



Shellfish and Seaweed Aquaculture Program Discussion Draft Comments

Comments received during the public review period:

August 20, 2024 – October 25, 2024

SSAP Discussion Draft Comments

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COMMENTS FROM INDIVIDUALS



Shellfish and Seaweed Aquaculture Program Discussion Draft Comments

*Comments received during the public review
period:*

August 20, 2024 – October 25, 2024

Comments from Agencies



Tomás J. Aragón, MD, DrPH
Director and State Public Health Officer

Gavin Newsom
Governor

October 22, 2024

San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

Subject: Comments on Shellfish and Seaweed Aquaculture Program Discussion Draft

Thank you for the opportunity to comment on the Shellfish and Seaweed Aquaculture Program (SSAP) Discussion Draft. The California Department of Public Health (CDPH) Preharvest Shellfish Unit submits the following comments.

The CDPH Preharvest Shellfish Unit has distributed a Limited Sanitary Survey Report for Shellfish Growing Area Classification of Imperial Beach and Tijuana River Zone of Influence, California, on October 15, 2024. The survey was completed in response to the Unified Port District of San Diego's application for a Shellfish Growing Area Certificate for the Imperial Beach parcel. This Limited Sanitary Survey Report establishes that the California state waters from the US-Mexico border north to La Jolla, including all of San Diego Bay and Mission Bay, will be classified as *Prohibited*. *Prohibited* is a classification used to identify a growing area where the commercial harvest of shellstock for any purpose, except depletion, gathering of seed or nursery culture for aquaculture, is not permitted. As such, CDPH is unable to issue a Shellfish Growing Area Certificate for any location within the *Prohibited* area. This evaluation is in conformance with requirements of the 2023 National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish, Model Ordinance and pursuant to the California Health and Safety Code (§112150 and §112170). There is a 20-day review and comment period for the report, which will conclude on November 4, 2024.

Please let me know if you have any questions at 510-412-4635 or vanessa.zubkousky@cdph.ca.gov.

Sincerely,

Vanessa Zubkousky-White
Senior Environmental Scientist
Preharvest Shellfish Unit



To Whom It May Concern:

Thank you for the opportunity to review the Shellfish & Seaweed Aquaculture Program (v AUG2024). Attached please find a list of review comments from the Navy Region Southwest Team for your review and consideration. While a signed letter is forthcoming, we wanted to make sure we provided the list of review comments by the stipulated deadline.

We look forward to the continued partnership!

Thank you!

Very respectfully,

Lorena Córdova, AICP, LEED Green Associate
Community Partnership Program Analyst
Navy Region Southwest
750 Pacific Highway, Floor 15
San Diego CA 92132
O: 619-705-5459
M: 619-818-0557

Page	Section	Comment
5	Executive Summary	<ul style="list-style-type: none"> Consider specifying the military as an existing maritime use under the goals of the SSAP Consider adding the closure of the anchorage as a stated objective due to ongoing environmental concerns with the anchorages due to abandoned and derelict vessels
7	Executive Summary	<ul style="list-style-type: none"> Recommend working with NBC to refine the proposed Zuñiga Shoals aquaculture location to provide more buffer from the NBC shoreline, which appears very close to the installation on Figure ES1 map
14	1.3 Objectives of the SSAP	<ul style="list-style-type: none"> Consider adding an objective to identify and remove obstacles for proposed aquaculture locations such as an existing anchorage location Consider including language about reducing threats to protected natural resource off and onshore (e.g., protected Shorebirds are impacted by current uses)
36	4.2 Additional Federal Authorizations and Agencies	<ul style="list-style-type: none"> Recommend changing the description after U.S. Department of Defense to provide a brief mission statement, and then state that “locations conflicting with military readiness operations would be avoided.” Request coordination with NRSW N40 and N4EM on proposed locations to ensure compatibility with the Navy’s expanded eelgrass mitigation bank areas
37	4.4 National Policies in Support of Aquaculture	<ul style="list-style-type: none"> Consider specifying which proposed location is in Federal waters after the last sentence on the page
54	6.2.2 Proposed In-Water Locations - Zuñiga Shoals	<ul style="list-style-type: none"> Recommend working with NBC to refine the proposed Zuñiga Shoals location to provide more buffer and to ensure compatibility with Navy operations and training activities, including those readiness activities that occur on or below the surface in training area MIW Foxtrot. Recommend removing the current anchorage in support of this alternative use Recommend ensuring the farming would not create Bird Airstrike Hazards (BASH) near the airfield Recommend excluding the Search and Rescue (SAR) 1 training area from the study area because of incompatibility with Navy training and operations
93	10.5 Additional Permits and Approvals	<ul style="list-style-type: none"> Recommend adding the Department of Defense to the list of “Additional Permits and Approvals” for the Zuñiga Shoals location
97	11.1 Zuñiga Shoals	<ul style="list-style-type: none"> Consider compatibility with military operations as it relates to Aquaculture Operations

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		<ul style="list-style-type: none"> • Clarify whether aquaculture is considered in current areas only or if there are buffer areas that extend beyond those boundaries
103-107	Appendix A	<ul style="list-style-type: none"> • Specify the depth that common gear is located • Specify if the common gear will come to the surface • Consider gear within SAR1, which could be an entanglement hazard
	Study Areas	<ul style="list-style-type: none"> • Consider if birds are attracted to these sites and, if so, assess this as a BASH hazard

Draft Shellfish and Seaweed Aquaculture Program AUG 2024 Version: Navy Region Southwest Review Comments

From Cordova, Lorena G CIV USN (USA) <lorena.g.cordova.civ@us.navy.mil>

Date Tue 11/5/2024 3:16 PM

To Randa Coniglio <rconiglio@portofsandiego.org>

Cc Shepherd, Anna CIV USN COMNAVREG SW SAN CA (USA) <anna.shepherd4.civ@us.navy.mil>; Lily Tsukayama <Itsukayama@portofsandiego.org>; Shellfish and Seaweed Aquaculture Program <SSAP@portofsandiego.org>

 2 attachments

2024.10.22_Navy_SSAP_Comment Ltr.pdf; NRSW Comments: Shellfish & Seaweed Aquaculture Program v AUG2024;

Ms. Coniglio:

Good afternoon. Attached please find a comment letter from Navy Region Southwest (NRSW) regarding the Port's Draft Shellfish and Seaweed Aquaculture Program (first attachment). Please note the same list of review comments were provided on 25 OCT 2024 via email to SSAP@portofsandiego.org (second attachment).

Thank you!

Very respectfully,

Lorena Córdoba, AICP, LEED Green Associate
Community Partnership Program Analyst
Navy Region Southwest
750 Pacific Highway, Floor 15
San Diego CA 92132
O: 619-705-5459
M: 619-818-0557



DEPARTMENT OF THE NAVY
COMMANDER NAVY REGION SOUTHWEST
750 PACIFIC HIGHWAY
SAN DIEGO CA 92132-0058

IN REPLY REFER TO:
5090
Ser N00/131
22 Oct 24

Ms. Randa Coniglio, Acting President/CEO
Port of San Diego
3165 Pacific Highway,
San Diego, CA 92101

Ms. Coniglio:

Thank you for the opportunity to comment on the Port of San Diego's Draft Shellfish and Seaweed Aquaculture Program (SSAP). Navy Region Southwest appreciates our working relationship with the Port, particularly as it relates to our co-management of the San Diego Bay through our shared Integrated Natural Resources Management Plan.

As part of our review, we coordinated with Naval Base Coronado, Naval Base Point Loma, and Naval Base San Diego. Our comments reflect their input. We are hopeful that this program will provide an alternative use of Zuñiga Shoals that is compatible with Naval Base Coronado and resolve the environmental hazards and mission impacts associated with the existing anchorage.

Thank you again for the opportunity to coordinate. Our comments are attached. My point of contact for this matter is Ms. Lorena Cordova, AICP, Community Partnership Program Analyst. She may be reached at 619-705-5459 or at lorena.g.cordova.civ@us.navy.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Bradley N. Rosen", is written over the word "Sincerely,".

Bradley N. Rosen
Rear Admiral, U.S. Navy
Commander, Navy Region Southwest

Copy:
Anna Shepherd, RCPLA, Navy Region Southwest
Lorena Cordova, Community Partnership Program Analyst
Lily Tsukayama, Program Manager, Planning & Environment

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Comments from Organizations

Comments on the Shellfish and Seaweed Aquaculture Program: Discussion Draft (SSAP)

Comments By San Diego Association of Yacht Clubs (SDAYC)

SDAYC is primarily concerned with avoiding problems that might be encountered by the placement of structures in navigable waters that have been enjoyed by recreational boaters and fishermen for generations. Every example of shellfish cultivation that we have observed utilizes infrastructure that would close off open water to marine navigation. We support this proposal in principle providing that earnest consideration be given to alternate areas where recreational boating is not impacted.

Other items that ought to be incorporated in this document include the California 30by30 initiative [30-by-30 Pathways](#) and Assembly Bill No. 2285 Equitable Outdoor Access. The intent underlying these initiatives is to preserve natural areas for purposes that include recreational boating.

The goals of the SSAP include:

Leverage the District's unique role as a port and government partner to:

- *Create new opportunities to complement existing maritime uses and diversify the Port's portfolio of sustainable business lines*
- *Balance existing and emerging maritime, recreational, and blue economy industries to promote prosperous working seascapes*
- *Explore sustainable use of the ocean space while enhancing surrounding marine ecology*

While recreational activities are nodded at, the second bullet point is clearly aimed toward “*blue economy industries to promote working seascapes.*” The implication would be the displacement of long-time recreational boating from areas of the bay and coastal zone by allowing infrastructure that precludes navigation by recreational boaters.

Proposed future operations for the growing of shellfish and/or seaweed in and around San Diego Bay would need to be reviewed for consistency with the objectives of the SSAP and regulated to minimize environmental effects, seek co-benefits, and maximize sustainable production.

Would the regulation of aquaculture also be required to minimize compromising access to the open waters utilized by recreational activities?

Nowhere in the Goals (1.1), Purpose (1.2) or Objectives (1.3) is there any reference to maintaining existing recreational boating uses.

3.1 *The District's mission: "Protect the Tidelands Trust resources by providing economic vitality and community benefit through a balanced approach to the maritime industry, tourism, water and land recreation, environmental stewardship, and public safety."*

Significant weight must be given to Districts mission to protect water recreation (fishing and boating), as well as public safety. Introducing infrastructure into navigable waters will enhance to risks to boaters. The Code of Federal Regulations Part 64 describes the process and requirements for marking submerged navigational hazards. [Part-64](#)

The Port Act, Public Trust Doctrine, and the PMP govern the District's management authority to balance commerce, navigation, fisheries, recreation, and environmental stewardship in and around San Diego Bay.

"A port district ... for the development, operation, maintenance, control, regulation, and management of the harbor of San Diego upon the tidelands and lands lying under the inland navigable waters of San Diego Bay, and for the promotion of commerce, navigation, fisheries, and recreation thereon..."

Navigation, fisheries and recreation are clearly part of the mandate of the port. These activities are all widely enjoyed by boaters in San Diego and have been for generations. They are all dependent upon safe access to open navigable waters.

6 SSAP Locations In and Around San Diego Bay



This illustrates very well the obstructions that could be introduced into navigable waters that would preclude use of open waters by recreational boats as well as the possible safety issues for sailors unaware of their presence.

Former A-8 Anchorage

This site consists of approximately 80 acres of submerged lands located 1,200 feet west of the National City Marine Terminal within San Diego Bay. The area is currently within submerged lands

The open bay south of the Coronado Bridge and down to the shallow water at the Sweetwater River represent a unique and valuable sailing venue. There is steady wind and flat water that exists nowhere else in the bay. This area is utilized by organizers of regular sailing events including for sailing by disabled sailors and juniors learning to sail. Furthermore, it is at the juncture of the entrance to the Chula Vista Marinas as well as the 32nd Street Marina and is transited every day by dozens of recreational vessels.

There is considerable open water south and east of this area that is too shallow for navigation. Possibly, aquaculture would be more suitable in those waters where recreational boating would not be impacted.

Zuñiga Shoals

This nearshore, open-ocean, site is south of the western end of the City of Coronado.

There are approximately 945 acres for cultivation which would likely utilize horizontal longlines, hanging ropes and baskets.

The outstanding feature of the Zuniga shoals location is its presentation of a 'lee'. That is, waters protected from ocean winds and waves. There is no alternative on the San Diego County coastline. This area is utilized by organizers of regular sailing events. These events include World and National Championship sailing regattas. It is also an area regularly transited by vessels from San Diego and up and down the California coast.

An alternative would be to select a submerged land tract along the "beach shoals" just offshore of Coronado Roads. Half of the current design could be used without interference with a prime sailing area. Perhaps a ½ mile by 2-mile section beginning in the northwest corner of current plot and extending along the beach to the east and south.

Another area that should be considered that would not have a negative effect on navigation is the area inside the bay along the shoreline of North Island.

APPENDIX A

Common Gear Associated with Growing Shellfish and Seaweed

All the illustrated gear that is commonly used for Aquaculture would effectively close off an area of navigable water to recreational boating.

It is essential that consideration be given to preserving these open water areas for their recreational uses.

From: Cleve Hardaker <clevehardaker@gmail.com>
Sent: Sunday, September 15, 2024 8:26 AM
To: Daniel Reeves; Lily Tsukayama; Paula Sylvia; Lesley Nishihira; Renee Angwin
Cc: jlaun3@gmail.com; Sharon Cloward
Subject: Fwd: Star Worlds recap

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

----- Forwarded message -----

From: Jerelyn Biehl <Jerelyn@odmsail.com>
Date: Sat, Sep 14, 2024 at 2:44 PM
Subject: Star Worlds recap
To: Cleve Hardaker <clevehardaker@gmail.com>, davemurree@hotmail.com <DAVEMURREE@hotmail.com>, Sandra Sherman <slsherman@cox.net>, Gillam, Jenee <jgillamray@gmail.com>, Jeff Laveson <laveson@carneylaw.com>, Mark Mallaby - OYC <mark.mallaby1@gmail.com>, Ryan Perry <ryanperry@rogers.com>

Hi All,

We just finished the Star World Championship at SDYC and a video recap of the event is below. After my 31+ years going to various World championships of several classes, i can honestly say this was the best - above and beyond. The way San Diego was showcased and the cooperation between clubs and the SDYC volunteers was exceptional. SWYC loaned some boats for media; we had volunteers on RC from a few clubs and I saw spectators from CCYC, CYC and SWYC on the course. Social media was reporting each rounding on Instagram (#InternationalStarClass) and FB posts as well as daily press releases with incredible photos by Matias Capizzano.

Star Class President Paul Cayard says this was a model for all clubs for future events! A very big statement.

Worlds website: <https://worlds.starchampionships.org>

Star Class | Star Class World Championship

Star Class

worlds.starchampionships.org

Hope you enjoy the video -

<https://youtu.be/6aLbsA6Y0Y4?si=YB0bCP6FuUXv6ZJ0>

YouTube

Share your videos with friends, family, and the world

youtu.be

Jerelyn Biehl

Letter regarding the August 2024 Discussion Draft of the Shellfish and Seaweed Aquaculture Program:

Dear Jason Giffen, Paula Sylvia and Daniel Reeves,

September 27, 2024

On behalf of San Diego Working Waterfront, I am writing to express our concerns regarding the potential impact of structures in navigable waters long used by recreational and commercial fishers and boaters. While we support the shellfish cultivation proposal in principle, we strongly recommend exploring alternative areas that will not interfere with existing recreational boating and fishing activities.

Protected waters near Point Loma, Zuniga Jetty, and Silver Strand are vital for recreational boating, fishing, and commercial fishing operations. Please consider a nearshore arrangement that will minimize conflicts with these uses. The Zuniga Jetty area currently supports recreational fishing, bait hauling, and Naval operations, all vital to this region's economy. Any disruption in this area will negatively impact naval operations, recreational fishing, commercial activities, and boating. Additionally, sewage concerns near the Imperial Beach Pier need to be addressed before moving forward.

The proposed South San Diego Bay location near the National City Marine Terminal is a unique and valuable area for sailing, offering flat water and consistent wind conditions. What is the economic rationale for utilizing large areas of the bay without fully understanding the broader impacts and unintended consequences for recreational use? We urge you to consider these effects carefully.

We request that an alternative site, such as the area near the old cement buoys outside Naval Air Station North Island, be analyzed and included in the draft proposal.

California's 30x30 initiative and AB 2285, which aim to preserve natural areas for recreational use, must be considered in this discussion. Future shellfish and seaweed cultivation projects should not compromise access to open waters used by boaters.

The Port Act and the Public Trust Doctrine emphasize balancing navigation, fisheries, and recreation. Areas like the Former A-8 Anchorage and Zuñiga Shoals are key sailing venues that should remain accessible for recreational use. We encourage you to consider alternative aquaculture locations that will not interfere with boating activities.

Please take these concerns into account in your ongoing discussion and evaluation.

Thank you for your attention to this matter.

Sincerely,
Sharon Cloward
President & CEO
San Diego Working Waterfront

RE: Port of San Diego Shellfish and Seaweed Aquaculture Program Discussion Draft

From Wagschal, Adam <awagschal@moffattnichol.com>

Date Mon 10/14/2024 3:09 PM

To Paula Sylvia <psylvia@portofsandiego.org>

Cc Daniel Reeves <daniel@junipersa.com>; Lily Tsukayama <ltsukayama@portofsandiego.org>; Renee Angwin <rangwin@portofsandiego.org>; Sarah Donald <sdonald@portofsandiego.org>

 1 attachments (2 MB)

HB Mariculture Pre-Permitting - Culture Description Guidance.pdf;

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Paula,

Thank you for the opportunity to review the discussion draft. Overall, I think the program is great and the document itself reads well and covers the important topics clearly. Following are some considerations based on my experiences in Humboldt Bay. I'm sure some of these points have already been considered and they may not all be pertinent for your program.

- A Program EIR is a good idea. The challenge of a Program EIR is to make it broad enough that it assesses the range of activities that will occur while at the same time detailed enough to analyze the actual impacts of the activities. Hopefully, the other agencies (especially CCC, Water Board and Army Corps) can put the effort in to make it a useful document. For the Humboldt Bay Pre-Permitting Project, we used "impact thresholds" and that approach might be useful for your program. As an example, rather than focusing CEQA and permits on specific mooring systems we analyzed the benthic footprint of the mooring systems. This gives operators flexibility in their mooring systems as long as they "do not displace more than XX square feet of benthic habitat per acre". This is better than requiring the use of Danforth anchors (for example). The threshold impacts used were surface area of aquaculture (relates to overwater structure), volume of aquaculture (relates to water circulation, volume of habitat taken and other factors), mooring footprint (relates to benthic impacts), and biomass of dry shellfish (relates to carrying capacity / bio productivity impacts). It took a lot of back and forth with Coastal Commission staff to get agreement on the thresholds, but I think the approach worked and does allow for flexibility in methods. I recognize that CCC approval is not required in some area of the proposed program.
- In Humboldt, the Harbor District holds the actual permits from the Army Corps, Water Board and Coastal Commission and leases the "pre-permitted" sites to operators. However, the scale of the Humboldt project was much smaller than yours and I think your approach to complete a PEIR and then assist with permitting makes sense. I do think it is important that the operators deal with the state department of health individually, but it is good you are already collecting water quality data to inform the certifications that will be required for some types of operations. Also in Humboldt, we dropped major aspects of the project that were "too" controversial in order to get to the finish line with what we did.
- In Humboldt, there is still some planning and paperwork that operators need to jump through including development of a culture description that needs Harbor District and CCC approval at the staff level. It is pretty straightforward though. I attached a guidance document for writing the culture descriptions that might be useful for you to glance over. Through the culture descriptions and leases the project's permit conditions are essentially "passed on" to the operators.

Best of luck with the program and let me know if at any point you would like to further discuss my experiences.

Adam

Adam Wagschal

Senior Coastal Planner

Moffatt & Nichol

600 University Street, Suite 610 | Seattle, WA 98101

D +1 (206) 704-6521 | O +1 (206) 622-0222 | M +1 (707) 496-2088

E awagschal@moffattnichol.com

From: Paula Sylvia <psylvia@portofsandiego.org>

Sent: Sunday, October 13, 2024 11:38 AM

To: Wagschal, Adam <awagschal@moffattnichol.com>

Cc: Daniel Reeves <daniel@junipersa.com>; Lily Tsukayama <ltsukayama@portofsandiego.org>; Renee Angwin <rangwin@portofsandiego.org>; Sarah Donald <sdonald@portofsandiego.org>

Subject: Port of San Diego Shellfish and Seaweed Aquaculture Program Discussion Draft

CAUTION: This email originated from outside of the organization.

Hello Adam -

It was great to meet you on the call the other day and thank you for the feedback on Humboldt Bay folks to also share this with. A lot of this work has been modelled on Humboldt's aquaculture planning efforts, which I know you have been close to, so we really appreciate your review. Please see below the templated email regarding a Discussion Draft for the Port's proposed Shellfish and Seaweed Aquaculture Program. The comment period is open until October 25th, and we would love to formerly hear some feedback from you. If you have any questions or want to meet do a deeper dive into the materials, please let me know.

On behalf of the Port of San Diego, I am writing to let you know that the Port has released a Discussion Draft of its proposed Shellfish and Seaweed Aquaculture Program (SSAP). In brief, this program would provide a framework for the Port to guide, consider, and approve future shellfish and seaweed aquaculture activities in and around San Diego Bay. You can find the Discussion Draft outlining this program in detail on the Port's webpage: <https://www.portofsandiego.org/aquaculture>

Comments on the Discussion Draft will be accepted through October 25, 2024. Please send your comments to SSAP@portofsandiego.org

This is the first of several opportunities to provide input on the SSAP, and the Port will continue to engage with agencies, stakeholders, and the public as the SSAP continues to be developed. This Discussion Draft represents the SSAP as the Port has envisioned it today, and the purpose of the Discussion Draft is to spark discussion between stakeholders and the Port so that the Port can better understand whether the proposed program is on track, where there is support for the program, and where there are opportunities for improvement. As you review, if you notice data gaps or other pieces of information that you would like for us to consider through the development of the SSAP, please note that in your comments and provide any data or information that could help to fill those gaps.

As this is the first time the Port has worked to establish a program of this type, comments from stakeholders are essential to ensuring that we have as much information as possible to make informed and thoughtfully considered recommendations during the decision-making process. Thank you for your time and effort in reviewing this Discussion Draft.

All My Best, Paula

I am submitting comments regarding the Port of San Diego's Shellfish and Seaweed Aquaculture Discussion Draft (August 2024). The document provides a useful guide for the motivations and processes involved in the seaweed and shellfish aquaculture program for potential participants. I have some specific questions on certain sections, and then a broader question as to whether there's a better way to make a convincing case for pursuing commercial aquaculture operations in the Port waters.

Section 6.2.2 – What are the particular concerns about the Imperial Beach site that restrict it from human consumptive uses? Obviously sewage pollution from the border area is the main concern, but that presumably mainly affects shellfish uses, and perhaps doesn't impact seaweed uses in the same way?

Section 6.2.2 Similarly, why is the Former A-8 anchorage site considered inappropriate for consumptive uses? Would it be reasonable to provide some discussion of what conditions are making it not currently acceptable for consumptive uses, and whether those conditions have some chance of being improved in the future (and by what means)? Bioremediation seems like an obvious avenue, but are there other methods that the Port has considered to try to bring this site to a status where consumptive uses would be allowed (such as capping polluted bottom sediments if that is a concern)?

Section 7.2.1 – “Kelp” is not referred to by a scientific name anywhere here, unlike the shellfish. It's also not clear if more than one species of brown kelp is being referenced here – is it solely *Macrocystis pyrifera* under discussion among the brown kelps, or are other brown kelps like *Pelagophycus porra* (elk kelp) and *Pterygophora californica* (stalked kelp) being included here?

Section 7.2.1: Is there any thought to explicitly excluding certain algae that may be considered potentially invasive, such as *Sargassum muticum* + *S. horneri*, *Undaria*, *Dictyota*? You have listed out specific shellfish species that would be appropriate, but the algae section is much less specific.

I'm assuming that a major goal of the SSAP discussion draft is to encourage commercial usage of the designated areas, and I further assume that commercially-viable aquaculture operations (particularly for shellfish) are going to rely on being able to sell into the human food market. The caveats in Section 6.2.2 about restrictions on human consumption – without a thorough explanation of what the restrictions are based on or how they could be lifted – seem like potential dealbreakers for any

operation that might be exploring establishing an aquaculture operation in the SSAP locations. Admittedly I'm making this assumption about commercial viability based on limited knowledge of the industry, so I'm willing to believe that non-human-consumptive uses might be commercially viable – but the SSAP draft doesn't lay out a convincing case to me for why those other uses (bioremediation, bioplastics, biofuels, fertilizer etc.) could be viable businesses in their own right. In particular, bioremediation is certainly a valuable goal, but that seems reliant on public funds or charity funds to support such operations, and the layers of approvals (Sections 9 & 10) needed certainly make it a daunting undertaking.

I am happy to discuss further if my questions or comments need further clarification.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Miller', with a long horizontal flourish extending to the right.

Luke P. Miller, Ph.D.

Associate Professor, Department of Biology
Interim Director, SDSU Coastal and Marine Institute
San Diego State University



Southwest Wetlands Interpretive Association
PO Box 575
Imperial Beach, CA 91933

16 October 2024

San Diego Unified Port District
3165 Pacific Hwy
San Diego, CA 92101

(submitted 16 October 2024 via email to SSAP@portofsandiego.org)

Subject: Discussion Draft Shellfish and Seaweed Aquaculture Program

Port of San Diego:

The Southwest Wetlands Interpretive Association (SWIA) is a non-profit organization dedicated to helping preserve and enhance wetlands throughout southern California – and particularly in the Tijuana River watershed and South San Diego Bay. Historical losses of Bay wetlands (particularly vegetated and shallow-subtidal types) have occurred from development, and climate change and sea level rise represent significant additional threats to natural resources and infrastructure/developments in and around San Diego Bay. SWIA recognizes the potential that aquaculture activities could contribute to implementing the Port's long term vision for San Diego Bay. Aquaculture, when conducted properly, may provide an economic benefit; however, the types and intensities of operations must be carefully weighed and all potential impacts evaluated and avoided/fully mitigated.

Thank you for providing the Port's "Shellfish and Seaweed Aquaculture Program (SSAP) Discussion Draft" for public comment. Aquaculture of finfish, shellfish and seaweed is practiced worldwide to augment - and in some cases may relieve pressure from - harvesting of wild stocks of those resources. Limiting the proposed SSAP's aquaculture activities to shellfish and seaweed avoids environmental impacts from finfish aquaculture, which is generally recognized as having a higher potential for negative effects (e.g., <https://clf.jhsph.edu/sites/default/files/2019-09/ecosystem-and-public-health-risks-from-nearshore-and-offshore-finfish-aquaculture.pdf>; <https://www.fisheries.noaa.gov/aquaculture/nutrient-impacts-finfish-aquaculture>; <https://www.nationalfisherman.com/when-does-a-fish-farm-become-a-monster>); whereas shellfish and seaweed aquaculture may pose less significant risks (e.g., https://globalseafoods.com/blogs/news/the-environmental-impact-of-oyster-farming-a-comprehensive-guide?srltid=AfmBOoqmhXoN3teu7tPq3d28oExy9nMSWSDHRO_RQ-

[NPYYp1FoMr9Vm](#); <https://www.fisheries.noaa.gov/feature-story/global-study-sheds-light-valuable-benefits-shellfish-and-seaweed-aquaculture>).

Prior to fully committing to establish a long-term aquaculture program within and adjacent to San Diego Bay, a host of potential risks and benefits must be fully addressed. For San Diego Bay, which is relatively small and has restrictions of its tidal flushing (https://gnome.orr.noaa.gov/doc/location_files/san_diego_bay_tech.html), the consequences of adding industrial-scale aquaculture - particularly in light of projected climate change effects on marine ecosystems - may raise significant and unique/local effects. Our brief review of some relevant scientific studies on marine aquaculture (i.e., the citations in this comment letter) suggests that the Port's Programmatic Environmental Impact Report must address potential impacts on water quality/circulation, sediments, plant and animal species, increased disease/invasive species potential, ecological/ecosystem processes, implications for recreational activities, etc. And it is crucial that the onsite activities and their potential offsite effects be fully monitored, reported, and all negative effects fully resolved and mitigated.

The SSAP presents a reasonable overview of how the Port would approach establishing its shellfish aquaculture operations, the species of interest, general environmental and operational concerns that would be evaluated, and likely areas for those operations in water and on land. We concur that the focus for aquaculture within San Diego Bay and nearby coastal waters should be shellfish and seaweed species that are native to our marine region. Recognizing that non-native Pacific oysters are the primary commercially-farmed oyster species, have become established in many California coastal waters and have slightly different intertidal/subtidal habitat (elevation) preferences (<https://link.springer.com/article/10.1007/s13157-018-1055-0>), their cultivation is reasonable. However, all shellfish are filter feeders and compete for similar nutrient/food resources - and ingest/retain contaminants as well. A recent study found that both native Olympia oysters and Pacific oysters in San Diego Bay show contaminant uptake (<https://caseagrant.ucsd.edu/news/new-study-measures-contaminant-levels-feral-san-diego-bay-oysters>), which limits whether and/or how much consumption is "safe" for humans. We fully concur that, as noted in the SSAP draft, shellfish production within the Bay would - under current water and sediment quality conditions - preclude human consumption. However, shellfish aquaculture cultivation and harvesting also pose potential environmental risks/negative effects (<https://www.fisheriesjournal.com/archives/2016/vol4issue3/PartA/4-2-105.pdf>) and interactions with other species (native and introduced) need to be fully addressed (https://www.nps.gov/pore/learn/photosmultimedia/upload/multimedia_pcslc_natlab_olympiaoyster_transcript_100129.pdf). As part of the SSAP, the Port must ensure that cultivated species operations do not impact native species, and should consider concurrent efforts to support wild shellfish populations. (e.g., <https://the-ethos.co/eating-oysters-environmental-benefits/>). The Program EIR for the final SAP must present a complete evaluation of and avoid or fully mitigate potential impacts.

Similarly, the SSAP presents a reasonable overview of how the Port would approach establishing its seaweed aquaculture operations, the species of interest, general environmental and operational

concerns that would be evaluated, and likely areas for those operations in water and on land. Seaweed cultivation may pose fewer risks than shellfish cultivation (<https://www.sciencedirect.com/science/article/abs/pii/S2211926422003381>), but potential negative effects on ecosystem services (<https://www.sciencedirect.com/science/article/pii/S0025326X18303126>) and competition with seagrasses - particularly sensitive, at-risk native eelgrass (<https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2023.1283305/full>) - and from harvesting (https://www.mba.ac.uk/wp-content/uploads/2022/05/Wilding_et_al_2021_-NE_Seaweed-aquaculture-and-mechanical-harvesting.pdf) must be evaluated and impacts avoided or fully mitigated in the PEIR.

We appreciate this opportunity for early input on the SSAP draft and look forward to reviewing the next iteration of the draft before it is finalized and brought to the Board of Port Commissioners for approval.

If you have questions about our comments, please contact Bill Tippetts (billtippetts@gmail.com).

Sincerely,



Mike McCoy
President



Bill Tippetts
Board Member

Cc: SWIA Board

Port of San Diego
SSAP@portofsandiego.org

22 October 2024

Re: Comments to the POSD SSAP Discussion Draft

Dear Port Staff,

It is my pleasure to provide comments on the discussion draft of the Port of San Diego's Shellfish and Seaweed Aquaculture Program (SSAP) draft plan. The comments below supplement a Zoom meeting with California Sea Grant (Shauna Oh, Luke Gardner and Theresa Talley) and the POSD staff & contractor (Renee Angwin, Sarah Donald and Daniel Reeves) from 10:30-11:00 am on 10/22/202 and mostly reflect the views of myself and not necessarily my team members.

Please do not hesitate to reach out with questions, comments or requests for assistance.
Best wishes,



Theresa S Talley
Coastal Extension Specialist
Email: tstalley@ucsd.edu
Phone: 858-200-6975

My disclaimer. Below are comments from a quicker read through the plan than I would've liked, but I figured hasty comments could be better than no comments. Some comments may suggest things that are beyond the scope of this plan – if that's the case, please still consider whether at least a brief mention in the plan is warranted to ensure consideration during implementation activities. Other comments may focus on considerations already in the plan but I may have missed them or maybe a little more fleshing out could be useful and make the points clearer. And other points may seem obvious or too much detail for this plan, but they are things I have seen be overlooked before so figured it was worth mentioning even if you are reading this and saying to yourself "duh doy... no kidding, Einstein." ☺

General comments

1. Start of the report stated that there as a stakeholder scoping/input process- who was there? It may be useful to include the list of roles (not names just stakeholder sectors) in

a short table. (from our 10/22 conversation with Port: regulators, scientists/peer review, bay users and people likely to be impacted by farms and operations, local government, educational institutions)

2. Better connecting with other uses in particular commercial fishing to ensure minimal overlap of exclusive use areas (e.g., fishing grounds vs deployed gear) and to plan for optimizing shared infrastructure (e.g., offloading gear, cold storage, marketing space). This is mentioned as an example on page 29 but not discussed again afterward and there isn't an indication of how these communications will occur. It's acknowledged that the in-water and shore-based locations shown in the maps may not overlap much with fishing but there may be value in intentionally overlapping some of the shore-based facilities like offloading, processing, cold storage, fuel, marketing. See more specific comments below on this and consider/include other complementary sectors as well (e-NGOs, agency monitoring programs, POSD living shoreline efforts, tug/shipping) and how resources, infrastructure and expertise can be leveraged (e.g., lab analyses, storage, monitoring efforts). One point to make after the 10/22 meeting- reaching out to a sector, especially the Port tenants groups, should go beyond reaching out to one specific group and often one specific person within each group. CASG can help with that and we recommend it to ensure a well informed and supported plan.
3. Better connecting with (actively reaching out to) tribes to understand needs, opportunities and priorities related to aquaculture and reconnection with the region's coast and ocean to ensure access to space, resources and training; and that indigenous priorities are met. Passive public comment does not suffice- active engagement is needed to ensure the POSD is clearly presenting the plan and that the potential opportunities for coastal connections, jobs and markets are discussed.
4. Water quality monitoring – connections to existing monitoring efforts and datasets to inform this program and contribute to other regional water quality needs.
5. Climate considerations- resilience of infrastructure, markets/products, related jobs
6. Clear assessment of achievement of objectives, in particular the explicit monitoring of ecosystem services, remediation, enhancement values (This point is addressed in the list of objectives to "facilitate studies and quantify benefits" but is not mentioned again afterwards in the plan details)
7. Barriers to entry- pages 14 and 30 mention that the plan will help to overcome barriers to entry to aquaculture and, on pg 30, the blue economy more generally but doesn't state what those barriers are (beyond aquaculture permitting) and how this plan will help. Say more about it (e.g., even if it's some examples in the caption for figure 4) or remove (e.g., on page 14, Objectives- state that there will be help overcoming the permitting barriers vs more generally barriers to entry.

8. Inclusion of marketing support and strengthening of market demand in the plan. Other regions have much interest in growing but not as much interest in consuming/using particularly for seaweed as a food.
9. Use of a community advisory group and/or a science and technical advisory group that includes societal and economic experts
10. Species (this was Luke's point from the 10/22 meeting): consider adding more west coast species: littleneck, venus clams, gooseneck barnacles, rock scallop, Olympia oyster, sea cucumber, sea urchin. Note that there are land-based and water-based organisms. Keep the list as open as possible to allow flexibility (acknowledging that this could create more effort for permitting, etc). This information would be of interest with potential growers so they know what kind of flexibility they will have (also clearly state the timeframe of this plan)

Specifics

1. The highlighted notes in sections 1,2 state that the SSAP does not include finfish. Consider adding a little more in one of the boxes about availability of finfish from wild caught fisheries and how shellfish, seaweeds which are major targets of wild harvest fisheries in our region complement the SSAP and will enhance opportunities for collaboration and leveraging of infrastructure across the ocean production sector.
2. Background: Consider adding supporting references throughout the Background. Right now, only the NOAA imported seafood stat has a citation but there are many facts, such as the ecosystem services provided by aquaculture, that are uncited. On page 21 TNC is noted under the diagram- maybe see what primary literature they cited to make these points and include those as well as any other
3. Page 20. Consider re-framing: "Global and domestic demand for seafood is poised to grow. Even as we maintain and rebuild our wild fisheries, we cannot meet increasing domestic demand for seafood alone through wild-caught fisheries".
 - a. First, instead of this seafood demand is growing argument, consider keeping emphasis on domestic for example, "There is a need and much opportunity associated with growing our domestic seafood supply for more reliable, responsible sources of food and products and support of jobs."
 - b. Second, consider not knocking wild caught fisheries. San Diego fishermen have been progressive in building new markets (new products) resulting in a diversified port-wide portfolio of product, potential to increase overall landings across all fisheries (ie, potential to better meet demands), and therefore fishing more lightly across more species (i.e., sustainable and resilient). Instead, point out the complementary nature of growing seaweed and shellfish among this local fishing industry. For example, "the production of shellfish and seaweed complements the sustainable, responsible commercial wild harvest industry in

the region and provides much opportunity for collaboration and leveraging of resources to strengthen the region's seafood and ocean production industry."

Okay, that's awkwardly worded but hoping you get the idea. This edit is not just for this spot in the plan; making this 'complementarity' theme an ethos of this document and the subsequent implementation activities will frame it more positively and increase opportunities and innovation.

4. Page 20. Consider rewording: "protection of coastal habitats and infrastructure by reducing wave energy and storm surge;" (storm surge of course is also caused by storms and not only SLR so this removed "caused by". Also, while it seems that growout infrastructure can reduce wave and surge energy, I don't think it can reduce the level of water reaching shore. We hear this about coastal wetlands which really can absorb some of the water but not sure this is true of aquaculture facilities.)
11. Page 22 (and elsewhere). The bulleted lists throughout the document have semi-colons and 'and' as though the whole list is one sentence. For a cleaner look, throw grammar out the window and simply show the bulleted list with stand alone items vs one giant sentence. In the diagram/tables in particular (e.g., pg 22), it uses up space and is distracting)
5. Pages 20-22. There are three separate but related lists of the benefits of aquaculture. Consider combining into just one list on one of the nice graphics and reference the figure/table in the body of the document. Or separate ecosystem services and the direct societal benefits (jobs, products, economy) into two lists and clearly label them and reference them in the body of the plan. And again, consider including a mention of the complementarity of s&s aquaculture for this region
6. Page 57- Landside location section. There is general mention of what could happen where- and it seems most features are mentioned including cold storage, dry storage, processing space, meeting space, but not an overall plan or mention of how these pieces fit together (are the locations logical for the flow of products?) or integrate with other uses (e.g., fishing offloading, storage and marketing; shipping/distribution; tug or ferry needs). For example (this is kind of made up to illustrate the point), does a cold storage at the distribution center and processing at the gravel lot site make sense or should those functions occur closer together? Is there commercial vehicle access at the processing location? This may be one of those points that seems obvious and is maybe too in the (sea)weeds for this plan but it may also be the very time early in the process to be sure this is thought out.
7. Page 83 Figure 12 is super helpful to understand the process. If there are other permits, permissions, certifications that would be needed of prospective participants, it would be useful to provide guidance on that too (though this may be something that goes on the POSD website and not in this plan.)

SSAP Feedback

From Emily Kunselman <ekunselman@hswri.org>

Date Fri 10/25/2024 10:28 AM

To Shellfish and Seaweed Aquaculture Program <SSAP@portofsandiego.org>

 1 attachment (190 KB)

Comments on Port of San Diego SSAP by HSWRI.pdf;

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern,

The Hubbs-SeaWorld Research Institute has compiled a comprehensive set of feedback on the Port of San Diego's Shellfish and Seaweed Aquaculture Program Discussion Draft. Please see the attached pdf. We look forward to seeing your response and updated draft and are available for any questions.

Sincerely,
HSWRI Team



Hubbs-SeaWorld Research Institute

2595 Ingraham Street

San Diego, CA 92109

(619) 226-3870

SUPPORT



Nonprofit Tax ID: 95-2304740

Comments on Port of San Diego's Shellfish and Seaweed Aquaculture Program

Section 1

Page 13 – Diversifying sustainable business portfolio is mentioned as a purpose.

- What could be done to additionally incorporate a diversity, equity and inclusion plan into the SSAP? One suggestion is to work with local organizations centered on DEI to share opportunities for aquaculture proposals and highlight job opportunities.

Section 2

While shellfish do provide environmental and restorative benefits (even more can be found at <https://doi.org/10.1093/biosci/biy137>), it should be noted that shellfish are consumptive and can feed on larval fish and crustaceans in addition to phytoplankton and bacteria.

- How will the impact of additional shellfish populations on ecosystem balance be monitored?

Seaweeds cannot sequester carbon long term. Implementations for the specific use of the harvested seaweeds are required to make this claim.

In regards to fisheries enhancement, the Coastal Commission has argued in the past that structures in the water may not enhance fish populations, but rather draw fish away from other habitats, thereby functioning as Fish Aggregating Devices.

- How will this potential consequence be monitored and managed?

The average annual imports of seafood are as follows (also pertains to Section 7):

- shellfish are 23% by volume valued at \$2.2B
- shrimp are 31% valued at \$6.2B
- salmon are 20% valued at \$3.9B
- non-salmon fish are 26% valued at \$5.2B
- seaweed is 0.3% valued at \$0.05B

Considering seaweeds make up less than 1% of the US imports, how is the emphasis on seaweeds in the SSAP justified in terms of realistic consumer demand /product marketability?

After shrimp, finfish represent the largest market need. The Port should be actively supporting the development of finfish farming for which several endemic species are ready for commercial culture. This support would most likely come from land-based operations.

Section 3

The section explaining how the SSAP will simplify permitting should be expanded. Securing new land for aquaculture in CA has been rare, as well as permission for constructing/deploying man-made structures (e.g. hatcheries or nurseries with seawater intakes, cages, long lines, etc.).

- How is the Port of San Diego set up to succeed in streamlined permitting?
- Although Section 10 lays out the implementation process, we suggest the Port list the specific ways in which the SSAP will reduce the cost and complexity of permitting marine farms (also relevant to Section 8).
- Do you have projections for job growth and economic impact as a result of the SSAP?
- Would there be tax incentives?

Section 4

NOAA Fisheries will also need to comment on impacts to federally managed species, protected resources and ESA as well as impacts to sport and commercial fishing.

Page 40 – Regarding the submerged lands which are not granted to the District, leases for submerged lands are issued by the State Lands Commission while aquaculture permits are issued by the CF&G Commission.

<https://permits.aquaculturematters.ca.gov/Permit-Guide#454840-california-state-lands-commission>.

- Where in the process will the CCC be in reviewing CDP applications? Before or after other permits? It is important that the permitting order be established such that it is efficient given there is so much overlapping authority in CA.

Section 5

There should be an enhanced focus on research, technology development and innovation as part of the SSAP. e.g. triploidy, virus-resistant seed production, integrated multi-trophic aquaculture.

- How, if at all, do you plan to partner with research?
- Which research goals might you prioritize?

Section 6

There are additional drawbacks of the proposed in water sites.

Criteria	Zuñiga Shores	A-8 Anchorage	Imperial Beach
Water Quality	Adequate depending on circulation	Too far inside bay, Temp can exceed 30°C. Will result in high mortality of seaweed and shellfish if they are held near the surface	Too close to polluted river outfall

Size	300 acres minimum for shellfish	Too small for profitable shellfish	Probably too small after eliminating area to close to beach
Configuration	Current speed probably inadequate	Should orient lines perpendicular to current	Wraps around pier
Shape	Will not be able to use space too close to beach	Needs to orient East-West	Extends too close to the river

Pages 56-59 – Land-side facilities.

- What are the relative sizes of the different land-side facilities?

Section 7

Shellfish species which could be added to the SSAP:

- Pacific Calico Scallop (*Argopecten ventricosus*)
- Green Abalone (*Haliotis fulgens*)

Other invertebrates which could be added to the SSAP:

- Warty sea cucumber (*Apostichopus parvimensis*)

Seaweed species which could be added to the SSAP:

- Brown macroalgae (*Alaria marginata*, *Laminaria farlowii*, *Laminaria setchellii*)
- Red macroalgae (*Pyropia perforate*, *Gracilaria pacifica*, other local *Gracilaria* spp., *Devaleraea mollis*)
- Green macroalgae (*Ulva*, *Monostroma*)

The SSAP should specify the criteria used to select species

- Which criteria were used and can you add these data to the SSAP?
- What strategies are in place for withstanding marine heat waves? Will you be implementing temperature tolerant species?

A climate action plan for long-term success should be included.

Section 11

Page 98 – Does SB 507 and the process for reviewing the tidelands transfer afford the Port District authority to issue leases without additional State Lands and CCC review and action?

APPENDIX A

Entanglement with marine animals like whales may also be problematic with string culture for shellfish and seaweeds.

October 25, 2024

Port of San Diego
Aquaculture Program
3165 Pacific Highway
San Diego, CA 92101
SSAP@portofsandiego.org



Re: Comments on SSAP Discussion Draft

Dear Aquaculture Program Staff,

For nearly a century, the Pacific Coast Shellfish Growers Association (PCSGA) has represented the interests of those who cultivate oysters, mussels, clams, and geoduck from southern California to Alaska. Today, we act on behalf of over 100 family and Tribal shellfish farms and hatcheries to ensure that the physical and political environment exists to support their work in providing nutritious and delicious shellfish to consumers around the globe. As such, PCSGA is appreciative of the Port of San Diego's (Port) leadership in supporting your trust responsibilities and ensuring a healthy marine environment. We agree with the stated goals and are excited by your commitment to explore opportunities to support shellfish aquaculture through the Shellfish and Seaweed Aquaculture Program (SSAP).

PCSGA is supportive of the SSAP effort and welcomes the chance to bring shellfish aquaculture into the waters of Southern California. PCSGA appreciates the opportunity to review the SSAP Discussion Draft (dated August 2024) and is responding with feedback and input in the spirit of what you've requested.

- The policy and framework around shellfish aquaculture remains fairly static and is well represented in the SSAP.
- Research and farming practices are primarily driven by changing environmental and market considerations, therefore the SSAP will continuously need to remain informed about these dynamic topics.
- Majority of these comments focus on achieving understanding of:
 - How the program will be implemented,
 - The process by which activities will be evaluated and approved, and
 - How concepts may be received by a potential operator.

This letter is separated into two sections – the first provides general overarching comments and the second detailed input related to specific language in the text.

Potential operators will likely explore options to grow shellfish in San Diego if they know it can be profitable. Profits are generated when they can sell products at a good price, and when the costs of establishing and maintaining their farm are low. To help inform decisions on a shellfish grower's willingness to engage with the Port, the SSAP should consider the following:

The Grower Investment –

- Based on current water quality considerations, the SSAP will focus on non-commercial ready species – meaning that shellfish products grown under the SSAP won't be approved for human consumption and it will have to live a portion of its life elsewhere. Because of their size, it is relatively cheap to ship seed to other locations. But moving seed, or any product in need of depuration adds expense, time, exposure, and uncertainty. The SSAP should include a discussion about the market for non-commercial-ready species and information about the business model in just servicing one portion of the supply chain. It is appropriate to include a discussion about any shipping restrictions that would be placed on product grown in and around San Diego Bay.
- The industry has research regarding the cost associated with permitting and general farming operations but lacks information on the anticipated costs of maintaining a business in San Diego. The SSAP can provide details about anticipated lease rates the Port may charge, taxes and other labor related fees associated with conducting business in California, and moorage and berthing rates, since the growing locations will require a boat for access.

Permitting Pathways and Application Process –

- The SSAP needs to provide a detailed list of what specific information is necessary at each step of the review process. It should also clearly identify expected time frames for the Port to conduct review at each step and what specific criteria the Port will use to evaluate proposals.
- It is not clear if all the in-water areas be available at once, or if the Request for Proposals will initially exist for areas that are within the Port's permitting jurisdiction. It is also not clear if the Port will receive proposals continuously, or if it will be open for windows of time.
- The SSAP contains very little information about the permitting pathway for land-side operations nor implementation considerations for potential land-side operations.

Section 4 - Regulatory Framework –

Typically, Sections 401 and 404 of the Clean Water Act are considered during permitting for shellfish aquaculture. It may be appropriate to add language indicating that considerations under the Clean Water Act will be evaluated and if so, by what entity. Section 10 of the Discussion Draft includes a list of Additional Permits and Approvals, within which the Clean Water Act is mentioned. Consider creating consistency between the two sections.

The discussions about, and references to, lands not yet within the Port's jurisdiction create confusion. Section 4 of the Discussion Draft may be a good place to clearly state which in-water locations are outside of the District's full permitting jurisdiction and how certification of the Trust Use Plan aligns with the implementation of the SSAP.

Section 5 - Activities

Research is not called out as an activity that can occur within the areas identified in the SSAP. Research is a critical component of shellfish farming and would be an activity that operators would like to do. Will it be allowed, and will there be special considerations for research within the SSAP?

Section 6 – Locations In and Around San Diego Bay

Please provide more information about the baseline water quality analyses that is referenced on page 49. Will information from this work be available to potential applicants for their review before developing a proposal?

What species are targeted to grow in the different areas and water quality considerations at each area would benefit from some clarification (page 53 and 54).

- The SSAP has indicated that a reasonable use for shellfish grown in and around San Diego Bay will not be consumptive. Reference to juvenile shellfish, (for Imperial Beach and Former A-8 Anchorage) may conflict with growing mature mussels for non-consumptive use, such as fertilizer.
- Zuniga Shoals does not call out any water quality considerations and allows for oysters and mussels instead of juvenile shellfish. Is the Port indicating that market-ready product (i.e. appropriate for human consumption) would be possible in this location? Or would only non-consumptive product only be allowed? It will be important to know this before a prospective shellfish grower considers operating in this area.
- Please clarify if the Port will conduct the necessary actions to gain water quality confirmation, or it will fall upon the potential operator, and at what stage must this be completed.
- It would be helpful to know the distance to the site from likely moorage areas that could be available to shellfish growers.
- What area is appropriate for scallops? And would scallops be grown for consumptive markets?
- Define “offshore aquaculture systems”. How does this term relate to the term “in-water” as the title of this section calls out.
- Section 6.2.3 should be fleshed out a bit more. Who is responsible for engineering, and at what stage should it be completed? Please expand upon operator responsibilities and what, if any, role the Port will play in these elements.
- Section 6.3 should include the concepts of downstream, upstream and grow out into this section as two of these elements occur on landside facilities.
- Figure 11 doesn’t show locations of specific assets like warehouses, etc. as the text states. It just shows proximity, which is less helpful.

Section 8 – Benefits

This section should be expanded to communicate additional benefits that could be realized from this program including (if applicable) access to space, moorage, scientific data, communications, marketing and other support services. Also expand upon the reference to the

“hurdles over the last 30 years”. While it is true California hasn’t issued a new lease for shellfish farming since 1993, the reference to “hurdles” needs further explanation.

Section 10 – Implementation of the SSAP

Because potential applicants will need to consider how much capital they will need to invest in preparing a proposal, it would be helpful for this section to include more information such as:

- Will the Request for Proposals be continuously open? Will it include all in-water and land-based areas? Or will areas be phased, to address the Port’s pending justification over two of the locations?
- How much latitude will applicants have regarding size and location?
- What criteria will be used to ensure what they pick will be accepted?
- What will applicants need to provide in order to appropriately evaluate the project for consistency with rules, regulations and the SSAP? The language is too vague and may create an inconsistency in what applicants provide.
- Is the Port open to foreign companies, or to support domestically produced seafood, will the opportunity only exist for US-based companies?
- Will operators be able to access and review data and water quality information about each location prior to submitting a proposal?
- If multiple projects are proposed for the same locations, how will that be handled? First in, first served? Competitive bid? Or will applicants be asked to negotiate a resolution?
- It’s important for potential applicants to know if they will be approved as “preliminary SSAP Operators” because they have simply submitted all the requested material, or if they need to demonstrate capacity/willingness/ability to meet prescribed metrics. What criteria will be used to evaluate the proposal at various stages of review?

Figure 12 is challenging. It includes some language/concepts that are internal to the Port that are neither commonly used nor well explained (e.g. ENA, and Initial Service Request). Also, are “partners” applicants. It would be helpful for the figure to be moved to follow the language in the middle of page 84 which introduces the Tenant Project Review process and indicates that each step will be further explained below.

Should the text boxes on the top of page 84, bottom of page 86 and top of page 90 be consistent? Will projects in Former Anchorage A-8 need to follow section 11.1? Consider how else the different pathways can be presented. Asking the prospective applicant to keep track of which section applies and why is confusing and will likely result in frustration and lack of proposal submission.

Since all aquaculture projects will need to be evaluated under CEQA, the discussion on page 85 about Port Code Section 3 could be simplified. If the language remains, define the “Reviewing Department” and indicate when the Preliminary Review would be “requested” or “not required” for aquaculture projects.

Access to moorage/berthing will be an important benefit that the SSAP can provide to operators. It is great to see it mentioned here but should be included in other parts of the document as well.

Provide examples of when shellfish aquaculture applicants might seek a “short-term lease” over a “long-term-lease”. Be sure that activities that lend themselves well to a “short-term-lease” are allowed by the SSAP.

Page 92 provides information about when operations end. Currently, this language is under the section titled “vessel use”. It should be its own heading. Additionally end-of-term/end-of-operations expectations and considerations should be shared prior to lease finalization.

Section 11 – Location Considerations for In-Water Areas

Consider renaming this section in a way that it’s clear it only applies to two of the three in-water areas and specifically characterizes the contents of this section, such as “Locations Outside of District’s Full Permitting Authority”. Or consider putting all the permitting pathway considerations into Section 11 (naming it Permitting Pathways) and all of the SSAP Implementation items into Section 10. This would also address the issue that it’s not currently clear how items in Section 10, such as operation plans, monitoring, vessel use, etc. relate to Zuniga and Former A-8.

Thank you for the opportunity to review the Shellfish and Seaweed Aquaculture Program Discussion Draft. I’m eager to how this effort continues to progress and welcome the opportunity to support the Port and shellfish growers in and around San Diego Bay. I’m available to further expand upon these comments and answer any questions. Don’t hesitate to contact me at 360-790-8264.

Respectfully,



Margaret A. Pilaro
Executive Director

October 25, 2024

San Diego Unified Port District
3165 Pacific Hwy
San Diego, CA 92101

Submitted via email to SSAP@portofsandiego.org

Re: San Diego Coastkeeper Comments – Discussion Draft Shellfish and Seaweed Aquaculture Program

To Whom It May Concern,

On behalf of San Diego Coastkeeper (Coastkeeper), please accept the following comments regarding the discussion draft of the Port of San Diego’s proposed Shellfish and Seaweed Aquaculture Program (SSAP). Coastkeeper works to protect and restore the waters of the San Diego region through water quality monitoring, advocacy, education, community engagement, and enforcement. Coastkeeper actively seeks agency implementation of federal, state, and local laws, regulations, and permits; regularly engages in the administrative review and public comment procedures for agency actions; and, where necessary, directly initiates enforcement actions on behalf of itself and its members.

As a preliminary matter, Coastkeeper appreciates the opportunity to comment on the discussion draft version of the SSAP, and the Port’s solicitation of public input at this early stage of the process, well before a final version is proposed for adoption.

Coastkeeper acknowledges the potential that, when conducted intelligently, shellfish and seaweed aquaculture could provide economic, ecological, climate, education, and innovation benefits to the Port of San Diego and San Diego Bay. Coastkeeper has long been a proponent of such multi-benefit proposals and solutions, and supports the SSAP’s commitment to “minimize environmental effects, seek co-benefits, and maximize sustainable production.”¹ However, the details of each aquaculture project, including the specific locations, types, and intensities of operations, as well as cumulative impacts and the dynamic relationships among multiple aquaculture projects, must be carefully analyzed, and all potential impacts evaluated and avoided/fully mitigated.

Coastkeeper strongly supports the SSAP’s exclusion of finfish aquaculture. Limiting the proposed SSAP’s aquaculture activities to shellfish and seaweed avoids the devastating environmental and ecological impacts from finfish aquaculture, which are widely recognized. Shellfish and seaweed aquaculture pose substantially less risks.² That said, prior to fully

¹ Draft SSAP at 6.

² See e.g., https://globalseafoods.com/blogs/news/the-environmental-impact-of-oyster-farming-a-comprehensive-guide?srsId=AfmBOoqmhXoN3teu7tPq3d28oIExy9nMSWSDHRO_RQNPYYp1FoMr9Vm; <https://www.fisheries.noaa.gov/feature-story/global-study-sheds-light-valuablebenefits-shellfish-and-seaweed-aquaculture>.

committing to establish a long-term aquaculture program within and adjacent to San Diego Bay, a host of potential risks and benefits must still be fully addressed. Coastkeeper recommends that any Programmatic Environmental Impact Report (PEIR) for the SSAP address potential impacts on water quality/circulation, sediments, plant and animal species, increased disease/invasive species potential, ecological/ecosystem processes, and implications for impact on recreational activities, as described in part herein.

Shellfish aquaculture cultivation and harvesting can still pose significant environmental risks.³ Interactions with other species (both native and non-native) must be fully studied and addressed.⁴ As part of the SSAP, the Port must ensure that cultivated species operations do not impact native species, and should consider concurrent efforts to support wild shellfish populations.⁵

Coastkeeper strongly urges that the SSAP prioritize shellfish and seaweed species that are native to our marine region. The current draft explains that “[n]aturalized species are those that are not native to the area but have established, self-sustaining populations in California, and are not considered invasive species by CDFW.”⁶ However, simply because a species is not considered “invasive” does not mean it has no negative impacts. Non-native species cultivation in concentrated areas poses risks such as disease transmission, competition for resources with native species, and interbreeding with native species. As the California Coastal Commission has pointed out, shellfish aquaculture of the the Pacific oyster has resulted in persistent populations of Pacific oysters outside of cultivation on Catalina Island and from Los Angeles Harbor south to the Tijuana River Estuary, and that this poses risks to native marine species and the environment.⁷ This is why many harvesters and aquaculture stakeholders are not in favor of non-native species being propagated in the Southern California Bight. As such, the SSAP should include a detailed analysis of effects associated with the presence and propagation of all non-native species, even “naturalized” species.

If the SSAP continues to consider non-native species, then it should specify when non-native species are appropriate. For example, the non-native Pacific Oyster was selected because it is larger than the native Olympia oysters, and therefore more popular and economically attractive as it can be sold for human consumption. However, two of the three potential sites/locations (Imperial Beach and the Former A-8 Anchorage) suffer from water and sediment quality pollution such that shellfish grown in these areas are not suitable for human consumption. As such, the SSAP should require that any oyster projects in the Imperial Beach or the A-8 Anchorage locations must cultivate Olympia oysters, and likewise prohibit the Pacific oyster projects in these areas.

³ <https://www.fisheriesjournal.com/archives/2016/vol4issue3/PartA/4-2-105.pdf>.

⁴ https://www.nps.gov/pore/learn/photosmultimedia/upload/multimedia_pcslc_natlab_olympiaoyster_transcript_100129.pdf.

⁵ ., <https://the-ethos.co/eating-oysters-environmental-benefits/>.

⁶ Draft SSAP at 63.

⁷ California Coastal Commission, *Coastal Development Permit Application Guidance* (July 2020), <https://documents.coastal.ca.gov/assets/cdp/Draft-CDP-Application-Guidance-Aquaculture-and-Marine-Restoration.pdf>.

On a related note, Coastkeeper concurs that shellfish production within the Bay and in Imperial Beach would, under current water and sediment quality conditions, preclude human consumption.⁸ The SSAP explains these sites can be “utilized for non-consumptive uses, such as shellfish seed, fertilizers, bioplastics, or bioremediation.”⁹ However, given the types of pollutants at issue in San Diego Bay and in Imperial Beach, even these uses may not be safe. For example, San Diego Bay is heavily polluted with PCBs, a highly carcinogenic substance which tends to build up in living organism, both by uptake from the environment over time (bioaccumulation) and along the food chain (biomagnification). As such, if shellfish contaminated with PCBs are used as fertilizer, PCBs could still end up in food consumed by humans or by livestock (which could thereafter be consumed by humans). Pollutants associated with the transboundary sewage that has contaminated the waters in Imperial Beach are potentially worse. SDSU researchers recently identified 392 organic chemical compounds in transboundary sewage, 224 of which are regulated as pollutants, and 175 of which appear in the federal Toxic Substances Control Act.¹⁰

Coastkeeper is also concerned about the precise location of potential projects in the Imperial Beach designated location. The area identified in Figure 6 of the SSAP appears to extend all the way to the shoreline. Both Public Trust concerns and basic safety notions require a significant buffer between any projects and the shoreline to prevent conflicts between recreational use and aquaculture systems. Coastkeeper supports the 140-meter buffer away from the Imperial Beach pier. A similar buffer zone is needed away from the shoreline. Aquaculture projects too close to the shore risk interference and safety concerns for swimmers, surfers, boaters, shoreline fishing, etc. Although, tragically, Imperial Beach has been closed for the vast majority of days for several years now, nobody wants, nor expects this pollution crisis to remain indefinitely. If any community deserves to be able to enjoy unfettered access to the beach and ocean once water quality improves, it is Imperial Beach.

The SSAP presents a reasonable overview of how the Port would approach establishing its seaweed aquaculture operations, the species of interest, general environmental and operational concerns that would be evaluated, and likely areas for those operations in water and on land. Seaweed cultivation may pose fewer risks than shellfish cultivation,¹¹ but potential negative effects on ecosystem services¹² and competition with seagrasses, particularly sensitive, at-risk native eelgrass¹³ and from harvesting¹⁴ must be evaluated and impacts avoided or fully mitigated in the PEIR.

The SSAP must also fully consider the Port’s duty to maintain the project areas and tidelands in the public trust. The State Lands Commission implements the public trust doctrine through its application of the Coastal Act, which sets forth guidelines for managing new

⁸ <https://caseagrants.ucsd.edu/news/new-study-measures-contaminant-levels-feral-san-diego-bay-oysters>.

⁹ Draft SSAP at 53.

¹⁰ <https://www.sdsu.edu/files/tijuana-sewage-contamination-public-health-crisis-white-paper-021424.pdf>.

¹¹ <https://www.sciencedirect.com/science/article/abs/pii/S2211926422003381>.

¹² <https://www.sciencedirect.com/science/article/pii/S0025326X18303126>.

¹³ <https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2023.1283305/full>.

¹⁴ https://www.mba.ac.uk/wp-content/uploads/2022/05/Wilding_et_al_2021_-NE_Seaweedaquaculture-and-mechanical-harvesting.pdf.

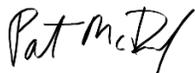
development within the District’s jurisdiction. The core purpose of the public trust doctrine is to protect the public’s right to use California’s waterways for navigation, fishing, boating, natural habitat protection and other water-oriented activities. The Public Trust provides that tide and submerged lands and the beds of lakes, streams and other navigable waterways are to be held in trust by the State for the benefit of the people of California.¹⁵ Notably, the U.S. Supreme Court has long held that of the most important public uses encompassed within the tidelands trust is the preservation of those lands in their natural state so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area.¹⁶ The recreational and ecological values at stake in the proposed project areas—public access to open waterways and preservation of natural marine habitats—are clearly among the purposes that public trust aims to protect.

Specific projects pursued under the SSAP could potentially augment these uses, or as described *supra*, could inhibit these use. For example, the potential conflict between recreational uses and aquaculture projects in Imperial Beach as described *supra*. Furthermore, simply because an area is suitable for aquaculture does not mean that area *should be used* for such purposes. The Port must keep in mind that private companies stand to profit from these aquaculture projects, which are necessarily exclusionary uses of public resources in an area the Port is bound to manage for the public’s benefit. Therefore, the SSAP should set forth project selection criteria which requires assessment of potential impacts through the lens of the public trust doctrine.

To avoid and minimize potential impacts, the SSAP must also require that gear for projects have as small a surface footprint as possible. Safety should be of paramount importance and all necessary steps must be taken to ensure public safety. For example, grow lines for shellfish operations should be weighted and incapable of floating to the surface should they break free from any mooring systems. Buoys should be marked and lit in compliance with United States Coast Guard requirements for navigational safety buoys, and the locations should be made readily available to the maritime community via the Local Notice to Mariners and communicated to coastal and fishing communities in the Southern California Bight.

Coastkeeper thanks the Port of San Diego for preparing this draft SSAP and for considering these comments.

Respectfully,



Patrick McDonough
Senior Attorney

¹⁵ Cal. State Lands Commission, Public Engagement, <https://www.slc.ca.gov/public-engagement/>.

¹⁶ *See Marks v. Whitney*, 6 Cal. 3d 251, 259–60 (1971).



SAN DIEGO BIRD ALLIANCE

For birds, for people, for the planet

October 25, 2024

Port of San Diego
3165 Pacific Highway
San Diego, CA 92101
SSAP@portofsandiego.org

Re: SSAP Discussion Draft

To The Port of San Diego,

The San Diego Bird Alliance, formerly San Diego Audubon is a 3,000+ member non-profit organization with a mission to foster the protection and appreciation of birds, other wildlife, and their habitats, through education and study, and to advocate for a cleaner, healthier environment. We have been involved in conserving, restoring, managing, and advocating for wildlife and their habitat in the San Diego region since 1948. Thank you for the opportunity to comment on the Shellfish and Seaweed Aquaculture Program Draft document from August 2024. We support the comments previously submitted by SWIA.

San Diego Bay and the surrounding areas outside the bay are invaluable natural resources that support important habitat for wildlife. We appreciate that the Port of San Diego is prioritizing existing irreplaceable blue carbon habitats that will help mitigate climate change impacts locally, and local bay and offshore habitats that wildlife depend upon. We appreciate that the plan stated that adverse effects to **Eelgrass (page 92)** will be carefully assessed and monitored throughout the operations and we request if there are competing impacts with eelgrass and aquaculture arise, the eelgrass should be prioritized. We also appreciate that **Vessel Use (page 92)** specifies the removal of gear, as abandoned apparatus can frequently be problematic for wildlife.

Under **10.4 Ecological Concerns (page 91)** – we appreciate that the plan states that “Best management practices will also address several ecological concerns and will work to prevent adverse impacts from occurring. This includes interactions with sensitive habitats, predator control, gear management, and management of invasive species.” As the impact of these projects on the local habitat is largely unknown, we encourage the port to put stopgaps in place if it is revealed over time that these aquaculture projects are detrimental to the native habitat. As oceanic conditions are variable with climate change and marine species will respond to these conditions, we also encourage the port to prioritize the conservation of common species that utilize these areas, in addition to species of concern.

As bivalves produced by underwater aquaculture projects have the potential to attract waterbirds, specifically diving ducks, we request that birds be included in **10.4 Marine Wildlife Impacts**



SAN DIEGO BIRD ALLIANCE

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(page 91) as there is no mention of birds. Wintering waterbirds using San Diego Bay including Surf Scoter *Melanitta perspicillata*, Lesser Scaup *Aythya affinis*, Greater Scaup *Aythya marila*, and Redhead *Aythya americana*, specifically consume bivalves and congregate in the A-8 area and Surf Scoter, Lesser Scaup, Greater Scaup use the other areas proposed outside of the bay in the proposed project areas of Zuniga Shoals and Imperial Beach. To reflect the seasonal use of the area, we request year-round biological monitoring of wildlife from a third party in these areas to ensure that wildlife is not being harmed or impacted. We also ask that a wildlife management plan be developed with practices that are not harmful and are non-lethal to waterbirds and other wildlife. Additionally, local mitigation to support populations of the affected species if aquaculture impacts wildlife be put in place. To provide project oversight and accountability to these local developments in aquaculture, these reports should be made available to the general public.

We have some concerns regarding the common gear for shellfish aquaculture presented in **Appendix A**, as the apparatus growing shellfish such as the baskets and culture lines may entangle birds such as diving ducks. We request oversight of the apparatus maintenance by a third party to ensure that birds are not harmed by the design or poorly maintained equipment. **10.6 Annual Reporting (page 93)** does not mention requirements for biological reporting for wildlife management. We request that reporting includes all wildlife management such as biological reports detailing impacted wildlife and the applied management practices to understand the impact of the aquaculture projects locally and that these reports are made available to the public for accountability.

The management of any aquaculture project using chemicals and hormones has the potential to foul and contaminate surrounding sensitive habitats in key areas where wildlife congregates in San Diego Bay, Imperial Beach, and Zuniga Shoals. We encourage the Port of San Diego develop clear guidance regulating the application of chemicals and hormones and to require ongoing third-party monitoring to ensure that the contracted companies follow rules and regulations to protect the surrounding environment. Additionally, as seaweed cultivation is planned for areas where it does not currently exist, these project areas may attract wildlife. To accommodate species response to these project areas, we request that the port develop and implement a clear management plan composed of non-harmful and non-lethal management practices that prioritize wildlife conservation. For the duration of a contract, this plan should be enforced by a third party. To accommodate species responses that may change with climate change, we ask that the port allow flexibility in these plans to accommodate local wildlife conservation. As these waters are a public trust, we also request full transparency of these reports to the public.

Before implementation of an aquaculture program the Port of San Diego should extensively investigate existing contaminants in the bay, point source pollution around the bay, and contaminated areas adjacent to proposed project areas, as bioaccumulation of contaminants can occur in the kelp, seaweed, and bivalves proposed as items to be cultivated for consumption. Multiple existing contaminated areas around the port and near the border around San Diego Bay,



SAN DIEGO BIRD ALLIANCE

For birds, for people, for the planet

outside of the bay, and offshore of Imperial Beach could contribute to bioaccumulation at the proposed locations, which are concerning as these items are planned for consumption. Additionally, as contaminated sites adjacent to the Port of San Diego go unmitigated, the inundation of contaminated areas with sea level rise, storm surges, and atmospheric rivers should be considered as these are potential contamination sources that may be a future safety issue since these items will be cultivated for consumption.

Thank you for your time and consideration to this important matter. Please notify us of any updates to this program at Lhanda@sandiegobirdalliance.org.

Respectfully,

Lesley Handa
Lead Ornithologist
San Diego Bird Alliance

San Diego Fishermen's Working Group 8021 Lemon Avenue, La Mesa, CA 91941



Frank Urtasun

October 25, 2024

Chair

San Diego Board of Port Commissioners

Sent Electronically to: PublicRecords@portofsandiego.org.

RE Seaweed and Shellfish Aquaculture Program Discussion Draft Comments.

Dear Chair Urtasun and Commissioners,

Please accept the following comments from the San Diego Fishermen's Working Group (SDFWG) on the Seaweed and Shellfish Aquaculture Program Discussion Draft. The SDFWG is a non-profit organization representing all the major fisheries in the greater San Diego region, and includes representation from Tuna Harbor, Driscoll's Wharf, and commercial fishermen and women who utilize the area's launch ramps.

SDFWG members depend on access to fishing grounds spanning from the Southern border with Mexico all the way to our Northern border with Canada.

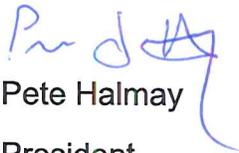
The SDFWG does not intend to voice overall opposition to Shellfish and Seaweed Aquaculture.

However, the proposed Zuniga and Imperial Beach locations would both cause unnecessary and untold harm to commercial fishing opportunities in San Diego, and result in an adverse economic impact to our fishing community. These areas are regularly used for lobster and bait fishes. In fact, fishermen believe that the near-shore area of the Zuniga location is a likely nursery area for lobster.

SDFWG wishes to express concerns, for the Port to examine, about the viability of in-bay shellfish and seaweed farming:

- It seems likely that the water temperature in the Bay—already high—will increase with global and ocean warming. We have already seen very limited success with the attempt to grow oysters in the “Flupsy” barge, in Tuna Harbor.
- While we understand that certain shellfish can filter out pollutants, we do wonder if the condition of Bay water will be conducive to the growth of these animals.
- Does the Port have the many acres of land that will be needed to dry seaweed?
- Has the Port researched the market value of the proposed products to assess the economic viability of this investment?
- Only California native species should be used.
- Will the Port provide subsidies to aquaculture developers?
- Overall, we remind the BPC that the SDFWG is working hard to provide fresh, sustainable seafood, which has a very low carbon footprint, to our community.

Thank you for considering the comments of the San Diego Fishermen’s Working Group.



Pete Halmay

President

peterhalmay@gmail.com

(619) 957-7121

CC

SDFWG Board of Directors



Shellfish and Seaweed Aquaculture Program Discussion Draft Comments

*Comments received during the public review
period:*

August 20, 2024 – October 25, 2024

Comments from Individuals

From: Lesley Nishihira
Sent: Tuesday, August 20, 2024 6:53 PM
To: Lily Tsukayama; Paula Sylvia; Renee Angwin
Cc: Jason Giffen; Shiraz Tangri
Subject: FW: Port of San Diego Seeks Public Input on Proposed Aquaculture Program

FYI...

Lesley Nishihira, AICP

Assistant Vice President, Planning

3165 Pacific Highway, San Diego, CA 92101
(o) 619.686.6469 • (c) 619.961.6322



connect: 

Port administration offices are open Monday-Thursday and [every other Friday](#) from 8am-5pm.
This email may contain public information and may be viewed by third parties pursuant to the Cal. Public Records Act.

From: dwood8@cox.net <dwood8@cox.net>
Sent: Tuesday, August 20, 2024 5:18 PM
To: frankurtasun@gmail.com
Cc: Jason Giffen <jgiffen@portofsandiego.org>; Randa Coniglio <rconiglio@portofsandiego.org>; Lesley Nishihira <lnishihira@portofsandiego.org>
Subject: FW: Port of San Diego Seeks Public Input on Proposed Aquaculture Program

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

My reply:

In my younger days, my older brother Bob was a skin diver. He was a member of the Bottom Scratchers dive team, one of the oldest in the SD region. They specialized in free diving, using beautiful handmade laminated wood spearguns. To be admitted to the club, you had to be able to hold your breath, dive down 50' or more, and be able to stay there for at least a minute before returning to the surface.

They were well known for spearfishing 200 – 300 Lb. Black Seabass off La Jolla and around the Coronado Islands, before they were fished out.

My brother was also a professional Abalone diver, with his own boat and air compressor system. He used to be able to pull in boatloads of large Abalone, mostly off the ocean side of Pt. Loma, which was one of the best Abalone fisheries on the west coast. Unfortunately, it too died off due to overfishing, and today, its almost impossible to find Abalone on the menu of local fish restaurants, and when you do, they are almost unaffordable. If anyone were able to develop a successful Abalone aquaculture program, they could get very rich. But I don't know if that would be possible in San Diego Bay. Abalone attach themselves to large rocks on the bottom of the ocean when they are young, then grow up filtering their food out of ocean water.

I know that the Port has worked with Scripps to monitor and map the bottom of San Diego Bay. You could scan those maps to see if there are any areas of the bay bottom that are covered with large rocks. If there is, It might be feasible to use those areas to grow Abalone in the bay. It is something I think the port would be wise to look into.

Don W.

From: Port of San Diego <noreply@portofsandiego.org>

Sent: Tuesday, August 20, 2024 2:47 PM

To: dwood8@cox.net

Subject: Port of San Diego Seeks Public Input on Proposed Aquaculture Program



Port of San Diego Seeks Public Input on Proposed Aquaculture Program

Media Contact: [Gabiella Rodriguez](#) C: 619.904.2137 | [View press release on Port website.](#)



As a part of its mission to advance science and promote the growth of emerging industries with strong potential for job creation, the Port of San Diego is actively advancing aquaculture through its proposed [Shellfish and Seaweed Aquaculture Program](#) (SSAP). Aquaculture is the cultivation, or farming, of aquatic organisms in marine and fresh-water environments. The Port is looking to exclusively focus on

the cultivation of shellfish and seaweed.

In 2021, the value of California's shellfish aquaculture production exceeded \$7.8 million (according to California Department of Fish & Wildlife). This number does not include the economic benefit from jobs or other multipliers, just the value of shellfish. The value from seaweed production is not yet known, but the Port has already seen some success stories through investments in two aquaculture businesses through its Blue Economy Incubator, which includes Sunken Seaweed, a seaweed farm that produces 500 pounds of edible seaweed a week.

“The Port of San Diego is a proven and measurable economic engine not only for our region, but for the entire state of California,” said Chairman Frank Urtasun, Port of San Diego Board of Port Commissioners. “Through continued innovation and bold thinking like the pursuit of establishing a viable aquaculture industry locally, we will further advance the Port’s economic impact by creating more jobs and businesses that benefit our local economy.”

It is well recognized that shellfish and seaweed aquaculture in California are poised for growth, however the permitting and environmental review processes serve as significant barriers to implementation, and the State of California has not issued a new aquaculture lease in over 30 years. While many are working to improve these processes, organizations like the Port can play a unique role in helping to minimize these barriers to entry. With the region’s temperate climate, proximity to markets, and existing shore-side infrastructure, along with the Port’s roles as manager, landlord, regulator, and environmental steward, the SSAP is being developed to support future growth of shellfish and seaweed aquaculture in and around San Diego Bay.

SSAP Discussion Draft Available for Review Now

As a port of communities, public and stakeholder input is important in the development of the SSAP. A [discussion draft](#) of the proposed SSAP is now available for review. This initial review period is open for 60 days. The discussion draft includes an overview of policies, procedures, and best practices that the Port would apply when considering future shellfish and seaweed aquaculture proposals

for both in-water and land operations. Stakeholder engagement and feedback on the SSAP are essential to this process. Comments, data and discussions on potential opportunities or gaps in the [SSAP Discussion Draft](#) are welcome. After the comment period closes, Port staff will review the comments and prepare an updated draft of the SSAP. The process to develop the SSAP is designed to be continual and responsive to feedback. Comments on the SSAP Discussion Draft are being accepted through October 25, 2024. For more information on the SSAP, visit portofsandiego.org/aquaculture. To submit comments on the SSAP Discussion Draft, email them to SSAP@portofsandiego.org.

ABOUT THE PORT OF SAN DIEGO

The Port of San Diego serves the people of California as a specially created district, balancing multiple uses on 34 miles along San Diego Bay spanning five cities. Collecting no tax dollars, the Port manages a diverse portfolio to generate revenues that support vital public services and amenities.

The Port champions Maritime, Waterfront Development, Public Safety, Experiences and Environment, all focused on enriching the relationship people and businesses have with our dynamic waterfront. From cargo and cruise terminals to hotels and restaurants, from marinas to museums, from 22 public parks to countless events, the Port contributes to the region's prosperity and remarkable way of life on a daily basis.



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3165 Pacific Highway
San Diego, CA 92101

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From: Scott Grewe <scottgrewe@gmail.com>
Sent: Tuesday, October 1, 2024 11:16 AM
To: Shellfish and Seaweed Aquaculture Program
Subject: Exciting!

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,
Im very pleased to read about SSAP, and what that could mean for San Diego and aquaculture.
I am a Southern California resident interested in Ocean farming.
I'm very excited to see how this program can help overcome barriers of entry into an industry that has massive potential.

Best,
Scott Grewe

Feedback

From Keo Sar <keo.sar@outerspaceit.com>

Date Wed 10/16/2024 10:00 PM

To Shellfish and Seaweed Aquaculture Program <SSAP@portofsandiego.org>

WARNING: The sender of this email could not be validated and may not match the person in the "From" field!

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General Impressions

The proposed SSAP offers a thoughtful approach to fostering sustainable aquaculture in San Diego Bay. It balances economic growth with environmental stewardship, which is crucial for the long-term viability of aquaculture practices in the region.

Opportunities

1. Economic Development:

- **Job Creation:** The program can significantly enhance local employment through the establishment of aquaculture farms, processing facilities, and associated supply chains.
- **Local Business Support:** Collaborating with local seafood markets and restaurants can help develop a local market for aquaculture products, increasing economic benefits within the community.

2. Environmental Sustainability:

- **Ecosystem Restoration:** The proposal emphasizes the role of shellfish and seaweed farming in improving water quality and restoring marine habitats. This could be expanded by including metrics for measuring ecological benefits.
- **Carbon Sequestration:** The SSAP could highlight the potential for aquaculture to contribute to climate change mitigation through carbon capture and storage, enhancing its appeal to environmentally conscious consumers and stakeholders.

3. Research and Innovation:

- Collaboration with Academia: Partnering with local universities and research institutions can drive innovation in aquaculture practices, focusing on disease resistance, sustainable farming techniques, and environmental impacts.
- Pilot Programs: Implementing pilot projects for new farming methods or species could provide valuable data and insights to refine the SSAP over time.

4. Community Engagement:

- Educational Initiatives: Developing programs to educate the community about the benefits of aquaculture could foster public support and encourage local involvement in the industry.
- Stakeholder Participation: Involving local stakeholders in the decision-making process can enhance transparency and create a sense of ownership in the success of the program.

Identified Gaps

1. Regulatory Framework:

- Detailed Permitting Process: The document lacks clarity on the specific permitting steps, timelines, and regulatory requirements needed to establish and operate aquaculture facilities. Providing a clear roadmap for prospective operators would improve accessibility and understanding.
- Compliance Requirements: More information on how the SSAP will ensure compliance with state and federal regulations is needed, particularly regarding health and safety standards.

2. Market Analysis:

- Demand Assessment: A thorough analysis of the local and regional markets for shellfish and seaweed products, including consumer preferences, potential pricing strategies, and competition, should be included. This data is crucial for establishing the economic viability of aquaculture initiatives.
- Value-Added Products: Exploring opportunities for value-added processing (e.g., ready-to-eat products, gourmet offerings) could enhance profitability and market appeal.

3. Risk Management Strategies:

- Environmental Risks: Addressing potential risks related to climate change, such as ocean acidification and rising sea levels, should be a priority. Including adaptive management strategies will help ensure resilience in the face of environmental changes.
- Health and Biosecurity Protocols: Outlining specific biosecurity measures to prevent disease outbreaks and contamination is essential for maintaining the health of oyster populations and consumer safety.

4. Sustainability Metrics:

- Monitoring and Evaluation: The SSAP should establish clear metrics for evaluating the environmental and economic impacts of aquaculture practices over time. This could involve regular reporting and

adaptive management practices based on outcomes.

5. Funding and Financial Support:

- Access to Capital: Information on potential funding sources, grants, or loans available for aquaculture operators would be beneficial, particularly for small-scale farmers looking to enter the market.

Conclusion

Overall, the SSAP presents a strong framework for promoting sustainable shellfish and seaweed aquaculture in San Diego Bay. By addressing the identified gaps and leveraging the opportunities, the Port can enhance the program's effectiveness, ensuring long-term success and sustainability for the aquaculture industry in the region. Engaging stakeholders, improving regulatory clarity, and incorporating comprehensive market analyses will be crucial in refining the proposal.

Warmest Regards,

Keo - Aspiring Oyster Farmer/Processor

Born and Raised in Logan Heights.

Minorites In Aquaculture

From Keo Sar <keo.sar@outerspaceit.com>

Date Thu 10/24/2024 8:44 PM

To Shellfish and Seaweed Aquaculture Program <SSAP@portofsandiego.org>

Cc Gina Jacobs <gjacobs@portofsandiego.org>; dedgerly@portofsandiego.com
<dedgerly@portofsandiego.com>; DEI-Department <DEI-Department@portofsandiego.org>

WARNING: The sender of this email could not be validated and may not match the person in the "From" field!

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Hi,

I hope this message finds you well. My name is Keo, an aspiring aquaculturist. After reviewing the draft, I'd love to see how the port will incorporate minorities into aquaculture. I'd love to see a blend of outreach, education, access to resources, and community building initiatives. Many marginalized communities have historically been excluded from maritime industries due to lack of opportunities, financial barriers, or representation. I'd love to see plans/programs including culturally diverse coastal communities like, Barrio Logan, Logan Heights, Sherman Heights, Imperial Beach, and many more along the SD Bay. How will the port incorporate minority communities? How will minorities be represented? How will you educate, train, and provide programming and resources tailored to the needs of these communities? How will you meet them where they're at?

While not specifically catered to minorities. These programs are a great models:

[Home | Welcome to the New York Harbor School](#)

[Restoring Long Island's shellfish population | CALS](#)

[Billion Oyster Project](#)

[New Program Offers Free Online Training for Oyster Farming Industry | June | 2022 | News | Texas A&M University-Corpus Christi](#) - Spanish/English Offerings

Please forgive me in advance if these topics have been addressed.

Much Love and Light,

--



Keo Sar (he/him)

Sr. Clinical Application Consultant

Outer Space I.T. Solutions

[929-271-3671](tel:929-271-3671)

keo.sar@outerspaceit.com

www.outerspaceit.com

Comments on Draft SSAP document

From Rebecca Lent <rebecca.lent@gmail.com>

Date Thu 10/24/2024 6:16 AM

To Shellfish and Seaweed Aquaculture Program <SSAP@portofsandiego.org>

 1 attachments (18 KB)

Comments on SSAP - R.Lent.docx;

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24 October 2024

To the Port of San Diego:

Thank you for providing an opportunity to submit comments on the Shellfish and Seaweed Aquaculture Program (SSAP). As a resident of San Diego, I am pleased to learn more about the SSAP and its potential role in supporting and facilitating the development of aquaculture in the Port of San Diego.

I am submitting these comments in my personal capacity as a semi-retired marine economist.

As the report notes, the US seafood market is heavily dependent on imports. Interestingly, nearly half of our imports are aquaculture products such as shrimp and Atlantic salmon. The 'seafood trade deficit' is in part a function of comparative advantage amongst countries and reflects an overarching U.S. policy of reaping the gains from trade. Still, there are other benefits to domestic aquaculture that merit a review of the impediments to its full development and potential.

The SSAP discussion document recognizes that one of the oft-noted hurdles to aquaculture development is the extensive and costly regulatory and permitting processes faced by producers. This increases the difficulty of obtaining financing for such projects and adds to the risks in such investments. SSAP's goal of providing a framework to support applicants directly addresses these barriers.

I congratulate the SSAP for providing a Spanish language version of the SSAP as part of the public outreach and discussion and comment process.

The following list underscores a few overarching issues with respect to aquaculture development in the San Diego Bay:

- What are the other constraints to development of SSA in the San Diego Bay, such as:
 - Appropriately equipped and skilled processors located nearby with sufficient capacity to expand their volume of product;
 - Prices paid to producers are sufficiently robust to ensure an economically viable operation within a reasonable length of time after establishment;
 - The volume produced by applicants is sufficiently high and steady to meet local wholesaler demand, but not so high as to result in market gluts (and lower prices).
- How can interaction with protected species such as marine mammals, sea turtles and seabirds be monitored and mitigated, and are there special provisions for ESA-listed species, or under the Marine Mammal Protection Act? Predation and other interactions with aquaculture facilities can be a significant challenge, particularly with marine mammals. This could be more of an issue with finfish (e.g. salmon aquaculture) which is not part of the SSAP. The discussion on Best Management Practices on page 91 states that the Operations Plan 'may include' a marine

entanglement plan; more details would be helpful on when such a plan would be provided and what would it entail.

- Some aquaculture programs cause concern regarding the introduction of non-native species and possibility of 'escapees' and invasives. The SSAP indicates that the projects could include 'naturalized' species. Would those be species that were introduced some time ago and are they now considered part of the marine ecosystem?
- Interactions between aquaculture and fishery operations, as recognized in the SSAP discussion draft, will be front and center. The San Diego fishing industry is proud of its recreational and fishing fleet and their significant economic contribution. It will be important to ensure that the deployment of aquaculture gear does not interfere directly with the vessel operators, or indirectly via any ecological impact on the marine ecosystem.

Thank you for the opportunity to provide these comments and I look forward to the revised SSAP.

Best regards,

Rebecca Lent

3939 Illinois Street
Apt 2A
San Diego CA 92104
rebecca.lent@gmail.com

24 October 2024

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Best regards,

Rebecca Lent

3939 Illinois Street

Apt 2A

San Diego CA 92104

rebecca.lent@gmail.com

Fw: Port of San Diego Shellfish and Seaweed Aquaculture Program Discussion Draft

From Renee Angwin <rangwin@portofsandiego.org>

Date Tue 10/29/2024 10:04 AM

To Shellfish and Seaweed Aquaculture Program <SSAP@portofsandiego.org>

From: bernard@sbmariculture.com <bernard@sbmariculture.com>

Sent: Monday, October 28, 2024 7:15 PM

To: Paula Sylvia <psylvia@portofsandiego.org>

Cc: Daniel Reeves <daniel@junipersa.com>; Lily Tsukayama <ltsukayama@portofsandiego.org>; Renee Angwin <rangwin@portofsandiego.org>; Sarah Donald <sdonald@portofsandiego.org>

Subject: RE: Port of San Diego Shellfish and Seaweed Aquaculture Program Discussion Draft

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Paula,

thanks for including me on this. I've wanted to do a more formal reply and commentary to your San Diego SSAP but alas the deadline is now past and sorry for the delay.

I would say the biggest glaring obstacle is that both the imperial beach and Zuniga shoals growing area are too shallow and possibly in the surf zone. I do not know anyone who has grown shellfish and algae this close to the beach. the gear designed for the growing of shellfish is not designed for such turbulence and would need to be tested and evaluated for compatibility.

Further, these growing areas are too close to the general public which may cause liability issues and health and sanitary compliance issues. One would need to provide a buffer between recreational beach users and aquaculture shellfish and equipment. The gear may also impact or shade wave formation which may cause friction with waver riders.

I think the deepest depths I saw for zunega or imperial was 30 feet and even this depth is too shallow for conventional shellfish culture practices when conducted in an area of any wave intensity. I think the southern swells of the summer would profoundly impact operations.

I think your land facility ideas are great and the one growing area in the bay is fine. these are all great beach heads on which to establish some aquaculture momentum. As you know everything has taken a lot of time to develop, but please remember that good aquaculture development is the sum that is much larger and takes longer than us as individuals. we lay the groundwork for the next generation. it's worth the effort and I'm here to help.

Feel free to follow up. You're doing great.

regards bernard

Santa Barbara Mariculture Co.
Bernard Friedman
939 N. Patterson Ave.
Santa Barbara, CA 93111
805 886-1283

From: "Paula Sylvia" <psylvia@portofsandiego.org>

Sent: 10/8/24 12:39 PM

To: bernard friedman <bernard@sbmariculture.com>

Cc: Daniel Reeves <daniel@junipersa.com>, Lily Tsukayama <ltsukayama@portofsandiego.org>, Renee Angwin

<rangwin@portofsandiego.org>, Sarah Donald <sdonald@portofsandiego.org>

Subject: Port of San Diego Shellfish and Seaweed Aquaculture Program Discussion Draft

Hi Bernard-

I hope you are doing well and I know it has been a while! And I know we need a proper catch up but I wanted to share the templated email below regarding a Discussion Draft for the Port's proposed Shellfish and Seaweed Aquaculture Program. The comment period is open until October 25th, and we would love to formerly hear some feedback from you. If you have any questions or want to meet do a deeper dive into the materials, please let me know. And thank you in advance and looking forward to hopefully seeing and connecting with you soon!

On behalf of the Port of San Diego, I am writing to let you know that the Port has released a Discussion Draft of its proposed Shellfish and Seaweed Aquaculture Program (SSAP). In brief, this program would provide a framework for the Port to guide, consider, and approve future shellfish and seaweed aquaculture activities in and around San Diego Bay. You can find the Discussion Draft outlining this program in detail on the Port's webpage: <https://www.portofsandiego.org/aquaculture>

Comments on the Discussion Draft will be accepted through October 25, 2024. Please send your comments to SSAP@portofsandiego.org

This is the first of several opportunities to provide input on the SSAP, and the Port will continue to engage with agencies, stakeholders, and the public as the SSAP continues to be developed. This Discussion Draft represents the SSAP as the Port has envisioned it today, and the purpose of the Discussion Draft is to spark discussion between stakeholders and the Port so that the Port can better understand whether the proposed program is on track, where there is support for the program, and where there are opportunities for improvement. As you review, if you notice data gaps or other pieces of information that you would like for us to consider through the development of the SSAP, please note that in your comments and provide any data or information that could help to fill those gaps.

As this is the first time the Port has worked to establish a program of this type, comments from stakeholders are essential to ensuring that we have as much information as possible to make informed and thoughtfully considered recommendations during the decision-making process. Thank you for your time and effort in reviewing this Discussion Draft.

All My Best, Paula