	5
	F	5	5	5	5	4
50	A	5	5	4	4	3
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	4
	F	5	5	5	5	4
100	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	4	4	4
	E	5	5	5	5	5
	F	5	5	5	5	4
	A					
	B					
	C					
	D					
	E					
	F					
Tech Initials:		SC	SC	AG	AG	SC

Sample ID (%)	Water Quality Parameter	0	24	48f	48i	72	96
LC #1	Temp. (°C)	20.9	21.~~4~~5	20.9	20.5	21.5	21.3
	Salinity (ppt)	34.4	34.~~0~~3	34.4	33.8	~~34.1~~ 33.9	34.0
	pH (units)	7.81	~~7.71~~ 7.69	7.55	7.73	7.74	7.74
	DO (mg/L)	7.4	6.5	6.6	7.3	6.6	6.6
25	Temp. (°C)	20.7	21.4	~~20.~~ 21.1	20.2	21.1	21.0
	Salinity (ppt)	34.2	34.0	34.1	33.9	34.1	33.9
	pH (units)	7.81	7.71	7.54	7.71	7.71	7.70
	DO (mg/L)	7.5	6.5	6.9	7.6	6.8	6.9
50	Temp. (°C)	20.7	21.5	21.4	20.2	21.1	21.0
	Salinity (ppt)	34.3	34.2	34.4	34.0	34.2	34.0
	pH (units)	7.82	7.51	7.52	7.66	7.71	7.70
	DO (mg/L)	7.6	6.5	6.9	7.6	6.8	6.7
100	Temp. (°C)	20.6	21.6	21.7	20.1	21.1	21.1
	Salinity (ppt)	34.3	34.1	34.4	33.8	34.3	34.1
	pH (units)	7.81	7.72	7.54	7.63	7.72	7.71
	DO (mg/L)	7.7	6.6	6.8	8.0	6.9	6.0
	Temp. (°C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
	Tech Initials:	SC	AG	JW	JW	AG	AN

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	JW	AG	AN
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: SC 3/25/21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

Site: SIYB-3

CETIS Summary Report

Report Date: 24 Mar-21 17:18 (p 1 of 1)
Test Code: 21-02-003 | 12-6275-6389

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	00-8929-1447	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 17:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	21 Feb-21 16:00	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	95h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	05-1996-5708	**Code:**	21-W055	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 12:30	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	28h (3 °C)	**Station:**	SIYB 3		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
17-5762-0754	96h Survival Rate	TST-Welch's t Test	0.0189	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
17-7132-8236	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	18.5%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	0.00%
25		6	0.9667	0.8810	1.0000	0.8000	1.0000	0.0333	0.0817	8.45%	-7.41%
50		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
100		6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.6000	1.0000	0.8000	1.0000	1.0000	1.0000
25		1.0000	0.8000	1.0000	1.0000	1.0000	1.0000
50		0.8000	0.8000	1.0000	0.8000	1.0000	1.0000
100		1.0000	0.8000	1.0000	1.0000	1.0000	0.6000

Analyst: AG QA: SC 3/25/21

CETIS Analytical Report

Report Date:	24 Mar-21 17:00 (p 1 of 2)
Test Code:	21-02-003 | 12-6275-6389

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Analysis ID:	17-7132-8236	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:00	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	18.55%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	42.5	26	2	10	Asymp	0.9064	Non-Significant Effect
		50	37.5	26	2	10	Asymp	0.6554	Non-Significant Effect
		100	39	26	3	10	Asymp	0.7500	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0270481	0.0090160	3	0.3568	0.7848	Non-Significant Effect
Error	0.50538	0.025269	20			
Total	0.532428		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.769	11.34	0.4287	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7783	0.884	1.3E-04	Non-Normal Distribution

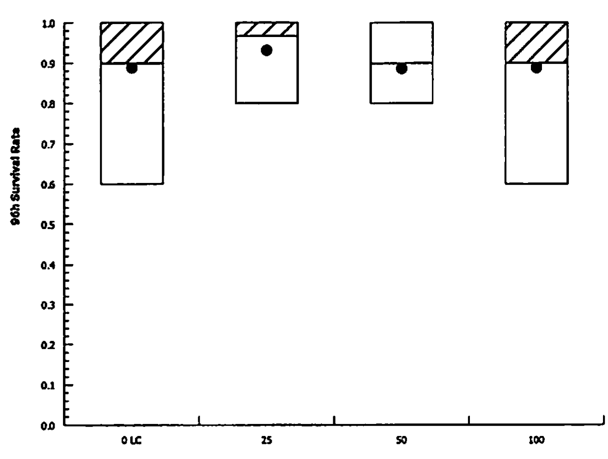
96h Survival Rate Summary

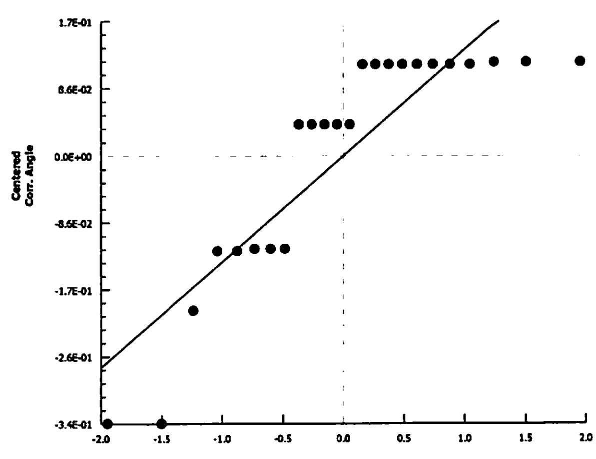
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	0.00%
25		6	0.9667	0.8810	1.0000	1.0000	0.8000	1.0000	0.0333	8.45%	-7.41%
50		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
100		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	0.00%
25		6	1.306	1.204	1.408	1.345	1.107	1.345	0.03969	7.45%	-6.23%
50		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.23%
100		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	0.00%

Graphics





Analyst: ______ QA: ______

Pacific Topsmelt 96-h Acute Survival Test					Wood E&IS
Analysis ID: 17-5762-0754		**Endpoint:** 96h Survival Rate		**CETIS Version:** CETISv1.9.3	
Analyzed: 24 Mar-21 17:00		**Analysis:** Parametric Bioequivalence-Two Sample		**Official Results:** Yes	

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control	100*	2.434	1.383	9	CDF	0.0189	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.373061	0.0373061	10			
Total	0.373061		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	14.94	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6642	0.8025	3.9E-04	Non-Normal Distribution

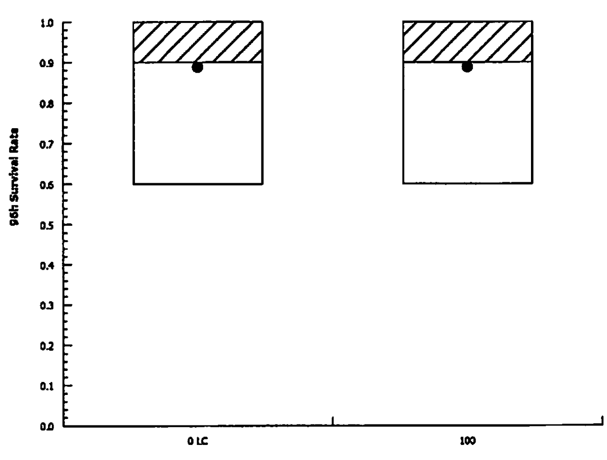
96h Survival Rate Summary

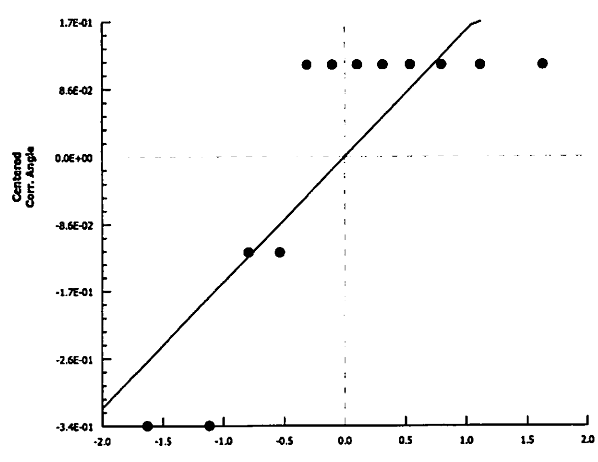
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	0.00%
100		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	0.00%
100		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	0.00%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-3
Test No. 21-02-003

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 2/17/21 1700
End Date/Time: 2/21/21 1600

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #2	A	5	5	5	5	3
	B	5	5	5	5	5
	C	5	5	5	5	4
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	5	5
	B	5	5	5	5	4
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	5
50	A	5	5	5	5	4
	B	5	5	4	4	4
	C	5	5	5	5	5
	D	5	5	4	4	4
	E	5	5	5	5	5
	F	5	5	5	5	5
100	A	5	5	5	5	5
	B	5	5	5	5	4
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	5
	F	5	5	5	5	3
	A					
	B					
	C					
	D					
	E					
	F					
Tech Initials:		SC	SC	AG	AG	SC

Sample ID (%)	Water Quality Parameter	0	24	48f	48i	72	96
LC #2	Temp. (°C)	20.8	21.0	21.0	20.2	20.9	21.0
	Salinity (ppt)	34.4	34.4	34.6	34.1	34.6	34.3
	pH (units)	7.82	7.72	7.55	7.72	7.72	7.70
	DO (mg/L)	7.4	6.8	6.7	7.4	7.1	7.0
25	Temp. (°C)	20.7	21.5	21.3	20.1	21.0	21.1
	Salinity (ppt)	34.3	34.1	34.2	34.0	34.3	34.3
	pH (units)	7.82	7.72	7.56	7.70	7.72	7.72
	DO (mg/L)	7.5	6.5	6.7	7.5	6.9	6.9
50	Temp. (°C)	20.5	21.7	21.4	20.0	20.9	21.2
	Salinity (ppt)	34.2	34.1	34.4	33.9	34.5	34.1
	pH (units)	7.82	~~7.83~~ AG 7.73	7.57	7.64	7.72	7.70
	DO (mg/L)	7.5	6.5	6.7	7.7	7.0	~~7.0~~ AO 6.9
100	Temp. (°C)	20.4	21.7	21.5	20.0	21.0	21.1
	Salinity (ppt)	34.2	34.1	34.2	33.8	34.2	34.1
	pH (units)	7.82	7.73	7.58	7.65	7.73	7.70
	DO (mg/L)	7.7	6.8	6.9	7.9	6.9	6.9
	Temp. (°C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
	Tech Initials:	SC	AG	JW	JW	AG	AO

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	JW	AG	AO
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: SC 3/25/21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

Site: SIYB-4

CETIS Summary Report

Report Date: 24 Mar-21 17:19 (p 1 of 1)
Test Code: 21-02-004 | 18-2243-5743

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	21-1175-4057	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 17:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	21 Feb-21 16:00	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	95h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	17-4759-2712	**Code:**	21-W056	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 11:30	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	30h (4 °C)	**Station:**	SIYB 4		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
01-5082-5680	96h Survival Rate	TST-Welch's t Test	0.0541	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
02-4146-1176	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	20.9%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	0.00%
25		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
50		6	0.8667	0.7583	0.9751	0.8000	1.0000	0.0422	0.1033	11.92%	3.70%
100		6	0.8667	0.6499	1.0000	0.6000	1.0000	0.0843	0.2066	23.83%	3.70%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.6000	1.0000	0.8000	1.0000	1.0000	1.0000
25		1.0000	1.0000	0.8000	0.8000	1.0000	0.8000
50		0.8000	0.8000	0.8000	1.0000	1.0000	0.8000
100		0.6000	1.0000	1.0000	1.0000	0.6000	1.0000

Analyst: AG QA: SC 3/25/21

CETIS Analytical Report

Report Date: 24 Mar-21 17:05 (p 1 of 2)
Test Code: 21-02-004 | 18-2243-5743

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	02-4146-1176	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:04	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	20.85%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	37.5	26	2	10	Asymp	0.6554	Non-Significant Effect
		50	35	26	2	10	Asymp	0.4779	Non-Significant Effect
		100	38	26	2	10	Asymp	0.6884	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0089076	0.0029692	3	0.09451	0.9622	Non-Significant Effect
Error	0.628363	0.0314182	20			
Total	0.637271		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	2.727	11.34	0.4357	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8199	0.884	6.4E-04	Non-Normal Distribution

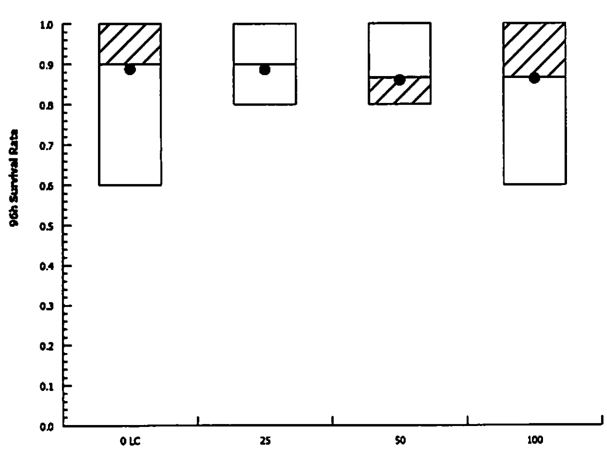
96h Survival Rate Summary

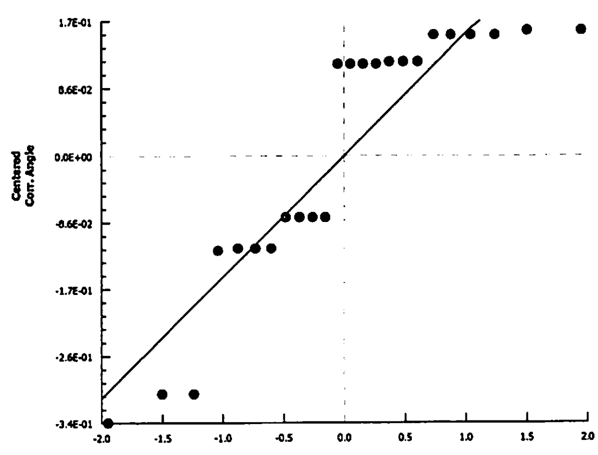
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	0.00%
25		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
50		6	0.8667	0.7583	0.9751	0.8000	0.8000	1.0000	0.0422	11.92%	3.70%
100		6	0.8667	0.6499	1.0000	1.0000	0.6000	1.0000	0.0843	23.83%	3.70%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	0.00%
25		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.23%
50		6	1.187	1.057	1.316	1.107	1.107	1.345	0.0502	10.36%	3.46%
100		6	1.192	0.9434	1.441	1.345	0.8861	1.345	0.09681	19.89%	3.00%

Graphics





Analyst: DO QA: [signature]

CETIS Analytical Report

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	01-5082-5680	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:05	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	1.808	1.397	8	CDF	0.0541	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0040727	0.0040727	1	0.08708	0.7740	Non-Significant Effect
Error	0.467691	0.0467691	10			
Total	0.471763		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.507	14.94	0.6635	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7086	0.8025	0.0010	Non-Normal Distribution

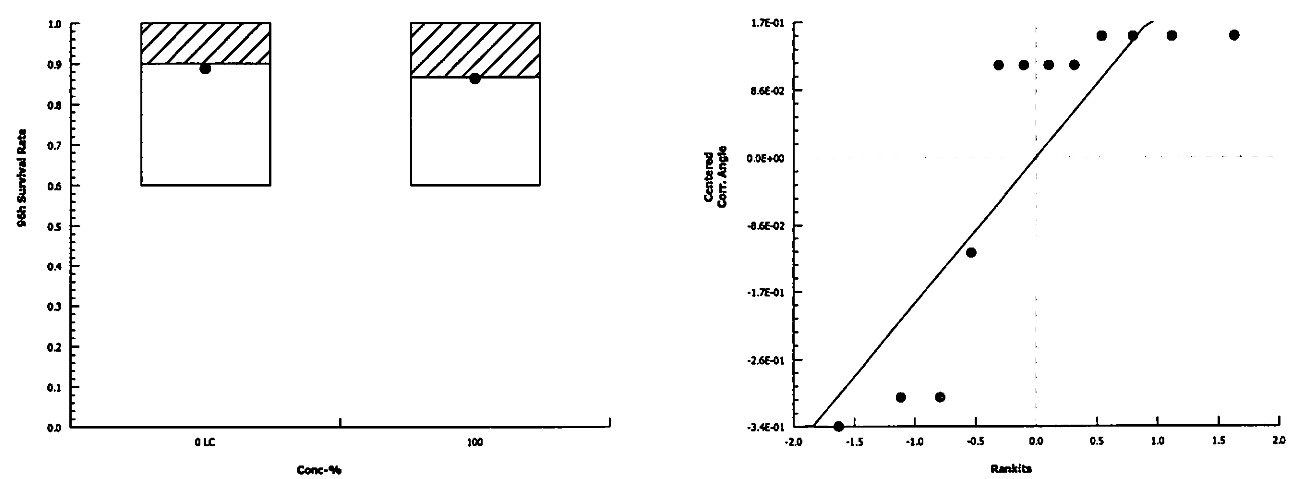
96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	0.00%
100		6	0.8667	0.6499	1.0000	1.0000	0.6000	1.0000	0.0843	23.83%	3.70%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	0.00%
100		6	1.192	0.9434	1.441	1.345	0.8861	1.345	0.09681	19.89%	3.00%

Graphics



Analyst: [signature] QA: [signature]

96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-4
Test No. 21-02-004

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 2/17/21 1700
End Date/Time: 2/21/21 1600

Sample ID (%)	Rep	Counts 0	24	48	72	96	Water Quality Parameter	0	24	48f	48i	72	96
LC #2	A	5	5	5	5	3	Temp. (°C)	20.8	21.0	21.0	20.2	20.9	21.0
	B	5	5	5	5	5	Salinity (ppt)	34.4	34.4	34.6	34.1	34.6	34.2
	C	5	5	5	5	4	pH (units)	7.82	7.72	7.55	7.72	7.72	7.70
	D	5	5	5	5	5	DO (mg/L)	7.4	6.8	6.7	7.4	7.1	7.0
	E	5	5	5	5	5							
	F	5	5	5	5	5							
25	A	5	5	5	5	5	Temp. (°C)	20.7	21.5	21.2	20.1	21.0	21.1
	B	5	5	5	5	5	Salinity (ppt)	34.2	34.2	34.5	34.0	34.2	34.0
	C	5	5	5	5	4	pH (units)	7.81	7.72	7.57	7.66	7.73	7.71
	D	5	5	5	5	4	DO (mg/L)	7.5	6.6	6.9	7.5	6.9	6.9
	E	5	5	5	5	5							
	F	5	5	5	5	4							
50	A	5	5	5	5	4	Temp. (°C)	20.7	21.5	21.4	20.0	21.0	21.2
	B	5	5	4	4	4	Salinity (ppt)	34.1	34.1	34.3	33.9	34.2	34.0
	C	5	5	5	5	4	pH (units)	7.81	7.72	7.58	7.65	7.73	7.74
	D	5	5	5	5	5	DO (mg/L)	7.5	6.6	6.6	7.7	6.9	6.9
	E	5	5	5	5	5							
	F	5	5	5	5	4							
100	A	5	5	5	5	3	Temp. (°C)	20.6	21.6	21.6	20.0	21.0	21.2
	B	5	5	5	5	5	Salinity (ppt)	34.2	34.1	34.3	33.9	34.2	34.1
	C	5	5	5	5	5	pH (units)	7.81	7.70	7.59	7.65	7.72	7.70
	D	5	5	5	5	5	DO (mg/L)	7.7	6.6	6.7	8.0	6.9	6.9
	E	5	5	5	5	3							
	F	5	5	5	5	5							
	A						Temp. (°C)						
	B						Salinity (ppt)						
	C						pH (units)						
	D						DO (mg/L)						
	E												
	F												
	Tech Initials:	SC	SC	AG	AO	82	Tech Initials:	SC	AG	JW	JW	AG	AO

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	JW	AG	AO
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: JC 3/25/21

Site: SIYB-5

CETIS Summary Report

Report Date: 24 Mar-21 17:21 (p 1 of 1)
Test Code: 21-02-005 | 09-5405-8720

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	12-9133-4075	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 17:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	21 Feb-21 16:30	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	95h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	08-1567-9637	**Code:**	21-W057	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 09:15	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	32h (4 °C)	**Station:**	SIYB 5		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
07-9385-6844	96h Survival Rate	TST-Welch's t Test	0.0029	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
18-1180-6927	96h Survival Rate	Dunnett Multiple Comparison Test	100	> 100	n/a	1	18.7%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
25		6	0.8333	0.6753	0.9913	0.6000	1.0000	0.0615	0.1506	18.07%	7.41%
50		6	0.8667	0.6953	1.0000	0.6000	1.0000	0.0667	0.1633	18.84%	3.70%
100		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.8000	1.0000	1.0000	1.0000	0.8000	0.8000
25		1.0000	1.0000	0.8000	0.8000	0.8000	0.6000
50		1.0000	0.8000	1.0000	0.6000	0.8000	1.0000
100		1.0000	0.8000	1.0000	1.0000	0.8000	0.8000

Analyst: AO QA: SC 3/25/21

Report Date:	24 Mar-21 17:08 (p 1 of 2)
Test Code:	21-02-005 | 09-5405-8720

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	18-1180-6927	Endpoint:	96h Survival Rate	CETIS Version:	CETISv1.9.3
Analyzed:	24 Mar-21 17:08	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	18.72%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	0.8384	2.192	0.200	10	CDF	0.3958	Non-Significant Effect
		50	0.4036	2.192	0.200	10	CDF	0.5866	Non-Significant Effect
		100	0	2.192	0.200	10	CDF	0.7500	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.024008	0.0080027	3	0.3201	0.8107	Non-Significant Effect
Error	0.499992	0.0249996	20			
Total	0.524		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.025	11.34	0.7952	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8885	0.884	0.0124	Normal Distribution

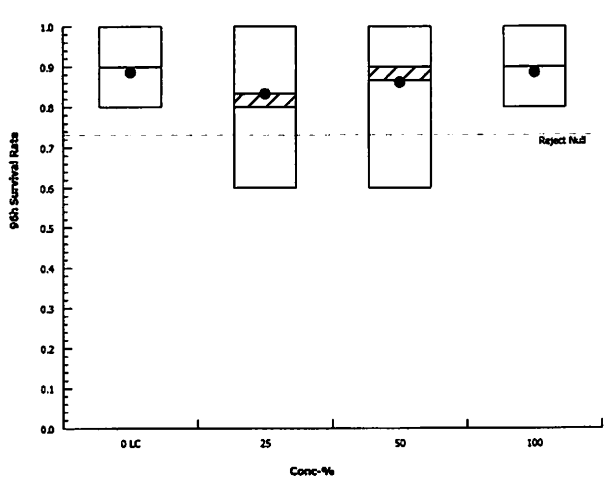
96h Survival Rate Summary

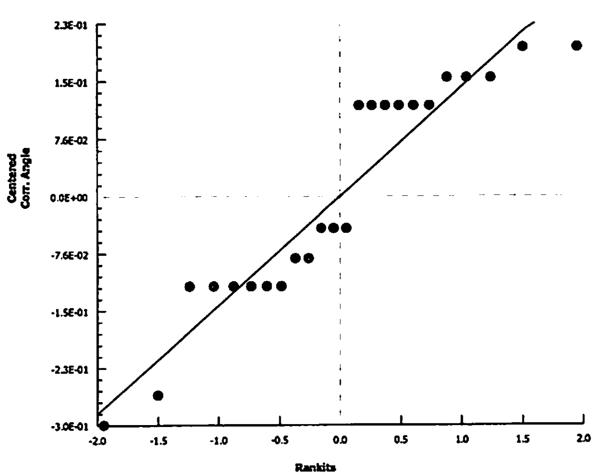
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
25		6	0.8333	0.6753	0.9913	0.8000	0.6000	1.0000	0.0615	18.07%	7.41%
50		6	0.8667	0.6953	1.0000	0.9000	0.6000	1.0000	0.0667	18.84%	3.70%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
25		6	1.15	0.967	1.332	1.107	0.8861	1.345	0.07105	15.14%	6.24%
50		6	1.189	0.9911	1.388	1.226	0.8861	1.345	0.07712	15.88%	3.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%

Graphics





Analyst: AG QA: SL

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	07-9385-6844	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:08	**Analysis:**	Parametric Bioequivalence-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	3.596	1.383	9	CDF	0.0029	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.170124	0.0170124	10			
Total	0.170124		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	14.94	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6498	0.8025	2.9E-04	Non-Normal Distribution

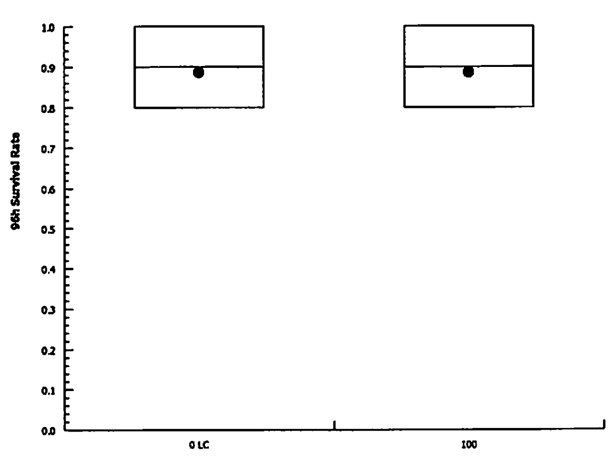
96h Survival Rate Summary

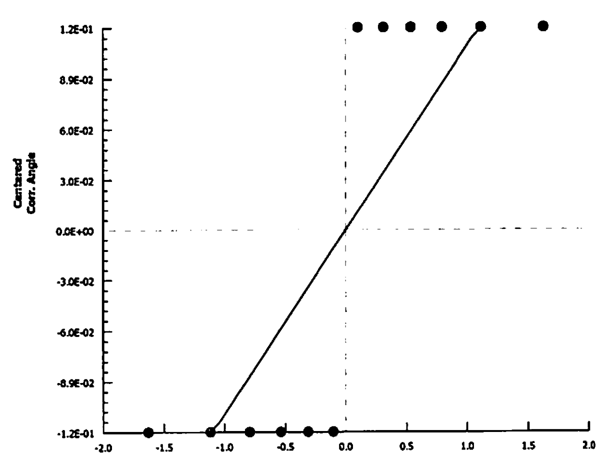
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
100		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
100		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-5
Test No. 21-02-005

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 2/17/21 1730
End Date/Time: 2/21/21 1630

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #3	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	4
	F	5	5	5	5	4
25	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	4
	D	5	5	5	5	4
	E	5	5	4	4	4
	F	5	5	4	4	3
50	A	5	5	5	5	5
	B	5	5	5	5	4
	C	5	5	5	5	5
	D	5	5	5	5	3
	E	5	5	5	5	4
	F	5	5	5	5	5
100	A	5	5	5	5	5
	B	5	5	5	5	4
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	4	4	4
	F	5	5	5	5	4
	A					
	B					
	C					
	D					
	E					
	F					
Tech Initials:		SC	SC	AG	AO	SC

Sample ID (%)	Parameter	Water Quality 0	24	48f	48i	72	96
LC #3	Temp. (°C)	20.8	21.2	21.4	20.4	20.8	21.8
	Salinity (ppt)	34.4	34.2	34.4	34.0	34.3	34.2
	pH (units)	7.82	7.70	7.58	7.71	7.73	7.70
	DO (mg/L)	7.4	6.7	6.8	7.6	7.0	6.9
25	Temp. (°C)	20.7	21.3	21.4	20.2	20.9	21.1
	Salinity (ppt)	34.2	34.0	34.1	33.9	34.1	34.0
	pH (units)	7.83	7.75	7.59	7.70	7.73	7.70
	DO (mg/L)	7.5	6.6	6.8	7.5	6.9	6.9
50	Temp. (°C)	20.5	21.4	21.4	20.0	20.9	21.2
	Salinity (ppt)	34.4	34.0	34.2	33.9	34.1	~~34.~~ AO 33.9
	pH (units)	7.83	7.74	7.59	7.67	7.73	7.71
	DO (mg/L)	7.6	6.6	6.8	7.7	6.9	6.90
100	Temp. (°C)	20.3	21.3	21.4	~~14.8~~ JW 20.0	20.8	21.0
	Salinity (ppt)	34.3	34.0	34.1	33.9	34.1	34.0
	pH (units)	7.83	7.75	7.60	7.68	7.73	7.70
	DO (mg/L)	7.8	6.7	6.9	~~33.9~~ JW 8.2	6.9	6.7
	Temp. (°C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
Tech Initials:		SC	AG	JW	JW	AG	AO

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	JW	AG	AO
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: SC 3/25/21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

Site: SIYB-6

CETIS Summary Report

Report Date: 24 Mar-21 17:22 (p 1 of 1)
Test Code: 21-02-006 | 20-8071-0624

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Batch ID:	13-5927-3611	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 17:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	21 Feb-21 16:30	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	95h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	08-8843-9625	**Code:**	21-W058	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 09:15	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	32h (3 °C)	**Station:**	SIYB 6		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
17-4202-0971	96h Survival Rate	TST-Welch's t Test	9.6E-04	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
06-5016-3566	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	14.9%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
25		6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	-3.70%
50		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	0.00%
100		6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	-3.70%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.8000	1.0000	1.0000	1.0000	0.8000	0.8000
25		1.0000	0.8000	0.8000	1.0000	1.0000	1.0000
50		1.0000	1.0000	0.8000	1.0000	0.8000	0.8000
100		1.0000	1.0000	0.8000	1.0000	0.8000	1.0000

 Analyst: RG QA: SC 3/25/21

CETIS Analytical Report

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	06-5016-3566	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:12	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	14.90%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	42	26	2	10	Asymp	0.8900	Non-Significant Effect
		50	39	26	2	10	Asymp	0.7500	Non-Significant Effect
		100	42	26	2	10	Asymp	0.8900	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0094513	0.0031504	3	0.1961	0.8978	Non-Significant Effect
Error	0.321345	0.0160672	20			
Total	0.330796		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.032	11.34	0.9985	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7503	0.884	5.0E-05	Non-Normal Distribution

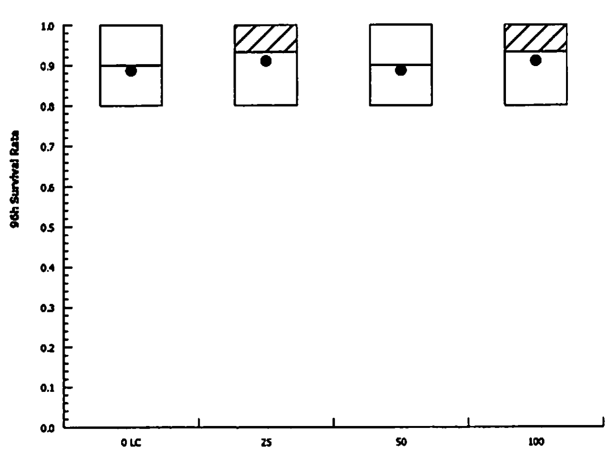
96h Survival Rate Summary

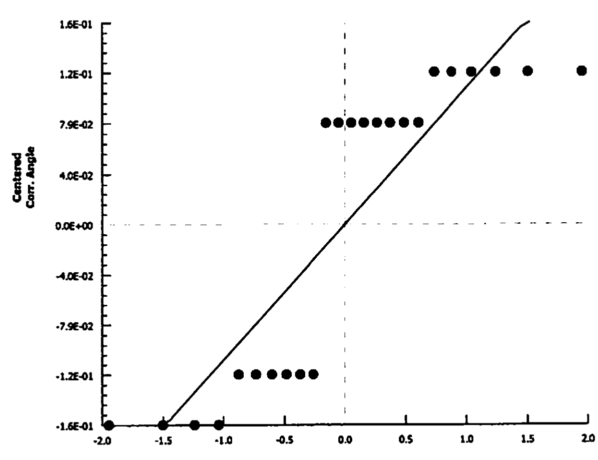
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
25		6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	-3.70%
50		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
100		6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	-3.70%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
25		6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	-3.24%
50		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
100		6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	-3.24%

Graphics





Pacific Topsmelt 96-h Acute Survival Test			Wood E&IS
Analysis ID: 17-4202-0971	**Endpoint:** 96h Survival Rate		**CETIS Version:** CETISv1.9.3
Analyzed: 24 Mar-21 17:13	**Analysis:** Parametric Bioequivalence-Two Sample		**Official Results:** Yes

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	4.328	1.383	9	CDF	9.6E-04	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0047257	0.0047257	1	0.2941	0.5995	Non-Significant Effect
Error	0.160672	0.0160672	10			
Total	0.165398		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.125	14.94	0.9003	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7633	0.8025	0.0037	Non-Normal Distribution

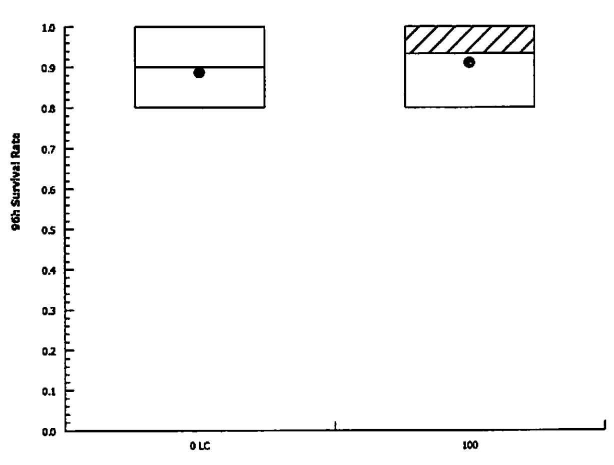
96h Survival Rate Summary

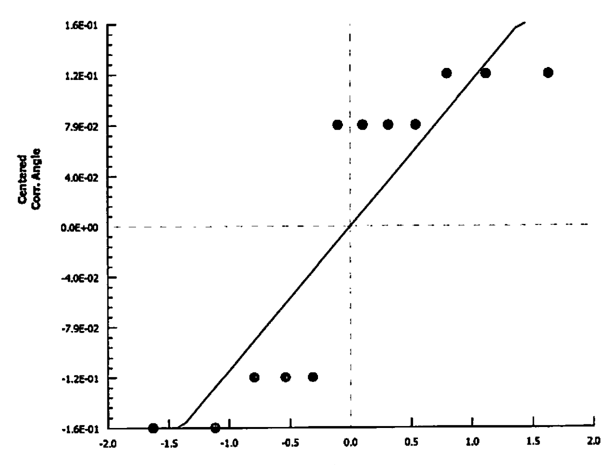
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	0.00%
100		6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	-3.70%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	0.00%
100		6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	-3.24%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-6
Test No. 21-02-006

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 2/17/21 1730
End Date/Time: 2/21/21 1630

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #3	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	5
	E	5	5	5	5	4
	F	5	5	5	5	4
25	A	5	5	5	5	5
	B	5	5	5	5	4
	C	5	5	5	5	4
	D	5	5	5	5	5
	E	5	5	~~4~~ 5 AG	5	5
	F	5	5	~~4~~ 5 AG	5	5
50	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	4
	D	5	5	5	5	5
	E	5	5	5	5	4
	F	5	5	5	5	4
100	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	4
	D	5	5	5	5	5
	E	5	5	4	4	4
	F	5	5	5	5	5
	A					
	B					
	C					
	D					
	E					
	F					
Tech Initials:		SC	SC	AG	AG	SC

Sample	Water Quality Parameter	0	24	48f	48i	72	96
LC #3	Temp. (°C)	20.8	21.2	~~21.0~~ 21.4 JW	~~20.0~~ 20.4	20.8	~~20.8~~ 21.0 AD
	Salinity (ppt)	34.4	34.2	34.4	~~33.8~~ 34.0	34.3	34.2
	pH (units)	7.82	7.70	7.58	~~7.70~~ 7.71	7.73	7.70 AD
	DO (mg/L)	7.4	6.7	6.8	7.6 JW	7.0	6.9
25	Temp. (°C)	20.8	20.9	21.2	20.0	20.8	~~20.7~~ 21.7 AD
	Salinity (ppt)	34.5	34.0	34.0	33.8	34.0	33.9
	pH (units)	7.82	7.75	7.58	7.70	7.74	7.70
	DO (mg/L)	7.5	6.9	6.8	7.6	7.0	6.9
50	Temp. (°C)	20.6	21.1	21.2	20.0	20.8	~~20.9~~ 21.0
	Salinity (ppt)	34.3	33.9	34.0	33.7	33.9	33.9
	pH (units)	7.82	~~7.84~~ 7.74	7.58	7.70	7.73	7.70
	DO (mg/L)	7.6	6.5	6.7	7.7	6.9	6.7 AD
100	Temp. (°C)	20.4	21.1	21.3	20.0	20.7	~~20.~~ 21.5 AD
	Salinity (ppt)	34.3	33.9	34.1	33.6	34.0	33.9
	pH (units)	7.82	7.73	7.59	7.71	7.73	7.70
	DO (mg/L)	7.8	6.6	6.6	7.8	6.9	6.9
	Temp. (°C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
Tech Initials:		SC	AG	JW	JW	AG	AD

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	JW	AG	AD
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: SC 3/25/21

Site: SIYB-REF

CETIS Summary Report

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Batch ID:	19-5392-7736	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 17:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Natural Seawater
Ending Date:	21 Feb-21 16:30	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	95h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	00-6971-6299	**Code:**	21-W059	**Client:**	Wood Environment and Infrastructure
Sample Date:	16 Feb-21 08:15	**Material:**	Ambient Sample	**Project:**	SIYB TMDL Monitoring
Receipt Date:	16 Feb-21 17:10	**Source:**	Shelter Island Yacht Basin		
Sample Age:	33h (4 °C)	**Station:**	SIYB REF		

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
15-8132-2125	96h Survival Rate	TST-Welch's t Test	0.0222	100% passed 96h survival rate

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
11-2293-7542	96h Survival Rate	Steel Many-One Rank Sum Test	100	> 100	n/a	1	16.5%

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	0.8000	1.0000	0.0422	0.1033	11.07%	0.00%
25		6	0.8667	0.7583	0.9751	0.8000	1.0000	0.0422	0.1033	11.92%	7.14%
50		6	0.9000	0.7850	1.0000	0.8000	1.0000	0.0447	0.1095	12.17%	3.57%
100		6	0.9000	0.7244	1.0000	0.6000	1.0000	0.0683	0.1673	18.59%	3.57%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6
0	LC	0.8000	1.0000	1.0000	0.8000	1.0000	1.0000
25		0.8000	1.0000	0.8000	1.0000	0.8000	0.8000
50		0.8000	1.0000	1.0000	0.8000	1.0000	0.8000
100		1.0000	1.0000	1.0000	0.6000	1.0000	0.8000

CETIS Analytical Report

Report Date:	24 Mar-21 17:17 (p 1 of 2)
Test Code:	21-02-007 | 17-1272-4801

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Analysis ID:	11-2293-7542	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:16	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	> 100	n/a	1	16.49%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	33	26	2	10	Asymp	0.3382	Non-Significant Effect
		50	36	26	2	10	Asymp	0.5503	Non-Significant Effect
		100	38	26	2	10	Asymp	0.6884	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.018939	0.0063130	3	0.2986	0.8260	Non-Significant Effect
Error	0.422814	0.0211407	20			
Total	0.441753		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.474	11.34	0.6883	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8582	0.884	0.0031	Non-Normal Distribution

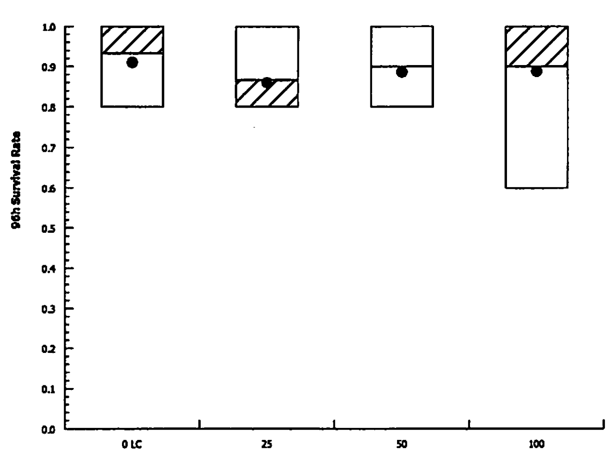
96h Survival Rate Summary

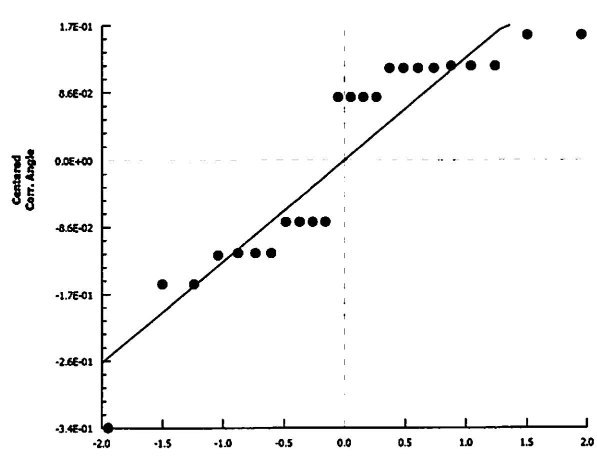
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
25		6	0.8667	0.7583	0.9751	0.8000	0.8000	1.0000	0.0422	11.92%	7.14%
50		6	0.9000	0.7850	1.0000	0.9000	0.8000	1.0000	0.0447	12.17%	3.57%
100		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
25		6	1.187	1.057	1.316	1.107	1.107	1.345	0.0502	10.36%	6.27%
50		6	1.226	1.089	1.363	1.226	1.107	1.345	0.05325	10.64%	3.14%
100		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	2.91%

Graphics





Pacific Topsmelt 96-h Acute Survival Test			Wood E&IS
Analysis ID: 15-8132-2125	**Endpoint:** 96h Survival Rate	**CETIS Version:** CETISv1.9.3	
Analyzed: 24 Mar-21 17:17	**Analysis:** Parametric Bioequivalence-Two Sample	**Official Results:** Yes	

Data Transform	Alt Hyp	TST_b	Comparison Result
Angular (Corrected)	C*b < T	0.8	100% passed 96h survival rate

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:10%)
Lab Control		100*	2.445	1.415	7	CDF	0.0222	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0040727	0.0040727	1	0.1554	0.7017	Non-Significant Effect
Error	0.262141	0.0262141	10			
Total	0.266214		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.467	14.94	0.3442	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.756	0.8025	0.0031	Non-Normal Distribution

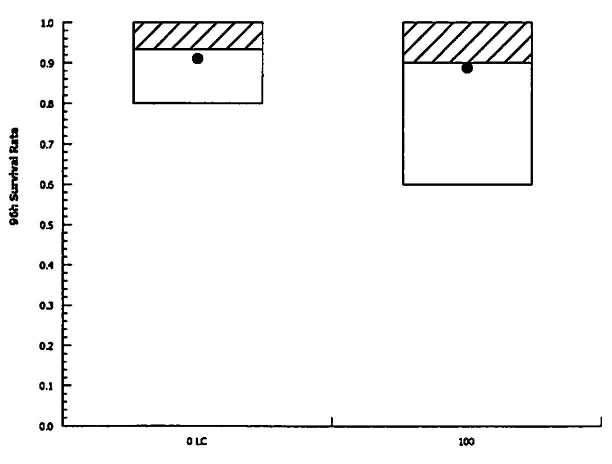
96h Survival Rate Summary

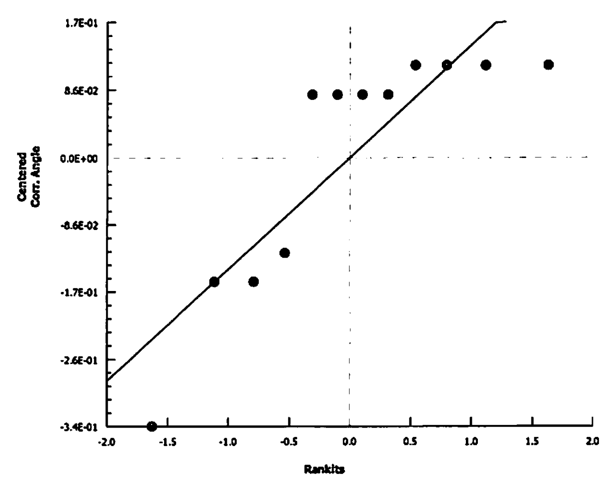
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	0.9333	0.8249	1.0000	1.0000	0.8000	1.0000	0.0422	11.07%	0.00%
100		6	0.9000	0.7244	1.0000	1.0000	0.6000	1.0000	0.0683	18.59%	3.57%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	6	1.266	1.137	1.395	1.345	1.107	1.345	0.0502	9.71%	0.00%
100		6	1.229	1.026	1.432	1.345	0.8861	1.345	0.07885	15.72%	2.91%

Graphics





96hr Marine Acute Test with 48hr Renewal

Client: Wood: POSD - Shelter Island Yacht Basin
Sample ID: SIYB-REF
Test No. 21-02-007

Test Species: *Atherinops affinis* (topsmelt)
Start Date/Time: 2/17/21 1730
End Date/Time: 2/21/21 1630

Sample ID (%)	Rep	Counts 0	24	48	72	96
LC #4	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	4
	E	5	5	5	5	5
	F	5	5	5	5	5
25	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	4
	D	5	5	5	5	5
	E	5	5	5	5	4
	F	5	5	5	5	4
50	A	5	5	5	5	4
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	5	5	4
	E	5	5	5	5	5
	F	5	5	5	5	4
100	A	5	5	5	5	5
	B	5	5	5	5	5
	C	5	5	5	5	5
	D	5	5	4	4	3
	E	5	5	5	5	5
	F	5	5	5	5	4
	A					
	B					
	C					
	D					
	E					
	F					
Tech Initials:		SC	SC	AG	AG	SC

Sample ID (%)	Water Quality Parameter	0	24	48f	48i	72	96
LC #4	Temp. (°C)	20.8	20.4	20.8	20.2	20.2	20.9
	Salinity (ppt)	34.4	34.3	34.4	34.0	34.3	34.2
	pH (units)	7.82	7.72	7.69	7.72	7.76	7.70
	DO (mg/L)	7.4	6.9	6.9	7.6	7.1	7.0
25	Temp. (°C)	~~5~~ 20.8	20.8	20.8	20.3	20.4	20.9
	Salinity (ppt)	34.5	34.2	34.3	34.0	34.2	34.2
	pH (units)	7.83	7.72	7.66	7.71	7.75	7.70
	DO (mg/L)	7.5	6.7	6.9	7.4	7.1	7.0
50	Temp. (°C)	20.7	20.8	20.9	20.1	20.7	20.8
	Salinity (ppt)	34.6	34.1	34.2	33.9	34.1	34.0
	pH (units)	7.84	7.71	7.64	7.72	7.75	7.72
	DO (mg/L)	7.6	6.8	6.8	7.6	7.1	7.1
100	Temp. (°C)	20.7	20.7	20.9	20.0	20.3	20.7
	Salinity (ppt)	34.6	34.0	34.2	33.8	34.2	34.1
	pH (units)	7.84	7.71	7.62	7.73	7.78	7.78
	DO (mg/L)	7.8	6.7	6.8	~~8~~ 8.0 JW	7.0	6.9
	Temp. (°C)						
	Salinity (ppt)						
	pH (units)						
	DO (mg/L)						
Tech Initials:		SC	AG	JW	JW	AG	AD

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SC	JW	AG	AD
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: JC 3/25/21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

APPENDIX C

List of Data Qualifier Codes

Data Qualifier Codes

QC1: Temperatures out of recommended range; corrective action taken

QC2: Temperatures out of recommended range; no action taken, test terminated

QC3: Test initiated on aeration due to anticipated drop in dissolved oxygen

QC4: Dissolved oxygen percent saturation <110

QC5: Survival counts not recorded due to poor visibility

QC6: Inadequate sample volume remaining; 50% renewal performed

QC7: Inadequate sample volume remaining; no renewal performed

APPENDIX D

Sample Receipt Information

& Chain of Custody Form

Sample Check-In: Effluent/Water

Wood Aquatic Toxicology Laboratory
4905 Morena Blvd, Ste. 1304
San Diego, CA 92117

Client: Wood
Project Name: SIYB Dissolved Copper TMDL Winter Monitoring
Test ID Numbers: 21-02-001 to 014

Sample ID:	SIYB-1	SIYB-2	SIYB-3	SIYB-4	SIYB-5	SIYB-6	SIYB REF1	
Sample Number:	21-W053	21-W054	21-W055	21-W056	21-W057	21-W058	21-W059	
Collection Date/Time:	2/16/21 1425	2/16/21 1330	2/16/21 1230	2/16/21 1130	2/16/21 1030	2/16/21 0915	2/16/21 085	
Receipt Date/Time:	2/16/21 1710	2/16/21 1710	2/16/21 1710	2/16/21 1710	2/16/21 1710	2/16/21 1710	2/16/21 1710	
Total Sample Volume (L):	14L							
Receipt Temp (°C):	4.5	4.0	3.0	4.0	4.0	3.0	4.0	
Appropriate Temp (Y/N)[1]:	Y	Y	Y	Y	Y	Y	Y	
pH (units):	7.52	7.67	7.69	7.75	7.79	7.81	7.83	
DO (mg/L):	7.8	7.8	7.8	7.7	7.9	7.8	8.1	
Conductivity (µS/cm)[2]:	–	–	–	–	–	–	–	
Salinity (ppt):	34.0	33.8	33.9	33.9	33.8	33.7	33.7	
Alkalinity (mg/L):	104	116	120	122	114	115	106	
Hardness (mg/L)[2]:	–	–	–	–	–	–	–	
Total Chlorine (mg/L)[3]:	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Free Chlorine (mg/L)[3]:	–	–	–	–	–	–	–	
Technician Initials:	AG	AG	AG	AG	AG	AG	AG	

Notes:

[1] Temperature should be 0 - 6°C if received > 24 hours past collection
[2] Only measured on samples with less than 3 ppt salinity
[3] If total chlorine is above 0.10 mg/L, the free chlorine will be measured
[4] Debris, odor, and color is described only if observed in the sample

Sample Descriptions[4]:
All samples colorless & clear

Test Organism: Mussel & Topsmelt
Dilution Water: Nat-SW, Art-SW, RW, DMW, Other________ Salinity 34 ppt
Additional Control:________ Salinity________

Initial QC: AG
Final Review: JC 3/25/21

wood.

Wood Aquatic Toxicology Lab
4905 Morena Blvd, Ste. 1304
San Diego, CA 92117
Phone: (858) 299-5368

Chain of Custody Form

Page 1 of 1

Client/Send Report To:

Company: Wood E & I Solutions, Inc.
Address: 9177 Sky Park Court
San Diego, CA 92123
Contact/PM: Barry Snyder
Phone Number: (858) 300-4320
Email Address: barry.snyder@woodplc.com

Project Information (if needed):

Project Name: SIYB Dissolved Copper TMDL Winter Monitorin
Project No.: 2015100105
PO Number:

Personal Cooler Shipped:
Return Requested: YES____ NO____.

Analysis Requested (write out or use codes below)

Sample ID	Collection Date	Collection Time	Sample Volume	Sample Type: Grab/Comp.	Sample Number (for lab use)	Aa-a	Mg-dv						Receipt Temp (°C)
SIYB-1	2/16/21	1425	14L	Grab		X	X						4.5
SIYB-2		1330	14L	Grab		X	X						4.0
SIYB-3		1230	14L	Grab		X	X						3.0
SIYB-4		1130	14L	Grab		X	X						4.0
SIYB-5		1030	14L	Grab		X	X						4.0
SIYB-6		0915	14L	Grab		X	X						3.0
SIYB-REF-1		0815	14L	Grab		X	X						4.0

Samples Collected By: MS/KB

Additional Comments: Concurrent ref. tox. test for both species (copper concentrations of 0, 25, 50, 100, 200, 400 ug/L for topsmelt and 0, 2.5, 5.0, 10, 20 and 40 µg/L for bivalve).
Topsmelt tests at 3 concentrations (25, 50, 100%) and a control; 6 reps/sample.
Bivalve tests at 5 concentrations (6.25, 12.5, 25, 50, and 100%), and a control; and a 100% filtered undiluted sample (Look for Noctiluca sp.); 5 reps/sample.

Samples Shipped via: Hand-delivered
Condition Upon Receipt: Good/intact

Relinquished/Shipped By:	Received By:	Relinquished By:	Received By:
Signature: Marisa Swiderski	Signature: [signature]	Signature: [signature]	Signature: [signature]
Print Name: Marisa Swiderski	Print Name: Chris Stransky	Print Name: Chris Stransky	Print Name: Alexi Gabriel
Date/Time: 2/16/21 1640	Date/Time: 2/16/21 1640	Date/Time: 2/16/21 1710	Date/Time: 2/16/21 1710

Test Codes (marine):

Mp-c: Chronic Kelp
Hr-dv: Chronic Abalone
Aa-a: Acute Topsmelt
Aa-c: Chronic Topsmelt
Mb-a: Acute Menidia/Silverside
Mb-c: Chronic Menidia/Silverside
Ab-a: Acute Mysid Shrimp
Ab-c: Chronic Mysid Shrimp
Sp-c: Chronic Urchin Fertilization
Sp-dv: Chronic Urchin Development
Mg-dv: Chronic Mussel Development
Other: Write out the test organism

Test Codes (freshwater):

Cd-a: Acute Ceriodaphnia
Cd-c: Chronic Ceriodaphnia
Pp-a: Acute Fathead Minnow
Pp-c: Chronic Fathead Minno
Sc-c: Chronic Green Algae
Ha-a: Acute Hyalella amphipod
Ha-c: Chronic Hyalella amphipod
T-22: CA Title 22 Hazardous Waste

APPENDIX E

Reference Toxicant Test

Statistical Analysis, Control Chart, and Raw Data

Chronic Mussel

Reference Toxicant Test

CETIS Summary Report

Bivalve Larval Survival and Development Test — **Wood E&IS**

Batch ID: 14-6786-0761	**Test Type:** Development-Survival	**Analyst:**
Start Date: 17 Feb-21 16:05	**Protocol:** EPA/600/R-95/136 (1995)	**Diluent:** Diluted Natural Seawater
Ending Date: 19 Feb-21 15:45	**Species:** Mytilis galloprovincialis	**Brine:** Not Applicable
Duration: 48h	**Source:** Field Collected	**Age:**

Sample ID: 07-2851-9515	**Code:** 210217mgrd	**Client:** Internal
Sample Date: 17 Feb-21	**Material:** Total Copper	**Project:**
Receipt Date: 17 Feb-21	**Source:** Reference Toxicant	
Sample Age: 16h	**Station:**	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
06-9220-8333	Combined Proportion Norma	Dunnett Multiple Comparison Test	10	20	14.14		7.09%
09-6363-0481	Proportion Normal	Steel Many-One Rank Sum Test	5	10	7.071		5.44% ✓
07-8118-8809	Survival Rate	Dunnett Multiple Comparison Test	40	> 40	n/a		6.23%

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU ✓
19-5282-1839	Combined Proportion Norma	Trimmed Spearman-Kärber	EC50	13.75	13.6	13.91	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
09-6363-0481	Proportion Normal	Control Resp	0.9076	0.9	>>	Yes	Passes Criteria
07-8118-8809	Survival Rate	Control Resp	0.987	0.5	>>	Yes	Passes Criteria
06-9220-8333	Combined Proportion Norma	PMSD	0.07092	<<	0.25	No	Passes Criteria

Combined Proportion Normal Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.8957	0.8691	0.9222	0.8588	0.9104	0.0096	0.0214	2.39%	0.00%
2.5		5	0.8766	0.8366	0.9165	0.8397	0.9060	0.0144	0.0322	3.67%	2.13%
5		5	0.8954	0.8688	0.9219	0.8626	0.9220	0.0096	0.0214	2.39%	0.03%
10		5	0.8382	0.7705	0.9059	0.7443	0.8817	0.0244	0.0545	6.50%	6.41%
20		5	0.0250	0.0000	0.0647	0.0000	0.0763	0.0143	0.0320	128.10%	97.21%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Proportion Normal Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9076	0.8972	0.9179	0.8953	0.9184	0.0037	0.0083	0.92%	0.00%
2.5		5	0.9065	0.8980	0.9151	0.8967	0.9132	0.0031	0.0069	0.76%	0.12%
5		5	0.9057	0.8941	0.9174	0.8982	0.9220	0.0042	0.0094	1.03%	0.20%
10		5	0.8614	0.8281	0.8947	0.8298	0.9023	0.0120	0.0268	3.11%	5.09%
20		5	0.0261	0.0000	0.0676	0.0000	0.0797	0.0150	0.0335	128.52%	97.13%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	5	0.9870	0.9510	1.0000	0.9351	1.0000	0.0130	0.0290	2.94%	0.00%
2.5		5	0.9672	0.9155	1.0000	0.9198	1.0000	0.0186	0.0416	4.30%	2.01%
5		5	0.9885	0.9639	1.0000	0.9542	1.0000	0.0089	0.0198	2.01%	-0.15%
10		5	0.9725	0.9188	1.0000	0.8969	1.0000	0.0194	0.0433	4.45%	1.47%
20		5	0.9595	0.9059	1.0000	0.8969	1.0000	0.0193	0.0432	4.51%	2.78%
40		5	0.9206	0.8000	1.0000	0.8053	1.0000	0.0434	0.0971	10.55%	6.73%

 Analyst: AO QA: JC 3/26/21

Bivalve Larval Survival and Development Test Wood E&IS

Combined Proportion Normal Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9104	0.8953	0.9074	0.8588	0.9065
2.5		0.9060	0.8435	0.8967	0.8969	0.8397
5		0.8931	0.8982	0.9220	0.8626	0.9011
10		0.8817	0.8435	0.7443	0.8528	0.8688
20		0.0000	0.0000	0.0344	0.0763	0.0141
40		0.0000	0.0000	0.0000	0.0000	0.0000

Proportion Normal Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	0.9104	0.8953	0.9074	0.9184	0.9065
2.5		0.9060	0.9132	0.8967	0.9038	0.9129
5		0.9035	0.8982	0.9220	0.9040	0.9011
10		0.9023	0.8533	0.8298	0.8528	0.8688
20		0.0000	0.0000	0.0364	0.0797	0.0141
40		0.0000	0.0000	0.0000	0.0000	0.0000

Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	1.0000	1.0000	1.0000	0.9351	1.0000
2.5		1.0000	0.9237	1.0000	0.9924	0.9198
5		0.9885	1.0000	1.0000	0.9542	1.0000
10		0.9771	0.9885	0.8969	1.0000	1.0000
20		0.8969	1.0000	0.9427	0.9580	1.0000
40		0.9962	0.8053	0.8244	1.0000	0.9771

Combined Proportion Normal Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	254/279	265/296	245/270	225/262	252/278
2.5		241/266	221/262	243/271	235/262	220/262
5		234/262	247/275	260/282	226/262	255/283
10		231/262	221/262	195/262	226/265	245/282
20		0/262	0/266	9/262	20/262	4/283
40		0/262	0/262	0/262	0/268	0/262

Proportion Normal Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	254/279	265/296	245/270	225/245	252/278
2.5		241/266	221/242	243/271	235/260	220/241
5		234/259	247/275	260/282	226/250	255/283
10		231/256	221/259	195/235	226/265	245/282
20		0/235	0/266	9/247	20/251	4/283
40		0/261	0/211	0/216	0/268	0/256

Survival Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	LC	262/262	262/262	262/262	245/262	262/262
2.5		262/262	242/262	262/262	260/262	241/262
5		259/262	262/262	262/262	250/262	262/262
10		256/262	259/262	235/262	262/262	262/262
20		235/262	262/262	247/262	251/262	262/262
40		261/262	211/262	216/262	262/262	256/262

Bivalve Larval Survival and Development Test — Wood E&IS

Analysis ID:	06-9220-8333	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 16:12	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	10	20	14.14		7.09%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		2.5	0.7105	2.305	0.094	8	CDF	0.5088	Non-Significant Effect
		5	0.008778	2.305	0.094	8	CDF	0.7971	Non-Significant Effect
		10	2.02	2.305	0.094	8	CDF	0.0849	Non-Significant Effect
		20*	27.19	2.305	0.094	8	CDF	4.5E-07	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.73662	1.18416	4	282.5	<1.0E-37	Significant Effect
Error	0.0838472	0.0041924	20			
Total	4.82047		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	7.238	13.28	0.1238	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9447	0.8877	0.1900	Normal Distribution

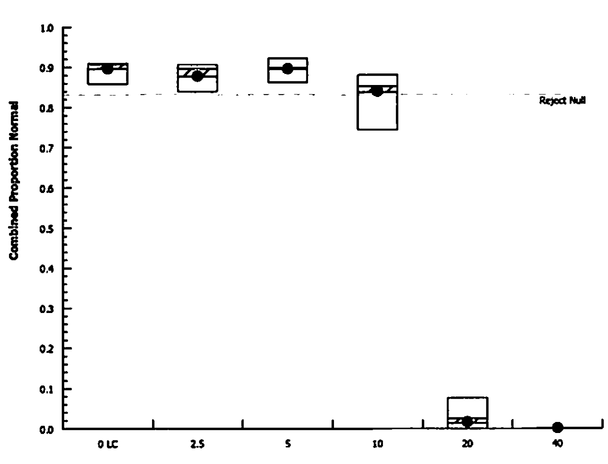
Combined Proportion Normal Summary

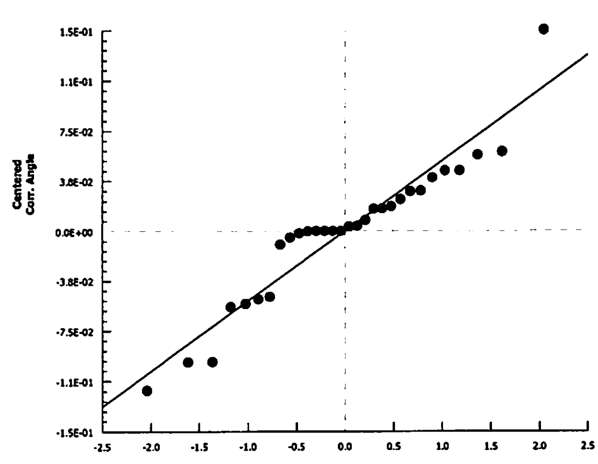
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.8957	0.8691	0.9222	0.9065	0.8588	0.9104	0.0096	2.39%	0.00%
2.5		5	0.8766	0.8366	0.9165	0.8967	0.8397	0.9060	0.0144	3.67%	2.13%
5		5	0.8954	0.8688	0.9219	0.8982	0.8626	0.9220	0.0096	2.39%	0.03%
10		5	0.8382	0.7705	0.9059	0.8528	0.7443	0.8817	0.0244	6.50%	6.41%
20		5	0.0250	0.0000	0.0647	0.0141	0.0000	0.0763	0.0143	128.10%	97.21%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Angular (Corrected) Transformed Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.243	1.201	1.285	1.26	1.186	1.267	0.01501	2.70%	0.00%
2.5		5	1.214	1.154	1.274	1.244	1.159	1.259	0.02162	3.98%	2.34%
5		5	1.243	1.2	1.286	1.246	1.191	1.288	0.01548	2.79%	0.03%
10		5	1.16	1.073	1.248	1.177	1.041	1.22	0.03141	6.05%	6.65%
20		5	0.1294	-0.002966	0.2618	0.1192	0.03066	0.2799	0.04768	82.38%	89.59%
40		5	0.03083	0.03063	0.03102	0.0309	0.03055	0.0309	0.0000696	0.50%	97.52%

Graphics





Analyst: [signature] QA: [signature]

CETIS Analytical Report

Report Date: 22 Mar-21 16:13 (p 2 of 4)
Test Code: 210217mgrd | 02-0888-9810

Bivalve Larval Survival and Development Test			Wood E&IS
Analysis ID: 09-6363-0481	**Endpoint:** Proportion Normal	**CETIS Version:** CETISv1.9.3	
Analyzed: 22 Mar-21 16:13	**Analysis:** Nonparametric-Control vs Treatments	**Official Results:** Yes	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	5	10	7.071		5.44%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		2.5	26	17	0	8	Asymp	0.6824	Non-Significant Effect
		5	24	17	0	8	Asymp	0.4952	Non-Significant Effect
		10*	16	17	0	8	Asymp	0.0277	Significant Effect
		20*	15	17	0	8	Asymp	0.0158	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.95459	1.23865	4	438.4	<1.0E-37	Significant Effect
Error	0.0565098	0.0028255	20			
Total	5.0111		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	25.87	13.28	3.4E-05	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8448	0.8877	0.0014	Non-Normal Distribution

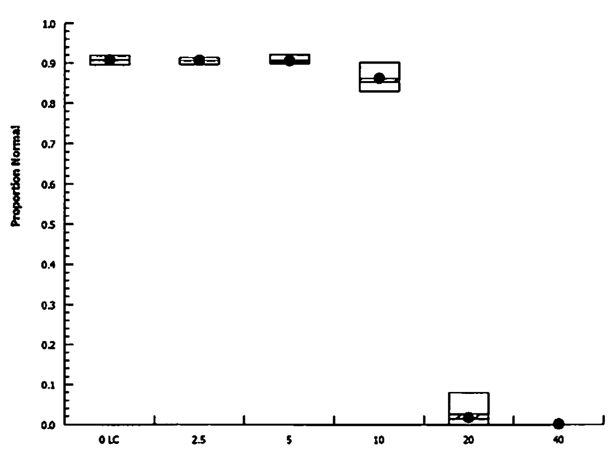
Proportion Normal Summary

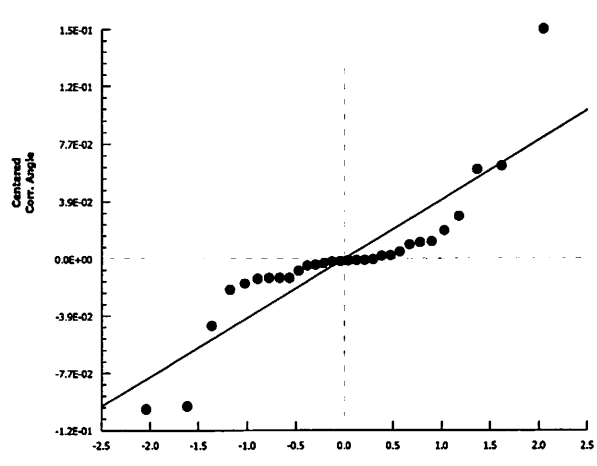
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9076	0.8972	0.9179	0.9074	0.8953	0.9184	0.0037	0.92%	0.00%
2.5		5	0.9065	0.8980	0.9151	0.9060	0.8967	0.9132	0.0031	0.76%	0.12%
5		5	0.9057	0.8941	0.9174	0.9035	0.8982	0.9220	0.0042	1.03%	0.20%
10		5	0.8614	0.8281	0.8947	0.8533	0.8298	0.9023	0.0120	3.11%	5.09%
20		5	0.0261	0.0000	0.0676	0.0141	0.0000	0.0797	0.0150	128.52%	97.13%
40		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Angular (Corrected) Transformed Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.262	1.244	1.28	1.262	1.241	1.281	0.006405	1.13%	0.00%
2.5		5	1.26	1.246	1.275	1.259	1.244	1.272	0.005263	0.93%	0.15%
5		5	1.259	1.239	1.28	1.255	1.246	1.288	0.007374	1.31%	0.25%
10		5	1.191	1.141	1.24	1.178	1.146	1.253	0.01784	3.35%	5.66%
20		5	0.1321	-0.003434	0.2677	0.1192	0.03066	0.2862	0.04883	82.63%	89.53%
40		5	0.03224	0.02996	0.03452	0.03126	0.03055	0.03443	0.0008207	5.69%	97.45%

Graphics





Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	07-8118-8809	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 16:13	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	40	> 40	n/a		6.23%

Dunnett Multiple Comparison Test

Control vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control	2.5	0.7911	2.362	0.200	8	CDF	0.5151	Non-Significant Effect
	5	0.08129	2.362	0.200	8	CDF	0.8082	Non-Significant Effect
	10	0.6293	2.362	0.200	8	CDF	0.5893	Non-Significant Effect
	20	1.075	2.362	0.200	8	CDF	0.3869	Non-Significant Effect
	40	1.777	2.362	0.200	8	CDF	0.1458	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0783426	0.0156685	5	0.8732	0.5136	Non-Significant Effect
Error	0.430652	0.0179438	24			
Total	0.508995		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.632	15.09	0.6035	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9246	0.9031	0.0353	Normal Distribution

Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	0.9870	0.9510	1.0000	1.0000	0.9351	1.0000	0.0130	2.94%	0.00%
2.5		5	0.9672	0.9155	1.0000	0.9924	0.9198	1.0000	0.0186	4.30%	2.01%
5		5	0.9885	0.9639	1.0000	1.0000	0.9542	1.0000	0.0089	2.01%	-0.15%
10		5	0.9725	0.9188	1.0000	0.9885	0.8969	1.0000	0.0194	4.45%	1.47%
20		5	0.9595	0.9059	1.0000	0.9580	0.8969	1.0000	0.0193	4.51%	2.78%
40		5	0.9206	0.8000	1.0000	0.9771	0.8053	1.0000	0.0434	10.55%	6.73%

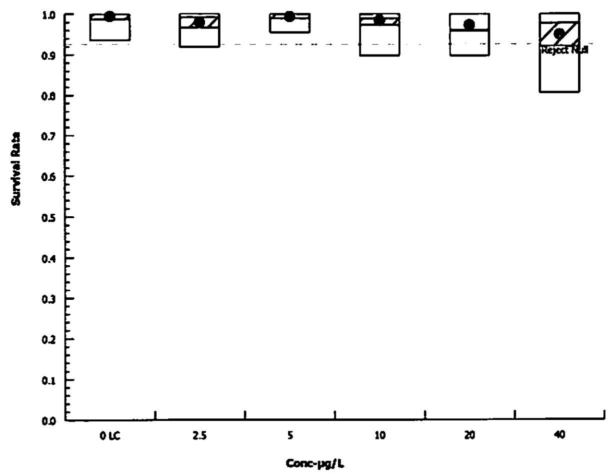
Angular (Corrected) Transformed Summary

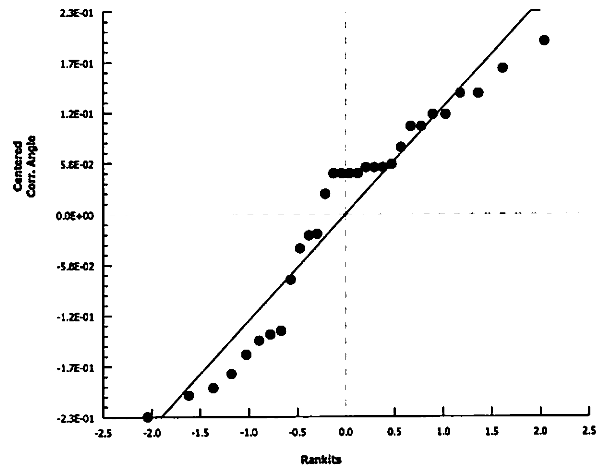
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	5	1.495	1.369	1.62	1.54	1.313	1.54	0.04533	6.78%	0.00%
2.5		5	1.428	1.266	1.589	1.483	1.284	1.54	0.05819	9.11%	4.48%
5		5	1.488	1.387	1.588	1.54	1.355	1.54	0.03629	5.45%	0.46%
10		5	1.441	1.29	1.593	1.464	1.244	1.54	0.05449	8.45%	3.57%
20		5	1.403	1.24	1.567	1.364	1.244	1.54	0.05904	9.41%	6.09%
40		5	1.344	1.091	1.597	1.419	1.114	1.54	0.09122	15.18%	10.07%

Analyst: AG QA: fc

Bivalve Larval Survival and Development Test					**Wood E&IS**
Analysis ID:	07-8118-8809	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 16:13	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Report Date: 22 Mar-21 16:13 (p 1 of 1)
Test Code: 210217mgrd | 02-0888-9810

Bivalve Larval Survival and Development Test — **Wood E&IS**

Analysis ID:	19-5282-1839	**Endpoint:**	Combined Proportion Normal	**CETIS Version:**	CETISv1.9.3
Analyzed:	22 Mar-21 16:13	**Analysis:**	Trimmed Spearman-Kärber	**Official Results:**	Yes

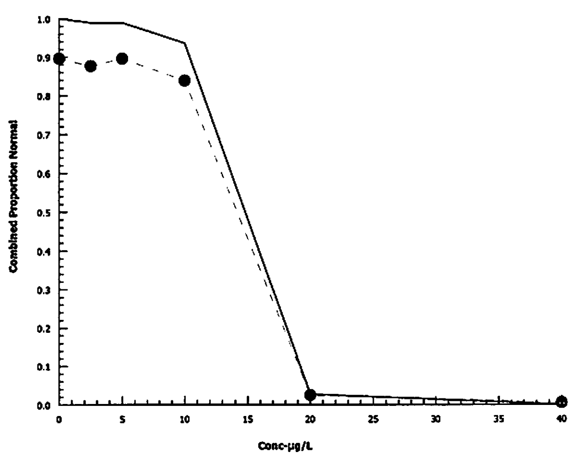
Trimmed Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0.104	1.08%	1.138	0.002462	13.75	13.6	13.91

Combined Proportion Normal Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	LC	5	0.8957	0.8588	0.9104	0.0214	2.39%	0.0%	1241/1385	0.8957	0.0%
2.5		5	0.8766	0.8397	0.9060	0.0322	3.67%	2.13%	1160/1323	0.886	1.08%
5		5	0.8954	0.8626	0.9220	0.0214	2.39%	0.03%	1222/1364	0.886	1.08%
10		5	0.8382	0.7443	0.8817	0.0545	6.51%	6.41%	1118/1333	0.8382	6.41%
20		5	0.0250	0.0000	0.0763	0.0320	128.10%	97.21%	33/1335	0.02496	97.21%
40		5	0.0000	0.0000	0.0000	0.0000		100.0%	0/1316	0	100.0%

Graphics

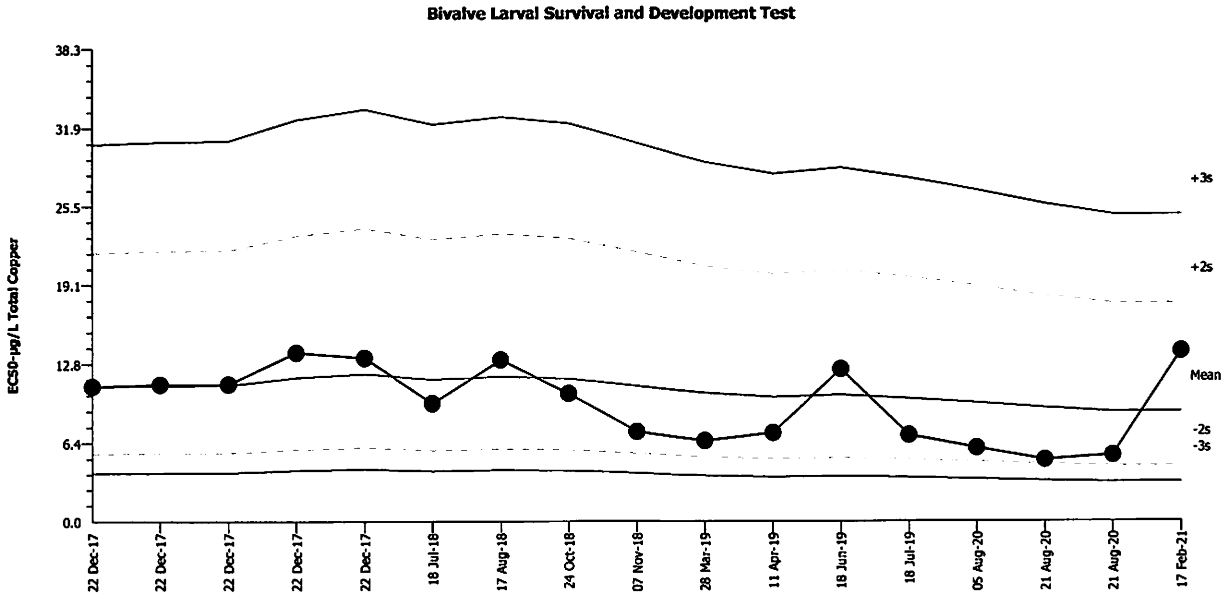


CETIS QC Plot

Report Date: 22 Mar-21 16:22 (1 of 1)

Bivalve Larval Survival and Development Test — **Wood E&IS**

Test Type:	Development-Survival	**Organism:**	Mytilis galloprovincialis (Bay Mussel)	**Material:**	Total Copper
Protocol:	EPA/600/R-95/136 (1995)	**Endpoint:**	Combined Proportion Normal	**Source:**	Reference Toxicant-REF



Mean:	8.891	**Count:**	16	**-2s Warning Limit:**	4.487	**-3s Action Limit:**	3.187
Sigma:	n/a	**CV:**	35.20%	**+2s Warning Limit:**	17.62	**+3s Action Limit:**	24.81

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2017	Dec	22	15:00	10.95	2.056	0.6082			13-8076-0092	04-7666-8867
2			22	15:00	11.1	2.214	0.6502			18-9173-1279	00-8804-3805
3			22	15:00	11.13	2.238	0.6565			19-1537-3013	20-7428-0259
4			22	15:10	13.69	4.797	1.262			05-2148-4604	14-2190-9809
5			22	15:10	13.26	4.37	1.169			07-4924-1298	02-9536-6591
6	2018	Jul	18	12:30	9.593	0.7027	0.2224			17-4700-2672	19-1834-7581
7		Aug	17	18:15	13.11	4.217	1.135			06-6531-4070	03-3159-5721
8		Oct	24	14:25	10.37	1.483	0.4509			10-5049-1350	21-2167-7967
9		Nov	7	14:40	7.288	-1.602	-0.581			21-2560-8966	08-1725-7308
10	2019	Mar	28	15:00	6.57	-2.32	-0.8844			01-1205-3490	09-9916-0601
11		Apr	11	15:05	7.2	-1.69	-0.6166			09-5126-5022	11-0264-5925
12		Jun	18	15:35	12.33	3.439	0.9561			20-1050-4622	12-9168-6963
13		Jul	18	14:55	7	-1.891	-0.6991			14-0843-5203	16-2395-2147
14	2020	Aug	5	16:15	5.97	-2.92	-1.164			01-5363-1852	03-9719-1127
15			21	17:45	4.994	-3.897	-1.686			02-6167-5910	09-0147-8078
16			21	17:45	5.371	-3.519	-1.473			09-7758-0702	07-5383-0657
17	2021	Feb	17	16:05	13.75	4.86	1.275			02-0888-9810	19-5282-1839

Analyst: AG QA: lc 3/26/21

CETIS Test Data Worksheet

Report Date: 16 Feb-21 14:58 (p 1 of 1)
Test Code/ID: 02-0888-9810/210217mgrd

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	17 Feb-21	**Species:**	Mytilis galloprovincialis	**Sample Code:**	210217mgrd
End Date:	19 Feb-21	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Reference Toxicant
Sample Date:	17 Feb-21	**Material:**	Total Copper	**Sample Station:**	

Conc-µg/L	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
			1			241	220	
			2			260	235	
			3			235	0	
			4			259	221	
			5			282	248	
			6			278	247	
			7			282	260	
			8			261	0	
			9			~~260~~ 283 AG	~~0~~ 255 AG	
			10			265	226	
			11			283	4	
			12			259	234	
			13			242	221	
			14			251	20	
			15			238	195	
			16			271	243	
			17			250	226	
			18			270	245	
			19			256	231	
			20			278	252	
			21			266	0	
			22			266	241	
			23			247	9	
			24			248	225	
			25			211	0	
			26			256	0	
			27			279	254	
			28			216	0	
			29			268	0	
			30			296	265	

Analyst: AG QA: JL

CETIS Test Data Worksheet

Report Date: 16 Feb-21 14:58 (p 1 of 1)
Test Code/ID: 02-0888-9810/210217mgrd

Bivalve Larval Survival and Development Test — Wood E&IS

Start Date:	17 Feb-21 1605	**Species:**	Mytilis galloprovincialis	**Sample Code:**	210217mgrd
End Date:	19 Feb-21 1545	**Protocol:**	EPA/600/R-95/136 (1995)	**Sample Source:**	Reference Toxicant
Sample Date:	17 Feb-21	**Material:**	Total Copper	**Sample Station:**	

Conc-µg/L	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	LC	1	27			279	254	AG
0	LC	2	30					
0	LC	3	18					
0	LC	4	24					
0	LC	5	20					
2.5		1	22			266	241	
2.5		2	13					
2.5		3	16					
2.5		4	2					
2.5		5	1					
5		1	12			289	234	
5		2	6					
5		3	7					
5		4	17					
5		5	9					
10		1	19			256	~~239~~ 231 AG	
10		2	4					
10		3	15					
10		4	10					
10		5	5					
20		1	3			235	0	
20		2	21					
20		3	23					
20		4	14					
20		5	11					
40		1	8			261	0	
40		2	25					
40		3	28					
40		4	29					
40		5	26					

QC: JC

Analyst: AG QA: JC

Water Quality for Bivalve Development

Client: Internal
Project ID: Cu Reftox
Test No. 210217mgrd

Test Species: *M. galloprovincialis*
Start Date/Time: 2/17/2021 1605
End Date/Time: 2/19/2021 1545

Test Conc. (µg/L Cu)	Water Quality Measurements			
	Parameter	0hr	24hr	48hr
Lab Control	Temp. (°C)	15.7	15.5	15.5
	Salinity (ppt)	33.9	34.0	33.9
	pH (units)	7.86	7.71	7.58
	DO (mg/L)	7.9	8.2	8.3
2.5	Temp. (°C)	15.7	15.0	15.2
	Salinity (ppt)	34.0	34.0	34.0
	pH (units)	7.88	7.72	7.59
	DO (mg/L)	7.9	8.2	8.3
5	Temp. (°C)	15.8	15.1	15.1
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.88	7.71	7.59
	DO (mg/L)	8.0	8.3	8.3
10	Temp. (°C)	15.8	15.1	15.2
	Salinity (ppt)	34.0	34.1	34.1
	pH (units)	7.88	7.70	7.59
	DO (mg/L)	8.0	8.3	8.3
20	Temp. (°C)	15.8	15.2	15.1
	Salinity (ppt)	33.9	34.0	34.1
	pH (units)	7.85	7.71	7.59
	DO (mg/L)	8.0	8.2	8.3
40	Temp. (°C)	15.8	15.2	15.2
	Salinity (ppt)	33.8	34.0	34.0
	pH (units)	7.85	7.75	7.59
	DO (mg/L)	8.0	8.3	8.3
	Temp. (°C)			
	Salinity (ppt)			
	pH (units)			
	DO (mg/L)			
	Tech Initials:	AG	AG	KB

Source of Animals: Mission Bay
Date Received: 2/17/21

Comments:

QC Check: AG 3/15/21
Final Review: SC 3/26/21

Embryo-Larval Development Test
Stock Preparation Worksheet

Test Species: *M. galloprovincialis* **Test Date:** 2/17/2021
Batch ID: 2/17 Collection **Analyst:** AG
Test Type: Mussel Development

Task	
Spawning Induction	1045
Spawning Begins	1115
# Males/# Females	6 / 6
Spawn Condition	good
Fertilization Initiated	1255
Fertilzation End/Eggs Rinsed	1325 /1355/1445
Embryo Counts	1515
Test Initiation	1605

Embryo Density Counts **# per 100 µL**

Stock #	Stock Volume (mL)	Rep 1	Rep 2	Rep 3	Rep 4	Mean #/100 µL	Mean #/mL (x10)
Stock 1		131	130	147	146	138.5	1385
Stock 2							
Stock 3							

Cell Division:

	% Divided	
Stock 1	99	collected 2/17
Stock 2	99	collected 2/09
Stock 3	98	

Selected Stock:	#1

Adjust selected embryo stock to 500 embryos/mL.
Dilution Factor = Stock Density/mL/500

Stock Density $\frac{1385}{500}$ **Dil Factor** 2.77

In 10 mL sample volume add 500 µl of 500 embryo/ml stock to obtain 25 embryos/mL in test vials.

Notes: QC_1 = 223/245

$T\emptyset_1$ = 271, $T\emptyset_2$ = 267 $T\emptyset_3$ = 255 $T\emptyset_4$ = 263 $T\emptyset_5$ = 256 $T\emptyset\ \bar{x}$ = 262

QA Review: AG 3/15/21 **Final Review:** [signature] 3/25/21

Acute Topsmelt

Reference Toxicant Test

CETIS Summary Report

Report Date: 24 Mar-21 17:25 (p 1 of 1)
Test Code: 210217aara | 20-5527-3551

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Batch ID:	03-4756-9022	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	17 Feb-21 18:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Diluted Natural Seawater
Ending Date:	21 Feb-21 16:30	**Species:**	Atherinops affinis	**Brine:**	Not Applicable
Duration:	94h	**Source:**	Aquatic Biosystems, CO	**Age:**	14 d

Sample ID:	07-4251-3877	**Code:**	210217aara	**Client:**	Internal
Sample Date:	17 Feb-21	**Material:**	Total Copper	**Project:**	
Receipt Date:	17 Feb-21	**Source:**	Reference Toxicant		
Sample Age:	18h	**Station:**			

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
16-1392-1515	96h Survival Rate	Dunnett Multiple Comparison Test	100	200	141.4		27.7%

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU ✓
01-0267-4966	96h Survival Rate	Trimmed Spearman-Kärber	LC50	155.3	129.4	186.5	

96h Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	LC	4	0.9000	0.7163	1.0000	0.8000	1.0000	0.0577	0.1155	12.83%	0.00%
25		4	0.8500	0.5453	1.0000	0.6000	1.0000	0.0957	0.1915	22.53%	5.56%
50		4	0.9000	0.7163	1.0000	0.8000	1.0000	0.0577	0.1155	12.83%	0.00%
100		4	0.8000	0.5402	1.0000	0.6000	1.0000	0.0817	0.1633	20.41%	11.11%
200		4	0.2000	0.0000	0.4598	0.0000	0.4000	0.0817	0.1633	81.65%	77.78%
400		4	0.0500	0.0000	0.2091	0.0000	0.2000	0.0500	0.1000	200.00%	94.44%

96h Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	LC	0.8000	1.0000	0.8000	1.0000
25		0.6000	0.8000	1.0000	1.0000
50		1.0000	0.8000	1.0000	0.8000
100		0.8000	0.8000	1.0000	0.6000
200		0.4000	0.0000	0.2000	0.2000
400		0.0000	0.0000	0.0000	0.2000

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Analysis ID:	16-1392-1515	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:24	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	200	141.4		27.66%

Dunnett Multiple Comparison Test

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Control		25	0.463	2.407	0.287	6	CDF	0.6635	Non-Significant Effect
		50	0	2.407	0.287	6	CDF	0.8333	Non-Significant Effect
		100	0.9617	2.407	0.287	6	CDF	0.4389	Non-Significant Effect
		200*	6.424	2.407	0.287	6	CDF	3.7E-05	Significant Effect
		400*	7.884	2.407	0.287	6	CDF	2.7E-05	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.60883	0.721766	5	25.33	1.5E-07	Significant Effect
Error	0.512969	0.0284983	18			
Total	4.1218		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.496	15.09	0.9135	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9491	0.884	0.2593	Normal Distribution

96h Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	4	0.9000	0.7163	1.0000	0.9000	0.8000	1.0000	0.0577	12.83%	0.00%
25		4	0.8500	0.5453	1.0000	0.9000	0.6000	1.0000	0.0957	22.53%	5.56%
50		4	0.9000	0.7163	1.0000	0.9000	0.8000	1.0000	0.0577	12.83%	0.00%
100		4	0.8000	0.5402	1.0000	0.8000	0.6000	1.0000	0.0817	20.41%	11.11%
200		4	0.2000	0.0000	0.4598	0.2000	0.0000	0.4000	0.0817	81.65%	77.78%
400		4	0.0500	0.0000	0.2091	0.0000	0.0000	0.2000	0.0500	200.00%	94.44%

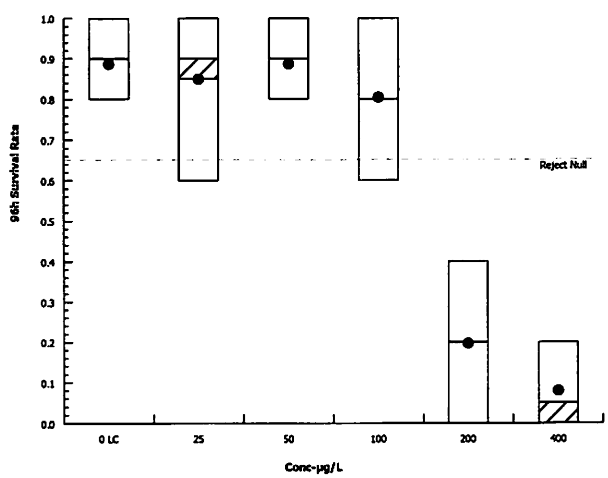
Angular (Corrected) Transformed Summary

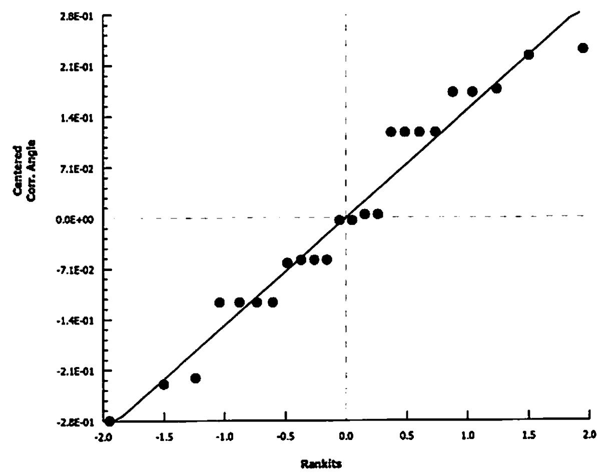
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	LC	4	1.226	1.007	1.445	1.226	1.107	1.345	0.06874	11.21%	0.00%
25		4	1.171	0.8199	1.522	1.226	0.8861	1.345	0.1103	18.84%	4.51%
50		4	1.226	1.007	1.445	1.226	1.107	1.345	0.06874	11.21%	0.00%
100		4	1.111	0.813	1.41	1.107	0.8861	1.345	0.09377	16.87%	9.36%
200		4	0.4594	0.161	0.7578	0.4636	0.2255	0.6847	0.09377	40.82%	62.54%
400		4	0.285	0.09558	0.4745	0.2255	0.2255	0.4636	0.05953	41.77%	76.75%

Pacific Topsmelt 96-h Acute Survival Test — Wood E&IS

Analysis ID:	16-1392-1515	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:24	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Analysis ID:	01-0267-4966	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.3
Analyzed:	24 Mar-21 17:25	**Analysis:**	Trimmed Spearman-Kärber	**Official Results:**	Yes

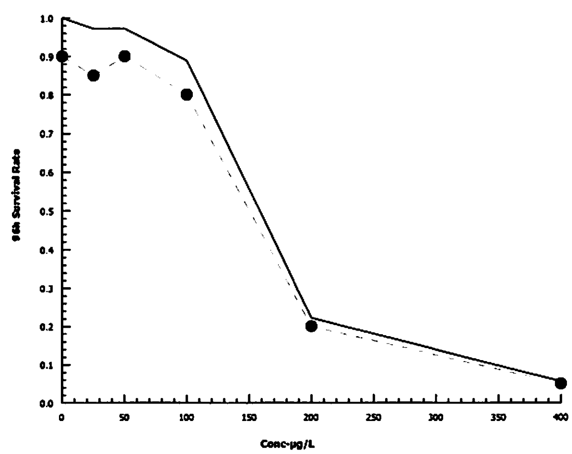
Trimmed Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	LC50	95% LCL	95% UCL
Control Threshold	0.1	5.56%	2.191	0.03974	155.3	129.4	186.5

96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-µg/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	LC	4	0.9000	0.8000	1.0000	0.1155	12.83%	0.0%	18/20	0.9	0.0%
25		4	0.8500	0.6000	1.0000	0.1915	22.53%	5.56%	17/20	0.875	2.78%
50		4	0.9000	0.8000	1.0000	0.1155	12.83%	0.0%	18/20	0.875	2.78%
100		4	0.8000	0.6000	1.0000	0.1633	20.41%	11.11%	16/20	0.8	11.11%
200		4	0.2000	0.0000	0.4000	0.1633	81.65%	77.78%	4/20	0.2	77.78%
400		4	0.0500	0.0000	0.2000	0.1000	200.00%	94.44%	1/20	0.05	94.44%

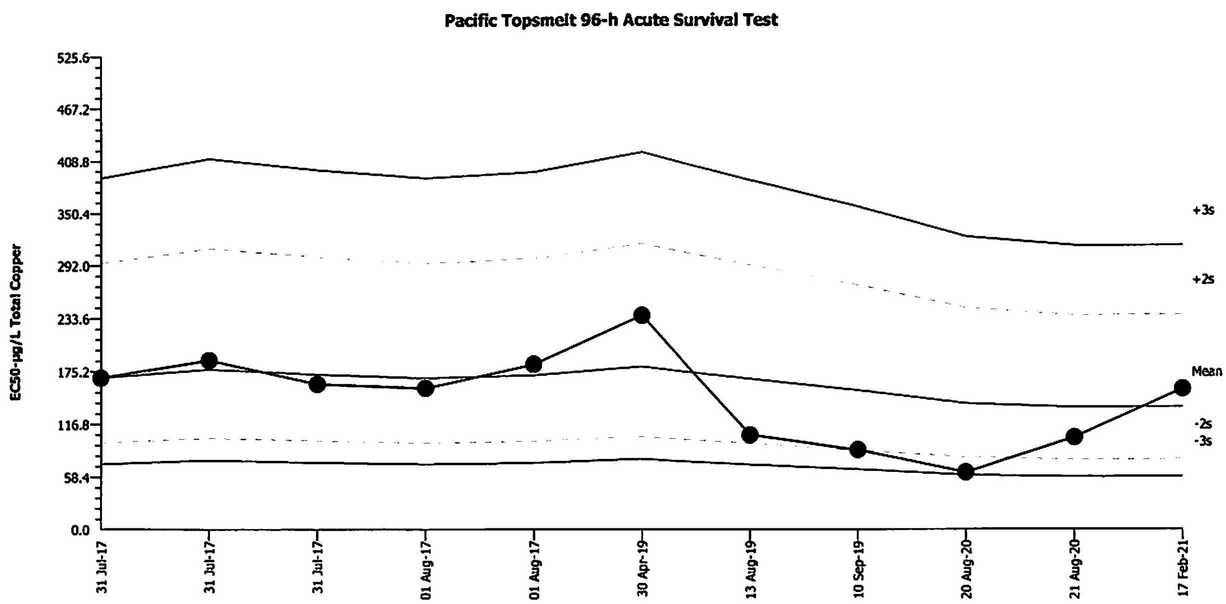
Graphics



CETIS QC Plot

Pacific Topsmelt 96-h Acute Survival Test — **Wood E&IS**

Test Type:	Survival (96h)	**Organism:**	Atherinops affinis (Topsmelt)	**Material:**	Total Copper
Protocol:	EPA/821/R-02-012 (2002)	**Endpoint:**	96h Survival Rate	**Source:**	Reference Toxicant-REF



Mean:	135.2	**Count:**	10	**-2s Warning Limit:**	77.26	**-3s Action Limit:**	58.39
Sigma:	n/a	**CV:**	28.60%	**+2s Warning Limit:**	236.8	**+3s Action Limit:**	313.3

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2017	Jul	31	16:00	168.3	33.07	0.7814			19-5584-5627	06-5699-4422
2			31	16:10	187.7	52.48	1.171			08-6518-1949	12-2976-8720
3			31	16:20	161.5	26.28	0.6343			16-0803-3194	14-0325-5692
4		Aug	1	14:20	156.9	21.68	0.5311			21-0766-0876	04-5806-5680
5			1	14:30	183.1	47.9	1.083			08-2262-5738	12-8323-6897
6	2019	Apr	30	15:00	236.6	101.3	1.997			01-1235-0968	05-2157-6049
7		Aug	13	17:20	104.8	-30.44	-0.9107			15-7782-6769	06-7735-0148
8		Sep	10	16:30	88.01	-47.22	-1.534			00-1845-1071	18-3128-5862
9	2020	Aug	20	11:30	63	-72.24	-2.728	(-)		10-0704-2056	18-4092-2436
10			21	16:40	101.7	-33.57	-1.019			04-1235-4342	09-8231-6847
11	2021	Feb	17	18:00	155.3	20.11	0.495			20-5527-3551	01-0267-4966

Analyst: AG QA: BC 3/25/21

96hr Marine Acute Test with 48hr Renewal

Client: Internal
Project ID: Cu Ref Tox
Test No. 210217aafa

Test Species: *Atherinops affinis*
Start Date/Time: 2/17/21 1800
End Date/Time: 2/21/21 1630

Sample ID (µg/L Cu)	Rep	Counts 0	Counts 24	Counts 48	Counts 72	Counts 96	Parameter	WQ 0	WQ 24	WQ 48f	WQ 48i	WQ 72	WQ 96
Lab Control	A	5	5	5	5	4	Temp. (°C)	20.8	20.8	20.4	20.3	20.4	20.5
	B	5	5	5	5	5	Salinity (ppt)	31.0	30.3	30.5	30.2	30.6	30.4
	C	5	5	5	5	4	pH (units)	7.84	7.77	7.80	7.72	7.77	7.73
	D	5	5	5	5	5	DO (mg/L)	7.4	6.8	6.9	7.3	7.7	7.7
25	A	5	5	5	5	3	Temp. (°C)	20.8	20.9	20.4	20.2	20.6	20.6
	B	5	5	5	5	4	Salinity (ppt)	31.0	30.3	30.5	30.2	30.5	30.3
	C	5	5	5	5	5	pH (units)	7.84	7.75	7.80	7.71	7.76	7.74
	D	5	5	5	5	5	DO (mg/L)	7.4	6.8	6.9	7.3	7.1	7.0
50	A	5	5	5	5	5	Temp. (°C)	20.9	21.0	20.2	20.1	20.4	20.5
	B	5	5	5	5	4	Salinity (ppt)	31.0	30.2	30.5	30.1	30.3	30.1
	C	5	5	5	5	5	pH (units)	7.84	7.75	7.81	7.71	7.76	7.74
	D	5	5	4	4	4	DO (mg/L)	7.4	6.8	6.9	7.3	7.1	~~7.6~~ AO
100	A	5	5	4	4	4	Temp. (°C)	20.9	21.0	20.2	20.1	20.5	20.4
	B	5	5	5	4	4	Salinity (ppt)	30.9	30.1	30.4	30.1	30.3	30.1
	C	5	5	5	5	5	pH (units)	7.83	7.74	7.81	7.70	7.75	7.70
	D	5	5	5	3	3	DO (mg/L)	7.4	6.7	6.8	7.3	7.1	7.0
200	A	5	3	3	2	2	Temp. (°C)	20.9	21.0	20.2	20.1	20.4	20.3
	B	5	5	4	1	0	Salinity (ppt)	30.9	30.1	30.4	30.1	30.3	30.1
	C	5	5	5	3	1	pH (units)	7.81	7.74	7.81	7.69	7.75	7.73
	D	5	4	3	2	1	DO (mg/L)	7.4	6.7	6.8	7.3	7.1	7.1
400	A	5	2	1	0	0	Temp. (°C)	20.9	20.9	20.2	20.1	20.5	20.4
	B	5	0	0	–	0	Salinity (ppt)	30.8	30.3	30.5	30.0	30.3	30.1
	C	5	2	0	–	0	pH (units)	7.76	7.74	7.81	7.67	7.76	7.70
	D	5	2	1	1	1	DO (mg/L)	7.4	7.1	6.9	7.4	7.3	7.1
	A						Temp. (°C)						
	B						Salinity (ppt)						
	C						pH (units)						
	D						DO (mg/L)						
	Tech Initials:	SC	SC	AG	AO	SC	Tech Initials:	SL	AG	~~AG~~ AG	JW	AG	AO

Date Animals Received: 2/12/21 ABS
Age of Animals at Test Start: 14 days

Feedings	0	24	48	72	96
Initials (AM):	SC	SL	JW	AG	AO
Initials (PM):					

Comments:

QC Check: AG 3/24/21

Final Review: SC 3/25/21

Wood Environmental Toxicology Lab, 4905 Morena Blvd, Ste. 1304, San Diego, CA 92117

APPENDIX G

2021 PORT OF SAN DIEGO IN-WATER HULL CLEANING ONLINE SURVEY RESULTS

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SAN DIEGO UNIFIED PORT DISTRICT

MEMORANDUM

Date: May 6, 2021

To: Board of Port Commissioners

Via: Jason H. Giffen
Vice President, Planning, Environment & Government Relations
jgiffen@portofsandiego.org

From: Karen Holman
Director, Environmental Protection
kholman@portofsandiego.org

Kelly Tait
Program Manager, Environmental Protection
ktait@portofsandiego.org

Subject: In-Water Hull Cleaning Online Survey Results Available

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The purpose of this memo is to notify the Board that the In-Water Hull Cleaning online survey results are being posted on the Copper Reduction Program website[1]. Results will help the District, marinas, yacht clubs, hull cleaners, boaters and other stakeholders to better understand in-water hull cleaning behaviors and help inform solutions that further improve water quality in San Diego Bay.

Background

On February 5, 2021 staff released three online surveys, tailored to (1) boat owners, (2) marina and yacht club managers, and (3) in-water hull cleaners, to identify in-water hull cleaning behaviors that are practiced by the San Diego Bay boating community (Attachment A). The surveys covered topics that included hull paint usage, cleaning frequencies and IWHC tools, and were available online through March 21, 2021. The survey results were intended to assist staff in identifying solutions to further improve water quality in Shelter Island Yacht Basin and San Diego Bay.

[1] https://www.portofsandiego.org/environment/environmental-protection/copper-reduction-program

Subject: In-Water Hull Cleaning Online Survey Results Available

Results

The District received 450 survey responses across all categories of targeted respondents, including 401 boaters, 32 in-water hull cleaners, and 17 marina and yacht club managers. For perspective, within the District's jurisdiction, there are currently 35 marina and yacht clubs and 56 permitted in-water hull cleaning companies. The responses provided diverse and representative perspectives on a range of in-water hull cleaning information including vessel hull paint, current management procedures, vessel cleaning practices and in-water hull cleaning tools utilized for cleaning. The survey responses are being made available to the public on the District website at https://www.portofsandiego.org/environment/environmental-protection/copper-reduction-program.

The information is displayed using a public-friendly format of figures and graphs to represent the summaries of each target audience, which are provided as Attachments B, C, and D to this memo. A general summary of responses is as follows:

Adherence to District In-Water Hull Cleaning Procedures

Port Ordinance 2681 requires in-water hull cleaning activities be conducted by permitted businesses and also requires the use of Best Management Practices (BMPs), as well as requiring marinas to check that hull cleaners entering their facilities are permitted. Survey responses indicate a general awareness and adherence to current administrative management procedures. However, varying degrees of both awareness and adherence were identified across respondent groups.

Vessel Hull Paint

In terms of hull paint type, survey results generally aligned with the vessel census information collected as part of the annual Shelter Island Yacht Basin Dissolved Copper Total Maximum Daily Load annual report, with most vessels using copper-based antifouling hull paint. Responses about the age of the vessel's paint differed between survey groups, most notably between boater and hull cleaner respondents. Answers from each survey group suggest there may be a difference in boater awareness and field verification of copper vessel paints by hull cleaners.

Vessel Cleaning Practices

Across respondent groups, results generally indicated cleaning frequencies increase during the summer months (May through October), which is consistent with District staff's understanding of cleaning practices. Boater and hull cleaner respondents indicated that most cleaning is performed on a set schedule by commercial hull cleaning companies.

Subject: In-Water Hull Cleaning Online Survey Results Available

While the general trend of increased summer cleanings was observed across respondent groups, how much more frequently cleanings occurred differed between boater and hull cleaner respondents. Comparison of cleaning frequency survey responses to previous stakeholder feedback on this topic indicates that annually, more cleaning may be occurring than previously estimated.

Tools

Across respondent groups, survey results suggest a variety of tools are used for in-water hull cleaning, with various frequencies of use for each tool. To date, there is limited information available that evaluates in-water hull cleaning tools and their impacts to water quality. Additional information may be needed to fully understand how different tools may impact water quality.

District staff believe that the San Diego Bay boating community was appropriately represented by the number and variety of survey respondents. Staff will be using the information collected from the surveys to better understand in-water hull cleaning behaviors and help inform solutions that further improve water quality in Shelter Island Yacht Basin and San Diego Bay. Further engagement with the boating community is anticipated over the summer.

If you have any questions, please contact Kelly Tait at (619) 348-1690 or via email at ktait@portofsandiego.org.

Attachments:
Attachment A: February 4, 2021 BPC Memo: In-Water Hull Cleaning Survey Availability
Attachment B: In-Water Hull Cleaning Survey Results - Boaters
Attachment C: In-Water Hull Cleaning Survey Results - Marinas and Yacht Clubs
Attachment D: In-Water Hull Cleaning Survey Results - In-Water Hull Cleaners

Attachment A

SAN DIEGO UNIFIED PORT DISTRICT

MEMORANDUM

Date: February 4, 2021

To: Board of Port Commissioners

Via: Jason H. Giffen
Vice President, Planning, Environment & Government Relations
jgiffen@portofsandiego.org

From: Karen Holman
Director, Environmental Protection
kholman@portofsandiego.org

Kelly Tait
Program Manager, Environmental Protection
ktait@portofsandiego.org

Subject: In-Water Hull Cleaning Online Survey Launch

The purpose of this memo is to notify the Board of the upcoming launch of an In-Water Hull Cleaning online survey to the boating community. Responses should allow the District, marinas, yacht clubs, hull cleaners, boaters and other stakeholders to better understand in-water hull cleaning behaviors and will help inform solutions that further improve water quality in San Diego Bay and beyond.

Background

Copper impairments in marine waters have been identified by the State Water Quality Control Board as an issue in marinas along the coast of California. The Shelter Island Yacht Basin (SIYB) has been identified as an area where high copper levels in the water exceed federal and state standards. A Total Maximum Daily Load (TMDL) adopted by the San Diego Regional Water Quality Control Board for SIYB contains a copper loading reduction schedule with a final loading reduction requirement of 76 percent from baseline levels by 2022.

The TMDL identifies the primary source of copper into SIYB water as the copper antifouling paints that are used to protect boat hulls from marine growth. One way copper can be released into the water is the underwater cleaning of boat hulls, commonly referred to as "In-Water Hull Cleaning" (IWHC). When a diver scrubs or wipes a copper-painted hull during a cleaning event, copper in the paint is released into the water and becomes a pollutant.

Subject: In-Water Hull Cleaning Online Survey Launch

Different cleaning tools, varying levels of copper in paints used, and varying cleaning frequencies are all factors that may impact how much copper is released into the water from IWHC. A better understanding of these factors should help find solutions to further improve water quality in SIYB and San Diego Bay.

In an effort to improve water quality, the District has undertaken several initiatives related to copper reduction and IWHC (Attachment A). Recent Board direction (Attachment B) prompted staff to reevaluate IWHC practices, which included reviewing the District's current IWHC Ordinance and IWHC Permit Program. Stakeholder engagement regarding IWHC practices occurred in 2019 and early 2020, and feedback from participants suggested the frequency of cleaning and types of tools used vary greatly from vessel to vessel and between divers and IWHC companies. As such, staff is seeking to improve the understanding of IWHC behaviors and how those connect with water quality.

Survey Release

Staff will be distributing an online survey to the boating community (which includes boat owners, marina and yacht club managers, and divers) to better understand current IWHC behaviors in San Diego Bay. The surveys cover topics that include hull paint usage, cleaning frequencies and IWHC tools. Answers will assist staff in improving the Copper Reduction Program and identifying solutions to further improve water quality in SIYB and San Diego Bay.

The online survey will be distributed to interested parties via e-blast and will also be accessible via hyperlink on the District's Copper Reduction Program website[1]. Surveys will be available online to the public starting next week and will be open for at least thirty days.

If you have any questions, please contact Kelly Tait at (619) 348-1690 or via email at ktait@portofsandiego.org.

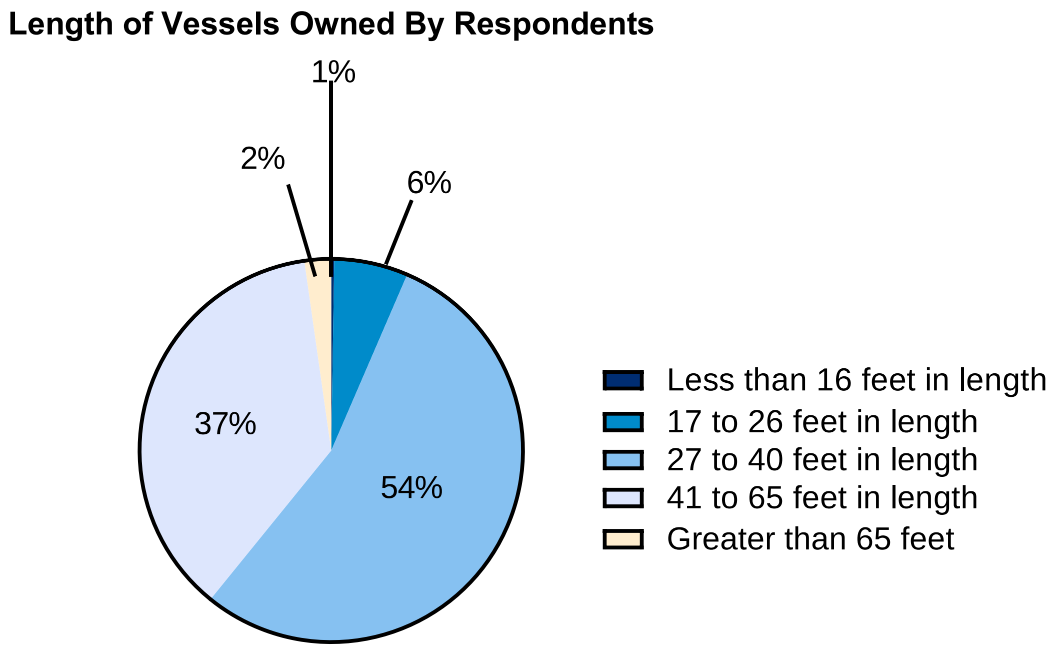
Attachments:
Attachment A: June 18, 2019 BPC Agenda: Presentation and Update on Copper Load Reduction Efforts
Attachment B: October 8, 2019 BPC Agenda: Direction to Staff on IWHC

[1] The District's Copper Reduction Program website can be accessed at https://www.portofsandiego.org/environment/environmental-protection/copper-reduction-program.

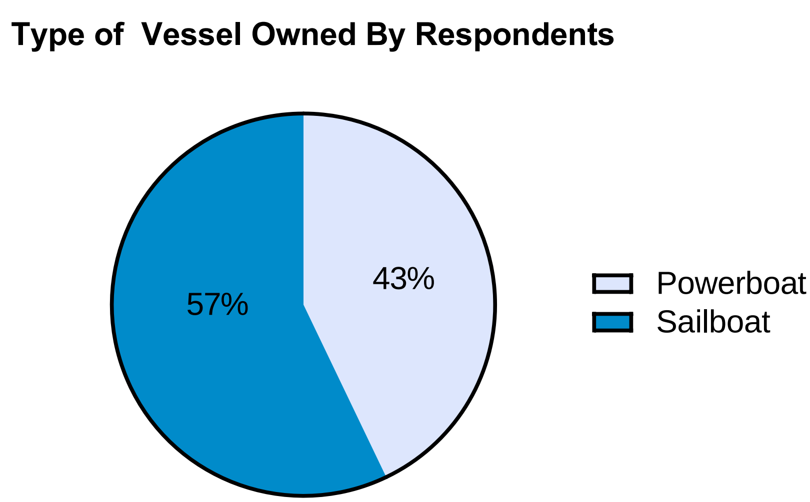
Attachment B

Copper Reduction Program
In-Water Hull Cleaning Survey Results- Boaters

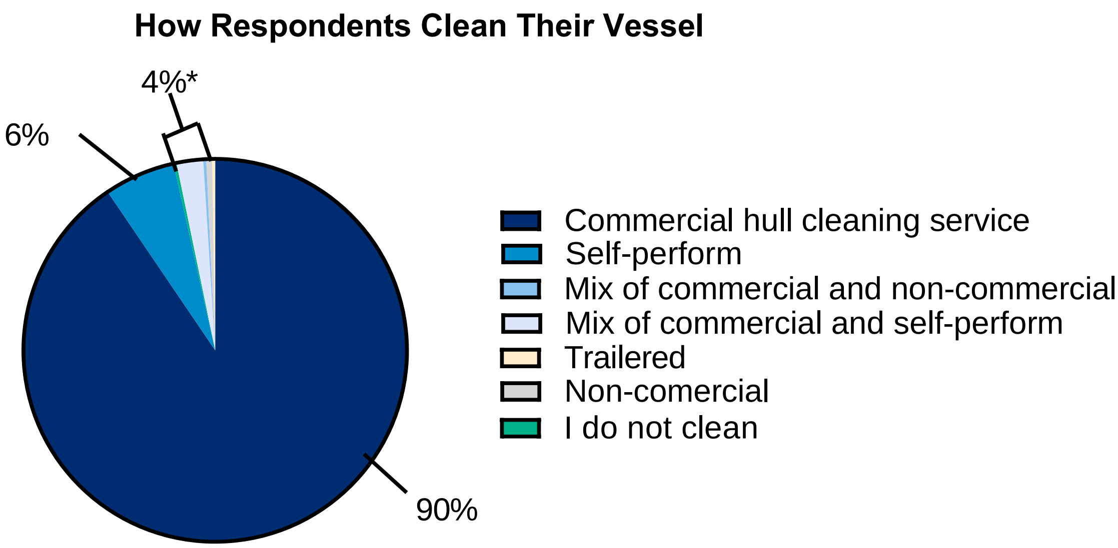
1) What is the length of your vessel?



2) Is your vessel:

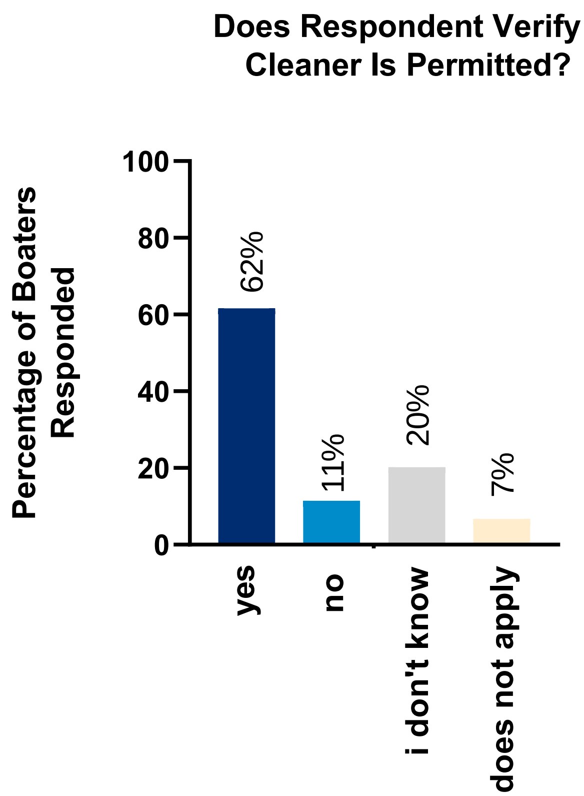


3) By what means do you clean your vessel?

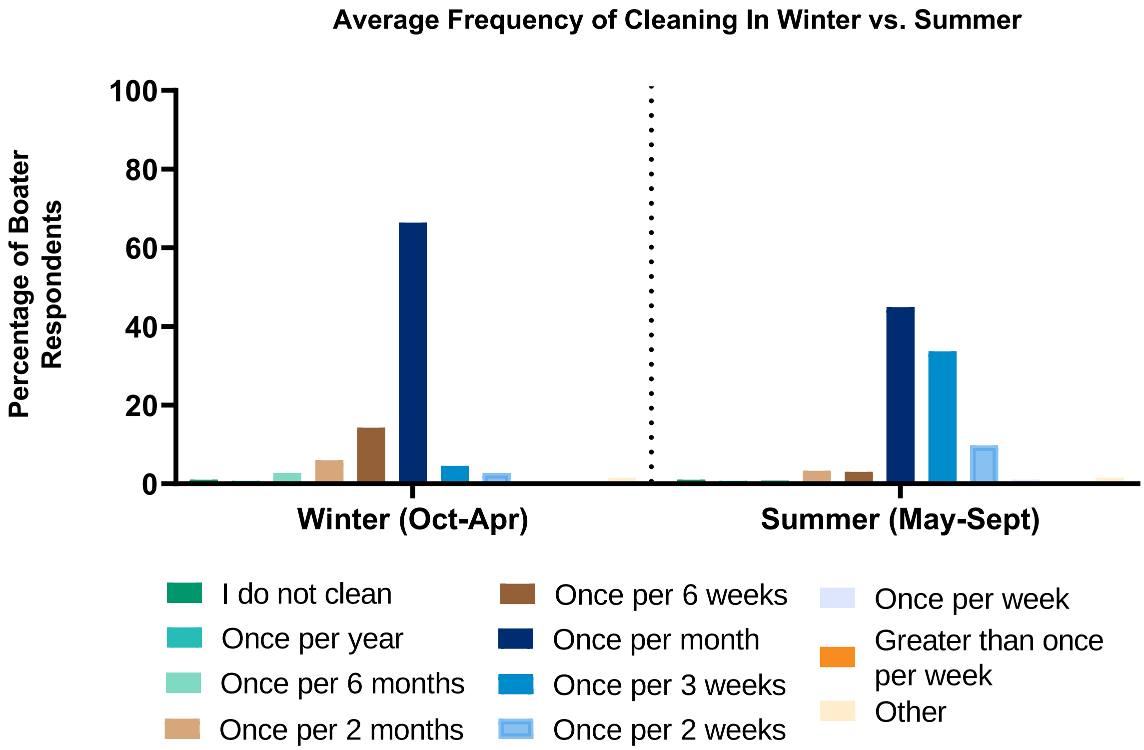


** When combined, all categories aside of commercial and self-perform comprise a total of 4%*

4) If you use a commercial in-water hull cleaning service in San Diego Bay, have you verified that the company providing the service is permitted by the Port of San Diego?

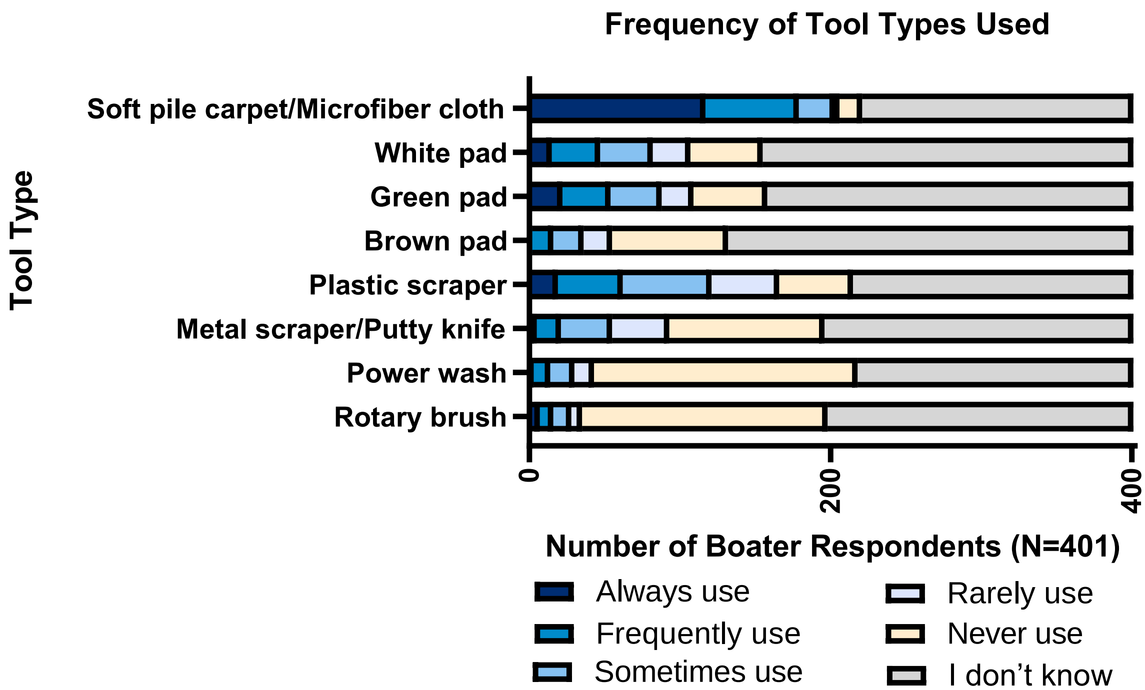


5) In the winter months (Oct.-Apr.) and summer months (May-Sept.), what is the average frequency in which you clean your hull?

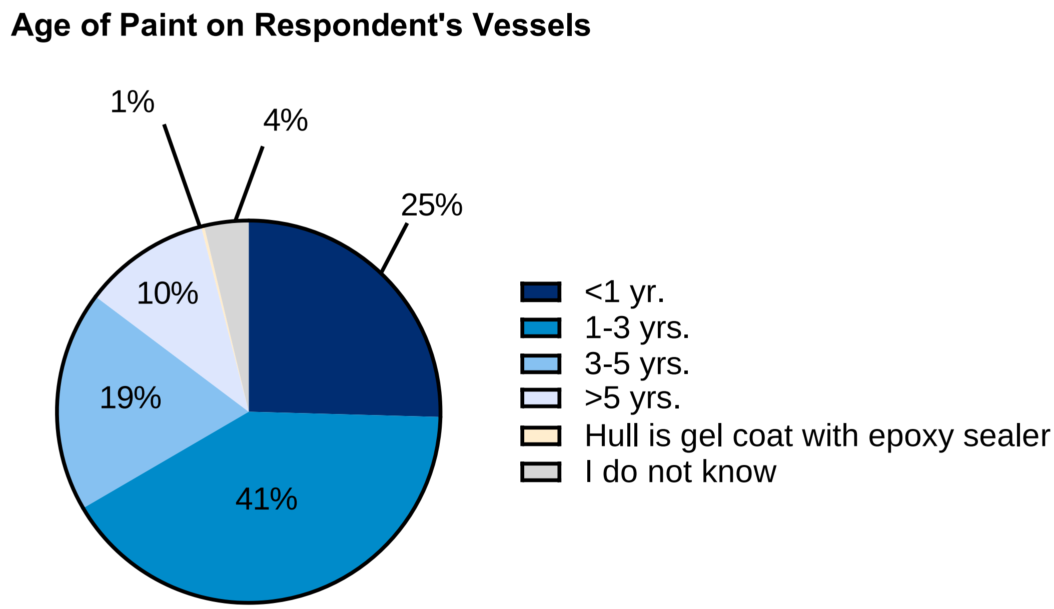


6) Combined with Question 5. See above.

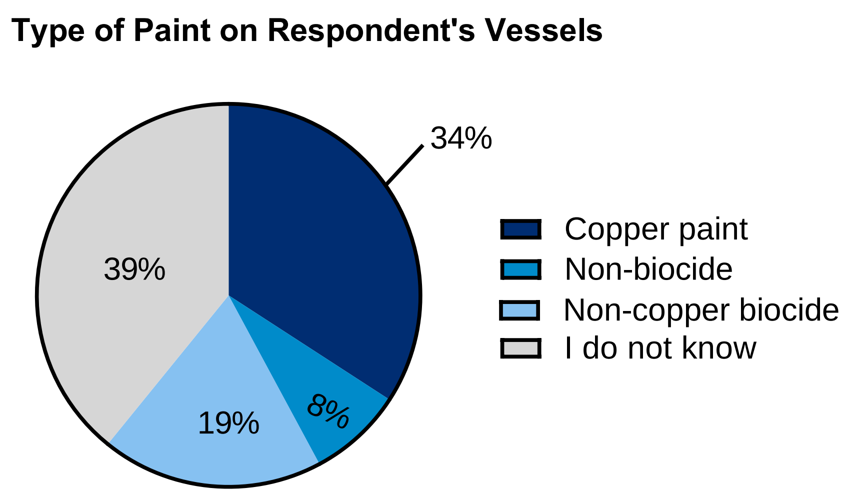
7) How is your boat hull being cleaned? Please rank the following cleaning tools used from the most commonly used to the least commonly used.



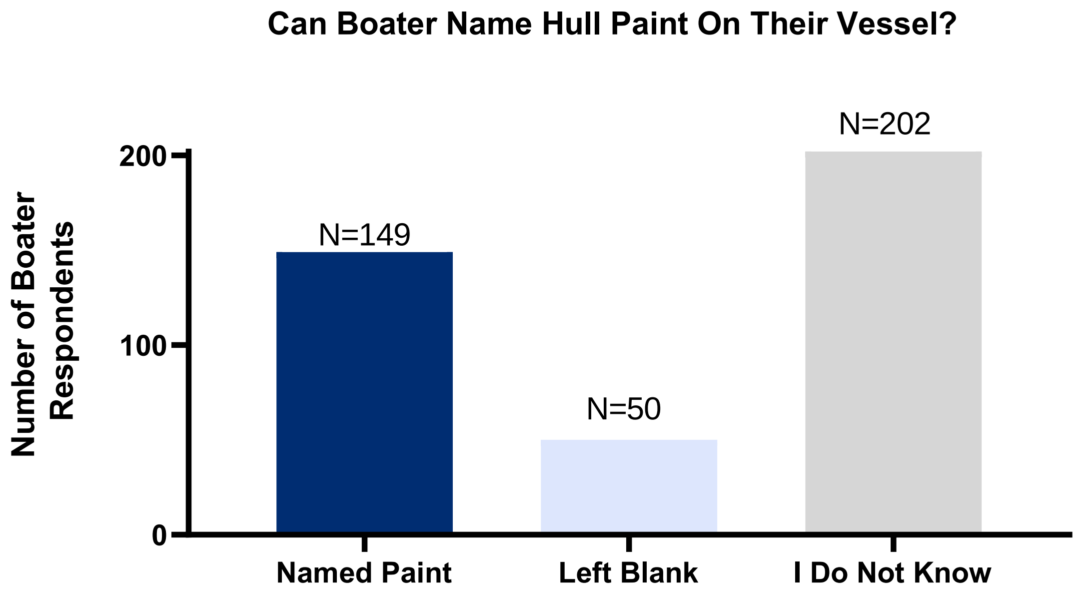
8) What is the age of hull paint on your vessel?



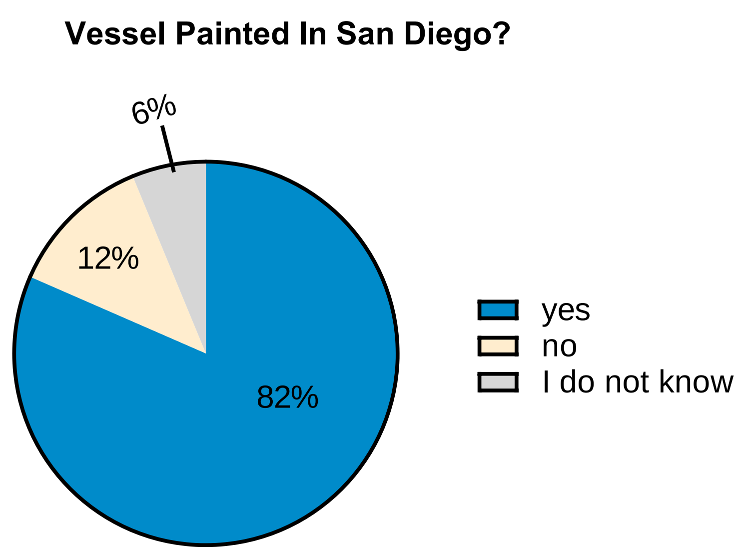
9) What type of hull paint is currently painted on your vessel?



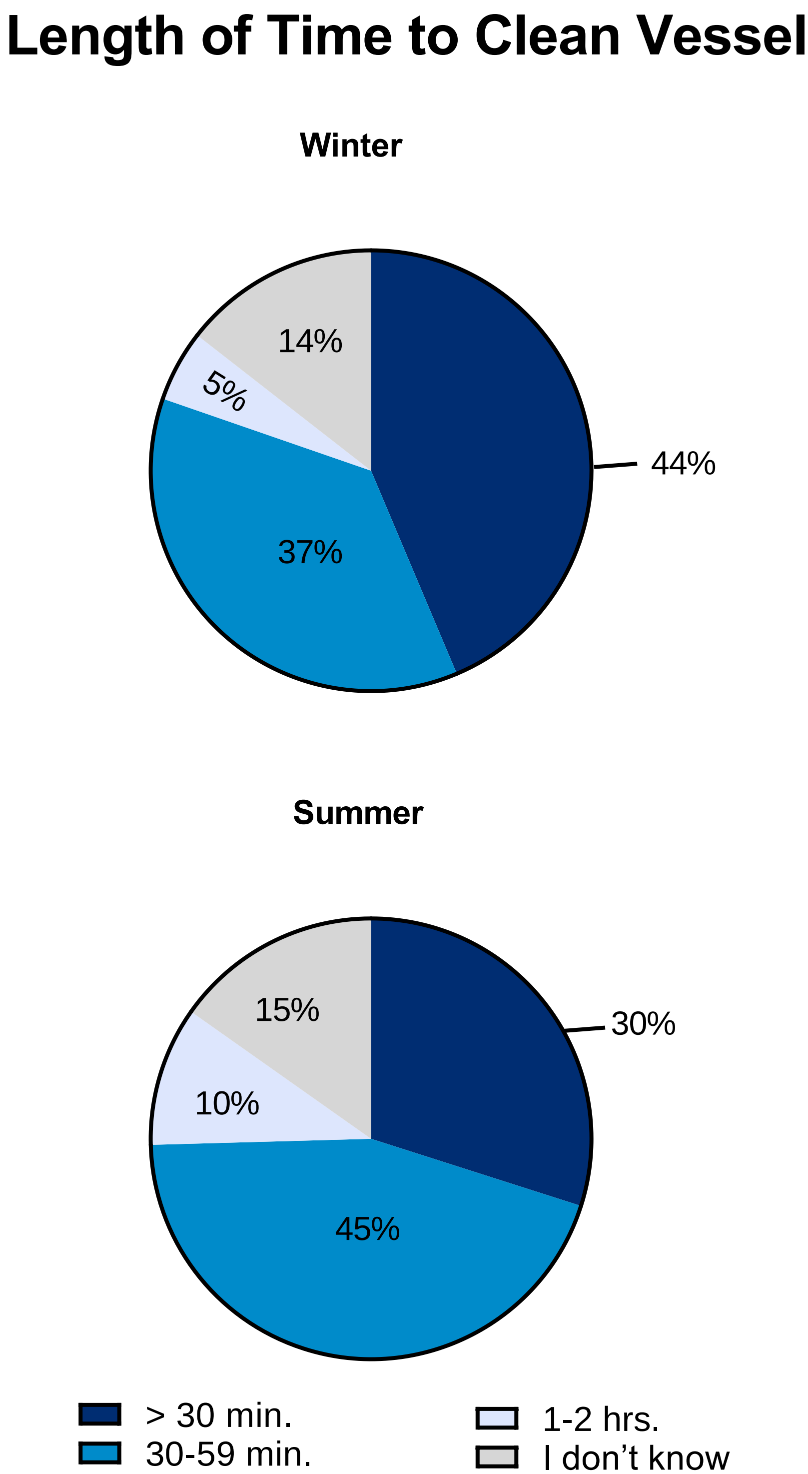
10) What is the name of the hull paint are you currently using?



11) Was your vessel painted locally in the San Diego region?



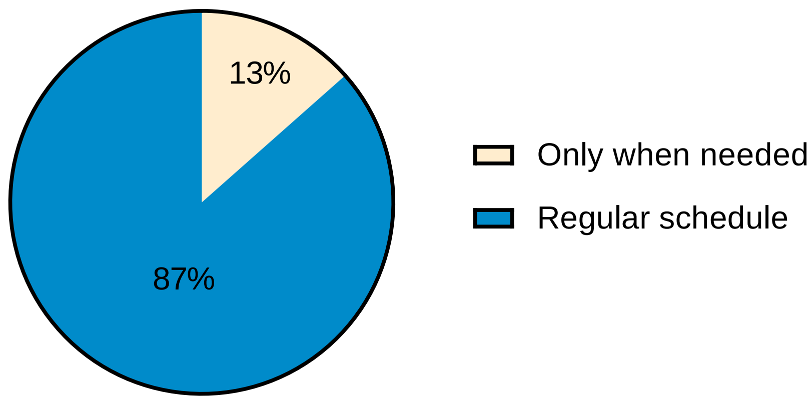
12) What is the estimated time it takes to clean your hull during the winter (Oct.-Apr.)? Summer (May-Sept.)?



13) Combined with Question 12. See above.

14) Do you clean your boat on a regular schedule or only when needed?

How Are Cleanings Scheduled?



15) If only when needed, from your perspective how long after a hull cleaning event does fouling indicate cleaning is necessary? (fill in the blank)

Due to the nature of the answers, unable to graphically represent

16) If regularly scheduled, how frequently do you schedule cleanings? (fill in the blank)

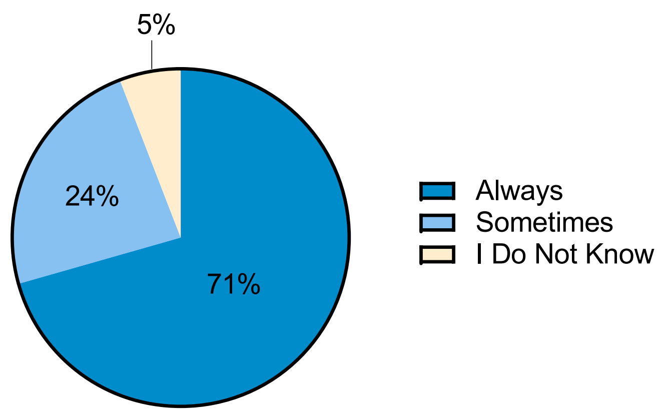
Due to the nature of the answers, unable to graphically represent.

Attachment C

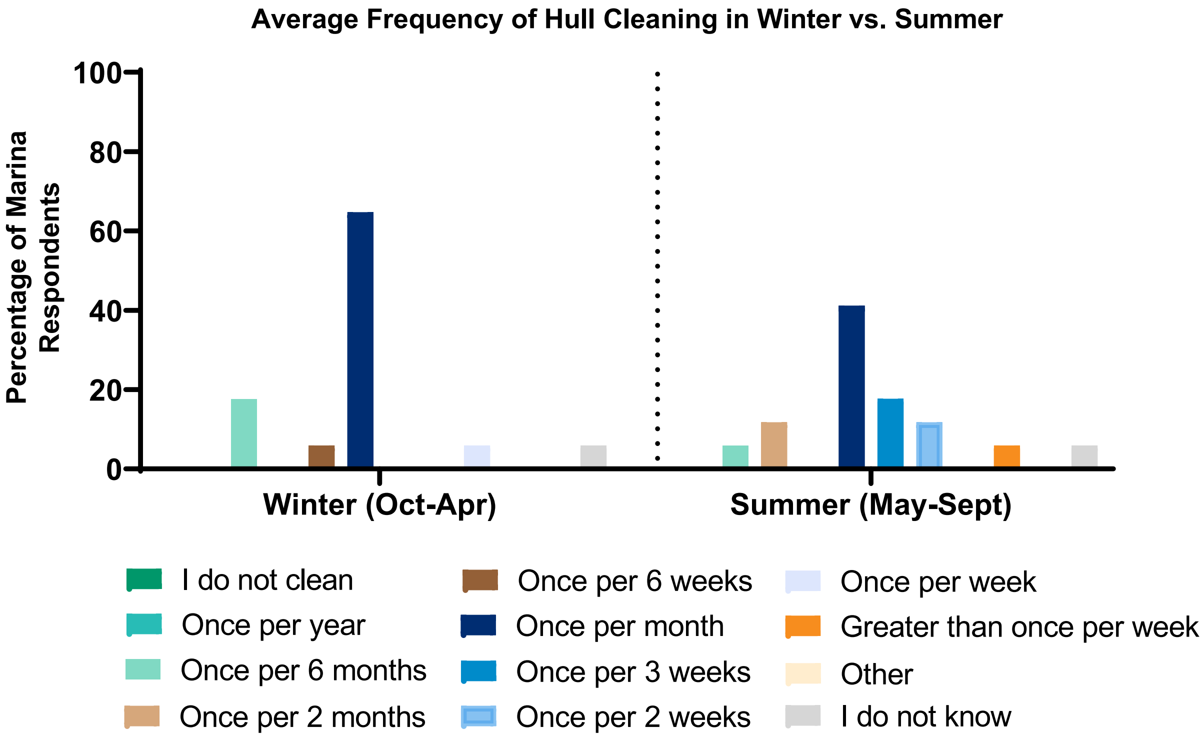
Copper Reduction Program
In-Water Hull Cleaning Survey Results – Marinas & Yacht Clubs

1) If your marina/yacht club is in San Diego Bay, does your facility verify that in-water hull cleaners doing work in your facility are permitted by the Port of San Diego?

Verify In-Water Hull Cleaners Are Permitted By Port?

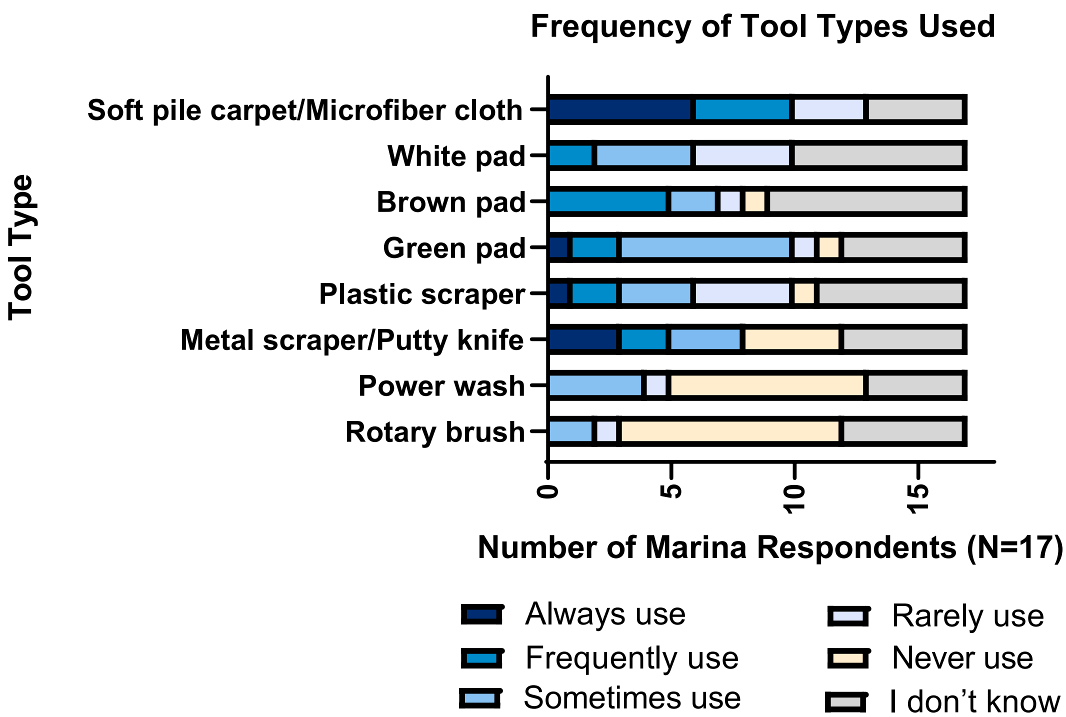


2) In the winter months (Oct.-Apr.) and summer months (May-Sept.), what is the average frequency of hull cleaning for the vessels in your marina/yacht club?

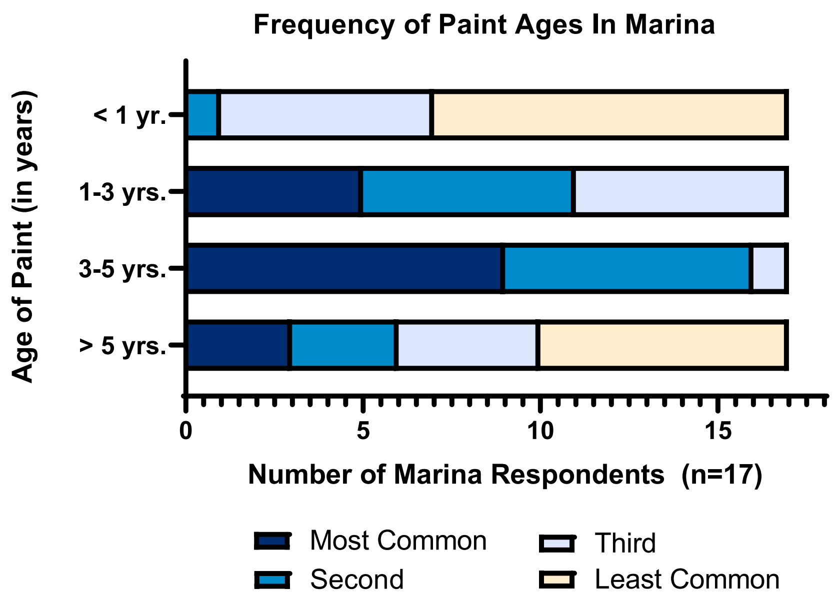


3) Answers combined with Question 2. See above.

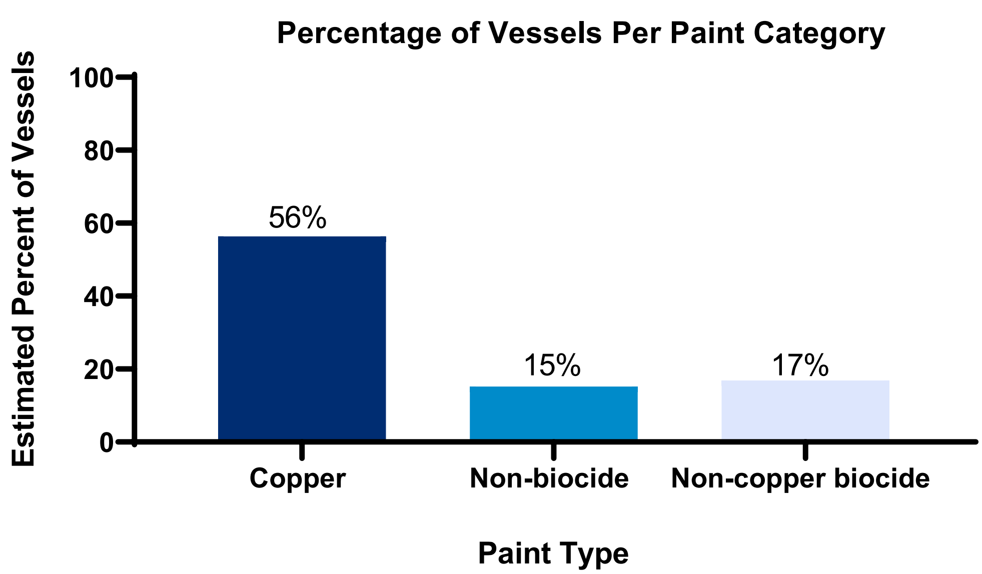
4) Please rank the following cleaning tools used to clean vessel hulls by in-water hull cleaners at your marina/yacht club in order from most commonly used to least commonly used.



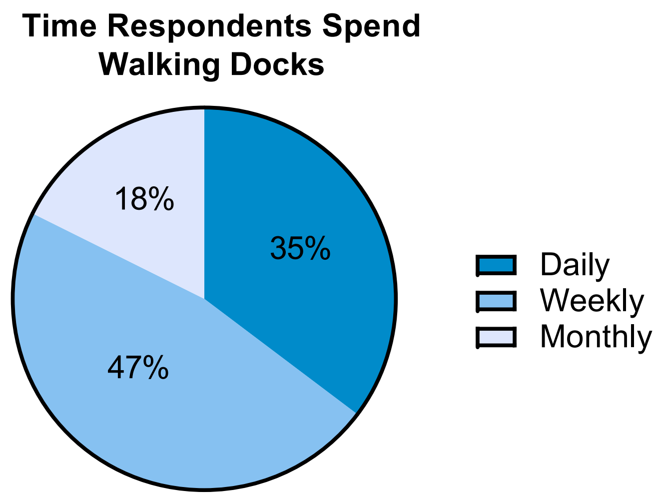
5) Please rank the following paint age categories from the most common average paint age to least common average paint age of vessels in your marina/yacht club.



6) For each paint category, fill in the percentage of vessels with each hull paint type at your marina/yacht club.



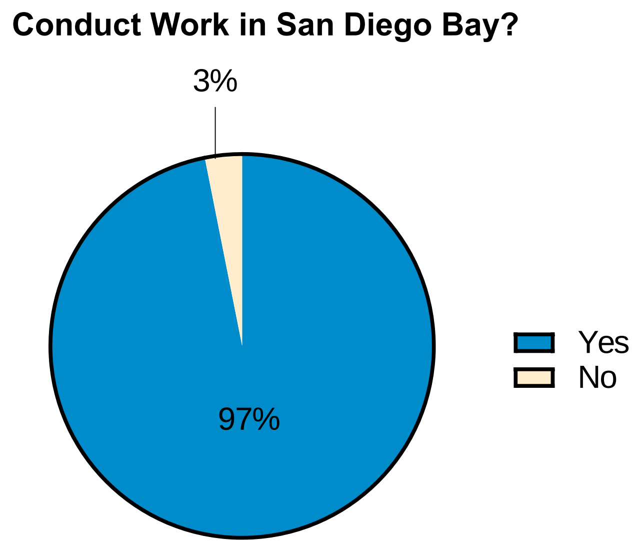
7) How often do you walk your docks to observe in-water hull cleaning at your facility?



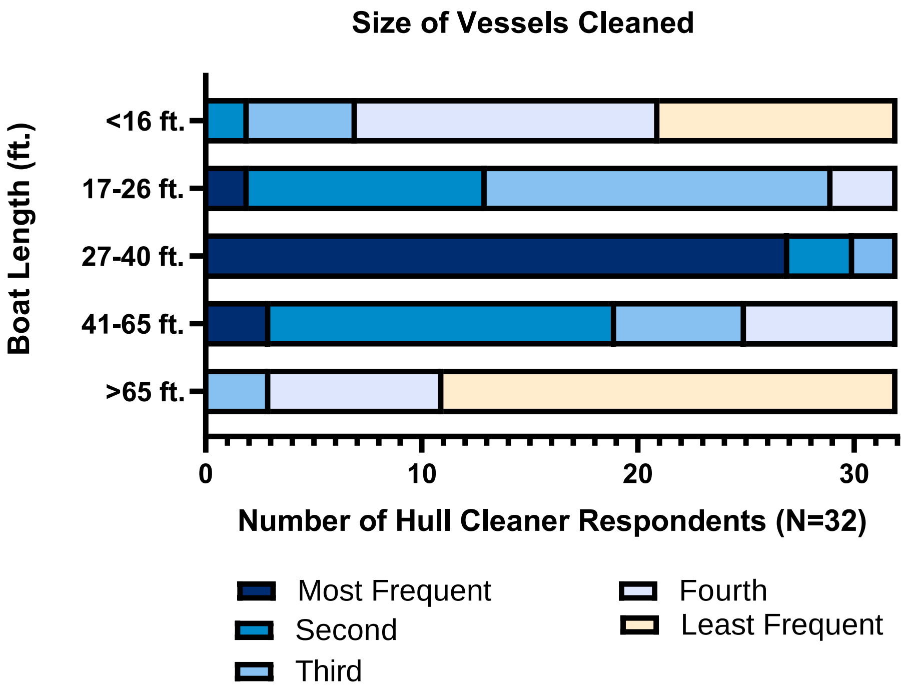
Copper Reduction Program

In-Water Hull Cleaning Survey Results – Hull Cleaners

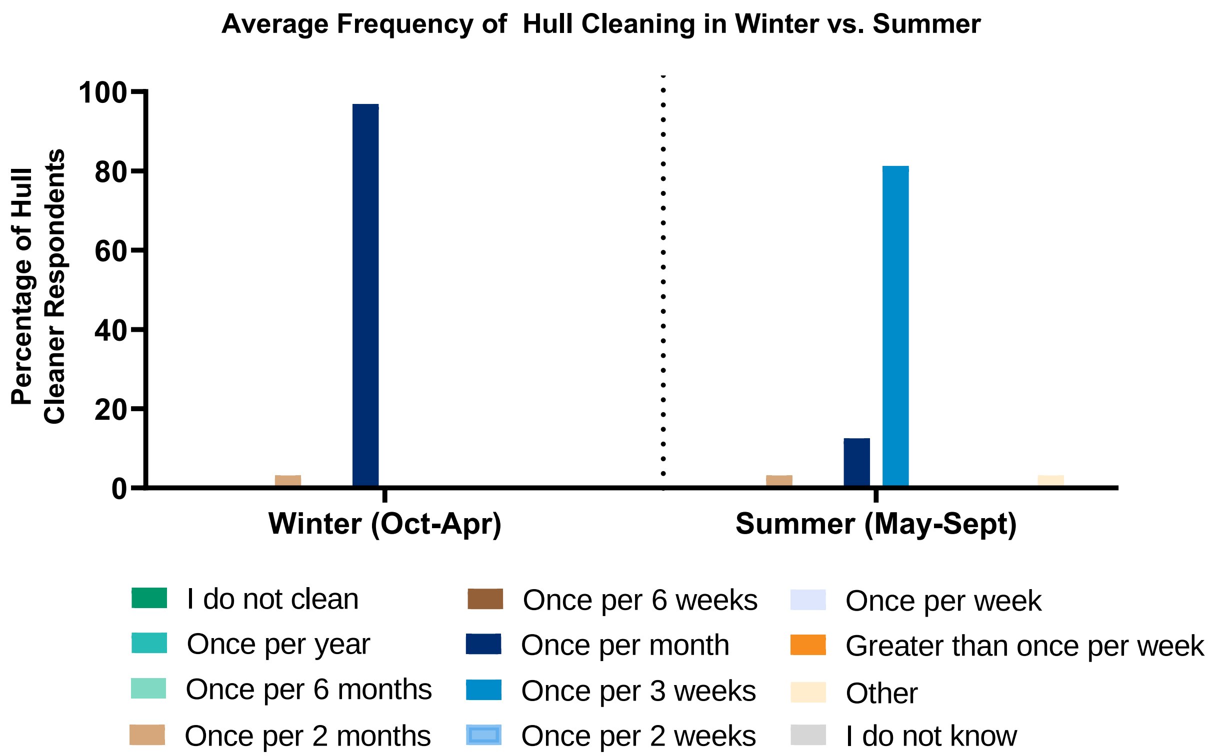
1) Do you and/or the company you work for conduct in-water hull cleaning within San Diego Bay?



2) Please rank the following vessel length categories from the most frequent length category of vessels cleaned to least frequent length category of vessels cleaned by you:

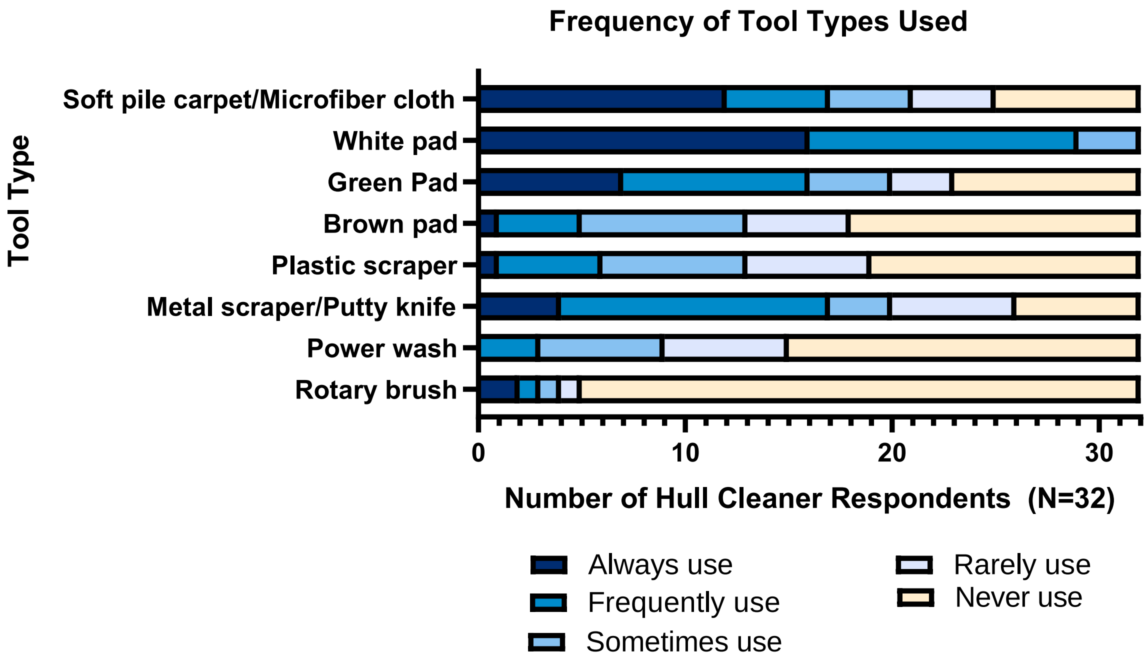


3) In the winter months (Oct.-Apr.) and summer months (May-Sept.), what is the average frequency of hull cleaning for the vessels you service?

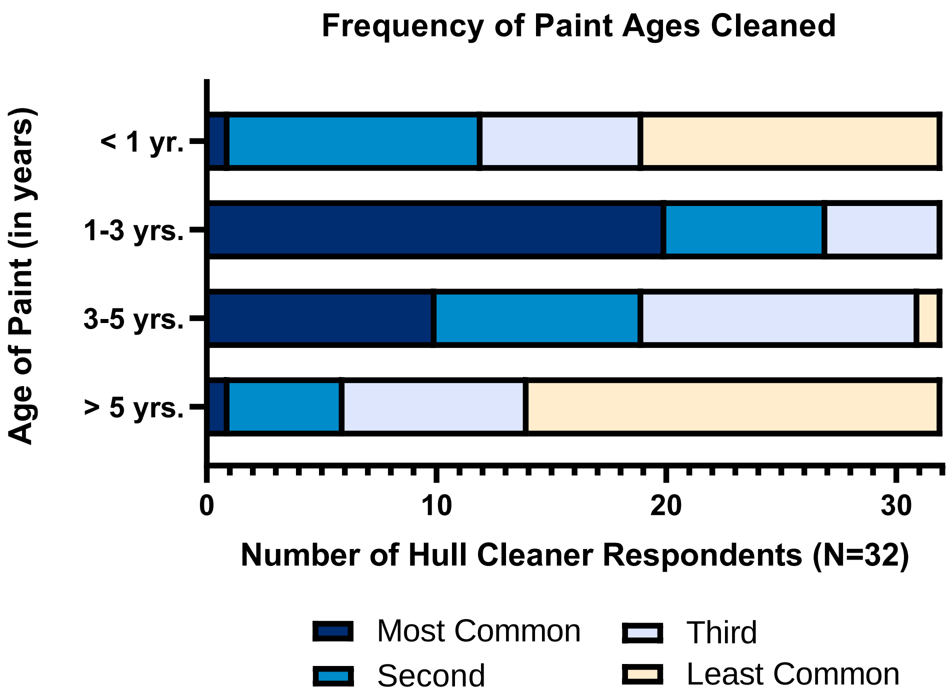


4) Combined with Question 3, see above.

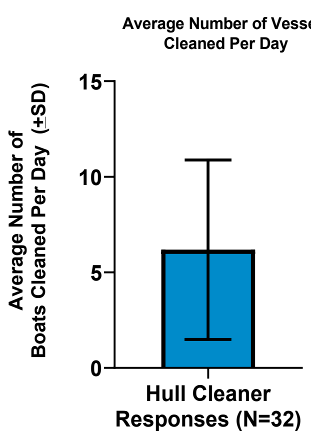
5) Please rank the following hull cleaning tools from the most commonly used to the least commonly used by you.

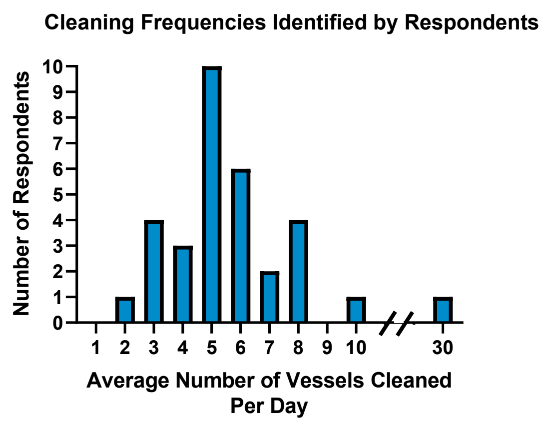


6) Please rank the following paint age categories from the paint age you most frequently clean to the paint age you least frequently clean.



7) On average, how many boats do you clean per day?

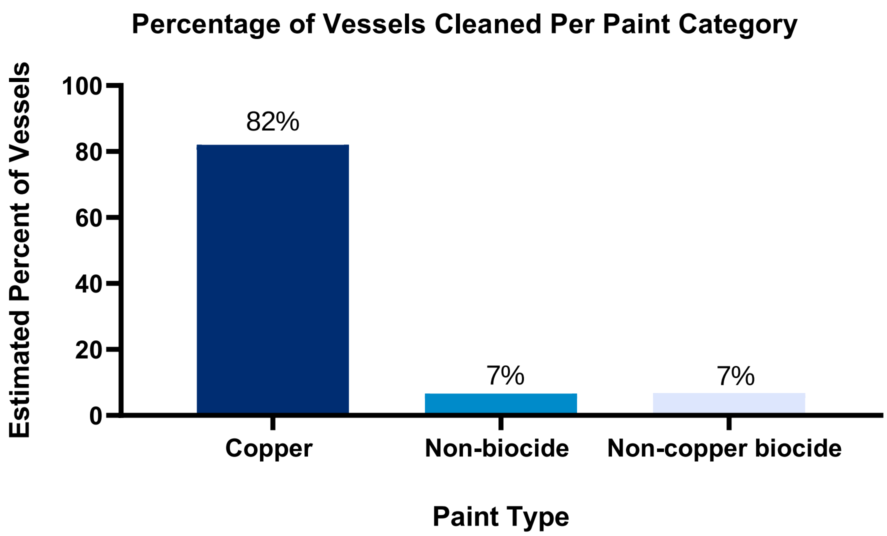




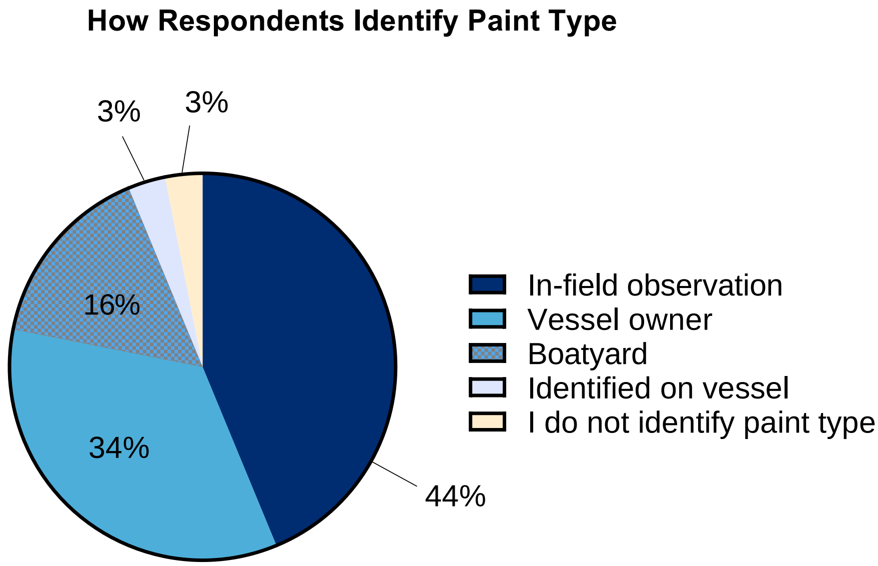
8) Fill in the percentage of boats that you clean daily that fall into each of the following paint categories:

Copper Reduction Program

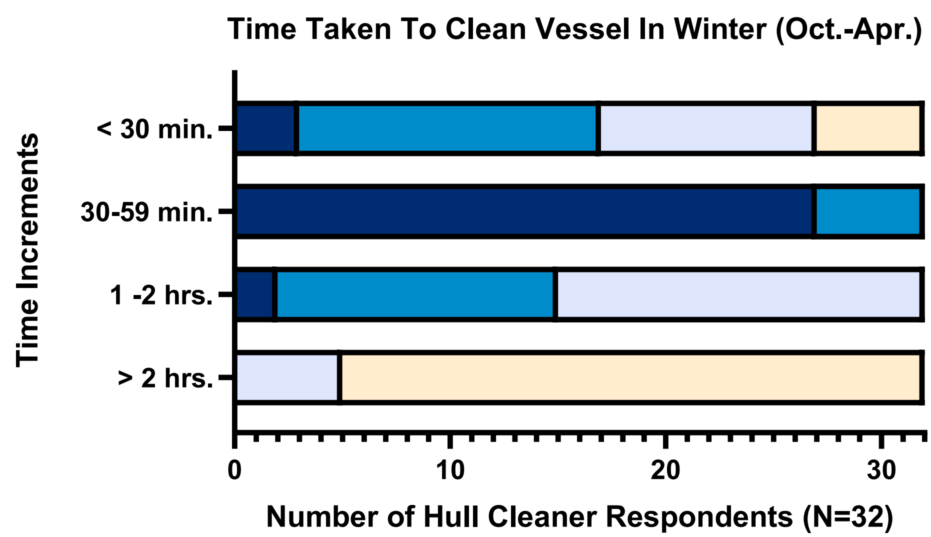
In-Water Hull Cleaning Survey Results – Hull Cleaners

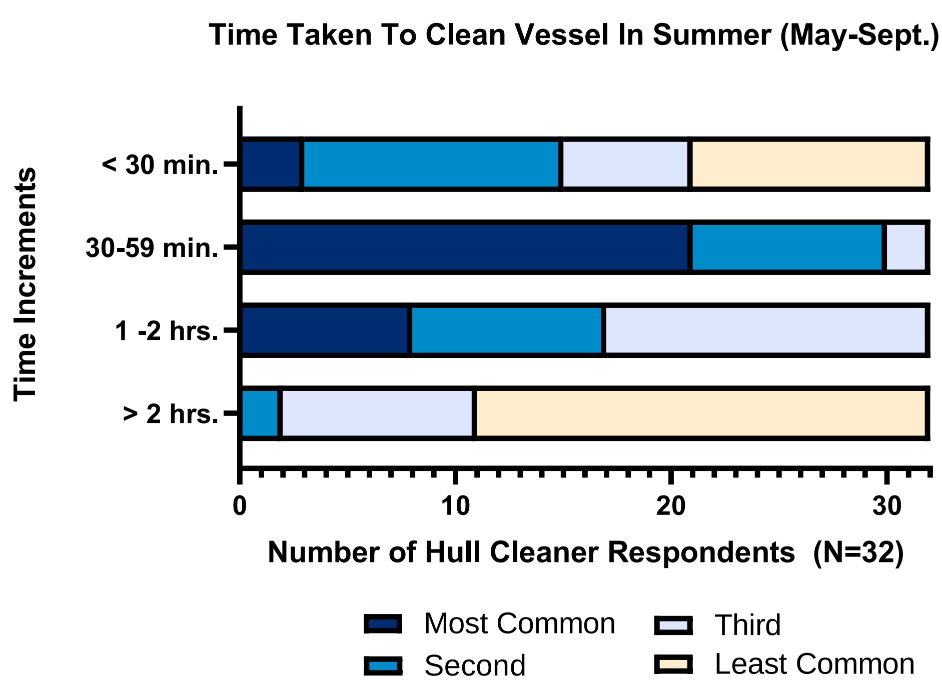


9) What method do you use to verify paint type?



10) Please rank the following time spans representing the average amount of time it takes to clean one vessel hull during the winter (Oct.-Apr.)? Summer (May-Sept.)?





11) Combined with Question 10, see above.

12) Do you clean individual vessels on a set schedule or because fouling indicates so?