

APPENDIX A

SAMPLING LOCATION TABLES AND MAPS

Summary Table of 2018 RHMP Sampling Locations

Table A-1
2018 RHMP Target & Actual Sampling Locations and Strata

Region	Station ID	Target Latitude (dd.ddddd°)	Target Longitude (-ddd.ddddd°)	Actual Latitude (dd.ddddd°)	Actual Longitude (-ddd.ddddd°)	2018 RHMP Stratum	Bight '18 Stratum	Sediment Grab	Water Grab	Trawl	Previous Bight Site?
Dana Point Harbor	B18-10065	33.46070	-117.70081	33.46066	-117.70090	Shallow	Marinas	X	X		New Site
	B18-10066	33.46045	-117.69461	33.46009	-117.69398	FW-Influenced	Marinas	X	X		New Site
	B18-10067	33.45947	-117.69942	33.45884	-117.69925	Marina	Marinas	X	X		New Site
	B18-10068	33.45744	-117.69125	33.45762	-117.69139	Deep	Marinas	X	X	X	New Site
Oceanside Harbor	B18-10069	33.21306	-117.39526	33.21276	-117.39514	Marina	Marinas	X	X		New Site
	B18-10070	33.20946	-117.39531	33.20929	-117.39532	FW-Influenced	Marinas	X	X		New Site
	B18-10071	33.20799	-117.39753	33.20798	-117.39754	Deep	Marinas	X	X	X	New Site
	B18-10072	33.20420	-117.39118	33.20428	-117.39137	Marina	Marinas	X	X		New Site
Mission Bay	B18-10015	32.78719	-117.20826	32.78731	-117.20999	FW-Influenced	Bays	X	X		New Site
	B18-10016	32.78486	-117.24052	32.78454	-117.24059	Shallow	Bays	X	X	X	New Site
	B18-10017	32.78448	-117.21536	32.78439	-117.21531	Shallow	Bays	X	X	X	Revisit
	B18-10019	32.76790	-117.24148	32.76814	-117.24172	Deep	Bays	X	X	X	Revisit
	B18-10020	32.75807	-117.24410	32.75827	-117.24439	Deep	Bays	X	X		New Site
	B18-10073	32.78070	-117.24928	32.78060	-117.24926	Shallow	Marinas	X	X		Revisit
	B18-10074	32.77721	-117.24975	32.77707	-117.24997	Marina	Marinas	X	X		New Site
	B18-10075	32.76720	-117.23565	32.76728	-117.23576	Marina	Marinas	X	X		Revisit
San Diego Bay - North	B18-10438 (overdraw)	32.76635	-117.21842	32.76652	-117.21854	Shallow	Bays	X	X		New Site (Overdraw)
	B18-10022	32.72415	-117.18298	32.72408	-117.18307	Deep	Bays	X	X	X	Revisit
	B18-10023	32.71746	-117.21593	32.71750	-117.21556	Deep	Bays	X	X	X	New Site
	B18-10024	32.71496	-117.18291	32.71480	-117.18302	Deep	Bays	X	X	X	Revisit
	B18-10029	32.70176	-117.15861	32.70189	-117.15893	FW-Influenced	Bays	X	X		New Site
	B18-10030	32.68796	-117.23051	32.68784	-117.23027	Deep	Bays	X	X	X	New Site
	B18-10076	32.72677	-117.17671	32.72654	-117.17654	FW-Influenced	Marinas	X	X		New Site
	B18-10077	32.72502	-117.18368	32.72496	-117.18335	Shallow	Marinas	X	X		Revisit
	B18-10078	32.72264	-117.22393	32.72304	-117.23273	Marina	Marinas	X	X		New Site
	B18-10079	32.71985	-117.22070	32.72046	-117.22078	Marina	Marinas	X	X		New Site
	B18-10080	32.71857	-117.22611	32.71882	-117.22629	Marina	Marinas	X	X		Revisit
	B18-10081	32.71840	-117.23040	32.71823	-117.23040	Marina	Marinas	X	X		Revisit
	B18-10082	32.71660	-117.22595	32.71643	-117.22662	Marina	Marinas	X	X		New Site
	B18-10083	32.71239	-117.23125	32.71256	-117.23131	Marina	Marinas	X	X		New Site
	B18-10084	32.71154	-117.23255	32.71208	-117.23282	Marina	Marinas	X	X		Revisit
	B18-10112	32.71619	-117.17624	32.71627	-117.17632	Deep	Ports	X	X		Revisit
	B18-10113	32.71609	-117.17395	32.71614	-117.17398	Deep	Ports	X	X		Revisit
	B18-10114	32.70240	-117.16178	32.70260	-117.16180	Industrial/Port	Ports	X	X		Revisit
	B18-10115	32.69414	-117.15232	32.69442	-117.15254	Industrial/Port	Ports	X	X		New Site
	B18-10116	32.69172	-117.15322	32.69140	-117.15337	Deep	Ports	X	X		Revisit
	B18-10117	32.69169	-117.23824	32.69188	-117.23837	Deep	Ports	X	X		Revisit
San Diego Bay - Central	B18-20116 (B18-10116 Rep)	32.69172	-117.15322	32.69140	-117.15337	Deep	Ports	X	X		Replicate Station
	B18-10031	32.68698	-117.13296	32.68665	-117.13354	FW-Influenced	Bays	X	X		New Site
	B18-10032	32.67547	-117.14384	32.67526	-117.14397	Shallow	Bays	X	X		Revisit
	B18-10034	32.66518	-117.14980	32.66526	-117.14985	Shallow	Bays	X	X	X	Revisit
	B18-10035	32.66074	-117.14549	32.66075	-117.14543	Shallow	Bays	X	X		New Site
	B18-10036	32.65834	-117.14422	32.65816	-117.14437	Shallow	Bays	X	X	X	Revisit
	B18-10119	32.69025	-117.14338	32.69004	-117.14320	Industrial/Port	Ports	X	X		New Site
	B18-10121	32.68739	-117.14063	32.68780	-117.14076	Industrial/Port	Ports	X	X		New Site
	B18-10123	32.68578	-117.13625	32.68549	-117.13635	Industrial/Port	Ports	X	X		New Site
	B18-10124	32.68426	-117.13103	32.68433	-117.13126	Industrial/Port	Ports	X	X		New Site
	B18-10126	32.68168	-117.13103	32.68173	-117.13109	Industrial/Port	Ports	X	X		New Site
	B18-10127	32.67929	-117.12857	32.67920	-117.12836	Industrial/Port	Ports	X	X		New Site
	B18-10132	32.67427	-117.12486	32.67427	-117.12466	Industrial/Port	Ports	X	X		New Site
	B18-10133	32.67360	-117.12964	32.67313	-117.12943	Deep	Ports	X	X		New Site
	B18-10136	32.67015	-117.12354	32.67028	-117.12350	Industrial/Port	Ports	X	X		New Site
	B18-10137	32.66783	-117.12205	32.66776	-117.12199	Industrial/Port	Ports	X	X		New Site
	B18-10139	32.66427	-117.12253	32.66359	-117.12270	Industrial/Port	Ports	X	X		New Site
	B18-10140	32.66061	-117.12339	32.66056	-117.12296	Industrial/Port	Ports	X	X		Revisit
	B18-10141	32.66033	-117.12532	32.66045	-117.12539	Deep	Ports	X	X		New Site
	B18-10142	32.66006	-117.11932	32.66009	-117.11918	Industrial/Port	Ports	X	X		New Site
San Diego Bay - South	B18-10143	32.65755	-117.12329	32.65763	-117.12312	Industrial/Port	Ports	X	X		New Site
	B18-10144	32.65155	-117.12246	32.65118	-117.12296	Deep	Ports	X	X		Revisit
	B18-10178	32.68786	-117.13173	32.68753	-117.13087	FW-Influenced	Estuaries	X	X		New Site
	B18-20133 (B18-10127 Rep)	32.67929	-117.12857	32.67920	-117.12836	Industrial/Port	Ports	X	X		Replicate Station
	B18-10037	32.64694	-117.11824	32.64698	-117.11822	FW-Influenced	Bays	X	X	X	Revisit
	B18-10038	32.64280	-117.12623	32.64268	-117.12624	Shallow	Bays	X	X	X	New Site
	B18-10039	32.64165	-117.13919	32.64158	-117.13904	Shallow	Bays	X	X	X	New Site
	B18-10040	32.64164	-117.11646	32.64175	-117.11708	FW-Influenced	Bays	X	X		New Site
	B18-10041	32.62857	-117.12556	32.62848	-117.12540	Shallow	Bays	X	X		New Site
	B18-10042	32.62581	-117.11154	32.62559	-117.11127	Shallow	Bays	X	X	X	New Site
	B18-10043	32.61721	-117.10226	32.61635	-117.10320	Shallow	Bays	X	X		New Site
	B18-10044	32.61327	-117.09892	32.61409	-117.09877	FW-Influenced	Bays	X	X		New Site
	B18-10085	32.62597	-117.13567	32.62588	-117.13571	Marina	Marinas	X	X		New Site
	B18-10086	32.62360	-117.13346	32.62355	-117.13363	Marina	Marinas	X	X		Revisit
	B18-10087	32.62174	-117.10140	32.62166	-117.10217	Marina	Marinas	X	X		New Site
	B18-10088	32.62152	-117.13002	32.62153	-117.13015	Shallow	Marinas	X	X		New Site
San Diego Bay - South	B18-10179	32.64973	-117.10675	32.64968	-117.10863	FW-Influenced	Estuaries	X	X		New Site
	B18-10180	32.64779	-117.11618	32.64777	-117.11644	FW-Influenced	Estuaries	X	X		New Site
	B18-10181	32.64774	-117.11352	32.64819	-117.11340	FW-Influenced	Estuaries	X	X		New Site
	B18-10200	32.61763	-117.09768	32.61784	-117.09824	FW-Influenced	Brackish Estuaries	X	X		New Site
	B18-20043 (B18-10043 Rep)	32.61721	-117.10226	32.61635	-117.10320	Shallow	Bays	X	X		Replicate Station

Note: Mission Bay site B18-10018 (Freshwater-Influenced) was abandoned due to depth and safety reasons. Overdraw site B18-10438 was sampled instead.

Maps of 2018 RHMP Sampling Locations

Dana Point Harbor

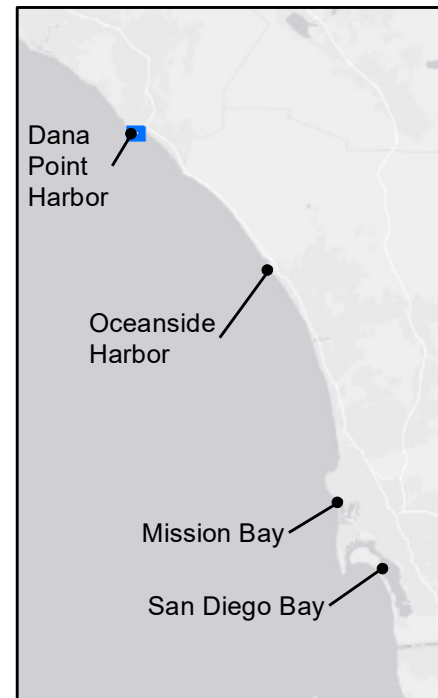


2018 RHMP Actual Collection Locations & Strata

- Deep
- ▲ Freshwater- Influenced
- Industrial/ Port
- ✱ Marina
- ◆ Shallow
- ✕ Target Trawl Location



0 0.2 0.4 km



Oceanside Harbor

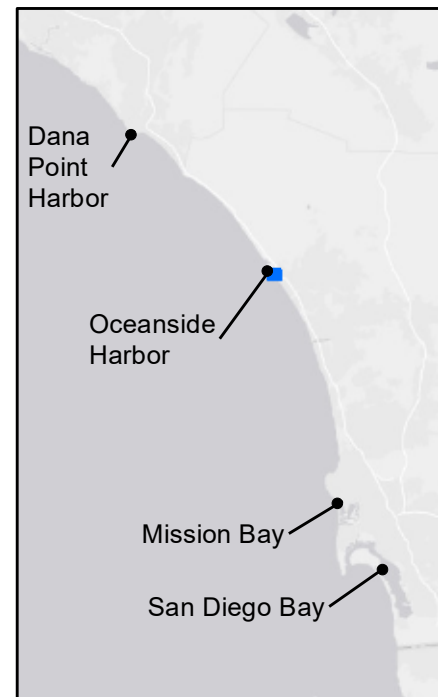


2018 RHMP Actual Collection Locations & Strata

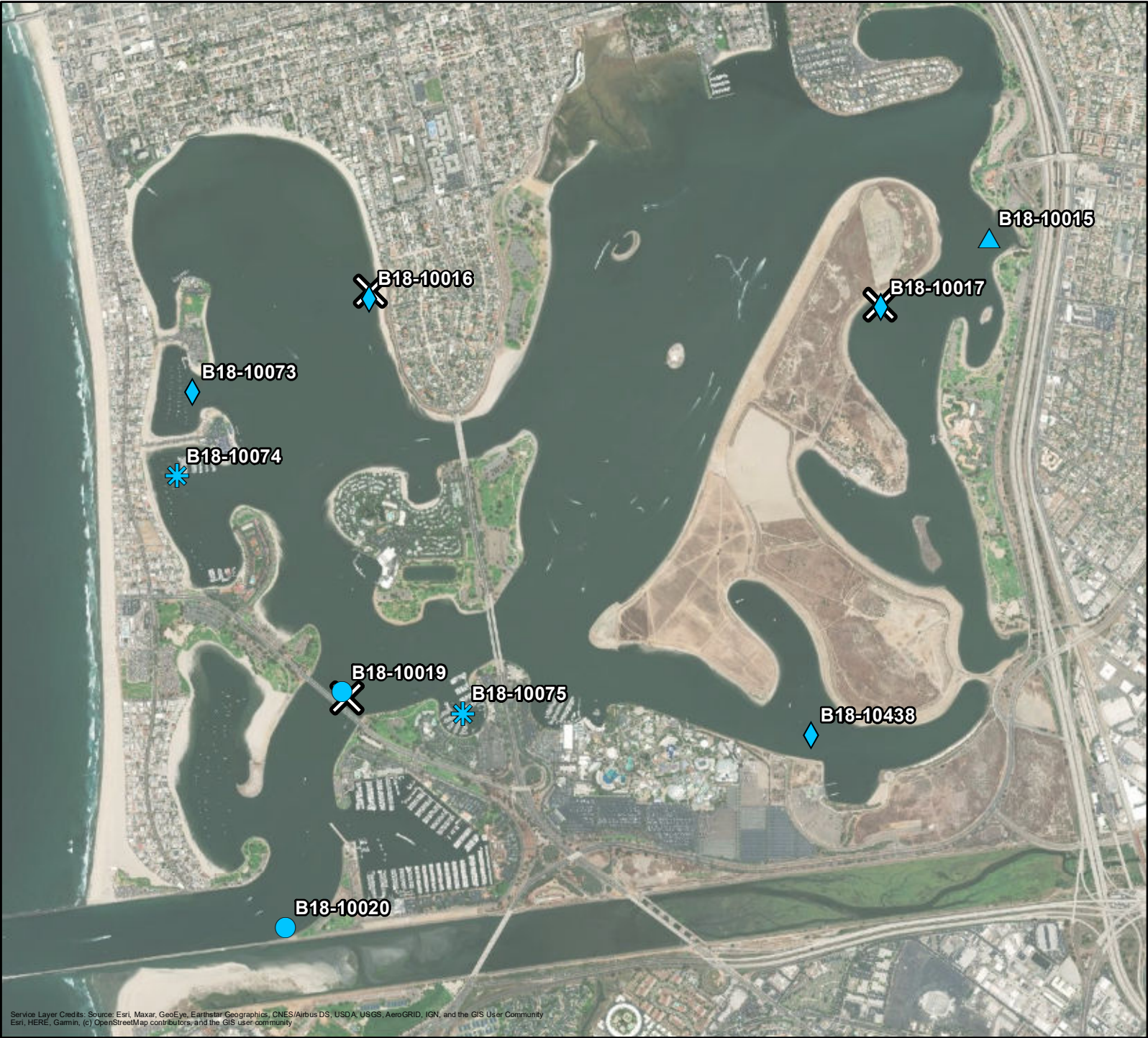
- Deep
- ▲ Freshwater-Influenced
- Industrial/ Port
- ✱ Marina
- ◆ Shallow
- ✕ Target Trawl Location



0 0.15 0.3 km



Mission Bay



2018 RHMP Actual Collection Locations & Strata

- Deep
- ▲ Freshwater- Influenced
- Industrial/ Port
- ✱ Marina
- ◆ Shallow
- ✕ Target Trawl Location



0 0.55 1.1 km



North San Diego Bay

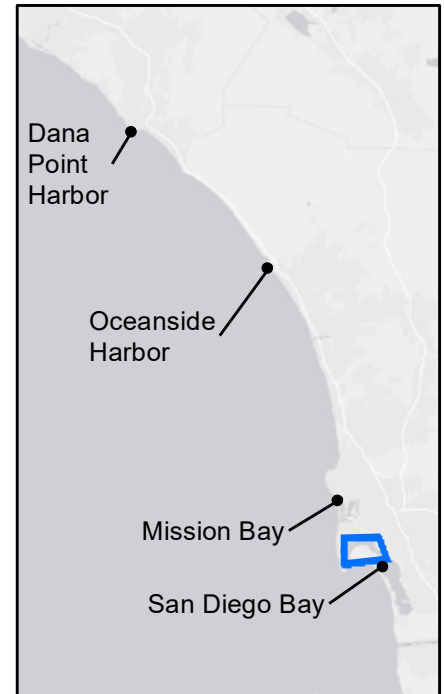


2018 RHMP Actual Collection Locations & Strata

- Deep
- ▲ Freshwater-Influenced
- Industrial/ Port
- * Marina
- ◆ Shallow
- ✕ Target Trawl Location

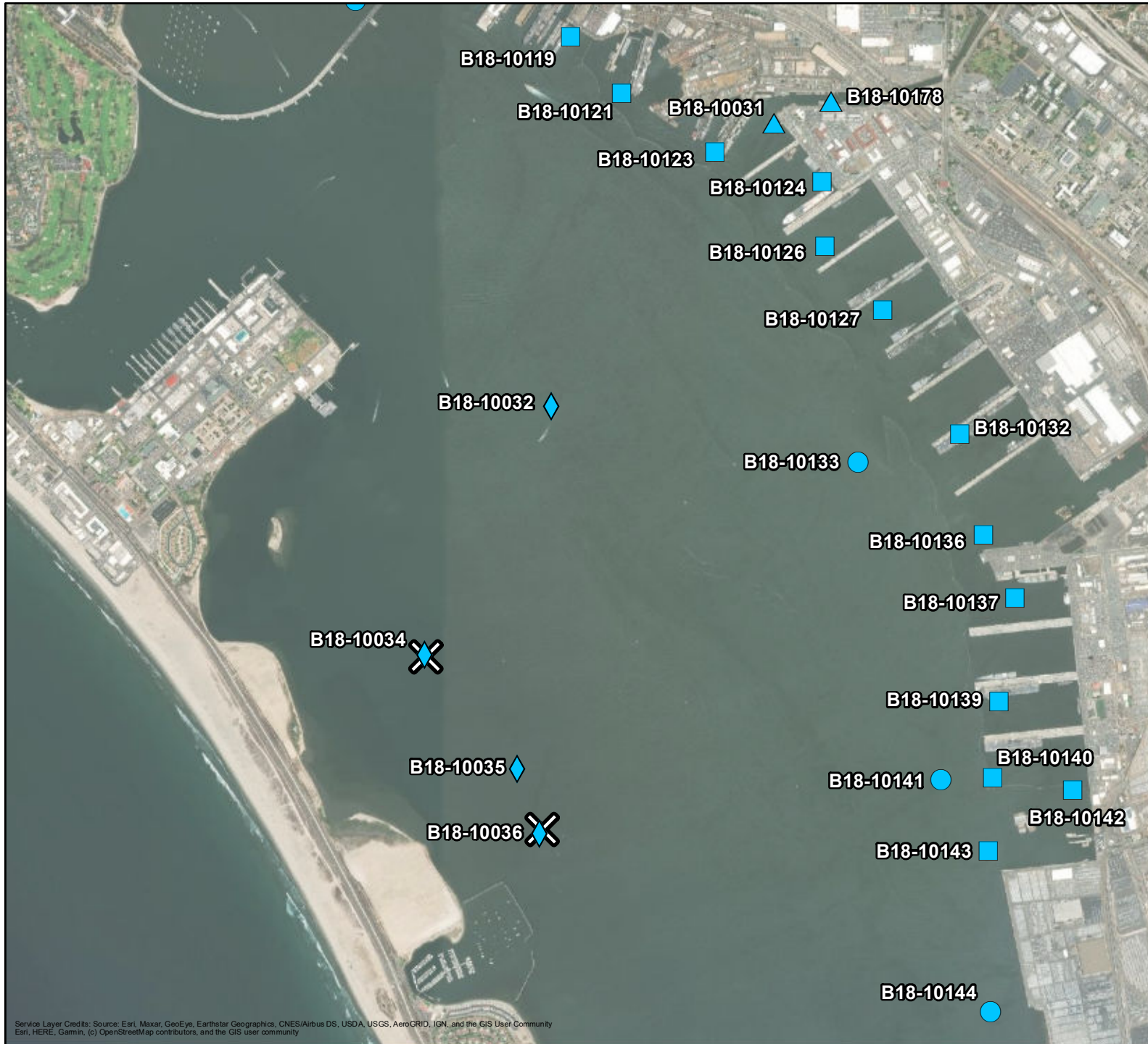


0 0.9 1.8 km



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Central San Diego Bay

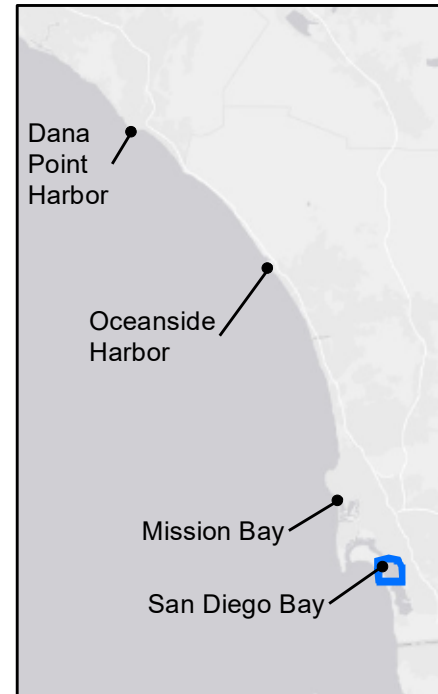


2018 RHMP Actual Collection Locations & Strata

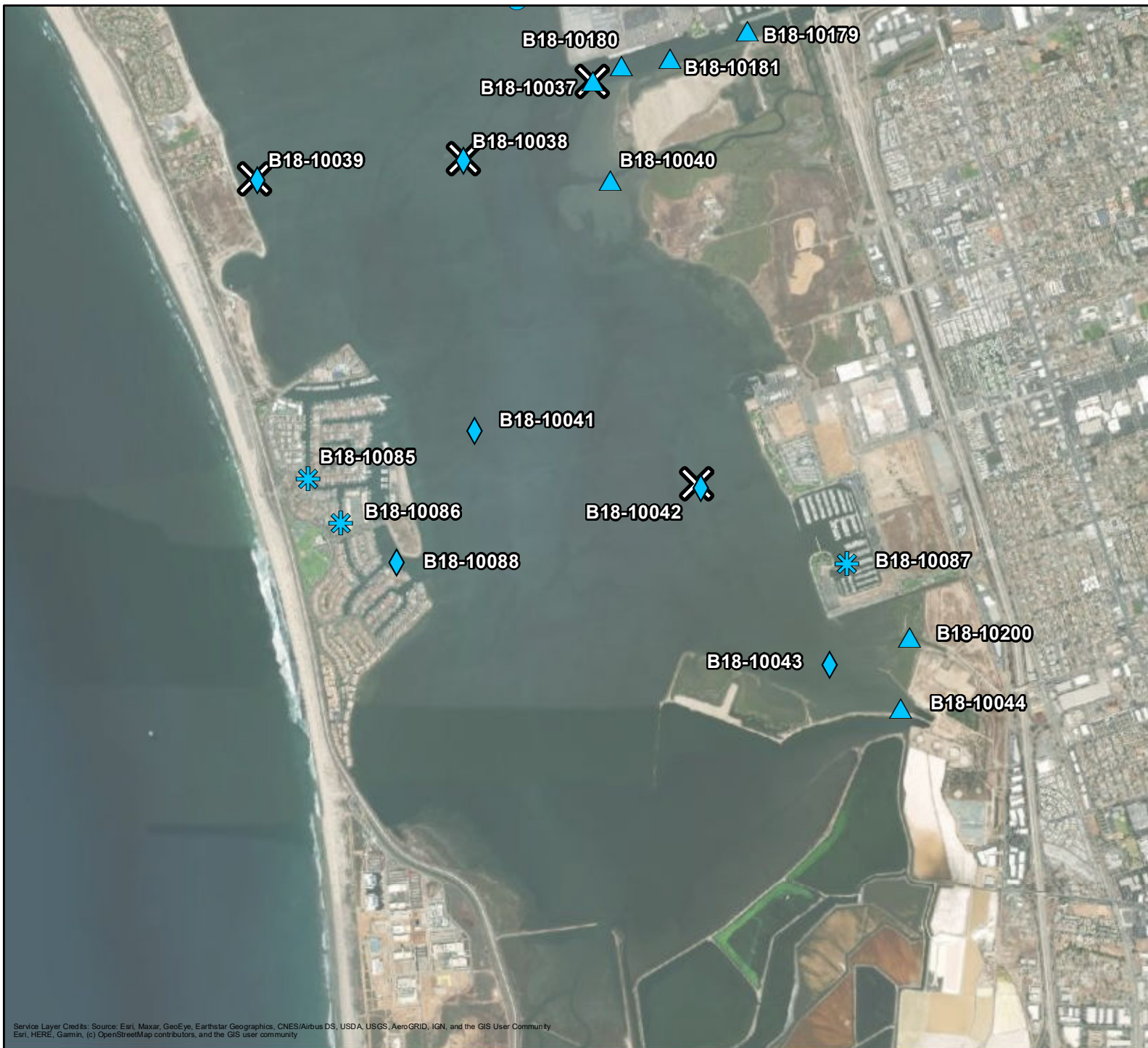
- Deep
- ▲ Freshwater-Influenced
- Industrial/ Port
- ✱ Marina
- ◆ Shallow
- ✕ Target Trawl Location



0 0.5 1 km



South San Diego Bay

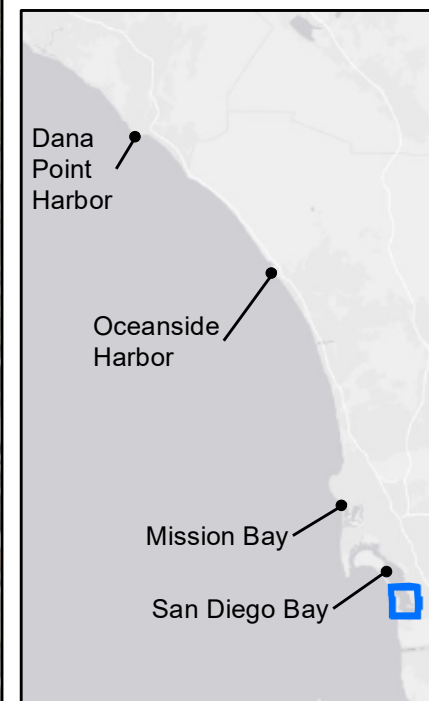


2018 RHMP Actual Collection Locations & Strata

- Deep
- ▲ Freshwater-Influenced
- Industrial/ Port
- ✱ Marina
- ◆ Shallow
- ✕ Target Trawl Location



0 0.7 1.4 km



Maps of 2018 RHMP Benthic Trawl Locations

Dana Point Harbor



2018 RHMP Trawl Locations

- Trawl Track
- Trawl Direction



wood.

0 0.2 0.4 km

Dana Point Harbor

Oceanside Harbor



Mission Bay

San Diego Bay

Oceanside Harbor



2018 RHMP Trawl Locations

-  Trawl Track
-  Trawl Direction



wood.

0 0.15 0.3
km

Dana
Point
Harbor

Oceanside
Harbor



Mission Bay

San Diego Bay

Mission Bay



2018 RHMP Trawl Locations

-  Trawl Track
-  Trawl Direction



wood.

0 0.55 1.1 km

Dana Point Harbor

Oceanside Harbor



Mission Bay

San Diego Bay

North San Diego Bay



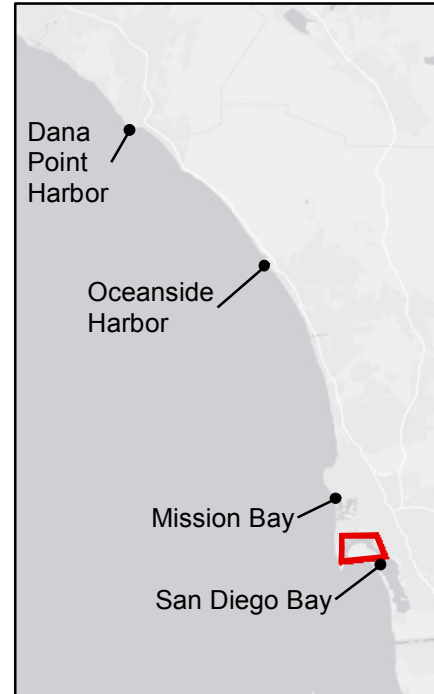
2018 RHMP Trawl Locations

-  Trawl Track
-  Trawl Direction



wood.



0 0.9 1.8 km



Central San Diego Bay



2018 RHMP Trawl Locations

-  Trawl Track
-  Trawl Direction



wood.

0 0.5 1 km

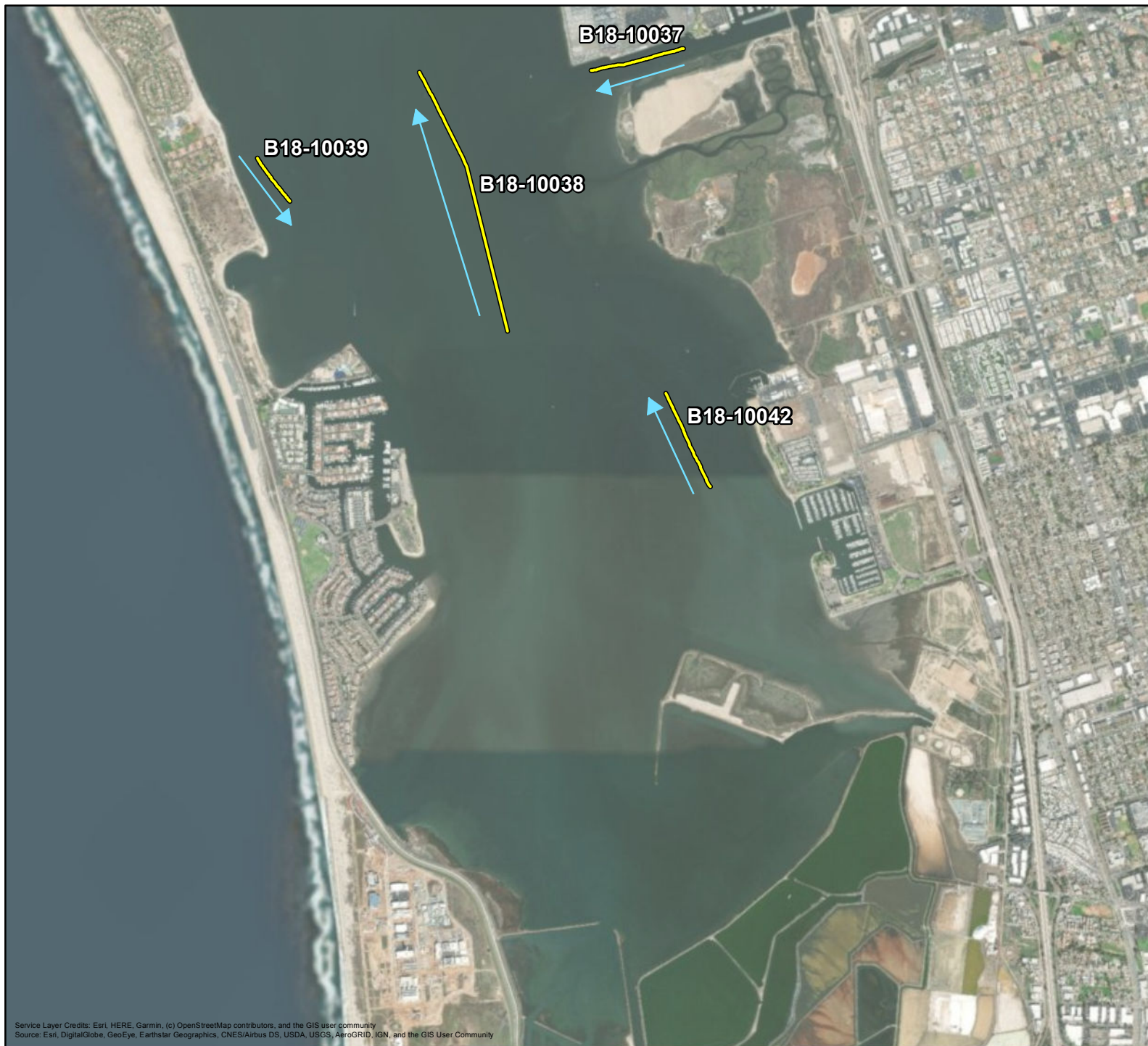
Dana Point Harbor

Oceanside Harbor

Mission Bay

San Diego Bay

South San Diego Bay



2018 RHMP Trawl Locations

- Trawl Track
- Trawl Direction



wood.

0 0.7 1.4 km

Dana Point Harbor

Oceanside Harbor

Mission Bay

San Diego Bay

Maps of Recently Dredged Areas within the RHMP Harbors

Dana Point Harbor (2016)

7/28/2015 3:46:45 PM P:\8032-Dana Point Harbor Dredging\7. Design Information\CADD SHEETS\8032000002.dgn

HORIZONTAL DATUM

COORDINATES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE 8, 1983 NORTH AMERICAN DATUM (1991.35 EPOCH, O.C.S. GPS ADJUSTMENT).

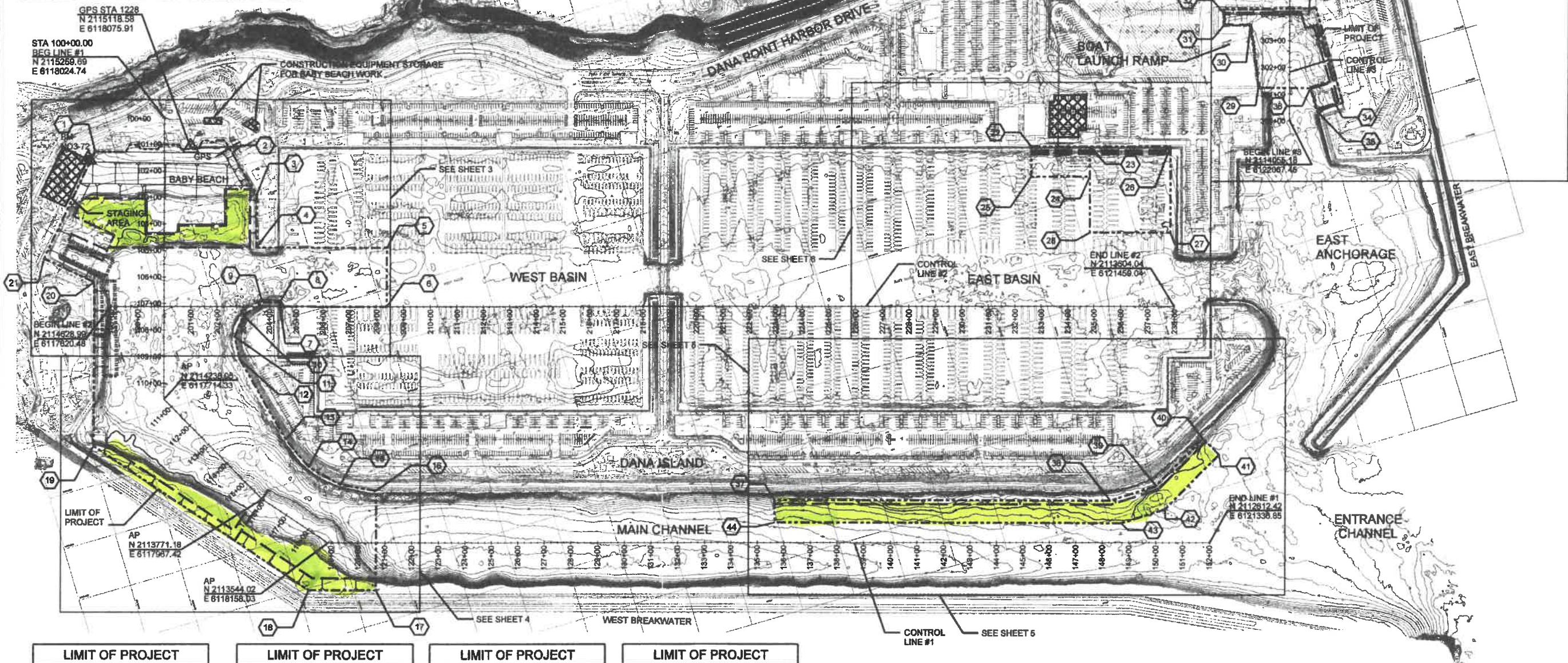
VERTICAL DATUM

POINT "NO-3-72" BRASS DISK LOCATED BY THE SOUTH-WESTERLY END OF DANA POINT HARBOR DRIVE, SOUTHERLY FROM ITS INTERSECTION WITH COVE ROAD, APPROXIMATELY 300 FEET NORTHERLY FROM THE CENTERLINE OF PIER ON THE TOP OF CONCRETE BULKHEAD.

ELEVATION = 9.92' MLLW

NOTES:

1. ALL ELEVATIONS ARE RELATIVE TO THE MLLW DATUM, IN FEET.
2. A PRECONSTRUCTION SURVEY WILL BE CONDUCTED BY THE COUNTY PRIOR TO DREDGING AND RESULTS WILL BE PROVIDED TO THE CONTRACTOR ELECTRONICALLY IN MICROSTATION (.DGN) FORMAT.
3. LIMITS AND EXTENT OF DREDGING ARE BASED ON CONDITIONS AT TIME OF SURVEY (APRIL 2013) AND MAY INCREASE OR DECREASE BASED ON PRECONSTRUCTION CONDITIONS.
4. DREDGING OPERATIONS SHALL NOT PREVENT NAVIGATION, UNLESS APPROVED BY THE COUNTY.
5. CONSTRUCTION EQUIPMENT SHALL NOT BE STORED OUTSIDE THE DESIGNATED STAGING AREAS. SANDY BEACH AND VEGETATED HABITAT AREAS SHALL NOT BE USED FOR EQUIPMENT STORAGE.



LIMIT OF PROJECT

	NORTHING	EASTING
1	2115207.91	6117726.90
2	2115064.46	6118221.64
3	2114878.81	6118266.88
4	2114687.66	6118210.26
5	2114549.85	6118678.37
6	2114337.20	6118618.11
7	2114448.52	6118232.87
8	2114464.38	6118237.23
9	2114482.80	6118174.36
10	2114456.68	6118091.17
11	2114388.02	6118037.41
12	2114300.99	6118032.01
13	2113962.07	6118114.63
14	2113838.08	6118169.41

LIMIT OF PROJECT

	NORTHING	EASTING
15	2113740.78	6118263.78
16	2113682.19	6118396.03
17	2113321.61	6118279.83
18	2113392.55	6118038.97
19	2114143.02	6117411.81
20	2114735.87	6117588.29
21	2114874.45	6117431.37
22	2114233.10	6121110.88
23	2114170.40	6121324.82
24	2114061.34	6121293.10
25	2114124.50	6121078.86
26	2114085.97	6121612.92
27	2113774.62	6121522.37
28	2113859.19	6121233.81

LIMIT OF PROJECT

	NORTHING	EASTING
29	2114207.10	6121990.02
30	2114439.25	6122025.82
31	2114469.38	6121931.99
32	2114611.38	6121944.25
33	2114528.61	6121949.27
34	2114431.20	6122282.53
35	2114061.74	6122282.63
36	2114149.39	6122177.92
37	2113226.52	6119612.57
38	2112868.38	6121026.22
39	2112873.32	6121205.87
40	2112995.31	6121422.98
41	2112920.61	6121463.55
42	2112779.97	6121213.24

LIMIT OF PROJECT

	NORTHING	EASTING
43	2112775.24	6121041.52
44	2113144.86	6119788.99

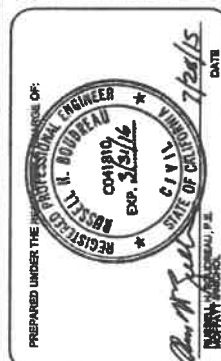
LEGEND

- LIMIT OF DREDGING
- LIMIT OF PROJECT
- LANDSIDE CONTRACTOR STAGING AND WORK AREAS
- BM BENCH MARK (NO 3-72)
- GPS GPS STATION
- 24 PROJECT CONTROL POINT
- CONSTRUCTION CORRIDOR (CONSTRUCTION EQUIPMENT ACCESS TO BABY BEACH CONSTRUCTION SITE)

200' 0 200' 400'
SCALE = 1" = 200'



MARK	DESCRIPTION	DATE	APPR.



DESIGNED BY:	CF / KQ
DRAWN BY:	JB
CHECKED BY:	AA
DRAWING NUMBER:	DP-8036.1
FILE NAME:	DANA POINT HARBOR - 8032
PLOT DATE:	7/28/2015
SCALE:	1"=200'
PREPARED BY:	motat & nichol
PROJECT NAME:	DANA POINT HARBOR, LOTS 802 LONG BEACH, CALIFORNIA 90805
DATE:	7/28/2015

MAINTENANCE DREDGING OF DANA POINT HARBOR
PROJECT DATA AND CONTROL

SHEET

2

OF 12

Mission Bay (2018)



San Diego Bay (2013-2018)



Legend

2018 RHMP Target Station

- Deep
- Freshwater-Influenced
- Industrial/Port
- Marina
- Shallow

Trawl



Target Trawl Location



Proposed Dredge Footprints

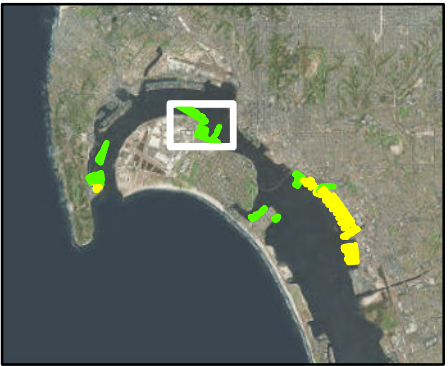
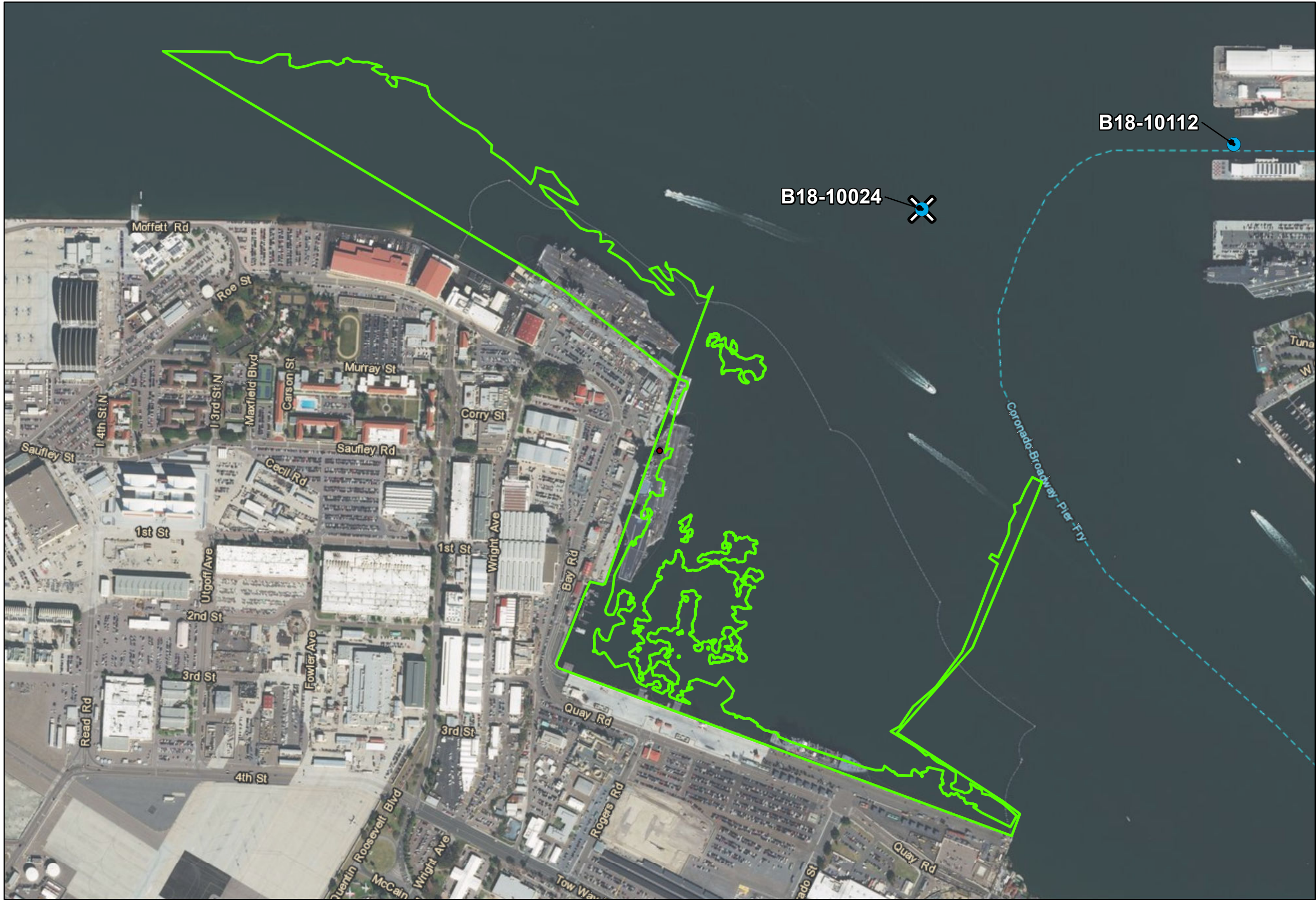


Recent Dredge Footprints

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



1 inch = 800 feet
0 830 Feet

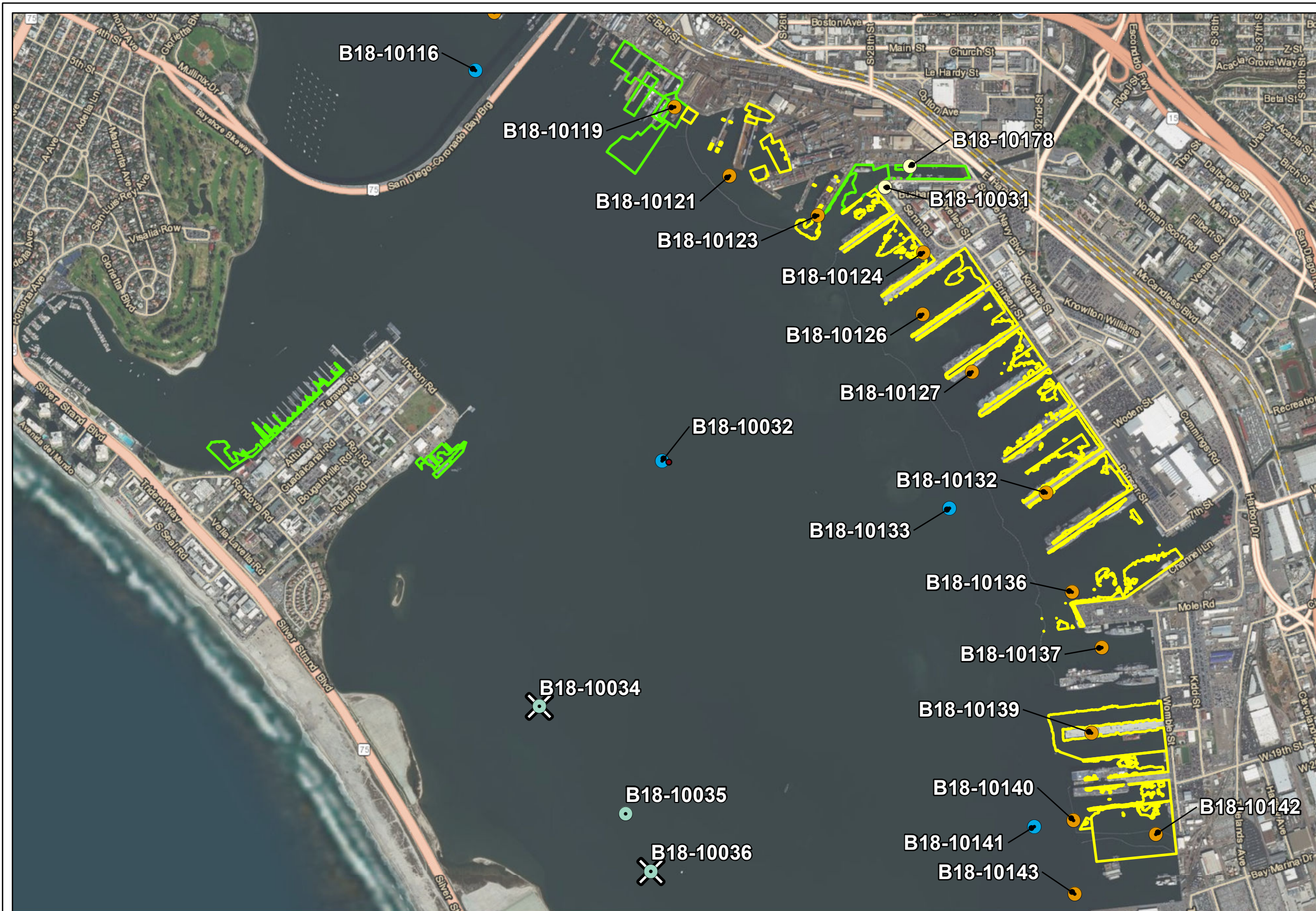


- Legend**
- 2018 RHMP Target Station**
- Deep
 - Freshwater-Influenced
 - Industrial/Port
 - Marina
 - Shallow
- Trawl**
- Target Trawl Location
 - Proposed Dredge Footprints
 - Recent Dredge Footprints

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Path: Q:\3151_AquaticResources\POSD\RHMP\2018\MXD\ReportFigures\Fig1_DredgeFootprints.mxd, chris.nixon, 5/31/2018

Dredge Footprints
Regional Harbor Monitoring Project
San Diego, CA



Legend

2018 RHMP Target Station

- Deep
- Freshwater-Influenced
- Industrial/Port
- Marina
- Shallow

Trawl

- ✕ Target Trawl Location
- Proposed Dredge Footprints
- Recent Dredge Footprints

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Path: Q:\3151_AquaticResources\POSD\RHMP\2018\MXD\ReportFigures\Fig1_DredgeFootprints.mxd, chris.nixon, 5/31/2018