39. Petition 2023-24MPA_AM1 (Laguna Beach SMCA and Dana Point SMCA)

Today's Item **Information ☐** **Action ☒**

Request to shift the nearshore boundary between the Laguna Beach State Marine Conservation Area (SMCA) (No Take) and the Dana Point SMCA south to the Laguna Beach city limit, thereby increasing the nearshore area within the no-take SMCA.

Consider evaluations, recommendations, and public comments in determining whether to grant or deny marine protected area (MPA) Petition 2023-24MPA_AM1 (Exhibit 1).

Petitions or individual actions within the petition that are granted today will be added to the Commission's rulemaking calendar for consideration in a future rulemaking.

Summary of Previous/Future Actions

• Received petition; referred to the Marine Resources Committee and the Department for review	December 2023; February 2024
• Received Department petition evaluation	April 15-16, 2026
• Received petitioner's presentation and discussed region-specific petitioned actions via regional meeting	May 19, 2026
• Received additional evaluations and recommendations from the Department and California Ocean Protection Council (OPC)	August 12-13, 2026
• **Today, consider granting or denying all or parts of Petition 2023-24MPA_AM1**	**October 13-16, 2026**

Background

Pursuant to Section 662, any person requesting that the Commission adopt, amend, or repeal a regulation must complete and submit a petition for regulation change (Form FGC-1). For background on the regular process for considering regulation change petition forms submitted by the public, see Agenda Item 22 (this meeting). Due to the complexity and unique nature of the MPA petition evaluation process, this and other MPA petitions are scheduled separately from the standing agenda item for regulation change petitions.

For detailed background information and key documents related to the MPA petition process, see the staff summary titled *Introduction to Bin 2 MPA Regulation Change Petitions and Evaluations* (this meeting). The summary introduction includes links to the index of MPA petitions and compiled public comments across time; the Department's evaluations, recommendations, and companion document; OPC's policy evaluation and recommendations complementing the Department's evaluations; the equitable access and the Commission Justice, Equity, Diversity and Inclusion Policy initial assessments; and the Department's and OPC's presentations.

Overview of Proposed Regulatory Actions

Submitted by Mike Beanan of the Laguna Bluebelt Coalition, this petition proposes to expand Laguna Beach SMCA (No Take) to better protect nearshore kelp beds and reduce

enforcement challenges (the action number from the Department's evaluation included for reference):

Action 1. Expand the Laguna Beach SMCA (No Take) southward in the nearshore area by shifting its shared boundary with the Dana Point SMCA southward to a line due west of the Laguna Beach city limit, thereby increasing the nearshore no-take area.

Overview of Non-Regulatory Requests

This petition does not contain any non-regulatory requests.

Petitioner's Stated Intent

The petitioner proposes that the regulation change "will make enforcement easier and more consistent because it will create continuity within the city, where the same [no-take] rules apply to all beaches" and will protect the kelp forests off the shore of South Laguna because the kelp beds "have been nearly decimated possibly by overharvesting and anchor chain drag and need to be protected". The petitioner notes the importance of "the rocky reef and kelp beds in this particular area…are slightly different…because of the steep drop of the cliffs into the ocean. This creates a unique microhabitat where water nutrients are mixed due to wave refraction off the cliffs." Additionally, the petitioner points to additional protection that will be provided to whale migration routes from the proposed change because "lobster buoy lines likely create a dangerous obstacle for migrating whales, which are protected under the" Marine Mammal Protection Act. See Exhibit 1 for more details.

Public Input Over Time

The Commission has received public comments on MPA petitions continuously since petitions were submitted in late 2023. Staff has compiled packets of comments about this petition that were included in committee or Commission meeting binders or supplemental handouts from the December 2023 through the August 2026 Commission meeting (links to packets of comments received are available online in the final column of the *Status of MPA Petitions for Regulation Change Index* table). Comments received after the August 2026 Commission meeting, but by this meeting's comment deadline, are included with this staff summary and/or staff summaries for the MPA petition agenda items.

Non-tribally led petitions (including this petition) were last discussed at the regional meetings held in April and May 2026. The overarching goal of the meetings was to provide an inclusive, well-informed forum where petitioners could present their proposals, community members could openly share perspectives on the proposals, and commissioners could ask questions, to build a foundation of understanding to help guide Commission decisions at today's meeting.

Petition 2023-24MPA_AM1 proposes one action in Orange County; therefore, the petition was discussed at the May 19, 2026 regional meeting. For regional meeting materials, see the Staff Summary for May 19, 2026, and the petitioner presentation to the Commission on May 19, 2026.

Petitioner Clarifications

The petitioner clarified that the proposed southern boundary would follow a single E dash W latitude line, as illustrated in an updated map, to provide consistent offshore boundary. This clarification responds to concerns raised regarding the feasibility of the originally proposed boundary.

Agency Evaluations and Recommendations

Department

The Department's evaluation, presented at the Commission's April 15-16, 2026 meeting, recommends denial of the petition, with the full technical analysis and summary of key findings provided in Exhibit 2. In summary:

- The proposed change to expand the Laguna Beach no-take SMCA — and thereby reduce the size of the Dana Point SMCA — does not address any enforcement challenges, advance adaptive management recommendations from the MPA Network Decadal Management Review (DMR), address a current or emerging MPA management challenge, or align with the original intent of these MPAs as established during the MLPA Initiative planning process.
- The proposed change is unlikely to benefit migrating whales or have a biologically meaningful impact on kelp at this location beyond what is already offered by the Dana Point SMCA.
- The proposal would change the boundary so that it no longer aligns with key Feasibility Guidelines, which would likely compromise enforceability.
- The proposed change would also unnecessarily restrict an existing important fishing ground that was deliberately contemplated during the MLPA Initiative planning process.

Ocean Protection Council (OPC)

OPC staff, in its science and policy recommendations presented at the August 12-13, 2026 Commission meeting, recommends denying this petition. They state that, "Petition 2023-24MPA, submitted by the Laguna Bluebelt Coalition, would extend the southern boundary of the Laguna Beach No-Take SMCA into the northern portion of Dana Point SMCA, expanding the No-Take SMCA and aligning its southern boundary with the southern border of the City of Laguna Beach. While this would increase overall protection in the area and potentially benefit fished species (e.g. finfish, lobster, and urchin) within the Dana Point SMCA, OPC notes that the existing boundary of the Laguna Beach No-Take SMCA currently aligns with both a clear latitude line as well as prominent rocky outcroppings, which serve as a helpful landmark for both boat-based and shore-based anglers. Changing this well-established and clear boundary has the potential to result in increased confusion and potential enforcement challenges." (Exhibit 3)

Key Considerations

- *Ecological*

  The Laguna Bluebelt Coalition has a longstanding history of marine conservation advocacy and stewardship in Laguna Beach. The petition seeks to extend no-take protections to the remaining nearshore reefs along the city's southern coastline, where residents have expressed concerns about kelp decline, fishing pressure, and lost fishing

gear. While additional no-take protection could benefit harvested species, the Department finds that the proposed expansion is unlikely to provide meaningful additional benefits for kelp recovery or migrating whales beyond existing protections.

- *Socioeconomic*

  The boundaries and take regulations of the Laguna Beach and Dana Point MPAs resulted from extensive deliberation during the MLPA planning process, balancing strong community conservation objectives with continued access for commercial lobster fishermen, commercial passenger fishing vessel operators, and other fishing interests operating from Dana Point Harbor. The proposed expansion would alter that negotiated balance by removing established fishing opportunities within the northern portion of Dana Point SMCA.

- *Management and Feasibility*

  The petitioner seeks to align no-take protections with Laguna Beach's southern city boundary and has raised concerns regarding the Department's mapping and feasibility analysis. The petitioner clarified that their amended petition boundary identified an east-west orientation to improve feasibility. Both the Department and OPC identify the existing MPA boundary's clear geographic landmarks as important for public understanding and enforcement. The Commission may weigh the potential benefits of expanded protection against the implications of changing a longstanding, recognizable boundary and the associated effects on established fishing uses.

Today

Today, the Commission will consider the petition, petition evaluations and recommendations, and public comments in determining whether to grant or deny the petition; the Commission may choose to grant the petition in whole or in part (that is, select specific petition actions) and may also grant with modifications informed by public input and discussions.

If the petition, any individual actions, or any modified actions are granted today, they will be added to the Commission's rulemaking calendar for consideration in a future rulemaking.

Significant Public Comments

To view comments received for this meeting that are not specific to an individual petition, such as comments about the process, broad support for specific goals, or the MPA network, see the comment summary and exhibits in Introduction to Bin 2 MPA Regulation Change Petitions and Evaluations.

1. The petitioner for Petition 2023-24MPA_AM1 requests assistance correcting a mapping error affecting the southern boundary of the proposed change, noting that the mistake has influenced evaluations and must be fixed to ensure an accurate and fair review. (Exhibit 4)
2. The petitioner for Petition 2023-24MPA_AM1 requests approval of the "Last Mile" proposal and correction of mapping inconsistencies, emphasizing that accurate boundaries, sound science, and verified data support strengthening ecological coherence and advancing MLPA objectives. (Exhibit 5)

3. Three members of the public support the Department's evaluation and recommendation for Petition 2023-24MPA. They emphasize the importance of following the established scientific process and the Department's existing management framework while maintaining meaningful public access to marine areas. They also support the use of targeted management tools — such as education, enforcement, and selective limits — rather than broad restrictions, as well as adopting the Department's full recommendations for the 2023-24 Bin 2 petitions. (Exhibit 6)
4. A Laguna Beach resident supports Petition 2023-24MPA_AM1, emphasizing their long-term experience observing improvements in kelp and fish populations within the Laguna Beach SMR and no-take SMCA. They describe past safety concerns related to spearfishing, highlight global commitments to expanding marine protection, and note that extending the MPA by the remaining mile aligns with broader conservation goals. They support expanding the Laguna Beach No-Take SMCA to the city's southern boundary to help protect the last mile of reefs. (Exhibit 7)
5. The petitioner supports approving Petition 2023-24, emphasizing that expanding Laguna Beach's MPA by the "Last Mile" aligns with SAT science, strengthens regional ecological coherence, and improves long term recovery of key marine species. They note that existing MPAs have demonstrated strong recovery, that minimum-size thresholds are not necessarily optimal, and that precautionary expansion would provide clearer enforcement and ecological continuity. They conclude that approval would best uphold MLPA objectives while incorporating transparent, evidence-based consideration of secondary factors. (Exhibit 8)
6. A bait company opposes the petition, emphasizing that the proposed MPAs would eliminate access to key bait fishing grounds and create significant financial and operational hardships for their company, customers, and employees. They state that the restrictions would negatively affect tourism, local seafood and marine industries, and small businesses, while setting a precedent for expanding fishing limits without sufficient scientific justification. (Exhibit 9)
7. A commenter supports extending Laguna Beach's no-take MPA protections southward, stating that the unprotected "last mile" is experiencing ecological stress due to the loss of key predators and resulting urchin overgrazing. They note that fully protected areas in Laguna show stronger kelp and marine life recovery, and that expanding protections would close enforcement gaps and enhance long-term ecosystem resilience. They urge the Commission to approve the extension to safeguard the health of the coastline. (Exhibit 10)
8. A commenter supports approving Petition 2023-24, stressing that the Department's evaluation contains significant mapping and analytical errors that undermine its conclusions. They contend that extending protections would better support kelp and reef recovery, align with scientific evidence, and improve the overall effectiveness of the MPA network. (Exhibit 11)
9. A resident of Orange County supports expanding the Laguna Beach SMCA, noting that scientific surveys show healthier, more diverse reefs inside existing protected zones compared to the proposed extension area. They explain that removing fishing pressure would help restore predator populations that control sea urchins, allowing

kelp forests and marine life to rebound. They also emphasize that a clearer, unified boundary would improve public understanding and enforcement. (Exhibit 12)

10. A Laguna Bluebelt Coalition member advocates for approving Petition 2023-24MPA, presenting extensive scientific evidence that South Laguna's unprotected reefs — particularly Thousand Steps and Three Arch Bay — have crossed an ecological tipping point driven by predator loss and sustained fishing pressure. They believe that extending the no-take boundary is a necessary, science-supported intervention to restore kelp forests, rebuild predator populations, and close the final gap in Laguna's protected coastline. (Exhibit 13)
11. Several members of the public support extending marine protections along the South Laguna coastline, noting improved marine life in already protected areas and declines in unprotected reefs. They emphasize that expanding the MPA boundary — particularly the last mile of Laguna Beach's reefs — would help restore ecological balance, protect kelp and reef species, and allow marine populations to recover in the face of fishing pressure and climate impacts. They collectively support approving Petition 2023-24MPA_AM1 and view the extension as a small but meaningful step toward healthier coastal ecosystems. (Exhibit 14)
12. A sport fishing business opposes Petition 2023-24MPA, stating that expanding the Laguna Beach MPA lacks scientific justification, would eliminate key fishing areas, and would create significant economic harm for sportfishing businesses, local communities, and disadvantaged groups. They also highlight letters from multiple government entities — including the cities of Dana Point and Laguna Beach, county and state officials, and the Department — in opposition to the petition based on concerns about enforcement, ecological benefit, and regional economic impacts. (Exhibit 15)
13. A Laguna Beach resident supports approving Petition 2023-24MPA, emphasizing that the unprotected "last mile" of reef in South Laguna has not recovered like nearby protected areas and continues to experience heavy fishing pressure. They describe noticeable declines in kelp and marine life at Thousand Steps Beach and believe extending the MPA boundary would give the reef a chance to rebound. They urge the Commission to protect this stretch of coastline for ecological recovery and future generations. (Exhibit 16)
14. A Laguna Beach resident supports approving Petition 2023-24MPA, highlighting that the unprotected "last mile" reefs at Thousand Steps and Three Arch Bay have suffered severe kelp loss and ecological decline due to persistent fishing pressure and depleted predator populations. They believe that extending the MPA boundary is a modest, science - based adjustment that would help restore kelp forests, improve ecosystem balance, and prevent permanent reef degradation. (Exhibit 17)
15. The Sportfishing Association of California (SAC) opposes the petition, stating that the proposed expansion does not address an identified management need and would not advance the petitioners' stated goals related to enforcement, kelp recovery, or whale-entanglement risk. SAC states that the closure would unnecessarily restrict public fishing access — especially for underserved groups — and significantly reduce the near-coastal fishing opportunities relied on by Dana Wharf vessels and community programs. (Exhibit 18)

16. Ventura County Commercial Fishermen's Association (VCCFA) states that eliminating existing fishing access in Dana Point lacks a demonstrated ecological or management justification, noting that CDFW finds limited environmental benefit and significant socioeconomic harm. Urges decision-makers to consider the substantial displacement of fishing effort and associated ecological, economic, and enforcement consequences before altering established MPA boundaries. (Exhibit 19).

Recommendation

Commission staff: Consider evaluations, Department and OPC recommendations, key considerations, and public comments in determining whether to grant in whole or in part, grant with modifications, or deny Petition 2023-24MPA_AM1 (Exhibit 1).

Department: Deny the petition, for the reasons detailed in Exhibit 2 and summarized under "Agency Evaluations and Recommendations."

Ocean Protection Council: Deny the petitions for the reasons detailed in Exhibit 3 and summarized under "Agency Evaluations and Recommendations."

Exhibits

1. Petition 2023-24MPA_AM1, received November 30, 2023, amended March 14, 2025
2. Department evaluation companion document and petition evaluation, companion document updated on July 30, 2026 and petition evaluation received March 20, 2026
3. Letter from Jenn Eckerle, Deputy Secretary for Oceans and Coastal Policy, California Natural Resources Agency and Executive Director, OPC, with OPC staff recommendations and recommendation narratives for petitions to adaptively manage California's MPA network, received July 31, 2026
4. Email from Mike Beanan, Laguna Bluebelt Coalition, received August 13, 2026
5. Email from Mike Beanan, Laguna Bluebelt Coalition, received September 3, 2026
6. Various emails received opposed to Petition 2023-34MPA, received between September 29 and 30, 2026.
7. Email from Terry Anne Berman, received September 29, 2026
8. Email from Mike Beanan, Laguna Bluebelt Coalition, received September 29, 2026
9. Email from Everingham Bros. Bait Company, received September 30, 2026
10. Email from Stephen Ernst, received September 30, 2026
11. Email from Ray Hiemstra, received September 30, 2026
12. Email from Vy Vo, received September 30, 2026
13. Email from Jinger Wallace, Member, Laguna Bluebelt Coalition, received September 29, 2026
14. Various emails received in support of Petition 2023-24MPA, received between September 28 and 30, 2026

15. Email from Donna Kalez, Co-owner, Dana Wharf Sportfishing and Whale Watching, received September 25, 2026
16. Email from Susan McDuffie, received September 30, 2026
17. Email from Charlotte Masarik, received September 28, 2026
18. Email from Sportfishing Association of California, received September 30, 2026.
19. Email from Dave Colker, Executive Director, Ventura County Commercial Fishermen's Association, received September 30, 2026.

Motion

Moved by _____ and seconded by _____ that the Commission **grants** Petition 2023-24MPA_AM1.

OR

Moved by _____ and seconded by _____ that the Commission **denies** Petition 2023-24MPA_AM1.

State of California – Fish and Game Commission
PETITION TO THE CALIFORNIA FISH AND GAME COMMISSION FOR REGULATION CHANGE

Tracking Number: (**2023-24MPA-AM1**)

To request a change to regulations under the authority of the California Fish and Game Commission (Commission), you are required to submit this completed form to: California Fish and Game Commission, (physical address) 1416 Ninth Street, Suite 1320, Sacramento, CA 95814, (mailing address) P.O. Box 944209, Sacramento, CA 94244-2090 or via email to FGC@fgc.ca.gov. Note: This form is not intended for listing petitions for threatened or endangered species (see Section 670.1 of Title 14).

Incomplete forms will not be accepted. A petition is incomplete if it is not submitted on this form or fails to contain necessary information in each of the required categories listed on this form (Section I). A petition will be rejected if it does not pertain to issues under the Commission's authority. A petition may be denied if any petition requesting a functionally equivalent regulation change was considered within the previous 12 months and no information or data is being submitted beyond what was previously submitted. If you need help with this form, please contact Commission staff at (916) 653-4899 or FGC@fgc.ca.gov.

SECTION I: Required Information.

Please be succinct. Responses for Section I should not exceed five pages

1. Laguna Bluebelt Coalition
Name of primary contact person: Mike Beanan
Address:
Telephone number:
Email address:

2. Rulemaking Authority (Required) - Reference to the statutory or constitutional authority of the Commission to take the action requested: Authority cited: Sections 200, 205(c), 265, 399, 1590, 1591, 2860, 2861 and 6750, Fish and Game Code; and Sections 36725(a) and 36725(e), Public Resources Code.

3. Overview (Required) -

a. Extend the Laguna Beach SMCA no-take regulation down to the southern border of the City of Laguna Beach. This area is currently covered by the Dana Point SMCA, which only protects tide pool resources, not the offshore kelp beds.

4. Rationale (Required) -

The revised Petition is based upon input from the Orange County Marine Protected Area Collaborative (OCMPAC) and enforcement recommendations from participants. The revised Petition locates the southern No Take SMCA border to follow one East/West latitude line to facilitate a consistent offshore boundary. Laguna Beach has recently taken over enforcement of the South Laguna beaches all the way down to the City border. ~~Right now there is confusion due to the different regulations within one city.~~

This regulation change will make enforcement easier and more consistent because it will create continuity within the city, where the same rules apply to all beaches. All Laguna Beach lifeguards have received MPO training and enforce no-take rules for the

rest of the city beaches. This will result in an increase in outreach and enforcement effectiveness, which supports priority recommendation number 15.

High fishing and lobstering pressure are taking a toll on the remaining kelp beds in South Laguna due to overharvesting and substrate degradation possibly due to anchor chain drag. The Sustainable Fisheries Act of 1996 established new requirements for fishery management councils to identify and describe Essential Fish Habitat and to protect, conserve, and enhance these EFH for the benefit of fisheries. A 2002 update to these EFH regulations allowed fishery management councils to designate Habitat Areas of Particular Concern (HAPCs). HAPCs are considered high priority areas for conservation, management, or research because they are important to ecosystem function, sensitive to human activities, stressed by development, or are rare. The rocky reef and kelp beds in this particular area of South Laguna are slightly different than those in the rest of the city because of the steep drop of the cliffs into the ocean. This creates a unique microhabitat where water nutrients are mixed due to wave refraction off the cliffs.

There are kelp forests offshore in these areas that are desperately needed as habitat. One of the original design considerations for designating MPAs was to "Include within MPAs suitable rocky habitat containing abundant kelp and/or foliose algae" (CMLPA Master Plan for MPAs, Appendix F). ~~When the MPA boundaries were finalized in 2012, the kelp was at its highest extent of coverage since 1967 (see supplemental graph), so the total area of kelp forest was overestimated.~~ The kelp beds off South Laguna have been nearly decimated possibly by overharvesting and anchor chain drag and need to be protected. This, in combination with the potential for additional kelp decline due to warm water and recent wildfire events makes it imperative that we protect as much as possible. The Science Advisory Team (SAT) determined Laguna Beach's MPA to be the minimum size for success.

The Marine Mammal Protection Act also requires action to be taken here. The south end of the no-take SMCA is visible from shore as a line of lobster trap buoys extending out from the cliffs and beach. One MPA watch volunteer reported 223 buoys off of Table Rock beach on 11/8/2023. This represents a virtual "wall" of dangerous trap lines that interrupt whale migration paths. Whales have been seen frequently traveling very close to shore along this stretch of coastline (see supplemental photo of Thousand Steps beach). A December 2019, Men's Journal magazine article stated that in the preceding few weeks Dana Point Boat captains had logged more than 40 sightings of gray whale cow-calf pairs in the shallow coves of Laguna Beach. The lobster buoy lines likely create a dangerous obstacle for migrating whales, which are protected under the MMPA.

Residents in South Laguna support the extension of the no-take SMCA as evidenced by the attached letters of support from the Three Arch Bay Community Services District, Orange County Coastkeeper, Laguna Canyon Conservancy, Laguna Bluebelt Coalition, and the South Laguna Civic Association. They feel that it is not equitable to have only the north and central beaches protected. Please see the attached letters of support. The

Laguna Beach City Council also supports further analysis and participation in the process.

SECTION II: Optional Information

5. Date of Petition: 11/29/2023 AMENDED 03/11/2025

6. Category of Proposed Change

☐ Sport Fishing
☐ Commercial Fishing
☐ Hunting
☒ Other, please specify: MPAs, Section 632.

7. The proposal is to: (*To determine section number(s), see current year regulation booklet or https://govt.westlaw.com/calregs*)

☒ Amend Title 14 Section(s):Westlaw regulations.
☐ Add New Title 14 Section(s): Click here to enter text.
☐ Repeal Title 14 Section(s): Click here to enter text.

8. If the proposal is related to a previously submitted petition that was rejected, specify the tracking number of the previously submitted petition

Or ☒ Not applicable.

9. Effective date: If applicable, identify the desired effective date of the regulation.
If the proposed change requires immediate implementation, explain the nature of the emergency:
This should be implemented as soon as possible. Ancient California Gray Whale Migration is currently being altered due to proliferation of nearshore lobster traps and rope buoys at the southern SMCA boundary.

10. Supporting documentation: Identify and attach to the petition any information supporting the proposal including data, reports and other documents:

(A) Map of proposed Boundary Adjustment.
(B) Letter of support from the Three Arch Bay Community Services District
(C) Letter of support from the South Laguna Civic Association
(D) Letter of support from the Laguna Bluebelt Coalition
(E) Letter of support from Orange County Coastkeeper
(F) Letter of support from the Laguna Canyon Conservancy
~~(G) Graphic from "Status of the Kelp Beds in 2019: Orange & San Diego Counties. Prepared for the Region Nine Kelp Survey Consortium" by MBC Aquatic Sciences~~
~~(H) Full Report: "Status of the Kelp Beds in 2019"~~
(I) Photo of gray whale at Thousand Steps Beach

~~11.~~ Economic or Fiscal Impacts: Although no socioeconomic data is provided, there may be a fiscal impact on commercial lobster fishers due to reducing their fishing grounds. However, fishing effort will be closer to Dana Point Harbor to save fuel costs and use of ropeless buoys will be encouraged. With removal of lobster buoy lines as migration barriers, whale watching

tours can resume in Laguna Beach ($10 million estimated annual revenues to Dana Point economy). Less anchoring by CPFVs will reduce anchor chain drag damaging local reefs and kelp forests. ~~Estimated resident property values gain an increase of 20% from proximity to a fully protected MPA~~

12. Forms: If applicable, list any forms to be created, amended or repealed:

SECTION 3: FGC Staff Only

Date received: **March 11, 2025**

FGC staff action:

- ☐ Accept - complete
- ☐ Reject - incomplete
- ☐ Reject - outside scope of FGC authority

Tracking Number

Date petitioner was notified of receipt of petition and pending action: _____

Meeting date for FGC consideration: _____

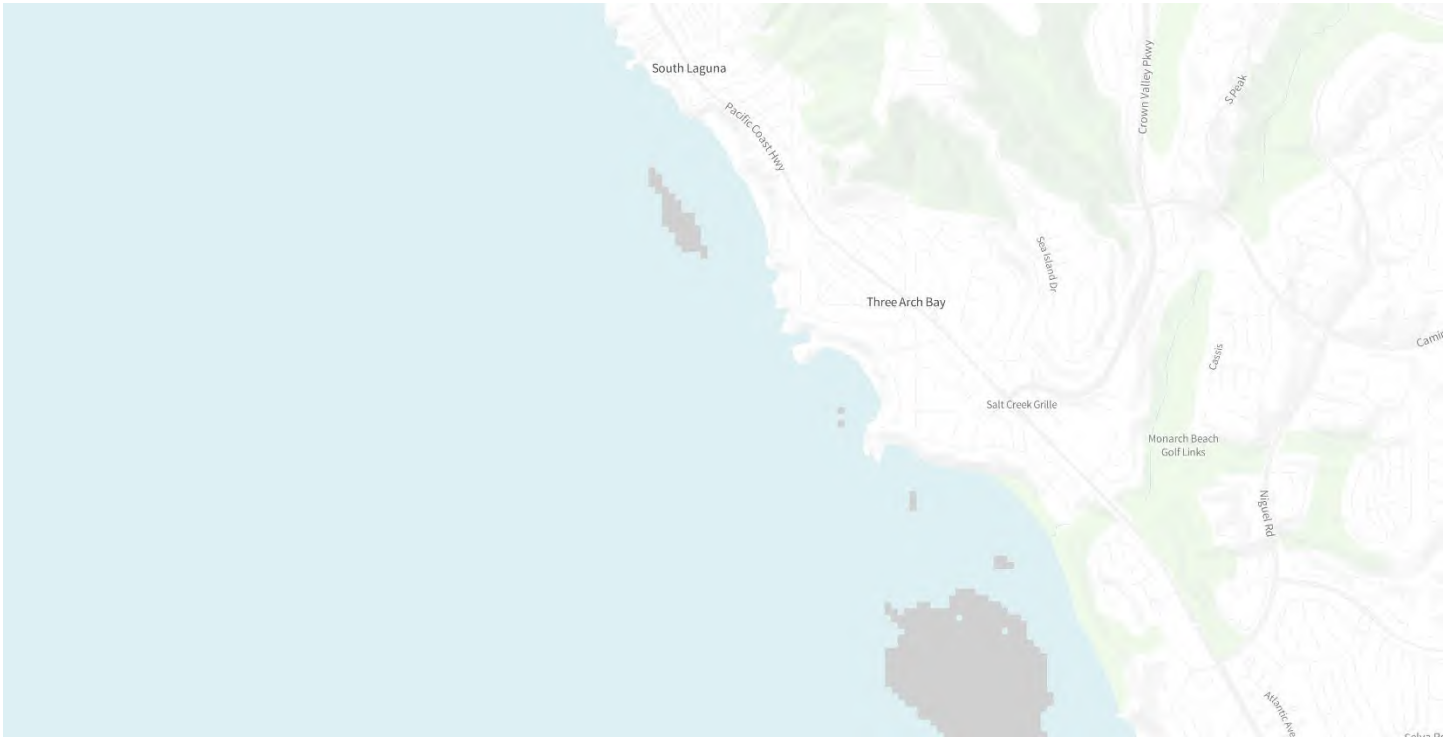
FGC action:

- ☐ Denied by FGC
- ☐ Denied - same as petition _____

Tracking Number

- ☐ Granted for consideration of regulation change

Proposed SMCA No Take Rocky Kelp Substrate at Thousand Steps Reef – KelpWatch.org



Proposed SMCA No Take Rocky Kelp Substrate at Thousand Steps Reef – KelpWatch.org



California Fish and Game Commission
Marine Resources Committee
fgc@fgc.ca.gov

January 7, 2025

Subject: Revision to Laguna Bluebelt Coalition Petition 2023-24 MPA

Commissioners and Staff,

The Laguna Bluebelt Coalition seeks to revise the southern boundary for Petition 2023-24MPA to a No Take SMCA (State Marine Conservation Area) for citywide enforcement consistency and protection of essential sea life habitat between Palos Verdes and La Jolla MPAs.

The proposed revised No Take SMCA is within the jurisdiction of the City of Laguna Beach and has widespread support from community organizations and the City's Environmental and Sustainability Committee. Community support includes the South Laguna Civic Association, Three Arch Bay Service District, Village Laguna, Laguna Canyon Conservancy, Project O, OC Coastkeeper and many individuals.

The City of Laguna Beach has submitted multiple letters seeking to participate in processing the Laguna Bluebelt Petition. In a December 10, 2024 letter to the Commission, Laguna Beach Mayor Rounaghi emphasized the "City looks forward to reviewing the State's assessment of Petition 2023-24 MPA" and "The City remains committed to actively participate and providing informed input…".

Presently, the southern area of Laguna Beach is inaccurately designated as within the Dana Point SMCA leading to confusion about place names and take regulations. The Petition will simplify the no take regulation for the entire city of Laguna Beach, address inaccurate place names and restore Laguna Beach as the correct jurisdiction for this area. The revised No Take SMCA boundary will be identified by the prominent bluff top outcropping at Three Arch Bay consistent with the Laguna Beach City Limits.

The Petition reflects the MLPA's Adaptive Management Objectives to:

• Protect the structure and function of marine ecosystems • Improve native marine life populations, including those of economic value • Ensure minimal disturbance while allowing for sustainable opportunities for recreation, education and research • Ensure comprehensive representation of all key habitats, including unique habitats • Use learning acquired through administration of the MLPP to adaptively manage the objectives, management measures, enforcement efforts, and scientific guidelines to inform management decisions • MPAs function as a cohesive statewide network

Size and Spacing Considerations

The Science Advisory Team (SAT) spacing requirements determined Laguna Beach is an essential linkage for larval dispersal among Southern California's MPAs. Guidelines set a maximum distance and minimum size for each MPA.

Maximum Shoreline Distance: To ensure the persistence of a suite of species in an MPA network, the maximum distance between MPAs was determined to be within 50 -100 km (31 -62 miles). A network of MPAs 20 km (12 miles) in length met the upper boundary of the preferred size guidelines and led to population persistence for a larger set of movement combinations. With MPAs this large, decreasing spacing produced a more substantial effect. MPAs of 20 km (12 mile) shoreline length protected a much larger range of movement combinations when spaced 50 km (31 miles) apart (51.8%) than when spaced 100 km apart (21.6%). This increase occurred because persistence of populations with large mean larval dispersal was maintained through a network effect, rather than self-persistence. Laguna Beach's MPAs maximum distance are 50 miles from Palos Verdes MPAs and 72 miles from La Jolla MPAs to meet this goal.

In summary, bigger MPAs yield better results for protecting marine life. Laguna Beach is an excellent candidate when you combine community support and the City's present MPA enforcement measures to be able to achieve noteworthy success.

Minimum Alongshore Extent: To best protect adult populations, based on adult neighborhood sizes and movement patterns, Guidelines conclude MPAs should have an alongshore extent of at least 3-6 miles of coastline, and preferably 6-12.5 miles. Larger MPAs would be needed to fully protect marine birds, mammals, and migratory fish. Combined and simplified, the Guideline indicates that MPAs should have a minimum area of 9-18 square miles, or a preferred area of 18-36 square miles.

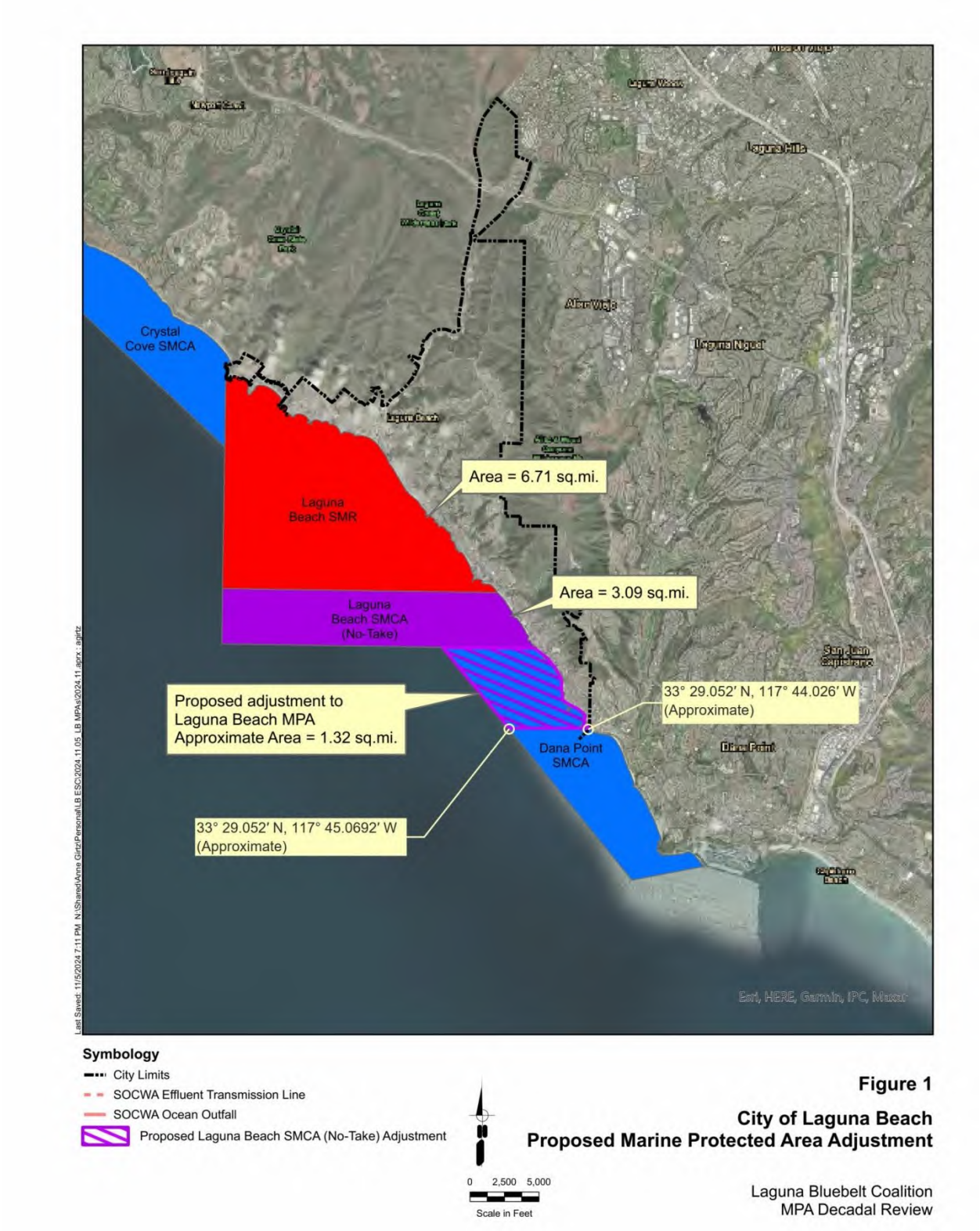
The Revised Petition to include full protection of all of Laguna Beach's MPAs is necessary to comply with SAT Guidelines since, once approved, it will protect 7 miles of coastline slightly within the preferred alongshore extent (6-12 miles). A fully protected Laguna MPA will also grow to 11 square miles, the minimum preferred area (9-18 square miles).

Once approved, the citywide and a fully protected MPA will comply with SAT Guidelines for preferred coastline and size. This will be complimented by local, well-established education and enforcement capabilities to support the continued success for Laguna Beach's MPAs.

Stakeholder Collaboration

The Laguna Bluebelt Coalition, a statewide model for MPA Collaboratives since 2009, has met with key stakeholders through OCMPAC including fishing groups, tribal representatives, game wardens and others to revise Petition 2023-24MPA to accommodate the local lobster fishery. By adjusting the southern SMCA to follow the east/west latitude line at the request of the Dana Point lobster group, placement of lobster traps is facilitated by a consistent GPS latitude line to avoid encroachment into the proposed southern Laguna Beach No Take SMCA.

Revised Boundary Map



Economic Considerations

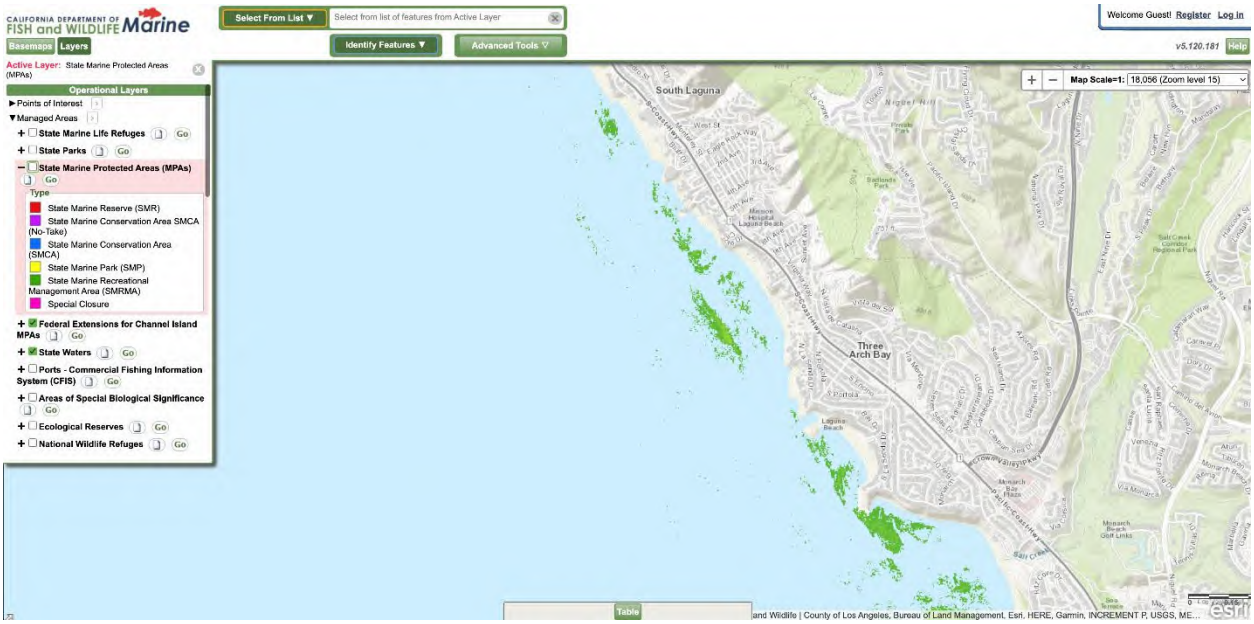
While commercial fishing businesses generally object to MPAs, it is worth noting that Dana Wharf has shifted operations away from fishing to pursue new economic opportunities as the Whale and Dolphin Watching Capital of the World – America's first Whale Heritage Site. The designation of just over 1 square mile of a new No Take SMCA is just a fraction of the present Dana Wharf fishing grounds and will not measurably impact their annual sportfishing and whale tour revenues. Dana Wharf presently operates large fishing grounds spanning hundreds of square miles from Dana Point south to Camp Pendleton and west to Catalina and San Clemente Islands.

See: [The Ultimate Guide To Fishing In Dana Point, CA | Dana Wharf]

Essential Marine Habitats

With steep coastal bluffs, isolated coves and offshore reefs, Laguna Beach's southern coastline provides unique habitats for coastal sea life nurseries. Kelp forests populate local reefs throughout the city while dolphin and whales routinely transit the area for foraging opportunities and annual migration.

Laguna Beach's Essential Kelp Habitat



The City of Laguna Beach has a long ocean tradition and is committed to protecting marine resources. All Marine Safety Lifeguards are qualified as Marine Protection Officers to maintain a robust education and enforcement program.

The Laguna Beach General Plan and Policies recognize the value of coastal resources (see References).

The success of Laguna's Marine Protected Areas over the past 12 years is clear evidence that sea life can be protected and restored in an urban environment. The City's commitment to manage over 6 million visitors continues to educate and motivate compliance with all MPA regulations and policies. Revising

the southern SMCA boundary for full citywide protection will support the community's dedication to achieve the goals and objectives of the State's Marine Life Protection Act.

The Laguna Bluebelt Coalition appreciates the dedicated role of the Fish and Game Commission to serve as a global leader in advancing the State's recovery of sea life for present and future generations.

Mike Beanan
w/Laguna Bluebelt Coalition



Julianne E Steers, Sargo School

References

Laguna Beach General Plan and Policies

Action 1.1.1 Protect natural assets and open-space areas to maintain their role as “carbon sinks.”

Policy 4.1 Policy 4.2 Develop and adopt a program to protect sensitive coastal resources.

Action 4.1.1 Compile an inventory of the City’s coastal resources and prepare a Coastal Resources Protection Program.

Action 4.2.2 Enforce State’s Marine Life Management Act and identified Marine Life Protected areas within the City and local regulations for the protection of marine life and intertidal resources and to conduct educational and outreach programs.

Action 10.7.2 Periodically review the City’s Water Quality Control Ordinance and related policies for protecting marine resources and update as appropriate.

In cooperation with the State Department of Fish and Game, a Marine Preserve was created by the State in 1968 for a portion of the City's shoreline particularly rich in tidepool life. In addition to the Marine Preserve, the State, in conjunction with the City, established an Ecological Reserve in 1974, creating, in essence, a marine sanctuary, or a protected "aquarium".

Policies 2-A Encourage the expansion of the Marine Life Refuges and the designation of particularly unique or ecologically sensitive coastal areas as Ecological Reserves (such as seal and bird rocks), pursuant to the provisions of the State Department of Fish and Game.

2-F Develop a local enforcement program, pending funding availability, consisting of shoreline protection regulations and citation authority for Marine Safety personnel.

2-H Support restoration of offshore kelp beds.

41 Watershed Protection and Restoration Promote the protection and restoration of offshore, coastal, lake, stream or wetland waters and habitats and preserve them to the maximum extent practicable in their natural state. Oppose activities that may degrade the quality of offshore, coastal, lake, stream or wetland waters and habitat and promote the rehabilitation of impaired waters and habitat.

Develop an enforcement program for the protection of marine life resources.

Promote an expanded Marine Life Refuge.

Marine Resources: A small estuary occurs at the mouth of Aliso Creek. As recently as 1976 this estuary supported the Tidewater Goby, a species considered uncommon and declining in numbers due to habitat loss. A resource inventory included in the Orange County Conservation Element identifies the presence of the South Laguna Marine Life Refuge in the South Laguna area. The refuge, near the mouth of Aliso Creek, was given refuge status by the California Fish and Game Commission because the animal

populations in the rocky intertidal habitat had not been subjected to the collecting pressures that had occurred in other areas along the south coast.

From: Mike Beanan <[redacted]>
Sent: Friday, March 14, 2025 10:41 AM
To: FGC <FGC@fgc.ca.gov>
Cc: Ashcraft, Susan@FGC <[redacted]>
Subject: Petition 2023-24-R

Hi,

Please add my comments for the record in evaluating Petition 2023-24-R.

Thank you,

Mike Beanan

Laguna Bluebelt Coalition

Laguna Bluebelt - Working Together for a Healthy Ocean

Working Together for a Healthy Ocean. Support our New Marine ReservesYour support is critical if they are to succeed.

www.lagunabluebelt.com

Mike Beanan, Co-founder, Laguna Beach Coalition

Thank you for including us in the process to evaluate and, hopefully, approve Petition 2023-24-R to protect all of Laguna Beach's Marine Life.

Based upon stakeholder input, we have submitted a Revised Petition offered as a compromise to support and ease near shore enforcement along one, common latitude line. The original petition followed Laguna Beach's City Limits extending southwesterly from the shoreline. This made the determination of the offshore boundary difficult according to participants at a recent stakeholder meeting hosted by the Orange County Marine Protected Area Collaborative in Dana Point. While there is some debate about who made the suggestion, which led to an unfortunate misunderstanding, the revised petition before you is a smaller SMCA No Take than originally requested but still protects kelp and essential fish habitats.

When evaluating the Petitions, I suggest we comply with and enhance the goals of the Marine Management Plan by increasing the coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage with full citywide protection. Fortunately, Laguna's unique MPAs have dramatically improved

recreational, educational and study opportunities provided by marine ecosystems through coordinated enforcement by Marine Safety Lifeguards, Park Rangers and community volunteers working together to minimize human disturbance. Petition 2023-4-R is consistent with all of the goals for the Marine Management Act and legislative intent of the Marine Life Protection Act of 1999.

I am not unfamiliar with economic challenges. I grew up in a large working class family in Northern California surfing the cold, wild waves while diving for abalone with my brothers off of Gualala and Mendocino or fishing mountain lakes. Leaving high school and to avoid the draft, I joined the Navy, studied navigation and was assigned to SEAL Team One, as a Platoon Sergeant and sent to Vietnam. Turning 21, I got out, worked my way through college and earned a degree in Biology before being hired as Assistant Dean at UC Irvine to manage veteran programs. One of my first projects was a pioneering Handicapped Scuba Project for wheelchair veterans and others…now a worldwide opportunity for the physically challenged community to enjoy and explore underwater wonders.

I continue now to swim and free dive Laguna's remarkable MPAs while traveling and Scuba diving other MPAs. I encourage FGC staff and commissioners to visit and swim Laguna's MPA and see large Sheepshead and robust kelp forests free of sea urchin barrens.

As a Californian, I feel an opportunity and responsibility to protect and restore our natural heritage - an abundant ocean teeming with sea life. Please consider approving the Laguna Bluebelt's Petition 2023-24-R as part of your legacy for California's sea life protection.





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Symbology

- City Limits
- SOCWA Effluent Transmission Line
- SOCWA Ocean Outfall
- Proposed Laguna Beach SMCA (No-Take) Adjustment

N

0 2,500 5,000

Scale in Feet

Figure 1

City of Laguna Beach
Proposed Marine Protected Area Adjustment

Laguna Bluebelt Coalition
MPA Decadal Review


Tim Duong for DanaWharf.com

SOUTH LAGUNA CIVIC ASSOCIATION
P.O. BOX 9668
SOUTH LAGUNA, CA
92652-7639
southlaguna.org

August 29, 2023

Commissioners and Staff,

Since 2012, with the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of Marine Protected Areas as a statewide model of collaboration and appreciates the support of the Fish & Game Commission in that effort.

On the heels of annexation of South Laguna beaches coming under the purview of the City of Laguna Beach on March 1, 2023, we are requesting an expansion of the “No Take SMCA” provisions to extend throughout all Laguna Beach MPAs. In addition to alignment with Laguna Beach’s commitment to the national “30 x 30 Initiative Plan” to conserve 30% of America's land and waters by 2030, a citywide “No Take” provision will provide enforcement consistency and community equity while protecting South Laguna kelp reefs – key to carbon sequestration, rising sea temperatures and attenuating bluff erosion.

Multiple benefits will accompany extending the Laguna Beach No Take MPA from 7.2 to 7.9 miles: from Aliso Beach and Totuava Cove through Three Arch Bay (TAB) southwest to the Laguna Beach city limit, see attached map. TAB has exceptional nursery beds for marine life in its bays that are not protected under our current MPAs. For this reason, coupled with the decimating impacts of over-fishing in the unprotected SMCA along TAB during the past 10 years, the TAB Community Services District requested in May 2023 that California Fish and Wildlife Commission extend the No Take MPA through “the southernmost point of the city of Laguna Beach – Mussel Cove, also known as Three Arch Bay.”

The Laguna Bluebelt Coalition, Laguna Ocean Foundation through their education and outreach programs, the City of Laguna Beach’s Environmental Sustainability Committee, and the enthusiastic 100% support and collaboration of our City Council and Marine Safety Department have enabled us to be strong watchdogs and local stewards of our MPAs. Together, we have focused on habitat restoration, water-quality education, wildlife and resource protection, and networking.

Laguna Beach’s rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. No Take MPAs in Laguna Beach have created increased sea life populations, support an expanding variety of ecotourism recreational opportunities, and have proven to be essential to mitigating decades of over-fishing.

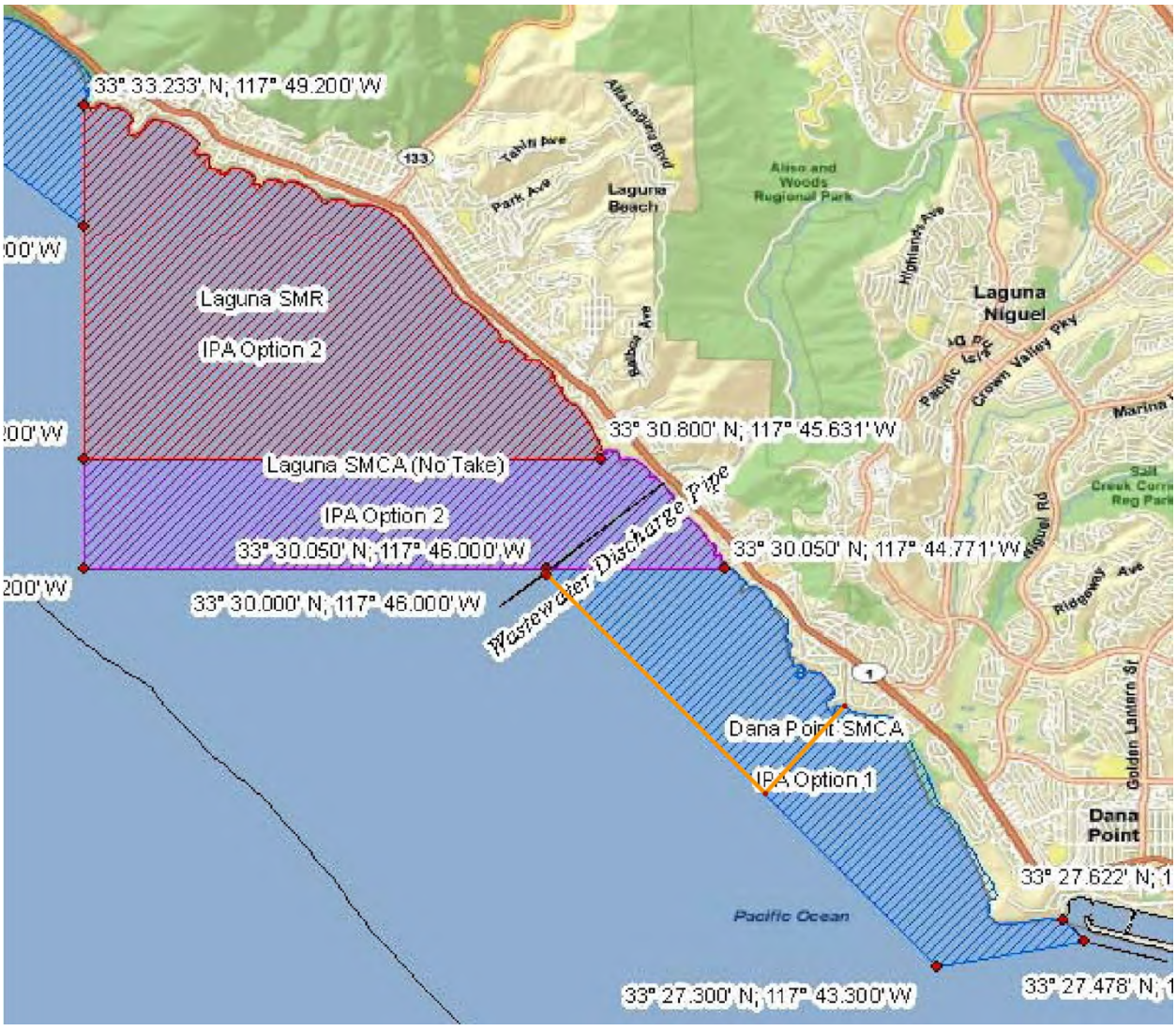
Citywide MPA consistency will further improve ocean water quality by reducing harmful greenhouse gas emissions from fishing boats traveling from Dana Point to Laguna Beach.

Climate change science recognizes the ocean as key to reversing negative anthropogenic climate impacts.

Thank you for your support of Laguna's Marine Protected Areas and for your consideration of an expansion of the network of No Take MPAs citywide which will increase protections to California's sea life populations and habitat value while benefitting us all.

Greg O'Loughlin, President
South Laguna Civic Association

Orange outline indicates the proposed No Take MPA extension to Laguna Beach's southern boundary.



P.O. Box 1383, Laguna Beach, CA 92652 • www.LagunaCanyonConservancy.org

November 22, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
Via email: fgc@fgc.ca.gov

RE: Support for Extending Laguna Beach's Southern MPA Boundary

Dear Commissioners,

The Board of Directors of the Laguna Canyon Conservancy (LCC) joins with our local environmental colleagues and organizations in support of extending the Marine Protected Areas at the southern end of Laguna Beach.

LCC believes a revision is vital to ensuring an increase in protection of California's sea life populations and ecosystems, as well as enforcing consistency of rules and regulations, along with community equity. It is also important to achieve the City of Laguna Beach's 30 x 30 contribution to protect 30% of the world's coastal marine areas by 2030.

As stewards of our wilderness, we hope the Commission will support the goals and requests of Laguna Beach's environmental groups to expand the network of No Take MPAs citywide and protect our coastal environment for present and future generations to come. Thank you in advance for making this critical step forward.

Laguna Canyon Conservancy is a non-profit, all-volunteer environmental organization founded in 1988 to Save and Protect Laguna Canyon. LCC members have been involved in expanding the South Coast Wilderness nature reserves of Orange County that now include over 22,000 acres of parks, open space, and marine preserves. For more information, please visit: www.LagunaCanyonConservancy.org

Sincerely,

Gayle Waite
President, Laguna Canyon Conservancy

Cc: City Council of Laguna Beach
Jeremy Frimond, Assistant City Manager

March 9, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
fgc@fgc.ca.gov

RE: Letter of Support for Citywide "No Take"
Marine Protected Areas (SMR and SMCA) in Laguna Beach, Orange County, California

Commissioners and Staff,

With the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of MPAs as a statewide model of collaboration, education and enforcement. To provide citywide enforcement consistency, the Laguna Bluebelt Coalition requests extending "no take" provisions to include all of Laguna Beach's State Marine Conservation Areas (SMCAs) to the southern City Limits.

Laguna Beach's rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. The City of Laguna Beach continues to benefit economically and ecologically from Marine Protected Areas with experienced Marine Protection Officers (MPOs), community vigilance, marine life education and comprehensive fishing restrictions.

The South Laguna SMCA is characterized by steep bluffs and compact coves to create a unique coastal ecology with tide pools, deep rocks and kelp forests. Wave action and backwash energy from bluffs surrounded by offshore kelp forests offers a local mixing zone for marine mammal and sealife foraging. Annual migrations of California Gray Whales often use South Laguna Coves as a rest stop for mothers and calves. Laguna Beach's other No Take MPAs have increased sea life populations and currently support a variety of ecotourism recreational opportunities.

While most of Laguna Beach restricts fishing, South Laguna is a designated State Marine Conservation Area allowing recreational and commercial fishing. Daily, concentrated fishing effort in the South Laguna SMCA has unfortunately contributed to over-fishing during the past ten years by recreational fishers and commercial passenger fishing vessels (CPFVs). Expansion of Laguna Beach's MPAs is essential to mitigate decades of regional over-fishing.

Expanding "No Take" provisions for all City MPAs will contribute to the City's commitment to the national "30 x 30 Initiative Plan" to conserve 30% of America's land and waters by 2030. The March 1, 2023 annexation of South Laguna beach areas by the City of Laguna Beach requires "No Take" provisions for the South Laguna SMCA to provide citywide enforcement consistency and community equity.

Climate change science recognizes the ocean as key to reversing negative anthropogenic climate impacts and the City of Laguna Beach is committed to a Climate Action Plan. Citywide MPA enforcement

consistency will improve ocean water quality by reducing harmful greenhouse gas emissions from commercial fishing boats traveling far from Dana Point to fish in South Laguna.

The City Council proudly supports the Marine Protected Areas and City policies encourage exapnding marine life refuges.

Thank you for your dedicated efforts to protect California's marine life and for considering our request to extend citywide "No Take" protection for all of Laguna Beach's MPAs.

Mike Beanan
Laguna Bluebelt Coalition

https://www.lagunabluebelt.com/

References:

https://www.lagunabeachcity.net/home/showpublisheddocument/8148/637406985535730000

City of Laguna Beach: Tide Pools and Marine Habitats

2A Encourage the expansion of the Marine Life Refuges and the designation of particularly unique or ecologically sensitive coastal areas as Ecological Reserves (such as seal and bird rocks), pursuant to the provisions of the State Department of Fish and Game.

ORANGE COUNTY COASTKEEPER®

3151 Airway Ave, Suite F-110
Costa Mesa, CA 92626
714-850-1965
www.coastkeeper.org

California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Re: Support for Laguna Bluebelt Coalition Petition to extend the no-take SMCA to the southern boundary of the City of Laguna Beach

Dear President Sklar and Commissioners,

OC Coastkeeper has the mission to protect swimmable, drinkable, fishable water and promote watershed resilience throughout our region. We have been actively working to support and implement Marine Protected Areas since the passage of the Marine Life Protection Act. We support the Laguna Bluebelt Coalition's petition regarding an extension of the Laguna Beach no-take SMCA boundary to the southern border of the city and urge you to approve this proposed boundary change.

Orange County beaches have some of the most beautiful beaches and coves found anywhere in the world. Visitation is high, and therefore the protection offered by the MPAs is vital. Most of the city is protected by the Laguna Beach State Marine Reserve (SMR) and the Laguna Beach no-take State Marine Conservation Area (SMCA). However, there is a stretch of coastline that lies within the city limits that does not receive the same level of protection. Commercial and recreational fishing is permitted in these waters and residents are alarmed by the amount of fishing and the number of lobster traps that they see regularly. This area of the coastline has not been sufficiently studied to get scientific data on the impact of fishing, but local residents that spend substantial time in the water have noted a decrease in fish in the unprotected area.

These coves support vital kelp forest habitat, which is on the decline across the state. The rocky substrate that supports the kelp as well as the fish and invertebrates that utilize the kelp are impacted by lobster traps and anchors. The kelp is still present, but now fails to reach the surface. We must protect this habitat while it still has the ability to come back.

Another concern in this area is the whale migration route. Whales frequently come in close to the shore through Laguna Beach on their migration to and from the calving and breeding grounds in Baja California. During Lobster season, the whales run into a virtual wall of lobster ropes and buoys, which pose a serious threat to entanglement.

Extension of the no take SMCA boundary south will assist enforcement of MPA regulations by making the entire City of Laguna Beach a no take zone. The City of Laguna Beach has recently taken over management of all of the beaches in the city. Until last summer, the County of Orange was in charge of managing all of the beaches south of Aliso Creek. Now that

beach management is consistent throughout the city, the MPA rules should be consistent as well. This will make it easier for the public to identify where they can and can't fish, and for enforcement officers to do their job.

To help MPA enforcement, protect whales, and preserve the remaining kelp beds, we urge the commission **to extend the no-take SMCA boundary to coincide with the southern boundary of the City of Laguna Beach.** We enthusiastically support California's MPA Network and believe the MPAs are working to preserve biodiversity. In the case of Laguna Beach, the MPA extension will enhance the protection of vital ecosystems and create a more consistent and cohesive enforcement policy.

Sincerely,



Associate Director of Policy and Projects

THREE ARCH BAY
COMMUNITY SERVICES DISTRICT
5 BAY DRIVE, LAGUNA BEACH, CALIFORNIA 92651-6780
(949) 499-4567 FAX: (949) 499-2352

May 1, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
fgc@fgc.ca.gov

RE: Letter of Support for Laguna Beach City-wide Marine Protected Areas including South Laguna, to the Southern Point of Mussel Cove, Orange County, California

Dear Commissioners,

Since 2012, with the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of Marine Protected Areas (MPAs) as a statewide model of collaboration, education and enforcement. To provide marine protection consistently throughout all of Laguna Beach, the Community Services District of Three Arch Bay supports an extension of marine protection via "no take" Marine Conservation Areas (SMCAs) to the point at the end of Mussel Cove, which is the southern border of Laguna Beach, in the community of Three Arch Bay (TAB).

Laguna Beach's rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. The City of Laguna Beach continues to benefit economically and ecologically from Marine Protected Areas.

Three Arch Bay (TAB), which includes Mussel Cove, in South Laguna's SMCA, is characterized by steep bluffs and compact coves that create a unique coastal ecology with tide pools, deep rocks and kelp forests. Wave action and backwash energy from bluffs surrounded by offshore kelp forests offers a local mixing zone for marine mammal and sea life foraging.

While most of Laguna Beach restricts fishing, the southern end of Laguna Beach was only designated a State Marine Conservation Area, which allows continued recreational and commercial fishing. Unfortunately, the over-fishing during the past ten years by commercial and recreational fishermen, including commercial passenger fishing vessels (CPFVs), has devastated the kelp beds, fish population, and sea life across South Laguna. Expansion of Laguna Beach's MPAs is essential to mitigate decades of regional over-fishing particularly in South Laguna.

Thus, we request that you initiate and vote to provide an extended "no take" Marine Protected Area (SMR and SMCA) Citywide, across Laguna Beach, including South Laguna, to the Southern Point of Mussel Cove, Orange County, California. This would extend the existing marine protections throughout Laguna Beach, including the southernmost point of the city of Laguna Beach – Mussel Cove, also known as Three Arch Bay.

As a community, we are active stewards of our waterways and marine resources, ensuring quality management of our natural resources, and would appreciate the state's support of our efforts by extending the MPA to the Southern end of Laguna Beach.

Thank you,

Gary Rubel

Gary Rubel
President
Three Arch Bay Community Services District

Cc: City of Laguna Beach
Board Members of the TAB CSD

Original Petition

State of California – Fish and Game Commission
PETITION TO THE CALIFORNIA FISH AND GAME COMMISSION FOR REGULATION CHANGE

Tracking Number: (_2023-24MPA_)

To request a change to regulations under the authority of the California Fish and Game Commission (Commission), you are required to submit this completed form to: California Fish and Game Commission, (physical address) 1416 Ninth Street, Suite 1320, Sacramento, CA 95814, (mailing address) P.O. Box 944209, Sacramento, CA 94244-2090 or via email to FGC@fgc.ca.gov. Note: This form is not intended for listing petitions for threatened or endangered species (see Section 670.1 of Title 14).

Incomplete forms will not be accepted. A petition is incomplete if it is not submitted on this form or fails to contain necessary information in each of the required categories listed on this form (Section I). A petition will be rejected if it does not pertain to issues under the Commission's authority. A petition may be denied if any petition requesting a functionally equivalent regulation change was considered within the previous 12 months and no information or data is being submitted beyond what was previously submitted. If you need help with this form, please contact Commission staff at (916) 653-4899 or FGC@fgc.ca.gov.

SECTION I: Required Information.

Please be succinct. Responses for Section I should not exceed five pages

1. Laguna Bluebelt Coalition
Name of primary contact person: Mike Beanan
Address:
Telephone number:
Email address:

2. Rulemaking Authority (Required) - Reference to the statutory or constitutional authority of the Commission to take the action requested: Authority cited: Sections 200, 205(c), 265, 399, 1590, 1591, 2860, 2861 and 6750, Fish and Game Code; and Sections 36725(a) and 36725(e), Public Resources Code.

3. Overview (Required) -

a. Extend the Laguna Beach SMCA no-take regulation down to the southern border of the city of Laguna Beach. This area is currently covered by the Dana Point SMCA, which only protects tide pool resources, not the offshore kelp beds.

4. Rationale (Required) -

a. Laguna Beach has recently taken over enforcement of the South Laguna beaches all the way down to the city border. Right now there is confusion due to the different regulations within one city. This regulation change will make enforcement easier and more consistent because it will create continuity within the city, where the same rules apply to all beaches. All Laguna Beach lifeguards have received MPO training and enforce no-take rules for the rest of the city beaches. This will result in an increase in outreach and enforcement effectiveness, which supports priority recommendation number 15.
High fishing and lobstering pressure are taking a toll on the remaining kelp beds in South Laguna due to overharvesting and substrate degradation due to anchor drag. The

Sustainable Fisheries Act of 1996 established new requirements for fishery management councils to identify and describe Essential Fish Habitat and to protect, conserve, and enhance these EFH for the benefit of fisheries. A 2002 update to these EFH regulations allowed fishery management councils to designate Habitat Areas of Particular Concern (HAPCs). HAPCs are considered high priority areas for conservation, management, or research because they are important to ecosystem function, sensitive to human activities, stressed by development, or are rare. The rocky reef and kelp beds in this particular area of South Laguna are slightly different than those in the rest of the city because of the steep drop of the cliffs into the ocean. This creates a unique microhabitat where waters are mixed due to wave refraction off of the cliffs.

There are kelp forests offshore in these areas that are desperately needed as habitat. One of the original design considerations for designating MPAs was to "Include within MPAs suitable rocky habitat containing abundant kelp and/or foliose algae" (CMLPA Master Plan for MPAs, Appendix F). When the MPA boundaries were finalized in 2012, the kelp was at its highest extent of coverage since 1967 (see supplemental graph), so the total area of kelp forest was overestimated. The kelp beds off South Laguna have been nearly decimated by overharvesting and anchor drag and need to be protected. This, in combination with the potential for additional kelp decline due to warm water events makes it imperative that we protect as much as possible.

The Marine Mammal Protection Act also requires action to be taken here. The south end of the no-take SMCA is visible from shore as a line of lobster trap buoys extending out from the cliffs. One MPA watch volunteer reported 223 buoys off of Table Rock beach on 11/8/2023. This represents a virtual "wall" of dangerous trap lines that interrupt whale migration paths. Whales have been seen frequently traveling very close to shore along this stretch of coastline (see supplemental photo of Thousand Steps beach). In 2019, Donna Kalez of Dana Wharf Whale Watching was referenced in a magazine article saying that in the preceding few weeks her captains had logged more than 40 sightings of gray whale cow-calf pairs in the shallow coves of Laguna Beach (Men's Journal). The lobster buoy lines create a dangerous obstacle for migrating whales, which are protected under the MMPA.

Residents in South Laguna support the extension of the no-take SMCA as evidenced by the attached letters of support from the Three Arch Bay Community Services District, Orange County Coastkeeper, Laguna Canyon Conservancy, Laguna Bluebelt Coalition, and the South Laguna Civic Association. They feel that it is not equitable to have only the north and central beaches protected. Please see the attached letters of support.

SECTION II: Optional Information

5. Date of Petition: 11/29/2023

6. Category of Proposed Change

☐ Sport Fishing
☐ Commercial Fishing
☐ Hunting
☒ Other, please specify: MPAs, Section 632.

7. The proposal is to: (*To determine section number(s), see current year regulation booklet or https://govt.westlaw.com/calregs*)

☒ Amend Title 14 Section(s):Westlaw regulations.

☐ Add New Title 14 Section(s): Click here to enter text.

☐ Repeal Title 14 Section(s): Click here to enter text.

8. If the proposal is related to a previously submitted petition that was rejected, specify the tracking number of the previously submitted petition

Or ☒ Not applicable.

9. Effective date: If applicable, identify the desired effective date of the regulation.
If the proposed change requires immediate implementation, explain the nature of the emergency:
This should be implemented as soon as possible. Ancient California Gray Whale Migration is currently being altered due to proliferation of nearshore lobster traps and rope buoys at the southern SMCA boundary.

10. Supporting documentation: Identify and attach to the petition any information supporting the proposal including data, reports and other documents:

(A) Map of proposed Boundary Adjustment.
(B) Letter of support from the Three Arch Bay Community Services District
(C) Letter of support from the South Laguna Civic Association
(D) Letter of support from the Laguna Bluebelt Coalition
(E) Letter of support from Orange County Coastkeeper
(F) Letter of support from the Laguna Canyon Conservancy
(G) Graphic from "Status of the Kelp Beds in 2019: Orange & San Diego Counties. Prepared for the Region Nine Kelp Survey Consortium" by MBC Aquatic Sciences
(H) Full Report: "Status of the Kelp Beds in 2019"
(I) Photo of gray whale at Thousand Steps Beach

11. Economic or Fiscal Impacts: There would be a fiscal impact on commercial lobster fishers due to reducing their fishing grounds. However, fishing effort will be closer to Dana Point Harbor to save fuel costs and use of ropeless buoys will be encouraged. With removal of lobster buoy lines as migration barriers, whale watching tours can resume in Laguna Beach ($10 million estimated annual revenues to Dana Point economy). Less anchoring by CPFVs will reduce anchor drag damaging local reefs and kelp forests. Estimated resident property values gain an increase of 20% from proximity to a fully protected MPA

12. Forms: If applicable, list any forms to be created, amended or repealed:

Click here to enter text.

SECTION 3: FGC Staff Only

Date received: 11/29/2023

FGC staff action:

☐ Accept - complete

☐ Reject - incomplete
☐ Reject - outside scope of FGC authority

Tracking Number

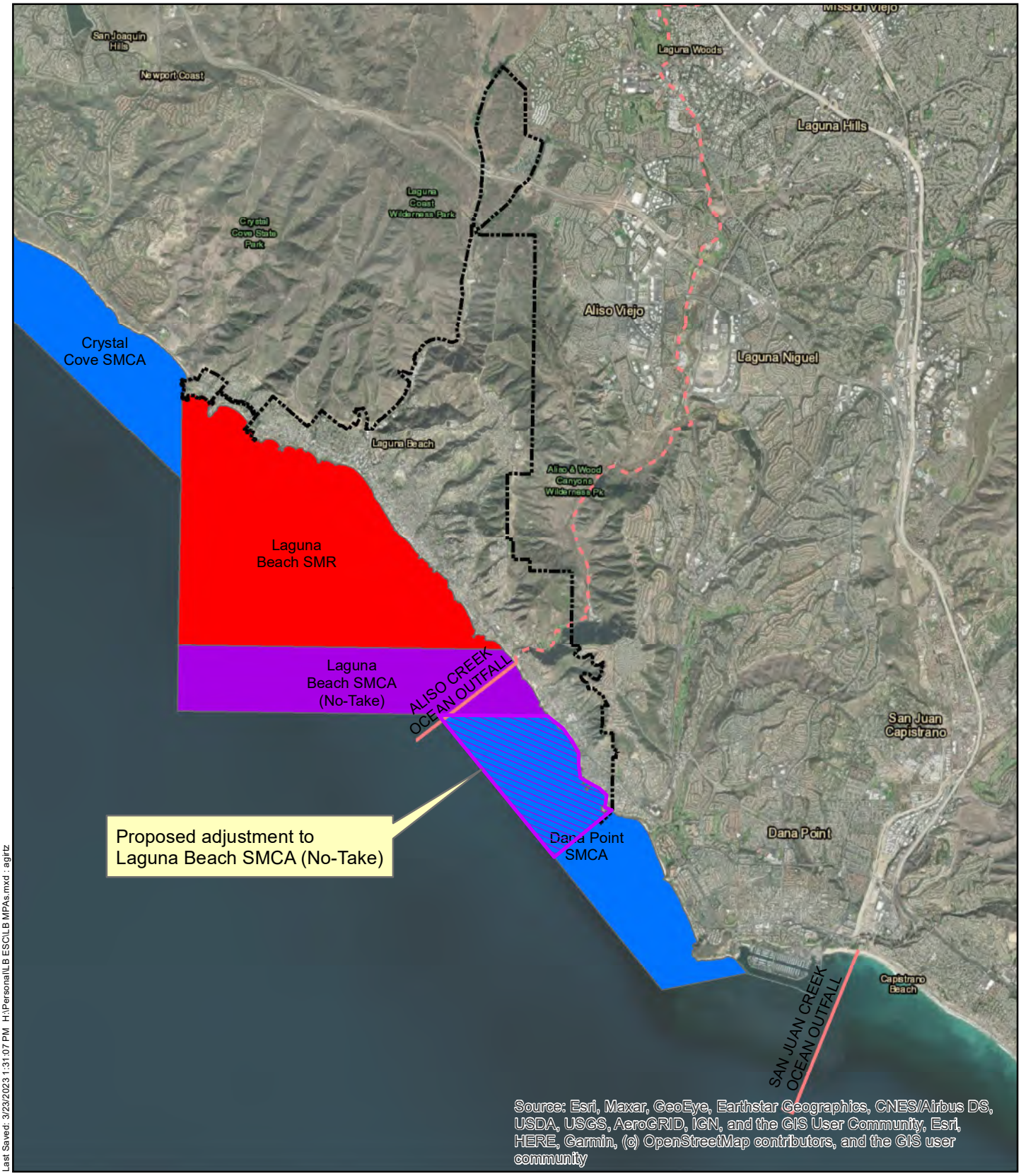
Date petitioner was notified of receipt of petition and pending action: _____

Meeting date for FGC consideration: _____

FGC action:
☐ Denied by FGC
☐ Denied - same as petition _____

Tracking Number

☐ Granted for consideration of regulation change



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Symbology

- City Limits
- SOCWA Effluent Transmission Line
- SOCWA Ocean Outfall
- Proposed Laguna Beach SMCA (No-Take) Adjustment

N

0 2,500 5,000

Scale in Feet

Figure 1

City of Laguna Beach
Proposed Marine Protected Area Adjustment

Laguna Bluebelt Coalition
MPA Decadal Review



Status of the Kelp Beds in 2019:

Orange and San Diego Counties

Prepared for the Region Nine Kelp Survey Consortium

MBC Aquatic Sciences

STATUS OF THE KELP BEDS IN 2019:
Orange and San Diego Counties

Prepared for:

Region Nine Kelp Survey Consortium

Prepared by:

MBC *Aquatic Sciences*
3000 Red Hill Avenue
Costa Mesa, California 92626

August 18, 2020

PROJECT STAFF

Region Nine Kelp Survey Consortium

Robin Gartman (Chair), Ami Latker	City of San Diego Public Utilities Dept.
Lori Rigby, Luke Christian	City of Oceanside
Ralph Ginese	City of Escondido
Tim Sisk	Cabrillo Power LLC, Encina Power Station
Doug Campbell, Jeff Parks	Encina Wastewater Authority
Owni Toma	Fallbrook Public Utility District
Gary Merrill, Rebecca Bray	Genentech
Michelle Powelson	Poseidon Water
Chris Trees, Mike Thornton	San Elijo Joint Powers Authority
Keith Bacon, Amber Baylor	South Orange County Wastewater Authority
Brian Metz	Southern California Edison, SONGS
Nicholas Chapa	U.S. Intl. Boundary & Water Commission

Water Board

Brandi Outwin-Beals, Keith Yaeger	San Diego Regional Water Quality Control Board

MBC *Aquatic Sciences*

Marine Scientists

D.S. Beck	D.J. Schuessler
J.M. Lyons	J.J. Sloan
W.H. Dossett	B.L. Smith
R.H. Moore	J.N. Smith
J.R. Nunez	D.G. Vilas
M.R. Pavlick	T.A.Van Duivenbode
J.L. Rankin	

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Appendix C – Sea Surface Temperatures

Appendix D – Flight Path, Flight Data Reports, and Field Data Sheets

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EXECUTIVE SUMMARY

Aerial imaging surveys of the 24 giant kelp beds off Orange and San Diego counties were conducted for the Region Nine Kelp Survey Consortium (RNKSC) by MBC Aquatic Sciences on March 31, July 19, September 19, and December 19, 2019. The maximum surface canopy observed during 2019 was quantified from color infrared photos of each kelp bed.

The total kelp canopy throughout Region Nine covered approximately 5.2 km^2 in 2019, a 53% decrease compared to 2018. This was similar to the total kelp canopy coverage recorded in 2016 (5.1 km^2), but considerably larger than the total coverage for 2017 (3.3 km^2), which was the lowest since 2006. More than half of all kelp beds observed in 2018 disappeared in 2019 (10 out of 18), and none reappeared. The La Jolla and Point Loma kelp beds were the largest, accounting for 99% of the total canopy coverage in 2019.

Vessel surveys of all Region Nine kelp beds were scheduled for late 2019, but were not actually conducted until January 7, 15, and 30, 2020. Visual observations indicated that surface canopy was present at North Laguna Beach, Dana Point/Salt Creek, Leucadia Central and South, Encinitas, Solana Beach, La Jolla North and South, and Point Loma North and South. No surface canopy was observed at South Laguna Beach, South Laguna, or from Capistrano Beach through Leucadia North. Subsurface kelp was observed at many kelp bed locations, even those without visible surface canopy. More detailed in-water surveys were conducted by biologist-divers at three kelp bed locations: Dana Point/Salt Creek, Leucadia North, and the Encina Power Plant.

Water temperatures throughout the RNKSC areas generally were warmer than average throughout most of 2019, particularly from September through December. However, lower than normal temperatures were recorded at Newport Pier during most of April, May, and August, and occasionally during March, June, and July. Lower than normal water temperatures were also occasionally recorded at Scripps Pier from February through October, particularly during the months of June, July and August. Daily sea surface temperature (SST) values rarely fell below 14°C, a threshold below which nutrient availability is much greater than at higher water temperatures, at Newport Pier and Scripps Pier, and never fell below this threshold at Oceanside or Point Loma South.

As in previous years, nutrient availability continued to be low in 2019. Upwelling in 2019 (at a location approximately 161 km west of Solana Beach) generally increased each month from January through August, decreasing through December. Upwelling index values in 2019 were much higher than the long-term mean in July and August, but lower in March, May and June. Upwelling was lower from March through June in 2019 compared with the same time period in 2018, which is when surface water temperatures are generally lower and nutrient availability would be increased. Although upwelling between July and September was higher in 2019 than the previous year, this corresponds to when surface water temperatures are highest and nutrient availability would be decreased.

I - INTRODUCTION

Giant kelp (*Macrocystis pyrifera*) beds along most of the southern California mainland coast have been mapped quarterly by the Region Nine Kelp Survey Consortium (RNKSC) since 1983. The RNKSC participants agreed that the monitoring program would be methodologically based upon aerial kelp surveys that were conducted since 1967 by the late Dr. Wheeler J. North.

I.1 - REGION NINE KELP BEDS

The RNKSC program area extends from Abalone Point in northern Laguna Beach in Orange County southward to the U.S./Mexico Border in San Diego County, and recognizes 24 existing or historic kelp beds (Figure 1). Kelp beds associated with harbors, marinas, or hard substrate also are surveyed. Region Nine supports what are usually the two largest kelp beds in southern California, the La Jolla and Point Loma kelp beds. There are eight ocean outfalls located within the geographical area surveyed on behalf of the RNKSC, including three outfalls that are shared by two different agencies (Figure 1).

One of the objectives of the RNKSC program is to answer several basic monitoring questions regarding the status of kelp beds within the region:

1. What is the maximum areal extent of the coastal kelp bed canopy each year?
2. What is the variability of the coastal kelp bed canopy over time?
3. Are coastal kelp beds disappearing? If yes, what are the factors that could contribute to the disappearance?
4. Are new kelp beds forming?

I.2 - KELP BIOLOGY

If spores and suitable rocky substrate are available, giant kelp can quickly colonize surfaces and grow within a wide range of environmental conditions. Giant kelp grows rapidly and becomes reproductive in less than one year, with population dynamics largely driven by changes in the oceanographic environment, such as temperature and nutrient levels. If not removed prematurely by storms or grazers, large vegetative fronds eventually produce a terminal meristem, stop growing, and senesce. Individual fronds usually live no more than four to nine months, and individual kelp can live up to approximately nine years (Schiel & Foster, 2015). Detailed information on kelp biology is presented in Appendix B.

II - MATERIALS AND METHODS

II.1 - KELP DATA COLLECTION

II.1.A - AERIAL SURVEYS

In the early-1960s, when kelp surveys began, the surface area of coastal kelp beds was calculated via aerial photography by the late Dr. Wheeler J. North of the California Institute of Technology (Pasadena). Later MBC continued the surveys using a method following that of Dr. North's, as it provided a consistent approach for comparing kelp bed size (North 2001). MBC has continued to use this same methodology for the Region Nine surveys since inception of the program in 1983.

In 2019, Ecoscan Resource Data conducted quarterly overflights of the coastline on behalf of the RNKSC from Newport Harbor (Orange County) to the U.S./Mexico border (San Diego County). Direct downward-looking photographs of the kelp beds were taken from an aircraft modified by Ecoscan Resource Data to facilitate aerial photography. Approximately 200 to 225 high-contrast digital color and infrared photos were taken during each survey. Prior to each survey, the flight crew assessed the weather, marine conditions, and sun angle to schedule surveys on dates when optimum photos could be captured. The pilot targeted the following conditions:

- Weather: greater than a 15,000' ceiling throughout the entire survey range and wind less than 10 knots,
- Marine: sea/swell less than 1.5 m and tide range less than +1.0' Mean Lower Low Water (MLLW) during the survey,
- Sun angle greater than 30 degrees from vertical.

Aerial surveys were flown on March 31, June 19, September 19, and December 19, 2019 (Table 1). The flight path and data sheets from each quarterly aerial survey are included in Appendix D and photographs from each aerial survey are contained in Appendix E.

II.1.B - VESSEL SURVEYS

A vessel survey is conducted annually to observe all RNKSC kelp beds. The vessel survey for the 2019 survey year was scheduled to occur in December, but was delayed by adverse ocean conditions and was conducted on January 7, 2020 from Imperial Beach to Santa Margarita, on January 15, 2020 from Pendleton Artificial Reef to Capistrano Beach, and on January 30, 2020 from Dana Point to Corona del Mar. During the vessel surveys, biologists visually located each kelp bed by the main surface canopies present, or in the absence of surface kelp, relied upon latitude and longitude coordinates for canopies present during prior years. The presence of subsurface kelp was also recorded via visual observations from the vessel and fathometer readings. During the vessel surveys, more detailed in-water surveys were conducted by biologist-divers at the Dana Point/Salt Creek, Encina Power Plant, and Leucadia North kelp beds. Field data sheets from the vessel surveys are included in Appendix D.

Visual observations of the surface canopy included:

- Extent and density of the bed,
- Tissue color: ranges from pale yellow (indicating poor nutrient uptake) to dark brown (indicating good nutrient intake),
- Frond length on the surface,
- Presence/absence of apical meristems (scimitar = growing tips),
- Extent of encrustations by hydroids or bryozoans,
- Sedimentation on fronds,
- Any evidence of disease, such as holes or black rot,
- Age composition of fronds: young, mature, or senile.

II.2 - KELP DATA ANALYSIS

All photographs were reviewed after each overflight and the canopy surface area of each kelp bed was ranked in size by subjectively comparing the extent of canopy coverage shown in the photographs to the average historical bed size and photographs from previous surveys (Table 2). The ranking scale ranged from 0 for no kelp, 0.5 for minimal kelp, 1 for well below average kelp, 1.5 for somewhat below average kelp, 2 for below average kelp, 2.5 for average kelp, 3 for above average kelp, 3.5 for somewhat above average kelp, and 4 for well above average kelp. These rankings allowed the archiving of the quarterly survey slides for later retrieval and assembly of a digitized photo-mosaic of each kelp bed that represented the greatest areal extent for each survey year. Individual beds in the composite were selected for detailed evaluation and the surface area of all visible kelp canopies in each distinct kelp bed was calculated.

All digital photographs from one of the four surveys that showed the greatest areal coverage were digitally assembled into a composite photo-mosaic that provided a regional view of entire kelp bed areas. Photos of kelp beds that displayed the greatest canopy coverage during a single survey were used to make photo-mosaics. Usually data from one or two surveys were used to for the photo-mosaics to provide the best estimate of maximum canopy coverage for the year. The Photoshop mosaics were then transferred to Geographic Information System (GIS; ArcGIS 10.3.1) to geo-reference them, and placed into specific California Department of Fish and Wildlife (CDFW) geo-spatial shape files. Each mosaic was geo-referenced to match several prominent features (usually more than three) on the map and converted to Universal Transverse Mercator (UTM), or another acceptable coordinate system, and subsequently converted to a geo-referenced JPEG file. Surface canopy areas were calculated using the image classification function, an extension to the ArcGIS program. The kelp beds from the photos were then layered on standard base maps to facilitate inter-annual comparisons. The “Hard Substrate” layer on the base maps (shown as lightly shaded areas on the maps in Appendix A) was obtained through the CDFW Biogeographic Information and Observation System.

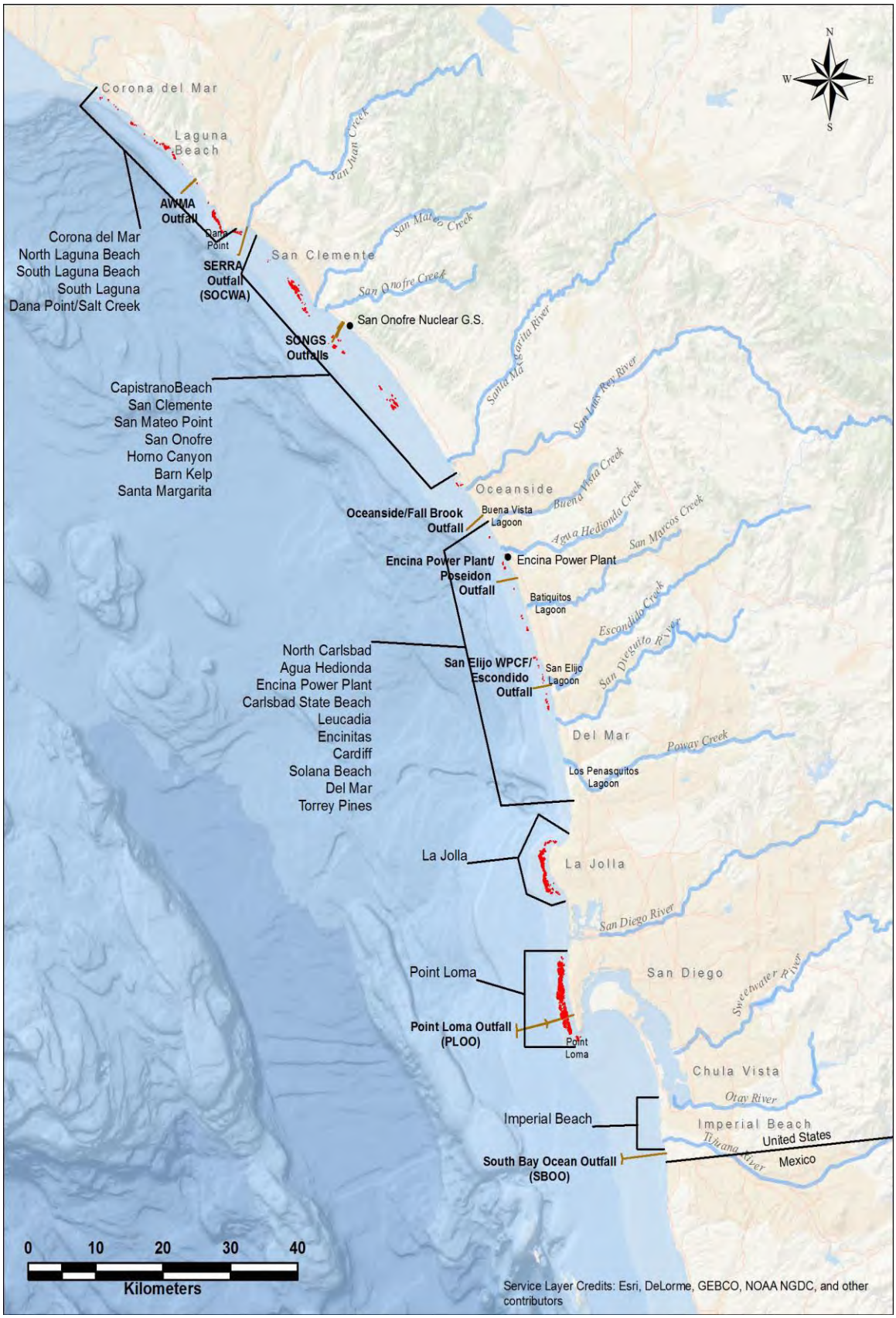


Figure 1. Ocean discharges and kelp beds located within Region Nine kelp survey area.

Table 1. Kelp bed overflights in 2019.

Quarter	Target Date	Actual Date	Comments
1st Quarter	**January to March 2019**	March 31, 2019	Excellent conditions for photos and observations during overflight
2nd Quarter	**April to June 2019**	July 19, 2019	Excellent conditions for photos and observations during overflight (survey delayed due to foggy conditions during month of June)
3rd Quarter	**July to September 2019**	September 19, 2019	Excellent conditions for photos and observations during overflight
4th Quarter	**October to December 2019**	December 19, 2019	Excellent conditions for photos and observations during overflight

The “Average Bed Area Per Year” (ABAPY) was plotted with results from individual beds to compare canopy sizes and patterns of growth/decline to averages for particular regions. Those regions were: CDFW lease bed 9 in Orange County and CDFW lease beds 5, 6, 7, and 8 in San Diego County (Figure 24). Kelp beds off La Jolla (CDFW lease bed 4, Figure 24) and Point Loma (CDFW lease beds 2 and 3, Figure 24) were treated separately because they are typically much larger beds which would dominate the ABAPY if included with the smaller beds, potentially skewing the data presentation and masking any changes occurring in the smaller beds. Each ABAPY was calculated by summing the annual canopy estimates for the relevant beds during each year and dividing the total by the number of beds included.

Table 2. Ranking values of canopy coverage assigned to kelp beds from Newport Harbor to Imperial Beach based on aerial photographs from 2019 Region Nine quarterly overflights.

	2019 Quarterly Overflights			
Kelp Beds	**31 March**	**19 July**	**19 September**	**19 December**
Newport Harbor *	–	–	–	–
Corona del Mar	**0.5**	–	–	–
No. Laguna Beach	0.5	**0.5**	–	0.5
So. Laguna Beach	**0.5**	0.5	–	0.5
South Laguna	–	–	–	–
Salt Creek-Dana Point	–	–	–	–
Dana Marina *	–	–	–	–
Capistrano Beach	–	–	–	–
San Clemente	**1.5**	1.0	–	–
San Mateo Point	**0.5**	–	–	–
San Onofre	0.5	**0.5**	–	–
Pendleton Reefs *	–	–	–	–
Horno Canyon	–	–	–	–
Barn Kelp	–	–	–	–
Santa Margarita	–	–	–	–
Oceanside Harbor *	–	–	–	–
North Carlsbad	–	–	–	–
Agua Hedionda	–	–	–	–
Encina Power Plant	–	–	–	–
Carlsbad State Beach	–	–	–	–
North Leucadia	–	**0.5**	–	–
Central Leucadia	–	–	–	–
South Leucadia	–	–	–	–
Encinitas	–	–	–	–
Cardiff	–	–	–	–
Solana Beach	–	–	–	–
Del Mar	–	–	–	–
Torrey Pines Park	–	–	–	–
La Jolla Upper	0.5	**1.5**	1.0	1.0
La Jolla Lower	2.5	**3.0**	1.0	2.5
Point Loma Upper	3.0	**4.0**	1.5	3.5
Point Loma Lower	3.0	**4.0**	1.5	2.5
Imperial Beach	–	–	–	–

Ranking values: 0.5 = trace or very small amount of kelp present; 1 = well below average;
1.5 = somewhat below average; 2 = below average; 2.5 = average;
3 = above average; 3.5 = somewhat above average; and 4 = well above average.
* = not a designated kelp bed
NI = No Image
"-" = no kelp present
Green highlight = survey utilized to quantify surface canopy area

III - RESULTS

III.1 - SUMMARY

Maps showing the areal extent of RNKSC canopy coverage in 2019 are provided in Appendix A. Tables displaying the historical canopy coverage for Region Nine from 1983 through 2019 are included in Appendix B. Delineation of each kelp bed area is shown in Appendix D. Aerial photographs taken during the four quarterly overflights in 2019 are included in Appendix E.

All kelp beds in the RNKSC region attained maximum surface canopy area for the year during either the March or June surveys (Table 2). The total amount of kelp canopy coverage in the RNKSC region was 5.2 km^2 in 2019, decreasing by 53% from 11.0 km^2 in 2018. In 2019, nine kelp beds displayed surface canopy, compared to 18 kelp beds with surface canopy in 2018 (10 kelp beds disappeared in 2019). No kelp beds increased in size and no new kelp beds reappeared in 2019. . The largest beds in the RNKSC region were the La Jolla and Point Loma kelp beds, with Point Loma being the largest at 3.9 km^2 (Figure 2, Panel A). These two large kelp beds accounted for 99% of the total RNKSC kelp coverage in 2019. In 2019, every kelp bed was less than 10% of the maximum size recorded since 1983, with the exception of La Jolla (26%) and Point Loma (50%) (Figure 2, Panel B). All nine of the kelp beds with visible surface canopy decreased in size in 2019 (Figure 2, Panel C).

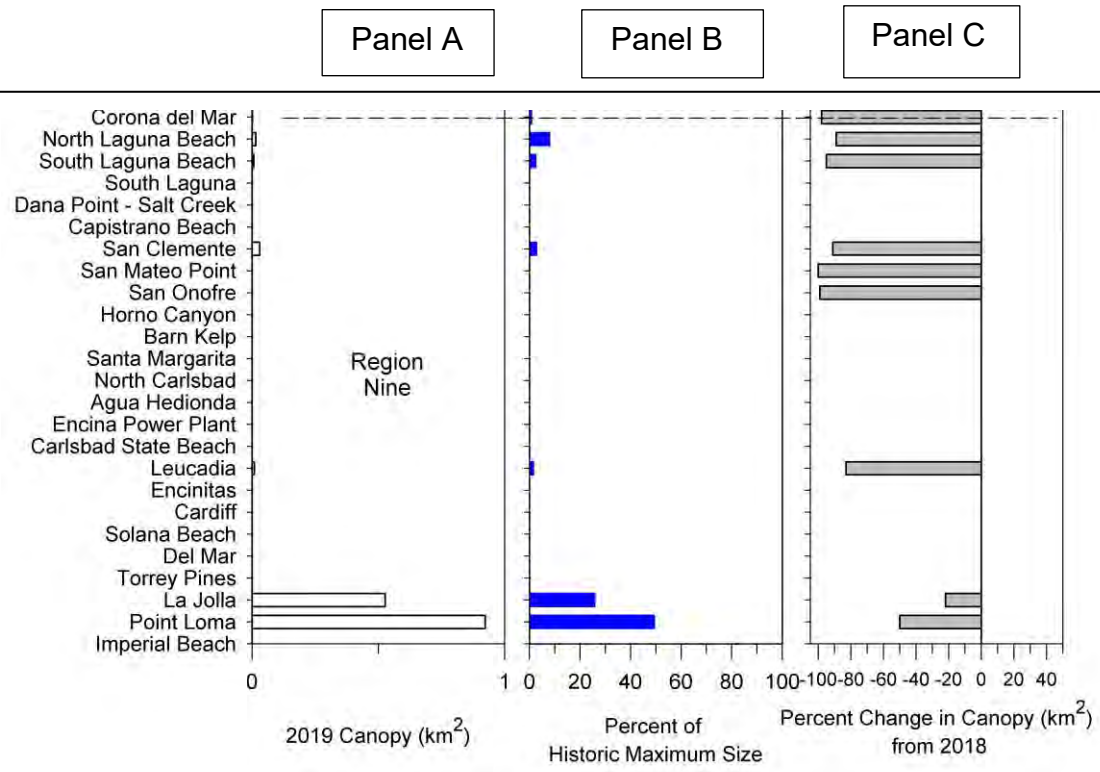
III.2 - SIZE OF KELP BEDS IN REGION NINE

The following is a synopsis of the status of each of the 24 designated individual kelp beds in the Region Nine during the 2019 survey year based upon the quarterly surveys. Information also is presented on several other areas where kelp beds were present. The comparison of canopy coverage between 2018 and 2019 for each kelp bed is presented in Table 3. Historical canopy coverage since 1911 is presented in Appendix B.4. Visual observations of the kelp beds recorded in Table 4 are based on vessel surveys conducted in January 2020. Observations from diver surveys conducted at the Dana Creek/Salt Point, North Leucadia and Encina Power Plant (Cabrillo Energy, Carlsbad) kelp bed areas are also presented in Table 4.

III.2.A - NEWPORT BEACH TO ABALONE POINT, LAGUNA BEACH

Corona del Mar. This kelp bed decreased in size by 98%, from 0.119 km^2 in 2018 to 0.003 km^2 in 2019 (Table 3). The canopy area in 2019 was only 1% of the maximum recorded in 2011 (Appendix B.3; Figure 3).

Downcoast from Newport Harbor, giant kelp grows in several small beds collectively referred to as the Corona del Mar kelp bed, or sometimes called the Newport/Irvine Coast kelp bed. The surface canopy area in 2019 was the smallest recorded since 2005. The decrease in size of this bed in 2019 (Figure 3) was similar to the decline of the Orange County ABAPY.



Note: truncated scale in Panel A: La Jolla canopy area = 1.2 km^2; Point Loma canopy area = 3.9 km^2

Figure 2. Summary of Region Nine kelp canopy coverage in 2019.

III.2.B - ABALONE POINT TO CAPISTRANO BEACH

There are five kelp beds located between Abalone Point and Capistrano Beach. In 2019, all five beds decreased in size (Table 3).

North Laguna Beach/South Laguna Beach. The North Laguna Beach kelp bed decreased in size by 89%, from 0.133 km^2 in 2018 to 0.015 km^2 in 2019 (Table 3). The canopy area in 2019 was 8% of the maximum recorded in 2012. The South Laguna Beach kelp bed decreased in size by 95%, from 0.131 km^2 in 2018 to 0.007 km^2 in 2019. The canopy area in 2019 was only 2% of the maximum recorded in 2013 (Appendix B.4; Figure 3).

The North and South Laguna Beach beds were rarely visible after the early 1990s until 2008, when they reestablished as a result of restoration efforts. The surface canopy areas of the North and South kelp beds in 2019 were the lowest recorded since 2009 and 2007, respectively. The decreases in size of both beds in 2019 (Figure 3) were similar to the decline of the Orange County ABAPY.

During the January 2020 vessel survey (Table 4), the North Laguna Beach surface canopy was estimated at approximately 100 by 150 meters. Tissue color was light to medium yellow, with no encrustation on fronds and only a few apical meristems were observed. The kelp bed

was composed of approximately 39% senile, 60% mature, and 1% young fronds. Subsurface kelp was visible on the fathometer, extending over a larger area than the surface canopy. No surface canopy was observed at South Laguna Beach, but some subsurface kelp was visible on the fathometer.

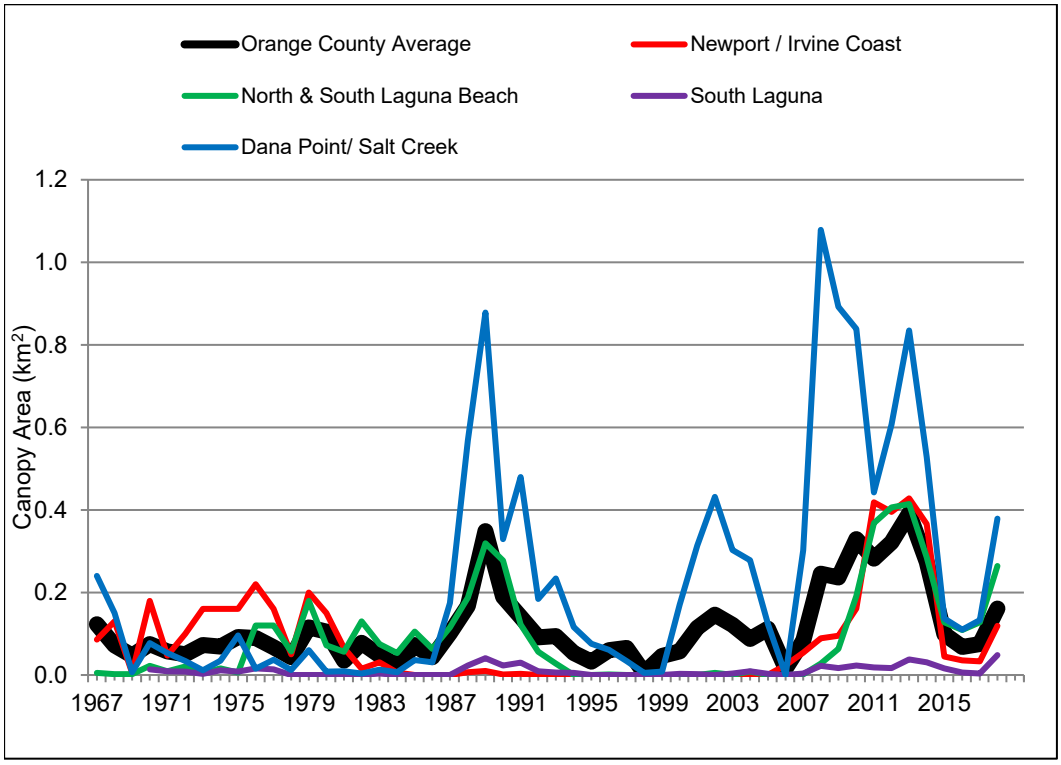


Figure 3. Comparisons between the average Orange County ABAPY and the canopy coverage of the kelp beds from Newport/Irvine Coast (Corona del Mar) to Dana Point/Salt Creek from 1967 through 2019.

South Laguna. This kelp bed disappeared in 2019 (Table 3). This followed 2018, when the surface canopy was the maximum recorded since RNKSC surveys began in 1983 (Appendix B.4; Figure 3).

After nearly disappearing in 2017, the South Laguna kelp bed increased in size by 1,500% in 2018, reaching the highest level observed (0.048 km^2) since RNKSC surveys began), only to decline once again in 2019. This is the first time that no surface canopy was visible since 2006. The decrease in size of this bed was similar to the decline of the Orange County ABAPY.

No surface or subsurface kelp was observed at South Laguna during the January 2020 vessel survey (Table 4).

Dana Point/Salt Creek. This kelp bed disappeared in 2019 (Table 3).

The Dana Point/Salt Creek kelp bed (Appendix A.46) ranged in size from 0.110 to 0.137 km^2 from 2015 to 2017, then increased to 0.379 km^2 in 2018, although it remained well below the levels observed in 2008, 2009, 2010, and 2013 (Figure 3). This also is the first time that no surface canopy was visible since 2006. The decrease in size of this bed in 2019 was similar to the decline in the Orange County ABAPY.

During the January 2020 vessel survey (Table 4), scattered surface canopy was observed at Dana Point/Salt Creek. Tissue color was medium to dark yellow, with less than 25% encrustation on fronds and no apical meristems were observed. The kelp bed was composed of 100% mature fronds.

An in-water survey of the Dana Point/Salt Creek kelp bed was conducted on January 30, 2020. The bottom was composed of approximately 50% boulder, 40% cobble, and 10% sand. In addition to giant kelp, *Laminaria*, *Egregia*, and *Pterogorgia* species of algae were present on the bottom. Kelp fronds were medium yellow in color, with less than 25% encrustation observed. Many sporophylls and juvenile fronds were observed. Fish observed included kelp bass (more than 5), sheepshead (1), and rock wrasses (more than 5).

No kelp was observed along the breakwaters in Dana Point Harbor (Appendix A.47) in 2019. This is not a designated kelp bed.

Capistrano Beach. This kelp bed disappeared in 2019 (Table 3).

This was the first year that surface canopy had not been observed at the Capistrano Beach kelp bed since 2005 (Appendix B.4; Figure 4). The 2019 decrease in size was similar to the decline of the Orange County ABAPY.

During the January 2020 vessel survey, no surface canopy was observed. However, patches of subsurface kelp were visible on the fathometer at depths of 35 to 45 feet (Table 4).

III.2.C - SAN CLEMENTE TO SAN ONOFRE

Three kelp beds are located between San Clemente and San Onofre. All three beds decreased in size in 2019 (Table 3).

San Clemente. This kelp bed decreased in size by 91%, from 0.335 km^2 in 2018 to 0.030 km^2 in 2019 (Table 3). The canopy area in 2019 was only 3% of the maximum recorded in 2013 (Appendix B.4; Figure 4).

The surface canopy area at the San Clemente kelp bed in 2019 was the lowest amount recorded since 2007 (Appendix B.4; Figure 4). The 2019 decrease in size was similar to the decline of the Orange County ABAPY.

Scattered surface canopy was visible during the January 2020 vessel survey. Tissue color was 5% light yellow, 10% medium yellow, and 85% dark yellow, with 30% encrustation on fronds and 25% apical meristems present. The kelp bed was composed of 10% senile, 85% mature, and 5% young fronds (Table 4).

Table 3. Canopy coverage of the Region Nine kelp beds from Laguna Beach to Imperial Beach (kelp beds listed north to south) during 2018 and 2019.

Kelp Bed	2018 (km^2)	2019 (km^2)	Percentage Difference
Newport Harbor	**0.113**	**0**	**Disappeared**
Corona del Mar	**0.119**	**0.003**	**-98%**
North Laguna Beach	**0.133**	**0.015**	**-89%**
South Laguna Beach	**0.131**	**0.007**	**-95%**
South Laguna	**0.048**	**0**	**Disappeared**
Dana Point/Salt Creek	**0.379**	**0**	**Disappeared**
Capistrano Beach	**0.018**	**0**	**Disappeared**
San Clemente	**0.335**	**0.030**	**-91%**
San Mateo Point	**0.083**	**0.0001**	**-100%**
San Onofre	**0.127**	**0.001**	**-99%**
Horno Canyon	**0.008**	**0**	**Disappeared**
Barn Kelp	**0.092**	**0**	**Disappeared**
Santa Margarita	**0**	**0**	**No change**
North Carlsbad	**0.038**	**0**	**Disappeared**
Agua Hedionda	**0**	**0**	**No change**
Encina Power Plant	**0.045**	**0**	**Disappeared**
Carlsbad State Beach	**0**	**0**	**No change**

Table 3 (continued)

Kelp Bed	2018 (km^2)	2019 (km^2)	Percentage Difference
Leucadia	**0.052**	**0.009**	**-83%**
Encinitas	**0.033**	**0**	**Disappeared**
Cardiff	**0.005**	**0**	**Disappeared**
Solana Beach	**0.024**	**0**	**Disappeared**
Del Mar	**0**	**0**	**No change**
Torrey Pines	**0**	**0**	**No change**
La Jolla	**1.566**	**1.227**	**-22%**
Point Loma	**7.920**	**3.923**	**-50%**
Imperial Beach	**0**	**0**	**No change**
TOTAL	**11.037**	**5.213**	**-53%**

San Mateo Point. This kelp bed virtually disappeared, decreasing in size by 100%, from 0.083 km^2 in 2018 to 0.0001 km^2 in 2019 (Table 3). The canopy area in 2019 was less than 0.1% of the maximum recorded in 1989 (Appendix B.4; Figure 4).

The surface canopy area of the San Mateo Point kelp bed in 2019 was the lowest amount recorded since 1998 (Appendix A.50; Figure 4). The 2019 decrease in size was similar to the decline of the Orange County ABAPY.

No surface canopy was observed during the January 2020 vessel survey. Some subsurface individuals were present, approximately 20-feet tall, and one solid patch was observed 0.25 miles south of San Mateo Point (Table 4).

San Onofre. This kelp bed decreased in size by 99%, from 0.127 km^2 in 2018 to 0.001 km^2 in 2019 (Table 3). The canopy area in 2019 was 0.2% of the maximum recorded in 1989 (Appendix B.4; Figure 4).

Table 4. Visual observations of Region Nine kelp beds during January 2020 vessel surveys.

Kelp Bed	Surface Canopy		Subsurface Kelp
	Extent	Appearance	
Corona del Mar	none		none
North Laguna Beach	estimated at 100 x 150 meters	light and medium yellow; 39% senile, 60% mature, 1% young; no encrustation; a few apical meristems	subsurface kelp beyond the edges of the surface canopy
South Laguna Beach	none		some subsurface kelp
South Laguna	none		none
Dana Point/Salt Creek	scattered canopy estimated at 400 x 800 meters	medium and dark yellow; 100% mature; less than 25% encrustation; no apical meristems	**see discussion of dive survey results**
Dana Point Harbor	none		none
Capistrano Beach	none		patches with approximately 15 to 25-feet tall individuals, scattered at approximately 35 to 45-feet depth
San Clemente	scattered kelp canopy	5% light yellow, 10% medium yellow, 85% dark yellow; 10% senile, 85% mature, 5% young; 30% encrustation; 25% apical meristems	scattered individuals approximately 20 to 30 feet tall in patches
San Mateo Point	none		some subsurface kelp, individuals approximately 20-feet tall, 1 solid patch 0.25 miles south of San Mateo Point
San Onofre	none		none
Pendleton Reefs	none		none
Horno Canyon	none		sparse kelp individuals 20 to 30-feet tall
Barn Kelp	none		20 to 30-feet tall kelp individuals, multiple patches at approximately 20 meters depth
Santa Margarita	none		none
North Carlsbad	none		none
Agua Hedionda	none		10-15 individuals on the bottom (two to three patches with up to six individuals)
Encina Power Plant	none		**see discussion of dive survey results**
Carlsbad State Beach	none		none
Leucadia-north	none		**see discussion of dive survey results**
Leucadia-central	surface kelp canopy estimated at 100 x 30 meters	50% light tissue color 50% senile, 45% mature, 5% young	subsurface kelp present with visible apical meristems

Table 4 (continued)

Leucadia-south	surface kelp canopy estimated at 30 x 30 meters	20% light yellow, 70% medium yellow, 10% dark yellow 18% senile, 80% mature, 2% young	subsurface kelp present with visible apical meristems
Encinitas	surface kelp canopy estimated at 100 x 30 meters	10% light yellow, 70% medium yellow, 20% dark yellow 5% senile, 35% mature, 60% young 40% apical meristems	5- to 10-foot kelp individuals on the bottom; two to three patches of 10-40 individuals scattered over approximately 0.35 miles (some reaching to the surface)
Cardiff	none		several single individuals 10-15 feet tall over approximately 0.25 miles
Solana Beach	scattered surface canopy	30% light yellow, 70% dark yellow	scattered individuals at the south end of the bed, 15-20 feet tall to 30-35 feet tall
Del Mar	none		several individuals 2-3 feet tall over approximately 200 meters
Torrey Pines	none		none
La Jolla North	scattered canopy, estimated at 100 to 200 meters in width		visible subsurface kelp
La Jolla South	continuous canopy south to north end, estimated at 100 to 300 meters in width; lower density inshore than offshore	60% light yellow, 40% dark yellow; 5% senile, 95% mature; 60 to 70% encrustation 2 to 5% apical meristems	subsurface kelp at approximately70 feet depth
Point Loma North	continuous canopy south to north end, approximately 200 meters width	50% light yellow, 50% dark yellow; 9% senile, 90% mature, 1% young; no encrustation; 1-2% apical meristems	visible subsurface kelp
Point Loma South	continuous canopy south to north end, estimated at approximately 200 meters in width	100% dark yellow; 1% senile, 98% mature, 1% young; 30% encrustation; 1% apical meristems	scattered kelp just below the surface, heavy encrustation, many apical meristems
Imperial Beach	none		none

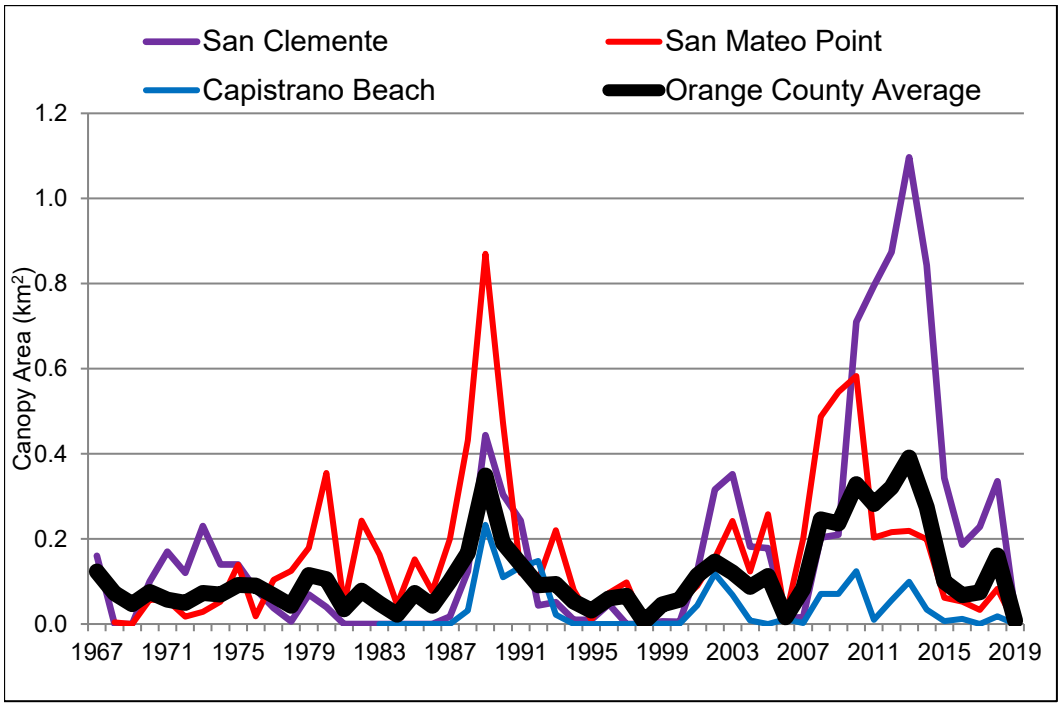


Figure 4. Comparisons between the average Orange County ABAPY and the canopy coverage of the kelp beds from Capistrano Beach to San Mateo Point from 1967 through 2019.

The surface canopy area of the San Onofre kelp bed in 2019 was the lowest amount recorded since 2006 (Appendices A.50 and A.51, Figure 4)). The 2019 decrease was similar to the decline of the San Diego County average ABAPY.

No surface or subsurface kelp was observed during the January 2020 vessel survey (Table 4).

III.2.D - HORNO CANYON TO SANTA MARGARITA RIVER

Three kelp beds are located between Horno Canyon and the Santa Margarita River.

Horno Canyon. This kelp bed disappeared in 2019 (Table 3).

This was the first year that no surface canopy was observed at the Horno Canyon kelp bed since 2011 (Figure 5). The 2019 decrease in size was similar to the decline of the San Diego County ABAPY.

No surface canopy was visible during the January 2020 vessel survey. However, sparse kelp individuals 20 to 20 feet tall were visible on the fathometer (Table 4).

In addition, the Pendleton Artificial Reef (PAR), which is not a designated kelp bed, is just upcoast from Horno Canyon. No surface canopy or subsurface kelp was observed at this location.

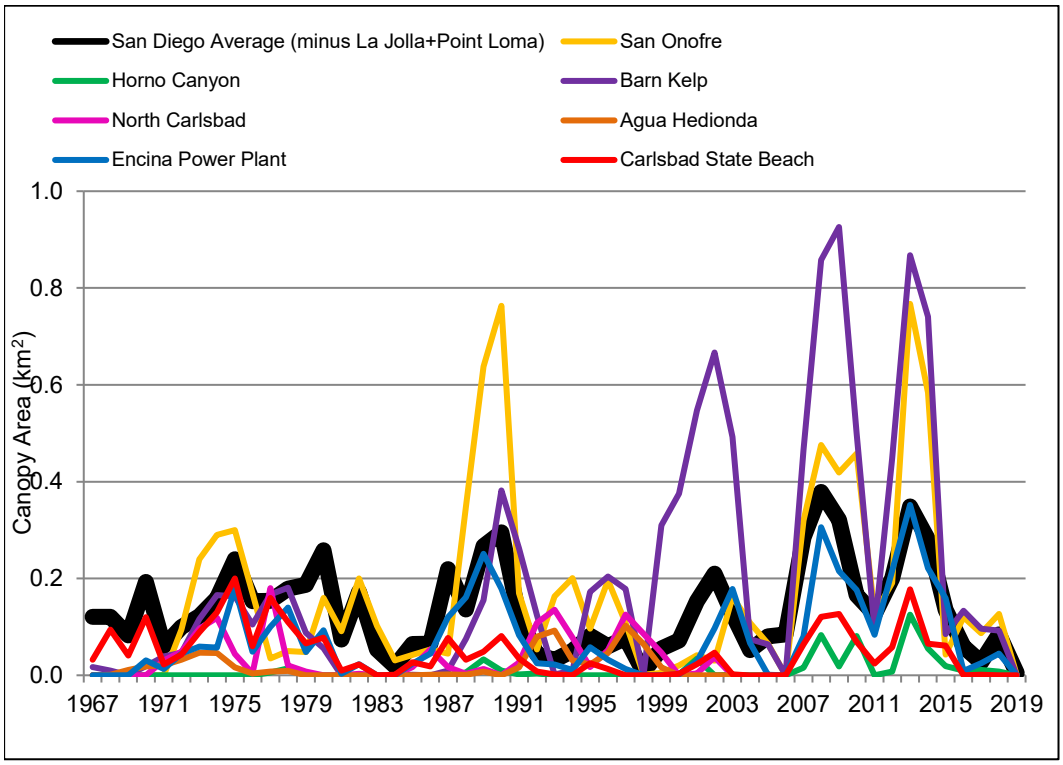


Figure 5. Comparisons between the San Diego average ABAPY and canopy coverage of the kelp beds from San Onofre to Carlsbad State Beach from 1967 to 2019.

Barn Kelp. This kelp bed also disappeared in 2019 (Table 3).

This was the first year that no surface canopy was observed at the Barn Kelp bed since 2006 (Figure 5).

No surface canopy was observed during the January 2020 vessel survey. However, 20- to 30-foot tall kelp individuals were visible on the fathometer in multiple patches at approximately 20 meters depth (Table 4).

Santa Margarita. This kelp bed was not observed during 2019, nor was it visible in 2018 (Table 3).

The Santa Margarita kelp bed is a small bed that occasionally forms a canopy off the Santa Margarita River mouth (Appendix A.56). However, surface canopy has only been observed during one year (2013) since 1993 (Appendix B.4).

No surface canopy or subsurface kelp was visible at Santa Margarita during the January 2020 vessel survey.

No kelp was observed in Oceanside Harbor (Appendix A.57; Table 3) in 2019. This is not a designated kelp bed.

III.2.E - NORTH CARLSBAD TO CARLSBAD STATE BEACH

There are four kelp beds located between North Carlsbad and Carlsbad State Beach. In 2019, three of the beds decreased in size, while the other still was not visible (Table 3).

North Carlsbad. This kelp bed disappeared in 2019 (Table 3).

The North Carlsbad kelp bed is usually comprised of several small beds (Appendices A.58 and A.59). This kelp bed was not observed in 2016 and was very small in 2017, but increased considerably in size in 2018 (21% of the maximum size recorded), before disappearing in 2019 (Appendix B.4; Figure 5).

During the January 2020 vessel survey (Table 4), no surface canopy was observed at the North Carlsbad kelp bed.

Agua Hedionda. This kelp bed was not observed in 2019 (Table 3), nor has it been visible since 2015 (Figure 5).

No surface canopy was observed at the Agua Hedionda kelp bed during the January 2020 vessel survey (Table 4). However, 10 to 15 subsurface individuals were visible on the fathometer in two to three groups of up to six individuals each.

Encina Power Plant. This kelp bed disappeared in 2019 (Table 3).

This was the first time that no surface canopy was observed at the Encina Power Plant kelp bed since 2006 (Appendix A.60, Figure 5)).

No surface canopy was observed at the Encina Power Plant kelp bed during the January 07, 2020 vessel survey (Table 4). Underwater observations were made during a dive survey on the same date. The bottom was composed of flat shale reef, with cobble bottom in some areas. Red alga was the dominant species of algae present. Kelp observed included juvenile individuals; nine new holdfasts were observed. Tissue color of kelp fronds was medium to dark yellow. No encrustation or sediment was observed on the kelp fronds. No fish were observed, but 3 lobsters, 1 white spotted rose anemone (*Urticina eques*), 3 large sea snails (*Kelletia*), 4 turban snails (*Megastraea*), 16 purple sea urchins (*Strongylocentrotus purpuratus*), and 7 red sea urchins (*Mesocentrotus fransciscanus*) were observed on the bottom.

Carlsbad State Beach. This kelp bed was not observed in 2019, nor was it visible in 2018 (Table 3).

The Carlsbad State Beach (Carlsbad State Park) kelp bed (Appendices A.60 and A.61) was very small or absent from 2016 through 2018, before finally disappearing in 2019 (Figure 5).

No surface canopy or subsurface kelp was observed at the Carlsbad State Beach kelp bed during the January 2020 vessel survey (Table 4).

III.2.F - LEUCADIA TO TORREY PINES

Leucadia. This kelp bed decreased in size by 83%, from 0.052 km^2 in 2018 to 0.009 km^2 in 2019 (Table 3). The canopy area in 2019 was only 2% of the maximum recorded in 2013 (Appendix B.4; Figure 6).

The Leucadia kelp bed comprises the North, Central, and South Leucadia kelp beds, which are surveyed as three separate beds because of distinct breaks in the beds (Appendices

A.62 and A.63). In 2013, Leucadia kelp bed increased in size to its highest canopy coverage in the last 30 years (0.541 km^2), but by 2016 had declined to only 6% of the 2013 maximum and had remained small through 2019 (Appendix B.4; Figure 6). In 2019, kelp canopy was observed only in the North bed.

No surface or subsurface kelp was observed at the North Leucadia Bed during the January 2020 vessel survey (Table 4). Surface canopy was observed at the Central Leucadia kelp bed. The surface canopy was present as scattered kelp over an estimated 100 x 30 meter area. Half of the fronds were light in color, half were dark. Approximately 50% of the fronds were senile, 45% mature, and 5% young. Surface canopy also was observed at the South Leucadia kelp bed. The surface canopy was present as scattered kelp over an estimated 30 x 30 meter area. Fronds were approximately 20% light yellow, 70% medium yellow, and 10% dark yellow. Approximately 18% of the fronds were senile, 80% mature, and 2% young. Fronds were approximately one to two meters in length. Apical meristems were observed subsurface.

Underwater observations were made during a dive survey on the same date. The bottom was composed of shale reef and plate rock. The dominant algae species present was *Egregia*. Kelp observed included one juvenile individual and four recruits, as well as a few adult individuals. Tissue color of kelp fronds was medium to dark yellow.

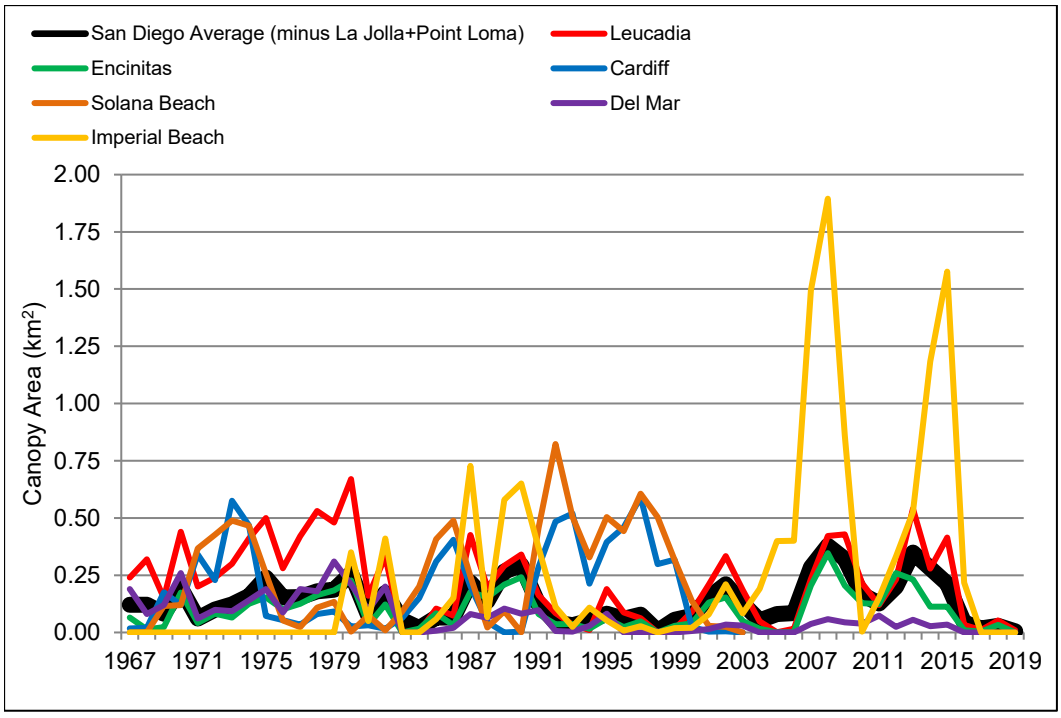


Figure 6. Comparisons between the San Diego average ABAPY and canopy coverage of the kelp beds from Leucadia to Imperial Beach from 1967 to 2019.

Encinitas. This kelp bed disappeared in 2019 (Table 3).

This was the first time that no surface canopy was observed at the Encinitas kelp bed since 2005 (Appendix A.63; Figure 6).

During the January 2020 vessel survey, scattered surface canopy was observed over an estimated 30 x 100 meter area (Table 4). Kelp fronds ranged from light yellow (10%), medium yellow (70%), to dark yellow (20%) in color. Approximately 5% of the fronds were senile, 35% mature, and 60% young. Scattered subsurface kelp was present, consisting of 10 to 40 individuals ranging in height from 5 to 10 feet.

Cardiff. This kelp bed also disappeared in 2019 (Table 3).

This was also the first time that no surface canopy was observed at the Cardiff kelp bed since 2005 (Appendix A.64; Figure 6).

During the January 2020 vessel survey, no surface canopy was visible (Table 4). Subsurface kelp was visible on the fathometer, consisting of several single individuals that were 10- to 15-feet tall over an area of approximately 1,000 feet long.

Solana Beach. This is another kelp bed that disappeared in 2019 (Table 3).

This was the first time that no surface canopy was observed at the Solana Beach kelp bed since 1983 (Appendices A.64 and A.65; Figure 6).

During the January 2020 vessel survey, scattered surface canopy was observed at the Solana Beach kelp bed (Table 4). Kelp fronds were approximately 30% light yellow and 70% dark yellow in color. Scattered subsurface kelp was observed visually and/or on the fathometer, with individuals ranging in height from 15 to 35 feet.

Del Mar. This kelp bed was not observed in 2019, nor was it visible in 2018 (Table 3).

The Del Mar kelp bed (Appendices A.66 and A.67) is typically one of the smallest beds in Region Nine. No surface canopy has been observed at the Del Mar kelp bed since 2015(Appendices A.66 and A.67; Figure 6).

No surface canopy was observed at the Del Mar kelp bed during the January 2020 vessel survey (Table 4). Subsurface kelp was visible on the fathometer as 2- to 3-foot tall individuals over an area of approximately 200 meters.

Torrey Pines. This kelp bed was not observed in 2019, nor was it visible in 2018 (Table 3).

Torrey Pines kelp bed appeared as a small trace of kelp during La Niña conditions in 1988 and 1989. It reappeared in 2006 with a canopy area of 0.010 km^2 with scattered giant kelp concentrations approximately 1.5 km, 3.5 km, and 5 km north of Scripps Pier. Small canopies were observed in various locations in the area from 2008 through 2013, but this bed was not observed from 2014 through 2019 (Appendices A.67 and A.68).

No surface canopy or subsurface kelp was visible during the January 2020 vessel survey (Table 4).

III.2.G - LA JOLLA

La Jolla. This kelp bed decreased in size by only 22%, from 1.566 km^2 in 2018 to 1.227 km^2 in 2019 (Table 3). The canopy area in 2019 was 26% of the maximum recorded in 1989 (Appendix B.4; Figure 7).

La Jolla kelp bed is composed of two canopies: northern La Jolla and southern La Jolla. Between southern La Jolla and Upper Point Loma (offshore Mission Bay), nearshore habitat is mostly sand and kelp does not grow in this area (Appendices A.70 and A.71). The La Jolla kelp bed decreased in size considerably from 2013 through 2017, resulting in the smallest canopy size since 2006. After more than doubling in size in 2018, the La Jolla kelp bed decreased in size by approximately 20% in 2019 (Appendices A.68 through A.70; Figure 7).

During the January 2020 vessel survey, the La Jolla North kelp bed surface canopy was scattered, covering an estimated area approximately 100 to 200 meters wide (Table 4). Subsurface kelp was visible on the fathometer. The La Jolla South kelp bed surface canopy was continuous from the south to north end, ranging from 100 to 300 meters in width. The density of the surface canopy was lower inshore than offshore. Tissue color was 60% light yellow and 40% dark yellow, with 2 to 5% apical meristems, and the fronds had 60 to 70% encrustation. The kelp bed was composed of approximately 5% senile and 95% mature fronds. Subsurface kelp was visible on the fathometer at a depth of approximately 70 feet.

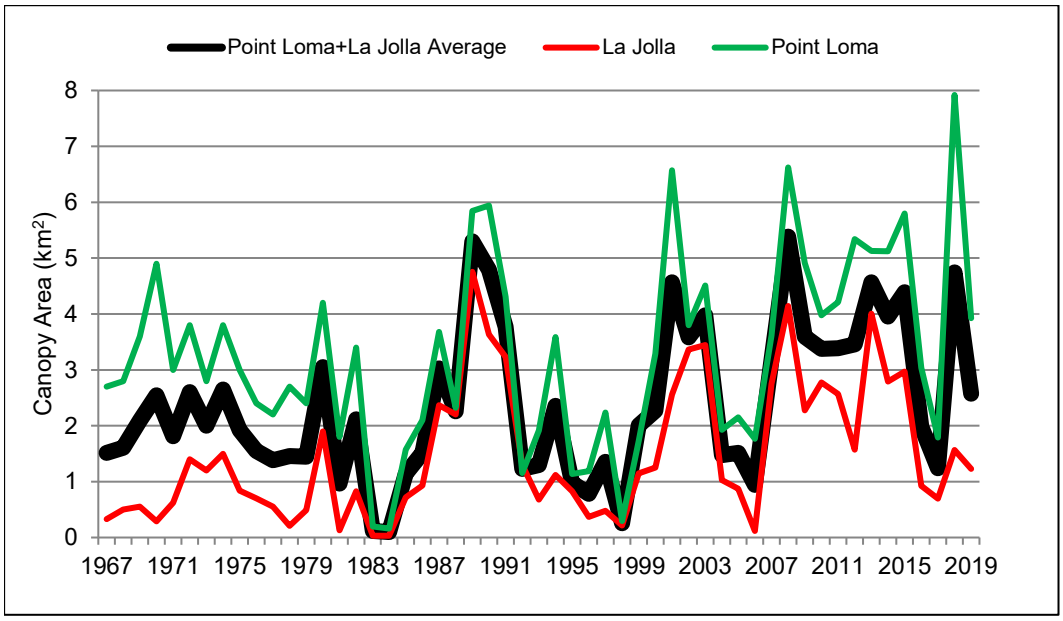


Figure 7. Comparisons between the Point Loma/La Jolla Average ABAPY and canopy coverage of the La Jolla and Point Loma kelp beds from 1967 to 2019.

III.2.H - POINT LOMA TO CORONADO BEACH

Point Loma. This kelp bed decreased in size by 50%, from 7.920 km^2 in 2018 to 3.923 km^2 in 2019 (Table 3). The canopy area in 2019 was 50% of the maximum recorded in 2018 (Appendix B.4; Figure 7).

The Point Loma kelp bed comprises many, usually contiguous, kelp canopies ranging from depths of 5 to greater than 30 meters during years with sufficient nutrients. *Pelagophycus porra* is prevalent beyond about 30 meters depth at Point Loma (Turner et al. 1968). It is the largest bed in Region Nine. The canopy at Point Loma maintained a relatively large size (more than 5 km^2) from 2013 through 2015. However, decreases in 2016 and 2017 resulted in the smallest sizes measured since 2006. In 2018, the Point Loma kelp bed increased in size considerably, reaching the maximum size observed since RNKSC surveys began in 1983. Even with the decrease in size observed in 2019, this kelp bed remains larger than in 2016 or 2017 (Appendices A.71 through A.74; Figure 7).

During the January 2020 vessel survey, the surface canopy was continuous from the south to the north end at the Point Loma North kelp bed, and was estimated at approximately 200 meters in width (Table 4). Tissue color was 50% light yellow and 50% dark yellow, with no encrustation on the fronds and 1 to 2% apical meristems. Subsurface kelp was visible on the fathometer. A continuous surface canopy from the south to the north end also was visible at the Point Loma South kelp bed, and also was estimated at approximately 200 meters in width. Tissue color was 100% dark yellow, with 30% encrustation of the fronds and 1% apical blades. The kelp bed was composed of approximately 1% senile, 98% mature and 1% young fronds. Scattered kelp was observed just below the surface, with heavy encrustation of the fronds and many apical meristems.

III.2.I - CORONADO BEACH TO U.S./MEXICO BORDER

No kelp was observed at Coronado Beach (Appendix A.76) or Silver Strand (Appendix A.77), which are not designated kelp beds, during aerial overflights or during the January 2020 vessel survey.

Imperial Beach. This kelp bed was not observed in 2019, nor was it visible in 2018 (Table 3).

The surface canopy area of the Imperial Beach kelp bed has fluctuated considerably from year to year, reaching its highest levels in 2008 and 2015 (Appendices A.79 and A.80; Figure 6). No surface canopy was observed in 2017 for the first time since 1998, nor was it visible in 2018 or 2019.

No surface or subsurface kelp was visible at the Imperial Beach kelp bed during the January 2020 vessel survey (Table 4).

IV – DISCUSSION

IV.1 - REGION NINE KELP BEDS

One objective of the RNKSC program is to answer several basic monitoring questions regarding the status of kelp beds within the region:

1. What is the maximum areal extent of the coastal kelp bed canopy each year?
    - the total kelp canopy covered 5.2 km^2 in 2019.
2. What is the variability of the coastal kelp bed canopy over time?
    - the total kelp canopy decreased in size in 2019 by 53% (from 11.0 km^2 to 5.2 km^2);
    - none of the kelp beds increased in size in 2019
    - all 18 kelp beds with visible surface canopy present in 2018 decreased in size in 2019
3. Are coastal kelp beds disappearing? If yes, what are the factors that could contribute to the disappearance?
    - 10 kelp beds disappeared in 2019: South Laguna, Dana Point/Salt Creek, Capistrano Beach, Horno Canyon, Barn Kelp, North Carlsbad, Encina Power Plant, Encinitas, Cardiff, and Solano Beach. Higher than normal sea surface temperatures and low nutrient availability could have contributed to the disappearance of these 10 kelp beds.
    - Six other kelp beds continued to display no surface canopy in 2019: Santa Maragarita and Torrey Pines, which disappeared in 2014; Agua Hedionda and Del Mar, which disappeared in 2016; Imperial Beach, which disappeared in 2017, and Carlsbad, which disappeared in 2018. Above average sea surface temperatures and low nutrient availability may have contributed to the continued absence of surface canopy at these six kelp beds.
4. Are new kelp beds forming?
    - No kelp beds reappeared in 2019.

The total kelp canopy in Region Nine covered approximately 5.2 square kilometers in 2019, which was similar to the total kelp canopy recorded in 2016 (5.1 square kilometers), but larger than the total for 2017 (3.3 square kilometers), the lowest amount of total kelp canopy since 2006 (Table 5, Figure 8). The largest kelp beds were the La Jolla and Point Loma kelp beds, which accounted for 99 percent of the total canopy coverage in 2019. The surface canopy areas of the La Jolla and Point Loma beds were at 26% and 50% of the maximum extent recorded since 1983. However, all of the other kelp beds were at 10% or less of their maximum size (Figure 2), and most were at their lowest levels in years (Solano Beach canopy area was the smallest since 1983, San Mateo Point was the smallest since 1998, and others were the smallest since 2005 to 2009).

Vessel surveys of all Region Nine kelp beds were conducted in January 2020. Visual observations indicated that kelp canopy was present at North Laguna Beach and Dana Point/Salt Creek, but no surface canopy was observed at South Laguna Beach, South Laguna, or from Capistrano Beach to Leucadia North. Surface canopy was also present at Leucadia Central, Leucadia South, Encinitas, Solana Beach, La Jolla, and Point Loma. Subsurface kelp was observed at many bed locations, even those without visible surface canopy. In-water surveys conducted in January 2020 at three kelp beds, Dana Point/Salt

Creek, Leucadia North, and Encina Power Plant, recorded limited numbers of giant kelp individuals on the bottom at each location.

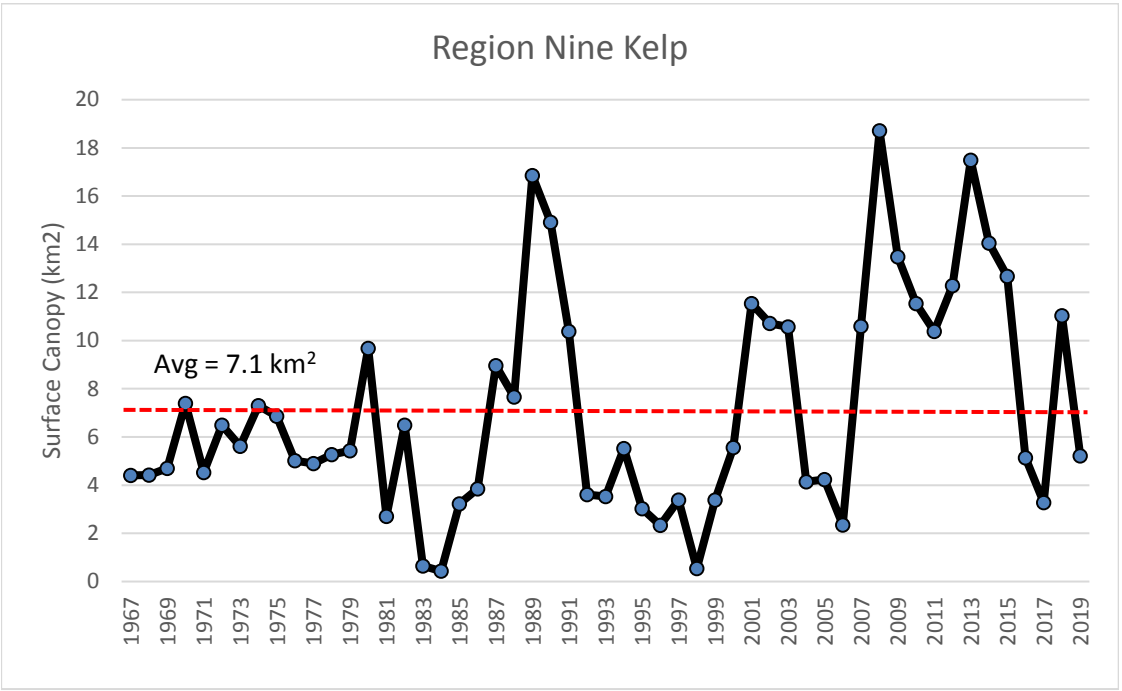


Figure 8. Combined canopy coverage of all kelp beds off Orange and San Diego Counties from 1967 through 2019.

IV.2 - ENVIRONMENTAL VARIABLES

The productivity and growth of giant kelp forests along the west coast of the United States has been shown to be limited by dissolved inorganic nitrogen, mainly in the form of nitrate (Wheeler and North, 1980; Zimmerman and Kremer, 1984). In the upper ocean (depths less than 200 meters), nitrate concentrations were strongly dependent on density and temperature (Kamykowski and Zentara, 1986). However, temperature apparently accounted for less than half of the variability in canopy area or density of giant kelp within the California Current System (CCS) (North et al, 1993; Tegner et al, 1996). Seawater density has been shown to predict nitrate concentrations in nearshore southern California ocean waters better than temperature, and has been utilized to identify the relative contributions of nitrate concentrations within the CCS from different source waters, primarily including subarctic water, upwelled undercurrent water, subtropical water, and surface runoff (Lynn and Simpson, 1987; Parnell et al, 2010).

Table 5. Canopy coverage (km^2) of the kelp beds from Laguna Beach to Imperial Beach (kelp beds listed from north to south) from 2009 through 2019.

Kelp Bed	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
N Laguna Beach	0.093	0.147	0.192	0.142	0.120	0.080	0.074	0.096	0.133	0.015
S Laguna Beach	0.098	0.221	0.214	0.273	0.165	0.048	0.035	0.032	0.131	0.007
South Laguna	0.023	0.018	0.017	0.038	0.031	0.016	0.006	0.003	0.048	-
Dana Pt/Salt Crk	0.839	0.442	0.607	0.835	0.528	0.137	0.110	0.133	0.379	-
Capistrano Beach	0.124	0.010	0.056	0.099	0.034	0.007	0.012	0.0004	0.018	-
Total F&W 9	1.178	0.838	1.086	1.385	0.879	0.287	0.237	0.264	0.709	0.022
San Clemente	0.710	0.795	0.874	1.097	0.843	0.343	0.187	0.229	0.335	0.031
San Mateo Point	0.583	0.203	0.216	0.219	0.199	0.062	0.053	0.033	0.083	0.0001
San Onofre	0.458	0.127	0.191	0.767	0.584	0.043	0.120	0.087	0.127	0.001
Total F&W 8	1.750	1.124	1.281	2.083	1.627	0.449	0.359	0.349	0.545	0.032
Horno Canyon	0.081	-	0.008	0.125	0.055	0.019	0.010	0.011	0.008	-
Barn Kelp	0.500	0.095	0.442	0.868	0.741	0.085	0.133	0.096	0.092	-
Santa Margarita	-	-	-	0.080	-	-	-	-	-	-
Total F&W 7	0.581	0.095	0.450	1.073	0.795	0.104	0.143	0.107	0.100	0.000
North Carlsbad	0.078	0.017	0.052	0.125	0.086	0.047	-	0.004	0.038	-
Agua Hedionda	0.031	0.022	0.046	0.102	0.065	0.016	-	-	-	-
Encina Power Plant	0.176	0.084	0.216	0.352	0.221	0.159	0.009	0.025	0.045	-
Carlsbad St. Bch	0.069	0.024	0.058	0.178	0.065	0.061	-	0.001	-	-
Total F&W 6	0.354	0.147	0.372	0.757	0.437	0.282	0.009	0.031	0.083	0.000
Leucadia	0.215	0.119	0.232	0.541	0.279	0.414	0.033	0.010	0.053	0.009
Encinitas	0.128	0.124	0.260	0.231	0.112	0.113	0.009	0.003	0.033	-
Cardiff	0.213	0.395	0.459	0.590	0.299	0.318	0.024	0.003	0.005	-
Solana Beach	0.328	0.504	0.442	0.606	0.504	0.316	0.138	0.029	0.024	-
Del Mar	0.038	0.074	0.024	0.056	0.027	0.034	-	-	-	-
Torrey Pines	0.003	0.031	0.034	0.081	-	-	-	-	-	-
Total F&W 5	0.925	1.247	1.452	2.106	1.221	1.195	0.204	0.045	0.114	0.009
La Jolla F&W 4	2.776	2.565	1.569	4.006	2.790	2.968	0.927	0.694	1.566	1.227
Point Loma F&W 3&2	3.977	4.212	5.340	5.127	5.121	5.806	3.037	1.787	7.920	3.924
Imperial Beach F&W 1	0.004	0.152	0.333	0.526	1.183	1.576	0.217	-	-	-
TOTAL	11.545	10.379	11.882	17.064	14.053	12.667	5.134	3.277	11.037	5.213

Red denotes warm-water years, **blue** denotes cold-water years, and neutral years are in **black**

"-" = no canopy area

IV.2.A - WATER TEMPERATURE

Sea surface water temperature (SST) data is discussed below and has been used as a surrogate for nutrient availability (water temperature is inversely related to nutrient availability). Although there appears to be good evidence that seawater density also can be used as a surrogate, and in some cases, may predict nutrient availability better than temperature (Parnell et al 2010), long-term measurements of density were not available for broad areas of Region Nine. In contrast, nearshore temperature measurements have been ongoing for decades, resulting in readily accessible data sets.

Oceanographic data from shore stations, data buoys, and thermistor strings were used to determine potential effects on kelp bed extent during the study year. These data sources included:

- Water temperature data from automated shore stations at Newport Pier and Scripps Pier. At these locations, automated samplers measured conductivity, temperature, and fluorometry at a frequency of one to four minutes. Samplers were mounted at a depth of 2 meters MLLW at Newport Pier, and at 5 meters MLLW at Scripps Pier. These data were made available in real time via the Southern California Coastal Ocean Observation System (SCCOOS) website (**www.sccoos.org**).
- Water temperature data from the National Data Buoy Center (NDBC) for Oceanside and Point Loma South were available in real time via the NDBC website (**www.ndbc.noaa.gov**). These data buoys recorded water temperature, and wave height, period, and direction at least every 30 minutes (frequency varies for each buoy) from approximately one meter below the waterline.
- Water temperature data were provided by the City of San Diego's Ocean Monitoring Program from a thermistor string approximately 3.8 kilometers west-northwest of Point Loma in 60 meters of water (City of San Diego 2019). Sensors were placed at four-meter intervals from near the sea surface to a depth of 54 meters MLLW.
- Water temperature data were also provided by Orange County Sanitation District from a thermistor mooring located approximately eight kilometers offshore (-118.02220, 33.57620) and upcoast of the outfall in 60 meters of water (Orange County Sanitation District, 2020).

Sea surface temperatures (SST) from Newport Pier, Oceanside, Scripps Pier, and Point Loma South, as well as the Scripps Pier long-term harmonic mean, are presented in Figure 9. Graphs of SST values at each of these individual locations are presented in Appendix C.

Water temperatures throughout the RNKSC region were generally warmer than average throughout most of 2019, particularly from September through December (Figure 9). However, lower than normal temperatures were recorded at Newport Pier during most of April, May, and August, as well as occasionally during March, June, and July. Lower than normal water temperatures were also recorded at Scripps Pier at times from February through October, particularly during the months of June, July and August. Water temperatures at Oceanside and Point Loma South were lower than normal occasionally during the months of February through August and in October, but less frequently than at Newport Pier or Scripps Pier. Daily SST values rarely fell below 14ºC,a threshold below

which nutrient availability is increased (Schiel and Foster, 2015)) at Newport Pier and Scripps Pier, but never fell below this threshold at Oceanside or Point Loma South. Overall, the pattern of SST values in 2019 was similar to 2018.

Unfortunately, while SST data were available at several locations in the RNKSC region, sub-surface water temperature data were not as extensive or readily available.

Temperature monitoring accomplished via a thermistor string deployed off Point Loma in 2019 was limited since data for temperatures at the surface down to approximately 15 meters depth were missing from January through August. In September and October, water temperatures were warm in the upper 15 meters of the water column. From November through mid-December, water temperatures were warm to depths up to 50 meters (Figure 10).

Temperature monitoring, also accomplished via a thermistor string deployed offshore of Orange County, was limited since all data from January through August were missing, due to the inability by Orange County Sanitation District personnel to service the mooring due to the COVID pandemic. From June through October, water temperatures in the upper water column from 1 to 10 meters depth were warmer (approximately 17 to 23°C) than at lower depths from 15 to 60 meters (approximately 11 to 16.5 ^{o}C). In November and December, water temperatures were cool throughout the water column (Figure 11).

The number of days with SST values <14°C increased slightly in 2019 at Newport Pier (from 1 to 6 days) and decreased slightly at Scripps Pier (from 12 to 5 days) (Figure 12). These values were well below the long-term mean (1994-2018) for Newport Pier (52 days) and lower than the long-term mean for Scripps Pier (16 days). This continues the trend observed over the past several years, as the number of days with water temperatures <14°C has been lower than usual since 2014.

The number of days with water temperatures >18°C in 2019 increased slightly at Newport Pier (from 137 to 146 days), but the number of days with water temperatures >16°C and >20°C decreased (from 254 to 235 days, and from 69 to 61 days, respectively (Figure 9). At Scripps Pier, the number of days with warm temperatures decreased for all three thresholds in 2019. Overall, the pattern of unusually warm SST values observed since 2014 has continued.

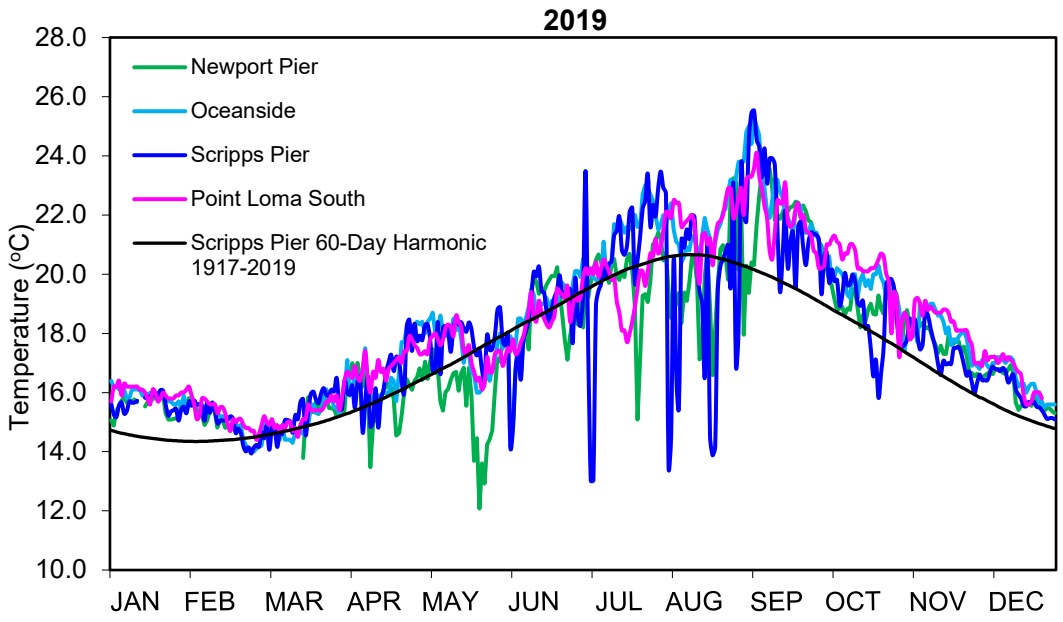


Figure 9. Daily sea surface temperatures (SSTs) at Newport Pier, Oceanside, Scripps Pier, and Point Loma South for 2019, and the long-term harmonic mean for Scripps Pier SIO 60-Day Harmonic calculated from 1917 through 2019). Source: Southern California Coastal Ocean Observation System (SCCOOS) (www.sccoos.org) and National Data Buoy Center (NDBC) (www.ndbc.noaa.gov).

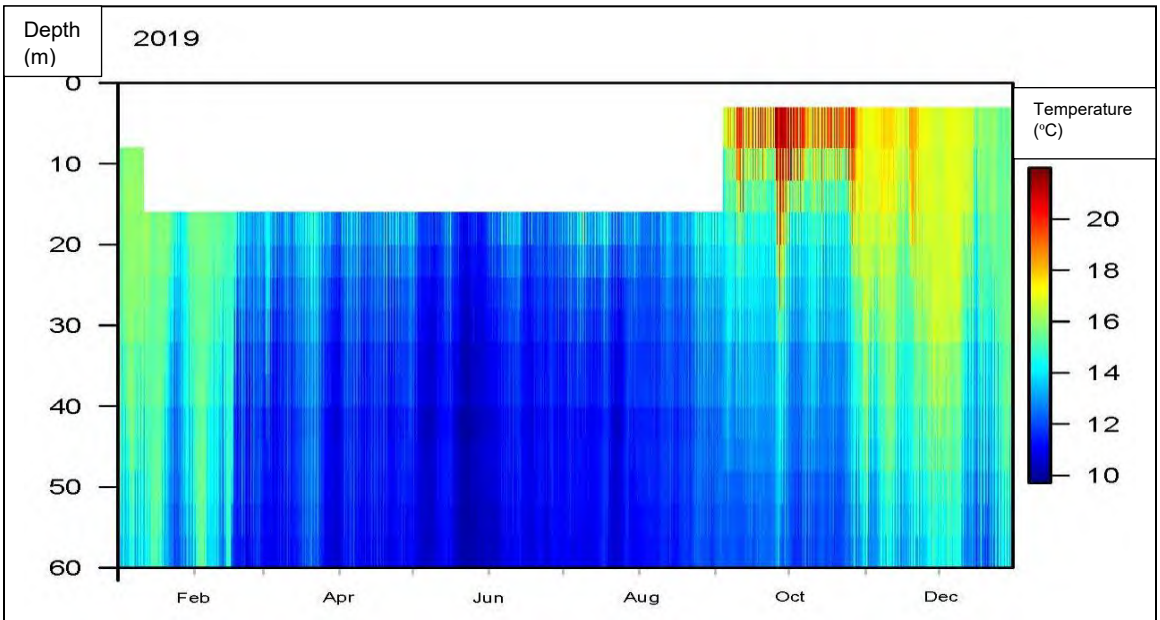


Figure 10. Temperatures (°C) throughout the water column (near surface to a depth of 60 m) off Point Loma during 2019. Source: City of San Diego, 2020.

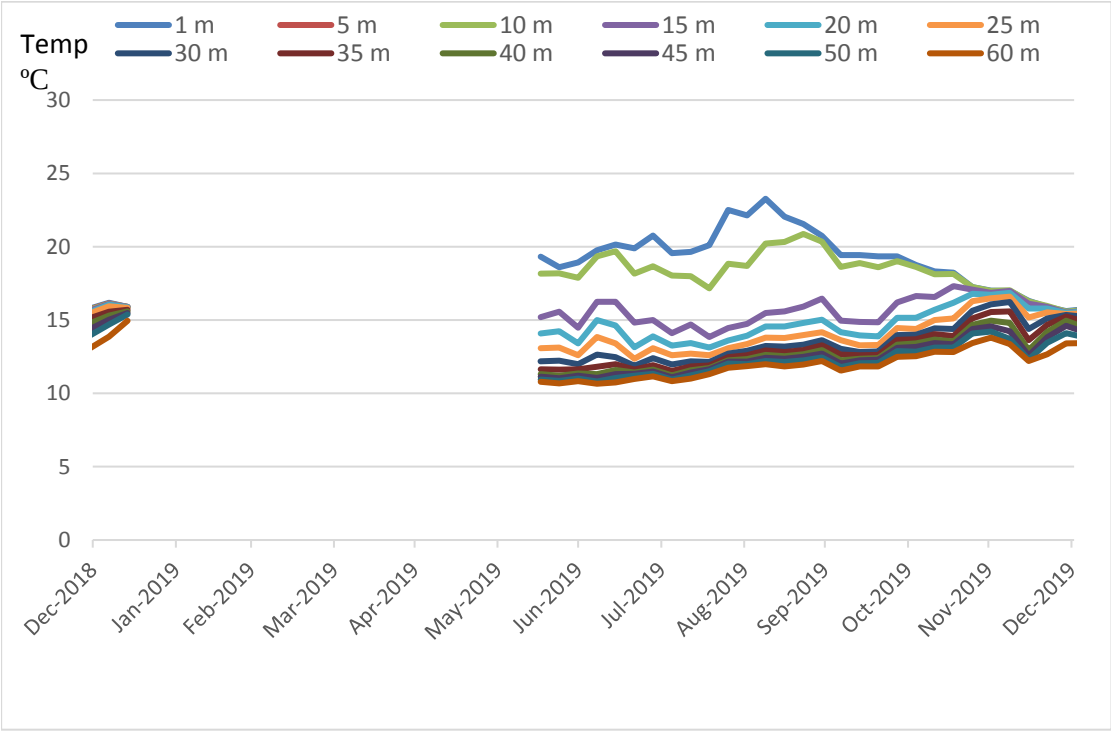


Figure 11. Temperatures (°C) throughout the water column (near surface to a depth of 60 m) off Orange County during 2019. Source: Orange County Sanitation District, 2020.

IV.2.B - NUTRIENTS

The Nutrient Quotient (NQ) Index described by North and MBC (2001) provides a useful indicator of the amount of nitrate that is theoretically available for uptake by kelp (in micrograms-per-gram per-hour) (Haines and Wheeler 1978; Gerard 1982). This method allows for an inter-annual comparison of the nutrients available to kelp, making it possible to pinpoint those years when nutrients were either abundant or depleted, and to establish possible temporal trends.

This index is calculated for the 12-month period from July 1 through June 30 (i.e., the 2019 NQ Index values shown on Figure 13 corresponded to the period from July 1, 2019 to June 30, 2020). The NQ Index was calculated for each of four locations (Newport Pier, Oceanside, Scripps Pier, and Point Loma) by averaging the early-morning SST values at each station for each of the 12 months, assigning a point score to each monthly SST average (1 point if the average falls between 16.01 and 17.00°C, 2 points if between 15.01 and 16.00°C, 4 points if between 14.01 and 15.00°C, 8 points if between 13.01 and 14.00°C, and 14 points if between 12.01 and 13.00°C. The NQ for the 12-month period was the sum of the monthly point scores.

The NQ calculations for four locations in Region Nine in 2019/2020 are shown in Table 7. The 2019/2020 NQ Index was calculated to be 8 for Newport Pier, 7 for Oceanside, 7 for

Scripps Pier, and 6 for Point Loma (Table 7). The NQ Indices for all four locations were slightly lower in 2019 than the previous year (Figure 13). This continues the pattern of below average NQ Index levels observed since 2013.

The size of kelp beds in 2019 were likely influenced by the 2018/2019 NQ Index (covering the period from July 2018 through June 2019), since the maximum extent of surface canopy at all of the Region Nine kelp beds occurred in March or June. Although nutrient availability appeared to be similar in 2018 and 2019 based on the NQ Index, the size of the kelp beds in Region Nine decreased considerably in 2019. Upwelling was lower in 2019 than in 2018 during the months of March, May, and June, which may have reduced nutrient availability in 2019, resulting in decreased surface canopy coverage. Overall, the pattern of low nutrient availability observed since 2013 has continued.

The nutrient climate has shifted from waters with sufficient nitrate prior to the 1976/1977 regime shift, to depleted conditions thereafter (Parnell et al. 2010). The sensitivity of kelp canopies to nutrient limitation appeared to have increased after 1977 and was evident by the strong correlation of seawater density (δ_t) and density of giant kelp (Parnell et al. 2010). Unfortunately, density data were not available throughout the RNKSC region. The NQ index recorded during the 1997/1998 El Niño indicated a particularly bad year for kelp beds in the Southern California Bight. During that season, NQ values ranged from 3 to 11. In contrast, during 1988/1989, a year in which kelp beds reached their maximum extents in several decades, NQ values ranged from 27 to 39 (Figure 13). The variability in SSTs and nutrients was driven by prevailing flow characteristics and bathymetric features that resulted in periodic upwelling along the rocky shores of the coastline, particularly at the Dana Point, La Jolla, and Point Loma kelp beds.

Table 6. Comparison of mean temperature from 1994 through 2019 versus annual mean temperature from 2011 through 2019 at Newport Pier, and Scripps Pier.

		Annual Mean SST (°C)								
	Mean SST (°C) (1994–2018)	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Newport Pier	**16.7**	15.9	16.6	16.7	18.0	18.4	17.8	17.8	17.9	17.6
Scripps Pier	**17.7**	15.7	16.6	17.0	18.8	18.9	17.7	17.9	18.6	17.8

Note: red cells indicate years above the long-term mean, white cells indicate years equivalent to the mean, and blue cells indicate years below the long-term mean.

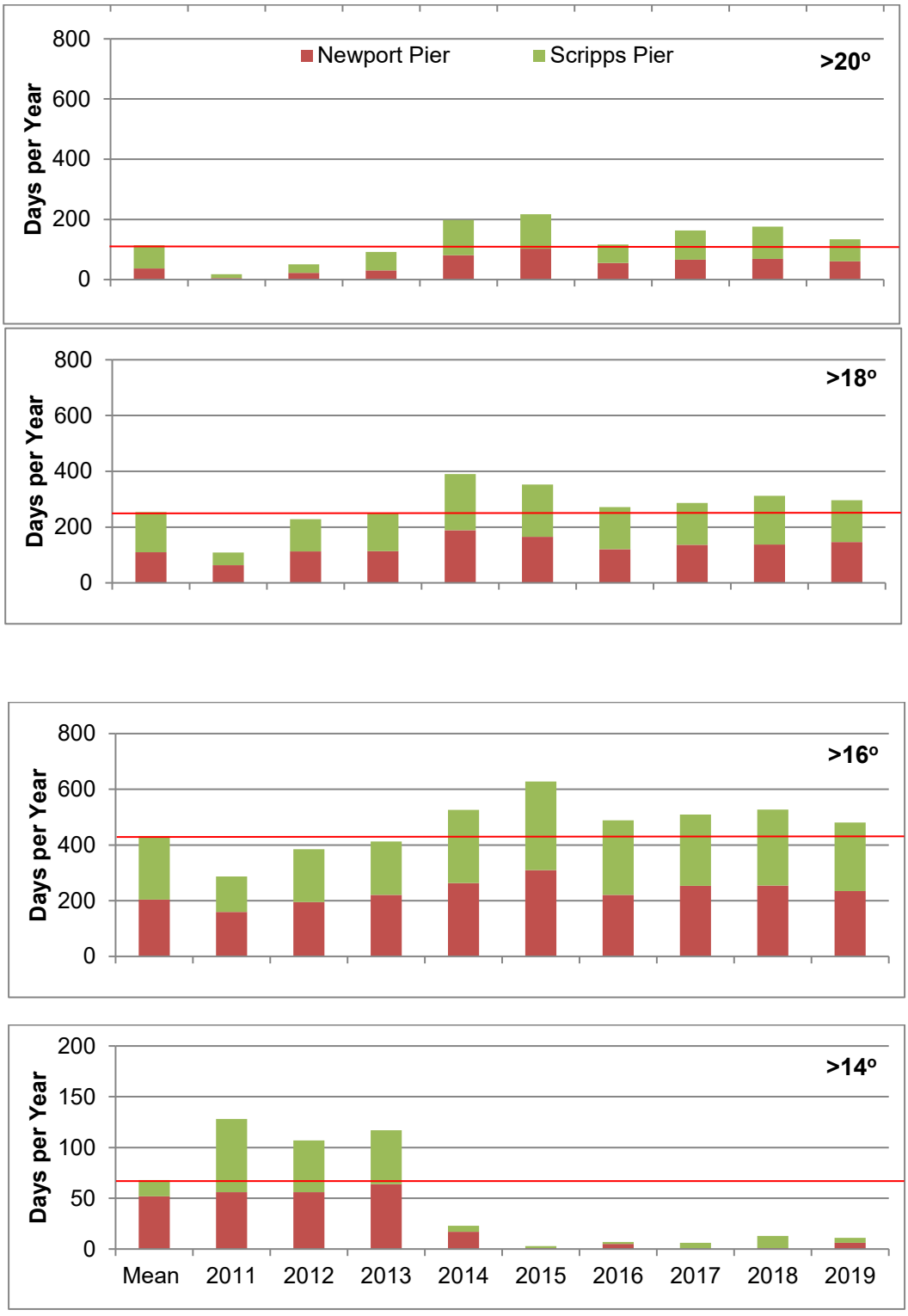


Figure 12. Number of days with SSTs >20°C, >18°C, >16°, and <14°C at Newport Pier and Scripps Pier from 2011 to 2019, and the mean from 1994 to 2018 (red line).

Table 7. Nutrient Quotient calculations for period from July 2019 to June 2020.

Sites	Monthly Average Temperature Ranges (°C) (Weighting Factor Per Month)					Total Nutrient Quotient (Calculation Formula)
	12.01 to 13.00 (14 pts)	13.01 to 14.00 (8 pts)	14.01 to 15.00 (4 pts)	15.01 to 16.00 (2 pts)	16.01 to 17.00 (1 pt)	
Newport Pier				Jan 2020 Feb 2020 Mar 2020	Dec 2019 Apr 2020	(4 pts x 0) + (2 pts x 3) + (1 pt x 2) = 8
Oceanside				Jan 2020 Feb 2020	Dec 2019 Mar 2020 Apr 2020	(4 pts x 0) + (2 pts x 2) + (1 pt x 3) = 7
Scripps Pier				Jan 2020 Feb 2020	Dec 2019 Mar 2020 Apr 2020	(4 pts x 0) + (2 pts x 2) + (1 pt x 3) = 7
Point Loma				Jan 2020 Feb 2020	Dec 2019 Mar 2020	(4 pts x 0) + (2 pts x 2) + (1 pt x 2) = 6

IV.2.C – UPWELLING

The frictional stress of equatorial wind on the ocean's surface, combined with the effect of the earth's rotation, causes water in the surface layer to move away from the western coast of continental land masses. This offshore moving water is replaced by water which upwells, or flow toward the surface, from depths of 50 to 100 meters or more. Upwelled water is cooler and saltier than the original surface water, and typically has much greater concentrations of nutrients, such as nitrates, phosphates and silicates, that are key to sustaining biological production.

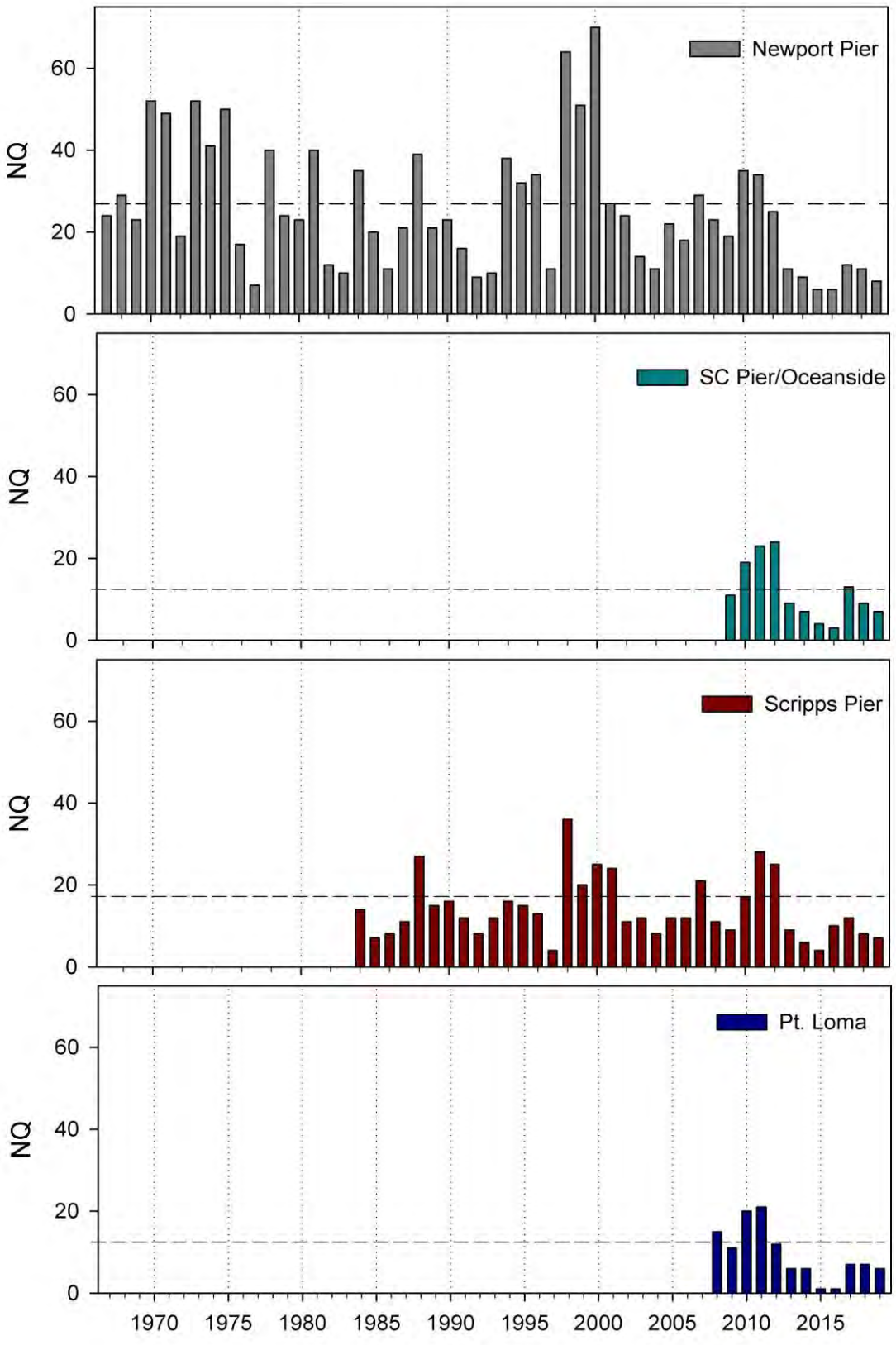


Figure 13. Nutrient Quotient (NQ) values in Region Nine, 1967 to 2019 (dotted line = long-term mean for site).

The upwelling index in 2019 (at a location approximately 161 km west of Solana Beach) generally increased each month from January through August, then decreased through December (Figure 14 A). The Upwelling Anomaly Index demonstrates that upwelling in 2019 was much higher than the long-term mean (1946-2018) during the months of July and August, but lower than usual during March, May, and June (Figure 14 B). The monthly PFEL Upwelling Index was lower in 2019 than during 2018 for the months of March, April, May and June (Figure 15), when surface water temperatures generally were lower and more nutrients would be available. However, upwelling was higher in 2019 than the previous year during the months of July, August, and September. Unfortunately, this corresponded to the period of the year when surface water temperatures were highest and nutrient availability was lowest.

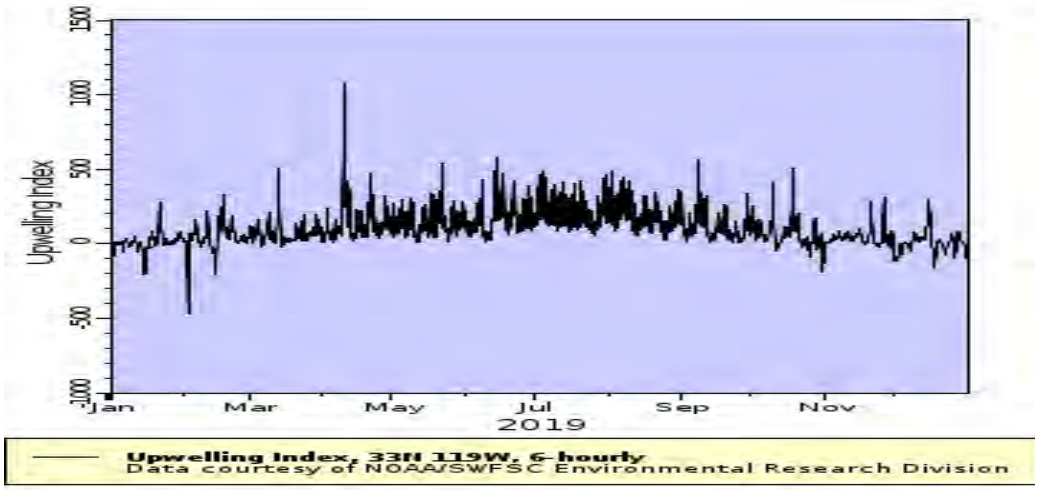
IV.2.D - ENVIRONMENTAL INDICES

The ENSO is the most important coupled ocean-atmosphere phenomenon affecting inter-annual climate variability. ENSO can be monitored via the Multivariate ENSO Index (MEI), which is based on a suite of six variables observed over the tropical Pacific Ocean (sea-level pressure, zonal and meridional components of the surface wind, the sea surface temperature, the surface air temperature, and the total cloudiness fraction of the sky) (**https://www.esri.noaa.gov/psd/enso/mei/**). Negative values of the MEI represented the cold ENSO phase (i.e., La Niña), while positive MEI values represented the warm ENSO phase (El Niño).

The North Pacific Gyre Oscillation (NPGO) is a climatic pattern that is based on sea surface height variability in the Northeast Pacific Ocean. The NPGO was significantly correlated with fluctuations of salinity, nutrients, and chlorophyll-*a* measured in long-term observations in the California Current and Gulf of Alaska. Fluctuations in the NPGO were driven by regional and basin-scale variations in wind-driven upwelling and horizontal advection, which were the fundamental processes controlling salinity and nutrient concentrations. Nutrient fluctuations drove concomitant changes in phytoplankton concentrations and may have resulted in similar variability in higher trophic levels (**http://www.o3d.org/npgo/**).

The Pacific Decadal Oscillation (PDO) is a long-lived El Niño-like pattern of Pacific climate variability. The PDO and ENSO had similar spatial climate fingerprints but exhibited very different behavior in time. While twentieth century PDO events typically persisted for 20 to 30 years, typical ENSO events tended to persist for only 6 to 18 months. A “cool” PDO regime persisted from 1890 through 1924 and again from 1947 through 1976, while a “warm” PDO regime dominated from 1923 through 1946 and from 1977 through the mid-1990s. Warm eras correlated with enhanced coastal ocean biological productivity in Alaska and inhibited productivity off the west coast of the United States, while cold PDO eras produced the opposite (**http://research.jisao.washington.edu/pdo**). Causes for PDO fluctuations are not currently known.

A



B

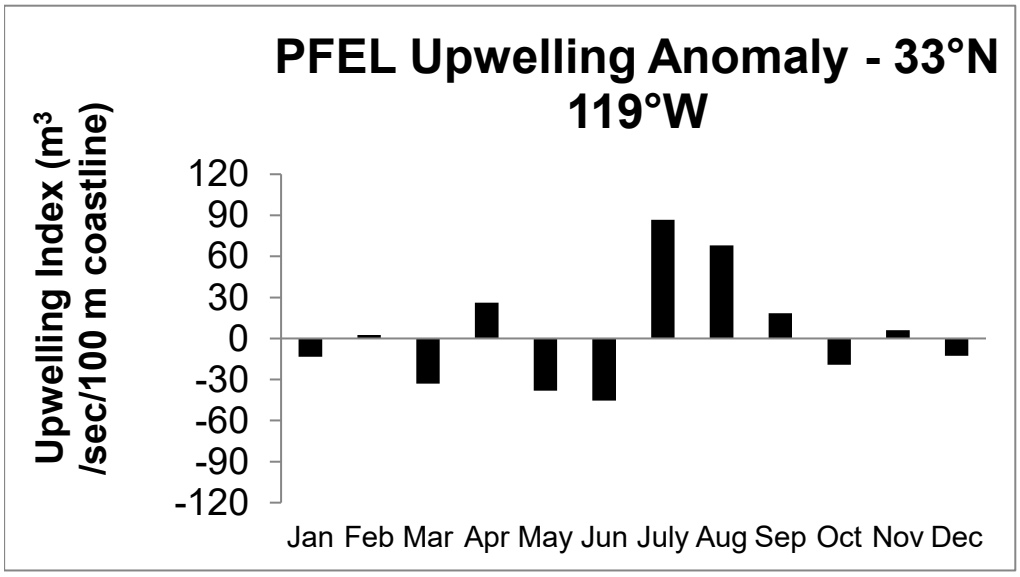


Figure 14. (A) Daily Upwelling Index (UI) at 33°N 119°W for 2019. (B) UI anomaly at 33°N 119°W in 2019 (compared to 71-year monthly mean from 1946 through 2018) (positive values indicate upwelling greater than long-term mean; negative values indicate upwelling less than long-term mean). Source: http://www.pfeg.noaa.gov/products/PFEL/modeled/indices/upwelling/NA).

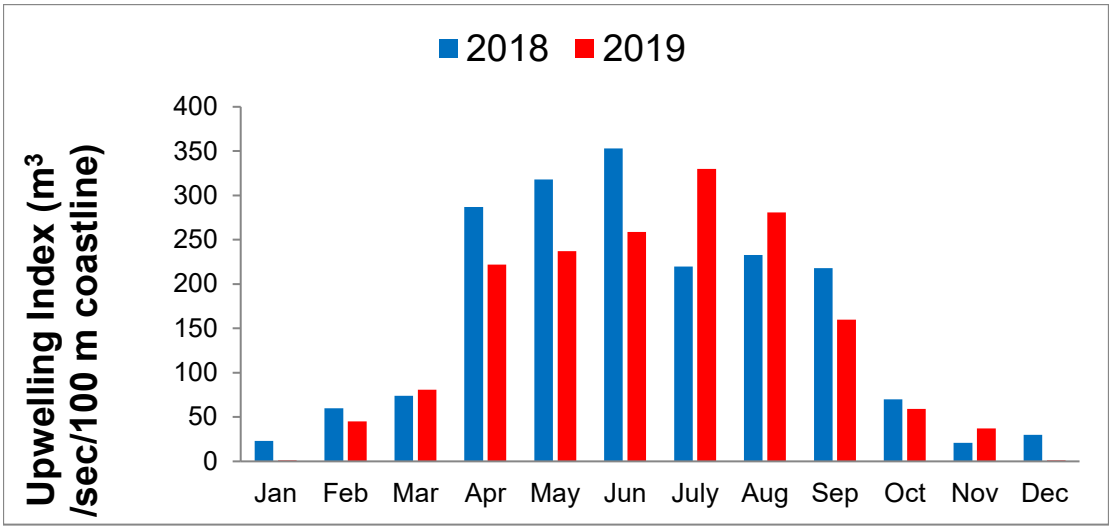


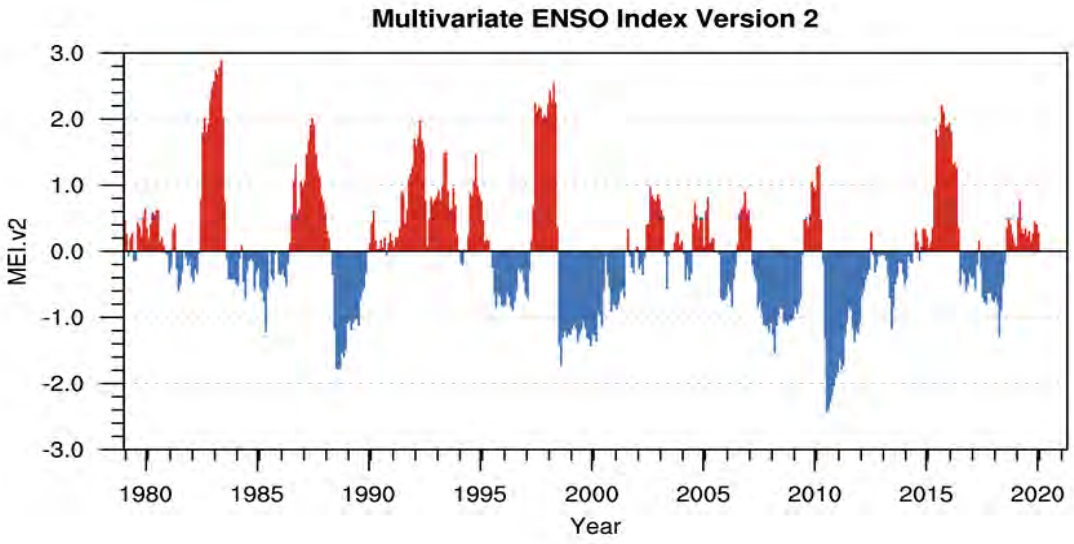
Figure 15. Monthly PFEL upwelling index at 33°N 119°W for 2018 and 2019. Source: http://www.pfeg.noaa.gov/products/PFEL/modeled/indices/upwelling/NA).

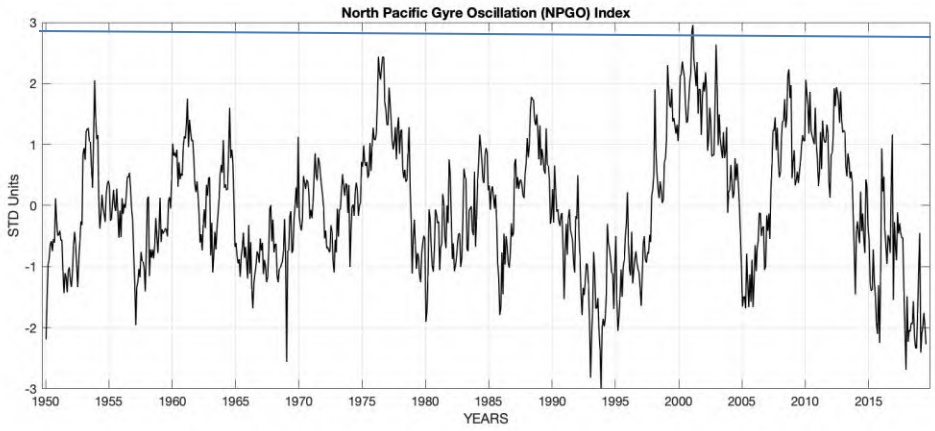
The MEI and PDO changed phase about the same time in 2014; the MEI transitioned from negative to positive in April 2014, and the PDO became positive in January 2014 (Figure 26; Mantua 2017; and NOAA-ESRL 2018). The MEI transitioned back to negative in September 2016 but became positive from April through August 2017 before transforming to negative for the remainder of the year (Figure 16). The MEI continued to be negative in early 2018 but shifted to positive in May and continued to be positive throughout 2019, indicating a warm ENSO phase which probably was unfavorable for kelp growth. The PDO remained positive since 2014, but index values indicated that more neutral conditions were present in 2018. However, higher values were recorded in 2019, also indicating a warm ocean regime which probably was unfavorable to kelp (Figure 16). The NPGO changed from positive to negative in October 2013 and has stayed negative for most of the time since then (although it was positive for five months in 2016). NPGO values were strongly negative throughout all of 2017, 2018, and 2019 (Figure 16; Di Lorenzo 2017). The PDO transition to positive indicated warmer temperatures in the North Pacific, while the NPGO transition to negative was indicative of lower productivity along the coast (Di Lorenzo et al. 2008; Leising et al. 2015), conditions that would be expected to adversely affect kelp beds.

IV.2.E - WAVE HEIGHTS

Sea and swell height data from Coastal Data Information Program (CDIP) data buoys located off Oceanside and Point Loma were available in real time via the CDIP website (**http://www.cdip.ucsd.edu**).

The directions of swells off Oceanside and Point Loma in 2019 were very similar to 2018 (Table 8). Off Oceanside, waves approached from the south-southwest (202.5°) approximately 43% of the time in 2019, from the south (180°) approximately 17% of the time, and from the west (270°) approximately 14% of the time (Table 8, Figure 17). Offshore of Point Loma, waves were from the south-southwest (202.5°) about 29% of the time, from the west about 26% of the time, and from the south (180°) approximately 17% of the time.





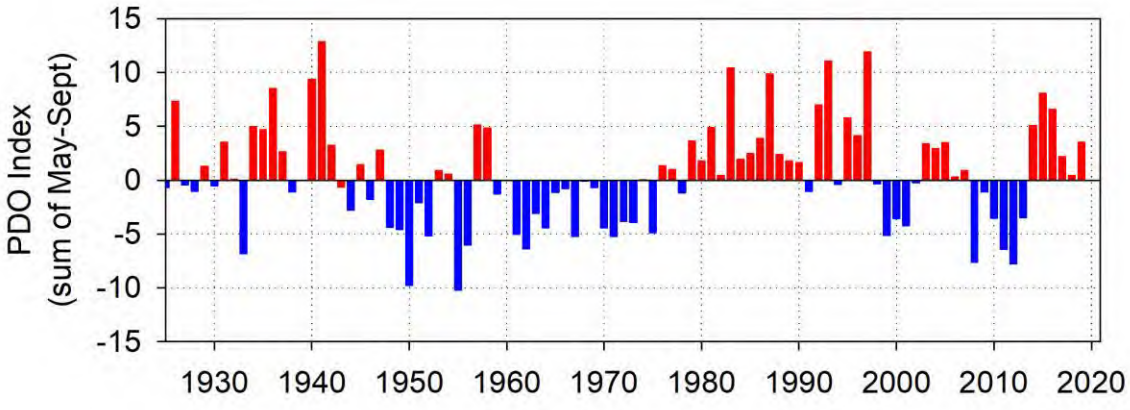


Figure 16. The Multivariate Enso Index (MEI), the North Pacific Gyre Oscillation Index (NPGO), and the Pacific Decadal Oscillation Index (PDO).

Table 8. Direction of swells in 2019. Source: http://cdip.ucsd.edu.

Direction	Oceanside	Pont Loma South
West (270°)	14%	26%
South (180°)	17%	17%
West-southwest (247.5°)	10%	7%
South-southwest (202.5°)	46%	29%
Southwest (225°)	13%	10%
West-northwest (292.5°)	2%	10%

High-energy waves that negatively affect kelp beds usually are low-frequency, high-amplitude waves approaching from the west. Wave heights at Oceanside (CDIP Buoy 045) only exceeded four meters on one date in 2019 (4.2 m on May 22) (Table 9). Wave heights were not as high as in 2018, when waves exceeded four meters in late February and late November/early December and reached a maximum of 4.9 m on both occasions (MBC 2019). Waves originated primarily from the south and south-southwest (Table 11), which would tend to have less effect on kelp beds than waves originating from the west. Waves exceeding three meters were rarely recorded throughout the year.

Waves originated from the west at Point Loma South (CDIP Buoy 191) approximately one-fourth of the time in 2019. The largest waves (five meters or more) were recorded on April 10 (5.3 meters), May 23 (5.0 meters), and November 21 (5.5 meters). However, none of these waves were as large as those recorded in 2018, which exceeded six meters in early January (maximum of 7.5 meters), mid-January, mid-February, and late November/early December (MBC 2019). Waves larger than four meters were recorded on fewer occasions in 2019 than in 2018.

The storms that occurred from March 12 through 14 produced large wave heights (Table 9) and large nearshore swells were evident along the coastline from Oceanside to San Diego on March 13, 2019 (Figure 18), although the largest waves were observed offshore. The storms that occurred from April 10 through 13 also produced large swells along the coastline from Oceanside to San Diego, but once again the largest waves were offshore (Figure 19). Similar conditions were produced by the storms that occurred on May 22 and 23 (Figure 20).

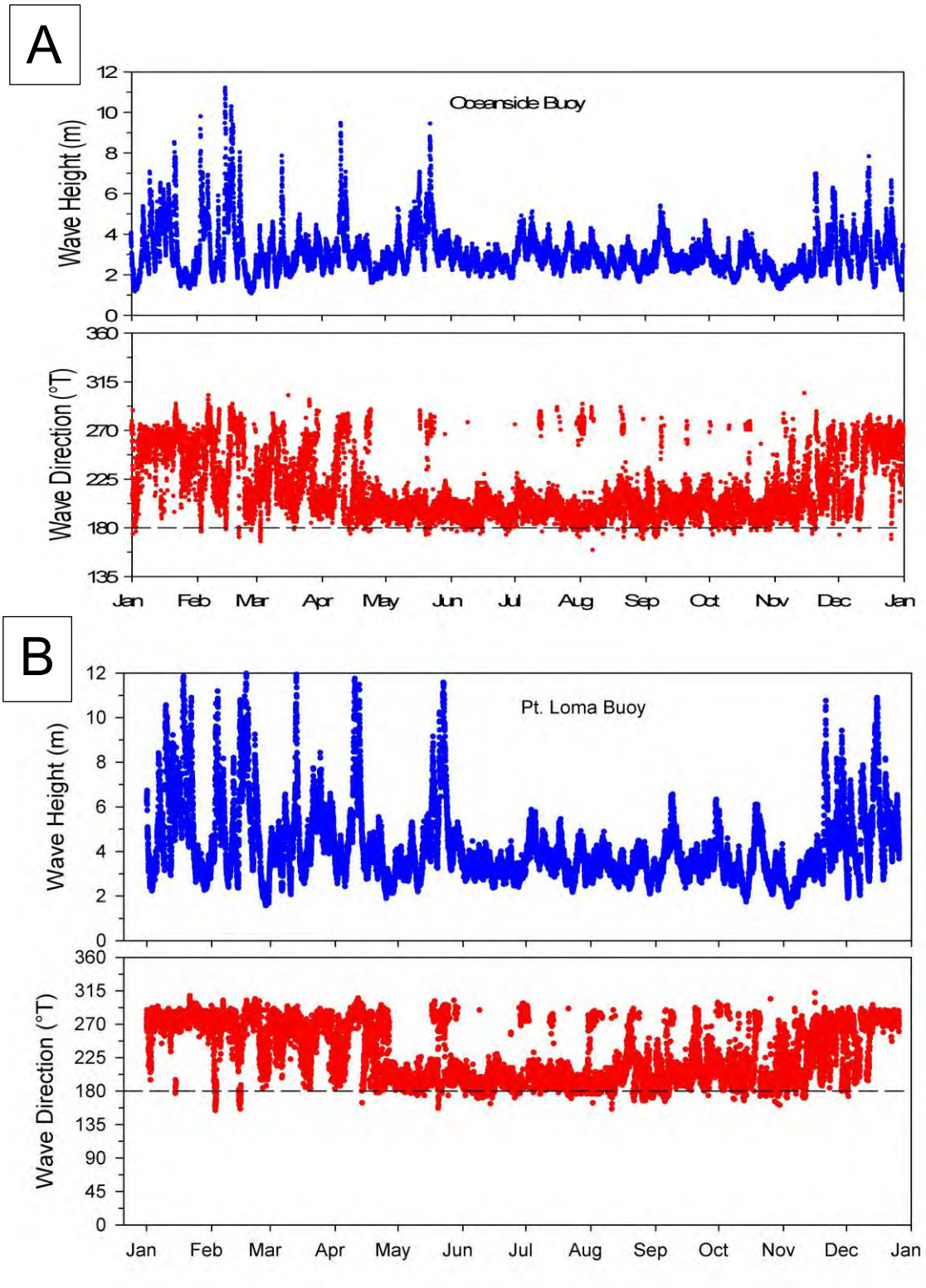


Figure 17. Wave height (blue) and direction (red) at: A) Oceanside Buoy and B) Point Loma Buoy from January through December 2019.

IV.2.F - RAINFALL

Periods of sustained high turbidity in southern California waters often result from high rainfall. Rainfall data for Costa Mesa and San Diego are shown in Figure 21.

The total amount of rainfall in 2019 was a little higher than normal for Costa Mesa (12.6 inches versus the long-term average of 11.4 in). Rainfall was much higher than normal during the months of February and December, lower than normal in January, March, April, September and October, and close to normal during November. Total rainfall in 2019 was approximately 50% higher than normal for San Diego (15.3 in versus the long-term average of 10.1 in). Rainfall in San Diego was higher than normal during the months of January, February, May, November, and December, but lower than normal during the months of March, April, September, and October.

These low rainfall levels were unlikely to generate any extended periods of high turbidity and would not be expected to have affected kelp beds in 2019.

Table 9. Large waves in 2019.

Date	Oceanside (maximum height in meters)	Point Loma South (maximum height in meters)
February 22	---	3.3
March 5	---	3.0
March 7/8/9	---	3.4/3.1/---
March 12/13/14	---/3.1/---	3.7/4.2/4.1
March 20/21/22/23/24	---/---/---/---/---	3.3/3.7/3.3/3.0/3.6
March 26/27	---/---	3.2/3.1
March 30	---	3.1
April 7/8	---/---	3.1/3.1
April 10/11/12/13	---/---/3.9/---	5.3/3.3/4.8/3.3
April 21/22	---/---	3.0/3.0
May 7	---	3.0
May 16/17/18	3.2/3.8/---/	---/---/3.4

Note: “---" indicates maximum wave height was less than 3.0 meters

Table 9 (continued). Large waves in 2019.

Date	Oceanside (maximum height in meters)	Point Loma South (maximum height in meters)
May 20	---	4.8
May 22/23	4.2/3.2	---/5.0
July 17	---	3.1
September 9	---	3.1
October 1	---	3.0
October 18/19	---/---	3.5/3.3
November 21	3.6	5.5
November 26	---	3.4
November 28/29	3.7/3.4	4.1/3.3
December 3	---	3.4
December 8	---	3.7
December 12/13/14/15/16/17	---/---/3.0/---/---/---	3.0/3.7/3.4/5.2/4.5/3.3
December 19/20/21	---/---/---	3.3/3.0/3.1
December 25/26	---/3.6	3.2/---

Note: “---" indicates maximum wave height was less than 3.0 meters

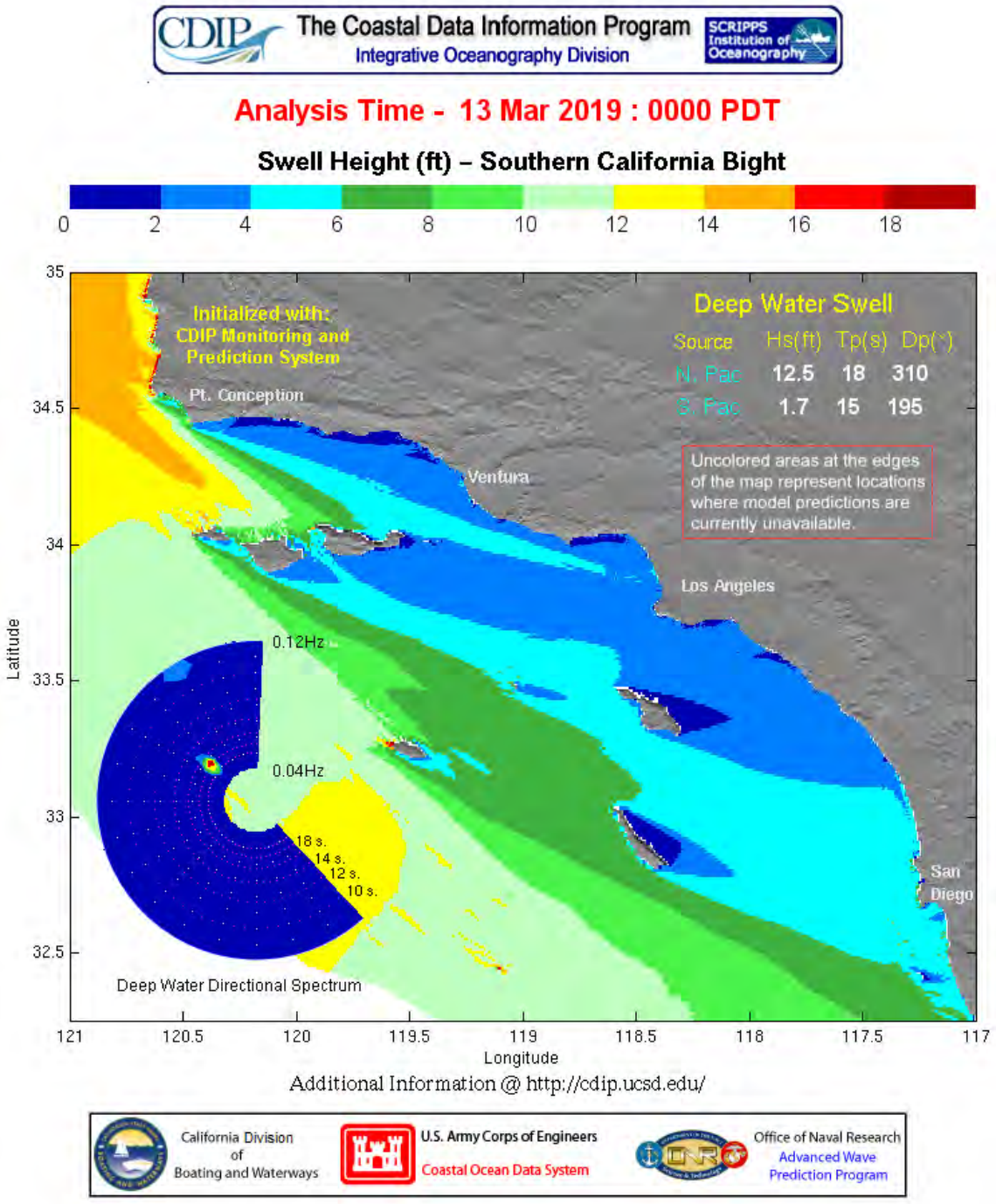


Figure 18. Swell height and direction in the Southern California Bight on March 13, 2019. Source: Coastal Data Information Program (CDIP), http://cdip.ucsd.edu/.

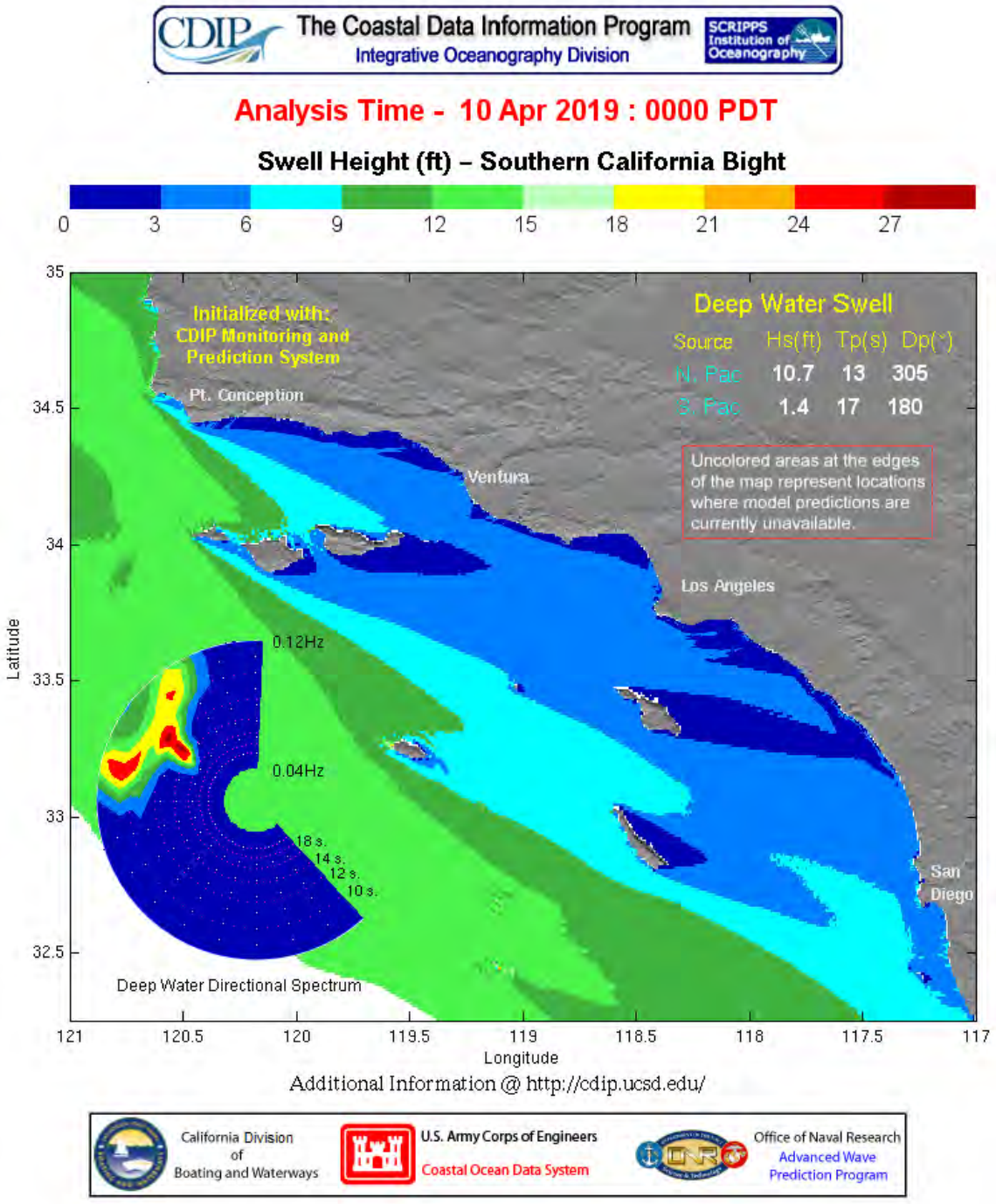


Figure 19. Swell height and direction in the Southern California Bight on April 10, 2019. Source: Coastal Data Information Program (CDIP), http://cdip.ucsd.edu/.

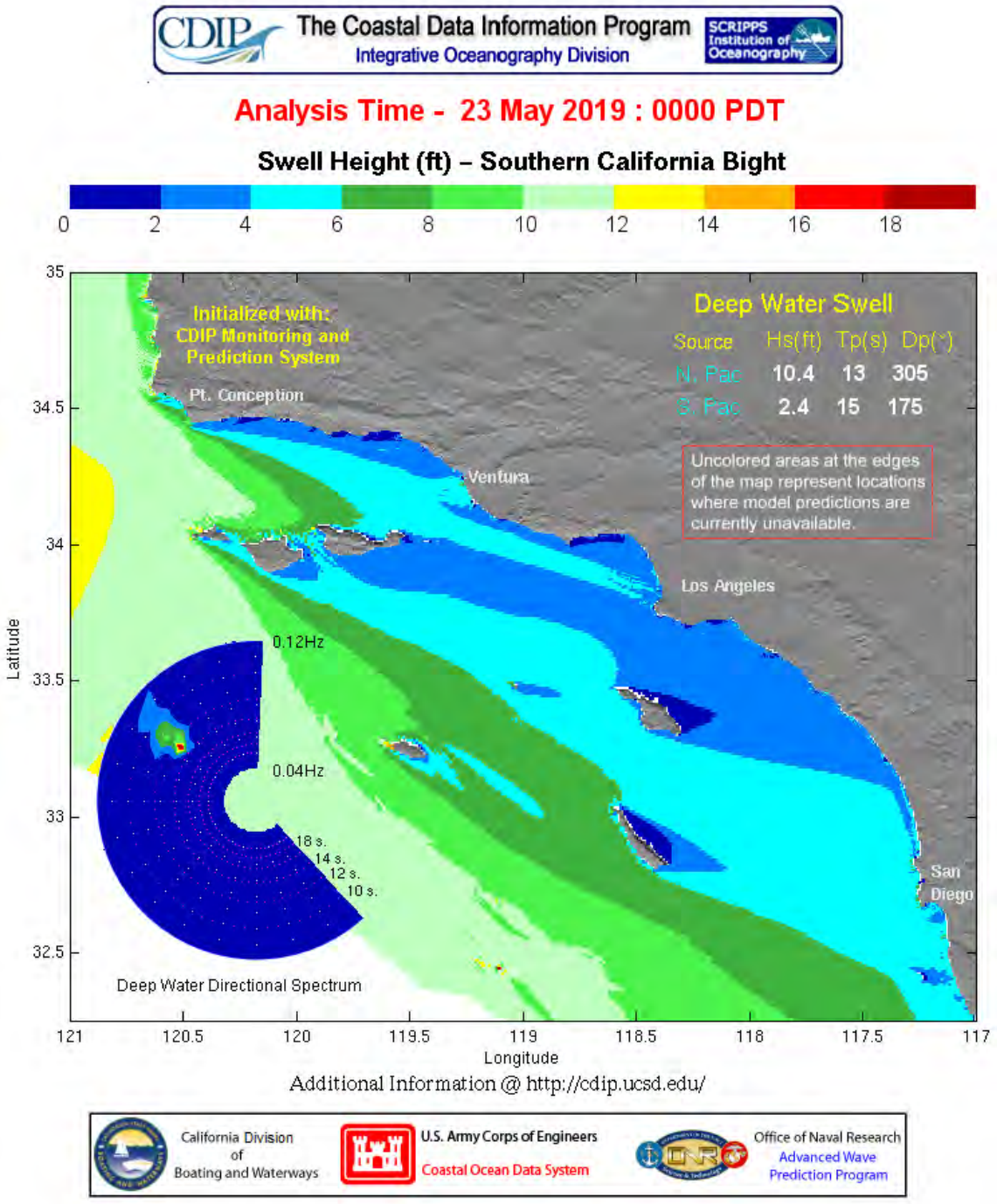


Figure 20. Swell height and direction in the Southern California Bight on May 23, 2019. Source: Coastal Data Information Program (CDIP), http://cdip.ucsd.edu/.

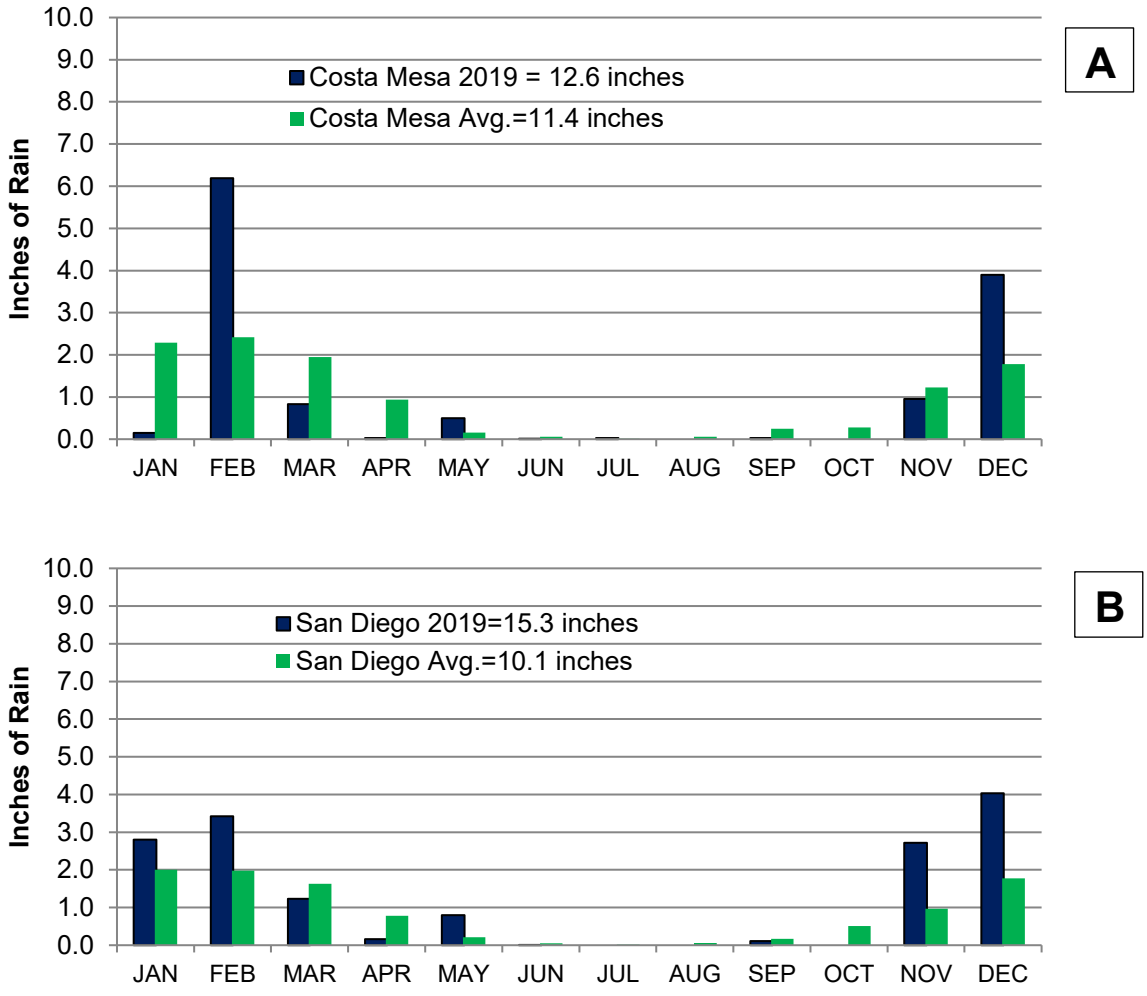


Figure 21. Monthly 2019 rainfall and average monthly rainfall recorded for (A) Costa Mesa, and (B) Lindbergh Field (San Diego).

IV.2.G - PHYTOPLANKTON

Harmful Algal Bloom (HAB) data were available in real time for certain locations via the SCCOOS website (**www.sccoos.org**).

Two phytoplankton groups associated with harmful algal blooms *Pseudo-nitzschia seriata* group and *Pseudo-nitzschia delicatissima* group were only recorded at Newport Pier during June 2019 (Figure 22 A and B). Domoic acid, a toxin produced by these groups, was not recorded at this location at any time throughout 2019. High concentrations of the *Pseudo-nitzschia seriata* group were recorded at Scripps Pier during April and June 2019, while high concentrations of the *Pseudo-nitzschia delicatissima* group were found throughout the year (March, April, June, September, October, and December) (Figure 23 A and B). However, domoic acid was not recorded at this location any time in 2019.

High concentrations of phytoplankton can effectively exclude light from all but the shallowest depths, which could limit photosynthetic activity at depth and may have been responsible for a portion of the severe impacts on the kelp bed resources observed in 2005 and 2006 (Gallegos and Jordan 2002, Gallegos and Bergstrom 2005). However, the concentrations recorded in 2019 appear unlikely to have impacted kelp beds.

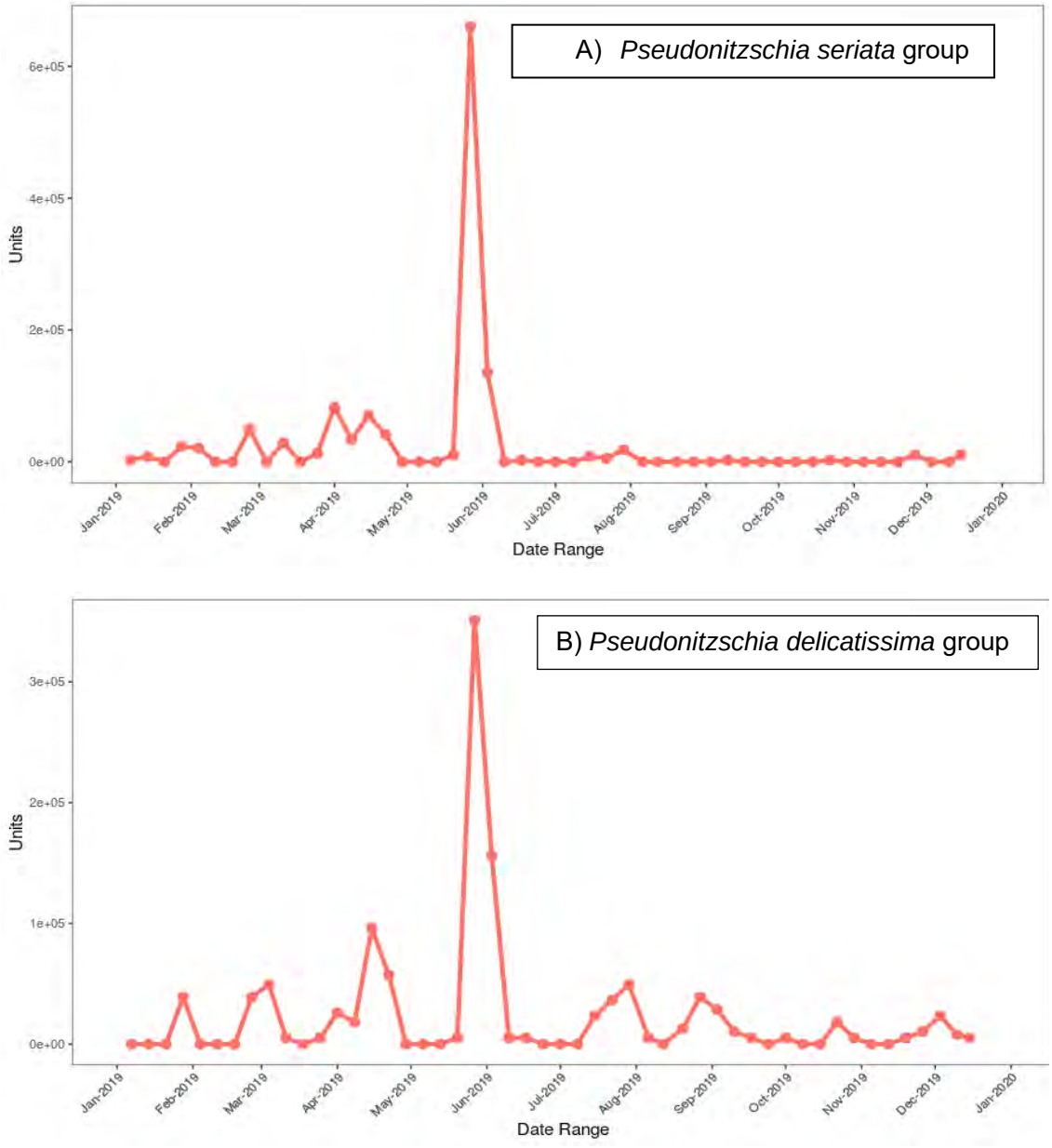


Figure 22. Phytoplankton Concentrations at Newport Pier in 2019.

Source: https://sccoos.org/harmful-algal-bloom/

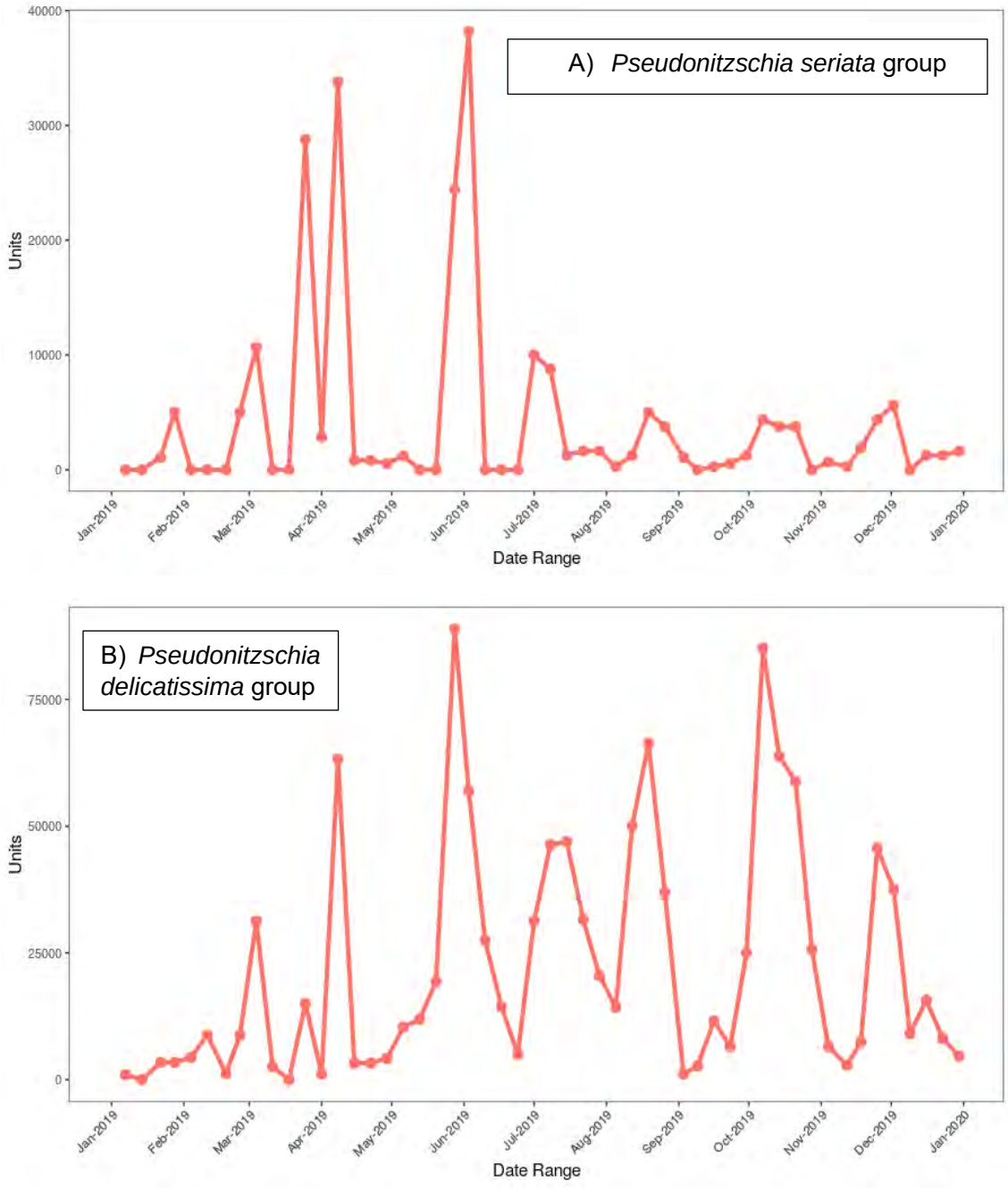


Figure 23. Phytoplankton Concentrations at Scripps Pier in 2019.

Source: https://sccoos.org/harmful-algal-bloom/

IV.3 - KELP RESTORATION

The Orange County Giant Kelp Restoration Project began in 2002 with an aim to restore historical giant kelp forests along the Orange County Coastline via outreach and education. Orange County Coastkeeper worked with volunteers to grow, plant, and monitor giant kelp in northern Orange Country. Restoration sites, control sites, and a reference site were chosen in Crystal Cove State Park (Newport Beach), Heisler Park (Laguna Beach) and Salt Creek (Dana Point). Volunteers working with marine biologist Nancy Caruso also removed sea urchins that had overpopulated kelp reefs, relocating them to deeper water.

Beginning in 2002, the kelp beds at San Clemente were enhanced by the placement of approximately 50 small artificial reefs (each measuring 40 m x 40 m) on barren sand at depths of about 12 to 15 m. Kelp immediately recruited to these reefs, and canopies in the shape of small squares were visible during most of the aerial surveys of 2002 and 2003. In early 2008, Southern California Edison (SCE) added additional reef material (covering 0.712 km^2 in total) and kelp recruited to the new reefs in late 2008. However, SCE determined that the 174-acre San Clemente reef was only sustaining approximately half the volume of fish required by its 1991 agreement with the California Coastal Commission. In February 2019, the Coastal Commission approved the SCE proposal to construct an additional 210-acre kelp reef to expand the existing 174-acre Wheeler North Reef. SCE proposed to place 175,000 tons of quarried rock in 23 new polygons north and inshore of the existing reef. The expansion project was scheduled to begin in July 2019 and is expected to be completed in 2020.

IV.4 - KELP HARVESTING

CDFW has designated 87 administrative kelp beds located offshore of California's mainland coast and surrounding the Channel Islands. These kelp beds contain giant kelp (*Macrocystis*) or bull kelp (*Nereocystis*), or a combination of both. As of November 2016, each kelp bed falls within one of the following management categories:

Open	Available to harvest by all commercial kelp harvesters	33 kelp beds
Leasable	Available to harvest by commercial kelp harvesters until an exclusive lease is granted by the California Fish and Wildlife Commission, then only available to lessee	28 kelp beds (5 are currently leased)
Lease only	Commercial harvest of kelp is prohibited unless an exclusive lease is granted by the California Fish and Wildlife Commission	3 kelp beds
Closed	Commercial harvest of kelp is prohibited	18 kelp beds

Approximately 41% of the State's kelp beds have been designated as available for leasing, while approximately 38% have been designated as available for kelp harvest by any licensed kelp harvester (ensuring that smaller kelp harvesters have access to kelp and are not shut

out by lease agreements). Approximately 21% of kelp beds are closed to kelp harvesting, as harvest has been deemed too potentially disruptive to the environment.

All commercial harvesters of marine algae must purchase an annual commercial kelp harvester license and abide by commercial algae harvest regulations (California Code of Regulations, Title 14, Sections 165 and 165.5). Eelgrass (*Zostera* species) and surfgrass (*Phyllospadix* species) are prohibited from commercial harvest. There currently are no provisions for the commercial harvest of other large kelps, such as elk kelp (*Pelagophycus*), feather boa kelp (*Egregia*), or members of the genus *Pterygophora*. Members of the genera *Porphyra*, *Laminaria*, *Monostrema*, and other aquatic plants utilized fresh or preserved as human food are classified as edible seaweeds. Agar-bearing marine algae are defined as members of the genera *Gelidium*, *Pterocladia*, *Gracilaria*, *Iridaea*, *Gloiopeltis*, and *Gigartina*. Edible and agar algae harvesting are governed by regulations.

Kelp harvesters may not cut attached giant and bull kelp at a depth greater than four feet below the sea surface at the time of cutting, may not allow cut kelp to escape from harvest, must weigh and report the amount harvested, and must pay a royalty to the State for each wet ton of kelp harvested. A Commission-approved Kelp Harvest Plan is required for kelp bed lease holders and for the mechanical harvest of kelp in all locations where harvest is allowed.

CDFW is currently reviewing its Management Policies and Harvest Methods guidance document and is drafting several proposed new regulations governing commercial harvest of wild kelp and algae (Rebecca Flores-Miller, pers. comm.). There is no timetable to bring these proposed regulations to the CDFW Commission for adoption during 2020, due to a shortage of staff resources during the COVID 19 pandemic. In the near future, CDFW also plans to review its Royalty Rates and License Fees schedule for commercial harvesters. The royalty rates for kelp were established 24 years ago at $1.71 per wet ton, and the rates for edible seaweed and agar were established 35 years ago at $24 and $17 per wet ton, respectively.

Recreational harvest of marine algae for personal use is permitted in California. Those harvesting for personal use must abide by the regulations governing the recreational harvest. The daily bag limit for recreational harvesters of marine algae is 10 pounds wet weight in the aggregate. Commonly harvested kelp and marine algae include bull kelp (*Nereocystis luetkeana*), giant kelp (*Macrocystis pyrifera*), grapestone or Turkish washcloth (*Mastocarpus papillatus*), bladderwrack (*Fucus distichus*), kombu (*Laminaria setchellii*), wakame (*Alaria marginata*), sea cabbage or sweet kombu (*Saccharina sessilis*), bladder chain kelp or sea fern (*Stephanocystis osmundacea*), nori *Pyropia* spp.), and sea lettuce (*Ulva* species).

Recreational harvesters are prohibited from harvesting or disturbing eelgrass (*Zostera* spp.), surfgrass (*Phyllospadix* spp.), and sea palm (*Postelsia palmaeformis*). Marine aquatic plants may not be cut or harvested in state marine reserves. Regulations may prohibit cutting or harvesting of marine aquatic plants within state marine conservation areas and state marine parks (California Code of Regulations, Title 14, Section 632b).

The administrative kelp bed status in the Region Nine study area is shown in Figure 24. Kelp areas 1 and 2 are open, 3 is leased, 4, 5, and 6 are leasable (except for portions that are closed within marine protected areas), 7, 8, and 9 are open (except for portions of 9 that are closed within marine protected areas), and 10 is closed.

Commercial marine algae harvest data are shown in Figure 25 for the period from 1931 to 2019 (**https://www.wildlife.ca.gov/Conservation/Marine/Kelp/Commercial-Harvest**). The annual harvest exceeded 100,000 metric tons in the 1950s, 1960s and 1970s, but declined considerably in the early 1980s. The annual harvest again exceeded 100,000 metric tons in the early 1990s, but subsequently declined. Since 2006, the annual harvest has been relatively low (fewer than 5,000 metric tons per year).

Table 10 shows how the RNKSC kelp bed designations correspond to the State of California's administrative lease kelp bed designations. Multiple RNKSC kelp beds fall within each of lease areas 5 through 9. Lease area 4 contains the La Jolla kelp bed, lease areas 2 and 3 contain the Point Loma kelp bed, and lease area 1 contains the Imperial Beach kelp bed.

In March 2018, Knocean Sciences (Dallas, Texas) applied to the California Department of Fish and Wildlife (CDFW) to renew its existing Kelp Bed No. 3 lease issued in July 2013. Bed No. 3 extends from the southern tip of Point Loma to the south jetty of Mission Bay, and covers an area of 2.58 m^2. Knocean Sciences proposed to harvest a maximum of 200 tons per year of giant kelp during the first two years of the five-year lease renewal, and 2,000 tons per year during years three through five. As part of the renewal process, Knocean Sciences proposed a royalty bid to the Fish & Game Commission of $3.00 per wet ton of kelp harvested. Knocean Sciences planned to harvest giant kelp from May through November via mechanical harvesting from vessels specially modified for this purpose. The lease renewal was approved by CDFW in June 2018. CDFW subsequently authorized Dr. Matthew Edwards, San Diego State University, to perform research activities involving giant kelp in Kelp Bed No. 3 (August 2018).

Kelp harvesting peaked in the 1970s, exceeding 150,000 metric tons per year in some years (Figure 25). However, kelp harvesting has been relatively low (fewer than 5,000 metric tons per year) since 2006. It is unlikely that this low amount of kelp harvesting has had any impact on the health of the kelp beds in Region Nine.

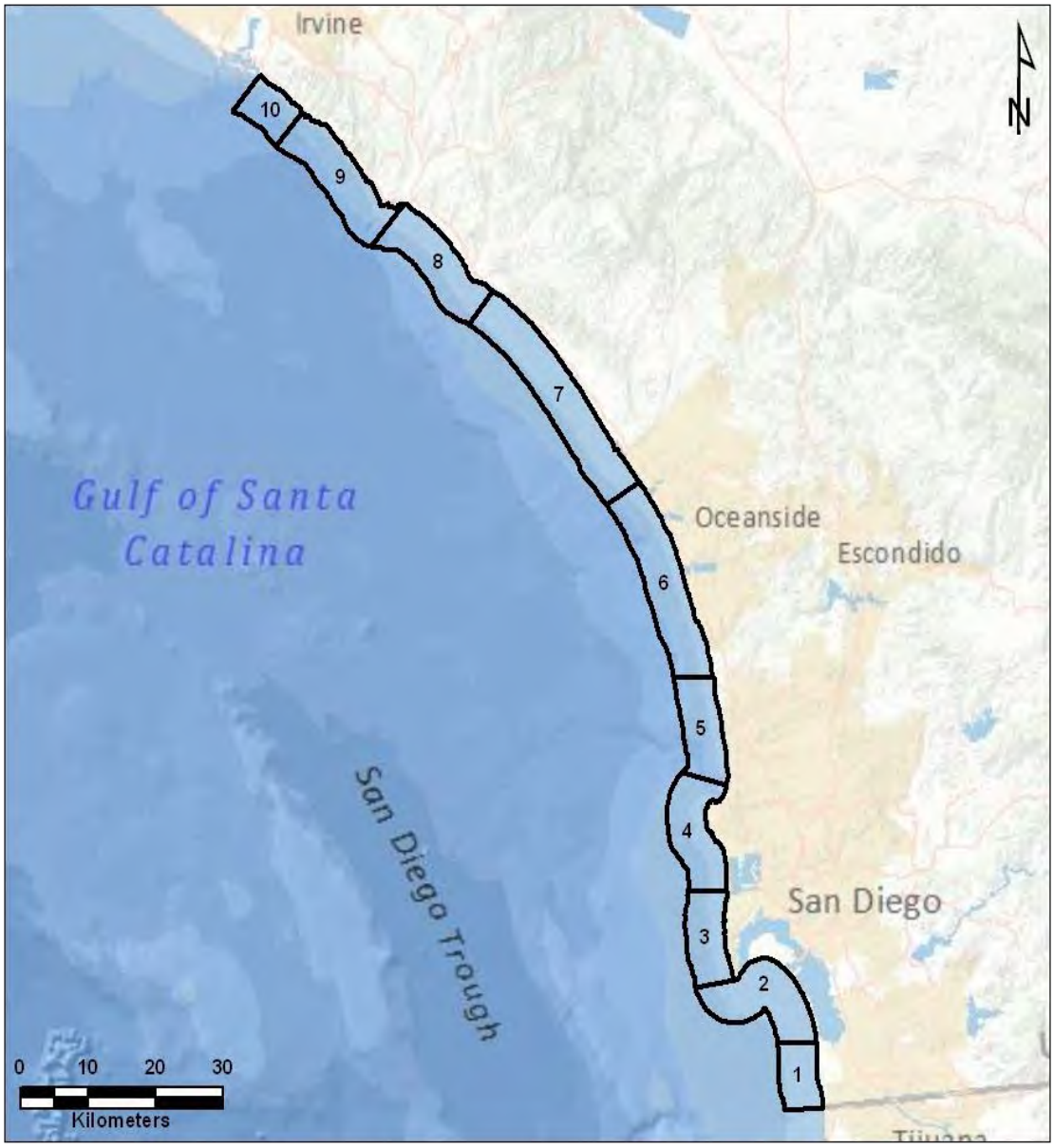


Figure 24. Administrative kelp bed lease areas in the Region Nine study area.

Source: California Department of Fish and Wildlife (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=134676&inline).

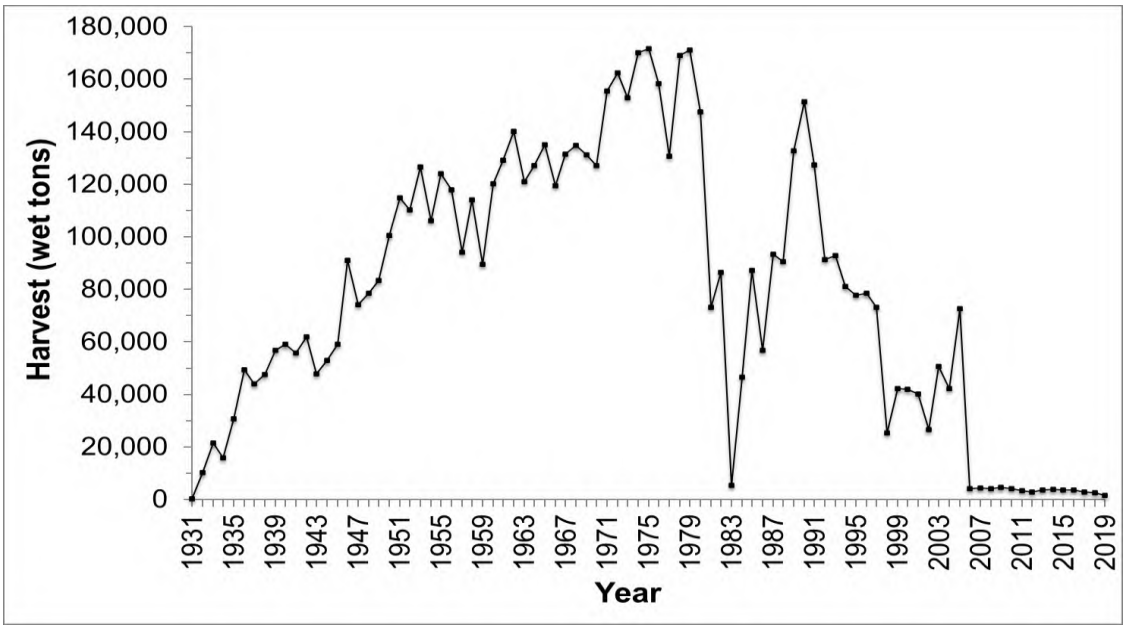


Figure 25. Commercial kelp harvest landings for giant and bull kelp from 1931 through 2019. Source: California Department of Fish and Wildlife (https://www.wildlife.ca.gov/Conservation/Marine/Kelp/Commercial-Harvest).

Table 10. Region Nine kelp bed designations compared to California Department of Fish and Wildlife kelp bed designations.

F & W Lease Area	Region Nine Kelp Bed Designations
Bed 1	Imperial Beach
Beds 2 and 3	Point Loma
Bed 4	La Jolla
Bed 5	Leucadia, Encinitas, Cardiff, Solana Beach, Del Mar, Torrey Pines
Bed 6	North Carlsbad, Agua Hedionda, Encina Power Plant, Carlsbad State Beach
Bed 7	Horno Canyon, Barn Kelp, Santa Margarita
Bed 8	San Clemente, San Mateo Point, San Onofre
Bed 9	North Laguna Beach, South Laguna Beach, South Laguna, Dana Point/Salt Creek, Capistrano Beach

V - UPDATE TO PRESENT

The first aerial survey for 2020 was conducted on April 15, 2020. Little or no kelp surface canopy was observed throughout most of Region Nine. However, the La Jolla Lower and Point Loma kelp beds were extensive, although surface canopy was lower than the maximum observed in 2019 (except for lower Point Loma, which was similar). The second aerial survey was conducted on July 5, 2020. Once again, little or no kelp surface canopy was observed throughout most of the region.

VI - CONCLUSIONS

Total combined kelp surface canopy decreased substantially (by 53%) in 2019 in Region Nine. More than half of the kelp beds observed in 2018 disappeared in 2019 (10 out of 18), while none reappeared. The total kelp canopy in Region Nine covered approximately 5.2 km^2 in 2019, similar to the total amount recorded in 2016 (5.1 km^2), but larger than the total for 2017 (3.3 km^2), which was the lowest amount of total kelp canopy since 2006. The largest beds were the La Jolla and Point Loma kelp beds, accounting for 99% of the total canopy coverage in 2019.

Water temperatures throughout the RNKSC areas generally were warmer than average throughout most of 2019, particularly from September through December. However, lower than normal temperatures were recorded at Newport Pier during most of April, May, and August, as well as at times during March, June, and July. Lower than normal water temperatures also were recorded at Scripps Pier at times from February through October, particularly during the months of June, July and August. Daily sea surface temperature values rarely fell below 14^oC (a threshold below which nutrient availability is much greater than at higher water temperatures) at Newport Pier and Scripps Pier, and never fell below this threshold at Oceanside or Point Loma South.

Nutrient availability continued to be low in 2019. Upwelling in 2019 (at a location approximately 161-km west of Solana Beach) generally increased each month from January through August, then decreased through December. Upwelling in 2019 was much higher than the long-term mean during the months of July and August, but lower during March, May and June. Upwelling was lower in 2019 than during 2018 for the months of March, April, May and June, when surface water temperatures generally were lower and nutrient availability would be increased. Although upwelling was higher in 2019 than the previous year during the months of July, August, and September, this corresponded to the period of the year when surface water temperatures were highest and nutrient availability would be decreased.

VII - REFERENCES

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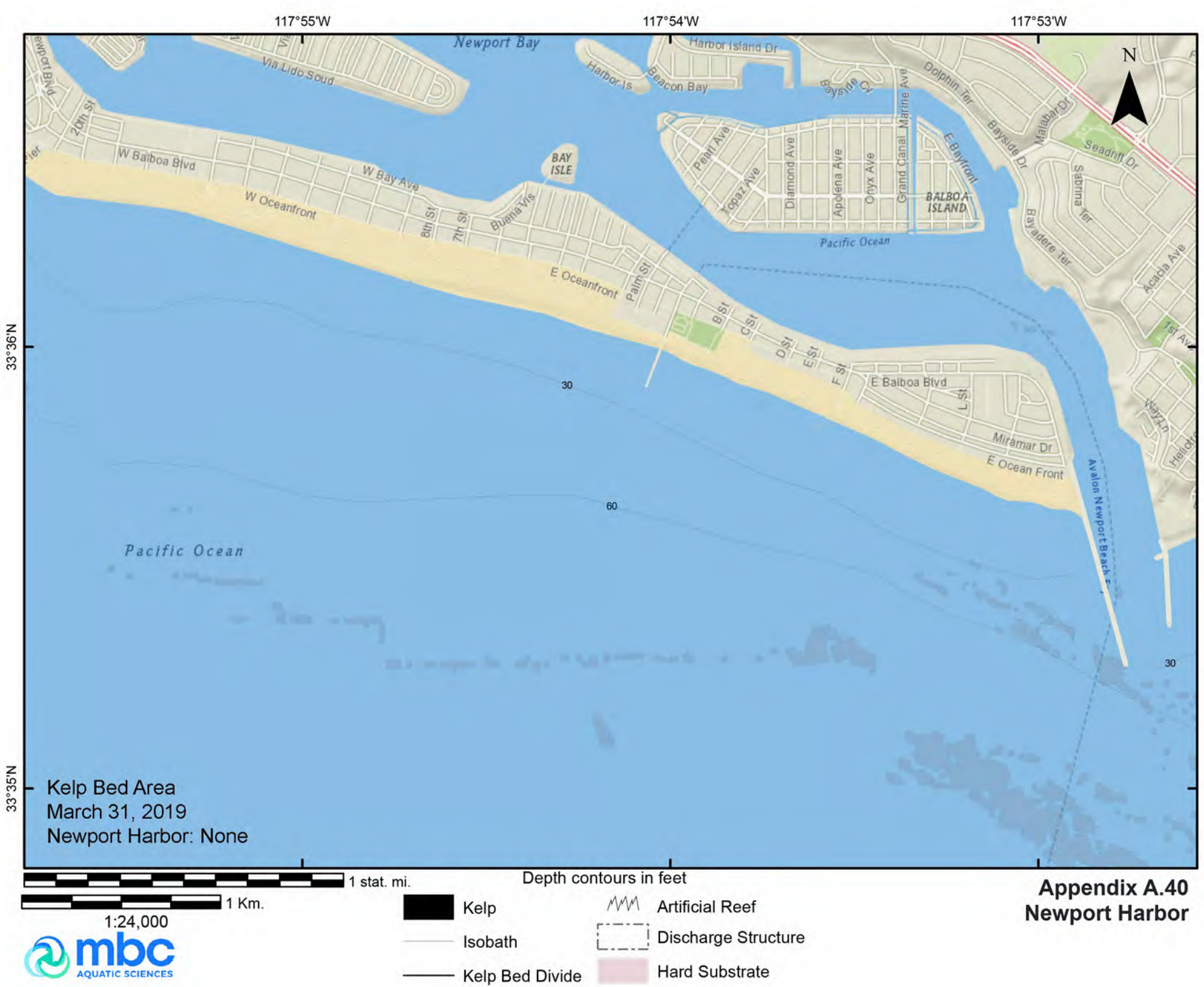
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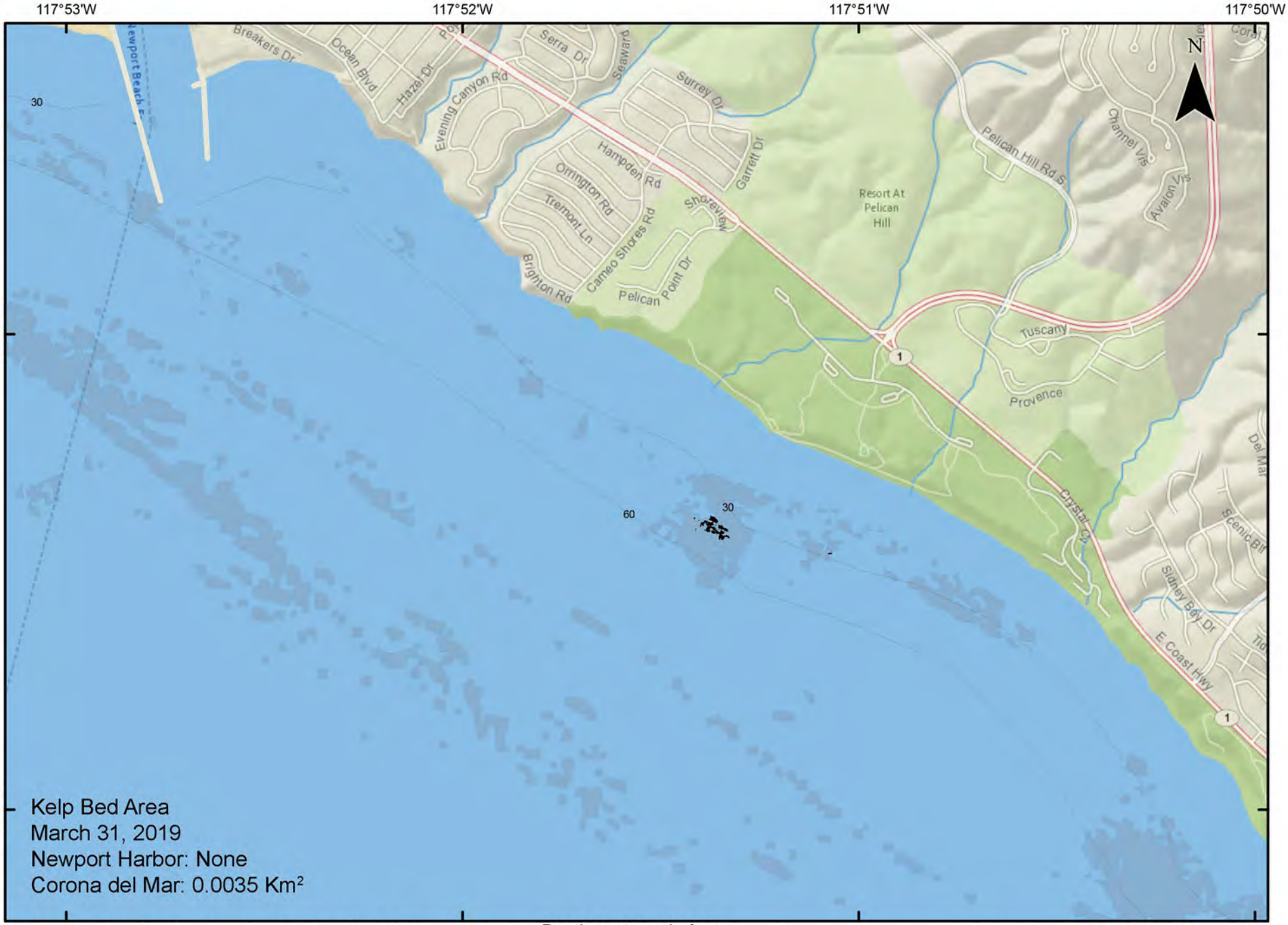
PERSONAL COMMUNICATIONS

Flores-Miller, R. 2020. Rebecca Flores-Miller, California Department of Fish and Wildlife, Environmental Scientist. Commercial Kelp and Other Marine Algae Outreach Meeting, June 2, 2020.

APPENDIX A

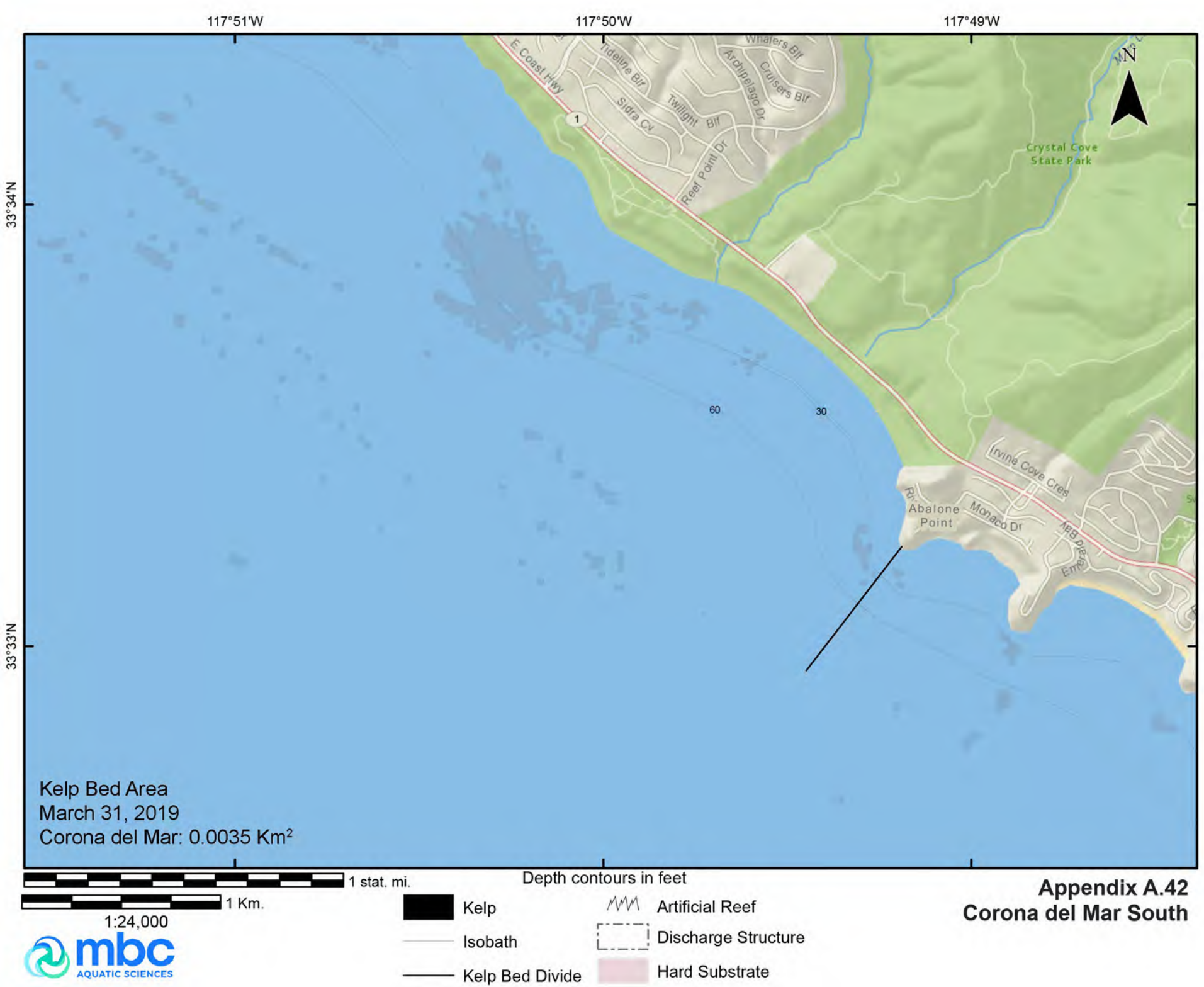
Kelp Canopy Maps


117°55'W
117°54'W
117°53'W
33°36'N
33°35'N
N
Newport Bay
Via Lido Soud
Harbor Is
Harbor Island Dr
Beacon Bay
Bayside Cv
Dolphin Ter
Malabar Dr
Seadrift Dr
Sabrina Ter
Bayside Dr
Bayadere Ter
Acacia Ave
1st Ave
Grand Canal
Marine Ave
E Bayfront
Pearl Ave
Topaz Ave
Diamond Ave
Apolena Ave
Onyx Ave
BALBOA ISLAND
BAY ISLE
Pacific Ocean
W Balboa Blvd
W Bay Ave
W Oceanfront
E Oceanfront
20th St
6th St
7th St
Buena Vis
Palm St
B St
C St
D St
E St
F St
E Balboa Blvd
L St
Miramar Dr
E Ocean Front
Avalon Newport Beach
Wayth
30
60
Kelp Bed Area
March 31, 2019
Newport Harbor: None
1 stat. mi.
1 Km.
1:24,000
Depth contours in feet
Kelp
Isobath
Kelp Bed Divide
Artificial Reef
Discharge Structure
Hard Substrate
mbc
AQUATIC SCIENCES
Appendix A.40
Newport Harbor

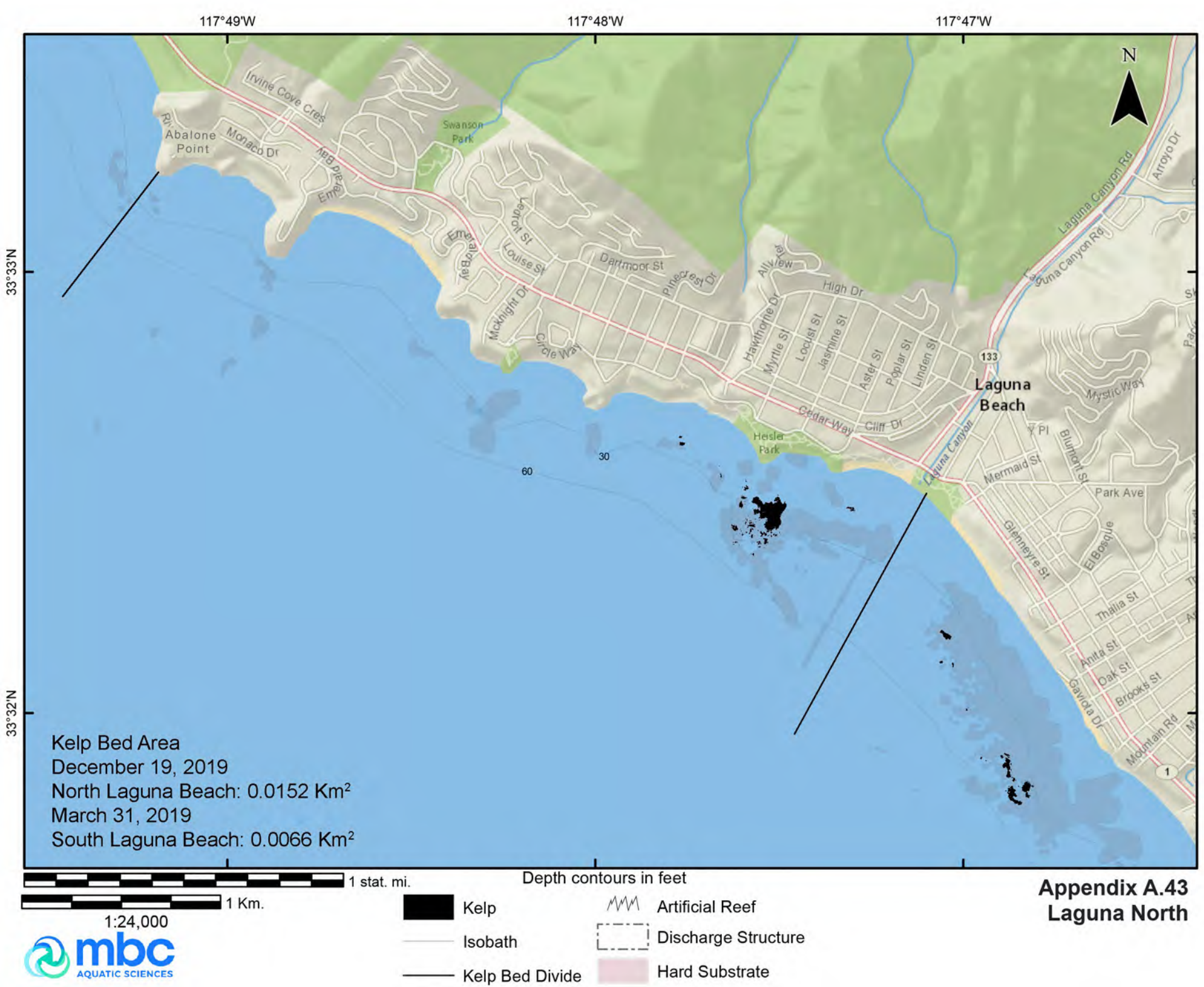


mbc AQUATIC SCIENCES

Appendix A.41
Corona del Mar North

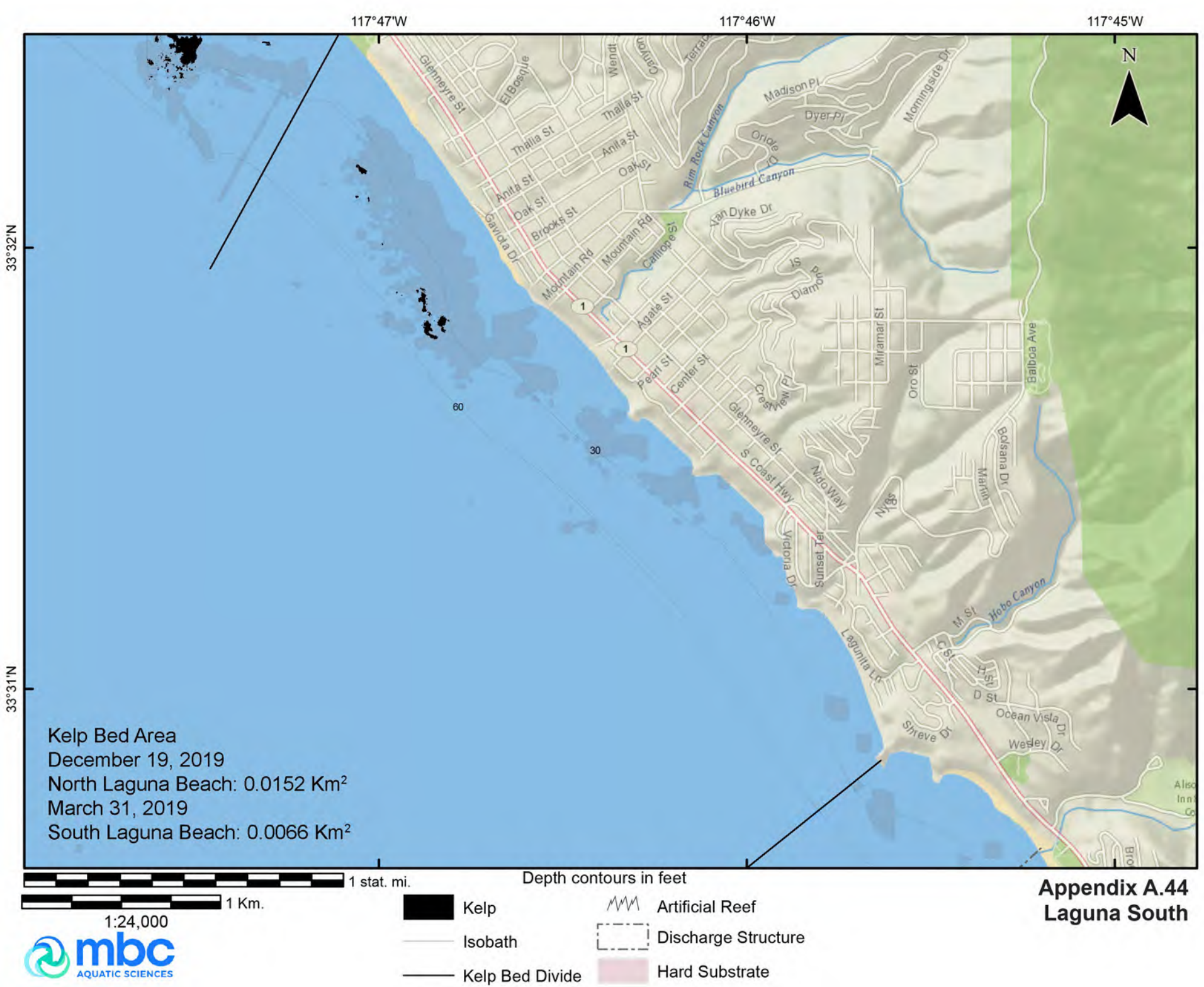


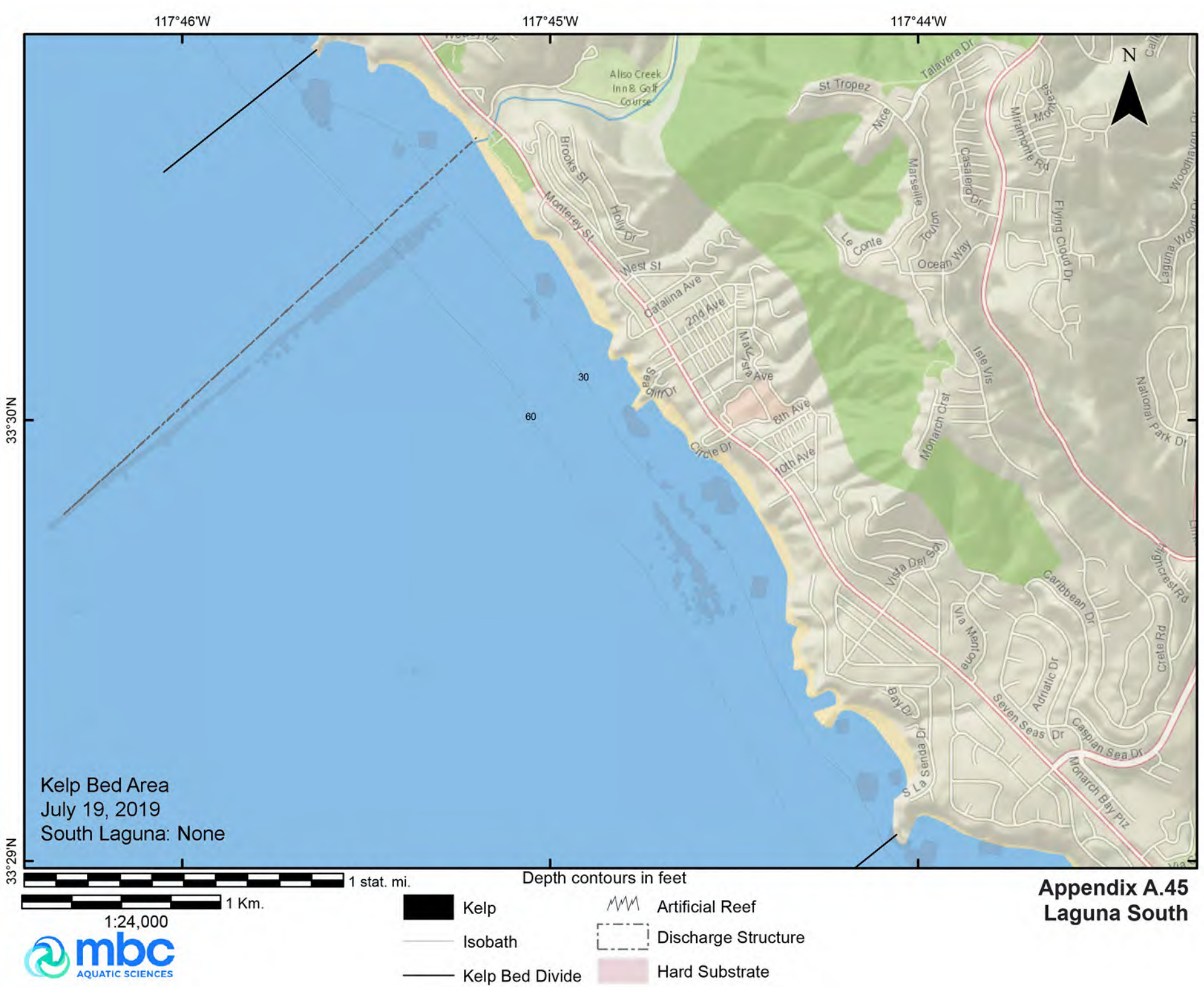
Appendix A.42
Corona del Mar South



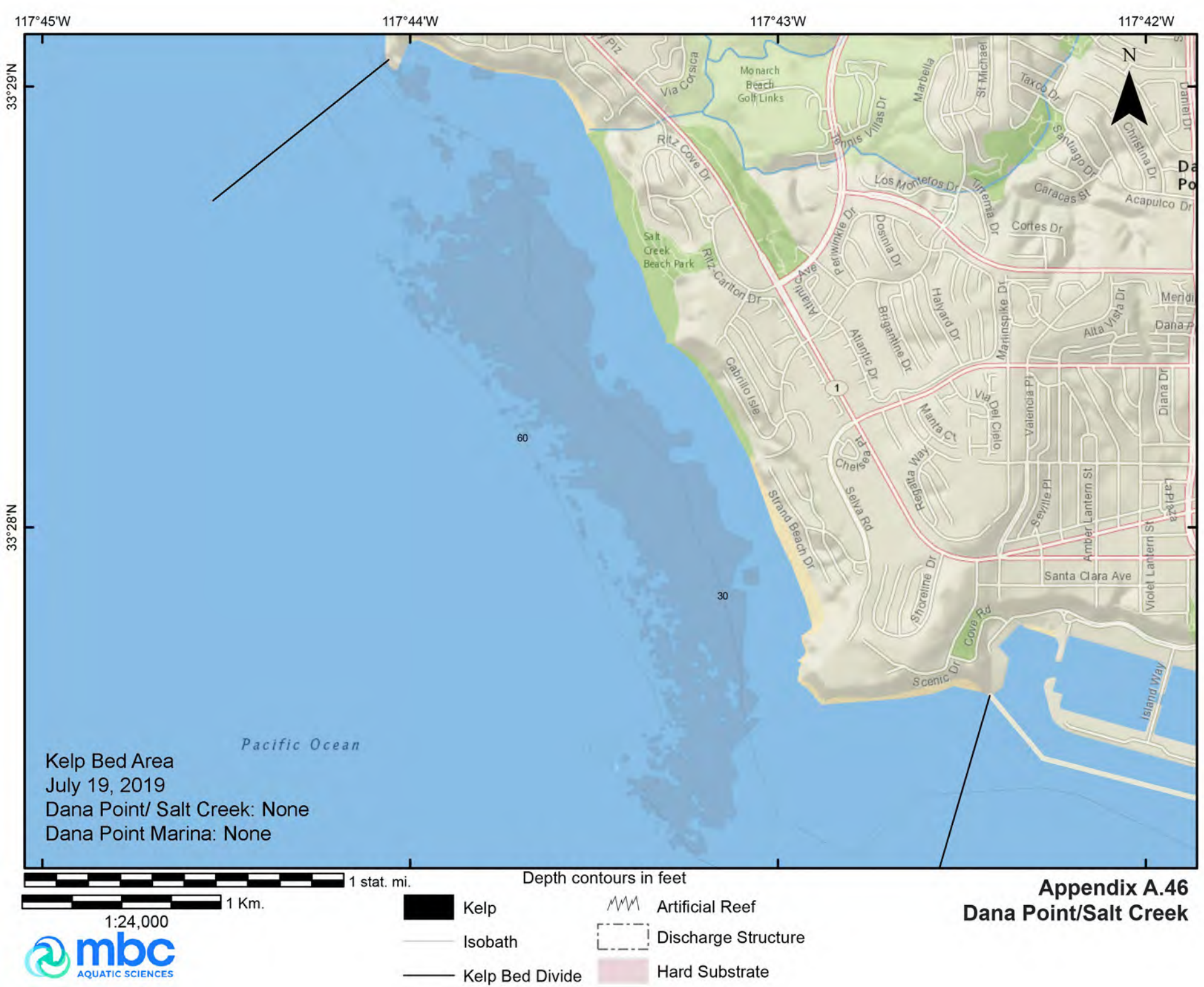
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Appendix A.43
Laguna North

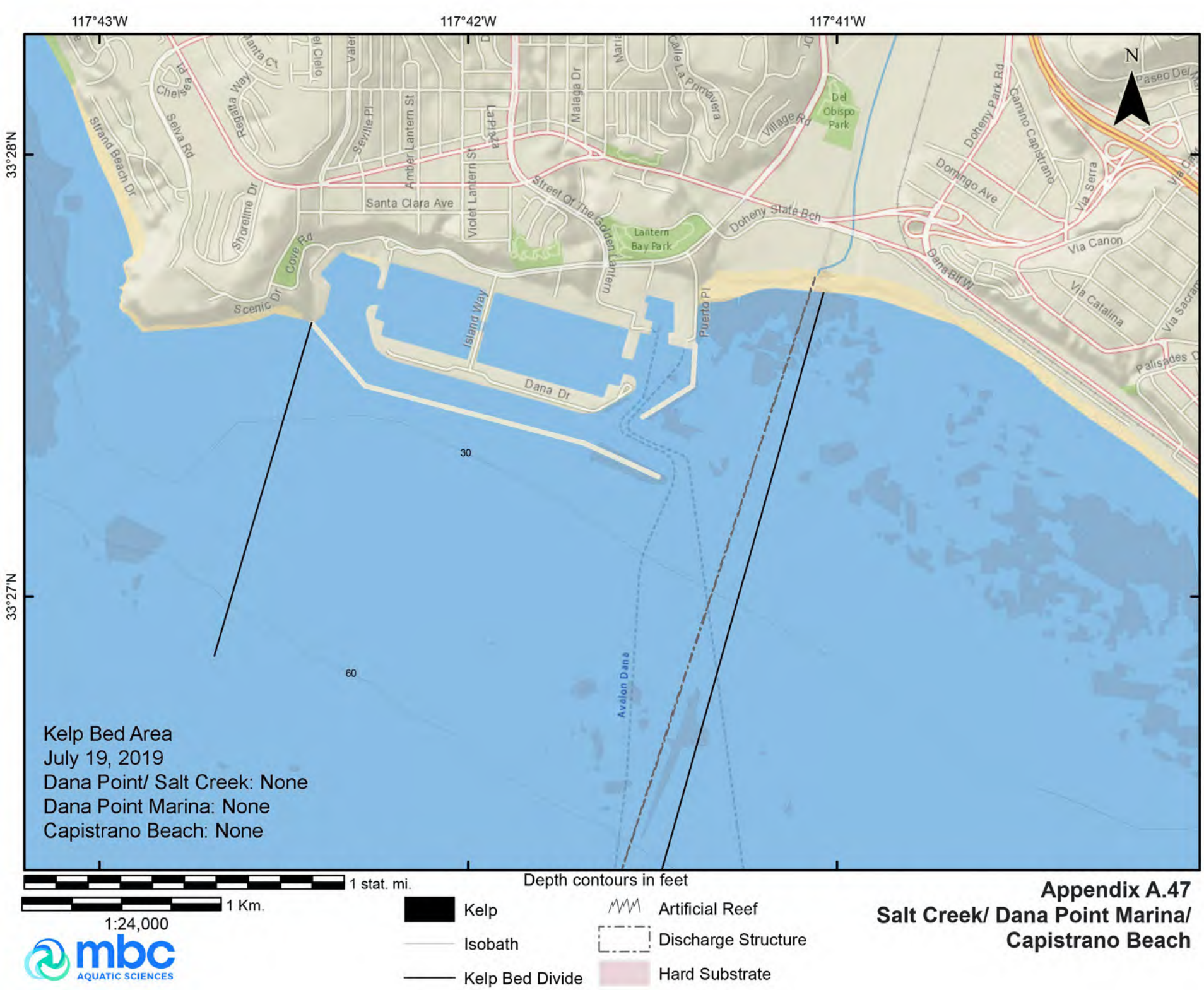

117°47'W
117°46'W
117°45'W
33°32'N
33°31'N
N
Glenneyre St
El Bosque
Wendt
Canyon
Terrace
Madison Pl
Dyer Pl
Morningside Dr
Thalia St
Anita St
Oak St
Brooks St
Gaviota Dr
Mountain Rd
Rim Rock Canyon
Oriole Dr
Bluebird Canyon
Van Dyke Dr
Calliope St
Agate St
Pearl St
Center St
Crestview Pl
Diamond St
Miramar St
Oro St
Balboa Ave
Bolsana Dr
Marion
Nyes Pl
Ruby St
Ndo Way
S Coast Hwy
Victoria Dr
Sunset Ter
Hobo Canyon
M St
C St
D St
Ocean Vista Dr
Wesley Dr
Shreve Dr
Lagunita Ln
60
30
1
1
Kelp Bed Area
December 19, 2019
North Laguna Beach: 0.0152 Km²
March 31, 2019
South Laguna Beach: 0.0066 Km²
1 stat. mi.
1 Km.
1:24,000
Depth contours in feet
Kelp
Isobath
Kelp Bed Divide
Artificial Reef
Discharge Structure
Hard Substrate
mbc AQUATIC SCIENCES
Appendix A.44
Laguna South

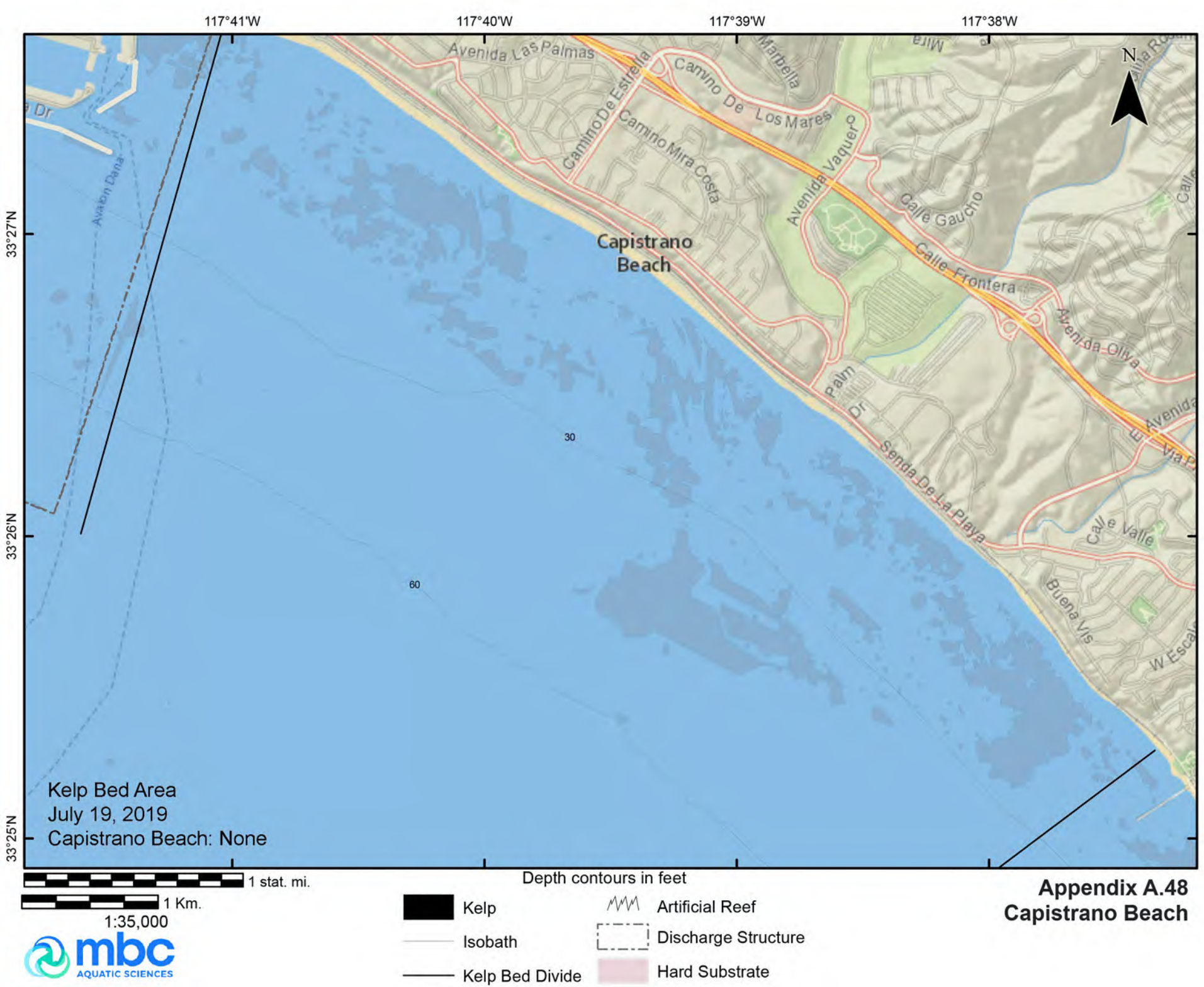


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Laguna South

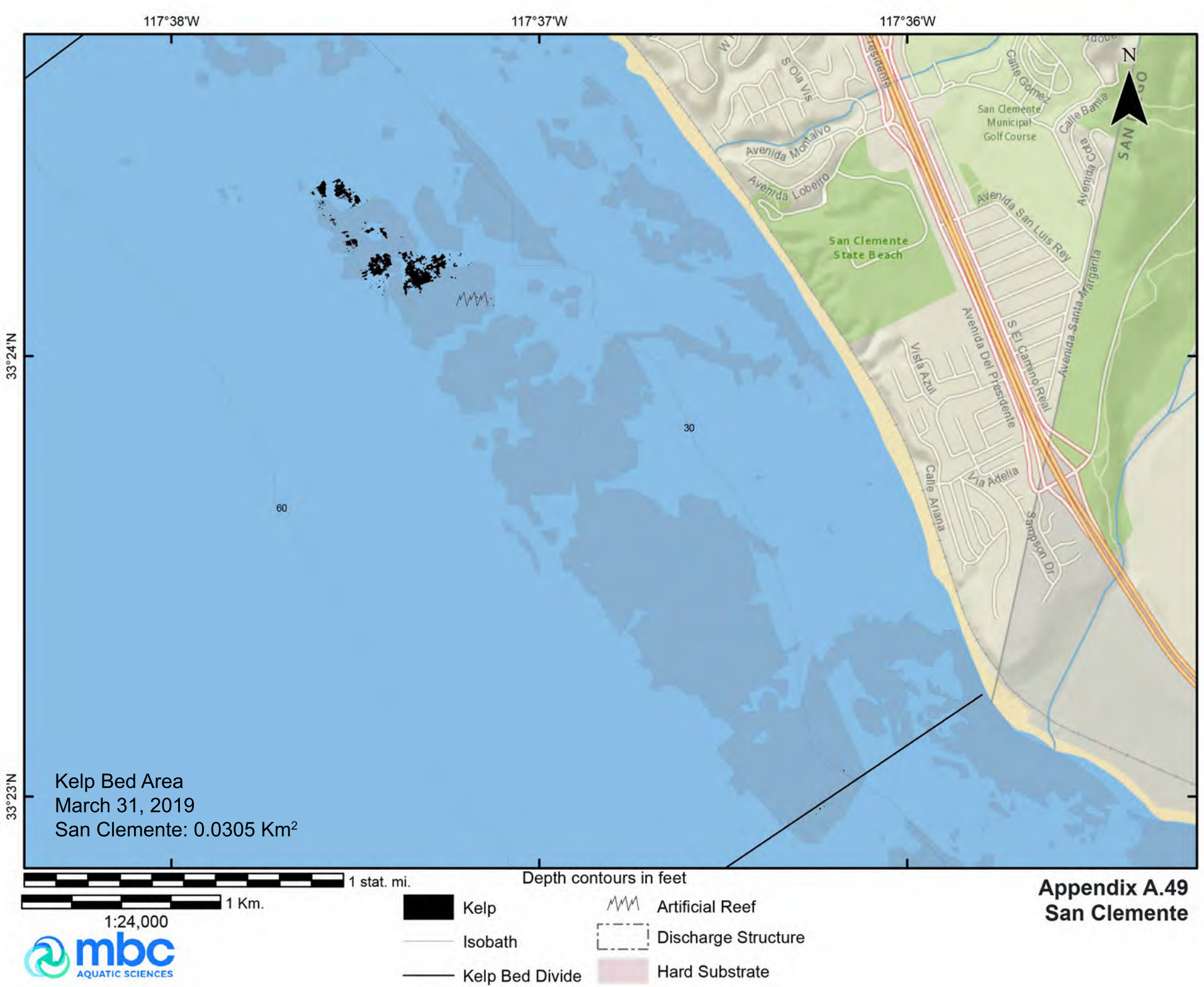


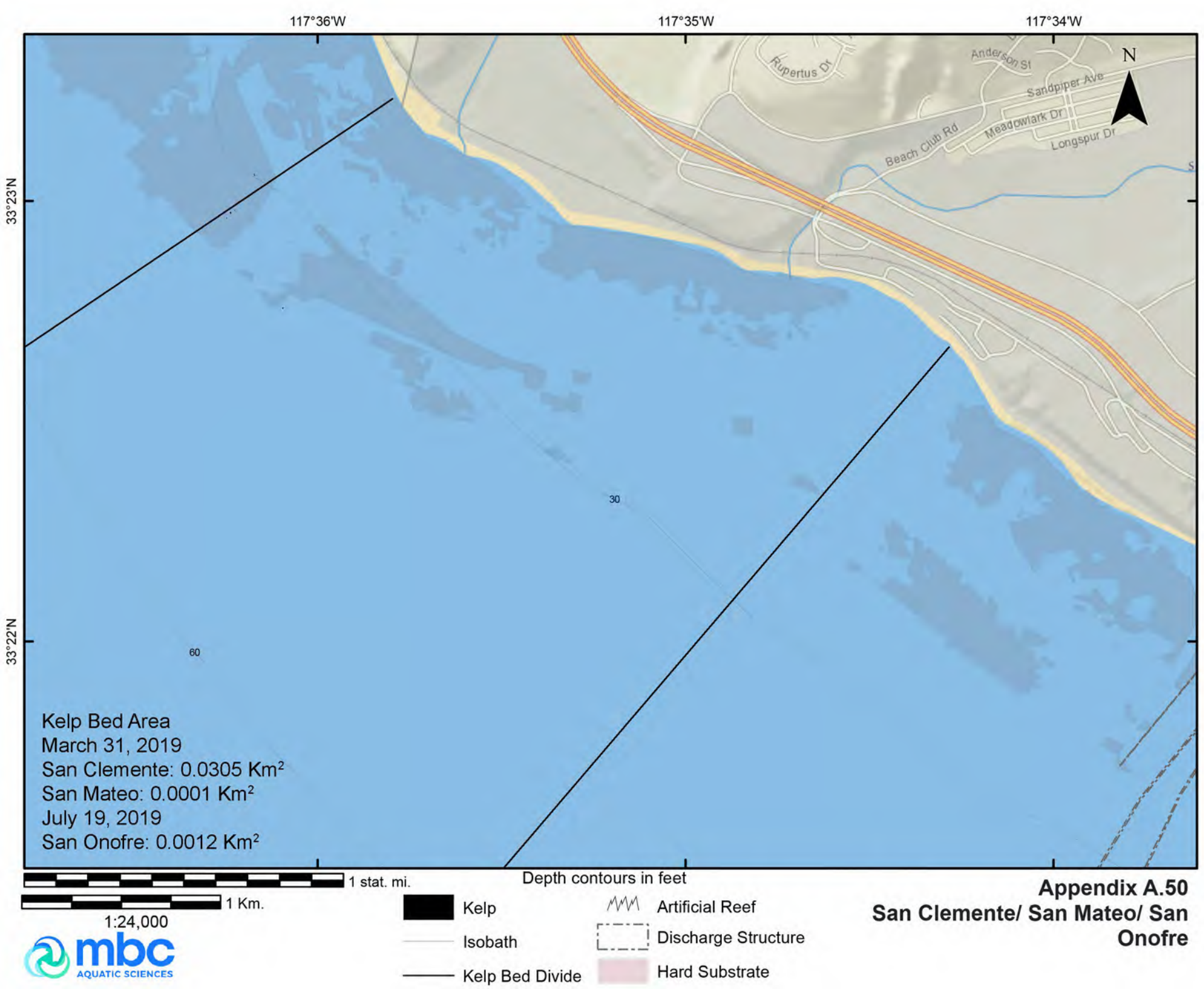
Appendix A.46
Dana Point/Salt Creek


117°43'W
117°42'W
117°41'W
33°28'N
33°27'N
N
Strand Beach Dr
Selva Rd
Regatta Way
Seville Pl
Amber Lantern St
Violet Lantern St
Malaga Dr
Calle La Primavera
Village Rd
Del Obispo Park
Doheny Park Rd
Camino Capistrano
Paseo De
Domingo Ave
Via Serra
Santa Clara Ave
Street Of The Golden Lantern
Lantern Bay Park
Doheny State Bch
Via Canon
Dana Bluff W
Via Catalina
Via Sacra
Palisades
Shoreline Dr
Cove Rd
Scenic Dr
Island Way
Puerto Pl
Dana Dr
30
60
Avalon Dana
Kelp Bed Area
July 19, 2019
Dana Point/ Salt Creek: None
Dana Point Marina: None
Capistrano Beach: None
1 stat. mi.
1 Km.
1:24,000
Depth contours in feet
Kelp
Isobath
Kelp Bed Divide
Artificial Reef
Discharge Structure
Hard Substrate
mbc AQUATIC SCIENCES
Appendix A.47
Salt Creek/ Dana Point Marina/
Capistrano Beach

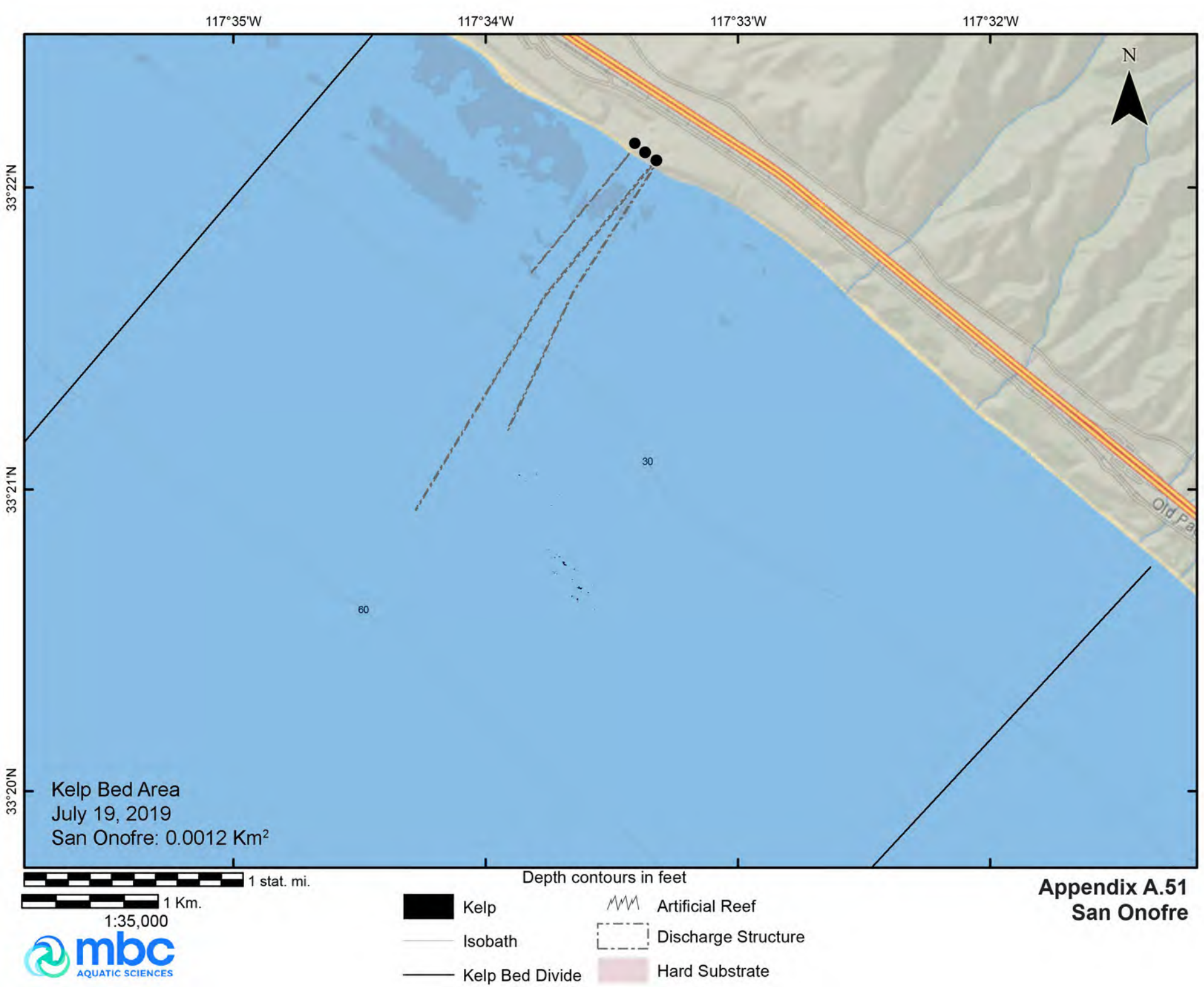


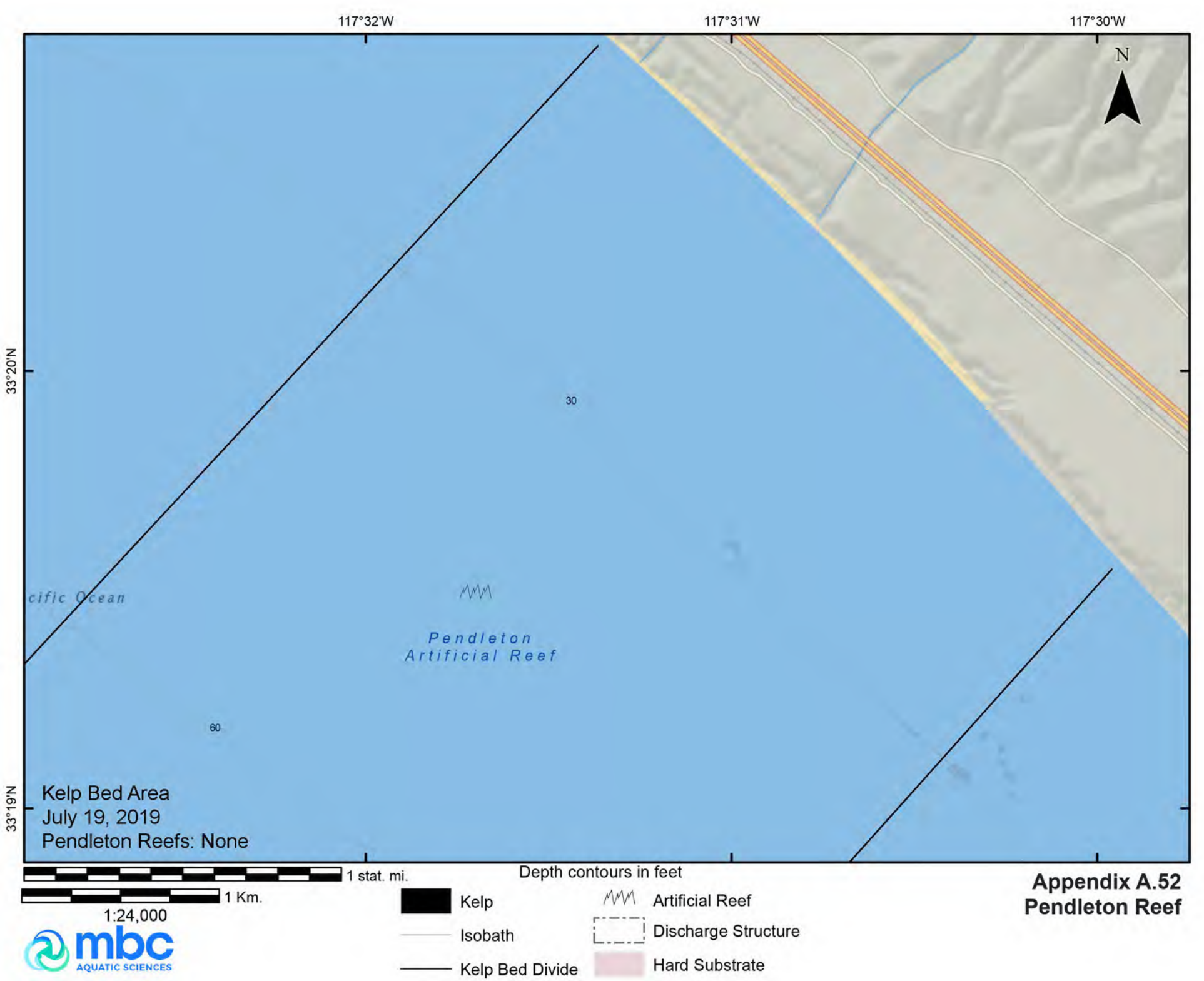
Appendix A.48
Capistrano Beach

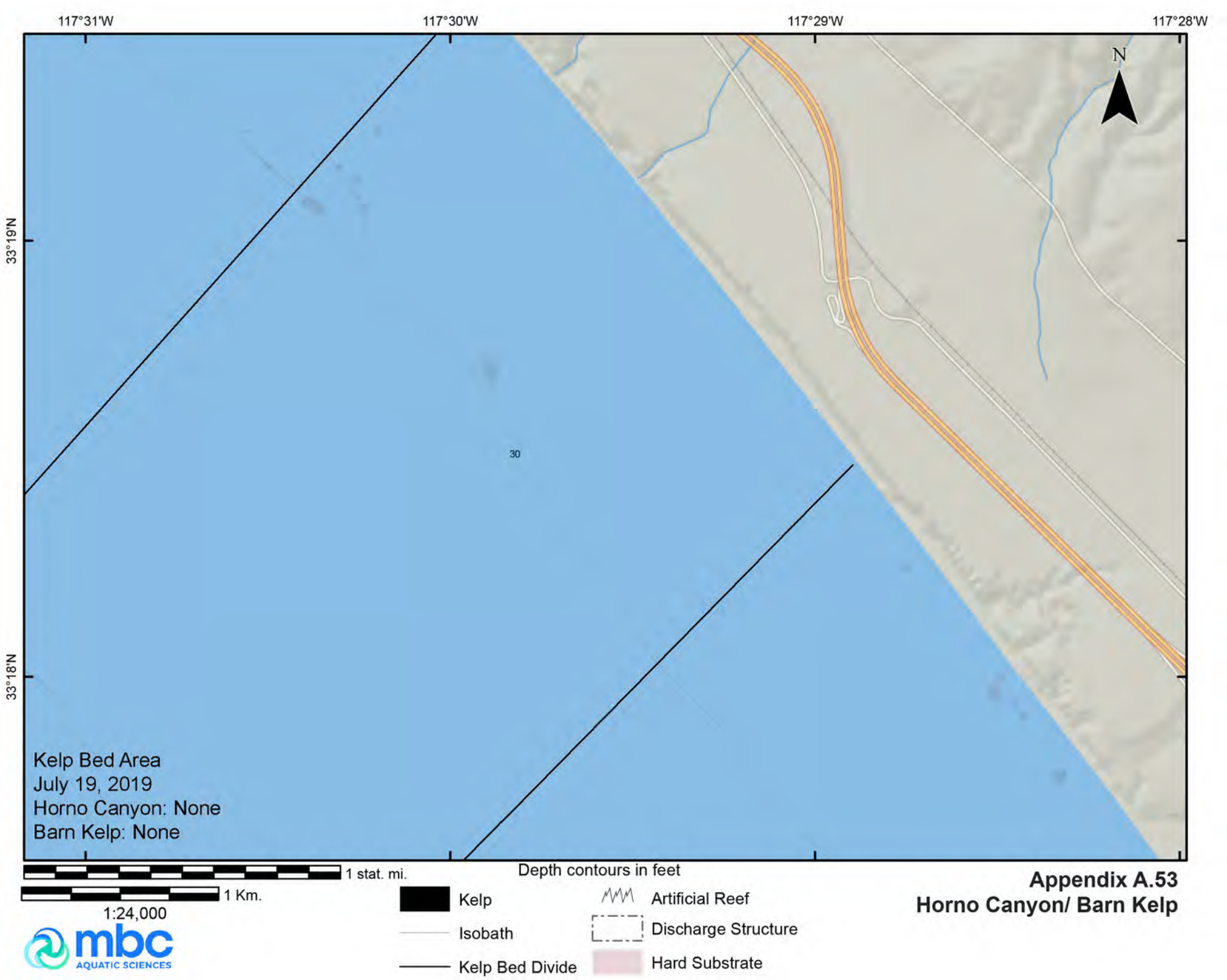

117°38'W
117°37'W
117°36'W
33°24'N
33°23'N
N
San Clemente Municipal Golf Course
San Clemente State Beach
Avenida Montalvo
Avenida Lobeiro
Avenida San Luis Rey
Avenida Del Presidente
S El Camino Real
Avenida Santa Margarita
Calle Ariana
Via Adelia
Sampson Dr
Vista Azul
Calle Gomez
Calle Bania
30
60
Kelp Bed Area
March 31, 2019
San Clemente: 0.0305 Km²
1 stat. mi.
1 Km.
1:24,000
Depth contours in feet
Kelp
Isobath
Kelp Bed Divide
Artificial Reef
Discharge Structure
Hard Substrate
mbc AQUATIC SCIENCES
Appendix A.49
San Clemente

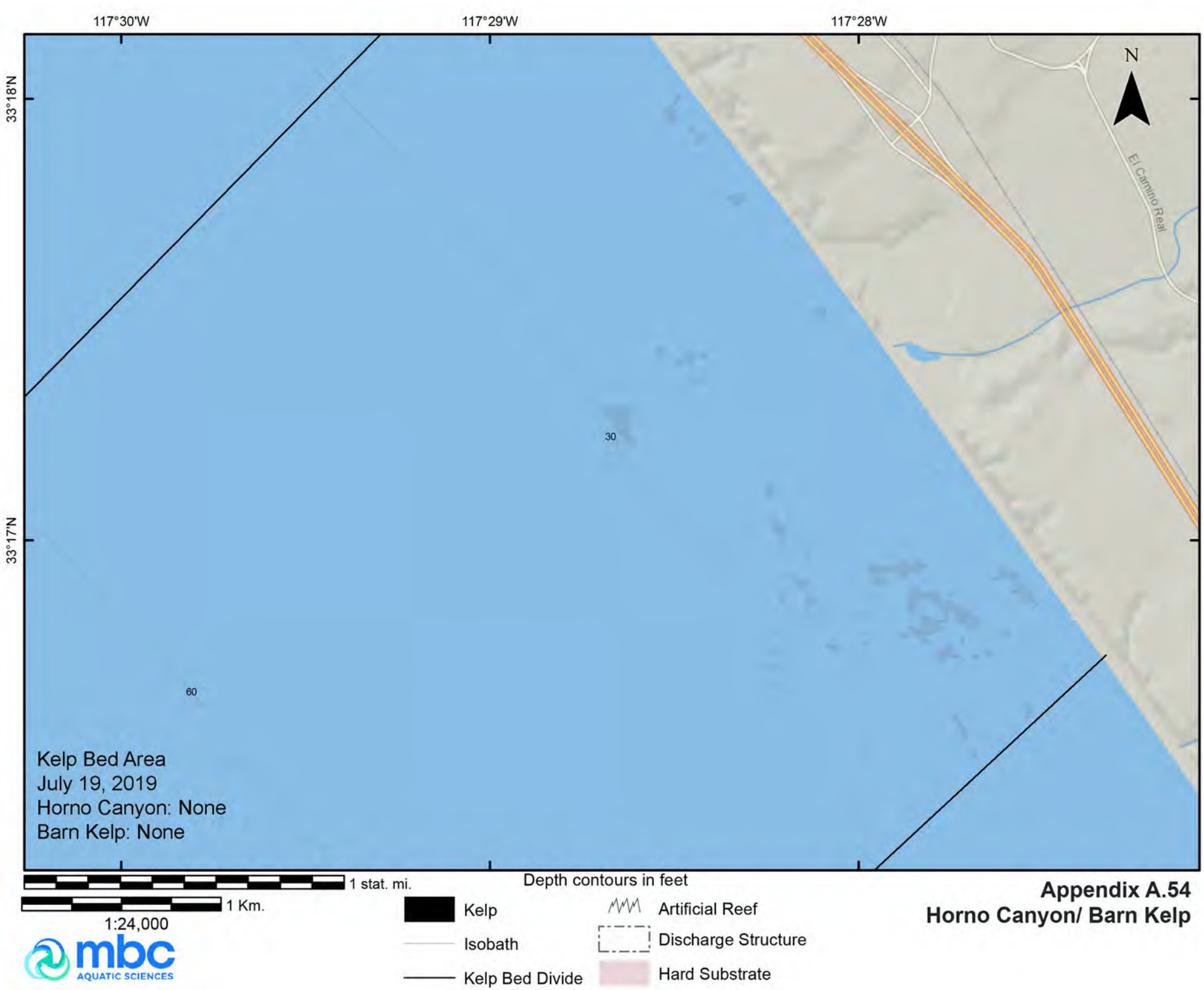


Appendix A.50
San Clemente/ San Mateo/ San Onofre

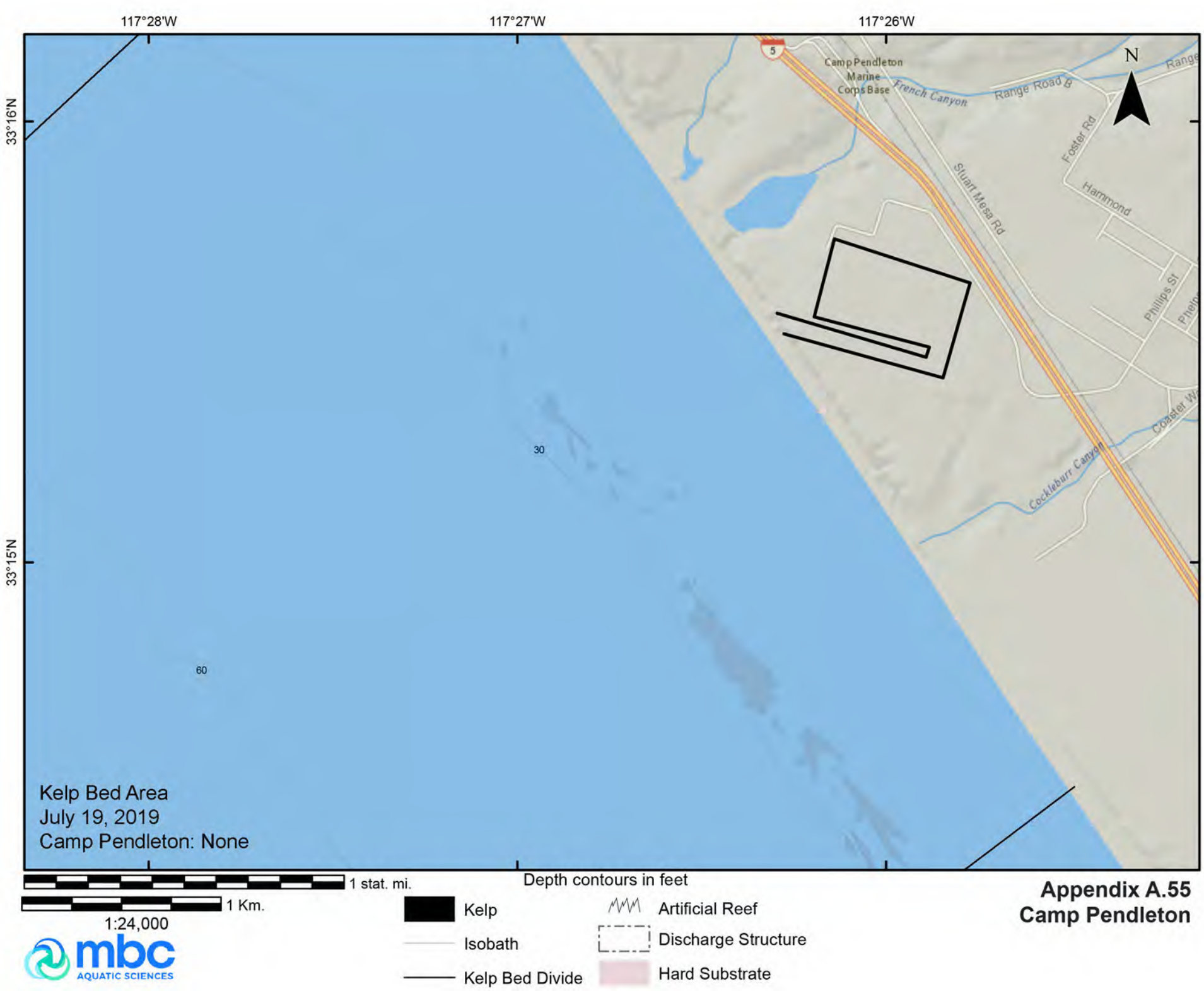

117°35'W
117°34'W
117°33'W
117°32'W
33°22'N
33°21'N
33°20'N
N
30
60
Old Pa
Kelp Bed Area
July 19, 2019
San Onofre: 0.0012 Km²
1 stat. mi.
1 Km.
1:35,000
Depth contours in feet
Kelp
Isobath
Kelp Bed Divide
Artificial Reef
Discharge Structure
Hard Substrate
mbc
AQUATIC SCIENCES
Appendix A.51
San Onofre


117°32'W
117°31'W
117°30'W
33°20'N
33°19'N
N
30
60
cific Ocean
Pendleton
Artificial Reef
Kelp Bed Area
July 19, 2019
Pendleton Reefs: None
1 stat. mi.
1 Km.
1:24,000
Depth contours in feet
Kelp
Isobath
Kelp Bed Divide
Artificial Reef
Discharge Structure
Hard Substrate
mbc
AQUATIC SCIENCES
Appendix A.52
Pendleton Reef

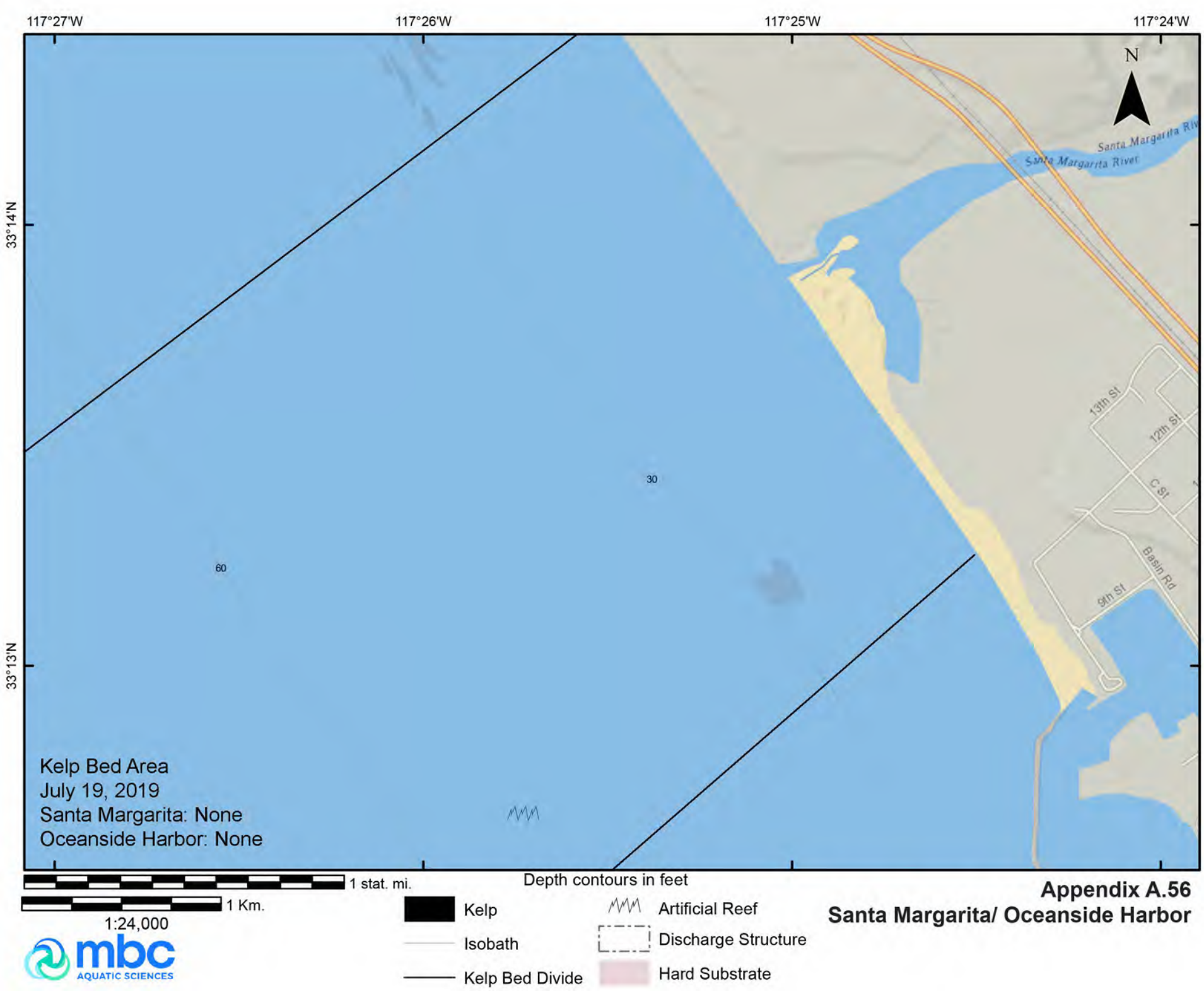

117°31'W
117°30'W
117°29'W
117°28'W
33°19'N
33°18'N
N
30
Kelp Bed Area
July 19, 2019
Horno Canyon: None
Barn Kelp: None
1 stat. mi.
1 Km.
1:24,000
Depth contours in feet
Kelp
Isobath
Kelp Bed Divide
Artificial Reef
Discharge Structure
Hard Substrate
mbc
AQUATIC SCIENCES
Appendix A.53
Horno Canyon/ Barn Kelp



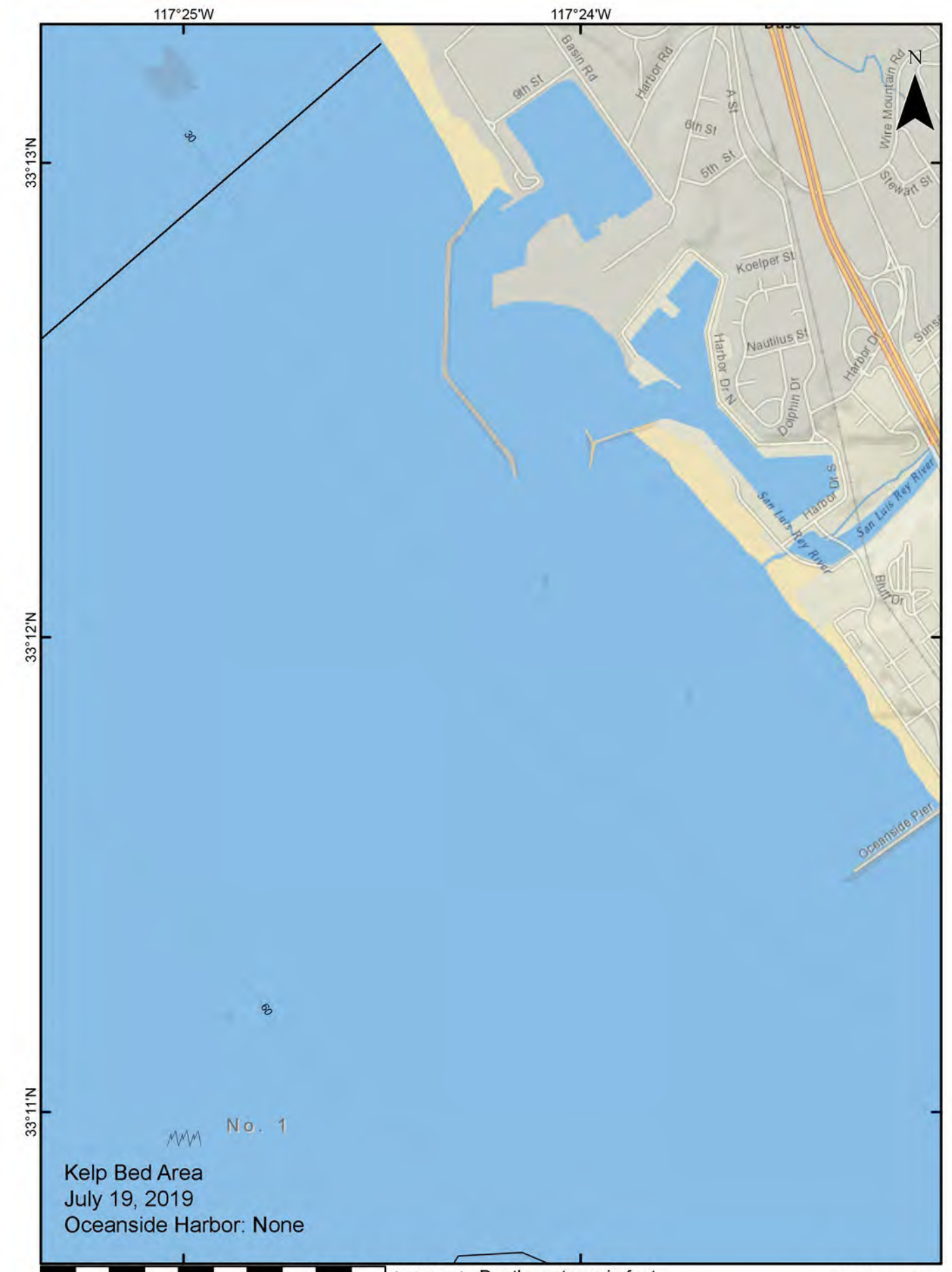
Appendix A.54
Horno Canyon/ Barn Kelp



Appendix A.55
Camp Pendleton

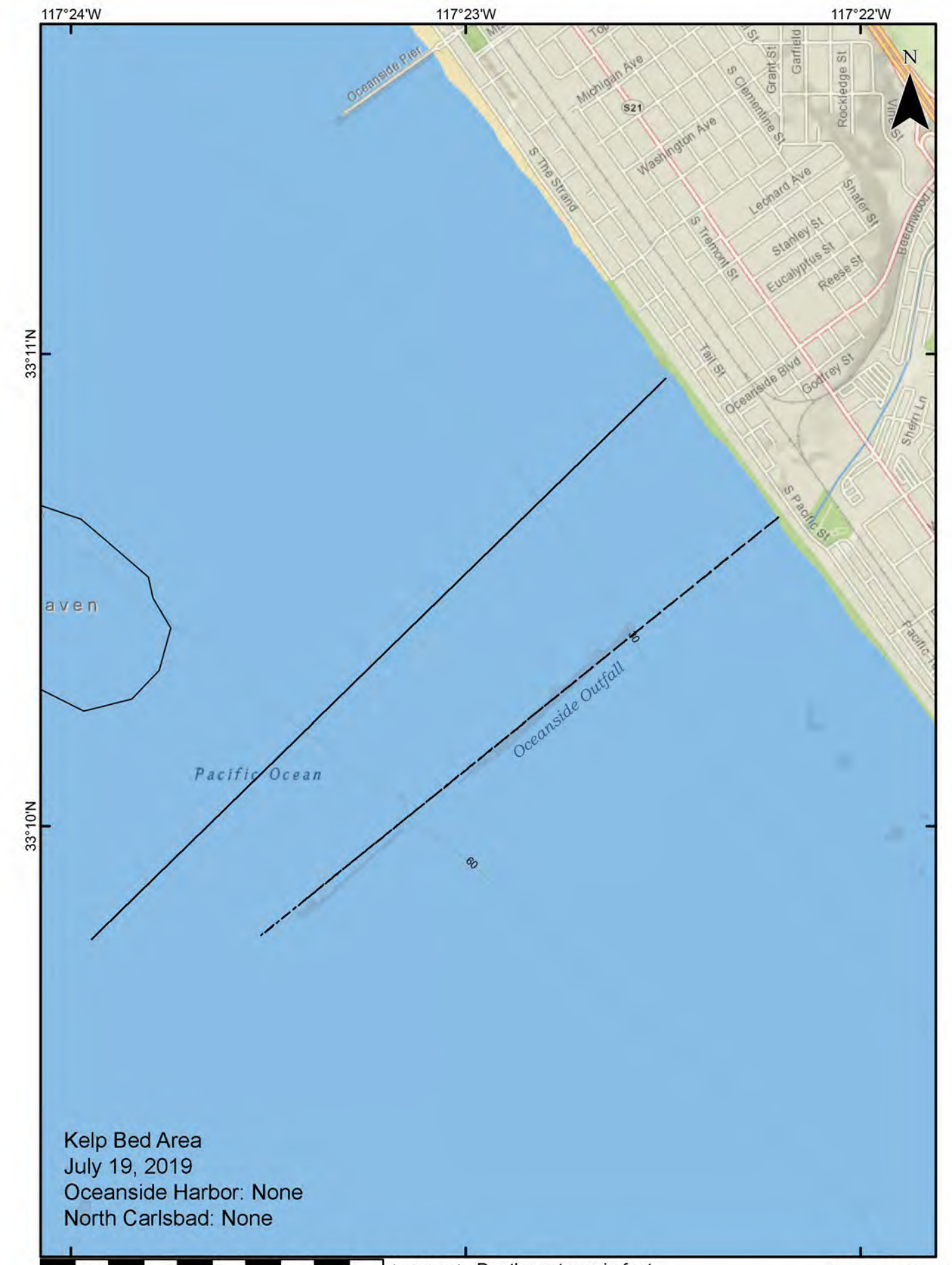


Appendix A.56
Santa Margarita/ Oceanside Harbor

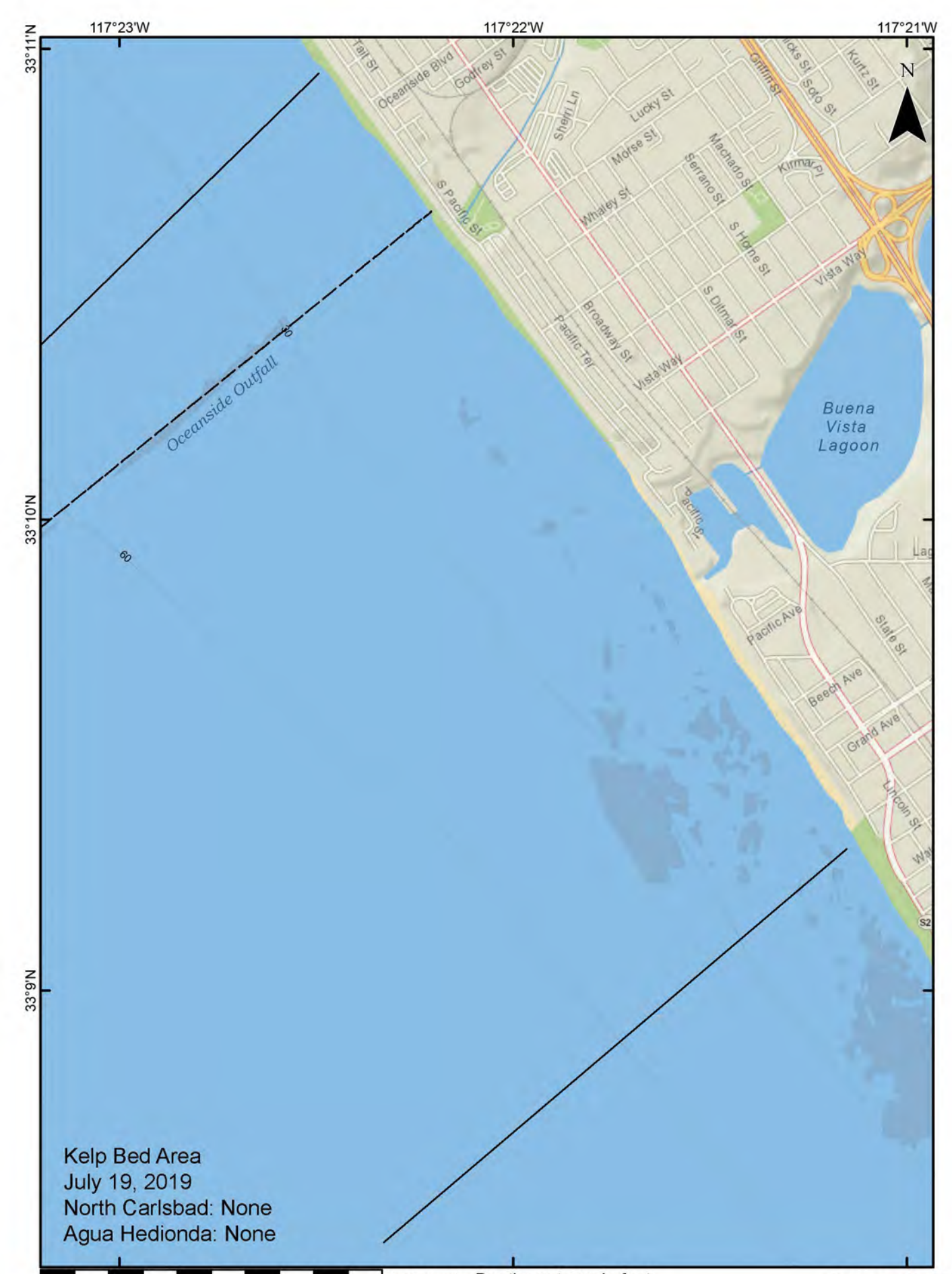


Appendix A.57
Oceanside Harbor and Pier

mbc AQUATIC SCIENCES

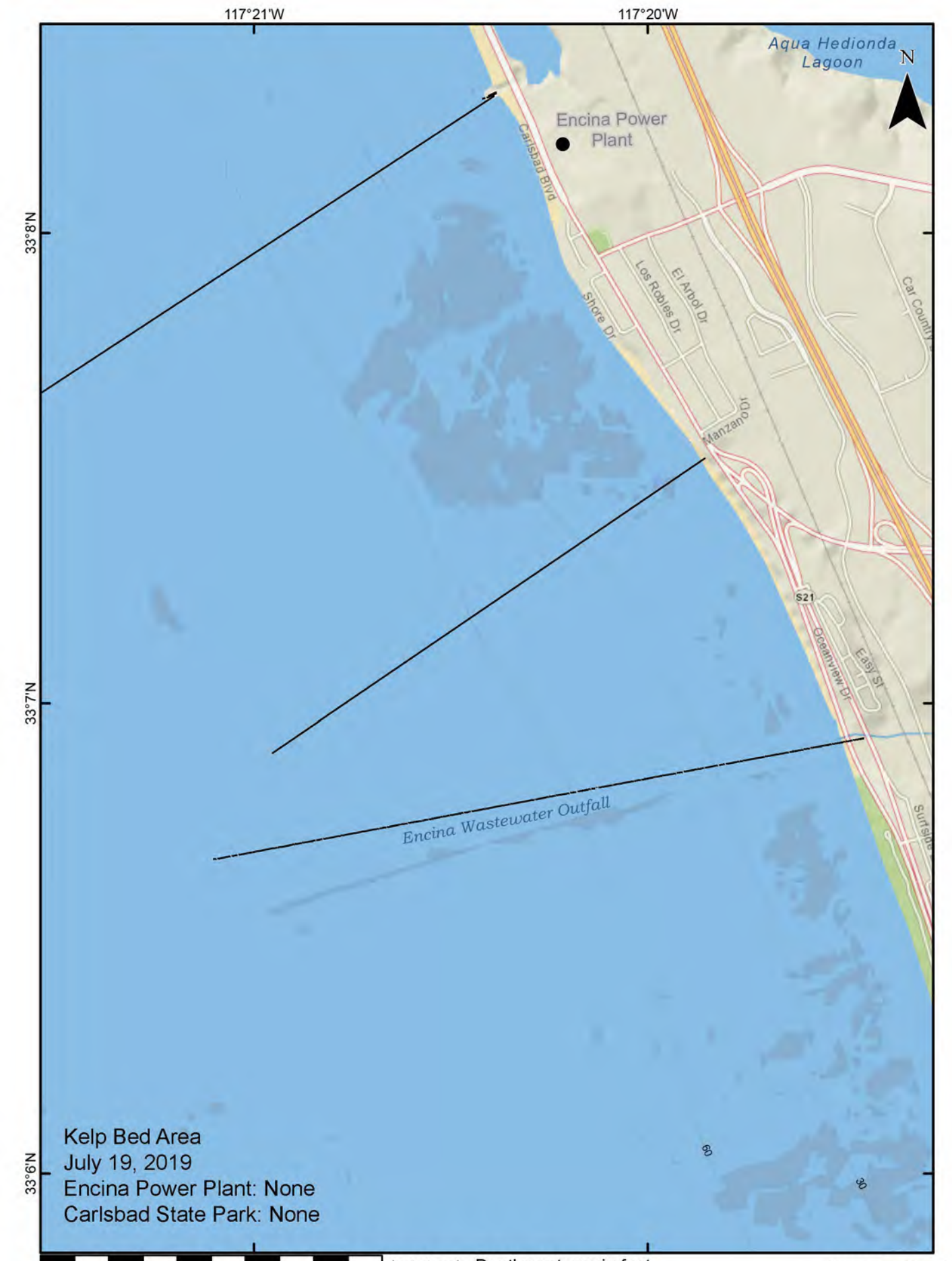


Appendix A.58
Oceanside Harbor/ Pier/ North Carlsbad



mbc AQUATIC SCIENCES

Appendix A.59
North Carlsbad/
Buena Vista Lagoon/
Agua Hedionda



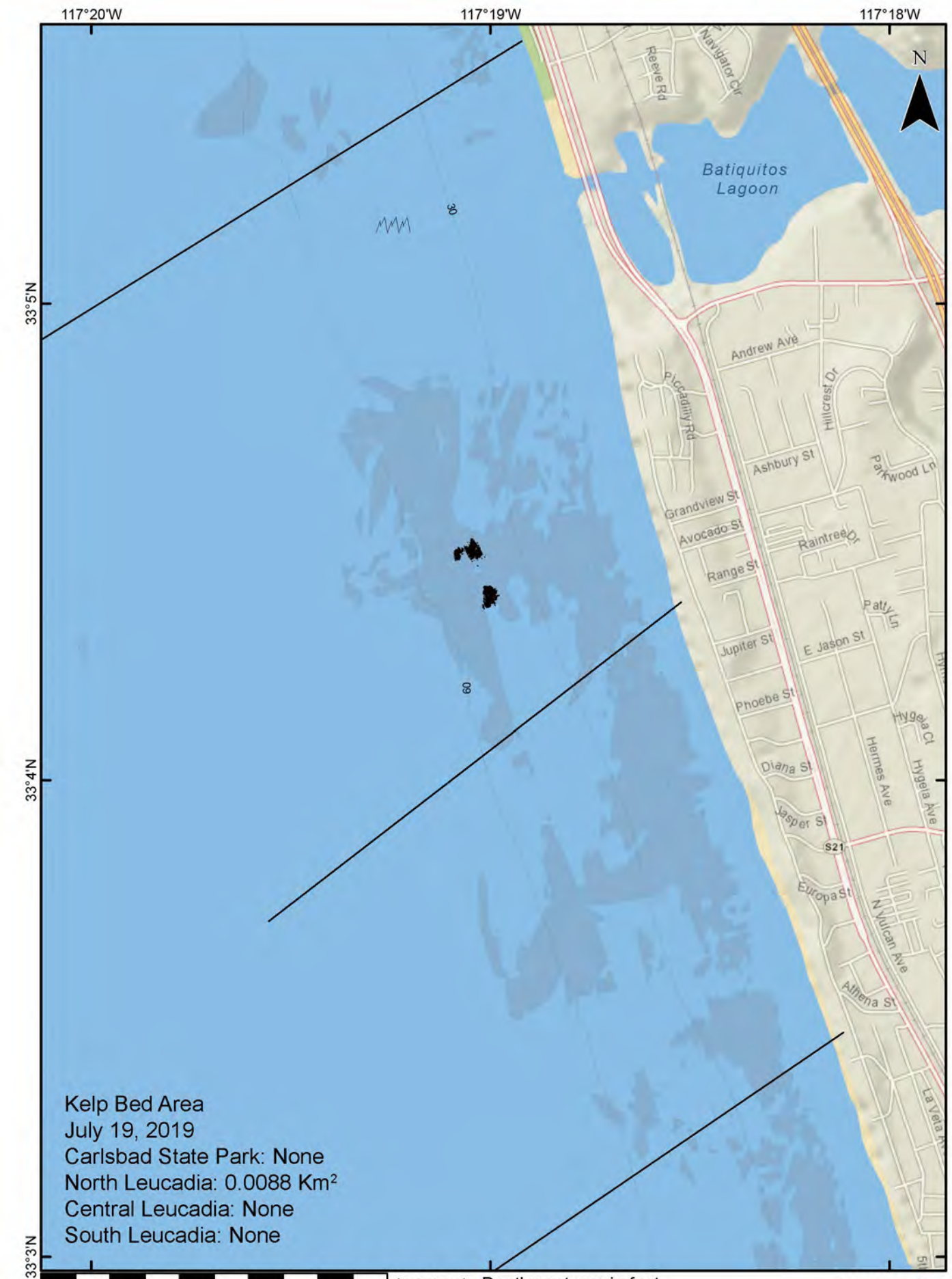
Appendix A.60
Encina Power Plant/
Carlsbad State Park

mbc AQUATIC SCIENCES



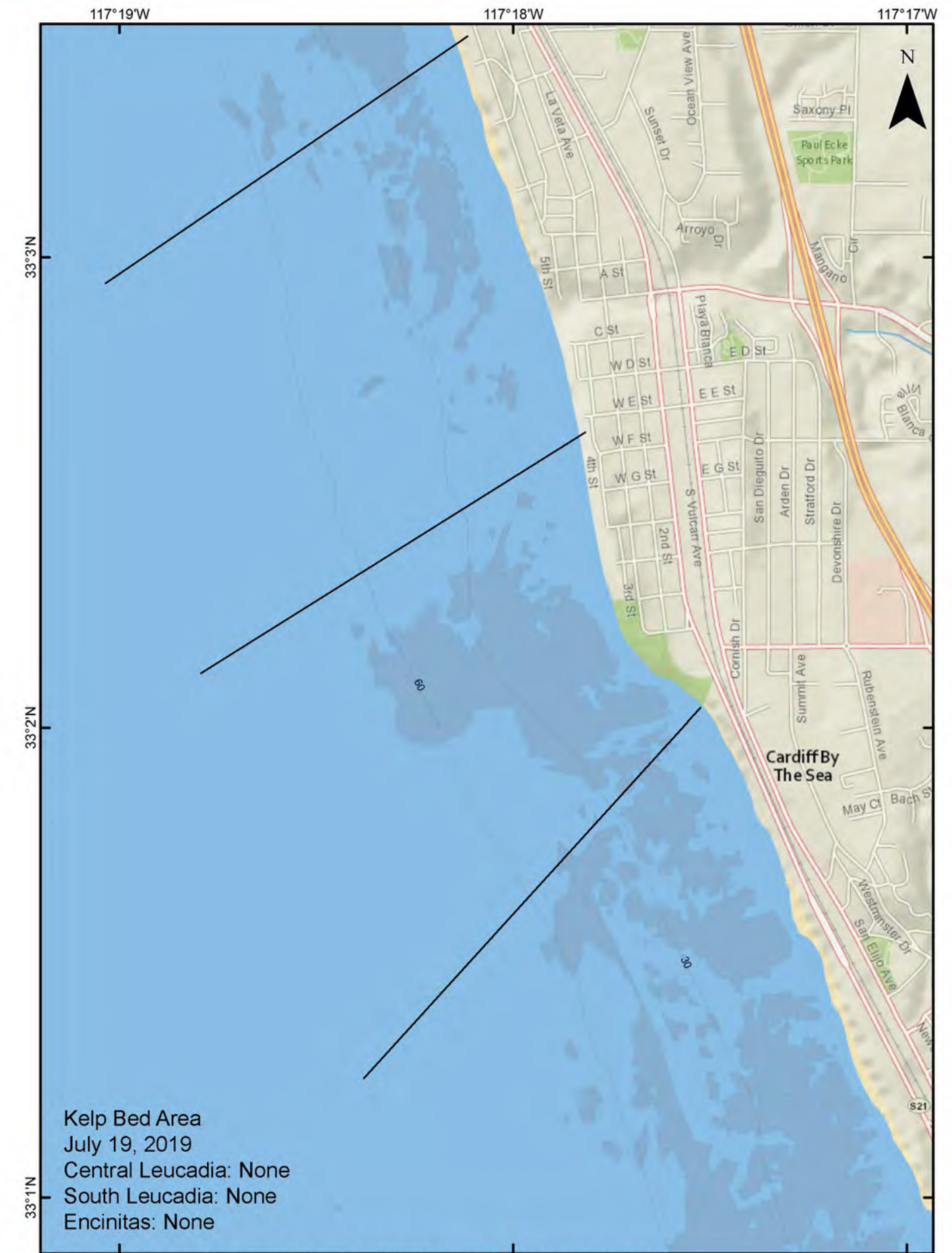
Appendix A.61
Encina Power Plant/
Carlsbad State Park

mbc AQUATIC SCIENCES

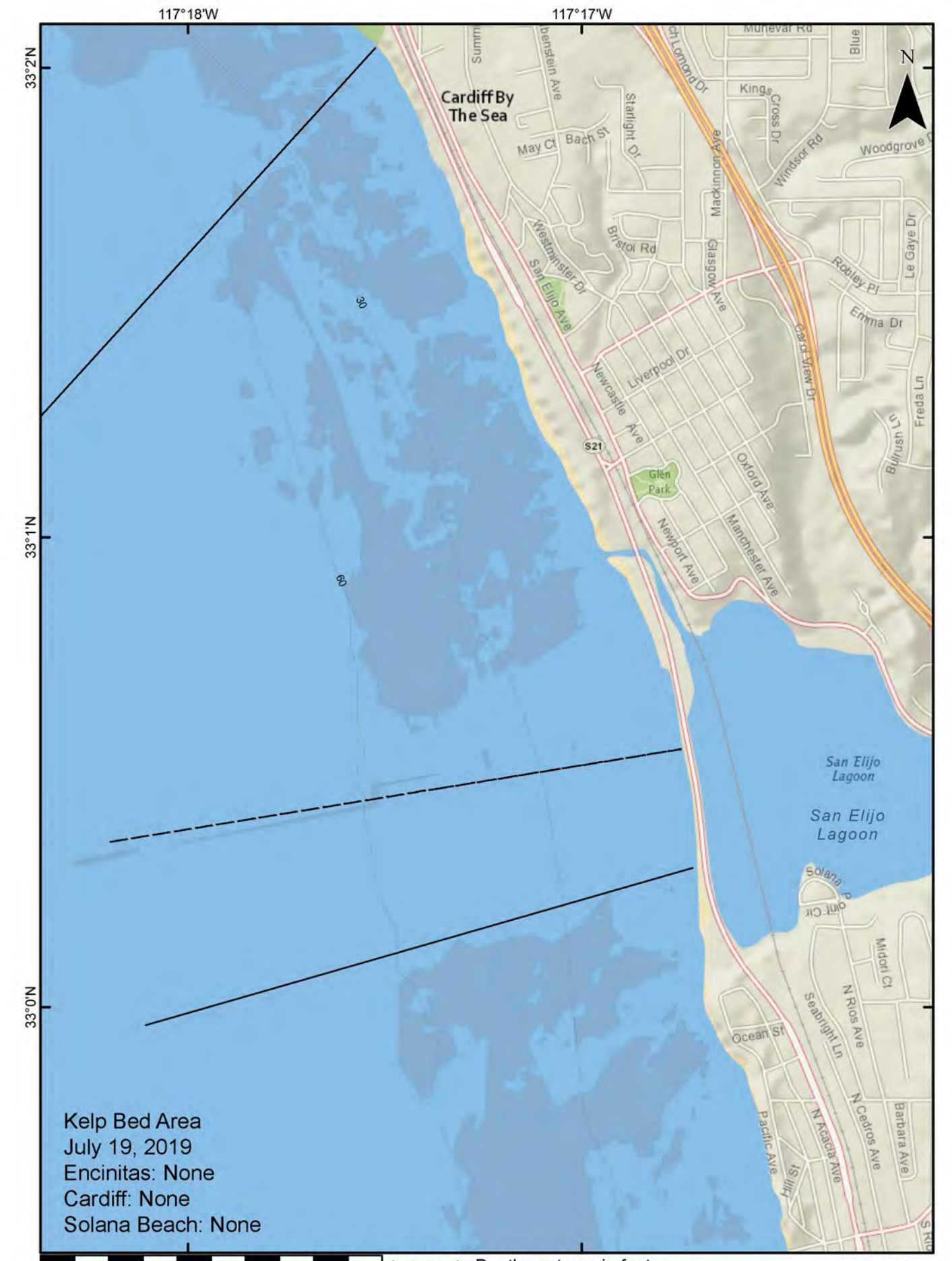


Appendix A.62
Leucadia (North, Central, South)

mbc AQUATIC SCIENCES

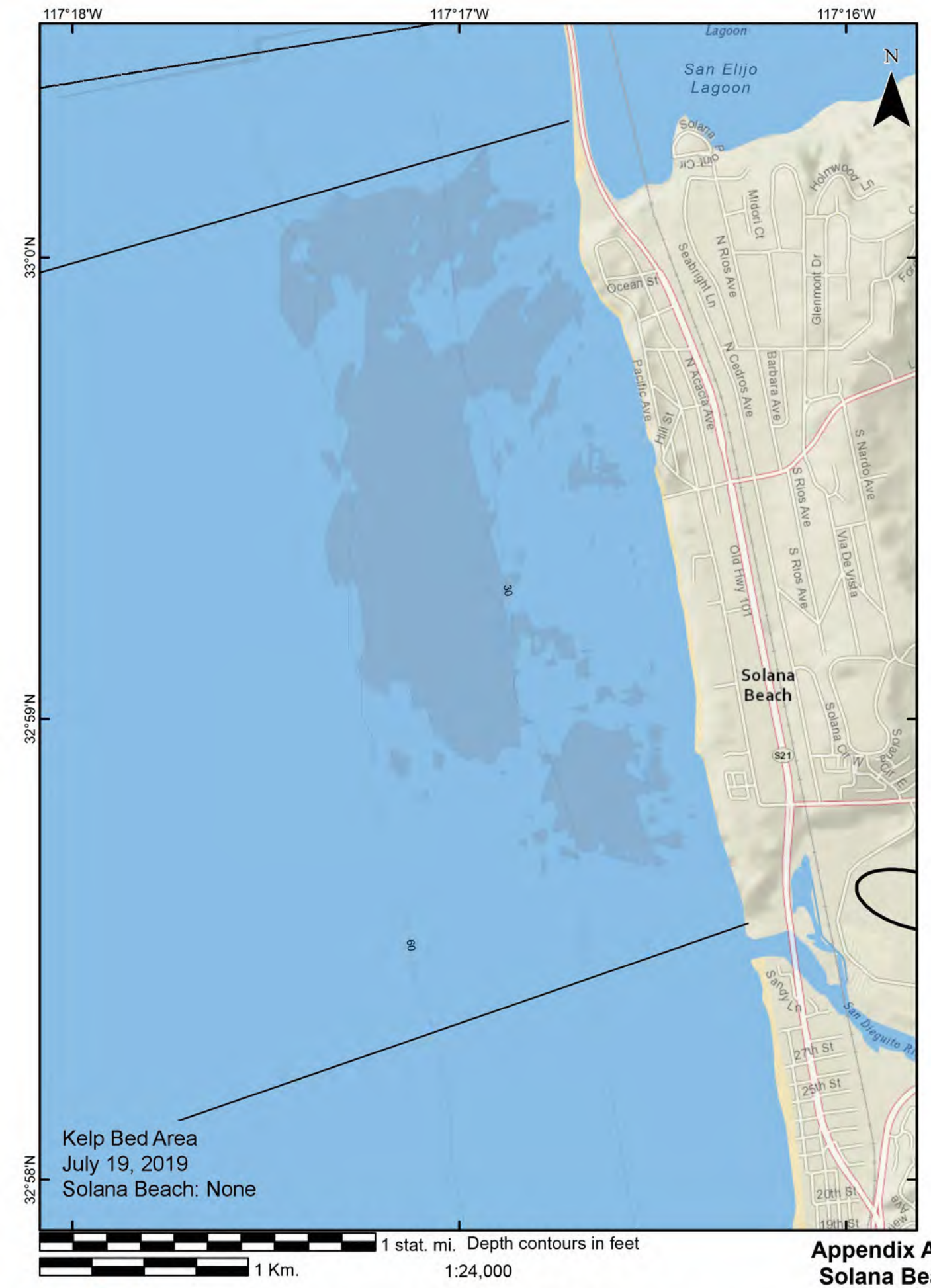


Appendix A.63
Leucadia (Central and South)/ Encinitas/ Cardiff



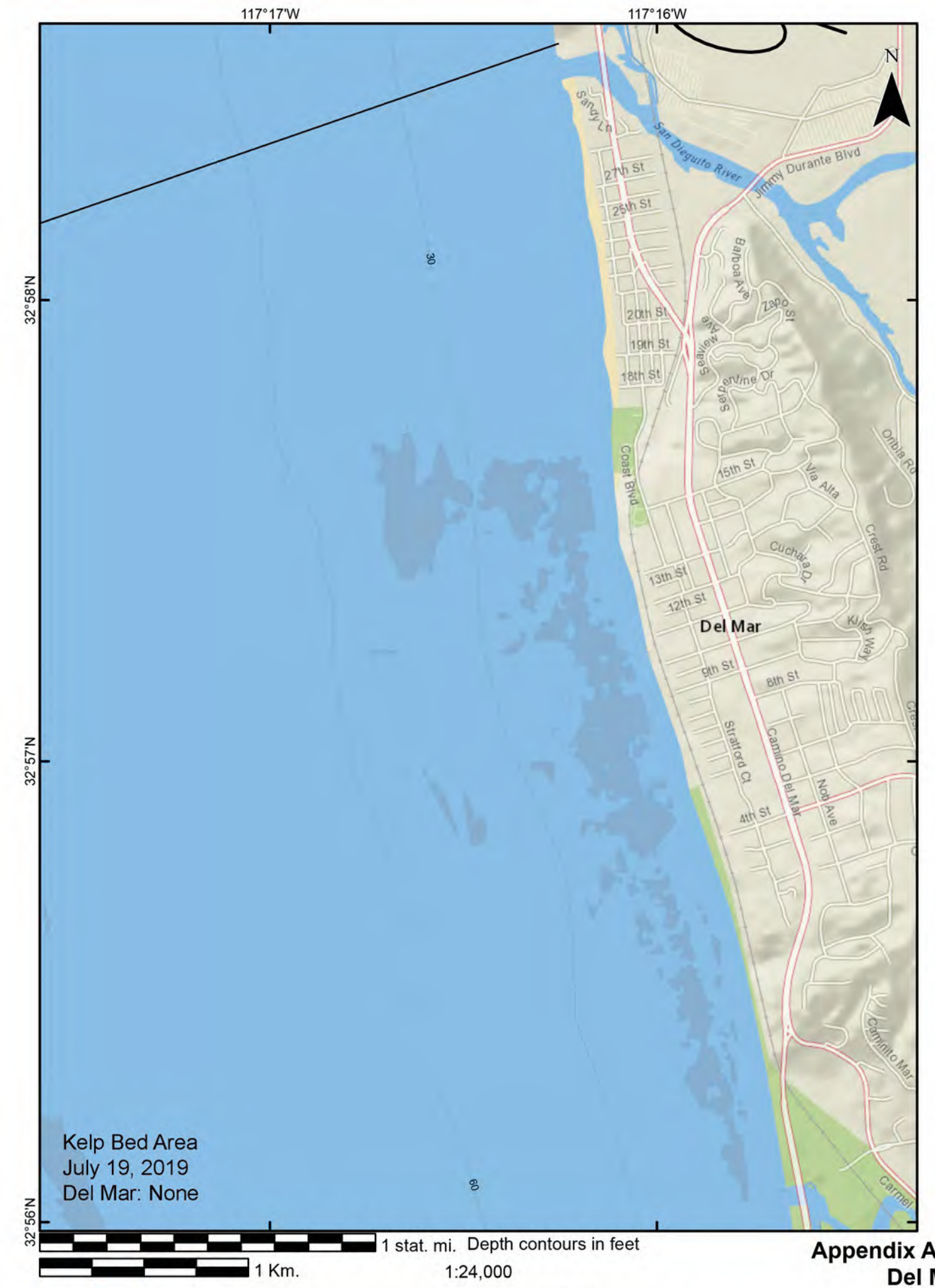
Appendix A.64
Encinitas/ Cardiff/ Solana Beach

mbc AQUATIC SCIENCES

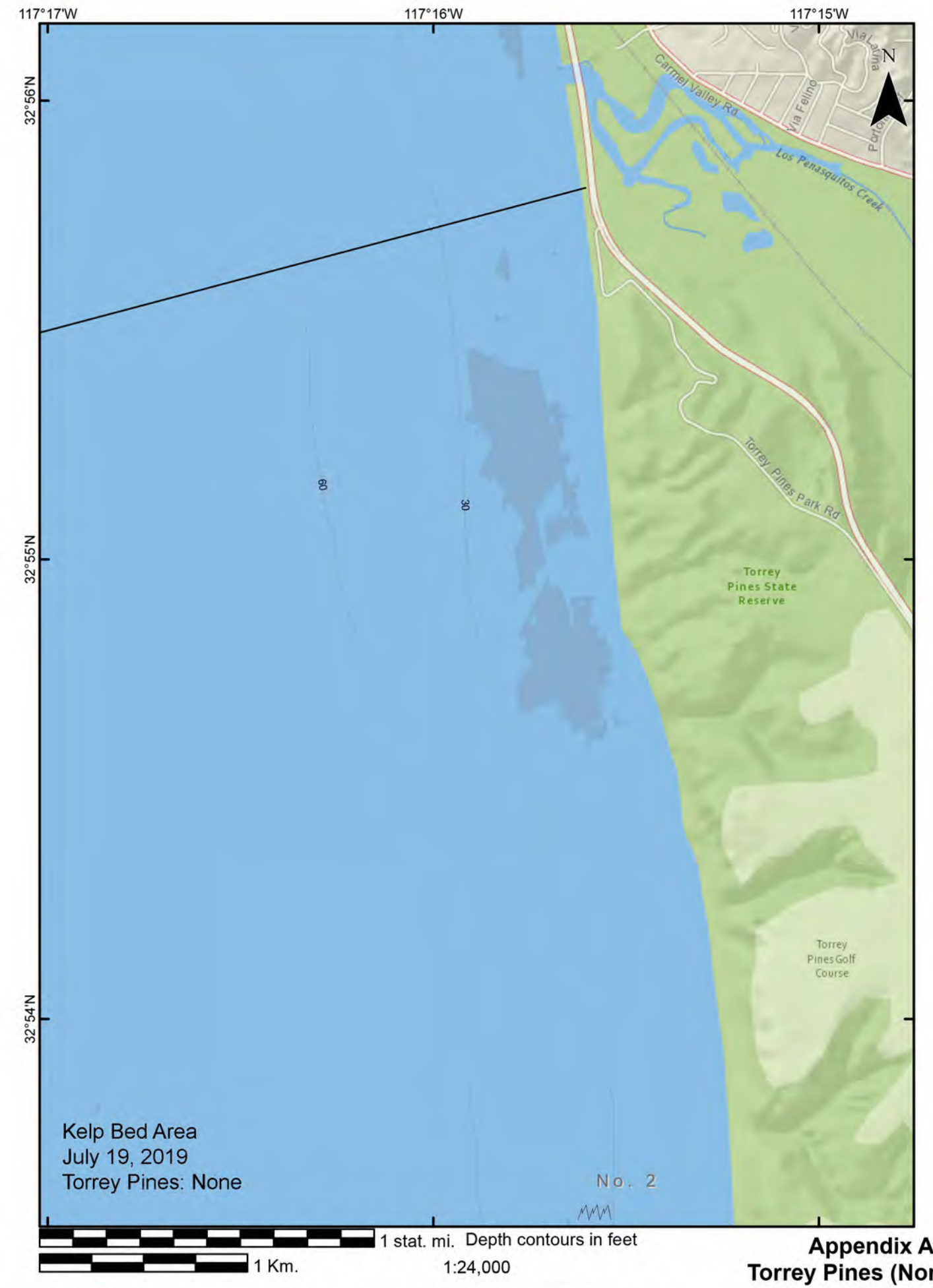


Appendix A.65
Solana Beach

mbc AQUATIC SCIENCES



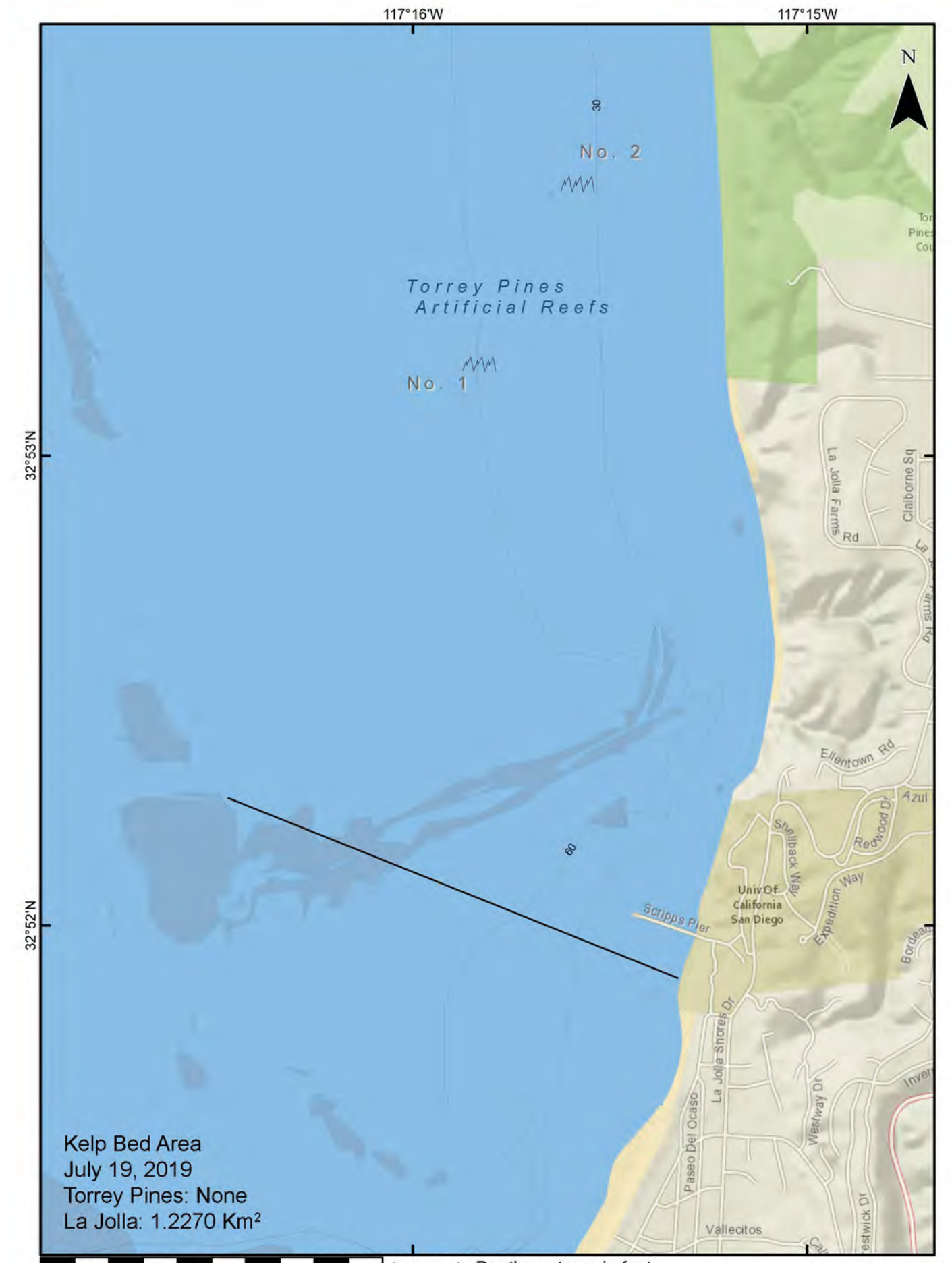
Appendix A.66
Del Mar



Appendix A.67
Torrey Pines (North)

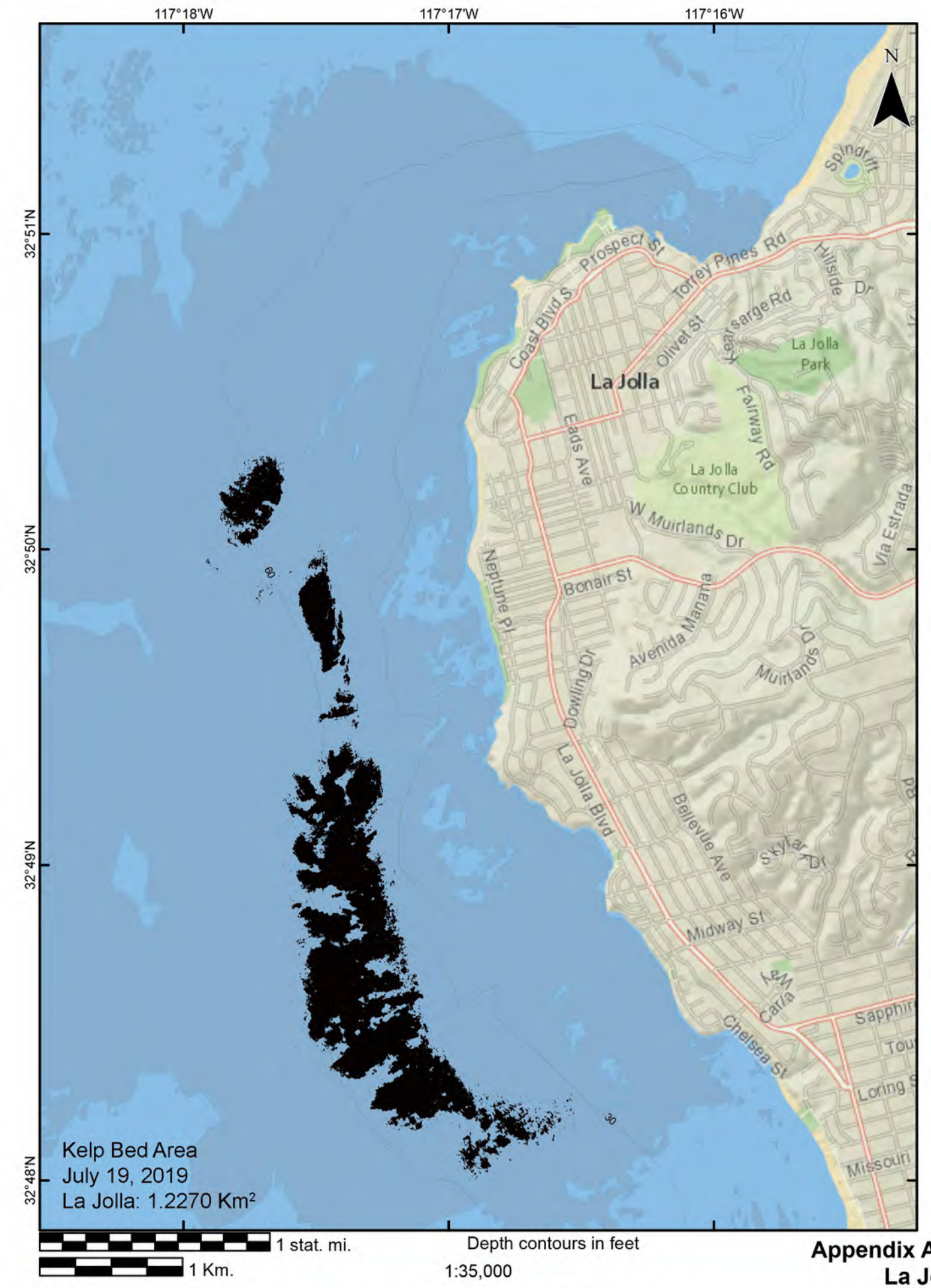
mbc AQUATIC SCIENCES

Kelp 2018
Artificial Reef
Discharge Structure
Isobath
Kelp Bed Divide
Hard Substrate



mbc AQUATIC SCIENCES

Appendix A.68
Torrey Pines Reef (South)



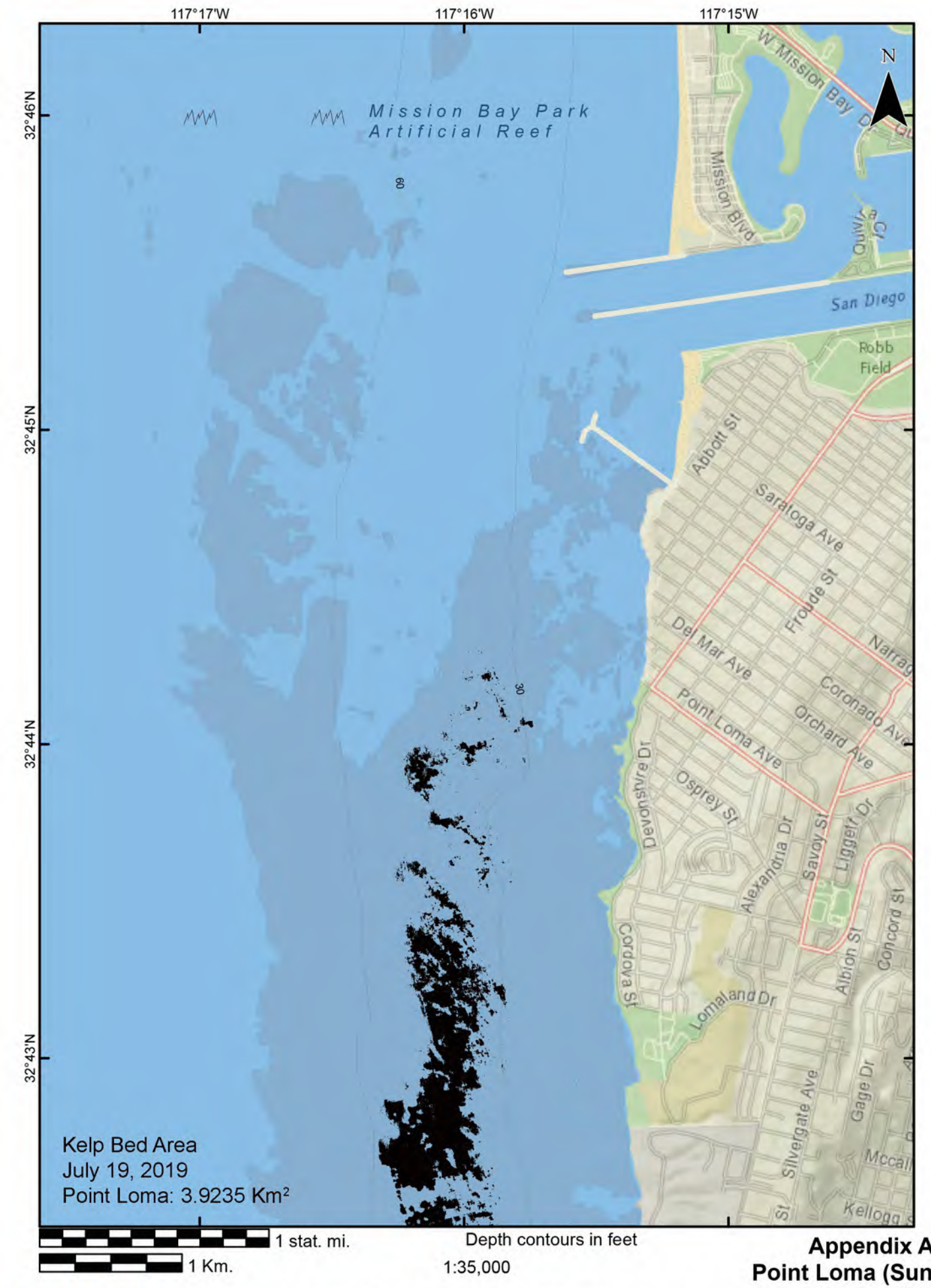
Appendix A.69
La Jolla

mbc AQUATIC SCIENCES



Appendix A.70
La Jolla/ Mission Bay

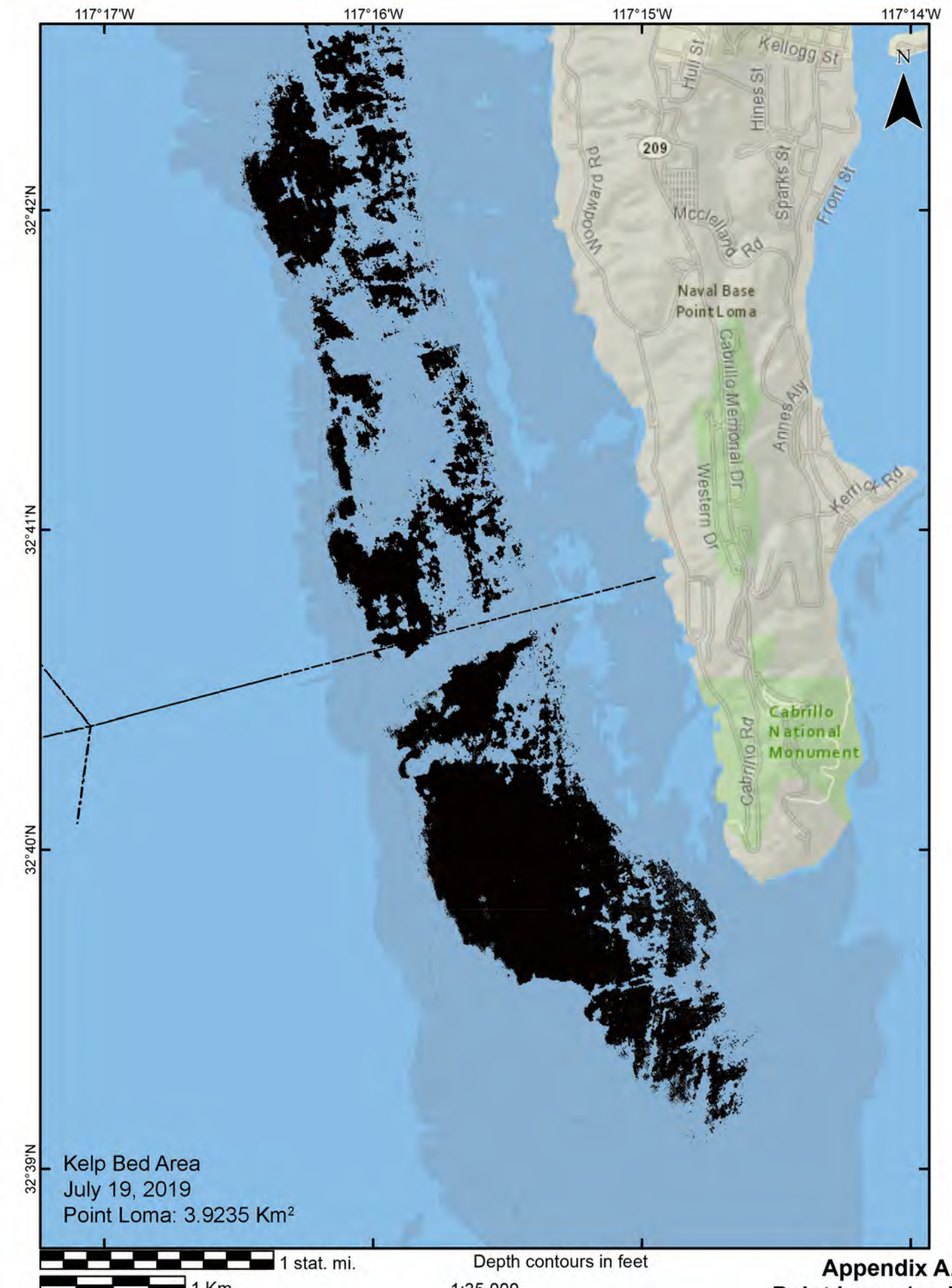
mbc AQUATIC SCIENCES



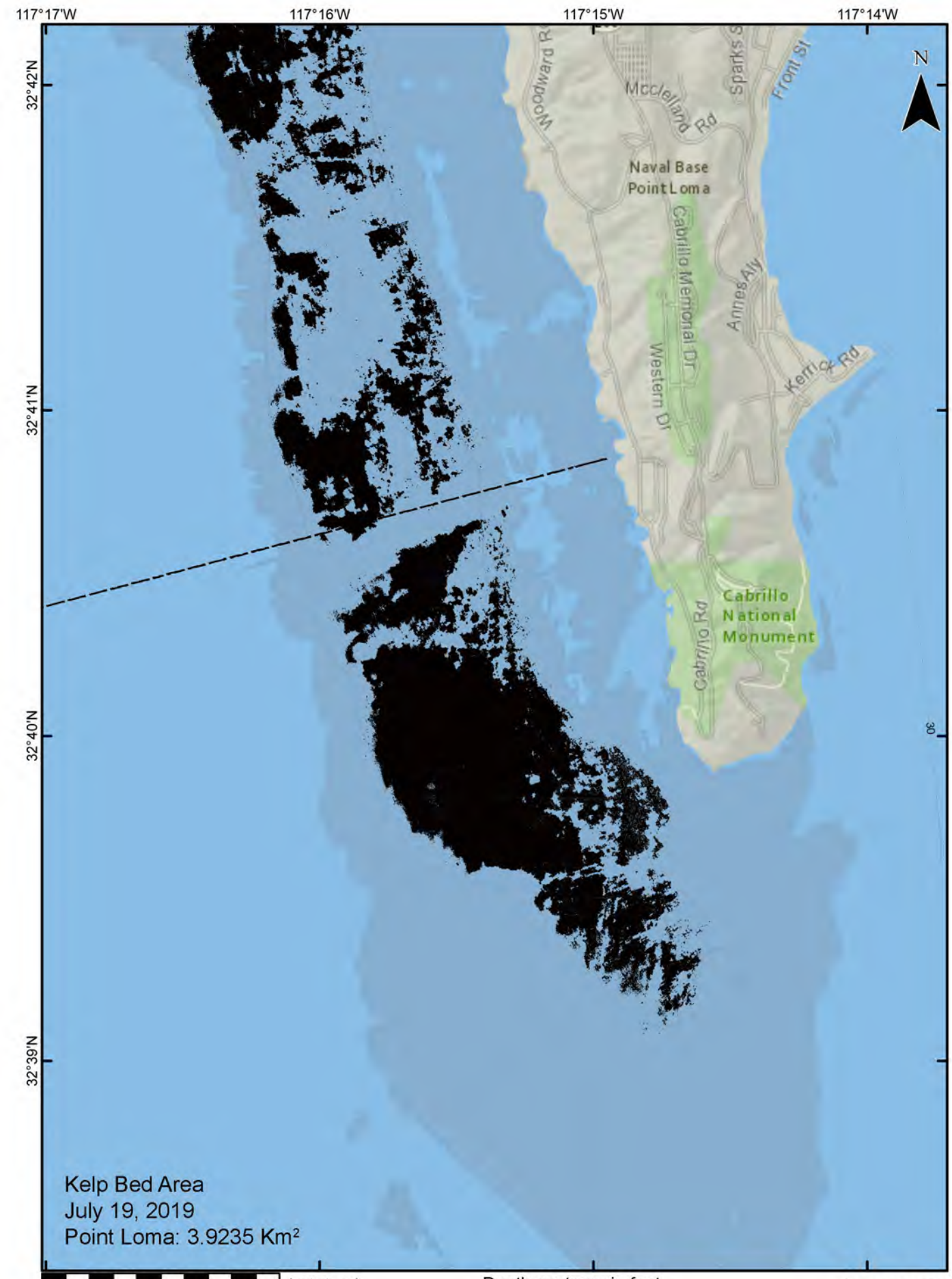
Appendix A.71
Point Loma (Sunset Cliffs)

mbc AQUATIC SCIENCES

Kelp 2018 | Artificial Reef | Discharge Structure
Isobath | Kelp Bed Divide | Hard Substrate

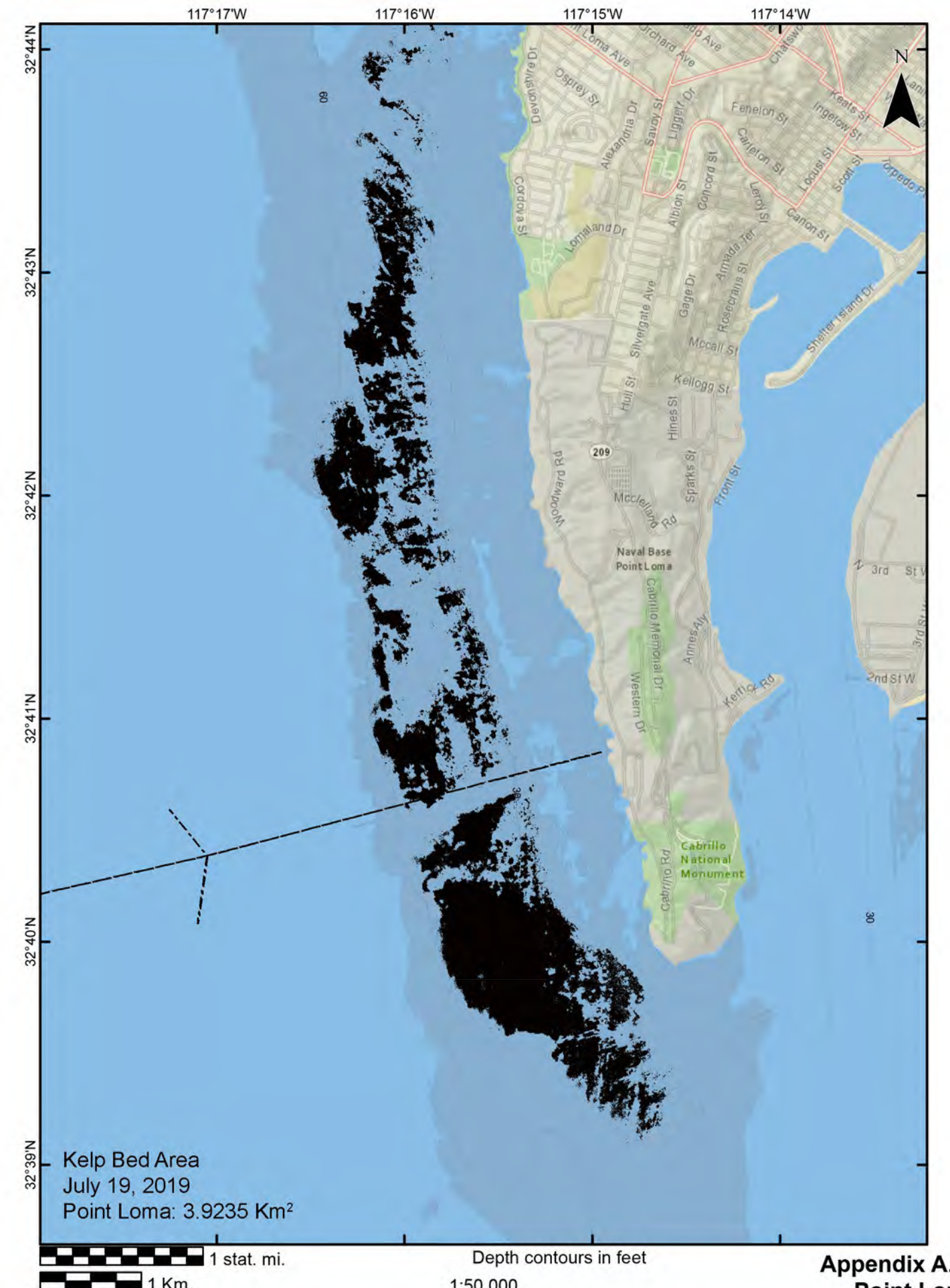


Appendix A.72
Point Loma (end of peninsula)



Appendix A.73
Point Loma (bay entrance)

mbc AQUATIC SCIENCES


117°17'W
117°16'W
117°15'W
117°14'W
32°44'N
32°43'N
32°42'N
32°41'N
32°40'N
32°39'N
N
Kelp Bed Area
July 19, 2019
Point Loma: 3.9235 Km²
Naval Base Point Loma
Cabrillo National Monument
Loma Ave
Orchard Ave
Osprey St
Devonshire Dr
Alexandria Dr
Savoy St
Liggett Dr
Fenelon St
Keats St
Ingelow St
Carleton St
Locust St
Scott St
Torpedo P
Cordova St
Lomaland Dr
Albion St
Concord St
Leroy St
Canon St
Amada Ter
Gage Dr
Rosecrans St
Shelter Island Dr
Silvergate Ave
Mccall St
Kellogg St
Hull St
Hines St
209
Sparks St
Front St
Woodward Rd
Mcclellard Rd
3rd St W
2nd St W
Cabrillo Memorial Dr
Western Dr
Annes Alyr
Kerlick Rd
Cabrillo Rd
88
30
1 stat. mi.
1 Km.
Depth contours in feet
1:50,000
Appendix A.74
Point Loma
mbc AQUATIC SCIENCES
Kelp 2018
Artificial Reef
Discharge Structure
Isobath
Kelp Bed Divide
Hard Substrate



Appendix A.75
Coronado (North Island Naval Air Station)

mbc AQUATIC SCIENCES



Appendix A.76
Coronado Beach/
Silver Strand (North)

mbc AQUATIC SCIENCES



Appendix A.77
Coronado Beach/
Silver Strand
(Central)

mbc AQUATIC SCIENCES

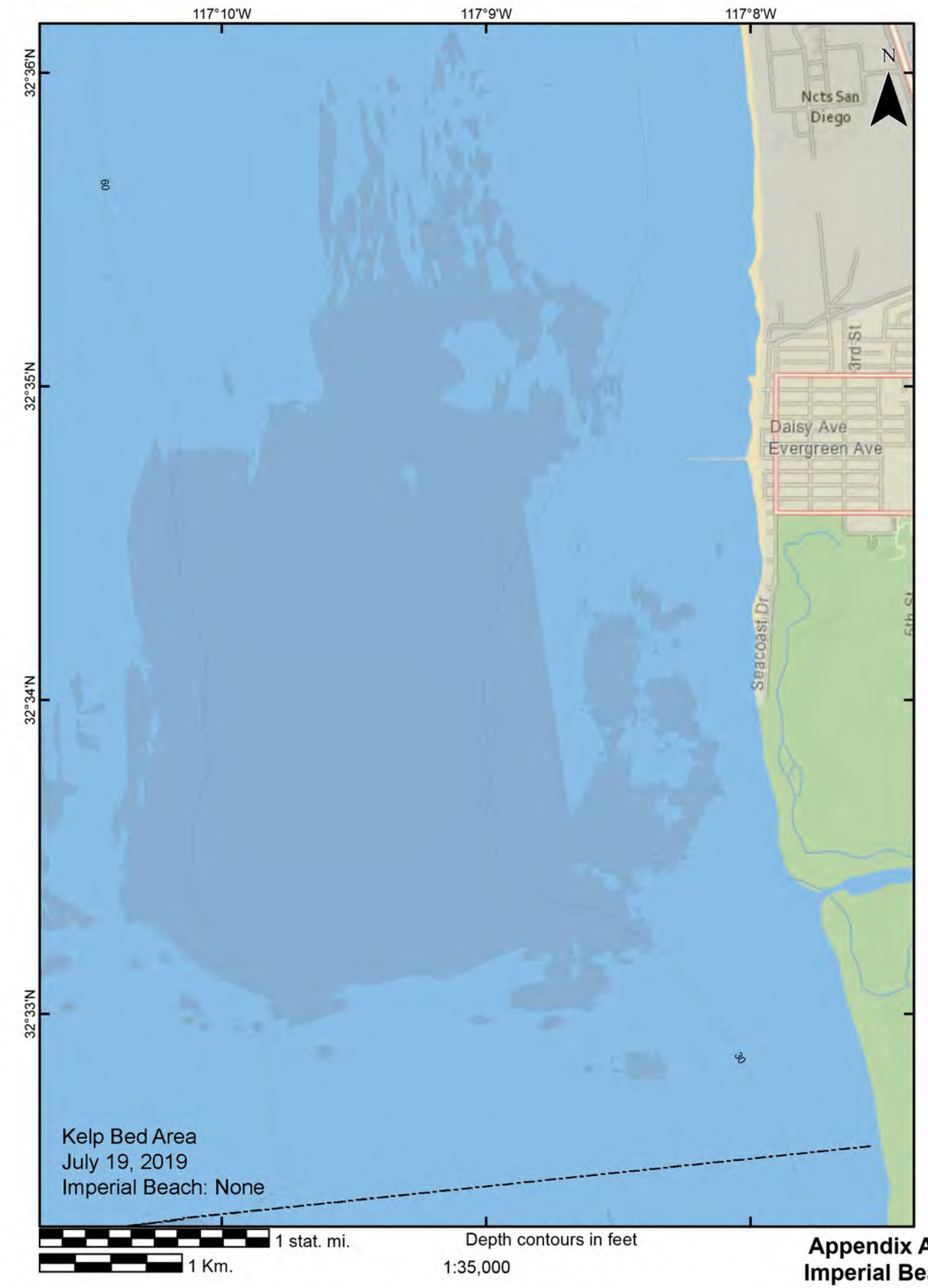
Kelp 2018
Isobath
Artificial Reef
Kelp Bed Divide
Discharge Structure
Hard Substrate



Appendix A.78
Imperial Beach

mbc AQUATIC SCIENCES

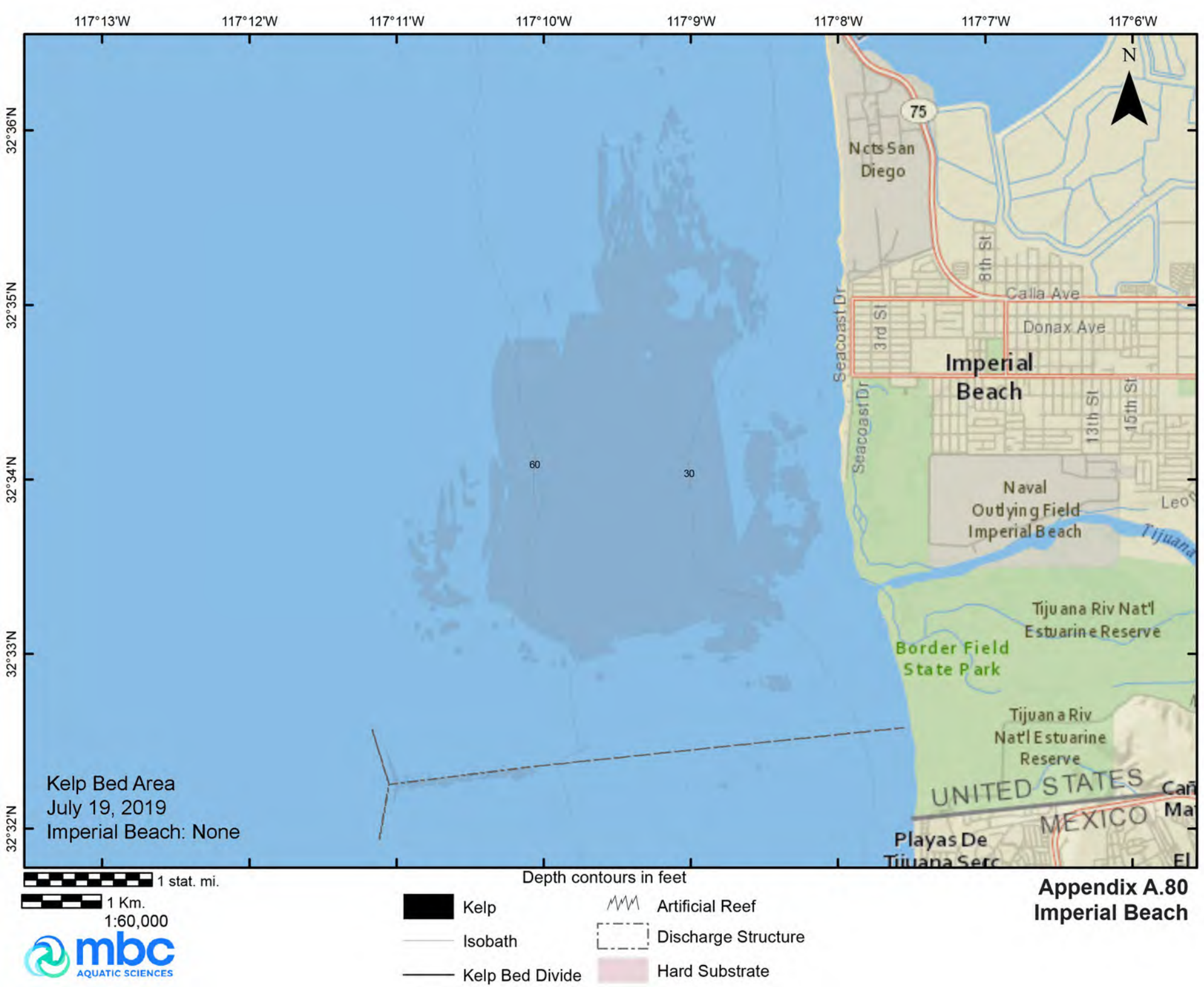
Kelp 2018
Artificial Reef
Discharge Structure
Isobath
Kelp Bed Divide
Hard Substrate



Appendix A.79
Imperial Beach

mbc AQUATIC SCIENCES

Kelp 2018
Isobath
Artificial Reef
Kelp Bed Divide
Discharge Structure
Hard Substrate



Appendix A.80
Imperial Beach

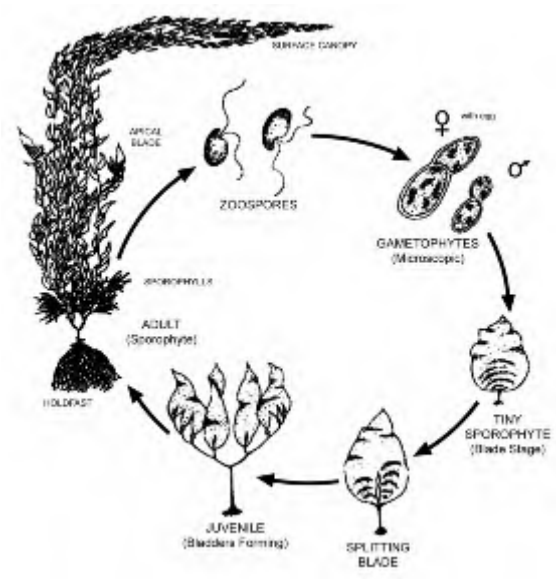
APPENDIX B

Life History of Giant Kelp
Historical Kelp Surveys
Crandall's Maps

LIFE HISTORY OF GIANT KELP

Kelp consists of a number of species of brown algae, of which 10 are typically found from Point Conception to the Mexican Border (the Southern California Bight [SCB]). Compared to most other algae, kelp species can attain remarkable size and long life span (Kain 1979; Dayton 1985; Reed et al. 2006). Along the central and southern California coast, giant kelp *Macrocystis pyrifera* is the largest species colonizing rocky (and in some cases sandy) subtidal habitats, and is the dominant canopy-forming kelp. Giant kelp is a very important component of coastal and island communities in southern California, providing food and habitat for numerous animals (North 1971; Patton and Harmon 1983; Dayton 1985; Foster and Schiel 1985). Darwin (1860) noted the resemblance of the three-dimensional structure of giant kelp stands to that of terrestrial forests. Because of its imposing physical presence, giant kelp biology and ecology have been the focus of considerable research since the early 1900s. Much effort was expended in the early years deciphering its enigmatic life history (Neushul 1963; North 1971; Dayton 1985; Schiel and Foster 1986; Witman and Dayton 2001; Reed et al. 2006). Giant kelp commonly attains lengths of 15 to 25 m and can be found at depths of 30 m. In conditions of unusually good water clarity, giant kelp may even thrive to depths of 45 m (Dayton et al. 1984).

Giant kelp may form beds wherever suitable substrate occurs, typically on rocky, subtidal reefs (North 1971). Such substrate must be free of continuous sediment intrusion. Giant kelp beds can form in sandy-bottom habitats protected from direct swells where individuals will attach to worm tubes; this occurs along portions of the Santa Barbara coastline (Bedford 2001). Like terrestrial plants, algae undergo photosynthesis and therefore require light energy to generate sugars. For this reason, light availability at depth is an important limiting factor to giant kelp growth. Greater water clarity normally occurs at the offshore islands, and as a result, giant kelp is commonly found growing there in depths exceeding 30 m. Along the mainland coast, high biological productivity, terrestrial inputs and nearshore mixing result in greater turbidity and hence lower light levels. Consequently, giant kelp generally does not commonly grow deeper than 20 m along the coastal shelf, although exceptional conditions off San Diego produce impressively large beds that can grow vigorously beyond 30 m.



Appendix B.1 Life cycle for giant kelp.

Giant kelp has a complex life cycle and undergoes a heteromorphic alternation of generations, where the phenotypic expression of each generation does not resemble the generation before or after it (Appendix B.1). The stage of giant kelp that is most familiar is the adult canopy-forming diploid sporophyte generation. Sporophyll blades at the base of an adult giant kelp release zoospores, especially in the presence of cold, nutrient-rich waters. These zoospores disperse into the water column and generally settle a short distance from the parent sporophyte (Reed et al. 1988). Within three weeks, the zoospores mature into microscopic male and female gametophytes that in turn produce sperm and eggs. This second generation does not resemble the sporophyte. The life cycle is completed when fertilization of the gametophyte egg develops into the adult sporophyte

stage. Successful completion of the life cycle relies on the persistence of favorable conditions throughout the process.

Giant kelp grows in groups called forests because erect bundles of fronds (stipes and blades) resemble tree trunks, and spreading canopies at the sea surface represent the stems and leaves (Dawson and Foster 1982). *Macrocystis* anchors to rocks (or occasionally in sand) by a holdfast, and new fronds, comprised of stipes and attached blades, grow up to the sea surface at rapid rates. Giant kelp is known as a biological facilitator (Bruno and Bertness 2001), where its three-dimensional structure and the complexity of its holdfast provides substrate, refuge, reduction of physical stress, and a food source for many fishes (Carr 1989) and invertebrates (Duggins et al. 1990). Stands of giant kelp can also affect flow characteristics in the nearshore zone, and enhance recruitment (Duggins et al. 1990), thus increasing animal biomass. For these reasons, giant kelp is also of great importance to sport and commercial fisheries.

HISTORICAL KELP SURVEYS

Giant kelp bed size and health are known to be highly variable but there has been a downward trend in canopy coverage since the inception of surveying in 1911 (Crandall 1912). In 1911, a mapping expedition of canopy-forming kelps along most of the Pacific coast was conducted to determine the amount of potash (potassium carbonate, an essential ingredient in explosives at the time) potentially available from the kelp. Using rowboats, compass, and sextants to triangulate positions, U.S. Army Captain William Crandall produced one of the most complete surface density kelp maps of the west coast of North America. Using this methodology, all of the existing kelp beds in the Central Region and Region Nine areas were mapped and these measurements have been used to define a baseline for southern California kelp beds (Appendices B.2, B.3, and B.4).

Despite the value of Crandall's maps, the accuracy of his measurements was questioned (Hodder and Mel 1978 [SAI 1978], Neushul 1981). These authors contended that measurement errors might have resulted from using a rowboat and triangulations from shore to compute the bed perimeters, particularly on very large beds such as Palos Verdes, Point Loma, and La Jolla. Although Crandall's ability to accurately triangulate a position was adequate, his measurements of large beds resulted from fewer fixed points and estimation of the area between points. Modern aerial surveys reveal numerous holes and a fair degree of patchiness in such beds. Crandall's estimates did not account for these natural gaps and therefore the 1911 survey probably overestimated the size of these larger beds. Given this ambiguity, Crandall's measurements should be viewed qualitatively rather than as quantitative estimates comparable to aerial survey data taken since the 1920s. However, the data are a very good approximation to use as a baseline. Anecdotal reports from area stakeholders reported by Cameron (1915) indicate kelp beds in 1911 were in fairly poor condition compared to previous years.

Although the historical El Niño Southern Oscillation (ENSO) index suggests that the five years prior to 1911 were favorable to the kelp, the Pacific Decadal Oscillation (PDO) (another environmental metric that has historical data extending back to that period) is in agreement with Cameron's 1915 statement. While the PDO is a poor predictor of oceanographic conditions in the Southern California Bight (Di Lorenzo et al. 2008), it does correlate with sea surface temperature (SST). Therefore, it provides some insight into the local hydrographic conditions at the time. The annual mean PDO was slightly negative between 1909 and 1911, before transitioning to a warm phase from 1912 through 1915. This is suggestive, but not conclusive, of lower nutrient concentrations in 1912–1915 that would result in poor kelp growth. To add further credibility to the premise that beds were larger than current trends would indicate, aerial photos of Palos Verdes kelp beds taken in 1928 (measured by North in 1964) found the area to be more than 10% larger than Crandall reported in 1911.

In 1964, Dr. Wheeler North, working for the State Water Quality Control Board (1964), re-measured Crandall's Palos Verdes charts and found the 2.66 square nautical miles (Nm^2 [9.12 km^2]) Crandall reported to be very similar to his measurement of 2.42 Nm^2, but North's measurement did not include much of Malaga Cove (that added an additional 0.130 Nm^2 of kelp to the Palos Verdes beds), resulting in North's measurement of about 2.55 Nm^2 (Appendices B.5-B.11; Crandall Maps).

Due to the large sizes reported by Crandall, Neushul (1981) assumed there was a scaling error, re-measured the maps, and calculated a value that was 10% less than Crandall's original measurement. However, Neushul (1981) wrote that his measurements resulted in

Appendix B.2 Kelp beds of the California coast as described by Crandall in 1911.

Crandall Sheet (Map in report) No.	Kelp Bed No.	Density	Bed Name 2013	Area Square Nautical Miles	Area Square Statute Miles	Area Square Kilometers
Sheet 52		Medium	Imperial Beach	0.287	0.3801	0.9844
Sheet 18	1	Very Heavy.	Point Loma	5.400	7.1516	18.5226
	2	Very Heavy.	La Jolla	2.300	3.0461	7.8893
Sheet 17	3	Medium	Del Mar	0.240	0.3178	0.8232
		N. Present	No Solana Beach	0.000	0.0000	0.0000
		N. Present	No Cardiff	0.000	0.0000	0.0000
	4	Medium	Encinitas 30% (0.970)	0.291	0.3854	0.9982
	4	Medium	Leucadia 50% (0.970)	0.485	0.6423	1.6636
	4	Medium	Carlsbad St Bch 20%	0.194	0.2569	0.6654
	5	Medium	Encina Power	0.125	0.1655	0.4288
	5	Medium	Agua Hedionda	0.125	0.1655	0.4288
	6	Medium	Carlsbad	0.140	0.1854	0.4802
	7	Medium	Santa Margarita	0.250	0.3311	0.8575
	8	Thin	Barn Kelp	0.370	0.4900	1.2691
	9	Thin	Barn Kelp	0.080	0.1059	0.2744
	10	Thin	Barn Kelp	0.260	0.3443	0.8918
	11	Thin	Horno Canyon	0.050	0.0662	0.1715
	12	Thin	San Onofre	0.110	0.1457	0.3773
	13	Thin	San Onofre	0.130	0.1722	0.4459
	14	Thin	San Onofre	0.060	0.0795	0.2058
	15	Thin	San Mateo	0.360	0.4768	1.2348
Sheet 14, 15, and 16	16	Thin	San Clemente	0.060	0.0795	0.2058
	17	Medium	Capistrano	0.240	0.3178	0.8232
	18	Medium	Doheny	0.220	0.2914	0.7546
	19	Medium	Dana Point/Salt Creek	0.340	0.4503	1.1662
		N. Present	Laguna Beach	0.000	0.0000	0.0000
	20	Medium	Corona Del Mar	0.220	0.2914	0.7546
	21	Medium	Cabrillo to Port Bend	0.760	1.0065	2.6069
	22	Thin	Portuguese Bend	0.100	0.1324	0.3430
	23	Thin	Point Vicente, PV	0.070	0.0927	0.2401
	24	Medium	PV Pt to Flat Rk, PV	1.600	2.1190	5.4882
	25	Medium	Malaga Cove, PV	0.130	0.1722	0.4459
Chart 13	1	Thin	Sunset Beach	0.280	0.3708	0.9604
	2	Thin	Topanga (50%)	0.005	0.0066	0.0172
	2	Thin	Las Tunas (50%)	0.005	0.0066	0.0172
	3	Thin	Big Rock	0.005	0.0066	0.0172
	4	Thin	Las Flores	0.004	0.0053	0.0137
	5	Thin	La Costa	0.006	0.0079	0.0206
		N. Present	Malibu Point	0.000	0.0000	0.0000
	6	Thin	Puerco/Amarillo (10%)	0.100	0.1324	0.3430
	6	Thin	Latigo Canyon (13%)	0.130	0.1722	0.4459
	6	Thin	Escondido Wash (17%)	0.170	0.2251	0.5831
	6	Thin	Paradise Cove (40%)	0.400	0.5297	1.3720
Chart 13	6	Thin	Point Dume (20%)	0.200	0.2649	0.6860
	7	Thin	Lechuza (33%)	0.037	0.0485	0.1255
	7	Thin	Pescador/Piedra (67%)	0.073	0.0971	0.2515
	8	Medium	Nicolas Canyon (33%)	0.367	0.4855	1.2575
	8	Medium	Leo Carillo (67%)	0.733	0.9712	2.5153
		N. Present	Deer Crk	0.000	0.0000	0.0000
Totals				17.512	23.192	60.068

only slight improvements from what Crandall measured: "*The smaller areas obtained by measurements from more recent maps of southern California kelp beds probably reflect both a slight increase in mapping precision over Crandall's methods, and an actual decrease in size."* In 2004, Crandall's original maps of Palos Verdes were re-measured by MBC Applied Environmental Sciences (MBC) using computer-aided spatial estimation software (including Malaga Cove), and the resulting area (2.57 Nm^2) was about 3% smaller but very similar to that reported by Crandall (2.66 Nm^2). Therefore, the actual sizes of the beds that Crandall

reported were probably relatively accurate because the areal survey extent and configuration he reported was subsequently confirmed from contemporary charts (Hodder and Mel 1978, Neushul 1981).

Thus, Crandall's kelp bed areas are retained as the baseline estimate, and the total regional area was probably larger from 1928–1934 than the area Crandall measured in 1911. Based on the sizes of the Palos Verdes beds in 1928 (9.912 km^2) and La Jolla kelp beds in 1934 (8.161 km^2) from aerial photos that North measured in 1964 (SWQCB 1964), the bed sizes were well above Crandall's measurements of 9.124 km^2 (2.66 Nm^2) for Palos Verdes (including the bed at Malaga Cove) and 7.889 km^2 (2.3 Nm^2) for La Jolla. This lends credence to Cameron's comment that kelp harvesters reported that the beds were at minimal levels at the time of Crandall's survey, and suggests even larger losses have occurred over time (Cameron 1915).

The next complete kelp survey of the southern California region was not undertaken until 1955. By that time, the beds in the Central Region had decreased greatly (to 6.750 km^2), and were only 36% of that recorded in 1911 (18.815 km^2). Beds in Region Nine were similarly reduced to 40% (16.310 km^2) of the 1911 total of 41.563 km^2. The most significant loss during this period was that of Sunset Kelp (offshore of Santa Monica); Sunset Kelp covered almost 1.0 km^2 in 1911, but was very small by 1955. The Sunset kelp bed remained small or completely missing through the intervening years, and the Palos Verdes beds were also small, having decreased sometime after 1945. By 1947, the Palos Verdes beds were only 3.6 km^2, and further to 1.5 km^2 by 1953. During an aerial survey conducted in 1963, kelp canopies were in very poor condition, with Palos Verdes covering only 0.180 km^2 and the La Jolla and Point Loma beds covering only 0.9 km^2. Exceptionally good conditions in 1967 resulted in a total of 7.856 km^2 of kelp canopy coverage in the Central Region, but this was only about 42% of the estimate from 1911. Palos Verdes kelp beds south of Point Vicente were missing, but north of Point Vicente, they totaled almost 1.0 km^2. In Region Nine, similar results were observed in 1967 with the La Jolla/Point Loma kelp beds covering 3.03 km^2 and the total for the region only 4.4 km^2. La Jolla kelp bed was only about 0.330 km^2 in 1967, and it stayed small until after 1975, when it became a consistently large kelp bed (over 1 km^2) through most of the next four decades.

Restoration activities began in 1974 by the Kelp Habitat Improvement Project. At that time, the Palos Verdes beds were only 0.015 km^2. In 1975, after restoration, those beds began increasing and covered 4.6 km^2 during the exceptionally favorable conditions in 1989 (North and Jones 1991). The impetus provided by the 1989 La Niña resulted in almost 6 km^2 of kelp canopy in the Central Region and more than 16 km^2 in Region Nine, but kelp coverage decreased to less than one-third of these totals during the subsequent two decades. In 2009 (Central) and 2008 (Region Nine), favorable conditions again increased canopy totals to about 6.5 km^2 in the Central Region and 18.7 km^2 in Region Nine, larger than they had been since 1967 and 1955, respectively (Appendices B.3 and B.4).

The Imperial Beach kelp bed south of San Diego measured 0.984 km^2 in 1911, and was never again measured to be larger than about 0.727 km^2 for the rest of the century (occurring in 1987, Appendix B.4). However, by the end of 2007, Imperial Beach kelp bed measured 1.493 km^2 (Appendix B.4, MBC 2011b), almost 50% greater than what Crandall measured, lending further credence to Cameron's (1915) statement that beds were in poor condition in 1911 compared to earlier years. It therefore follows that the Palos Verdes, La Jolla, and Point Loma kelp beds of Central and Region Nine prior to 1911 were likely much larger than they are today.

As these measurements indicate, most of the beds remain smaller than those of a century ago. Ongoing surveys attempt to determine what environmental factors have changed in the intervening years to cause such large declines.

Appendix B.3 Historical canopy coverage of the kelp beds from Laguna Beach to Imperial Beach from 1911 through 2019. Values represent an estimate of coverage utilizing varying methods over the years.

	Canopy Area (km²)											
Kelp Bed	**1911**	**1934**	**1941**	**1955***	**1959***	**1963***	**1967**	**1970**	**1975**	**1980**	**1983**	**1984**
North Laguna Beach	Tr	ND	ND	p	0.160	ND	0.001	0.011	0.003	0.036	0.035	0.025
South Laguna Beach	Tr	ND	ND	p	ND	ND	0.001	0.011	0.003	0.036	0.040	0.028
South Laguna	Tr	ND	ND	p	0.180	0.020	—	0.014	0.008	—	0.004	-
Dana Point-Salt Creek	1.166	ND	ND	p	p	p	0.240	0.077	0.096	0.008	0.013	0.007
Capistrano Beach	1.578	ND	ND	p	p	p	0.080	0.050	0.070	0.020	—	—
Total F&W 9	2.744	—	—	2.020	0.340	0.020	0.322	0.163	0.180	0.100	0.092	0.060
San Clemente	0.206	ND	ND	6.310	3.710	0.010	0.080	0.050	0.070	0.020	—	—
San Mateo Point	1.235	ND	ND	p	p	p	—	0.057	0.140	0.360	0.163	0.045
San Onofre	1.029	ND	ND	p	p	p	—	—	0.300	0.160	0.102	0.031
Total F&W 8	2.470	—	—	6.310	3.710	0.010	0.080	0.107	0.510	0.540	0.265	0.076
Horno Canyon	0.172	ND	ND	ND	ND	ND	—	—	—	—	—	—
Barn Kelp	2.435	ND	ND	1.370	ND	0.130	0.017	0.019	0.160	0.056	—	—
Santa Margarita	0.858	ND	ND	ND	ND	ND	—	—	—	—	—	—
Total F&W 7	3.465	—	—	1.370	—	0.130	0.017	0.019	0.160	0.056	—	—
North Carlsbad	0.480	ND	ND	2.620	2.520	1.180	0.009	0.060	0.100	0.120	—	—
Agua Hedionda	0.429	ND	ND	p	p	p	—	0.006	0.036	0.019	—	0.001
Encina Power Plant	0.429	ND	ND	p	p	p	—	0.025	0.144	0.074	—	0.002
Carlsbad State Beach	0.499	ND	ND	p	p	p	0.032	0.120	0.200	0.078	—	—
Total F&W 6	1.837	—	—	2.620	2.520	1.180	0.041	0.211	0.480	0.291	—	0.003
Leucadia	1.996	ND	ND	p	p	p	0.240	0.440	0.500	0.670	0.001	0.002
Encinitas	0.832	ND	ND	p	p	p	0.065	0.173	0.153	0.228	—	0.016
Cardiff	ND	ND	ND	0.340	0.400	0.160	0.125	0.337	0.297	0.442	0.018	0.021
Solana Beach	ND	ND	ND	p	p	p	0.290	0.490	0.560	0.690	—	0.001
Del Mar	0.823	ND	ND	p	p	p	0.190	0.260	0.190	0.210	—	—
Torrey Pines	—	—	—	—	—	—	—	—	—	—	—	—
Total F&W 5	3.651	—	—	0.340	0.400	0.160	0.910	1.700	1.700	2.240	0.019	0.040
La Jolla F&W 4	7.889	8.161	7.847	1.660	6.490	0.640	0.330	0.290	0.840	1.900	0.032	0.034
Point Loma F&W 3&2	18.523	11.465	8.286	1.990	0.610	0.240	2.700	4.900	3.000	4.200	0.200	0.160
Imperial Beach F&W 1	0.984	ND	ND	ND	ND	ND	—	—	—	0.350	—	—
TOTAL	41.563	19.626	16.133	16.310	14.070	2.380	4.400	7.390	6.870	9.327	0.608	0.373

NOTE: * = Incomplete Data; Tr = Trace <100 m^2 ; ND = No Data; p = part of above value; "— " = 0

red = warm year El Nino; **blue** = cold year La Nina; **black** = neutral year

Sources: 1934, 1941 from SWQCB (1964); 1955, 1959, 1963 from Neushul (1981); MBC (2007b-2012b, 2013-2017).

Appendix B.3 (Cont.).

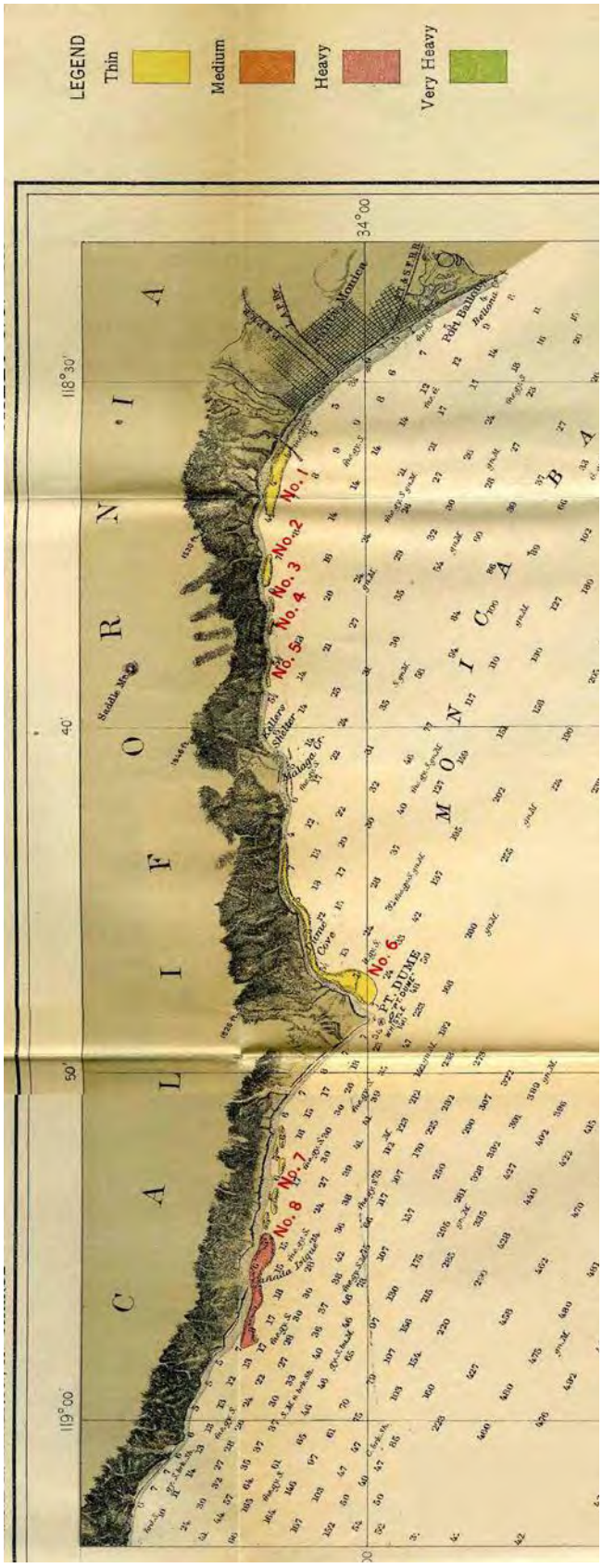
Kelp Bed	Canopy Area (km²)											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
North Laguna Beach	0.028	0.022	0.028	0.042	0.055	0.034	0.029	—	—	—	—	0.001
South Laguna Beach	0.077	0.041	0.087	0.145	0.264	0.243	0.093	0.056	0.028	—	—	—
South Laguna	—	—	—	0.023	0.041	0.023	0.030	0.009	0.006	0.005	—	—
Dana Point-Salt Creek	0.036	0.031	0.174	0.568	0.878	0.329	0.480	0.184	0.234	0.116	0.076	0.061
Capistrano Beach	—	—	—	0.032	0.233	0.110	0.134	0.148	0.022	—	—	—
Total F&W 9	0.141	0.094	0.289	0.810	1.471	0.739	0.766	0.397	0.290	0.121	0.076	0.062
San Clemente	—	—	0.017	0.124	0.444	0.304	0.243	0.044	0.051	0.010	0.010	0.047
San Mateo Point	0.152	0.077	0.200	0.432	0.870	0.472	0.120	0.103	0.220	0.080	0.010	0.073
San Onofre	0.042	0.053	0.045	0.348	0.638	0.763	0.170	0.053	0.163	0.201	0.096	0.196
Total F&W 8	0.194	0.130	0.262	0.904	1.952	1.539	0.533	0.200	0.434	0.291	0.116	0.316
Horno Canyon	—	—	—	0.006	0.033	0.010	0.018	0.040	—	—	—	—
Barn Kelp	—	—	—	0.008	0.116	0.382	0.262	0.124	0.002	0.010	0.172	0.204
Santa Margarita	—	—	—	—	—	—	0.049	0.009	—	—	—	—
Total F&W 7	—	—	—	0.014	0.149	0.392	0.329	0.173	0.002	0.010	0.172	0.204
North Carlsbad	—	—	0.031	0.049	0.096	0.119	0.044	0.004	0.018	0.020	0.008	—
Agua Hedionda	0.011	0.018	0.021	0.032	0.047	0.046	0.016	0.004	0.012	0.004	0.008	0.009
Encina Power Plant	0.024	0.045	0.120	0.161	0.251	0.179	0.083	0.025	0.022	0.011	0.058	0.032
Carlsbad State Beach	0.027	0.018	0.077	0.032	0.049	0.081	0.035	0.008	0.002	0.011	0.025	0.013
Total F&W 6	0.062	0.081	0.249	0.274	0.443	0.425	0.178	0.041	0.054	0.046	0.099	0.054
Leucadia	0.104	0.074	0.426	0.197	0.291	0.341	0.163	0.084	0.035	0.010	0.189	0.087
Encinitas	0.083	0.032	0.177	0.153	0.209	0.241	0.080	0.036	0.037	0.016	0.061	0.023
Cardiff	0.176	0.120	0.340	0.229	0.575	0.468	0.072	0.054	0.034	0.080	0.092	0.026
Solana Beach	0.115	0.120	0.367	0.427	0.488	0.466	0.257	0.053	0.023	0.108	0.134	0.003
Del Mar	0.008	0.021	0.081	0.063	0.104	0.082	0.097	0.006	0.003	0.029	0.082	—
Torrey Pines	—	—	—	Tr	Tr	—	—	—	—	—	—	—
Total F&W 5	0.486	0.367	1.391	1.069	1.667	1.598	0.669	0.233	0.132	0.243	0.558	0.139
La Jolla F&W 4	0.720	0.930	2.369	2.200	4.755	3.632	3.230	1.301	0.681	1.119	0.824	0.371
Point Loma F&W 3&2	1.570	2.100	3.682	2.322	5.842	5.943	4.310	1.153	1.917	3.589	1.134	1.187
Imperial Beach F&W 1	0.058	0.150	0.727	0.067	0.579	0.651	0.370	0.111	0.025	0.108	0.053	0.008
TOTAL	3.173	3.702	8.242	7.593	16.279	14.268	10.015	3.498	3.510	5.419	3.032	2.341

Appendix B.3 (Cont.).

Kelp Bed	Canopy Area (km²)											
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
North Laguna Beach	—	—	—	—	—	—	0.0004	—	—	—	—	0.002
South Laguna Beach	—	—	—	—	—	0.005	0.0002	0.008	—	—	0.001	0.025
South Laguna	—	—	—	0.003	0.002	<0.001	0.004	0.009	0.003	—	0.004	0.023
Dana Point-Salt Creek	0.034	0.005	0.080	0.170	0.314	0.432	0.303	0.278	0.123	—	0.302	1.068
Capistrano Beach	—	—	<0.001	<0.001	0.044	0.118	0.069	0.008	—	0.011	0.002	0.071
Total F&W 9	0.034	0.005	0.080	0.173	0.359	0.555	0.376	0.303	0.126	0.011	0.309	1.189
San Clemente	—	—	0.006	0.005	0.124	0.316	0.352	0.182	0.178	0.014	0.016	0.203
San Mateo Point	0.098	—	0.051	0.050	0.090	0.155	0.242	0.123	0.258	0.016	0.201	0.487
San Onofre	0.108	<0.001	0.005	0.020	0.041	0.030	0.162	0.109	0.065	—	0.320	0.476
Total F&W 8	0.206	—	0.062	0.075	0.255	0.501	0.755	0.414	0.501	0.030	0.536	1.166
Horno Canyon	—	—	—	0.002	0.034	—	0.001	—	—	—	0.015	0.083
Barn Kelp	0.178	—	0.310	0.375	0.547	0.667	0.492	0.075	0.064	—	0.466	0.858
Santa Margarita	—	—	—	—	—	—	—	—	—	—	—	—
Total F&W 7	0.178	—	0.310	0.377	0.581	0.667	0.494	0.075	0.064	—	0.481	0.941
North Carlsbad	—	0.003	—	—	0.017	0.053	0.017	0.003	0.013	—	0.026	0.108
Agua Hedionda	—	—	—	—	—	<0.001	0.002	0.001	0.008	—	0.016	0.080
Encina Power Plant	0.013	—	—	0.002	0.029	0.097	0.178	0.067	0.001	—	0.081	0.306
Carlsbad State Beach	—	—	—	0.003	0.023	0.047	0.002	0.0001	—	—	0.064	0.121
Total F&W 6	0.013	0.003	—	0.005	0.069	0.197	0.199	0.070	0.023	—	0.187	0.615
Leucadia	0.062	—	0.015	0.090	0.209	0.334	0.185	0.048	0.001	0.016	0.233	0.421
Encinitas	0.048	—	0.029	0.040	0.131	0.153	0.050	0.016	—	0.002	0.205	0.346
Cardiff	0.031	0.016	0.063	0.150	0.309	0.405	0.202	0.045	—	0.004	0.286	0.484
Solana Beach	0.073	0.009	0.091	0.200	0.407	0.488	0.245	0.022	0.093	0.0003	0.457	0.823
Del Mar	Tr	0.004	—	0.006	0.015	0.035	0.030	—	—	—	0.037	0.057
Torrey Pines	—	—	—	—	—	—	—	—	—	0.010	—	0.001
Total F&W 5	0.214	0.029	0.198	0.486	1.071	1.415	0.712	0.131	0.094	0.032	1.218	2.133
La Jolla F&W 4	0.478	0.215	1.146	1.250	2.555	3.366	3.444	1.029	0.873	0.117	2.750	4.145
Point Loma F&W 3&2	2.235	0.295	1.725	3.290	6.574	3.799	4.509	1.924	2.152	1.767	3.616	6.623
Imperial Beach F&W 1	0.027	—	0.019	0.020	0.078	0.210	0.083	0.191	0.400	0.400	1.493	1.895
TOTAL	3.385	0.547	3.540	5.676	11.542	10.710	10.572	4.136	4.233	2.358	10.591	18.706

Appendix B.3 (Cont.).

Kelp Bed	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
North Laguna Beach	0.005	0.093	0.147	0.192	0.142	0.120	0.080	0.074	0.096	0.133	0.015
South Laguna Beach	0.058	0.098	0.221	0.214	0.273	0.165	0.048	0.035	0.032	0.131	0.007
South Laguna	0.017	0.023	0.018	0.017	0.038	0.031	0.016	0.006	0.003	0.048	—
Dana Point-Salt Creek	0.892	0.839	0.442	0.607	0.835	0.528	0.137	0.110	0.133	0.379	—
Capistrano Beach	0.071	0.124	0.010	0.056	0.099	0.034	0.007	0.012	0.0004	0.018	—
Total F&W 9	1.043	1.178	0.838	1.086	1.385	0.879	0.287	0.237	0.264	0.709	0.022
San Clemente	0.210	0.710	0.795	0.874	1.097	0.843	0.343	0.187	0.229	0.335	0.031
San Mateo Point	0.545	0.583	0.203	0.216	0.219	0.199	0.062	0.053	0.033	0.083	0.0001
San Onofre	0.419	0.458	0.127	0.191	0.767	0.584	0.043	0.120	0.087	0.127	0.001
Total F&W 8	1.174	1.750	1.124	1.281	2.083	1.627	0.449	0.359	0.349	0.545	0.032
Horno Canyon	0.018	0.081	—	0.008	0.125	0.055	0.019	0.010	0.011	0.008	—
Barn Kelp	0.926	0.500	0.095	0.442	0.868	0.741	0.085	0.133	0.096	0.092	—
Santa Margarita	—	—	—	—	0.080	—	—	—	—	—	—
Total F&W 7	0.944	0.581	0.095	0.450	1.073	0.795	0.104	0.143	0.107	0.100	0.000
North Carlsbad	0.135	0.078	0.017	0.052	0.125	0.086	0.047	—	0.004	0.038	—
Agua Hedionda	0.092	0.031	0.022	0.046	0.102	0.065	0.016	—	—	—	—
Encina Power Plant	0.215	0.176	0.084	0.216	0.352	0.221	0.159	0.009	0.025	0.045	—
Carlsbad State Beach	0.127	0.069	0.024	0.058	0.178	0.065	0.061	—	0.001	—	—
Total F&W 6	0.569	0.354	0.147	0.372	0.757	0.437	0.282	0.009	0.031	0.083	0.000
Leucadia	0.429	0.215	0.119	0.232	0.541	0.279	0.414	0.033	0.010	0.053	0.009
Encinitas	0.205	0.128	0.124	0.260	0.231	0.112	0.113	0.009	0.003	0.033	—
Cardiff	0.520	0.213	0.395	0.459	0.590	0.299	0.318	0.024	0.003	0.005	—
Solana Beach	0.505	0.328	0.504	0.442	0.606	0.504	0.316	0.138	0.029	0.024	—
Del Mar	0.044	0.038	0.074	0.024	0.056	0.027	0.034	—	—	—	—
Torrey Pines	0.0004	0.003	0.031	0.034	0.081	—	—	—	—	—	—
Total F&W 5	1.703	0.925	1.247	1.452	2.106	1.221	1.195	0.204	0.045	0.114	0.009
La Jolla F&W 4	2.274	2.776	2.565	1.569	4.006	2.790	2.968	0.927	0.694	1.566	1.227
Point Loma F&W 3&2	4.909	3.977	4.212	5.340	5.127	5.121	5.806	3.037	1.787	7.920	3.924
Imperial Beach F&W 1	0.861	0.004	0.152	0.333	0.526	1.183	1.576	0.217	—	—	—
TOTAL	13.476	11.545	10.379	11.882	17.064	14.053	12.667	5.134	3.277	11.037	5.213



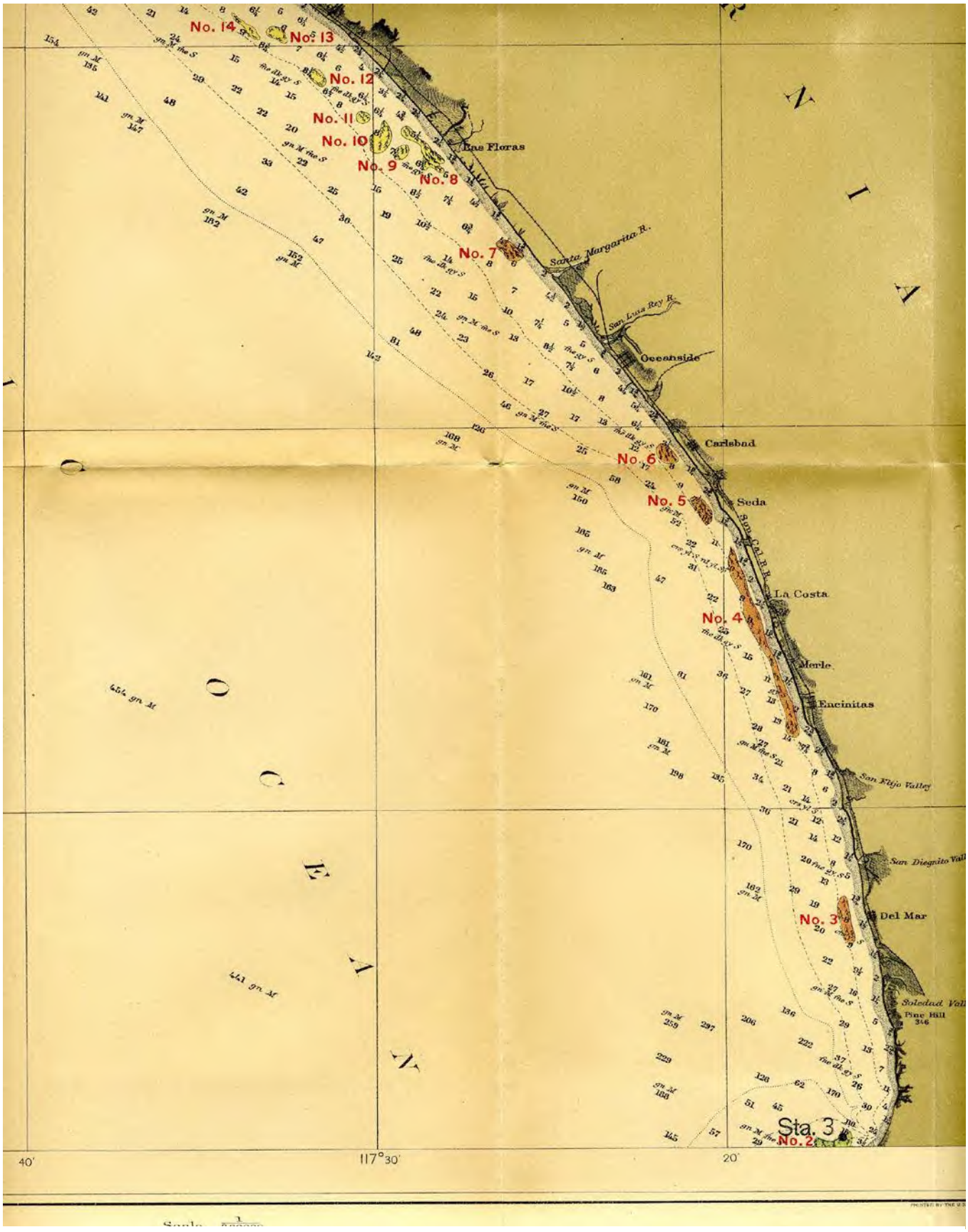
Appendix B.4 Crandall's 1911 kelp survey Deer Creek to Ballona Creek.



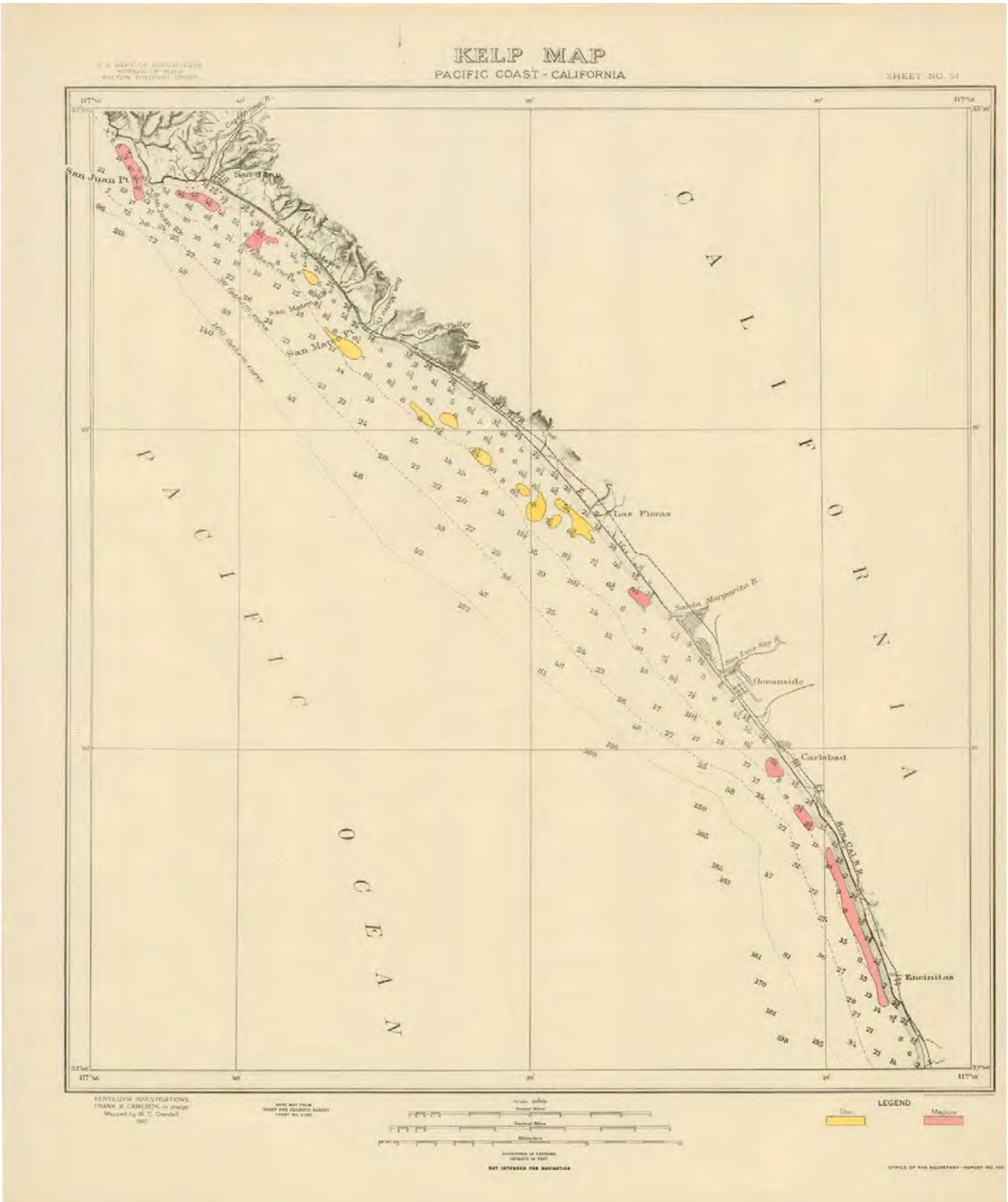
Appendix B.5 Crandall's 1911 kelp survey Palos Verdes to Los Angeles Harbor.



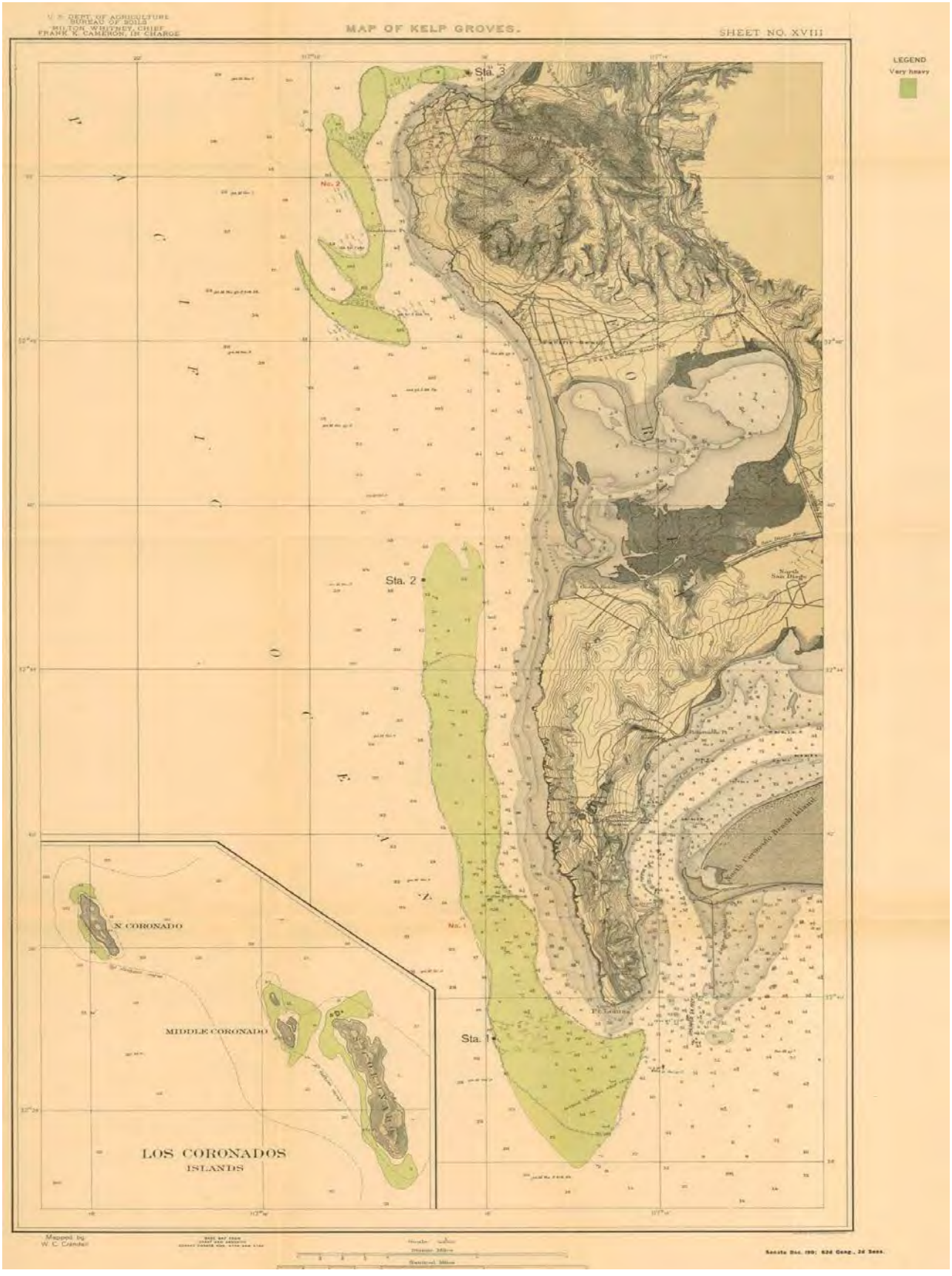
Appendix B.6 Crandall's 1911 kelp bed survey Newport to San Onofre.



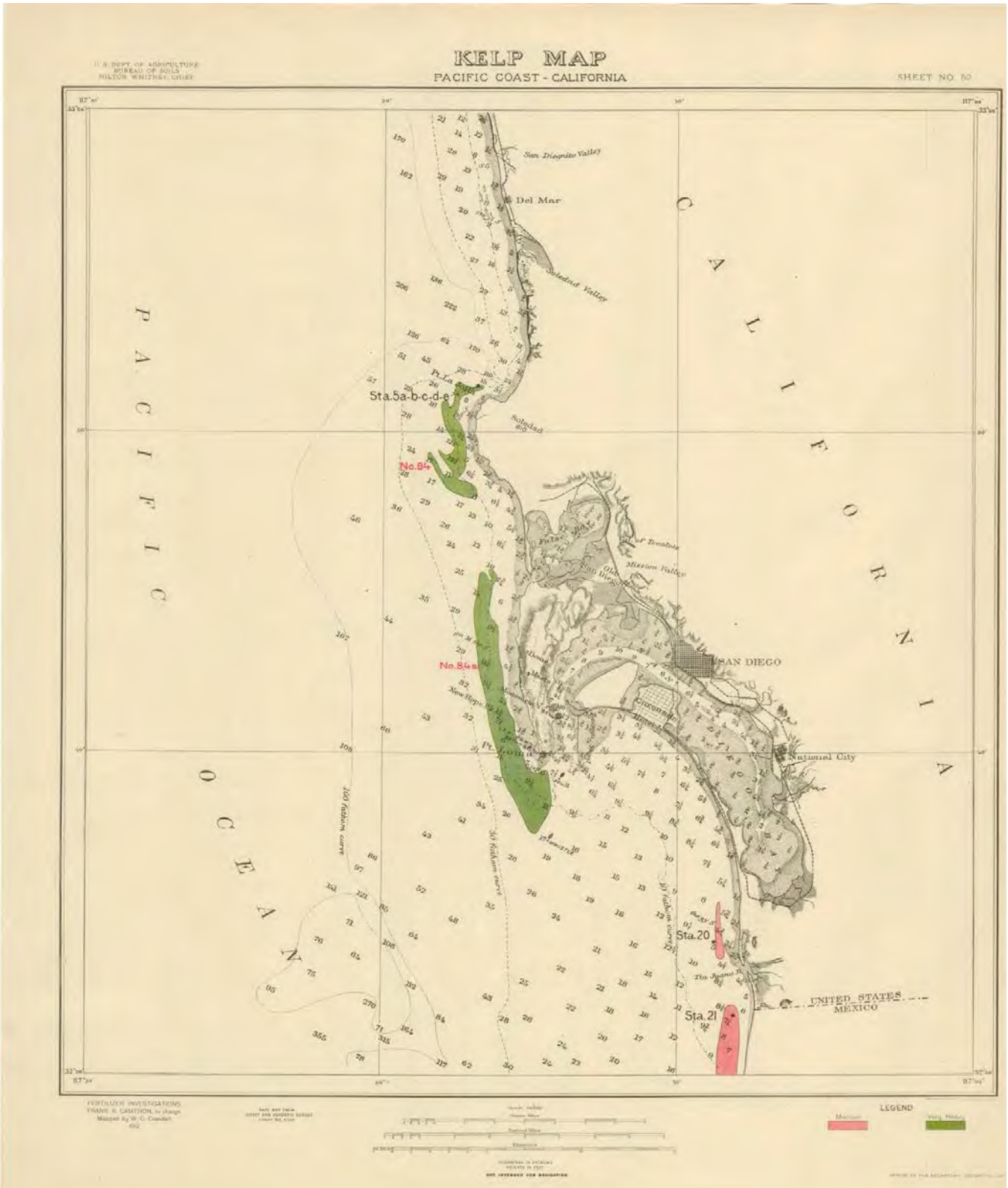
Appendix B.7 Crandall's 1911 kelp bed survey San Onofre to Del Mar.



Appendix B.8 Crandall's 1911 kelp bed survey San Juan to Encinitas.



Appendix B.9 Crandall's 1911 kelp bed survey La Jolla to Point Loma.

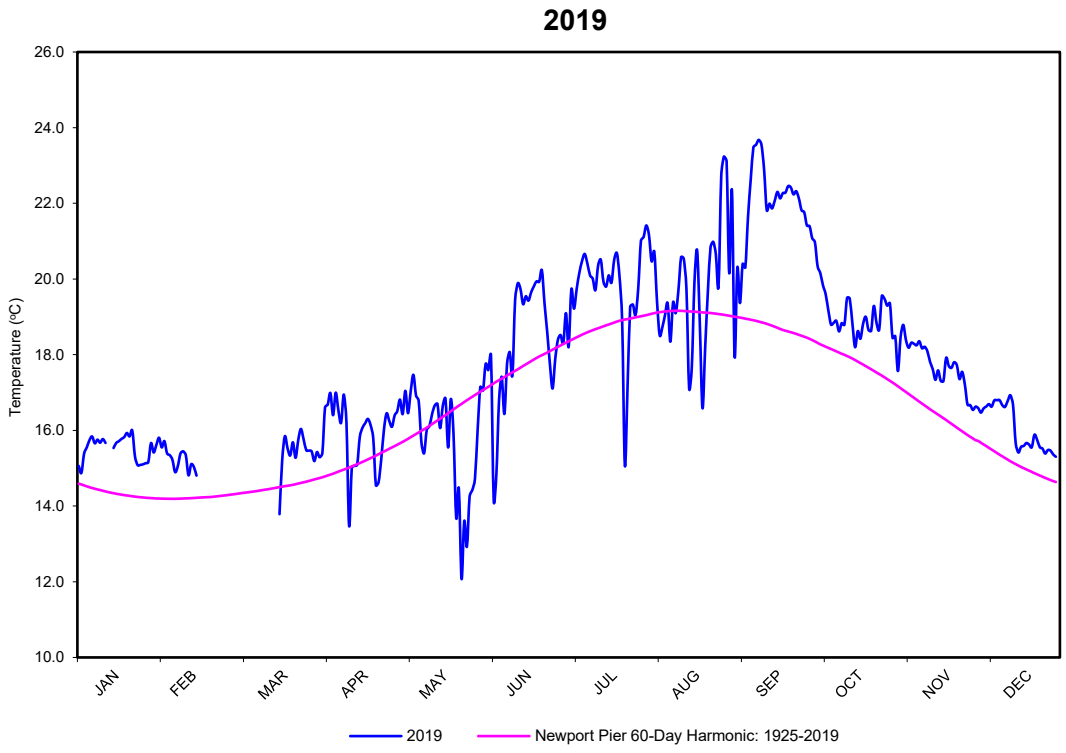


Appendix B.10 Crandall's 1911 kelp bed survey La Jolla to Imperial Beach.

APPENDIX C

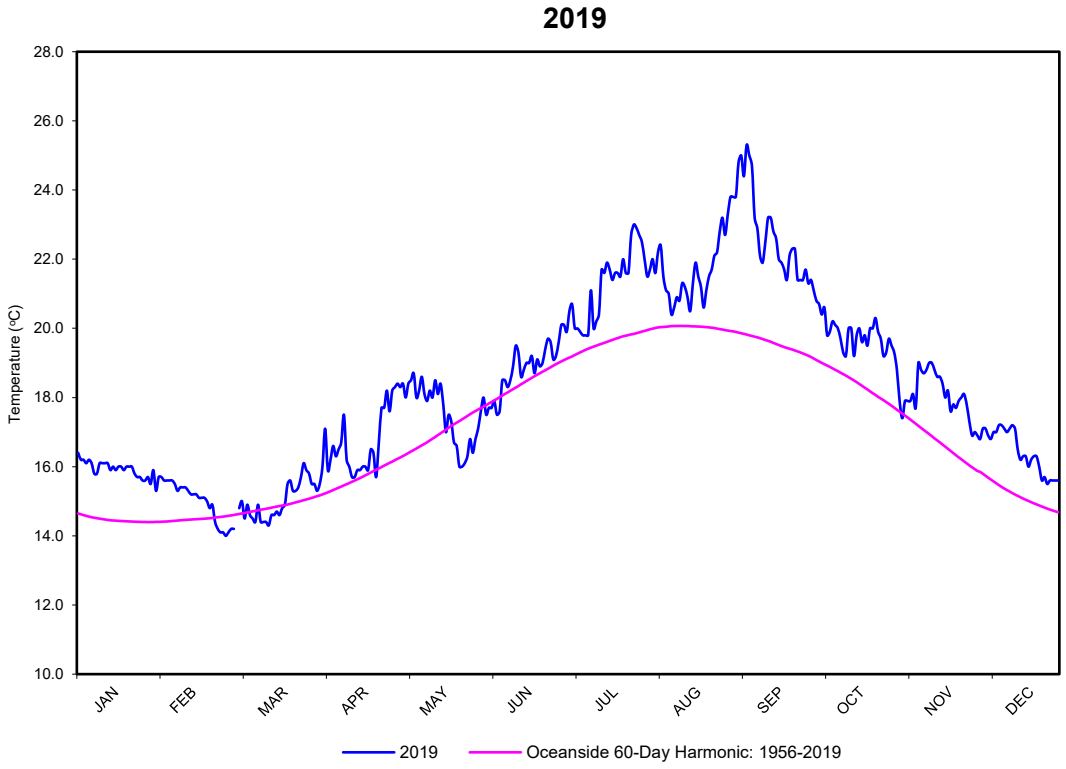
Sea Surface Temperatures

Newport Pier
Sea Surface Temperature



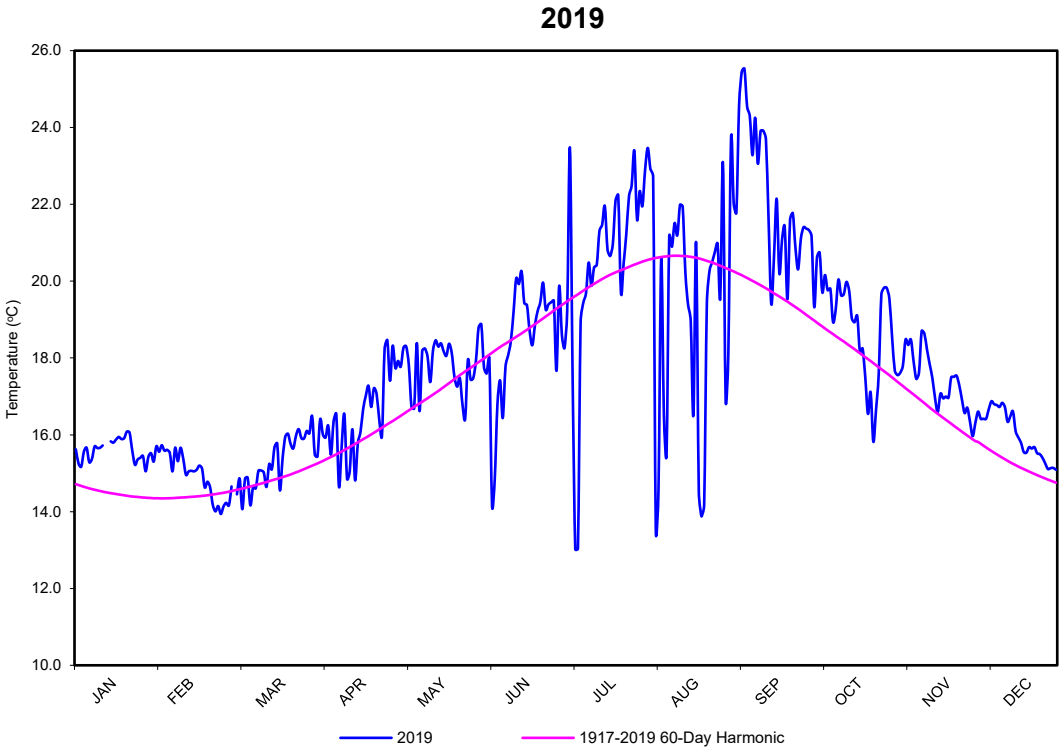
Appendix C.1 Daily sea surface temperatures (SST) at Newport Pier for 2019.

Oceanside
Sea Surface Temperature



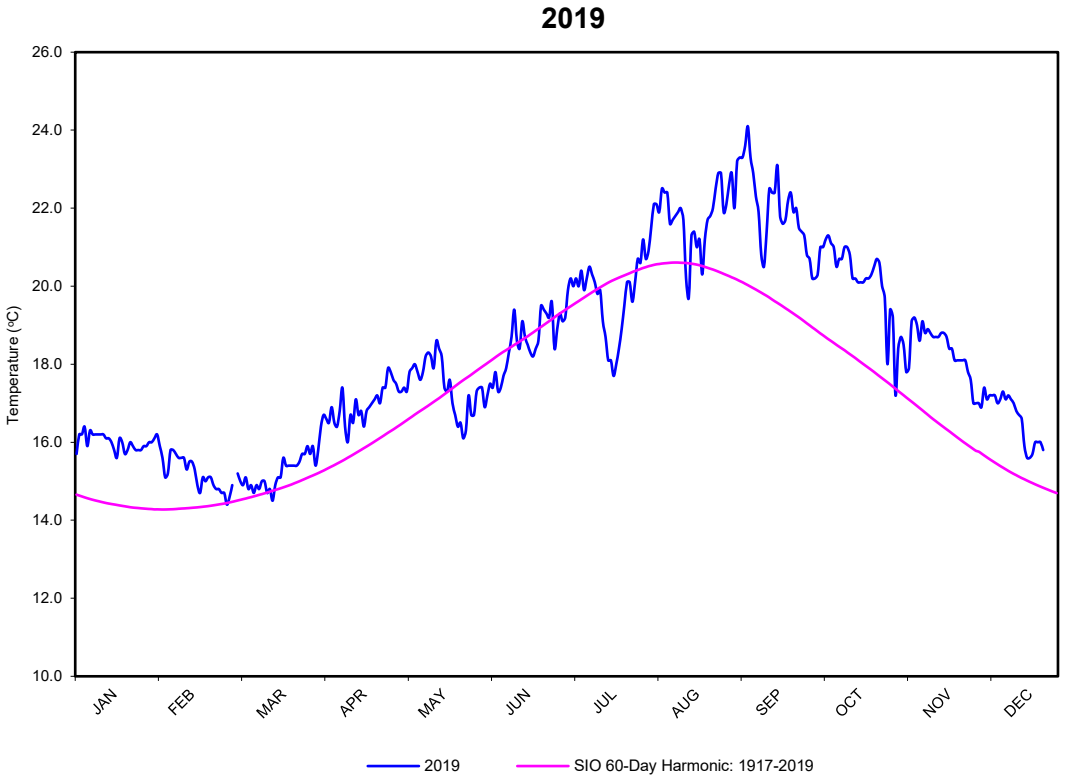
Appendix C.2 Daily sea surface temperatures (SST) at Oceanside for 2019.

Scripps Pier
Sea Surface Temperature



Appendix C.3 Daily sea surface temperatures (SST) at Scripps Pier for 2019.

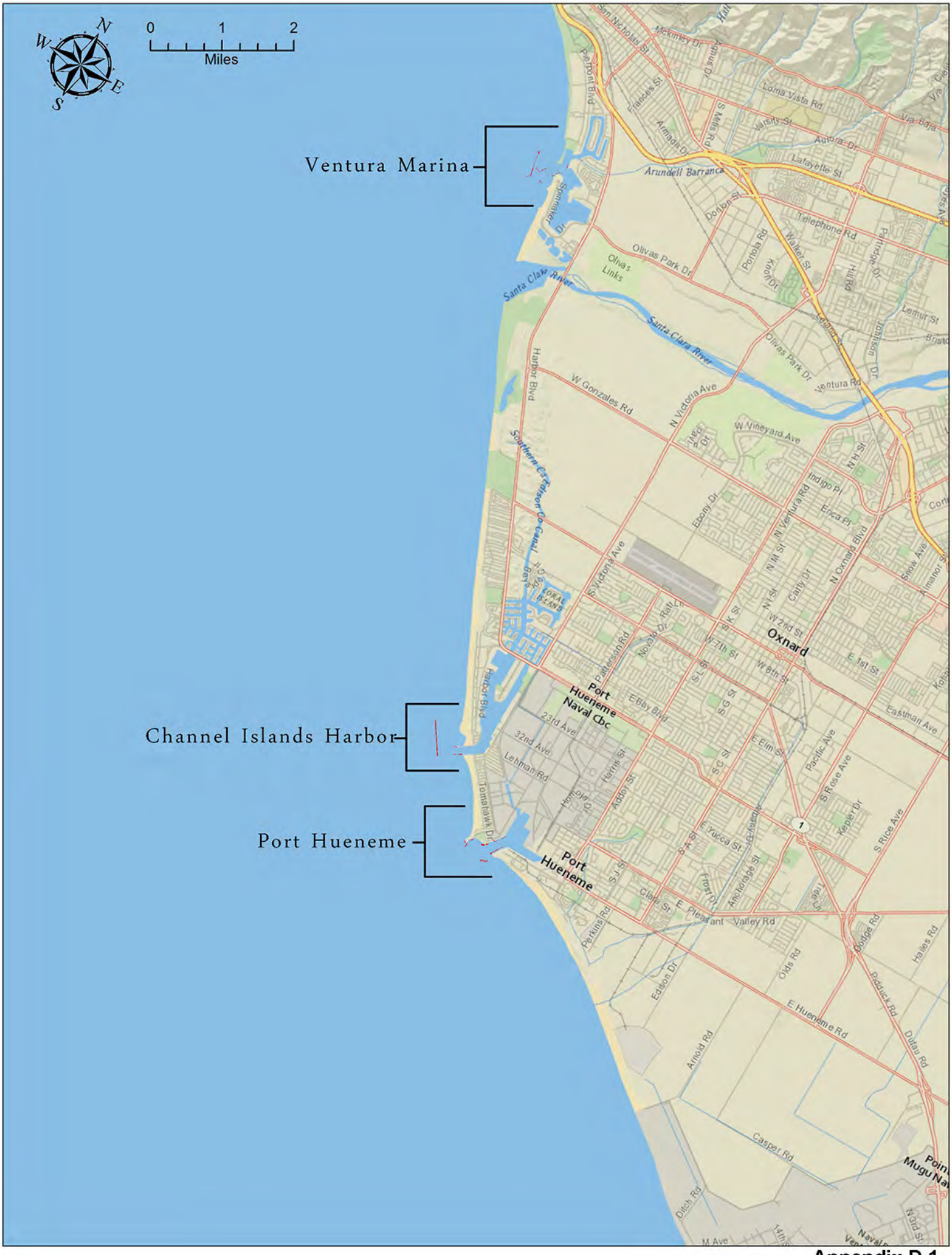
Point Loma South
Sea Surface Temperature



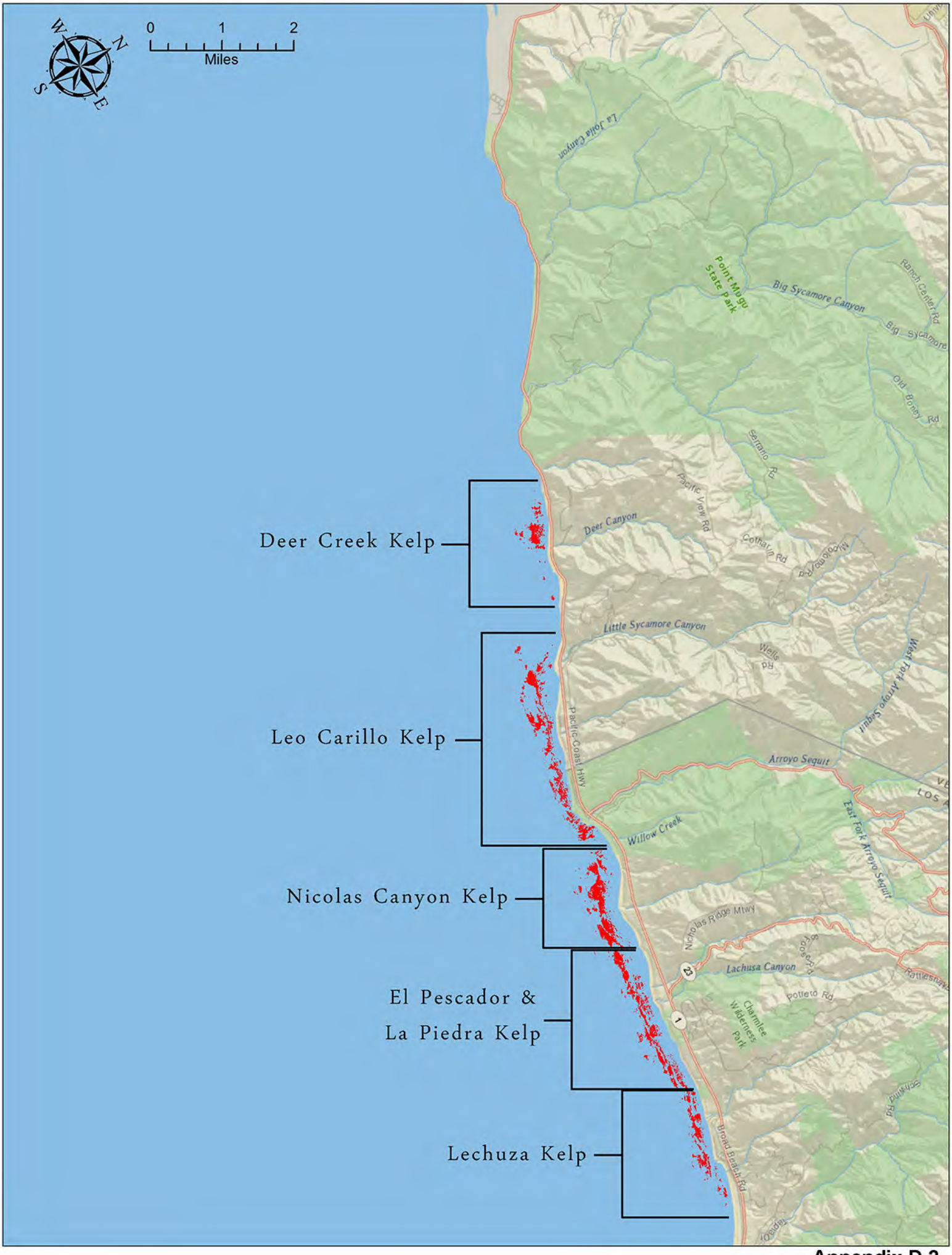
Appendix C.4 Daily sea surface temperatures (SST) at Point Loma South for 2019.

APPENDIX D

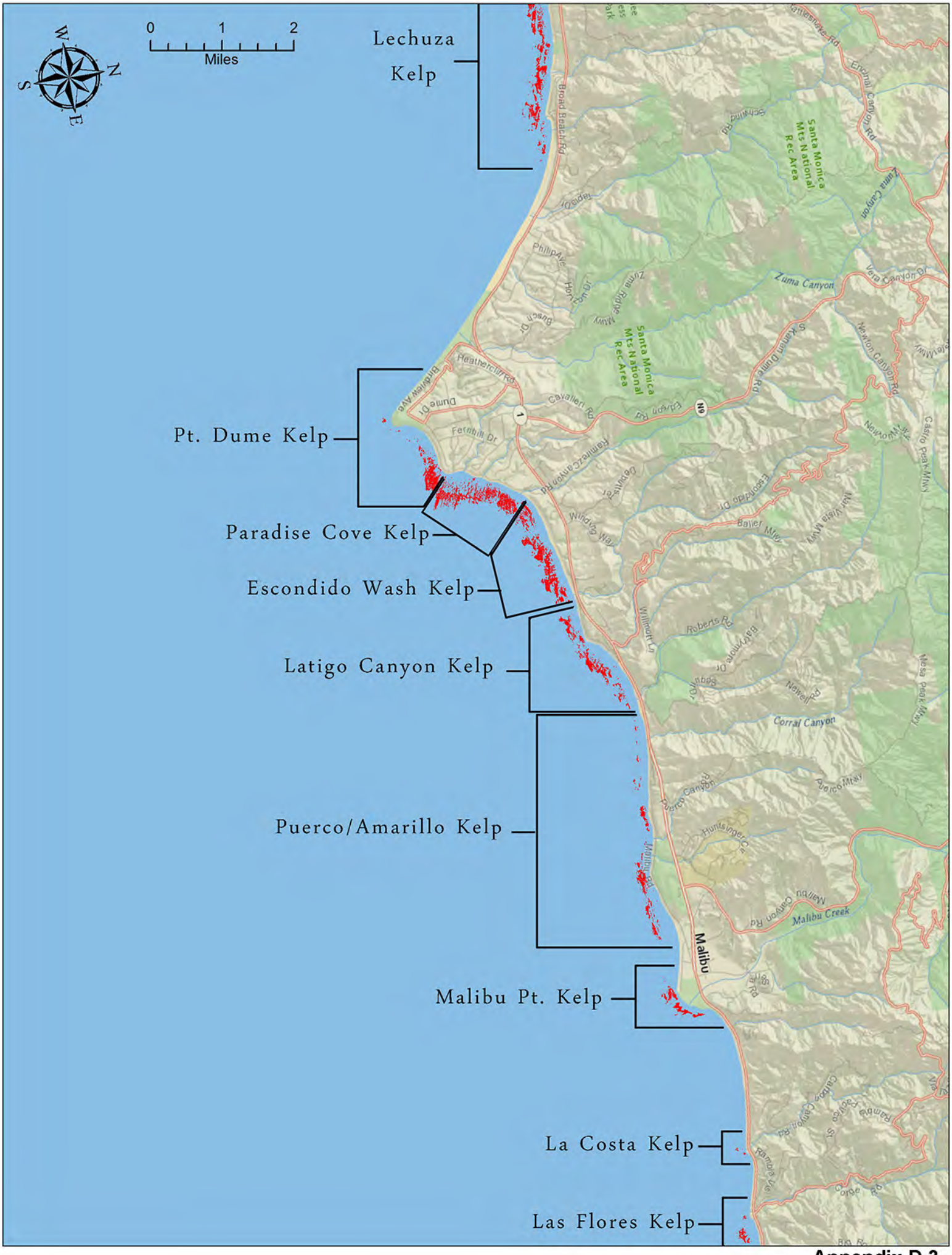
Flight Path
Flight Data Reports
Field Data Sheets


N
W
E
S
0
1
2
Miles
Ventura Marina
Channel Islands Harbor
Port Hueneme
Oxnard
Port Hueneme Naval Cbc
Port Hueneme
Santa Clara River
Santa Clara River
Southern California Edison Co Canal
Harbor Blvd
W Gonzales Rd
N Victoria Ave
S Victoria Ave
Olivas Park Dr
Olivas Links
Arundell Barranca
Telephone Rd
Lafayette St
Varsity St
Loma Vista Rd
Vineyard Ave
W 2nd St
W 5th St
W 6th St
E 1st St
Eastman Ave
E Bay Blvd
E Elm St
E Yucca St
S Rice Ave
Pacific Ave
S Rose Ave
Keppler Dr
Lehman Rd
32nd Ave
23rd Ave
Tomahawk Dr
Perkins Rd
E Pleasant Valley Rd
E Hueneme Rd
Edison Dr
Olds Rd
Dodge Rd
Hallies Rd
Arnold Rd
Casper Rd
Ditch Rd
Dulau Rd
Pleasant Valley Rd
Ventura Rd
Lemur St
Ebony Dr
Indigo Pl
Erica Pl
N Oxnard Blvd
Carly Dr
Novato Dr
Patterson Rd
Anchorage St
Frost Dr
Addor St
Harris St
Homoya Dr
Clara St
Mugu Naval

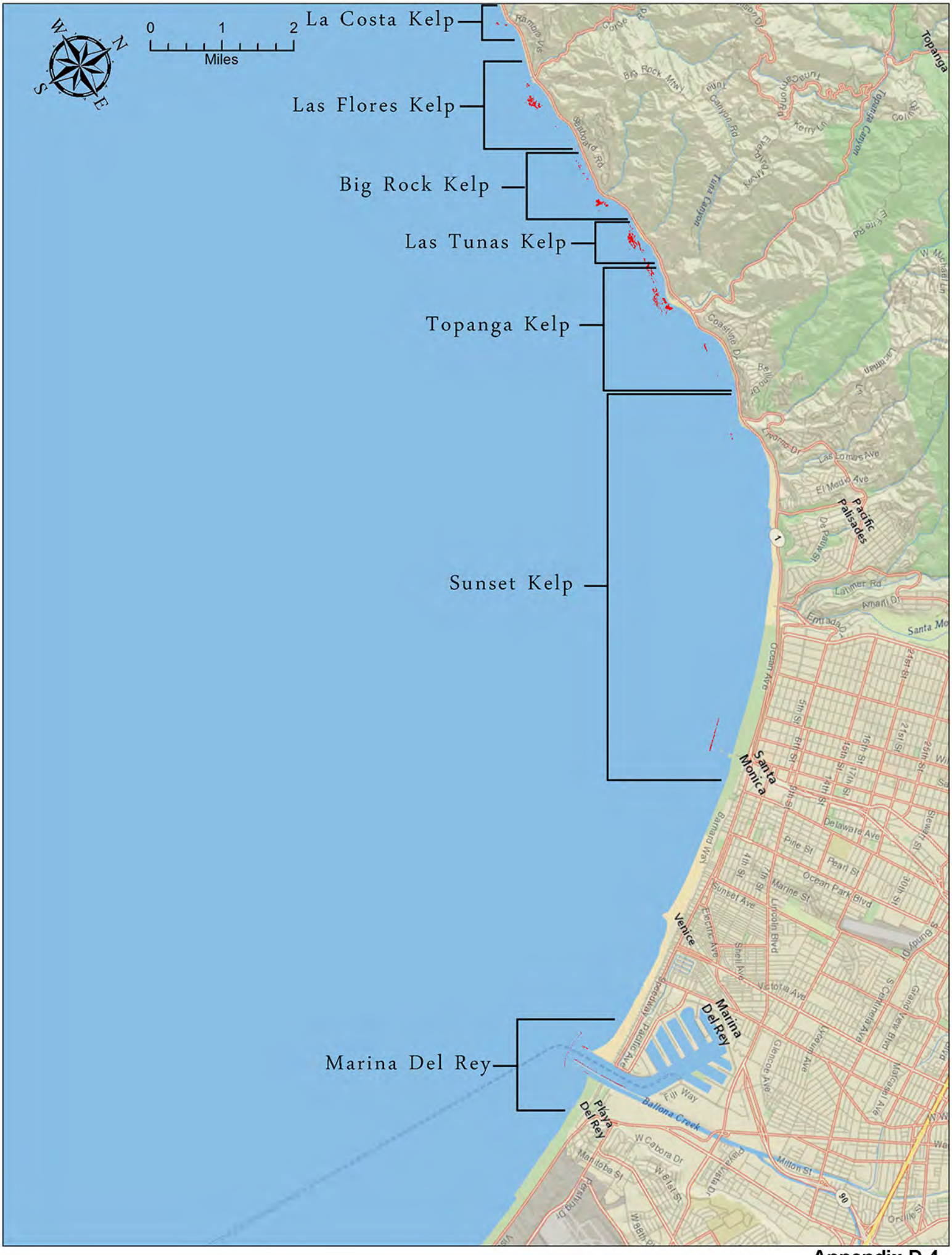
Appendix D.1


0
1
2
Miles
W
N
S
E
La Jolla Canyon
Point Mugu State Park
Big Sycamore Canyon
Ranch Center Rd
Big Sycamore
Old Boney Rd
Sarrano Rd
Pacific View Rd
Deer Canyon
Cotharin Rd
Little Sycamore Canyon
Wells Rd
West Fork Arroyo Sequit
Pacific Coast Hwy
Arroyo Sequit
Willow Creek
East Fork Arroyo Sequit
Nicholas Ridge Mtwy
Lachusa Canyon
Potrero Rd
Charmlee Wilderness Park
Broad Beach Rd
Deer Creek Kelp
Leo Carillo Kelp
Nicolas Canyon Kelp
El Pescador &
La Piedra Kelp
Lechuza Kelp

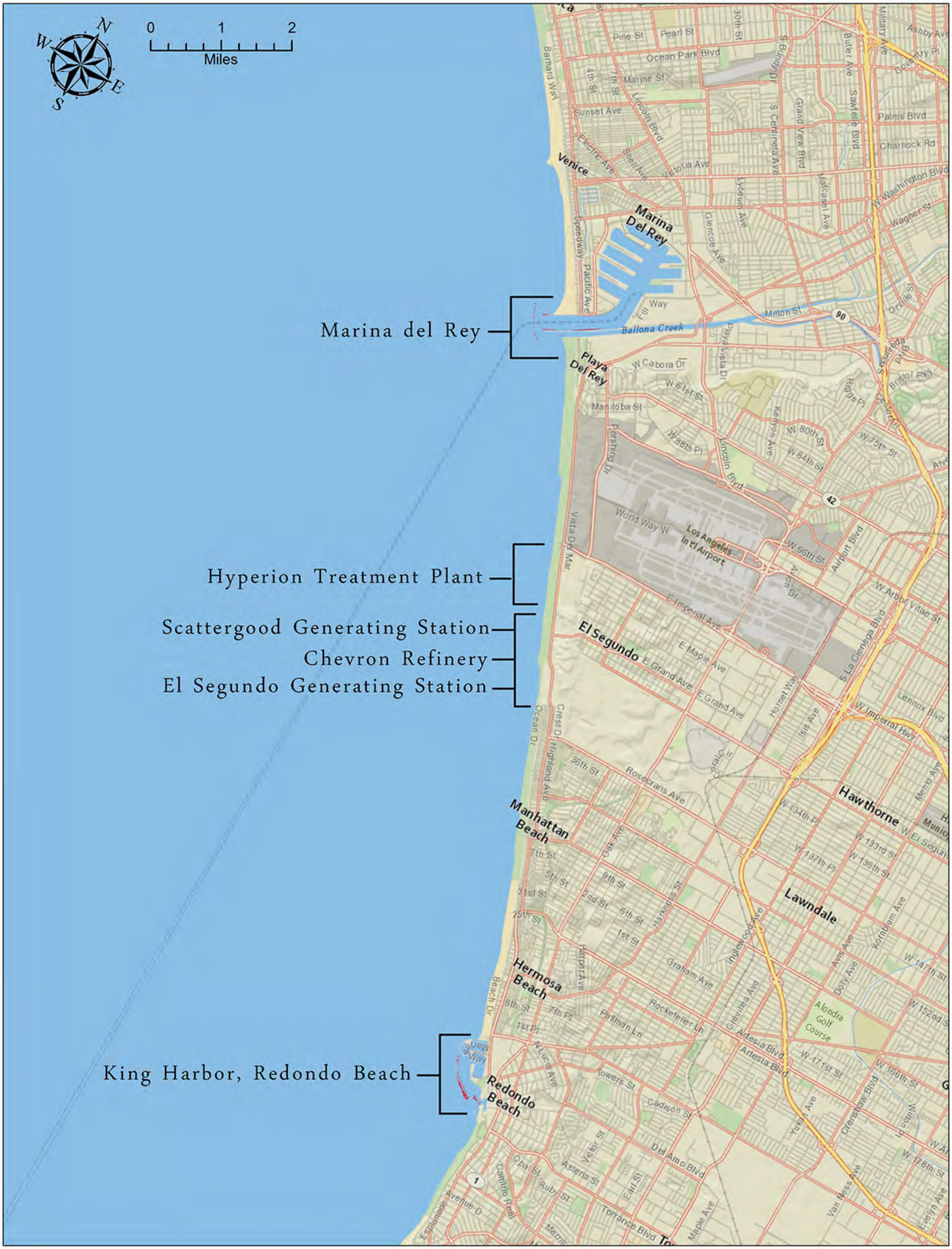
Appendix D.2


0
1
2
Miles
W
N
S
E
Lechuza Kelp
Pt. Dume Kelp
Paradise Cove Kelp
Escondido Wash Kelp
Latigo Canyon Kelp
Puerco/Amarillo Kelp
Malibu Pt. Kelp
La Costa Kelp
Las Flores Kelp
Broad Beach Rd
Santa Monica Mts National Rec Area
Zuma Canyon
Heathercliff Rd
Dume Dr
Cliffside Dr
Cavalieri Rd
Fernhill Dr
Ramirez Canyon Rd
Escondido Dr
Latigo Canyon Rd
Roberts Rd
Willmore Dr
Newell Rd
Corral Canyon
Puerco Canyon Rd
Huntsinger Dr
Malibu
Malibu Creek
Malibu Canyon Rd
Las Flores Canyon Rd
Rambla Vista
Rambla Pacifico
Big Rock Mesa Rd
Mesa Peak Mtwy
Encinal Canyon Rd
Kanan Dume Rd
Newton Canyon Rd
Carbon Peak Mtwy
Bluffside Dr
Bay Vista Mtwy
Ballet Mtwy
Puerco Mtwy
Corbin Rd
Corbin Cyn Rd
Corbin Cyn Rd
Corbin Rd
Rambla Vista
Rambla Pacifico
Corbin Cyn Rd
Corbin Rd
Big Rock Mesa Rd

Appendix D.3


La Costa Kelp
Las Flores Kelp
Big Rock Kelp
Las Tunas Kelp
Topanga Kelp
Sunset Kelp
Marina Del Rey
0
1
2
Miles
N
S
E
W
Topanga
Pacific Palisades
Santa Monica
Venice
Marina Del Rey
Playa Del Rey
Ballona Creek

Appendix D.4


N
S
E
W
0
1
2
Miles
Marina del Rey
Hyperion Treatment Plant
Scattergood Generating Station
Chevron Refinery
El Segundo Generating Station
King Harbor, Redondo Beach
Venice
Marina Del Rey
Playa Del Rey
Los Angeles Int'l Airport
El Segundo
Manhattan Beach
Hermosa Beach
Redondo Beach
Hawthorne
Lawndale
Ballona Creek
Alondra Golf Course

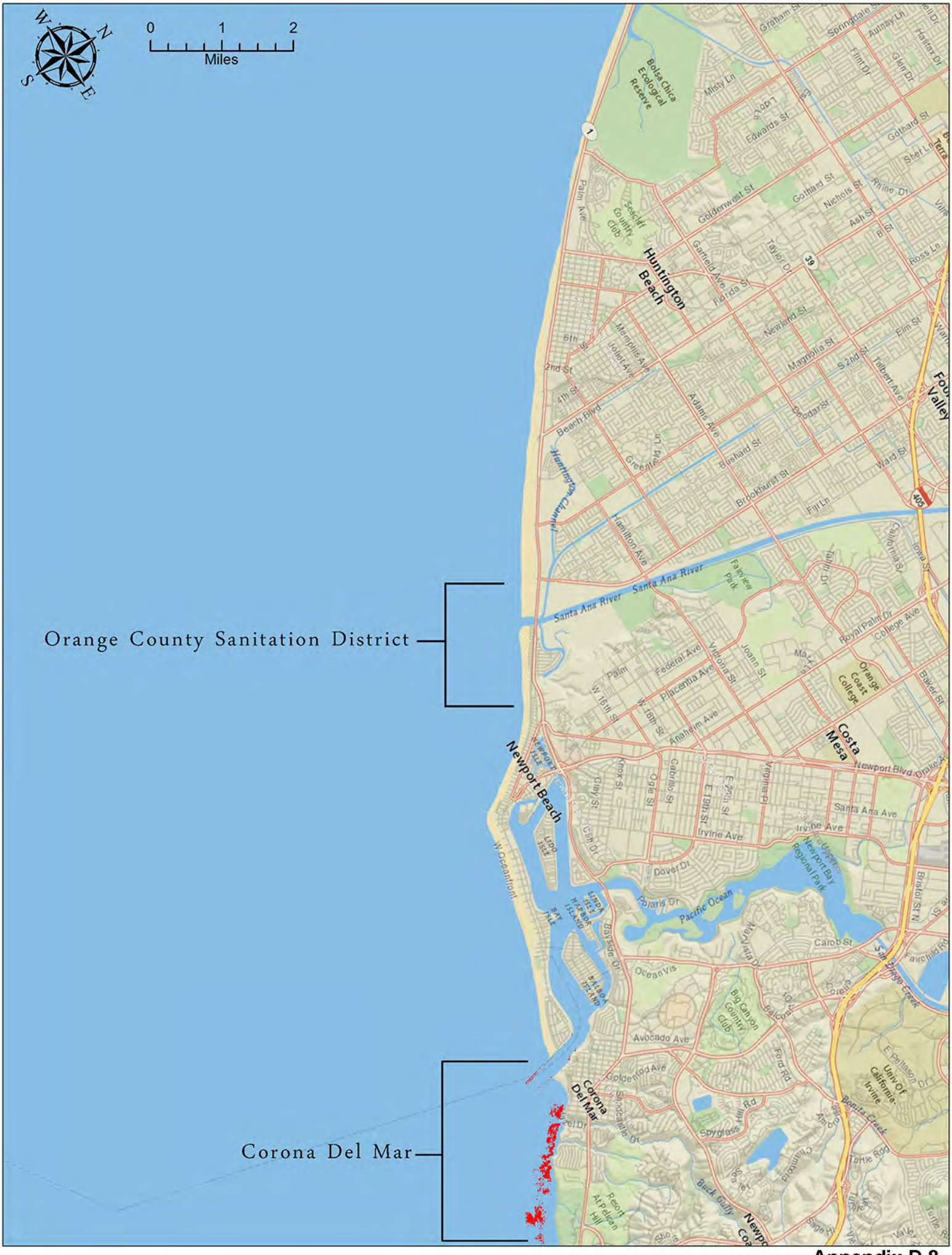
Appendix D.5


0
1
2
Miles
King Harbor
Palos Verdes IV
Palos Verdes III
Palos Verdes II
Palos Verdes I
Cabrillo Kelp
Hermosa Beach
Redondo Beach
Torrance
Rancho Palos Verdes
Palos Verdes Peninsula
Palos Verdes Estates
Rolling Hills Estates
Rolling Hills
Lomita
Harbor City
Wilmington
San Pedro
Los Angeles Harbor
Paseo Del Mar
Hawthorne Blvd
Pacific Coast Hwy
Anaheim St
Torrance Municipal Airport
Defense Fuel Supply Point San Pedro
Terminal Island
W Ocean Blvd

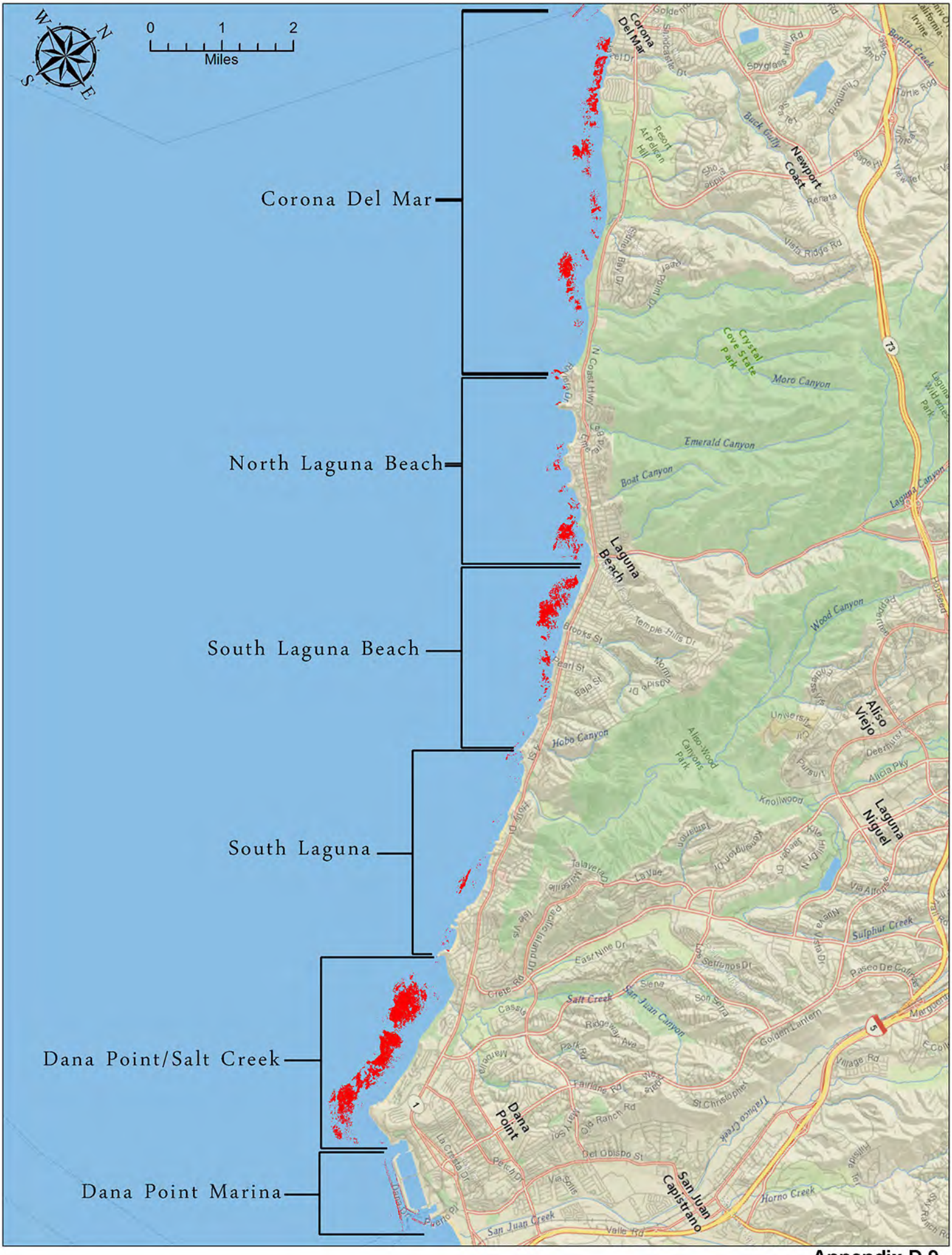
Appendix D.6


0
1
2
Miles
POLA/POLB
Los Angeles Harbor
Long Beach Harbor
Long Beach Harbor
Pacific Ocean
San Pedro
Wilmington
Seal Beach
Surfside
Sunset Beach
Los Angeles River

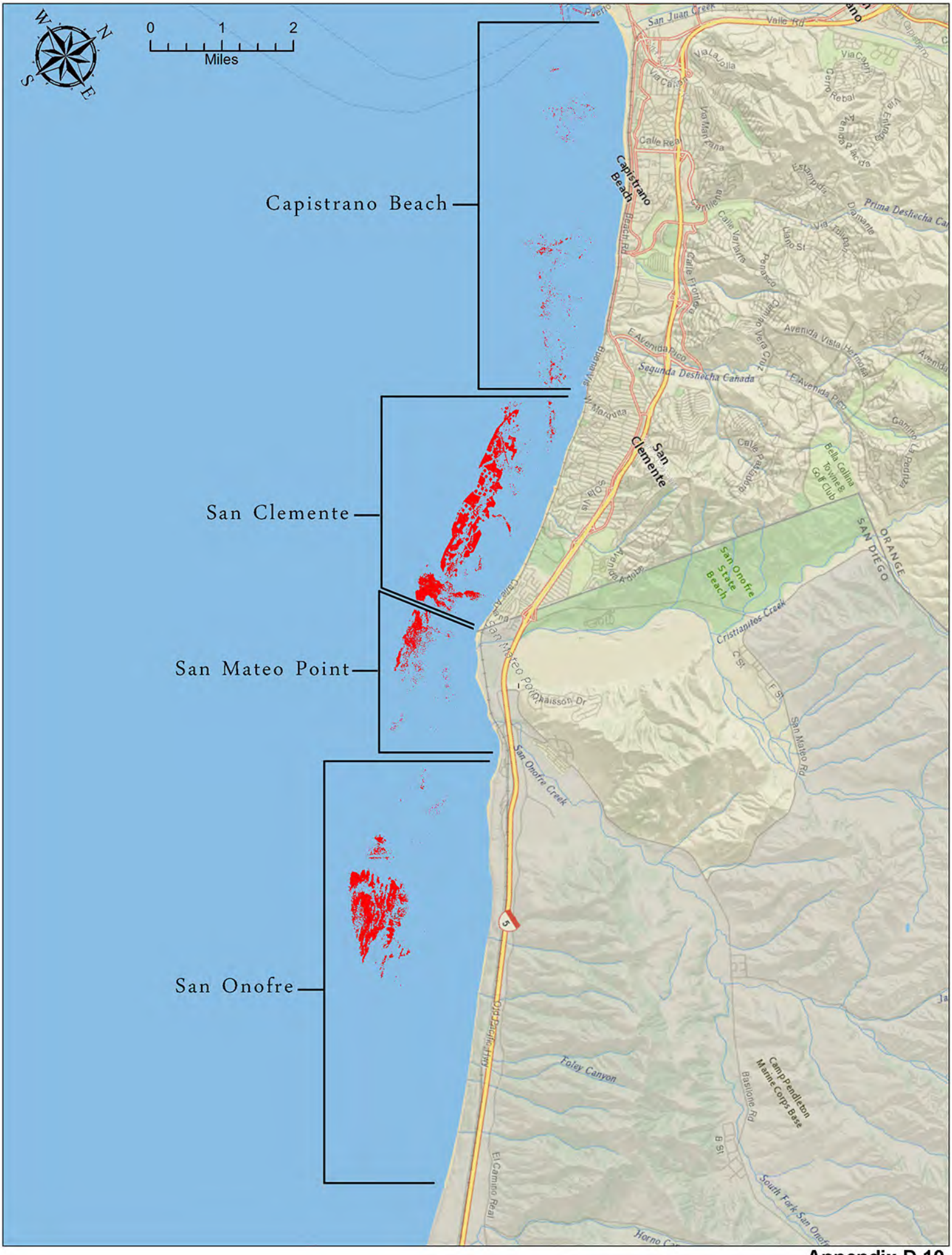
Appendix D.7


0
1
2
Miles
Orange County Sanitation District
Corona Del Mar
Huntington Beach
Newport Beach
Costa Mesa
Corona Del Mar
Santa Ana River
Pacific Ocean

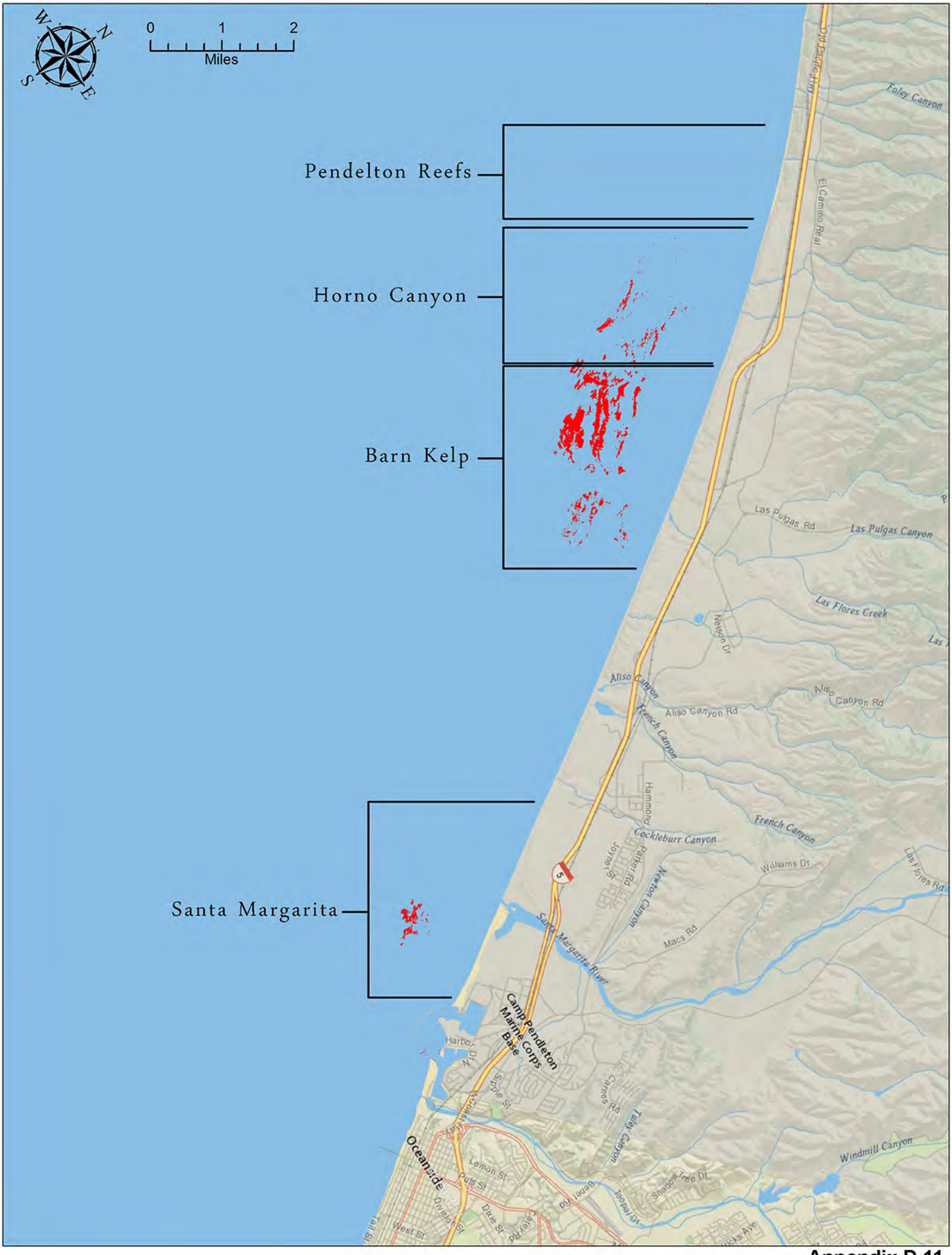
Appendix D.8


0
1
2
Miles
Corona Del Mar
North Laguna Beach
South Laguna Beach
South Laguna
Dana Point/Salt Creek
Dana Point Marina
Corona Del Mar
Newport Coast
Crystal Cove State Park
Moro Canyon
Emerald Canyon
Boat Canyon
Laguna Beach
Wood Canyon
Aliso Viejo
Hobo Canyon
Laguna Niguel
Salt Creek
San Juan Canyon
Dana Point
San Juan Capistrano
San Juan Creek
Horno Creek
Trabuco Creek
Sulphur Creek

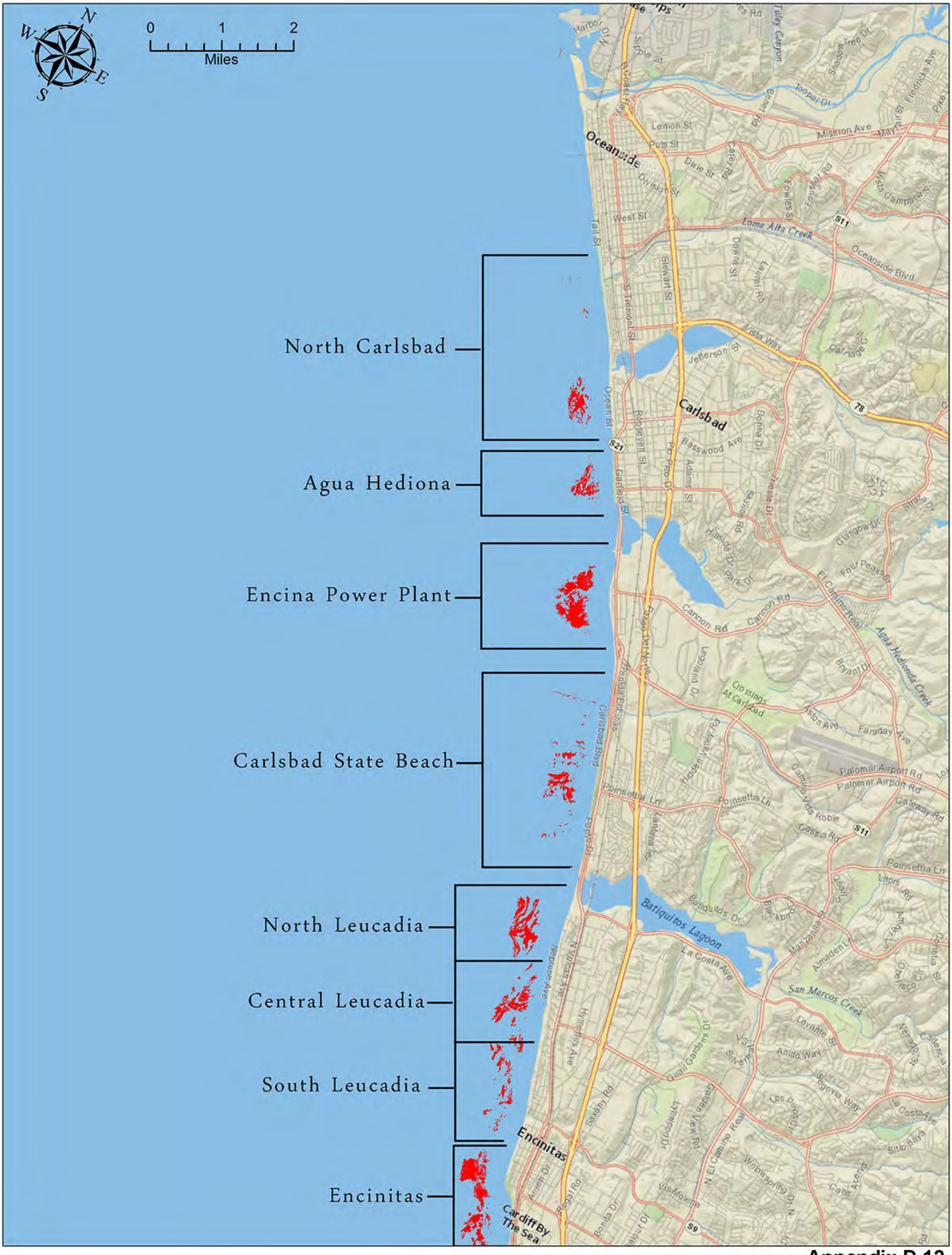
Appendix D.9



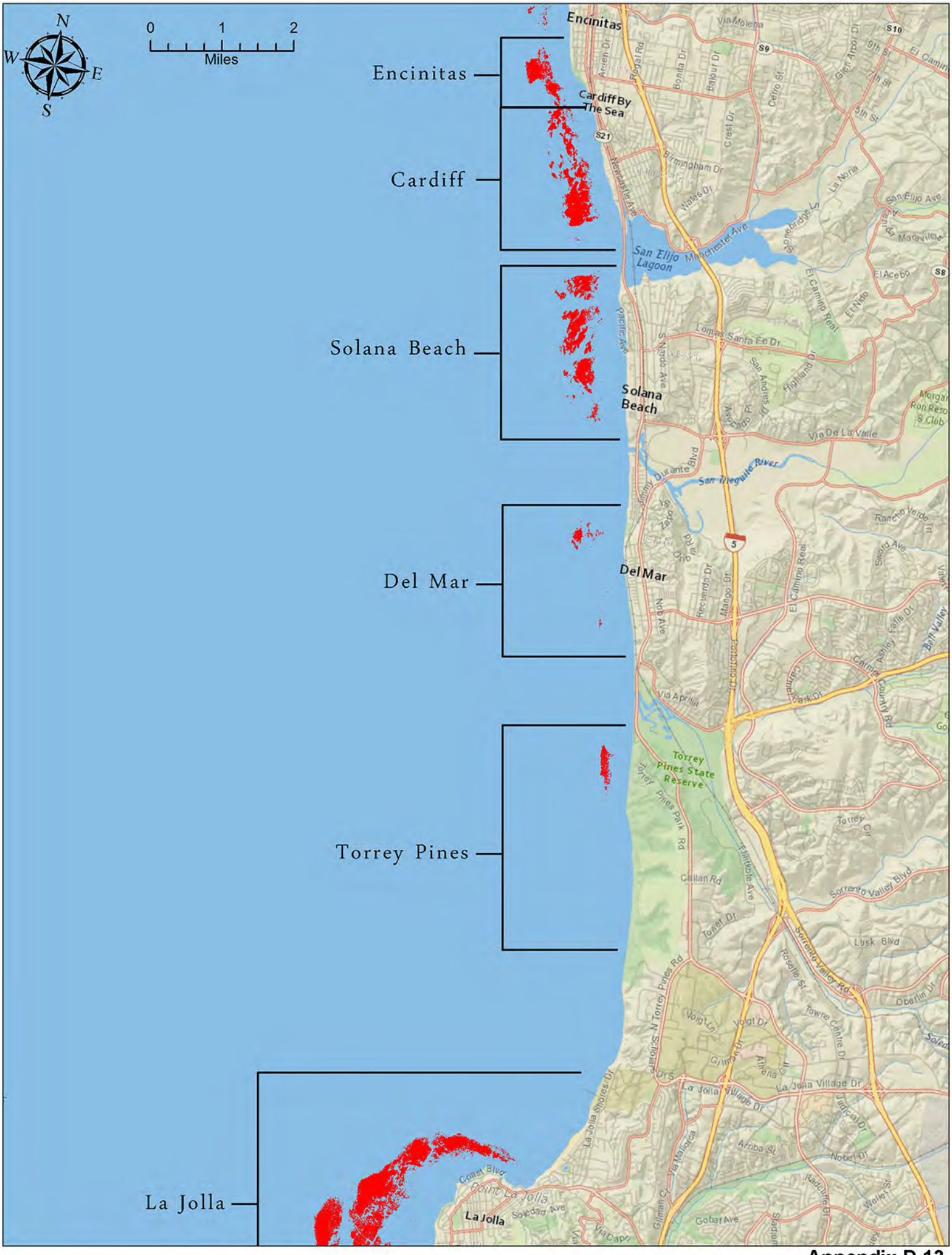
Appendix D.10



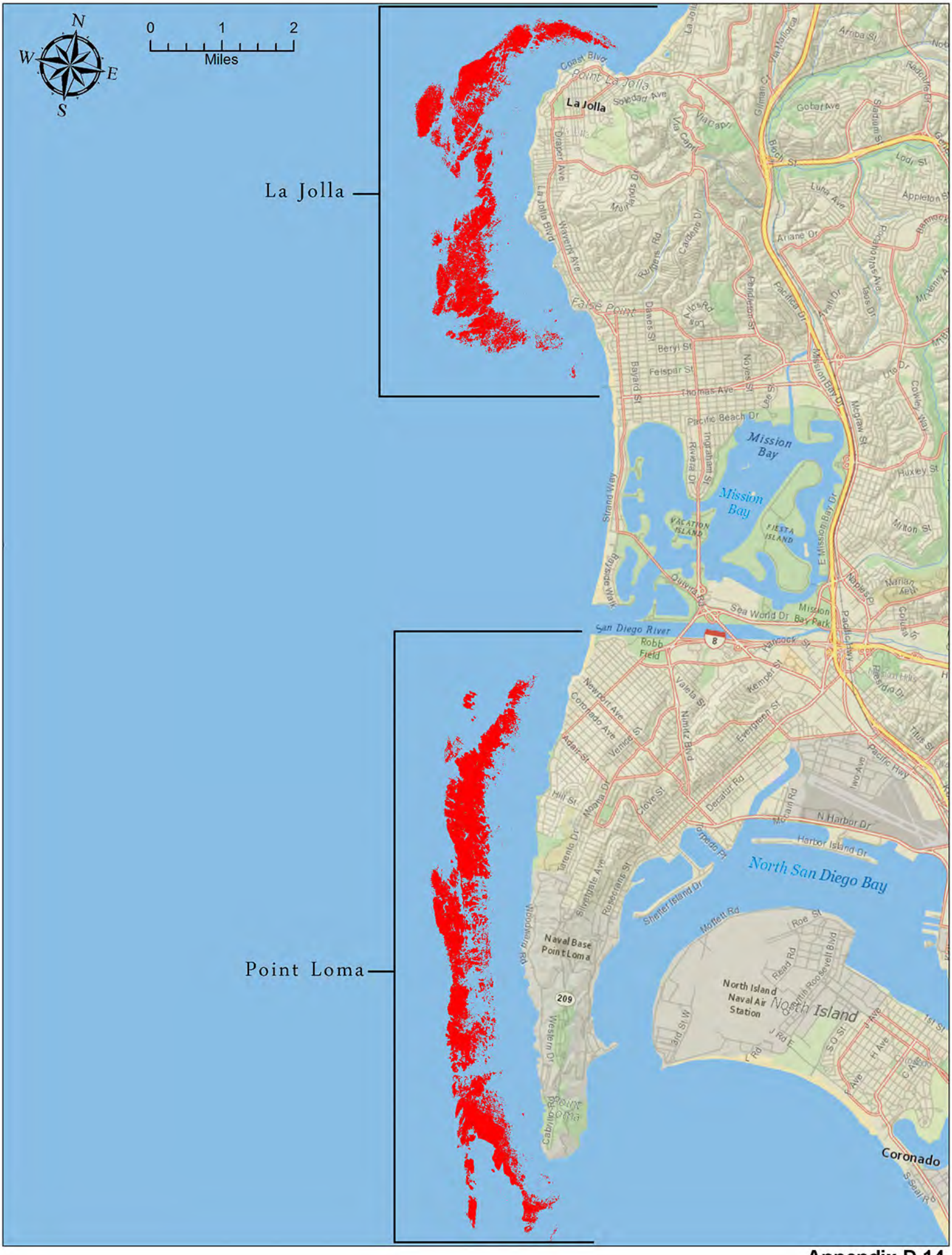
Appendix D.11



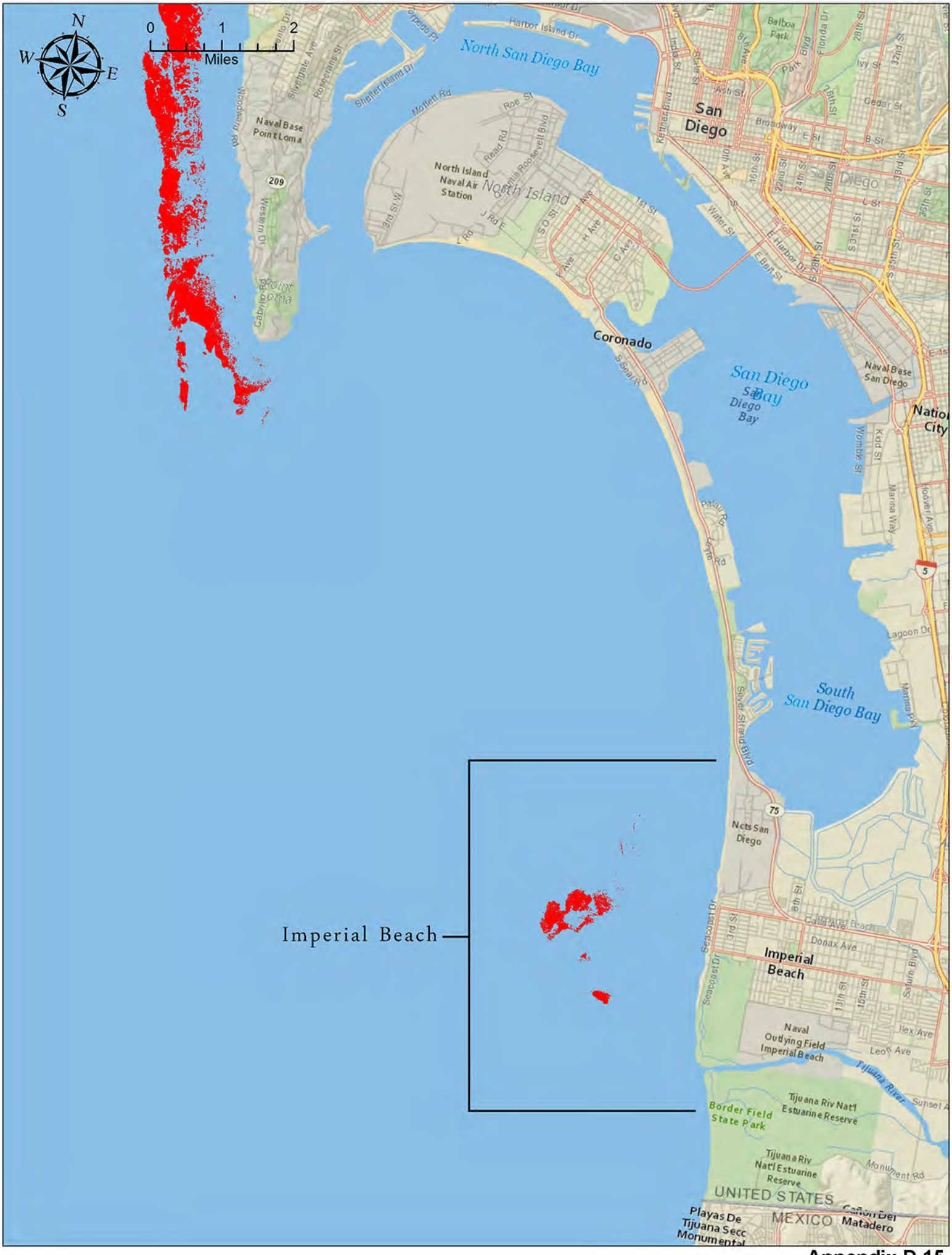
Appendix D.12



Appendix D.13



Appendix D.14



Appendix D.15

Ecoscan Resource Data
Data Acquisition
Flight Data Report

Contracting Agency/Contact		Contract/Order #/Agency File #	
Contracting Agency:	MBC Applied Environmental Sciences	**Contract/Order #:**	
Division:		**Agency File #:**	
Contact/Title:	Shane Beck, Michael Lyons	**Calendar**	
Address:	3000 Redhill Ave.	**Services Ordered:**	03/19
City/State/Zip:	Costa Mesa, CA 92626	**Data Acquisition Completed:**	03/31/19
Phone 1/Phone 2:	(714) 850-4830	**Draft Report Materials Due:**	
Fax/E-Mail:	(714) 850-4840	**Final Report Materials Due:**	5/19

Project Title/Target Resource (s)- Survey Range (s)/Survey Data Flow		
Project Title		**California Coastal Kelp Resources - Ventura to Imperial Beach - 03/31/19**
Target Resource (s)/ Survey Range (s)		Coastal Kelp Canopies Ventura Harbor to Imperial Beach
Survey Data Flow	**Acquisition**	Vertical color IR digital imagery of all coastal kelp canopies within the survey range
	Processing	Survey imagery indexed and delivered to MBC for further processing and analysis
	Analysis	
	Presentation	All survey imagery presented with 8"x10" contact sheets (12 images/per page)

Aerial Resource Survey Flight Data for:		March 31, 2019			
Survey Type		**Aircraft/Imagery Data**		**Associated Conditions**	
	Aerial Transportation/Observation	Aircraft:	Cessna 182	Sky Conditions:	Clear
	Photographic Film Imagery - 35 mm	Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical
	Photographic Film Imagery - 70 mm	Speed:	100 kts.	Visibility:	50+ miles
✓	Digital Color/Color Infrared Imagery	Camera:	Nikon D200	Wind:	Less than 5 knots
	Videography	Lenses:	30mm (see note)	Sea/Swell:	2-4 feet
	Radio Telemetry	Film:	Digital Color IR	Time:	1237-1413
	Radiometry/Geophysical Measurements	Angle:	Vertical	Tide:	0.2' (+) to 0.1' (+) MLLW
	Other 1:	Photo Scale:	As Displayed	Shadow:	None
	Other 2:	Pilot:	Unsicker	Other:	
	Other 3:	Photographer:	Van Wagenen	Comments:	Excellent Conditions

Range (s) Surveyed	Ventura Harbor to Imperial Beach. Imagery Date Note: Imagery EXIF data shows imagery date as: 3/27/19 and time between 1937 and 2113 PDT. A weak camera data battery caused this error and the correct date and time is as shown above.	
Target Resource Observations	Kelp Canopies	Kelp canopies throughout the range showed significant increases in surface extent from that observed in the December 2018 survey
Imagery Quality/ Comments	Excellent	All surface kelp canopies were photographed within the above range, and the image processing was conducted normally. All of the imagery was judged of excellent quality and was useable for the subsequent mapping and analysis of the kelp resource.
	Lens Note	30mm (digital SLR camera) is similiar focal length to 50mm (35mm film SLR camera)

Ecoscan Resource Data
143 Browns Valley Rd.
Watsonville, CA 95076
(831) 728-5900 (ph./fax)



Signed: _____ Bob Van Wagenen, Director

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Data Acquisition
Flight Data Report

Contracting Agency/Contact		Contract/Order #/Agency File #	
Contracting Agency:	MBC Applied Environmental Sciences	**Contract/Order #:**	
Division:		**Agency File #:**	
Contact/Title:	Shane Beck, Michael Lyons	**Calendar**	
Address:	3000 Redhill Ave.	**Services Ordered:**	6/19
City/State/Zip:	Costa Mesa, CA 92626	**Data Acquisition Completed:**	07/26/19
Phone 1/Phone 2:	(714) 850-4830	**Draft Report Materials Due:**	
Fax/E-Mail:	(714) 850-4840	**Final Report Materials Due:**	8/19

Project Title/Target Resource (s)- Survey Range (s)/Survey Data Flow

Project Title		**California Coastal Kelp Resources - Ventura to Imperial Beach - 07/26/19**
Target Resource (s)/ Survey Range (s)		Coastal Kelp Canopies Ventura Harbor to Imperial Beach
Survey Data Flow	**Acquisition**	Vertical color IR digital imagery of all coastal kelp canopies within the survey range
	Processing	Survey imagery indexed and delivered to MBC for further processing and analysis
	Analysis	
	Presentation	All survey imagery presented with 8"x10" contact sheets (12 images/per page)

Aerial Resource Survey Flight Data for:		**July 26, 2019**			
Survey Type		**Aircraft/Imagery Data**		**Associated Conditions**	
	Aerial Transportation/Observation	Aircraft:	Cessna 182	Sky Conditions:	Clear
	Photographic Film Imagery - 35 mm	Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical
	Photographic Film Imagery - 70 mm	Speed:	100 kts.	Visibility:	50+ miles
✓	Digital Color/Color Infrared Imagery	Camera:	Nikon D200	Wind:	Less than 5 knots
	Videography	Lenses:	30mm (see note)	Sea/Swell:	2-4 feet
	Radio Telemetry	Film:	Digital Color IR	Time:	1555-1745
	Radiometry/Geophysical Measurements	Angle:	Vertical	Tide:	4.7' (+) to 5.1' (+) MLLW
	Other 1:	Photo Scale:	As Displayed	Shadow:	None
	Other 2:	Pilot:	Unsicker	Other:	
	Other 3:	Photographer:	Van Wagenen	Comments:	Excellent Conditions

Range (s) Surveyed		Ventura Harbor to Imperial Beach. Imagery Date Note: Imagery EXIF data shows imagery date as: 7/7/19 and time between 1320 and 1446 PDT. A faulty camera data battery caused this error, and has been replaced. The correct date and time is as shown above.
Target Resource Observations	Kelp Canopies	Kelp canopies throughout the range showed a slight increase in surface extent from that observed in the March 2019 survey, especially the range between La Jolla and Point Loma where the increases were more significant.
Imagery Quality/ Comments	Excellent	All surface kelp canopies were photographed within the above range, and the image processing was conducted normally. All of the imagery was judged of excellent quality and was useable for the subsequent mapping and analysis of the kelp resource.
	Lens Note	30mm (digital SLR camera) is similiar focal length to 50mm (35mm film SLR camera)

Ecoscan Resource Data
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Watsonville, CA 95076
(831) 728-5900 (ph./fax)



Signed: _____ Bob Van Wagenen, Director

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Data Acquisition
Flight Data Report

Contracting Agency/Contact		Contract/Order #/Agency File #	
Contracting Agency:	MBC Applied Environmental Sciences	**Contract/Order #:**	
Division:		**Agency File #:**	
Contact/Title:	Shane Beck, Michael Lyons	**Calendar**	
Address:	3000 Redhill Ave.	**Services Ordered:**	9/19
City/State/Zip:	Costa Mesa, CA 92626	**Data Acquisition Completed:**	09/24/19
Phone 1/Phone 2:	(714) 850-4830	**Draft Report Materials Due:**	
Fax/E-Mail:	(714) 850-4840	**Final Report Materials Due:**	10/19

Project Title/Target Resource (s)- Survey Range (s)/Survey Data Flow

Project Title		**California Coastal Kelp Resources - Ventura to Imperial Beach - 09/24/19**
Target Resource (s)/ Survey Range (s)		Coastal Kelp Canopies Newport Harbor to Imperial Beach
Survey Data Flow	**Acquisition**	Vertical color IR digital imagery of all coastal kelp canopies within the survey range
	Processing	Survey imagery indexed and delivered to MBC for further processing and analysis
	Analysis	
	Presentation	All survey imagery presented with 8"x10" contact sheets (12 images/per page)

Aerial Resource Survey Flight Data for: September 24, 2019

	Survey Type	Aircraft/Imagery Data		Associated Conditions	
	Aerial Transportation/Observation	Aircraft:	Cessna 182	Sky Conditions:	Clear
	Photographic Film Imagery - 35 mm	Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical
	Photographic Film Imagery - 70 mm	Speed:	100 kts.	Visibility:	50+ miles
✓	Digital Color/Color Infrared Imagery	Camera:	Nikon D200	Wind:	Less than 5 knots
	Videography	Lenses:	30mm (see note)	Sea/Swell:	2-4 feet
	Radio Telemetry	Film:	Digital Color IR	Time:	1632-1719
	Radiometry/Geophysical Measurements	Angle:	Vertical	Tide:	4.9' (+) to 5.2' (+) MLLW
	Other 1:	Photo Scale:	As Displayed	Shadow:	None
	Other 2:	Pilot:	Unsicker	Other:	
	Other 3:	Photographer:	Van Wagenen	Comments:	Excellent Conditions

Range (s) Surveyed	Newport Harbor to Imperial Beach.	
Target Resource Observations	Kelp Canopies	Kelp canopies throughout the range showed a significant decrease in surface extent from that observed in the July 2019 survey. The only kelp observed was that between La Jolla and Point Loma.
Imagery Quality/ Comments	Excellent	All surface kelp canopies were photographed within the above range, and the image processing was conducted normally. All of the imagery was judged of excellent quality and was useable for the subsequent mapping and analysis of the kelp resource.
	Lens Note	30mm (digital SLR camera) is similiar focal length to 50mm (35mm film SLR camera)

Ecoscan Resource Data
143 Browns Valley Rd.
Watsonville, CA 95076
(831) 728-5900 (ph./fax)



Signed: _____ Bob Van Wagenen, Director

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Data Acquisition
Flight Data Report

Contracting Agency/Contact		Contract/Order #/Agency File #	
Contracting Agency:	MBC Applied Environmental Sciences	**Contract/Order #:**	
Division:		**Agency File #:**	
Contact/Title:	Shane Beck, Michael Lyons	**Calendar**	
Address:	3000 Redhill Ave.	**Services Ordered:**	12/19
City/State/Zip:	Costa Mesa, CA 92626	**Data Acquisition Completed:**	12/19/19
Phone 1/Phone 2:	(714) 850-4830	**Draft Report Materials Due:**	
Fax/E-Mail:	(714) 850-4840	**Final Report Materials Due:**	12/19

Project Title/Target Resource (s)- Survey Range (s)/Survey Data Flow

Project Title		**California Coastal Kelp Resources - Ventura to Imperial Beach - 12/19/19**
Target Resource (s)/ Survey Range (s)		Coastal Kelp Canopies Ventura Harbor to Imperial Beach
Survey Data Flow	**Acquisition** Processing Analysis Presentation	Vertical color IR digital imagery of all coastal kelp canopies within the survey range Survey imagery indexed and delivered to MBC for further processing and analysis All survey imagery presented with 8"x10" contact sheets (12 images/per page)

Aerial Resource Survey Flight Data for: December 19, 2019

	Survey Type	Aircraft/Imagery Data		Associated Conditions	
	Aerial Transportation/Observation	Aircraft:	Cessna 182	Sky Conditions:	Clear
	Photographic Film Imagery - 35 mm	Altitude:	13,500' MSL	Sun Angle:	> 20 degrees from vertical
	Photographic Film Imagery - 70 mm	Speed:	100 kts.	Visibility:	50+ miles
√	Digital Color/Color Infrared Imagery	Camera:	Nikon D200	Wind:	Less than 5 knots
	Videography	Lenses:	30mm (see note)	Sea/Swell:	2-4 feet
	Radio Telemetry	Film:	Digital Color IR	Time:	1147-1318
	Radiometry/Geophysical Measurements	Angle:	Vertical	Tide:	2.6' (+) to 3.3' (+) MLLW
	Other 1:	Photo Scale:	As Displayed	Shadow:	None
	Other 2:	Pilot:	Unsicker	Other:	
	Other 3:	Photographer:	Van Wagenen	Comments:	Excellent Conditions

Range (s) Surveyed	Ventura Harbor to Imperial Beach.	
Target Resource Observations	Kelp Canopies	Kelp canopies throughout the range showed a reduction in surface extent, and the only significant kelp observed was that between La Jolla and Point Loma.
Imagery Quality/ Comments	Excellent Lens Note	All surface kelp canopies were photographed within the above range, and the image processing was conducted normally. All of the imagery was judged of excellent quality and was useable for the subsequent mapping and analysis of the kelp resource. 30mm (digital SLR camera) is similiar focal length to 50mm (35mm film SLR camera)

Ecoscan Resource Data
143 Browns Valley Rd.
Watsonville, CA 95076
(831) 728-5900 (ph./fax)



Signed: _____ Bob Van Wagenen, Director

Copy To:

mbc AQUATIC SCIENCES

PROJECT FIELD LOG

Client: Region 9 Job No: 14315 Date: 7 Jan 20

Work Site: Imp Bch → O'side Personnel: RHM JJS SMC

Team Leader: _____ Vessel: Scorpaena

Time	Work Related Activities:		
0530	Arrive & finish load		Plot stakes on map
0550	Depart MBC		
0615	Stop O'side to pk Wayne		
0755	Launch Shelter Island		
0840	Imp Bch	0918 - Pt. Loma S	0945 pt Loma N
1020	La Jolla S.	1115 Torrey Pines	1145 Del Mar
1155	Sol	1220 Card	1230 Encinitas
1235	S Leu	1245 S Leu	
1325 -	1353 S Dive N Leu	1410 - Cons St Park	
1433 -	1458 Dive Encine PP		
1520	Agua Hed	1530 N Carlsbad	1600 Santa Margarita
1625	Arrive at Oceanside		
1640	Depart Oceanside		
1740	Arrive MBC		

Bad Y/L's La Jolla
ESP
Shrmp

mbc AQUATIC SCIENCES

PROJECT FIELD LOG

Client: SONGS Job No: 17562B Date: 15 JAN 2020

Work Site: SONGS Personnel: JJS, SME

Team Leader: — Vessel: Scorpaena

Time	Work Related Activities:
0630	Arrive at MBC, meh
0650	Depart MBC
0720	Arrive at Dana Point
0730	Launch Scorpaena
0735	Arrive at Fuel Dock
0820	Depart Fuel Dock
0925	FZS - thermistors
1000	PAR 1010 Barn Kelp 1020 Horno Canyon
1039	C2S - thermistors
1122	C22S - thermistors
1155	A - water
1201	C - "
1207	B - "
1210	San Onofre 1235 San Mateo 1245 San Clemente
1300	Cap Istrano Beach
1330	Pull scorpaena
	lunch
1425	Arrive @ MBC, demob
1530	Done.

mbc AQUATIC SCIENCES

PROJECT FIELD LOG

Client: RG Kelp Job No: 14325 Date: 30 Jan 20

Work Site: Dana → Newport Personnel: BHm DJS

Team Leader: _____ Vessel: Poco Loco

Time	Work Related Activities:
0630	Arrive & load
0703	Depart
0730	Arrive Dana Pt 0744 Launch MMSI VHF
0830	Anchor DP Kelp 9913 20m 51' Metered 2 areas w/ Scatt/sfc
—	+ lots subsurface
1000	S. Lag
1030	Laguna 1054-18 min 52'
	N Lag Reef Pt White Hse
1300	Corona del Mar
1340	Dock - pulled boat 276 hrs
1405	MBC
1500	Finish

mbc AQUATIC SCIENCES

PROJECT FIELD LOG

Client: Region 9 Job No: 14315 Date: 7 Jan 20

Work Site: Imp Bch → O'side Personnel: RHM JJS SME

Team Leader: _____ Vessel: Scorpaena

Time	Work Related Activities:		
0530	Arrive & finish load		Plot sta L/L's on map
0550	Depart MBC		
0615	Stop O'side to p/u Wayne		
0755	Launch Shelter Island		
0840	Imp Bch	0918 - Pt. Loma S	0945 pt Loma N
1020	La Jolla S.	1115 Torrey Pines	1145 Del Mar
1155	Sol	1220 Card	1230 Encinitas
1235	S Leuc	1245 S. Leuc	
1325 - 1353 S	Dive N Leuc	1410 - Cows St Park	
1433 - 1458	Dive Encine PP		
1520	Aqua Hed	1530 N Carlsbad	1600 Santa Margarita
1625	Arrive at Oceanside		
1640	Depart Oceanside		
1740	Arrive MBC		

Bad L/L's La Jolla
ESP
Shrimp

Page____of____

CONDITION OF MACROCYSTIS BED

Observer: SME
Lat/Long: 33° 07.517' 117° 20.441'

Date 7 JAN 2020
Location Encina PP
Time
Wind/Direction
Current
Weather
UW Visibility
Swell Ht/Period

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades

Remarks

Subsurface

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color Med-dark yellow
Encrustation N
Disease N
Sediment on blades N
Sinking fronds N
Grazed tissues Y
Sporophyllis
Juvenile fronds Y
Holdfasts 6+3=(9)
Old holdfasts N
Recruitment Y

Community

Litter 5% coverage
Turf algae Y - Red
Turf invert. N
Shrub algae ~~Y~~ N ~~Red~~ 3 lobster (UR spiny)
Large Invert. snail anemone urchin
Fishes N 27 3 Kelletia, 4 Megastraea
Disease N
Sed. on rocks Y
Urchin status 1111 +3 +5 +3 2 Purp → Purple urchin = 16
Dark Purp = 5+4 → Red urchin = 7

White-spotted Rose anemone 10

Bottom characteristics

cobble rock
shell bottom

grazed @ mid, not bottom

REMARKS Kelp: 11 = (2)
Sw: 111 = (3)
Ad: 1+(11)+3+11 = ~~(26)~~ (17)

* Scattered gorgonians

CONDITION OF MACROCYSTIS BED

Observer: RHM
Lat/Long: 33° 04.4570' 117° 18.9641'

Date 7JAN 2020
Location North Lewadia
Time
Wind/Direction
Current
Weather
UW Visibility
Swell Ht/Period

TOPSIDE OBSERVATIONS

Kelp Canopy 2m X 50m
Extent Sporophyll blades w/ jagged edges
Density
Tissue color
% Frond comp. ____ Senile ____ Mature ____ Young ____ Other
Disease not carrying spores, ~1 ft high
Encrustation
Apical blades
Sediment on blades
Remarks LAMINARIA Depth 35'
Subsurface

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom 5m/VIS

Tissue color
Encrustation
Disease
Sediment on blades N
Sinking fronds N
Grazed tissues N
Sporophyllis Y
Juvenile fronds Y
Holdfasts
Old holdfasts N
Recruitment Y

Community

Litter
Turf algae Ferosorum
Turf invert.
Shrub algae Egregia
Large Invert. 1 Lobster, Urchins
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

Reef rock / Plate rock 90%
Sand channel 45m

REMARKS Recruits HH = 4
Juvenile I = 1
Adult III = 3
Mostly Egregia

Lat/long's incorrect — checked 2 sites @ 1600 + 1615.

CONDITION OF MACROCYSTIS BED

SME
9' 117°27.249' ???
' 117°25.192' ?
S

Date 7 JAN 2020
Location Santa Margarita
Time 1600 / 1615
Wind/Direction
Current
Weather P Cloudy
UW Visibility 10-ft
Swell Ht/Period 2-3 ft W

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks Depth: 35'

Subsurface None

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 33° 09.321' 117° 21.685'

Date 7 JAN 2020
Location North Carlsbad
Time 1530
Wind/Direction
Current
Weather P. Cloudy
UW Visibility 15 ft.
Swell Ht/Period 2-3 ft W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades

Remarks Depth: 43'

Subsurface Scattered subsurface ~10ft tall, patches ~10 plants (lots)

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 33°08.664' 117°21.119'

Date 7 JAN 20
Location Agua Hed.
Time 1520
Wind/Direction
Current
Weather P. cloudy
UW Visibility 15 ft.
Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks Depth 40'

Subsurface 10-15 ft. plants on bottom, patch of ~6 plants, 2-3 patches

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

CONDITION OF MACROCYSTIS BED

Observer: RHM, SMF

Lat/Long: 33° 01.036' 117° 19.561'

Date 7JAN 2020

Location ~~North~~ Encinitas CSP

Time 1410

Wind/Direction

Current

Weather P. Cloudy

UW Visibility 10 ft.

Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None

Density

Tissue color

% Frond comp. _____ Senile _____ Mature _____ Young _____ Other

Disease

Encrustation

Apical blades

Sediment on blades

Remarks

Subsurface None

UNDERWATER OBSERVATIONS

Midwater

Tissue Color

Encrustation

Disease

Sediment on blades

Sinking fronds

Grazed tissues

Bottom

Tissue color

Encrustation

Disease

Sediment on blades

Sinking fronds

Grazed tissues

Sporophyllis

Juvenile fronds

Holdfasts

Old holdfasts

Recruitment

Community

Litter

Turf algae

Turf invert.

Shrub algae

Large Invert.

Fishes

Disease

Sed. on rocks

Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 33° 03.916' 117° 18.656'

Date 7 JAN 2020
Location Central Leucadia
Time 1245
Wind/Direction 3 W
Current
Weather P. Cloudy
UW Visibility 10'-15'
Swell Ht/Period 2-3 ft W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent medium-scattered
Density 100 m x 30 m
Tissue color 50% light,
% Frond comp. 50% Senile 45% Mature 5% Young ____ Other
Disease None
Encrustation 50%
Apical blades 5%
Sediment on blades None
Remarks Depth 31'

Subsurface apical blades on subsurface, not on canopy

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 33°02.979' 117° 18.321'

Date 7 JAN 2020
Location S. Leucadia
Time 1235
Wind/Direction 3 W
Current
Weather P. Cloudy
UW Visibility 20 ft.
Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent 30m x 30m
Density Medium-scattered
Tissue color 20% light yellow, 70% medium, 10% dark
% Frond comp. 20% Senile 80% Mature 2% Young _____ Other
Disease None
Encrustation 20%
Apical blades 5%
Sediment on blades None
Remarks 1-2 m length fronds Depth: 34'

Subsurface apical tips subsurface

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 33°02.314' 117° 18.148'

Date 7 JAN 2020
Location Encinitas
Time 1230
Wind/Direction SW
Current
Weather P. Cloudy
UW Visibility 10'-15'
Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent 30 m wide, 100 m long
Density scattered to the north
Tissue color Medium yellow 70%, Dark Yellow 20%, 10% light
% Frond comp. 5% Senile 35% Mature 60% Young ____ Other
Disease None
Encrustation 5%
Apical blades 40%
Sediment on blades
Remarks 23m frond length Depth: 36'

Subsurface 5'-10' algae (kelp) on bottom
2-3 patches to the surface of 10-40 plants - scattered over 0.35 Miles

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long:
south 33° 01.039' 117° 17.385'

Date 7JAN2020
Location Cardiff
Time 1220
Wind/Direction 3 W
Current
Weather P. Cloudy
UW Visibility 10 ft.
Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades

Remarks Depth: 40'

Subsurface metering ~5 ft. tall algae 10'-15' tall for ~2-3/10 mile (0.25mi)
several scattered breaching surface

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 32° 59.425' 117° 16.960'
South: 32° 59.082' 117° 16.946' 37'

Date 7 JAN 2020
Location Solana Beach
Time 1155-
Wind/Direction SW
Current
Weather p. cloudy
UW Visibility 10-15 ft.
Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent Scattered
Density
Tissue color 70% dark yellow, 30% light yellow
% Frond comp. 30 % Senile 70 % Mature 1 % Young ____ Other
Disease None
Encrustation 20%
Apical blades 2%
Sediment on blades None
Remarks 2 m length fronds at surface Depth 37'

Subsurface

Scattered South end 15-20' tall can't see, 30-35 ft tall can see (50% senile, 50% mature)

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 32° 57.512' 117°16.539'
560 537

Date 7JAN2020
Location Del Mar
Time 1145
Wind/Direction 3 kn W
Current
Weather P. Cloudy
UW Visibility 10 ft
Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks Depth 37'

Subsurface 2-3 ft. tall algae on fathometer for 200 m distance

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS 32°57.590' 117°16.705'

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME

Lat/Long: 32° 53.561' 117°15.633'

Date 7JAN2020

Location Torrey Pines

Time 1115

Wind/Direction

Current

Weather P. Cloudy

UW Visibility 10 ft

Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None

Density

Tissue color

% Frond comp. _____ Senile _____ Mature _____ Young _____ Other

Disease

Encrustation

Apical blades

Sediment on blades

Remarks

Subsurface None

UNDERWATER OBSERVATIONS

Midwater

Tissue Color

Encrustation

Disease

Sediment on blades

Sinking fronds

Grazed tissues

Bottom

Tissue color

Encrustation

Disease

Sediment on blades

Sinking fronds

Grazed tissues

Sporophyllis

Juvenile fronds

Holdfasts

Old holdfasts

Recruitment

Community

Litter

Turf algae

Turf invert.

Shrub algae

Large Invert.

Fishes

Disease

Sed. on rocks

Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHm, SmE
Date 7 Jan 20
Lat/Long: 32°48.922' 117°17.538' (central)
32°48.888' 117°16.479' (south)
32°50.651' 117°17.926' (North)
Location La Jolla / South
Time 1020
Wind/Direction SW
Current
Weather P. cloudy
UW Visibility 15-20 ft.
Swell Ht/Period 2-3ft

TOPSIDE OBSERVATIONS

Kelp Canopy
central = 300 m width
100-200m
(~100m width)
Extent ~~1/4 mi~~ width, continuous south to north end
Density medium inshore, thick offshore
Tissue color 60% light yellow, 40% dark yellow
% Frond comp. 5% Senile 95% Mature ____ Young ____ Other
Disease None
Encrustation 60% - 70%
Apical blades 2-5%
Sediment on blades None
Remarks 42 ft. scattered plant at surface - None metering subsurface Depth 42' - 70'
3m length fronds
Subsurface offshore subsurface kelp ~70' depth
central → 70% dark yellow, 10% encrusted, 4-5 m ~~at~~ frond length, 85% mature, 1% apical, 65'-75'

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM SME
Date 7 Jan 20
Lat/Long: 32° 42.639' 117° 16.307'
Location 24 Line North
North edge: 32° 43.545' 117° 16.264'
Time 0945
Wind/Direction 3W
Current downcoast
Weather P. cloudy 10'/.
UW Visibility 10 ft.
Swell Ht/Period 2-3ft W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent ~200m wide, continuous to south
Density solid
Tissue color 50'/. dark yellow 50'/. light yellow
% Frond comp. 10'/. Senile 90'/. Mature 1'/. Young _____ Other
Disease None
Encrustation 50'/.
Apical blades 1-2'/.
Sediment on blades None
Remarks Depth 55ft

Subsurface

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 32° 39.159' 117° 15.085'
32° 39.578' 117° 15.630'

Date 7 Jan 20
Location Pt Loma South
Time 0918
Wind/Direction Ø
Current
Weather P. Cloudy
UW Visibility
Swell Ht/Period 2-3 ft. W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent 200 w x 0.25 mile long continuous to N
Density Solid
Tissue color Dark yellow ish
% Frond comp. 1% Senile 98% Mature 1% Young ____ Other 50'
Disease N
Encrustation 30%
Apical blades 1%
Sediment on blades N
Remarks Big area scattered @ 0.25 mile long Depth 60'
Subsurface Just below surface Heavy concentration lots of apical blades visible

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM, SME
Lat/Long: 32° 34.548' 117° 09.163'

Date 7 Jan 20
Location Imperial Beach
Time 0840
Wind/Direction 3-5 E
Current
Weather ~~Clear sky~~ P. Cloudy (10%)
UW Visibility
Swell Ht/Period 1-2' W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks No canopy Depth 55'-36'

Subsurface Hard Bottom - nothing subsurface @ 0.25 diameter circle

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS >2m <2m

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: SME
Lat/Long: N 33°19.466' W 117° 31.643'

Date 15 JAN 20
Location Pendleton Artificial Reef
Time 1000
Wind/Direction 3-5 NW
Current South
Weather P. Cloudy
UW Visibility 10 ft.
Swell Ht/Period 2-3 ft

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks Depth: 42'

Subsurface None

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: SMF
Lat/Long: N 33° 17.132' W 117° 29.376'

Date 15JAN20
Location Barn Kelp
Time 1010
Wind/Direction 3-5 NW
Current South
Weather P. Cloudy
UW Visibility 10 ft.
Swell Ht/Period 2-3 W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks Depth: 49'

Subsurface ~20 ft. depth — 20-30 ft tall, multiple patches over ½ mile

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: SME
Lat/Long: N 33° 19.212' W 117° 30.408'

Date 15 JAN 20
Location Horno Canyon
Time 1020
Wind/Direction 3-5 NW
Current South
Weather P. Cloudy
UW Visibility 10 ft.
Swell Ht/Period 2-3 N

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent NM
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks Depth: 46'

Subsurface sparse plants - 20-30ft. fall @ Horno Canyon on GPS (HORCYN)
R9K11HC → wrong lat/longs - 2.5mi N of Barn Kelp, 0.5mi S PAR

UNDERWATER OBSERVATIONS

Midwater
Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom
Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community
Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: SME
Lat/Long: N 33°20.588' W 117°33.509'

Date 15 JAN 20
Location San Onofre
Time 1210
Wind/Direction 3-5 NW
Current South
Weather P Cloudy
UW Visibility 10 ft.
Swell Ht/Period 2-3 W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades

Depth: 46'

Remarks

Subsurface None

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: SME
Lat/Long: N 33°22.697' W117°36.189'
* N33°22.466' W117°35.832'
TOPSIDE OBSERVATIONS

Date 15JAN20
Location San Mateo
Time 1235
Wind/Direction 3-5 NW
Current South
Weather P. Cloudy
UW Visibility 10 Ft.
Swell Ht/Period 2-3 W

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks

Depth 47' *42'

Subsurface Some surface plants
~~* Scattered~~ plants ~ 20 ft. tall, 1 solid patch, 0.25 mi south of San Mateo Waypoint

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: SMF
Lat/Long: N 33° 23.804' W117° 37.032'

Date 15JAN20
Location San Clemente
Time 1245
Wind/Direction ~~P. Cloudy~~ SE 3-5 NW
Current South
Weather P. Cloudy
UW Visibility 10'
Swell Ht/Period 2-3

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density Scattered
Tissue color Medium = 10%. Dark = 85%. ~~Senile~~ Light = 5%
% Frond comp. 10 Senile 85 Mature 5 Young _____ Other
Disease NO
Encrustation Yes – 30%.
Apical blades 25%.
Sediment on blades No
Remarks Fronds 3 M on surface Depth: 46'
- scattered canopy, plants ~ 100 M apart.
Subsurface scattered plants ~ 20–30 ft tall, in patches

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: SME
Lat/Long: N 33° 25.660' W 117° 38.910'

Date 15JAN20
Location Capistrano Beach
Time 1300
Wind/Direction 3-5 NW
Current South
Weather P. Cloudy
UW Visibility 10 ft.
Swell Ht/Period 2-3 W

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks Depth: 44'

Subsurface Patches ~ 15-25 ft. tall plants, scattered @ 45-35' depth.

UNDERWATER OBSERVATIONS

Midwater
Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom
Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community
Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHu
Lat/Long: 33°29.884' 117°44.760'

Date 30 Jan 20
Location South Lagoon
Time 1000 - 1010
Wind/Direction 2-3 NE
Current N
Weather P. Cloudy
UW Visibility
Swell Ht/Period 2-3 WSW

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks

Subsurface None

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHm
Lat/Long: 33°32.401' 117°47.476'

Date 30 Jan 20
Location N. Laguna
Time 1210
Wind/Direction 2-3 NW
Current None
Weather Mostly Cloudy
UW Visibility 15'-20'
Swell Ht/Period 2-3 WSW

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent 100m x 150m
Density Full - Thick
Tissue color Med & Light Yellow
% Frond comp. 40% Senile 60% Mature 1% Young ____ Other
Disease N
Encrustation N
Apical blades Y
Sediment on blades N
Remarks

Subsurface Yes beyond edges of canopy

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHn

Lat/Long: 1) 33°33.781' 117° 50.054' Reef Pt.
2) 33°34.524' 117° 51.365 Whistler's Ref

Date 30 Jan. 20
Location Ref Pt / Whistlers Ref
Time 1220 / 1250
Wind/Direction 2-3 NE
Current None
Weather Mostly Cloudy
UW Visibility 30'+
Swell Ht/Period 2-3 ws

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None / Few
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks

Subsurface 1) ~~40+~~ Subsurface v. shallow reef
2) 2-3 C stc ; visible is senile ; >50 plants → lots Near surface very ragged -

UNDERWATER OBSERVATIONS

Midwater

Tissue Color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues

Bottom

Tissue color
Encrustation
Disease
Sediment on blades
Sinking fronds
Grazed tissues
Sporophyllis
Juvenile fronds
Holdfasts
Old holdfasts
Recruitment

Community

Litter
Turf algae
Turf invert.
Shrub algae
Large Invert.
Fishes
Disease
Sed. on rocks
Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHM
Lat/Long: 33° 35.258' 117° 52.186'

Date 30 Jan 20
Location Corona del Mar
Time 1300
Wind/Direction 2-3 NE
Current None
Weather Mostly Cloudy
UW Visibility 15'
Swell Ht/Period 2-3 WSW

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent None
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks

Subsurface None

UNDERWATER OBSERVATIONS

Midwater
- Tissue Color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues

Bottom
- Tissue color
- Encrustation
- Disease
- Sediment on blades
- Sinking fronds
- Grazed tissues
- Sporophyllis
- Juvenile fronds
- Holdfasts
- Old holdfasts
- Recruitment

Community
- Litter
- Turf algae
- Turf invert.
- Shrub algae
- Large Invert.
- Fishes
- Disease
- Sed. on rocks
- Urchin status

Bottom characteristics

REMARKS

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: KHM & DJS
Lat/Long: 33° 27.715' 117°43.283'

Date 30 Jan 20
Location Dana Point
Time 0800
Wind/Direction 5 East
Current None
Weather P. Cloudy
UW Visibility 20'
Swell Ht/Period 3-4' WSW

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent 0.25 - 0.5 mi
Density Scattered
Tissue color Med - Dark Yellow
% Frond comp. ~ Senile 100 Mature ~ Young _____ Other
Disease No
Encrustation Yes
Apical blades No
Sediment on blades No
Remarks Fronds @ 2-3 whorls present 30-35' to 50'

Subsurface Most metered subsurface 10±15' beneath Depth range 35 value to 52' lots

UNDERWATER OBSERVATIONS @ 33° 28.174' 117°43.495'

Midwater
Tissue Color Med Yellow
Encrustation Yes
Disease No
Sediment on blades No
Sinking fronds No
Grazed tissues Yes

Bottom
Tissue color Med Yellow
Encrustation No
Disease No
Sediment on blades No
Sinking fronds No
Grazed tissues Yes
Sporophyllis Yes adults
Juvenile fronds Yes
Holdfasts Yes
Old holdfasts No
Recruitment ? see note ?

Community
Litter No
Turf algae Sm. Rds
Turf invert.
Shrub algae Pterogophora / Egregia / Laminar
Large Invert.
Fishes ☆ below
Disease N
Sed. on rocks
Urchin status low

Bottom characteristics
Mix 50% Boulders 40 Cobble
10% Sand
Scattered ledge / shelf rock

Sarpa - 6
Mycteroperca - 1
Kelp Bass - 5-6+
Halichoeres - 1
Sheephead - 1

REMARKS Ad - 2 (two)
Juv - 2 (two)
Rec. - lots laminarian recruits
Dominant bottom algae Pterogophora 2-4/m²; @ 1 Laminaria/m²

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: RHw
Lat/Long: 33° 31.887' 117° 46.893'

Date 30 Jan 20
Location Laguna Beach
Time 1030
Wind/Direction N
Current N
Weather PCloudy
UW Visibility 15-20'
Swell Ht/Period 2-3 WSW

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent 300m x 100m
Density Medium
Tissue color Med + Dark Yellow
% Frond comp. 5% Senile 95% Mature 1% Young ____ Other
Disease No
Encrustation 10%
Apical blades No
Sediment on blades No
Remarks 1-2m length Depth 38'-55'

Subsurface

UNDERWATER OBSERVATIONS

3m vis

Midwater
Tissue Color Med/Light Yel
Encrustation No
Disease No
Sediment on blades Yes
Sinking fronds No
Grazed tissues Yes

Bottom
Tissue color Med Yel
Encrustation None
Disease None
Sediment on blades None
Sinking fronds None
Grazed tissues None
Sporophyllis Yes all adults
Juvenile fronds Yes
Holdfasts Yes
Old holdfasts None
Recruitment None

Community
Litter No
Turf algae Corallina
Turf invert.
Shrub algae Pterygophora / Laminaria
Large Invert. Megastraw E
Fishes Stephanie, Kelp, Bar'd Bass
Disease
Sed. on rocks
Urchin status

Bottom characteristics
40 Boulder / 40% Cobble / 10% sand
Shell Hash - 10%

REMARKS DC (11) eleven
Juv — none
Recr — None

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: DJS
Lat/Long: 33° 27.715' 117° 43.283'

Date 30 JAN 2020
Location DANA POINT
Time 0800
Wind/Direction 3-4 E
Current
Weather Clear, Sunny
UW Visibility 20'
Swell Ht/Period 3-4 WSW

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent SEE RHM's DATA
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks

Subsurface

UNDERWATER OBSERVATIONS @ 33° 28.174' 117° 43.495'

Midwater

Tissue Color Med-Light yellow
Encrustation None
Disease None
Sediment on blades None (Yes)
Sinking fronds None
Grazed tissues None (Yes)

Bottom

Tissue color Dark (Med). Yellow
Encrustation None
Disease None
Sediment on blades None
Sinking fronds None
Grazed tissues None
Sporophyllis Yes, many
Juvenile fronds 5
Holdfasts 2
Old holdfasts 0
Recruitment 0

Community

Litter None
Turf algae Reds
Turf invert. None
Shrub algae Reds
Large Invert. Megastrea Undosa (4), Kelletia kelletii (2)
Fishes 6 Kelp Bass, 4 Sheephead
Disease None
Sed. on rocks Light
Urchin status None

Bottom characteristics

75% Cobble
15% Boulder
10% sand

Laminaria 20% → macro
Pterygophora 80% → Algae

REMARKS A 11 (TWO)
J 0
R 0

Field Data Sheet

CONDITION OF MACROCYSTIS BED

Observer: DJS
Lat/Long:

Date 30 JAN 2020
Location LAGUNA (Brooks St.)
Time 1040
Wind/Direction
Current
Weather
UW Visibility
Swell Ht/Period

TOPSIDE OBSERVATIONS

Kelp Canopy

Extent SEE RHM's Data
Density
Tissue color
% Frond comp. _____ Senile _____ Mature _____ Young _____ Other
Disease
Encrustation
Apical blades
Sediment on blades
Remarks

Subsurface

UNDERWATER OBSERVATIONS

Midwater

Tissue Color Med-light yellow
Encrustation Light
Disease None
Sediment on blades None
Sinking fronds None
Grazed tissues Slight

Bottom

Tissue color Medium yellow
Encrustation None
Disease None
Sediment on blades None
Sinking fronds None
Grazed tissues Very little
Sporophyllis Yes, many
Juvenile fronds 7
Holdfasts 2 holdfasts hollowed, one encrusted
Old holdfasts None
Recruitment None

Community

Litter Slight red & surfgrass
Turf algae reds
Turf invert.
Shrub algae pterogophora, laminaria, reds
Large Invert. megastrea undosa, norrisia norrisi,
Fishes Kelp bass, barred bass, sheephead
Disease None
Sed. on rocks Yes
Urchin status S. purpuratus(?), S. franciscanus

Bottom characteristics

40% boulder
30% cobble
30% sand

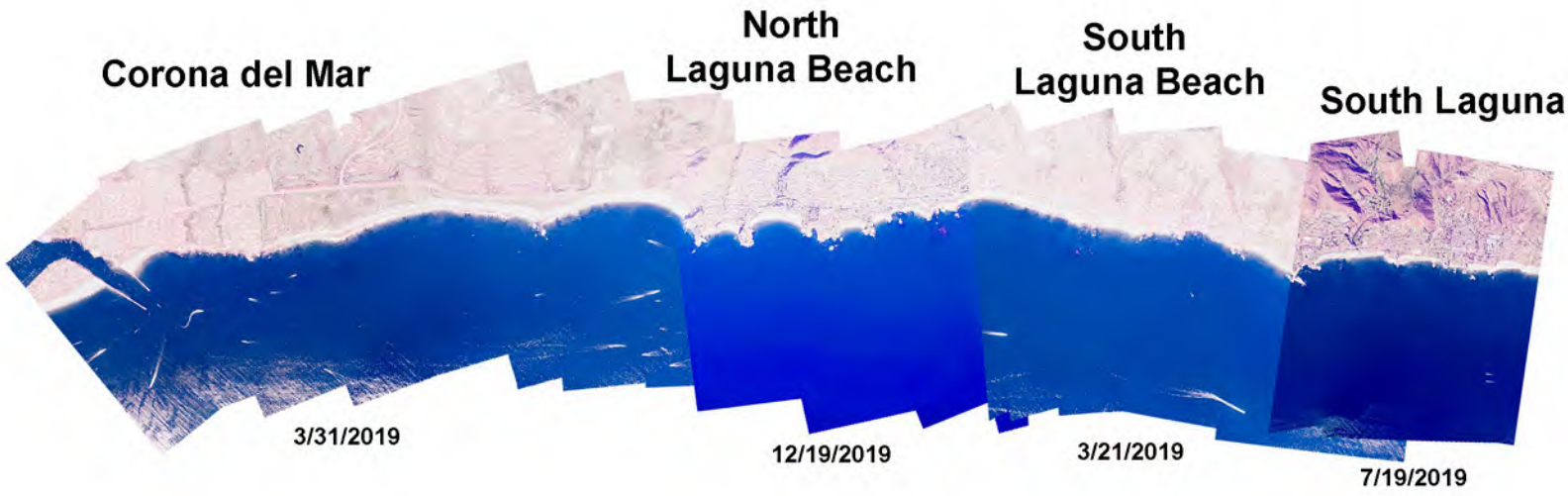
REMARKS

A = 8
J = 0
R = 0

APPENDIX E

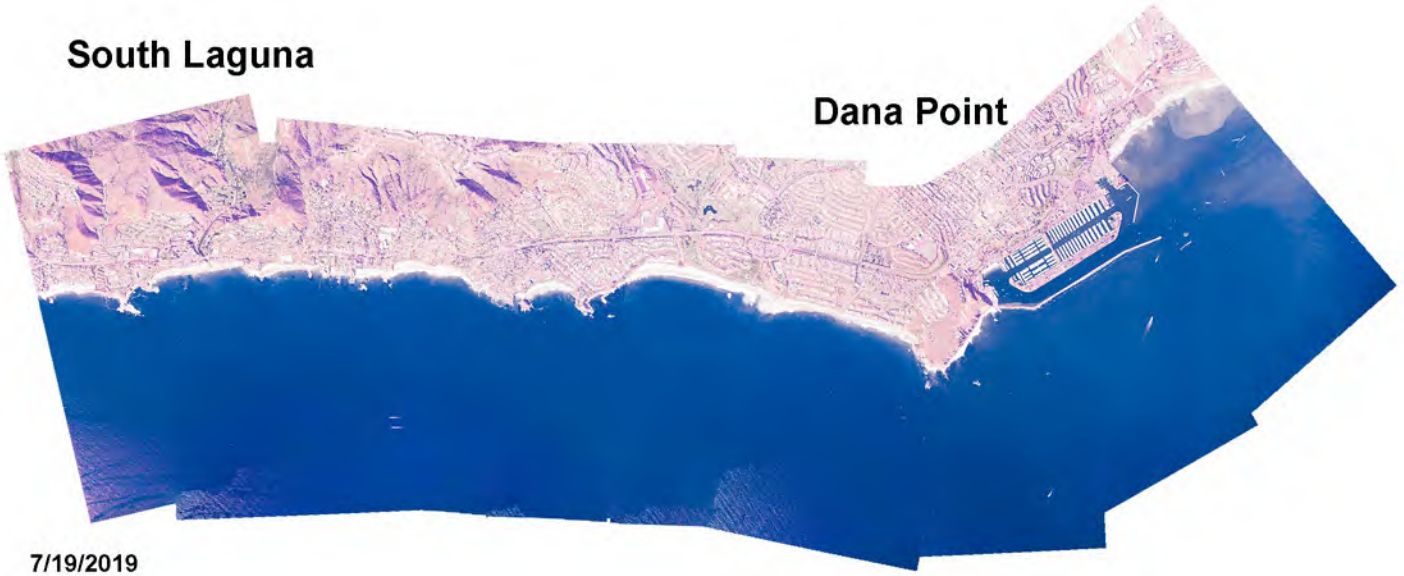
Kelp Canopy Aerial Photographs





mbc AQUATIC SCIENCES

Appendix E.5



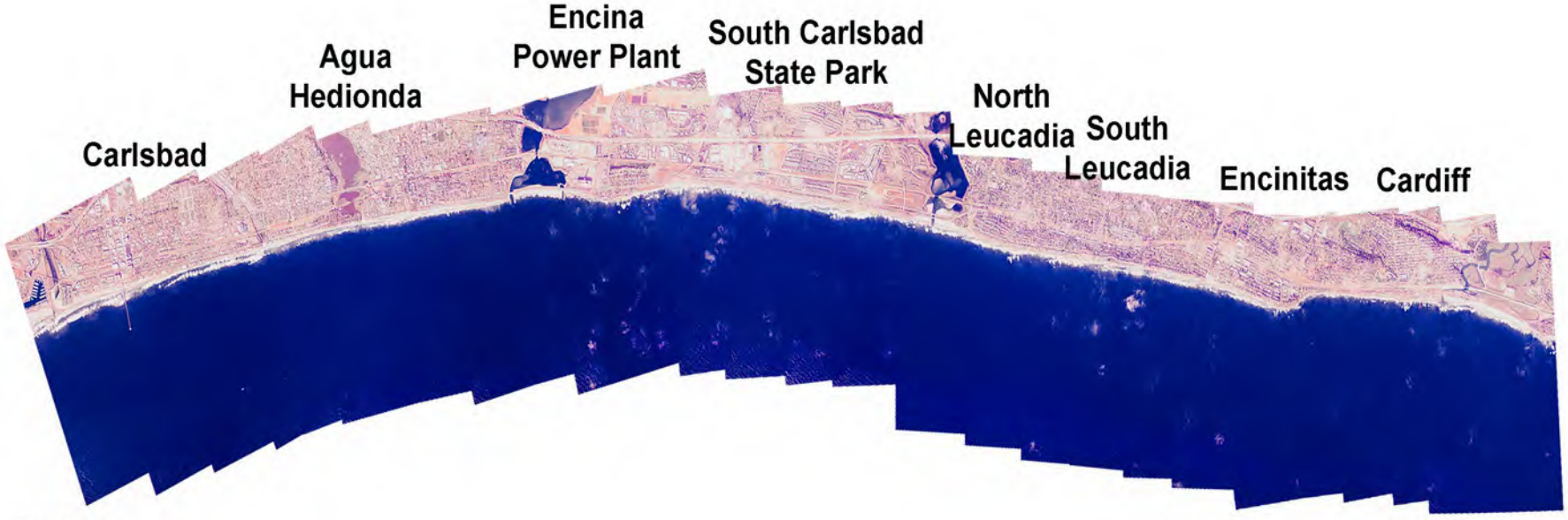


mbc AQUATIC SCIENCES

Appendix E.6



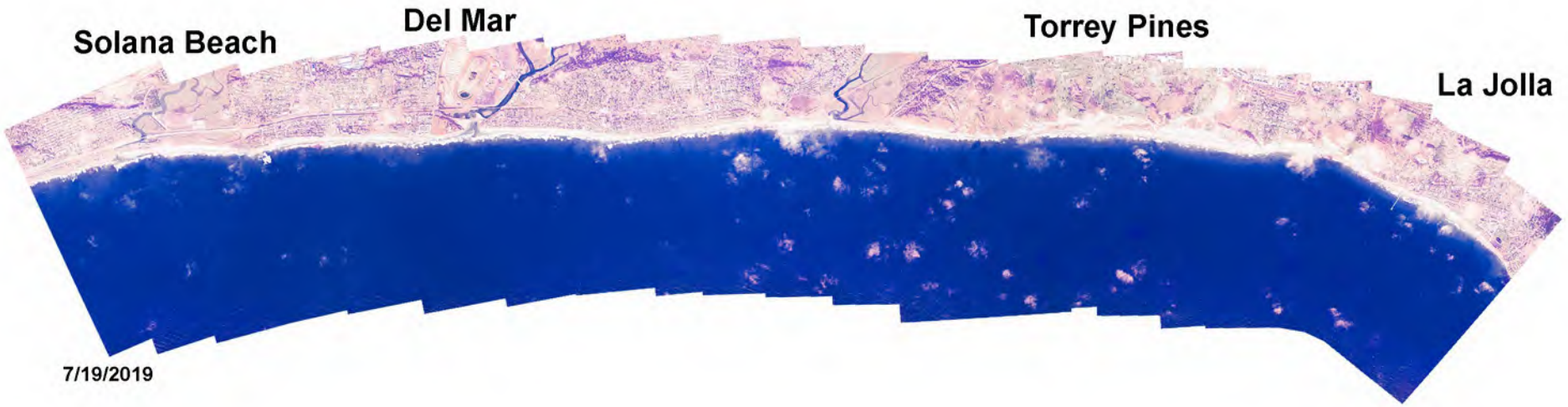
7/19/2019

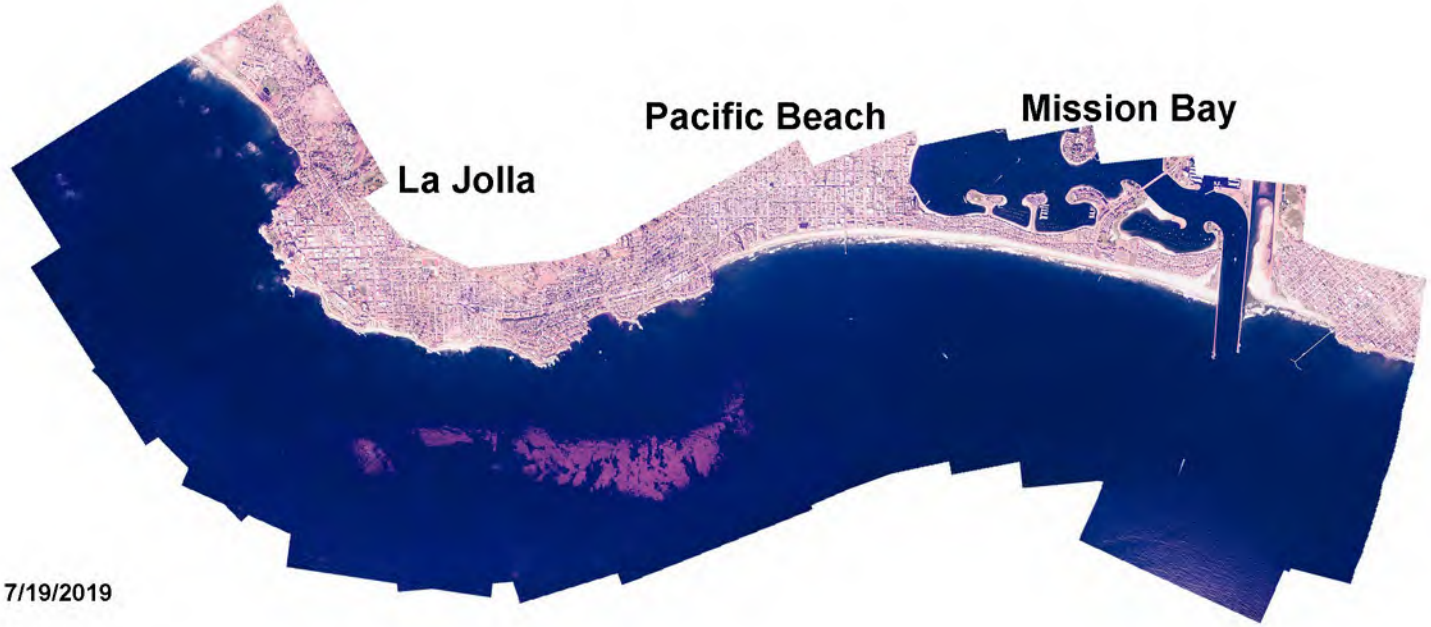


7/19/2019

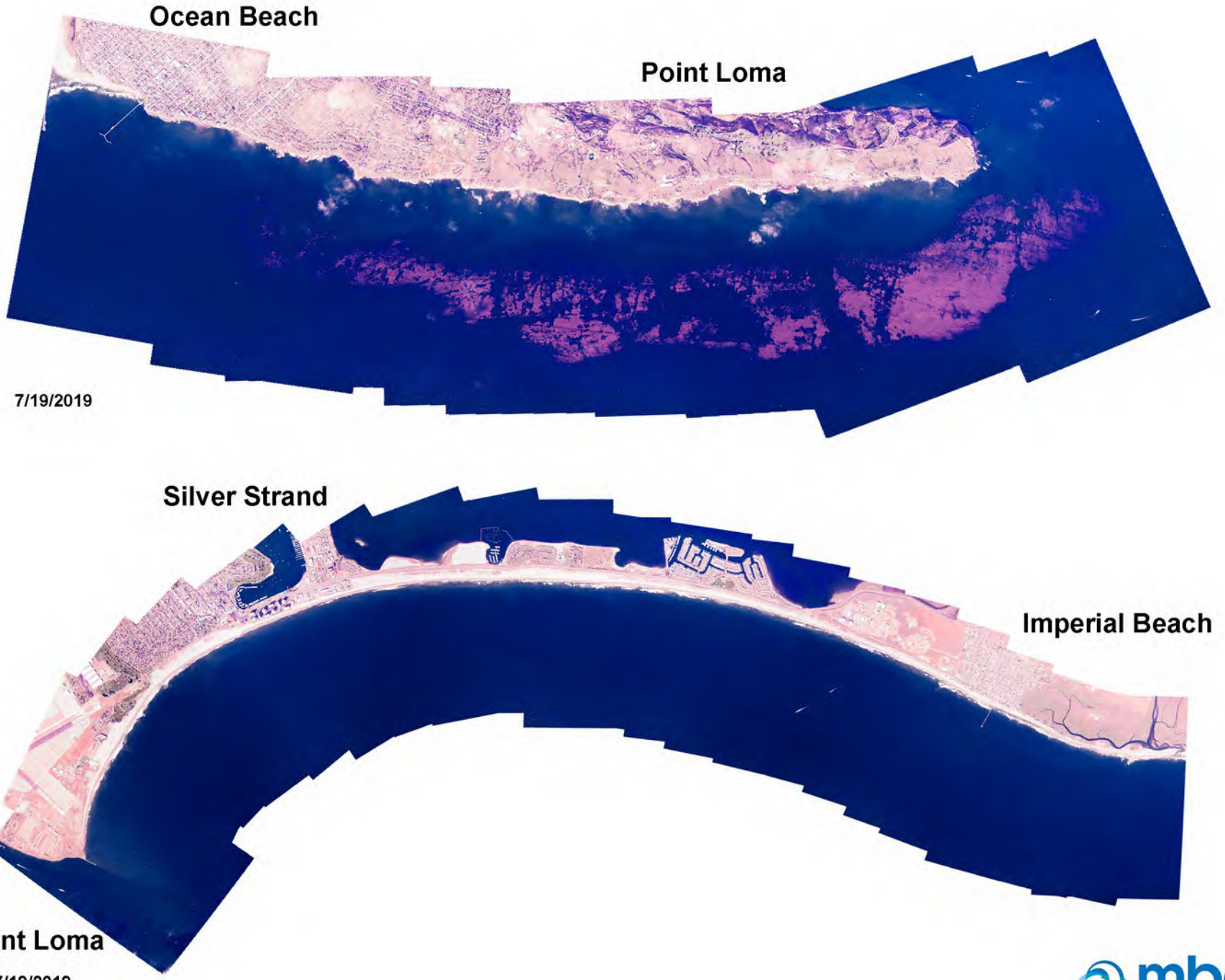
mbc AQUATIC SCIENCES

Appendix E.7





mbc AQUATIC SCIENCES



mbc AQUATIC SCIENCES

Appendix E.9

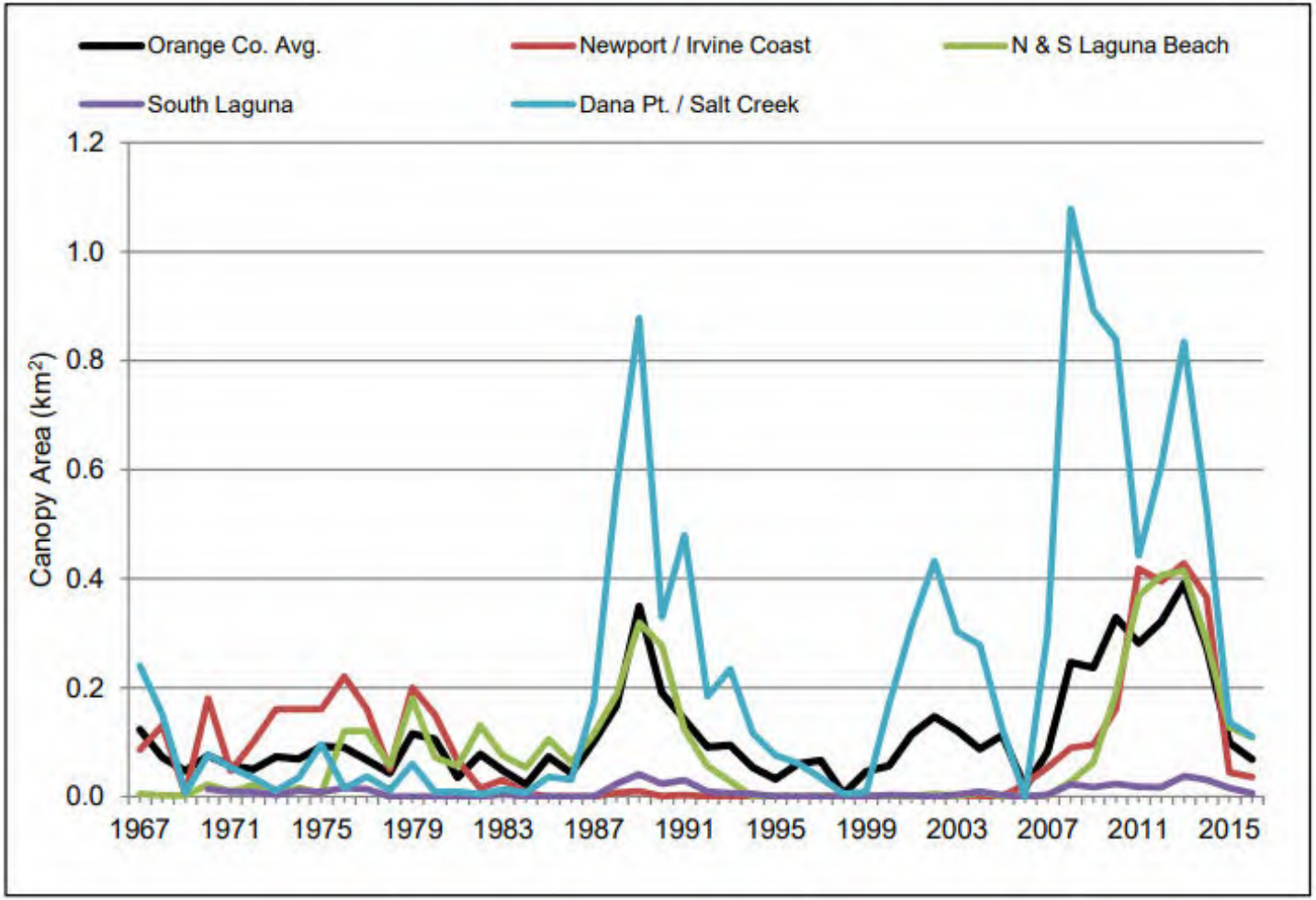


Figure 26. Comparisons between the average Orange County ABAPY and the canopy coverage of the kelp beds from Newport/Irvine Coast to Dana Point/Salt Creek from 1967 through 2016.


Tim Duong for DanaWharf.com

SOUTH LAGUNA CIVIC ASSOCIATION
P.O. BOX 9668
SOUTH LAGUNA, CA
92652-7639
southlaguna.org

August 29, 2023

Commissioners and Staff,

Since 2012, with the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of Marine Protected Areas as a statewide model of collaboration and appreciates the support of the Fish & Game Commission in that effort.

On the heels of annexation of South Laguna beaches coming under the purview of the City of Laguna Beach on March 1, 2023, we are requesting an expansion of the “No Take SMCA” provisions to extend throughout all Laguna Beach MPAs. In addition to alignment with Laguna Beach’s commitment to the national “30 x 30 Initiative Plan” to conserve 30% of America's land and waters by 2030, a citywide “No Take” provision will provide enforcement consistency and community equity while protecting South Laguna kelp reefs – key to carbon sequestration, rising sea temperatures and attenuating bluff erosion.

Multiple benefits will accompany extending the Laguna Beach No Take MPA from 7.2 to 7.9 miles: from Aliso Beach and Totuava Cove through Three Arch Bay (TAB) southwest to the Laguna Beach city limit, see attached map. TAB has exceptional nursery beds for marine life in its bays that are not protected under our current MPAs. For this reason, coupled with the decimating impacts of over-fishing in the unprotected SMCA along TAB during the past 10 years, the TAB Community Services District requested in May 2023 that California Fish and Wildlife Commission extend the No Take MPA through “the southernmost point of the city of Laguna Beach – Mussel Cove, also known as Three Arch Bay.”

The Laguna Bluebelt Coalition, Laguna Ocean Foundation through their education and outreach programs, the City of Laguna Beach’s Environmental Sustainability Committee, and the enthusiastic 100% support and collaboration of our City Council and Marine Safety Department have enabled us to be strong watchdogs and local stewards of our MPAs. Together, we have focused on habitat restoration, water-quality education, wildlife and resource protection, and networking.

Laguna Beach’s rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. No Take MPAs in Laguna Beach have created increased sea life populations, support an expanding variety of ecotourism recreational opportunities, and have proven to be essential to mitigating decades of over-fishing.

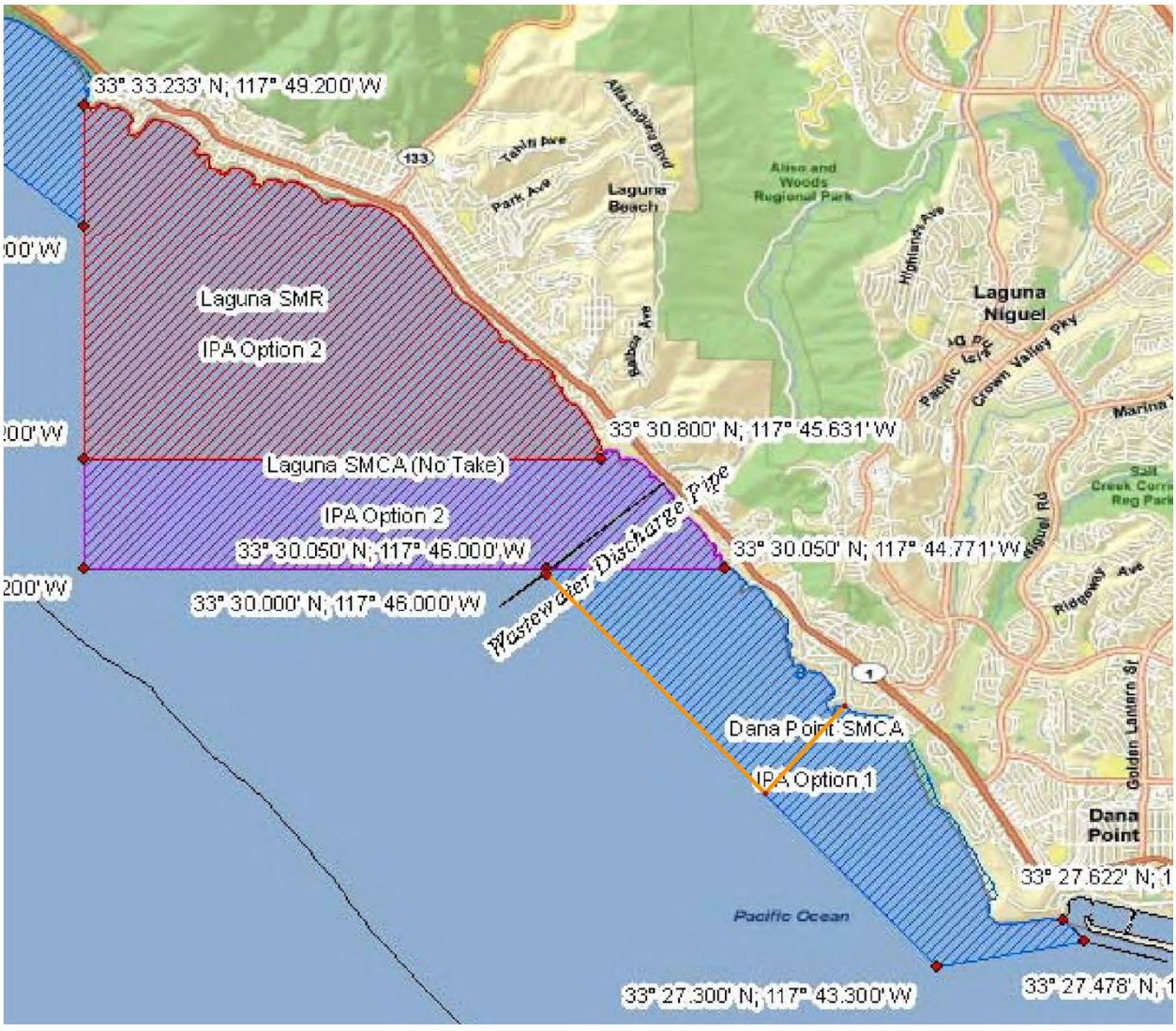
Citywide MPA consistency will further improve ocean water quality by reducing harmful greenhouse gas emissions from fishing boats traveling from Dana Point to Laguna Beach.

Climate change science recognizes the ocean as key to reversing negative anthropogenic climate impacts.

Thank you for your support of Laguna's Marine Protected Areas and for your consideration of an expansion of the network of No Take MPAs citywide which will increase protections to California's sea life populations and habitat value while benefitting us all.

Greg O'Loughlin, President
South Laguna Civic Association

Orange outline indicates the proposed No Take MPA extension to Laguna Beach's southern boundary.



P.O. Box 1383, Laguna Beach, CA 92652 • www.LagunaCanyonConservancy.org

November 22, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
Via email: fgc@fgc.ca.gov

RE: Support for Extending Laguna Beach's Southern MPA Boundary

Dear Commissioners,

The Board of Directors of the Laguna Canyon Conservancy (LCC) joins with our local environmental colleagues and organizations in support of extending the Marine Protected Areas at the southern end of Laguna Beach.

LCC believes a revision is vital to ensuring an increase in protection of California's sea life populations and ecosystems, as well as enforcing consistency of rules and regulations, along with community equity. It is also important to achieve the City of Laguna Beach's 30 x 30 contribution to protect 30% of the world's coastal marine areas by 2030.

As stewards of our wilderness, we hope the Commission will support the goals and requests of Laguna Beach's environmental groups to expand the network of No Take MPAs citywide and protect our coastal environment for present and future generations to come. Thank you in advance for making this critical step forward.

Laguna Canyon Conservancy is a non-profit, all-volunteer environmental organization founded in 1988 to Save and Protect Laguna Canyon. LCC members have been involved in expanding the South Coast Wilderness nature reserves of Orange County that now include over 22,000 acres of parks, open space, and marine preserves. For more information, please visit: www.LagunaCanyonConservancy.org

Sincerely,

Gayle Waite
President, Laguna Canyon Conservancy

Cc: City Council of Laguna Beach
Jeremy Frimond, Assistant City Manager

March 9, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
fgc@fgc.ca.gov

RE: Letter of Support for Citywide "No Take"
Marine Protected Areas (SMR and SMCA) in Laguna Beach, Orange County, California

Commissioners and Staff,

With the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of MPAs as a statewide model of collaboration, education and enforcement. To provide citywide enforcement consistency, the Laguna Bluebelt Coalition requests extending "no take" provisions to include all of Laguna Beach's State Marine Conservation Areas (SMCAs) to the southern City Limits.

Laguna Beach's rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. The City of Laguna Beach continues to benefit economically and ecologically from Marine Protected Areas with experienced Marine Protection Officers (MPOs), community vigilance, marine life education and comprehensive fishing restrictions.

The South Laguna SMCA is characterized by steep bluffs and compact coves to create a unique coastal ecology with tide pools, deep rocks and kelp forests. Wave action and backwash energy from bluffs surrounded by offshore kelp forests offers a local mixing zone for marine mammal and sealife foraging. Annual migrations of California Gray Whales often use South Laguna Coves as a rest stop for mothers and calves. Laguna Beach's other No Take MPAs have increased sea life populations and currently support a variety of ecotourism recreational opportunities.

While most of Laguna Beach restricts fishing, South Laguna is a designated State Marine Conservation Area allowing recreational and commercial fishing. Daily, concentrated fishing effort in the South Laguna SMCA has unfortunately contributed to over-fishing during the past ten years by recreational fishers and commercial passenger fishing vessels (CPFVs). Expansion of Laguna Beach's MPAs is essential to mitigate decades of regional over-fishing.

Expanding "No Take" provisions for all City MPAs will contribute to the City's commitment to the national "30 x 30 Initiative Plan" to conserve 30% of America's land and waters by 2030. The March 1, 2023 annexation of South Laguna beach areas by the City of Laguna Beach requires "No Take" provisions for the South Laguna SMCA to provide citywide enforcement consistency and community equity.

Climate change science recognizes the ocean as key to reversing negative anthropogenic climate impacts and the City of Laguna Beach is committed to a Climate Action Plan. Citywide MPA enforcement

consistency will improve ocean water quality by reducing harmful greenhouse gas emissions from commercial fishing boats traveling far from Dana Point to fish in South Laguna.

The City Council proudly supports the Marine Protected Areas and City policies encourage exapnding marine life refuges.

Thank you for your dedicated efforts to protect California's marine life and for considering our request to extend citywide "No Take" protection for all of Laguna Beach's MPAs.

Mike Beanan
Laguna Bluebelt Coalition

https://www.lagunabluebelt.com/

References:

https://www.lagunabeachcity.net/home/showpublisheddocument/8148/637406985535730000

City of Laguna Beach: Tide Pools and Marine Habitats

2A Encourage the expansion of the Marine Life Refuges and the designation of particularly unique or ecologically sensitive coastal areas as Ecological Reserves (such as seal and bird rocks), pursuant to the provisions of the State Department of Fish and Game.

ORANGE COUNTY COASTKEEPER®

3151 Airway Ave, Suite F-110
Costa Mesa, CA 92626
714-850-1965
www.coastkeeper.org

California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Re: Support for Laguna Bluebelt Coalition Petition to extend the no-take SMCA to the southern boundary of the City of Laguna Beach

Dear President Sklar and Commissioners,

OC Coastkeeper has the mission to protect swimmable, drinkable, fishable water and promote watershed resilience throughout our region. We have been actively working to support and implement Marine Protected Areas since the passage of the Marine Life Protection Act. We support the Laguna Bluebelt Coalition's petition regarding an extension of the Laguna Beach no-take SMCA boundary to the southern border of the city and urge you to approve this proposed boundary change.

Orange County beaches have some of the most beautiful beaches and coves found anywhere in the world. Visitation is high, and therefore the protection offered by the MPAs is vital. Most of the city is protected by the Laguna Beach State Marine Reserve (SMR) and the Laguna Beach no-take State Marine Conservation Area (SMCA). However, there is a stretch of coastline that lies within the city limits that does not receive the same level of protection. Commercial and recreational fishing is permitted in these waters and residents are alarmed by the amount of fishing and the number of lobster traps that they see regularly. This area of the coastline has not been sufficiently studied to get scientific data on the impact of fishing, but local residents that spend substantial time in the water have noted a decrease in fish in the unprotected area.

These coves support vital kelp forest habitat, which is on the decline across the state. The rocky substrate that supports the kelp as well as the fish and invertebrates that utilize the kelp are impacted by lobster traps and anchors. The kelp is still present, but now fails to reach the surface. We must protect this habitat while it still has the ability to come back.

Another concern in this area is the whale migration route. Whales frequently come in close to the shore through Laguna Beach on their migration to and from the calving and breeding grounds in Baja California. During Lobster season, the whales run into a virtual wall of lobster ropes and buoys, which pose a serious threat to entanglement.

Extension of the no take SMCA boundary south will assist enforcement of MPA regulations by making the entire City of Laguna Beach a no take zone. The City of Laguna Beach has recently taken over management of all of the beaches in the city. Until last summer, the County of Orange was in charge of managing all of the beaches south of Aliso Creek. Now that

beach management is consistent throughout the city, the MPA rules should be consistent as well. This will make it easier for the public to identify where they can and can't fish, and for enforcement officers to do their job.

To help MPA enforcement, protect whales, and preserve the remaining kelp beds, we urge the commission **to extend the no-take SMCA boundary to coincide with the southern boundary of the City of Laguna Beach.** We enthusiastically support California's MPA Network and believe the MPAs are working to preserve biodiversity. In the case of Laguna Beach, the MPA extension will enhance the protection of vital ecosystems and create a more consistent and cohesive enforcement policy.

Sincerely,



Associate Director of Policy and Projects

THREE ARCH BAY
COMMUNITY SERVICES DISTRICT
5 BAY DRIVE, LAGUNA BEACH, CALIFORNIA 92651-6780
(949) 499-4567 FAX: (949) 499-2352

May 1, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
fgc@fgc.ca.gov

RE: Letter of Support for Laguna Beach City-wide Marine Protected Areas including South Laguna, to the Southern Point of Mussel Cove, Orange County, California

Dear Commissioners,

Since 2012, with the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of Marine Protected Areas (MPAs) as a statewide model of collaboration, education and enforcement. To provide marine protection consistently throughout all of Laguna Beach, the Community Services District of Three Arch Bay supports an extension of marine protection via "no take" Marine Conservation Areas (SMCAs) to the point at the end of Mussel Cove, which is the southern border of Laguna Beach, in the community of Three Arch Bay (TAB).

Laguna Beach's rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. The City of Laguna Beach continues to benefit economically and ecologically from Marine Protected Areas.

Three Arch Bay (TAB), which includes Mussel Cove, in South Laguna's SMCA, is characterized by steep bluffs and compact coves that create a unique coastal ecology with tide pools, deep rocks and kelp forests. Wave action and backwash energy from bluffs surrounded by offshore kelp forests offers a local mixing zone for marine mammal and sea life foraging.

While most of Laguna Beach restricts fishing, the southern end of Laguna Beach was only designated a State Marine Conservation Area, which allows continued recreational and commercial fishing. Unfortunately, the over-fishing during the past ten years by commercial and recreational fishermen, including commercial passenger fishing vessels (CPFVs), has devastated the kelp beds, fish population, and sea life across South Laguna. Expansion of Laguna Beach's MPAs is essential to mitigate decades of regional over-fishing particularly in South Laguna.

Thus, we request that you initiate and vote to provide an extended "no take" Marine Protected Area (SMR and SMCA) Citywide, across Laguna Beach, including South Laguna, to the Southern Point of Mussel Cove, Orange County, California. This would extend the existing marine protections throughout Laguna Beach, including the southernmost point of the city of Laguna Beach – Mussel Cove, also known as Three Arch Bay.

As a community, we are active stewards of our waterways and marine resources, ensuring quality management of our natural resources, and would appreciate the state's support of our efforts by extending the MPA to the Southern end of Laguna Beach.

Thank you,

Gary Rubel

Gary Rubel
President
Three Arch Bay Community Services District

Cc: City of Laguna Beach
Board Members of the TAB CSD

Attachment 1

California Department of Fish and Wildlife's 2023 Decadal Management Review Marine Protected Area Petition Evaluation

COMPANION DOCUMENT



CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

CALIFORNIA MARINE PROTECTED AREAS

July 2026

This document is the 2023 Decadal Management Review Marine Protected Area Petition Evaluation Companion Document (Companion Document). The Companion Document and the California Department of Fish and Wildlife (CDFW) Transmittal Memo should be read in advance of the 2023 Bin 2 Petition Evaluations as it includes supplemental information and additional context for the evaluations.

The Companion Document was originally released March 20, 2026 along with CDFW's evaluations and recommendations for the ten Non-tribally-led Petitions. This July 2026 version of the Companion Document includes the following additions: a detailed timeline of the 2023 MPA Petition milestones, updates related to tribal outreach and engagement, a new section on Climate Resilience and MPAs, and additional supplemental information for Question 5 (information gaps) and Question 9 (MPA Network design and Levels of Protection (LOP)) of the evaluation.

INTRODUCTION

At its February 14-15, 2024, meeting, the California Fish and Game Commission (CFGC) referred 20 Marine Protected Area (MPA) petitions to CDFW for review, evaluation, and recommendation. These petitions were sorted into Bin 1 and Bin 2 Petitions. The Marine Resources Committee (MRC) considered CDFW's recommendations on 5 Bin 1 Petitions at the November 6-7, 2024 MRC meeting and CFGC adopted the MRC's recommendations at the December 11-12, 2024 CFGC meeting. See Table 1 for a comprehensive overview of process milestones for the 2023 MPA Petitions.

On August 14, 2025, CFGC approved an evaluation framework (Framework) for the 15 Bin 2 Petitions referred to CDFW proposing changes to the MPA Network. CDFW developed the Framework, with support from staff at CFGC and Ocean Protection Council, based on the adaptive management process outlined in chapter 4 of the 2016 Master Plan for MPAs. The 2016 Master Plan directs CDFW and CFGC to use the Marine Life Protection Act (MLPA) Goals and mandates, Master Plan objectives, and Science Advisory Team (SAT) Science Guidelines established during the MLPA Initiative planning process as the primary basis for evaluating any action taken to make changes to the MPA Network. The 2016 Master Plan adaptive management process also includes consideration of emerging issues, such as changes to the MPA Network that would enhance climate resilience and/or help mitigate climate impacts. CDFW considered climate change effects throughout the evaluation, recognizing that the effects of climate change are overarching and climate resilience is an implicit goal of adaptive management of the MPA Network as a whole. The Framework also draws from the Decadal Management Review (DMR) and Recommendations, and the MPA Regulation Change Petition Framework approved by CFGC at their August 2023 meeting, which is rooted in the DMR Recommendation cornerstones of MPA Governance, MPA Management Program Activities, and MPA Network Performance.

The Framework includes the following sections:

I. Petition Summary
II. CDFW Recommendations with Brief Justifications
III. Bin 2 Petition Grouping: Identify Tribally-led Petitions
IV. CDFW 2023 MPA Bin 2 Petition Narrative and Evaluation
V. Supplemental Analyses, Data and Information, and Citations

CDFW used the Framework to transparently evaluate petitions and develop recommendations to CFGC for the 2023 MPA Bin 2 Petitions. The evaluations were based on materials submitted in December 2023 and amendments received through March 2025. Subsequent changes, improvements, or stakeholder engagement undertaken by petitioners after March 2025 were not considered. CDFW recognizes that new information on these petitions may be available for CFGC consideration.

The Bin 2 Petitions and petition actions vary in complexity, and the Framework is designed to address this spectrum of complexity. In some cases, it was more appropriate to evaluate Bin 2 Petitions as a whole and in other cases, it was more appropriate to evaluate the individual proposed actions or grouped proposed actions that were similar within a petition. Not all evaluation components in Section IV applied to every proposed action or petition as they were not all relevant to each proposed action or petition. CDFW applied the evaluation components as appropriate, and the level of detail varied based on factors such as applicability of the question or information available. Non-regulatory requests were not evaluated through the Framework. For some petitions, CDFW recommended an alternative pathway to achieving the desired outcome of the proposed change.

The DMR indicated the MPA Network is meeting expectations and functioning effectively towards achieving the Goals of the MLPA. Therefore, significant regulatory changes to the MPA Network should meet a high threshold of demonstrated conservation value and need, as well as clear, science-supported benefit.

This evaluation is not the only process by which regulatory changes have been considered as part of the adaptive management of the MPA Network. Since implementation of California's MPA Network, targeted legislative and regulatory refinements have been identified to align MPAs with their original intent, clarify or correct provisions, or address priority management and enforcement issues. Since 2013, four legislative amendments and seven regulatory packages have been enacted to strengthen and support the adaptive management of the MPA Network and Management Program. The regulatory amendments:

- 2014 – Clarified and corrected provisions, including general provisions, definitions, take, and boundaries
- 2015 – Clarified and corrected provisions, including general provisions, definitions, take, and boundaries. This includes refining and correcting boundary coordinates for 106 MPAs
- 2016 – Added provisions for tribal take in north coast MPAs
- 2018 – Repealed a special closure due to conflict with private property
- 2018 – Added provisions for tribal take in south coast MPAs and amended boundaries to better align with historical subsistence and cultural use
- 2022 – Cleaned up State Marine Recreational Management Area language
- 2023 – Provided a mechanism for operation and maintenance of pre-existing artificial structures in MPAs

The legislative amendments include Senate Bill 96 (2013), Assembly Bill 298 (2015), Assembly Bill 2369 (2018), and Assembly Bill 63 (2021). See Appendix G of the Decadal Management Review for more information about regulatory packages and legislative amendments that apply to MPA Network management implemented since 2012. All amendments were deliberately and carefully constructed, consistent with directives in the Fish and Game Code (§§2853 and 2855), MLPA, and the Master Plan for MPAs, to preserve the integrity of the MPA Network.

CDFW remains committed to adaptive management through regulatory and non-regulatory pathways and will continue to work with tribes and partners to advance the Recommendations of the DMR through a science-based, inclusive statewide process consistent with the requirements of the MLPA and Master Plan for MPAs.

Table 1. Summary of 2023 MPA Petition Process Milestones.

Date	Milestone
Aug 2023	California Fish and Game Commission (CFGC) approves DMR adaptive management recommendation prioritization framework and supported the Marine Resources Committee preference to consider changes to the MPA Network using the existing CFGC petition process
Oct 2023	CFGC releases "Overview of Process to Consider Potential Changes to California's MPA Network"
Dec 2023	CFGC receives 20 MPA-related petitions with 80+ actions
Feb 2024	CFGC refers all 20 petitions to CDFW for evaluation
Apr 2024	CFGC adopts 3-phased approach to petition evaluation

Date	Milestone
Aug 2024	CFGC approves binning petitions, requests CDFW evaluate the five Bin 1 Petitions and develop a proposed framework to evaluate 15 Bin 2 Petitions
Nov 2024	CDFW releases recommendations for five Bin 1 Petitions
Dec 2024	CFGC makes decisions on Bin 1 Petitions and establishes March 14, 2025 deadline for amendments to Bin 2 Petitions
Mar 14, 2025	Deadline for amendments to Bin 2 Petitions
Apr 2025	CFGC refers amended Bin 2 Petitions to CDFW for evaluation
Apr-May 2025	CDFW develops Draft Bin 2 Petition Evaluation Framework with Ocean Protection Council and CFGC staff
May 2025	Update and discussion at CFGC Tribal Committee (TC) meeting on Bin 2 MPA Petitions and proposed approach for evaluations
Aug 2025	Update and discussion on 2023 MPA Petitions and Draft Evaluation Framework at CFGC TC and CFGC. Four Tribally-led petitions identified and CFGC approves framework for evaluating Bin 2 MPA Petitions
Dec 2025	Update and discussion at CFGC TC on Bin 2 MPA Petitions; identifies one more Tribally-led petition; directs CDFW to return to April 2026 CFGC TC to discuss MPA Petitions prior to releasing evaluations for the Tribally-led petitions
Mar 20, 2026	CDFW releases evaluations and recommendations for the 64 proposed actions in the ten non-Tribally-led Bin 2 MPA Petitions and the Companion Document
Apr 2026	Update and discussion at CFGC TC on five Tribally-led petitions. CFGC accepts amendments to four of the Tribally-led petitions and refers them to CDFW for evaluation
Apr-May 2026	Regional CFGC meetings discussing Bin 2 MPA Petitions • April 21, 2026 in San Mateo, Del Norte through Monterey counties petitions • May 5-6, 2026 in Goleta, alongshore San Luis Obispo through Santa Barbara counties petitions (day 1) and Northern Channel Islands (day 2) • May 19, 2026 in San Clemente, Los Angeles through San Diego counties petitions, including Santa Catalina Island
July 2026	CDFW releases evaluations and recommendations for the 9 proposed actions in the five Tribally-led Bin 2 MPA Petitions and the revised Companion Document

SUPPLEMENTAL EVALUATION INFORMATION

CDFW compiled supplemental information and additional context for the Tribally-led etitions, the topic of climate resilience and MPAs, and the responses to Evaluation Questions 1, 2a, 5, 9, 10a, and 14, and Section V. Supplemental Analyses, Data and Information, and Citations. CFGC staff conducted the analysis and prepared the responses for Questions 16 and 17 and provided additional context for their evaluations below. The information provided here was common across the evaluations and is included here to prevent having to repeat it in each evaluation.

TRIBALLY-LED PETITIONS

This Companion Document includes a summary of the process for identifying Tribally-led petitions, CDFW's outreach to all California Native American tribes throughout the petitions process, and a summary of outreach and engagement with Tribally-led petitioners (Attachment A below). As directed by CFGC, CDFW evaluated the Tribally-led petitions with the CDFW 2023 MPA Bin 2 Petition Evaluation Framework. Tribally-led petitions, per CFGC direction, were discussed at the April 14, 2026, CFGC Tribal Committee meeting. *Note: California Native American tribe is the preferred term to use per the Governor's Office of Tribal Affairs when generally mentioning tribes of California, both federally and non-federally recognized.*

The following petitions were identified by CFGC as Tribally-led petitions:

- Santa Ynez Band of Chumash Indians: Designate a New Chitqawi SMCA Near Morro Bay with a Tribal Take Exemption for Santa Ynez Band of Chumash Indians (2023-19MPA_AM1)
- Santa Ynez Band of Chumash Indians: Establish Co-Management at Point Buchon SMCA, Change the Name, and Add a Tribal Exemption for Santa Ynez Band of Chumash Indians at Point Buchon SMCA, and Change the Boundary at Point Buchon SMR (2023-20MPA_AM1)
- Tolowa Dee-ni' Nation: Remove Recreational Take of True Smelt and Change the Boundary at Pyramid Point SMCA (2023-21MPA_AM1)
- Northern Chumash Tribal Council: Designate a New SMCA Near Point Sal with an Allowance for Recreational Take of Finfish by Hook-and-Line from Shore (2023-28MPA_AM2)
- Santa Ynez Band of Chumash Indians: Designate a New SMCA Near Mishopshno/ Carpinteria with an Allowance for Recreational Take of Finfish by Hook-and-Line From Shore and a Tribal Take Exemption for Santa Ynez Band of Chumash Indians (2023-29MPA_AM2)

Summary of Tribal Outreach and Engagement with California Native American Tribes for the 2023 MPA Petitions

In late 2023, CFGC received 20 petitions from California Native American tribes (tribes) and the public requesting changes to California's MPA Network. CFGC referred the 2023 MPA Petitions to CDFW to evaluate in early 2024. This document provides a summary of tribal outreach and engagement with California Native American tribes for the 20 2023 MPA Petitions, including five Tribally-led petitions, proposing approximately 70 changes to the MPA regulations for MPAs from southern California to the Oregon border (2023 MPA Petitions).

Summary of CDFW tribal outreach for all 2023 MPA petitions

Since receiving the petitions, CDFW has provided regular updates on the status of the 2023 MPA Petitions and petition evaluation process through email communications and mailed letters to the CDFW tribal contact list. The CDFW tribal contact list includes over 400 individuals across the state who represent and/or work for a California Native American tribe. The statewide list is maintained by CDFW's Tribal Liaison and includes people on the Native American Heritage Commission (NAHC) contact list and others who have elected to receive updates from CDFW related to tribes. These updates included offers for consultation and meetings between tribes and CDFW. In October 2025, CFGC and CDFW sent letters via email and postal mail to the CDFW tribal contact list to specifically offer formal consultation or informal meetings on the 2023 MPA Petitions. CDFW also presented written and verbal updates at meetings of CFGC's Tribal Committee. These outreach efforts to tribes are summarized in Table 2.

Summary of additional outreach and engagement with tribes for Tribally-led petitions

At the August 12, 2025, CFGC's Tribal Committee meeting, the Tribal Committee identified four of the 2023 MPA Petitions as Tribally-led petitions, which are petitions that were submitted by a tribe, representative designated by a tribe, or tribal organization, or have a tribal co-sponsor. These included:

- 2023-19MPA submitted by Santa Ynez Band of Chumash Indians
- 2023-20MPA submitted by Santa Ynez Band of Chumash Indians
- 2023-21MPA submitted by Tolowa Dee-ni' Nation
- 2023-29MPA submitted by Natural Resource Defense Council (NRDC), Santa Ynez Band of Chumash Indians (SYBCI), and Environmental Defense Center

At the May 7, 2025, meeting, CFGC's Tribal Committee requested CDFW send additional offers to all tribes for consultation on the remaining 2023 MPA Petitions and to reach out to offer to meet with tribes associated with the Tribally-led petitions. On October 16,

2025, CDFW distributed to the CDFW statewide tribal contact list a letter offering joint tribal consultation with CDFW and CFGC on any 2023 MPA Petition. This letter was also included in the fall quarterly CDFW Tribal Updates email. As of July 2026, no tribes have requested consultation.

On November 24, 2025, CFGC received a letter from Northern Chumash Tribal Council and NRDC indicating that Northern Chumash Tribal Council was a formal co-sponsor for petition 2023-28MPA, and requested CFGC consider the petition a Tribally-led petition.

At the December 9, 2025, CFGC Tribal Committee meeting, the CFGC Tribal Committee reconsidered the designation of petition 2023-28MPA and recommended CFGC designate it as a Tribally-led petition in light of the November 2025 co-sponsorship from Northern Chumash Tribal Council. At the December 11, 2025, CFGC meeting, CFGC designated petition 2023-28MPA as a Tribally-led petition. CFGC's Tribal Committee requested that before releasing the Tribally-led petition evaluations, CDFW engage with the tribes leading or co-leading petitions, including to better understand the intent of the petitions, and then share an update on the engagement and any clarifications on the petitions at the April 14, 2026 CFGC Tribal Committee meeting. CFGC's Tribal Committee and CFGC reaffirmed that CDFW should use the Evaluation Framework approved by CFGC in August to evaluate the Tribally-led petitions.

At the February 11, 2026, CFGC meeting, CFGC approved the addition of an agenda item for CDFW to provide an update and to have a discussion on the Tribally-led petitions at the April 14, 2026, Tribal Committee meeting.

Between September 2025 and June 2026, CDFW participated in discussions with representatives of tribes regarding the Tribally-led petitions.

At the April 14, 2026, CFGC Tribal Committee meeting, tribal representatives provided an overview and clarifications for the five Tribally-led petitions. SYBCI proposed amendments to 2023-19MPA, 2023-20MPA, and SYBCI and NRDC proposed amendments to 2023-29MPA_AM1. Northern Chumash Tribal Council and NRDC proposed amendments to 2023-28MPA_AM1. No amendments were proposed for 2023-21MPA. CDFW presented an update on tribal outreach and engagement since December and summarized the clarifications and proposed amendments for the Tribally-led petitions. At the meeting on April 15, 2026, the CFGC Tribal Committee recommended to CFGC that CDFW evaluate the Tribally-led petitions according to the proposed amendments and clarifications discussed during the meeting. CFGC subsequently referred the amended petitions (2023-19MPA_AM1, 2023-20MPA_AM1, 2023-21MPA_AM1, 2023-29MPA_AM2, and 2023-29MPA_AM2) to CDFW for evaluation using the Evaluation Framework approved by CFGC in August 2025.

Table 2. Summary of CDFW tribal outreach and engagement to date related to the 2023 MPA Petitions and petition process, including communication method and type of content. Unless otherwise specified, all tribal outreach communications included tribes listed on the CDFW tribal contact list maintained by CDFW's Department Tribal Liaison, which includes 400 people from the NAHC Contact List and additional tribal representatives.

Date	Method	Content
5/31/2024	Email	Released Blog Post: Seeking Your Feedback to Help Manage California's Marine Protected Area Network
10/4/2024	Email	CDFW Informational MPA DMR Petition Process Update: Background, DMR petition process, next steps, upcoming meetings
10/25/2024	Email	Released Blog Post: MPA Day
11/22/2024	Email	CDFW Informational MPA DMR Petition Process Update: Background, DMR petition process, next steps, upcoming meetings
4/11/2025	Email	CDFW Tribal Liaison provided Department update email, including CDFW Informational MPA DMR Petition Process Update
5/7/2025	Tribal Committee: Meeting Materials	Written Informational Update: California's Marine Protected Area Network Decadal Management Review and Subsequent Marine Protected Area Regulation Amendment Petition Process (pg. 99 of 129) Verbal update on the 2023 MPA Petitions and draft evaluation framework by Susan Ashcraft, CFGC Marine Advisor
8/14/2025	Tribal Committee: Meeting Presentation	Presentation by Craig Shuman, CDFW Marine Region Manager, on 2023 MPA Petitions and draft evaluation framework. Tribal Committee identified four Tribally-led petitions
9/2025	Email	CDFW invitation to meet to discuss petitions sent to petitioners for the four Tribally-led petitions
10/16/2025	Mail	Invitation Letter for joint tribal consultation with CDFW and CFGC on any 2023 MPA Petition
10/17/2025	Email	CDFW Tribal Liaison - Department update email, including CDFW Informational MPA DMR Petition Process Update and Invitation Letter for Joint Tribal Consultation
10/20/2025 – 6/24/2026	Meetings	Discuss Tribally-led petitions with tribal petitioners

Date	Method	Content
12/9/2025	Tribal Committee	CDFW update on the 2023 MPA Petitions and upcoming release of CDFW petition evaluations and outlining three regional meetings to be held to discuss petitions and evaluations
4/14/2026	Tribal Committee	CDFW presentation to provide an update on tribal outreach and engagement, and summarize clarifications and proposed amendments for Tribally-led petitions
6/26/2026	Email	CDFW Tribal Liaison provided Department update email, including CDFW Informational MPA DMR Petition Process Update and upcoming meetings to discuss the 2023 MPA Petitions

CLIMATE RESILIENCE AND MPAS

Since implementation of California's MPA Network, the state's coastal ecosystems have experienced increasingly significant climate-driven changes, including marine heatwaves, ocean acidification, and shifting species distributions. Although climate change was not explicitly incorporated into the MLPA Initiative planning process, the MPA Network was designed using resilience-oriented principles. Foundational design elements such as habitat replication, larval connectivity, and varying levels of protection were incorporated conservatively to support biodiversity, ecological function, and ecosystem resilience under uncertain and changing environmental conditions, including natural disturbances, decadal oceanographic variability, and unanticipated increases in fishing pressure.

MPAs are most effective at reducing extractive pressures, and their contribution to climate resilience depends in part on whether they measurably enhance key network attributes, such as connectivity, habitat replication, and protection of climate refugia. CDFW evaluated whether proposed changes were likely to meaningfully contribute to MPA Network performance through improvements to connectivity, habitat redundancy, or related ecological functions or provide measurable ecological benefits relative to the current performance of the MPA Network. Where existing MPAs already meet the SAT Science Guidelines established during the MLPA Initiative planning process, and proposals do not provide evidence the proposed change would demonstrably improve connectivity, redundancy, or resilience under changing environmental conditions and as specifically defined in the SAT Science Guidelines, the addition or expansion of a protected area alone is insufficient to conclude that climate resilience would be enhanced. Although there is broad evidence of increasing environmental stressors, restricting fishing alone will not address their cumulative impact. The existence of multiple stressors does not justify specific boundary modifications or new MPAs in the

absence of strong evidence that the proposal would likely result in site-specific ecological benefits.

MPAs may confer some resiliency to climate change by providing a buffer from some of these stressors, especially MPAs that limit or completely exclude fishing. Management of California's fisheries is mandated by the Marine Life Management Act, which includes objectives such as ecosystem protection, sustainability, and rebuilding populations, among others (Fish & G. Code § 7050). While the primary function of MPAs in California is to protect and enhance marine habitats and populations, understanding how effective fisheries management measures interact with a functioning MPA Network to bolster resiliency to climate change in California is still a critical knowledge gap identified in the DMR to be addressed through implementation of Recommendations 26-28 that focus on influencing factors and fisheries integration.

The absence of demonstrable ecological gains is particularly relevant where proposed changes could result in substantial socioeconomic impacts to ocean users. This underscores the importance of grounding management decisions in clear, place-based specific evidence of functional ecological improvement and considering socioeconomic impacts so that anticipated conservation benefits are considered relative to potential trade-offs in those areas.

CDFW 2023 MPA BIN 2 PETITION EVALUATION

EVALUATION QUESTIONS

Question 1: Does the proposed change support the MPA Network in meeting one or more of the MLPA Goals and align with MPA Master Plan adaptive management objectives?

The MLPA Goals and Master Plan objectives are inextricably linked and act as the foundational tools that CDFW utilizes for effective adaptive management of the MPA Network. Individual MPAs in the MPA Network were not necessarily designed to address all six Goals of the MLPA but instead act as an important component of a functioning MPA Network that was designed to holistically address the MLPA Goals. As such, CDFW has evaluated the proposed actions within the broader adaptive management framework and how the proposed action may or may not align with the MLPA Goals/Master Plan objectives and advance MPA Network management.

MLPA Goals

1. Protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems.

2. Help sustain, conserve and protect marine life populations, including those of economic value, and rebuild those that are depleted.
3. Improve recreational, educational and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
4. Protect marine natural heritage, including protection of representative and unique marine life habitats in CA waters for their intrinsic values.
5. Ensure California's MPAs have clearly defined objectives, effective management measures and adequate enforcement and are based in sound science guidelines.
6. Ensure the State's MPAs are designed and managed, to the extent possible, as a network.

Master Plan Adaptive Management Objectives

- Protect the structure and function of marine ecosystems
- Improve native marine life populations, including those of economic value
- Ensure minimal disturbance while allowing for sustainable opportunities for recreation, education and research
- Ensure comprehensive representation of all key habitats, including unique habitats
- Use learning acquired through administration of the MPA Management Program to adaptively manage the objectives, management measures, enforcement efforts, and scientific guidelines to inform management decisions
- MPAs function as a cohesive statewide network

Question 2a: Does the proposed change advance adaptive management recommendations in the Decadal Management Review?

California's Marine Protected Area Network Decadal Management Review
DMR Adaptive Management Recommendations

Question 5: Are there significant information gaps that need to be filled to inform the evaluation of the proposed change?

Justice, Equity, Diversity, and Inclusion

There are information gaps related to assessing issues around equity and access for traditionally underserved or marginalized communities within the existing MPA Network, as well as the proposed changes in the Bin 2 petitions. The DMR includes recommendations to advance work in this area that the MPA Management Program intends to work on in the near future. Also, see response for Questions 14 and below.

Economic and Fiscal Impacts

The CFGC petition form, Petition to the California Fish and Game Commission for Regulation Change, requires the petitioner to complete the section, "Economic or Fiscal Impacts: Identify any known impacts of the proposed regulation change on revenues to the California Department of Fish and Wildlife, individuals, businesses, jobs, other state agencies, local agencies, schools, or housing." Responses provided in the Bin 2 Petitions often had limited data related to potential economic and fiscal impacts, particularly those related to individuals or businesses, including individuals from the sport and commercial fishing industries. This may be due to limited time provided to petitioners to prepare petitions or to the limited existence of this data. However, given the scope and timeline of this analysis, CDFW did not have the ability to provide a supplemental analysis of the economic or fiscal impacts for the 73 changes proposed across the 15 Bin 2 Petitions.

Fish and Game Code section 2853 highlights that the Marine Life Protection Program (now the MPA Management Program) must include a process for the establishment, modification, or abolishment of existing MPAs or new MPAs, that involves all interested parties, including, but not limited to, individuals from the sport and commercial fishing industries, aquaculture industries, coastal and ocean tourism and recreation industries, marine conservation organizations, local governments, marine scientists, and the public (Fish & G. Code § 7050 (b)(7)), and that facilitates the designation of MPAs consistent with the Master Plan adopted pursuant to Fish and Game Code section 2855. Fish and Game Code section 2855 states that when making decisions regarding the siting of new MPAs and major modifications of existing MPAs, CDFW shall take into account relevant information including, but not limited to, the socioeconomic and environmental impacts of various alternatives.

CDFW's Bin 2 MPA Petition evaluations include preliminary assessments of socioeconomic impacts to commercial and recreational fisheries, but these assessments are not a substitute for the relevant information required by Fish and Game Code section 2855. The evaluations do not include an assessment of any socioeconomic benefits or impacts beyond impacts to commercial and recreational fisheries. Implementation of the regulatory changes proposed in the Bin 2 MPA Petitions are anticipated to have socioeconomic impacts, some of which may be significant to individuals or businesses; and additional data and information are needed to meet the level of analyses required by Fish and Game Code section 2855.

Question 9: Does the proposed change improve individual MPA or MPA Network design so that it better aligns with or meets the MPA science guidelines?

To ensure consistency across petition evaluations, CDFW developed a decision tree to evaluate if a proposed action would improve individual MPA or MPA Network design and/or improve alignment with the SAT Science Guidelines (Figure 1). The decision tree includes considerations such as whether the proposed change has the potential to affect the MPA's size or Level of Protection (LOP) and includes a framework to respond to the question. The science-based design criteria were developed by the SAT during the MLPA Initiative planning process to provide quantitative guidance for achieving network-scale ecological objectives (e.g., North Coast Study Region guidance Executive Summary from the North Coast SAT Methods Used to Evaluate MPA Proposals). While there were slight deviations between planning regions in the amount of individual habitat types necessary to meet habitat representation and replication targets, key design elements were consistent statewide. MPAs intended to contribute to ecological goals were required to be at least 9 square miles in size and meet one of the three highest LOPs (Very High, High, or Moderate-High). Importantly, the analysis focused not only on whether proposals meet SAT Science Guidelines, but on whether they would likely provide a net ecological benefit to the MPA Network in addition to meeting SAT Science Guidelines—that is, likely to have measurable improvements beyond existing conditions.

Levels of Protection

California's SAT developed the LOP framework during the MLPA Initiative planning process. California's SAT LOP framework is specifically designed to evaluate fishing-related impacts within the state's MPAs and considers the species that may be taken, the gear used, the geographic region, and the potential direct and indirect ecological effects of those activities on species and habitats. As a result, the SAT LOP framework is the most appropriate framework to use when considering proposed changes or additions to the MPA Network as it was tailor-made for evaluating and comparing California's MPAs.

The SAT LOP framework differs substantially in scope, structure, and application from the protection categories defined in Grorud-Colvert et al.'s (2021) MPA Guide[1]. Although the MPA Guide provides a valuable global framework for making standardized comparisons of MPA outcomes worldwide, it is not an appropriate framework for evaluating California's 2023 MPA Petitions. The two frameworks were developed for different purposes, applied different criteria, and the frameworks differ in scale and structure. Given the two frameworks have different scales and approaches, protection categories

[1] Grorud-Colvert *et al.* (2021). *T*he MPA Guide: A framework to achieve global goals for the ocean. *Science* **373**, eabf0861(2021). DOI:10.1126/science.abf0861; see also https://mpa-guide.protectedplanet.net/resources

that appear similar in name may represent substantially different regulatory conditions and ecological outcomes under the two systems.

The MPA Guide was designed to compare MPAs globally as MPAs around the world vary from fully protected with strong implementation measures (such as those in California's MPA Network), to MPAs on paper only or those that allow activities such as intensive fishing and/or large impact infrastructure and aquaculture. The MPA Guide uses broad activity-based classifications that consider multiple categories of human use. Fishing is treated as one of several activity categories evaluated. Others include dredging and dumping, anchoring, infrastructure, aquaculture, non-extractive activities, and mining. The MPA Guide includes protection levels based on the number and types of activities allowed, without differentiating by species, fine-scale gear type(s), or geographic context. The MPA Guide captures the global scale of allowed activities in MPAs worldwide and categorizes these into four LOPs. The approach enables comparisons across global habitats and activities, which vary greatly. In contrast, California's SAT LOP framework has six levels of protection and is specifically tailored to the fisheries, gear types, species, and habitats in the MLPA planning regions, which enable precise assessments of potential contribution to ecological goals as well as comparisons within California's MPA Network.

In addition to being more relevant to California, the SAT LOP framework applies a more precautionary approach than the MPA Guide framework. During the MLPA Initiative planning process, the SAT evaluated allowed activities under the assumption that they could occur at maximum plausible intensity over time. This reflected the expectation that MPA access would remain open to all users and that fishing pressure could increase unpredictably in the future. For example, during the COVID-19 pandemic, California experienced an unanticipated surge in the harvest of intertidal organisms for sale and subsistence. By comparison, under the MPA Guide LOP framework, potential future increases or sudden changes in fishing intensity, such as the example described above, are not explicitly incorporated into protection level assignments. Instead, the 2021 MPA Guide evaluates activities based on their current intensity, scale, duration, frequency, and overall present-day impact. Its framework is therefore intended to categorize MPAs according to contemporary cumulative impact levels rather than to distinguish in detail among specific fishing practices or ecological interactions. Consequently, the LOPs between the two frameworks are not comparable, and the SAT LOP framework is the most appropriate framework to use for evaluating the 2023 MPA Petitions.

Please see the CDFW Science Guide to California's MPA Network for more specific information on science evaluation of MPA proposals during the MLPA Initiative planning process, including LOPs, as well as a current assessment of how the MPA Network conforms to the SAT Science Guidelines.

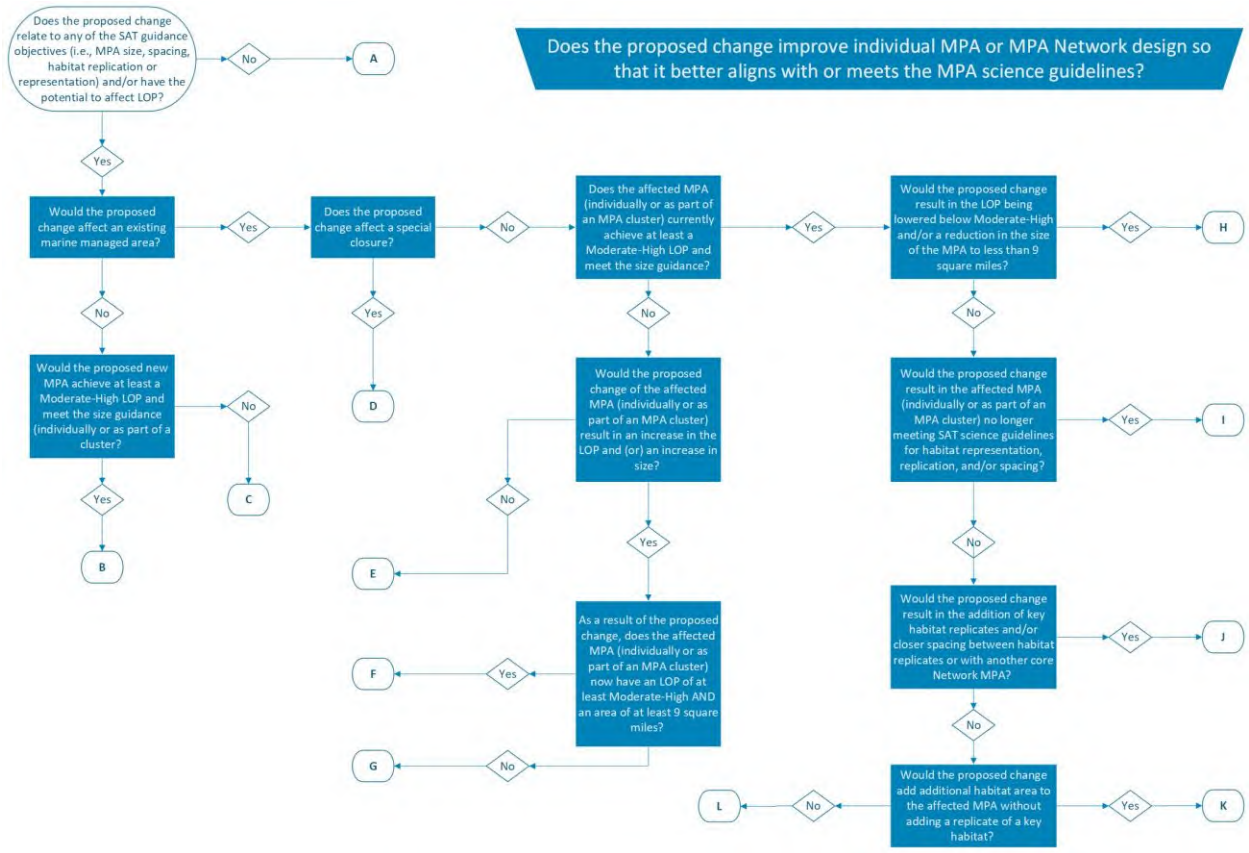


Figure 1. Decision tree framework used to formulate responses for Question 9 for each proposed action. The starting point, at the upper left corner, is based on whether the proposed change has the potential to affect the MPA's size or Level of Protection (LOP). The rest of the questions help to identify the effects such a change may have on the design of the individual MPA and the MPA Network. Based on this decision tree, the effects of a proposed action were determined to belong to one of the following groups:

A. Not applicable because the proposed action does not affect MPA size or LOP. Proposed action does not improve the design of the individual MPA or the MPA Network, nor does it enhance alignment with the SAT Science Guidelines.
B. New MPA meets minimum size and LOP requirements. Proposed action would improve MPA Network design and enhance alignment with the SAT Science Guidelines.
C. New MPA does not meet minimum size and/or LOP requirement. Proposed action does not improve MPA Network design, nor does it enhance alignment with the SAT Science Guidelines.
D. Not applicable because the SAT Science Guidelines do not apply to special closures. Proposed action does not improve MPA Network design, nor does it enhance alignment with the SAT Science Guidelines.

E. Neither existing MPA nor as proposed meets minimum size and/or LOP requirement. Proposed action does not improve the design of the individual MPA or the MPA Network, nor does it enhance alignment with the SAT Science Guidelines.
F. Existing MPA does not meet minimum size and/or LOP requirement, but would meet both as proposed. Proposed action improves the design of the individual MPA and the MPA Network, and enhances alignment with the SAT Science Guidelines.
G. Existing MPA does not meet minimum size and/or LOP requirement. Proposed change improves individual MPA design, but does not improve MPA Network design or enhance alignment with the SAT Science Guidelines.
H. Existing MPA meets minimum size and LOP requirements, but no longer would as proposed. Proposed action does not improve the design of the individual MPA or the MPA Network, nor does it enhance alignment with the SAT Science Guidelines.
I. Existing MPA meets minimum size and LOP requirements. MPA as proposed meets both criteria but no longer meets one or more SAT Science Guidelines. Proposed action does not improve the design of the individual MPA or the MPA Network, nor does it enhance alignment with the SAT Science Guidelines.
J. Existing MPA meets minimum size and LOP requirements. Proposed action results in meeting additional SAT Science Guideline(s). Proposed action improves design of individual MPA and MPA Network, and enhances alignment with the SAT Science Guidelines.
K. Existing MPA meets minimum size and LOP requirements. Proposed action increases the amount of habitat(s) protected but additional SAT Science Guidelines are not met. Proposed action improves the design of the individual MPA but not of the MPA Network, and does not enhance alignment with the SAT Science Guidelines.
L. Both existing MPA and as proposed meet minimum size and LOP requirements. Proposed action does not improve the design of the individual MPA or the MPA Network, nor does it enhance alignment with the SAT Science Guidelines.

Question 10a: Does the proposed change align with CDFW Feasibility Guidelines?

CDFW Feasibility Guidelines

Question 14: Does the proposed change provide more equitable access opportunities (e.g., fishing, educational, and/or other recreational opportunities) for traditionally underserved or marginalized communities?

CDFW is committed to improving access to marine resources in California for traditionally underserved and marginalized communities. This question was included in

the evaluation framework because of that commitment, as well as input from partners to prioritize improvement of accessibility and recommendations from the DMR to integrate justice, equity, diversity, and inclusion principles into MPA Network management. However, after exploration of the available information and methods that could be used to address this question for each proposed action, CDFW originally determined that providing the level of evaluation this question and the relevant communities deserve would not be possible within the scope and timeline of the petition evaluations. Most of the petitions did not include sufficient information to accurately assess benefits and/or impacts to historically marginalized and underserved communities. Additional details and outreach were needed by petitioners to support this portion of the analysis.

At the time, CDFW reviewed multiple information sources, and found there are many different approaches to defining and identifying "traditionally underserved or marginalized communities." CDFW reviewed the definition of disadvantaged communities (DACs) in Senate Bill 535, which is based on pollution burden and federally recognized tribal status (a map of DACs per this definition is available here, data used to determine community status is available through the CalEnviroScreen tool).

CDFW also considered the definition of DACs utilized by the California Department of Water Resources, where DACs are areas where median annual household income is 80% or less of the statewide median annual household income (a map of those communities is available here).

CDFW found the data and information in the California Governor's Office of Land Use and Climate Innovation's Vulnerable Communities Platform to be valuable in understanding access issues related to the MPA Network. The Vulnerable Communities Platform provides information on more specific and potentially applicable metrics, such as food insecurity and linguistic isolation, which could be used to better understand access issues (e.g., subsistence fishing, language access for outreach materials, individual indicators data is available here).

In the March 2026 Companion Document, CDFW's primary findings for Question 14 were that additional information and time were needed, including completion of some DMR Recommendations, to sufficiently address the question.

Following CDFW's submission of the petition evaluations, CFGC, CDFW, and Ocean Protection Council received substantive feedback identifying two areas of concern. First, the response to Question 14 was unsatisfactory and that people, including Commissioners, wanted to see additional analysis for Questions 14 and 16. Second, people identified a broader need for more robust engagement with, and meaningful

incorporation of the perspectives of, traditionally underserved and marginalized communities throughout the process.

At the Regional 2023 MPA Petitions meeting on May 19, 2026, CFGC directed CDFW to convene experts in Justice, Equity, Diversity and Inclusion within the agency and at partner agencies to provide additional analyses. CDFW's Deputy Director of Strategic Engagement, Equity, and Partnerships led this work in collaboration with California Natural Resources Agency, CFGC staff, and Ocean Protection Council and released a separate document with supplemental information for Question 14 and 16.

Question 16: Is the proposed change consistent with the CFGC Justice, Equity, Diversity and Inclusion Policy?

CFGC staff conducted this analysis and prepared the response to Question 16, which was supplemented by a July 2026 document prepared as described in the paragraph above.

Justice, Equity, Diversity and Inclusion Policy Overview

The CFGC Justice, Equity, Diversity and Inclusion Policy (JEDI Policy) reflects CFGC's deep commitment and responsibility to support safe and equitable access to California's thriving native wildlife and natural habitats, supported by inclusive decision-making that reflects the needs and values of the state's diverse communities. The policy acknowledges the significant past injustices experienced by historically marginalized and underserved communities and seeks to correct the burdens these communities have faced in accessing nature, participating in regulatory decision-making, and the privilege often associated with outdoor access. The JEDI Policy also considers and seeks to correct the disproportionate burdens on California Native American tribes and recognizes their interwoven stewardship relationships with the environment.

The JEDI Policy identifies 13 individual commitments referred to as "actions" that guide how CFGC advances its JEDI commitments. Implementation of the policy has been an ongoing priority of CFGC since its adoption in February 2022 and CFGC staff are continuing to explore meaningful ways to meet its commitments. Inclusion of the JEDI Policy in the Framework was intended to highlight this commitment.

Evaluation of MPA Petitions

Evaluating MPA petitions for their consistency with CFGC's JEDI Policy marked the first time CFGC staff attempted to systematically apply the policy's principles to inform CFGC decision-making. Through the process of evaluating MPA petitions against the JEDI Policy, CFGC staff found it was unable to make determinations about whether, or to

what extent, any specific petition advances or conflicts with the JEDI Policy. The findings are described in detail here, along with next steps to resolve these limitations moving forward.

CFGC staff reviewed the pending MPA petitions to identify conceptual intersections with JEDI principles. Of the 13 commitments in the policy, 7 are not relevant to the evaluation because they focus on internal operations, partnerships, and governance processes. The remaining six are directly applicable to the MPA petitions:

- Considering and correcting for disproportionate burdens on historically marginalized communities,
- Improving responsiveness to the needs of marginalized fish and wildlife users,
- Amplifying tribal voices and issues,
- Considering the implications of decisions on subsistence activities,
- Improving and championing safe and equitable access to abundant and healthy fish and wildlife populations, and
- Promoting cultural, community, and economic opportunities related to fish and wildlife that CFGC regulates.

In seeking to apply the six applicable commitments, staff identified several knowledge gaps that limited its ability to provide consistent or objective petition-level JEDI determinations. Ultimately, CFGC staff concluded that there is insufficient information available to meaningfully assess potential JEDI-related implications of petitions in a manner that reflects the intent of the policy.

Key concepts such as subsistence activities, equitable access to abundant fish and wildlife populations, and cultural, community and economic opportunities do not have CFGC-adopted definitions, metrics, or measurable criteria. Without clearly articulated definitions, datasets, or rubrics, petition-specific JEDI assessments would be inherently speculative. Staff have, however, gained a clearer understanding of these gaps, which will be important to address in future policy implementation.

Tribally-Led Petitions

One area that CFGC has already recognized is the distinct role of petitions that amplify tribal voices, which is reflected in how CFGC has grouped these petitions for discussion. Five petitions were submitted either by a tribe or with tribal participation as co-sponsors for petitions submitted by non-tribal proponents. CFGC has grouped these as “Tribally-led,” which includes tribally co-sponsored petitions. Some of these petitions advance tribally identified MPA names and, in some cases, include recommendations related to pursuing co-management or co-stewardship. Collectively, they reflect the

interests of federally recognized tribes as well as non-federally recognized tribal communities with enduring relationships to California's coast. Many of these proposals have the potential to foster long-term partnerships or shared leadership with California Native American tribes, which are considered marginalized and/or underserved communities, supporting the broader intent of CFGC's JEDI Policy.

Petitioner Intent

CFGC staff acknowledges that several petitions explicitly reference, within their petition rationale(s), goals related to equitable access, subsistence activities, long-term abundance of fish and wildlife, or other JEDI-related intentions. While the stated intentions are important context, the previously described evaluation limitations prevented staff from assessing the degree to which these intentions may achieve the goals. CFGC staff acknowledges that changes to harvest or non-consumptive access may relate to subsistence or equity considerations, but cannot reliably characterize the nature or extent of those relationships without risking over-generalization or speculation.

Current and Future Focus

In the absence of the tools needed for petition-level JEDI analysis, and because many JEDI commitments were intended primarily to guide CFGC processes, CFGC staff began to focus on the overall petition process, including the planning for the regional MPA petition meetings. CFGC staff efforts have included: consulting with partners to inform development of approaches to support safe and inclusive participation, selecting meeting locations near affected communities to reduce travel barriers, elevating tribal voices, increasing transparency about meeting format and expectations, and exploring additional ways to provide accessible engagement opportunities. The regional meetings an opportunity for CFGC to engage with local communities regarding MPA petitions. Proposals that reflect community knowledge, lived experience, and local needs align more closely with the inclusive decision-making envisioned by the JEDI Policy. Public comments emphasizing the level of community engagement, or lack thereof, were not considered when conducting the petition evaluations.

Evaluation of the MPA petitions has highlighted critical next steps needed to strengthen CFGC's ability to apply the JEDI Policy in future evaluations. Consistent with the intent of Recommendation 8 in CDFW's Marine Protected Area Network Decadal Management Review — a mid-term priority focused on evaluating the accessibility of MPAs to various community groups — staff recognizes that broader collaborative efforts with various partners will be needed to establish the foundational elements for integrating JEDI considerations across the MPA Network. Advancing this work will support both the

CFGC's JEDI Policy goals and more meaningful future evaluations, beyond what is possible within the limited scope of this petition process.

Links

JEDI Policy: California Fish and Game Commission Justice, Equity, Diversity, and Inclusion Policy, approved February 16, 2022

JEDI Policy Definitions: California Fish and Game Commission JEDI Definitions

Question 17: Is the proposed change consistent with the CFGC Coastal Fishing Communities Policy?

CFGC staff conducted this analysis and prepared the responses to Question 17 for the proposed actions in the evaluations. CFGC staff provided this additional context for their evaluations of Question 17.

Coastal Fishing Communities Policy Overview

The CFGC Coastal Fishing Communities (CFC) Policy guides CFGC, in partnership with CDFW, in supporting the long-term needs, social well-being, and economic health of California's coastal fishing communities while upholding the conservation and management goals central to both agencies' missions and mandates. The CFC Policy defines coastal fishing communities broadly as: (a) social, cultural, economic, and/or place-based groups whose members are dependent upon, engaged in, or benefit from local, wild-capture, commercial, recreational, or subsistence marine harvest or processing to meet the social and economic needs of the community, (b) include, but are not limited to, the businesses and organizations that depend upon or support those activities, and (c) may be a subset or member of larger or associated coastal communities. Adopted in February 2024, the CFC Policy formalizes a vision for how CFGC engages with fishing communities, incorporates their needs into decision-making, and contributes to their resilience.

Evaluation of MPA Petitions

Evaluating MPA petitions for their consistency with CFGC's CFC Policy marked the first time CFGC staff have attempted to apply the policy's principles to inform CFGC decision-making. Through the process of evaluating MPA petitions against the policy, CFGC staff found they were unable to make determinations about whether, or to what extent, any specific petition advances or conflicts with the goals of the CFC Policy. The findings are described in detail here, along with next steps to resolve these limitations moving forward.

The goal of Question 17 is to identify where petitioned actions may conceptually intersect with the CFC Policy—not to evaluate biological outcomes addressed elsewhere in the petition evaluation framework or provide a full socioeconomic analysis.

As CFGC staff applied the CFC Policy to each petition and its proposed actions, it became clear that only limited information is currently available to assess potential implications for coastal fishing communities. The policy encompasses broad aims, such as maintaining or enhancing fishing opportunities, supporting community resilience and adaptive capacity, and ensuring coastal fishing community interests are meaningfully factored into CFGC decision-making.

However, CFGC does not yet have detailed economic, demographic, or cultural data to determine how proposed regulatory changes may affect specific coastal fishing communities. Existing statewide information—primarily the Ocean Sport Fishing web application and community profiles from FishingCommunities.net, last updated in 2023 using 2021 data—provides useful general context on ports, landings, and community characteristics. CFGC staff expertise and experience also contributed to the understanding of impacts of petitioned actions on nearby coastal fishing communities. These sources of information do not provide the level of resolution necessary to draw conclusions about individual community dependence, vulnerability, or long-term resilience.

Given the limitations, CFGC staff focused the evaluation on three elements that could be consistently and objectively applied across all petitions:

- Describes the nature of the proposed regulatory change,
- Identifies whether a petition action would increase, decrease, or have no direct effect on commercial or recreational fishing opportunity within or near the affected MPA, and
- Identifies the coastal fishing communities most geographically-proximate to the affected area, by identifying the nearest ports or harbors and travel distance between them, although these do not necessarily reflect smaller coastal fishing communities that may be affected.

Some petition actions were given “not applicable” responses, reflecting that those actions are not subject to evaluation as they are either not regulatory change requests or they are proposals outside of the regulatory framework for MPA management.

Some petitions propose increasing fishing opportunities, which could conceptually support short- or long-term community resilience within the context of California’s existing fishing regulations and the broader fisheries management goals, and other petitions propose strengthening or expanding MPAs, which may confer long-term

ecological benefits that indirectly support fishing communities. However, CFGC staff cannot evaluate the proposed changes on biological, stock-related, or long-term effects relative to supporting fishing opportunities under this question.

A full understanding of potential benefits or impacts to coastal fishing communities requires meaningful input from the community members themselves—commercial, recreational, and subsistence harvesters, as well as the businesses and organizations that support local fishing economies. CFGC staff view this evaluation as an initial step based on the information currently available, and not as a comprehensive assessment of the lived experience, priorities, or needs of individual communities. Public comments that provide such feedback have not been directly considered in the evaluation. While CFGC has received a wealth of public comments to inform its understanding of the range of views thus far, CFGC's upcoming regional MPA petition review meetings will provide an important opportunity for commenters to further supplement CFGC staff's analysis with direct feedback from those most connected to the affected areas. Continued dialogue with coastal fishing communities will help strengthen the foundation for applying the CFC Policy in future decision-making and improve CFGC's ability to better understand and support the adaptive capacity and long-term resilience of California's fishing communities over time.

Possible next steps in policy implementation and pathways to begin filling data gaps are anticipated for discussion at a future CFGC Marine Resources Committee meeting. This discussion ideally would lead to developing options and needs to enable integrating consideration of the CFC Policy into CFGC's decision-making.

Links

CFC Policy: California Fish and Game Commission Coastal Fishing Communities Policy, adopted February 14, 2024 (also included on the following page)

Current Regulations Map: Ocean Sport Fishing Web App

Partner website, California Fishing Communities, providing profiles of the history, economics, and culture of California's fishing communities (last updated in 2023 with 2021 data): FishingCommunities.net

SUMMARY OF OTHER CONSIDERATIONS

After completing the evaluations, none of the petition evaluations had information to include in this section beyond what was provided in the other five sections of the evaluation. Consequently, this section was removed from the evaluations.

California Department of Fish and Wildlife's Evaluation of 2023 Decadal Management Review Marine Protected Area Petition:

Expand Boundaries of Laguna Beach No-take State Marine Conservation Area (2023-24MPA_AM)



I. PETITION SUMMARY

CFGC Tracking Number	2023-24MPA_AM
Petition Contact/Affiliation	Mike Beanan, Laguna Bluebelt Coalition
Number of Proposed Actions	1
Affected MPAs	Laguna Beach No-Take and Dana Point State Marine Conservation Areas (SMCAs)
Petition Summary	Extend the Laguna Beach No-take SMCA southern boundary to the southern border of the City of Laguna Beach, which will require modification of the northern boundary of Dana Point SMCA (modified boundaries as amended).
Link to StoryMap page	2023-24MPA_AM

March 2026

II. CDFW RECOMMENDATIONS AND BRIEF JUSTIFICATION

Note: If a change to the Marine Protected Area (MPA) regulations is not needed to address the proposed change, California Department of Fish and Wildlife (CDFW) did not evaluate the proposed change using the framework. However, CDFW may recommend an alternative pathway to achieving the desired outcome of the proposed change.

Petition Action ID and Proposed Action	Petitioner's Stated Rationale and Brief Justification for Proposed Actions	CDFW Recommendation and Brief Justification
2023-24MPA_AM1 Extend the Laguna Beach No-take SMCA southern boundary to the southern border of the City of Laguna Beach, which will require modification of the northern boundary of Dana Point SMCA (modified boundaries as amended).	The petitioner's stated intent for the proposed change is: Since the Marine Life Protection Act (MLPA) Initiative planning process, the City of Laguna Beach's assumed jurisdiction over the city's southern beaches from the County of Orange. This regulation change will make enforcement easier and more consistent, better protect kelp (*Macrocystis pyrifera*) beds in South Laguna from fishing and the potential effects of anchor chain drag, and reduce whale entanglement risks from spiny lobster (*Panulirus interruptus*) trap lines.	**Deny.** The proposed change to expand the Laguna Beach No-take SMCA and thereby reduce the size of the Dana Point SMCA, does not address an enforcement challenge, advance adaptive management recommendations from the Decadal Management Review (DMR), address a current or emerging MPA management challenge, or align with the original intent of these MPAs as established during the MLPA Initiative planning process. The proposed change is unlikely to benefit migrating whales or have a biologically meaningful impact on kelp at this location beyond what is already offered by the Dana Point SMCA. The proposal would change the boundary so that it no longer aligns with key Feasibility Guidelines, which would likely compromise enforceability. The proposed change would also unnecessarily restrict an existing important fishing ground that was deliberately contemplated during the MLPA Initiative planning process.

III. BIN 2 PETITION GROUPING: IDENTIFY TRIBALLY-LED PETITIONS

The 2023 MPA Petition Companion Document (Attachment 1) includes a summary of the process for identifying Tribally-led petitions, CDFW's outreach to all California Native American tribes[1] (tribes) throughout the petitions process, and a summary of outreach and engagement with Tribally-led petitioners. Tribally-led petitions were evaluated with the CDFW 2023 MPA Bin 2 Petition Evaluation Framework.

Tribal Components Questions	Answer and Explanation
Was the petition submitted by a California Native American tribe, representative designated by a tribe or tribal organization, or have a tribal co-sponsor? If yes, a. Does the proposed change explicitly aim to advance tribal co-management, subsistence harvesting, stewardship, and/or provide a tribal benefit through recognizing the cultural significance of an area? b. Is the proposed regulatory change explicitly linked to a tribe or tribes? (i.e. tribal exemption, tribal take only MPA, or new MPA for co-management).	No, This petition was not submitted by a tribe or representative designated by a tribe or tribal organization, and it does not have a tribal co-sponsor.

[1] California Native American tribe is the preferred term to use per the Governor's Office of Tribal Affairs when generally mentioning tribes of California, both federally and non-federally recognized.

IV. PETITION EVALUATION

EVALUATION NARRATIVE AND OVERVIEW FOR 2023-24MPA_AM1

The petitioner proposes extending the southern boundary of the Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA to align with the city limits of Laguna Beach. In 2023, The County of Orange transferred the county jurisdiction of the beaches in the area of South Laguna Beach to the City of Laguna Beach. The primary aim of the proposed change is to address the petitioner's stated problem, "the southern area of Laguna Beach is inaccurately designated as within Dana Point SMCA leading to confusion about place names and take regulations." The petitioner also asserts the kelp beds off South Laguna Beach need protection from overharvesting and anchor chain drag and mentions concerns that lobster fishing activities in the northern portion of Dana Point SMCA pose a threat to the sensitive kelp forest habitat and interrupt gray whale (*Eschrichtius robustus*) migration. The petitioner states that extending the Laguna Beach No-take SMCA will make MPA enforcement easier, will protect kelp from anchor drag on the rocky substrate, and will limit gray whale interactions with commercial lobster trap lines in the area. Although the petitioner asserts the proposed actions align with one or more of the MLPA Goals/Master Plan objectives, CDFW's evaluation finds the proposal:

- Would not address an enforcement challenge,
- Would not measurably improve the performance of the Laguna Beach State Marine Reserve (SMR) and Laguna Beach No-Take SMCA MPA cluster beyond what these MPAs were designed to provide,
- Would conflict with the original intent of the Dana Point SMCA, which was to maintain intertidal protections while allowing for take of lobster, urchin, and finfish[2],
- Would eliminate nearly half of the fishing grounds within the boundaries of the Dana Point SMCA and effectively end all fishing opportunities within Laguna Beach city limits,
- Does not address a current or emerging MPA management challenge, and
- Would not advance management of the MPA Network.

CDFW's Marine Enforcement District (MED) confirmed that the perceived confusion regarding different MPA regulations for Laguna Beach No-take SMCA and Dana Point SMCA that fall within the city limits of Laguna Beach does not pose an enforcement challenge. CDFW enforcement data for 2024 shows fewer than 20 violations for both Laguna No-take SMCA and Dana Point SMCA compared to Bolsa Chica No-take SMCA with 80 violations, and they are not among south coast MPAs with the highest numbers of violations. These results suggest that most people using these MPAs are aware of and

[2] Any species of bony fish or cartilaginous fish (sharks, skates and rays).

understand the regulations. Changing the boundary 15 years after implementation without significant ecological benefits to the MPA Network (see below) would likely result in increased confusion and enforcement challenges, which would require significant investments in outreach and enforcement efforts.

The existing boundary aligns with a readily determinable line of latitude, and a prominent coastal outcrop of nearshore rocks, which serves as a clear marker for both off-shore and shore-based users. The proposed new boundary deviates from the CDFW Feasibility Guidelines (See Question 10 in Attachment 1) as the boundary would not fall on an even line of latitude and it is unclear if there is a clear visual marker for shore-based users. The petitioner states that the amended boundary would line up, "with a prominent bluff top outcropping at Three Arch Bay consistent with Laguna Beach city limits." However, the coordinates provided in the amendment are slightly beyond this point into the Dana Point city limits. Since implementation of California's MPA Network, targeted legislative and regulatory refinements have been identified to align MPAs with their original intent, clarify or correct provisions, or address priority management and enforcement issues. This includes two regulatory packages that specifically clarified and corrected MPA boundaries throughout the MPA Network following a Network-wide assessment to ensure maximum alignment with the Feasibility Guidelines, improve boundary clarity for shore-based and boat-based users, and ultimately boundary enforceability (Appendix G of the DMR). The current southern boundary at Laguna Beach No-take SMCA was intentionally set and refined through three prior regulatory processes; moving the boundary as proposed would result in increased confusion and enforcement challenges.

The boundary change could be reconsidered if there were significant ecological benefits to MPA Network. However, ending fishing activity alone (by extending the Laguna Beach No-take SMCA boundary) is unlikely to result in meaningful and sustained kelp recovery and/or protection without a clear understanding of the site-specific ecological drivers of kelp loss. While anchor drag and other artifacts of fishing efforts, such as setting lobster traps, may cause damage to the rocky reef that is suitable habitat for giant kelp, it is unclear if this activity is the primary contributor to kelp loss and/or hindering kelp recovery in the northern portion of the Dana Point SMCA. Temporal trends in persistent kelp canopy within the Dana Point SMCA show stable kelp canopy in areas where kelp is present from 2010-2016. Kelp persistence decreased in the years between 2017-2023 following the 2014-2016 Marine Heatwave, which had widespread effects on California's coastal ecosystems, both inside and outside MPAs (CDFW 2022, Smith et al. 2023, Zeigler et al. 2023, Ortiz-Villa et al. 2025)[3]. Given that persistence of kelp forests in the Dana Point SMCA was mostly stable prior to the heatwave, despite fishing activities continuing in the

[3] See California MPA Petitions SeaSketch platform for kelp persistence mapping: https://www.seasketch.org/california/app

area, there are likely multiple factors driving kelp presence and recovery potential in Dana Point SMCA. Statewide kelp restoration and management efforts should target site-specific drivers of kelp loss and be guided by the Kelp Restoration and Management Plan (KRMP), which is in development.

The proposed change is unlikely to reduce or prevent whale entanglements in this area. It is possible that lobster fishery interactions with gray whales may occur when the whales are migrating through the area. NOAA Fisheries' whale entanglement database[4] reports that gray whale entanglements along their migration route have occurred in California along the Southern California Bight, but exact locations of entanglements are difficult to obtain because the location reported refers to where the whale is first sighted, which may not directly correspond with the location of the initial entanglement. Extending the boundary of the Laguna Beach No-take SMCA into the northern portion of the Dana Point SMCA would likely shift lobster fishing effort further offshore outside of the MPAs, and/or shift fishing efforts south to the new boundary. In either case, this is still within the path of migrating whales. Thus, reducing whale entanglement risk in this area is not likely to occur with the proposed change.

The proposed change is unlikely to measurably improve the performance of the Laguna Beach SMR and Laguna Beach No-take SMCA MPA cluster beyond the benefits these MPAs currently provide. The Laguna Beach MPAs, which include Crystal Cove SMCA, Laguna Beach SMR and No-take SMCA, and Dana Point SMCA, were carefully designed to meet both ecosystem and human-use needs in Orange County. These MPAs were intended to act together to maintain and expand some of the historical protections that were in place before the passage of the MLPA, preserve the marine natural heritage and deep connection the surrounding communities have with the coastal resources in the area, and continue to provide recreational and commercial fishing opportunities (MLPA 2009a). The Laguna Beach SMR and No-take SMCA were designed as an MPA cluster to meet the MLPA Initiative Science Advisory Team (SAT) guidelines for size, spacing, and habitat replication and thus, meet specific goals to protect natural diversity and enhance ecosystem function. These goals remain relevant today. Consequently, expanding the boundary of the Laguna Beach No-take SMCA into a portion of the Dana Point SMCA is not anticipated to improve the design of these MPAs or the overall design of the MPA cluster.

Finally, the original intent of the Dana Point SMCA was to preserve recreational and commercial fishing opportunities for certain species while continuing the legacy protection of rocky intertidal habitat that was in place prior to the passage of the MLPA

[4] NOAA National whale Entanglement Reports 2017-2024: https://www.fisheries.noaa.gov/national/marine-life-distress/large-whale-entanglement-response#national-entanglement-reports

(MLPA 2009a). The Dana Point SMCA is within the most utilized fishing block by the commercial lobster fishery out of Dana Point Harbor (Fig. 1) and the MPA provides the only opportunity to recreationally fish within the city limits of Laguna Beach. A detailed analysis of the socioeconomic impacts of this proposed change is an information gap. However, based on landings and CDFW knowledge of commercial and recreational use of the area, impacts are anticipated to be significant. Thus, implementation of the proposed change is likely to result in significant fishery impacts, with limited ecological benefit beyond what the existing Network provides.

In summary, the proposed change is unlikely to improve enforcement and compliance with the MPA regulations, benefit migrating whales, or have a biologically meaningful impact on kelp at this location beyond what is already offered by the Dana Point SMCA, and it would unnecessarily restrict an important fishing ground that was also contemplated during the MLPA Initiative planning process.

RECOMMENDATION FOR 2023-24MPA_AM1

Given these considerations, and the information in the evaluation below, **CDFW recommends California Fish and Game Commission (CFGC) DENY Petition 2023-24MPA** that includes the proposal to extend the southern boundary of the Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA to align with the city limits of Laguna Beach.

EVALUATION QUESTIONS

2023-24MPA_1_AM1: Extend the Laguna Beach No-take SMCA southern boundary to the southern border of the City of Laguna Beach, which will require modification of the northern boundary of Dana Point SMCA (modified boundaries as amended).

QUESTION 1: DOES THE PROPOSED CHANGE SUPPORT THE MPA NETWORK IN MEETING ONE OR MORE OF THE MLPA GOALS AND ALIGN WITH MPA MASTER PLAN ADAPTIVE MANAGEMENT OBJECTIVES?

The MLPA Goals and Master Plan objectives are inextricably linked and act as the foundational tools that CDFW utilizes for effective adaptive management of the MPA Network. Individual MPAs in the Network were not necessarily designed to address all six Goals of the MLPA but instead act as an important component of a functioning Network that was designed to holistically address the MLPA Goals. As such, CDFW has evaluated this action within the broader adaptive management framework and how the proposed action may or may not align with the MLPA Goals/Master Plan objectives and advance

MPA Network management. See Question 1 of Attachment 1 for the MLPA Goals and Master Plan objectives.

The petitioner asserts that expanding the southern boundary of Laguna Beach No-take SMCA into a portion of neighboring Dana Point SMCA is consistent with MLPA Goals 1, 2, 3, 4, and 5 related to enhancing natural diversity; sustaining marine life populations; providing recreational, educational, and research opportunities; protecting marine natural heritage; and ensuring adequate enforcement.

However, Laguna Beach No-take SMCA is part of a larger array of MPAs that includes (from north to south) Crystal Cove SMCA, Laguna Beach SMR, Laguna Beach No-take SMCA, and Dana Point SMCA. This array of MPAs was designed to meet multiple MLPA Goals (1-4) by maintaining and expanding some existing protections, preserving natural marine heritage, and allowing some recreational and commercial take in popular fishing areas. Together, the Laguna Beach SMR and Laguna Beach No-take SMCA were designed as an MPA cluster to protect marine resources while meeting as many of the MLPA Initiative SAT guidelines as possible. The SMR and No-take SMCA currently provide representation of a variety of rocky and sandy habitats, including diverse rocky intertidal and shallow kelp reefs, as was intended during the MLPA Initiative planning process. Expanding the fully protected area is not expected to improve the design of these MPAs or the MPA Network.

The MPAs surrounding Laguna Beach SMR and Laguna Beach No-take SMCA were also designed to improve recreational and educational opportunities through recreational fishing and tidepooling (Goal 3). Expanding the Laguna Beach No-take SMCA into the northern portion of the Dana Point SMCA would effectively end recreational take of lobster, urchin, and finfish by hook-and-line and spear and eliminate recreational fishing opportunities within the city limits of Laguna Beach. Furthermore, with ample opportunity for visitors to participate in well-established educational programs that exist in Crystal Cove SMCA/State Park and Dana Point SMCA, it is unlikely that expanding the No-take SMCA into Dana Point SMCA would improve these already robust educational opportunities.

The original intent of the array of MPAs adjacent to the City of Laguna Beach recognized the importance of marine cultural heritage and protecting the unique habitats (Goal 4) in the area. However, it is unclear how expanding the southern boundary of Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA would further recognize the importance of marine cultural heritage or better protect the unique intertidal habitat that the Dana Point SMCA was designed to protect. The boundary expansion would not afford the unique rocky intertidal habitat at this site more regulatory protection. While extending the No-take SMCA may provide some protection for single species that utilize the kelp forest habitat and are currently legal to take in the

Dana Point SMCA, such as lobster and urchin, there is no evidence that this harvest is negatively affecting kelp forest persistence at this site.

Finally, the petition asserts that expanding the southern boundary of the Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA would simplify enforcement by aligning with the southern city limits of Laguna Beach (Goal/objective 5) and alleviate perceived confusion due to different regulations within the city limits. However, temporal trends in MED enforcement data show few violations in the Laguna Beach SMR, No-take SMCA, and Dana Point SMCA, which suggests that most people using these MPAs are aware of, and abide by, the current regulations.

QUESTION 2A: DOES THE PROPOSED CHANGE ADVANCE ADAPTIVE MANAGEMENT RECOMMENDATIONS IN THE DECADAL MANAGEMENT REVIEW?

The proposed change would not significantly advance any of the adaptive management recommendations in the DMR.

The petitioner's primary justification for extending the southern boundary of Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA is that since these MPAs were implemented, enforcement jurisdiction in the southern beaches in the area was transferred from the County of Orange to the City of Laguna Beach. The petitioner asserts that the proposed regulation change will make MPA enforcement easier and more consistent. The petitioner asserts that this will increase effectiveness of outreach, education, and enforcement, which supports DMR Recommendation 15 regarding pursuing the most effective outreach and education tools to increase MPA awareness and compliance. However, a well-established tidepool docent program exists in Dana Point SMCA that provides extensive MPA education on these MPAs, including Laguna Beach No-take SMCA. The Orange County MPA Council, a chapter of the MPA Collaborative Network, is also extremely active in local outreach events, providing the public in Laguna Beach with detailed information about the MPA Management Program and local MPA regulations. Thus, it is unlikely that expanding the Laguna Beach No-take SMCA into Dana Point SMCA would improve these already robust educational efforts. Additionally, changing the boundary has potential to present education and enforcement challenges during any transition period to update outreach materials, particularly because these MPAs occur in a popular area for coastal visitation. CDFW recommends targeted coordination between local allied agencies and MED on MPA enforcement to address any outstanding and potential compliance challenges in lieu of a regulatory change to the MPA boundaries. See Question 2A of Attachment 1 for the DMR and adaptive management Recommendations.

QUESTION 2B: IF NOT, DOES THE PROPOSED CHANGE ADDRESS A CURRENT OR EMERGING MPA MANAGEMENT CHALLENGE?

Since implementation of the MPA Network, the County of Orange ceded jurisdiction of the county-managed beaches within the city limits to the City of Laguna Beach, which could pose a shift in local enforcement efforts and capacity. However, CDFW recommends targeted coordination between local allied agencies and MED on MPA enforcement in lieu of a regulatory change to the MPA boundaries. Additionally, the petition states that the proposed change would benefit kelp and protect migrating whales from entanglement. However, the proposed change is unlikely to benefit migrating whales or have a biologically meaningful impact on kelp at this location beyond what is already offered by the Dana Point SMCA. Therefore, the proposed change does not address a current or emerging MPA management challenge in a way that would benefit the long-term adaptive management of the statewide MPA Network, without compromising the original intent of the affected MPAs and design of the Network.

QUESTION 3: DOES THE PROPOSED CHANGE HAVE THE POTENTIAL TO AFFECT EXISTING CFGC NON-MPA REGULATIONS, PERMITS, OR LEASES (E.G., KELP LEASES, AQUACULTURE LEASES, EXPERIMENTAL FISHING PERMITS)?

No. CDFW does not anticipate that CFGC would need to make conforming changes to other regulations, permits, or leases in response to the proposed change to these MPA regulations.

QUESTION 4: DOES THE PROPOSED CHANGE HAVE THE POTENTIAL TO AFFECT EXISTING REGULATIONS, PERMITS, LEASES, OR MANAGEMENT ACTIVITIES OF ANY OTHER AGENCY OR ENTITY?

Yes. State Lands Commission (SLC): Laguna Beach No-take SMCA would overlap with State SLC active lease number 5139 for a wastewater outfall pipeline and ballast rock. This lease expires in 2054. The regulations for both the Dana Point SMCA and Laguna Beach No-take SMCA allow maintenance of existing artificial structures. It is unclear whether the proposed change would have direct or indirect effects on SLC's regulatory or management activities, or the Santa Ana Regional Water Quality Control Board's regulatory activities for the wastewater outfall.

City of Laguna Beach: CDFW shares jurisdiction of Laguna Beach No-take SMCA and Dana Point SMCA with the City of Laguna Beach and implementation of the proposed changes would require CDFW to coordinate enforcement, updates to signage, and outreach efforts.

This list may not be exhaustive. The proposed change may have the potential to affect existing regulations, permits, leases, or management activities of Tribal governments, other agencies, and entities not identified here.

QUESTION 5: ARE THERE SIGNIFICANT INFORMATION GAPS THAT NEED TO BE FILLED TO INFORM THE EVALUATION OF THE PROPOSED CHANGE?

No. CDFW has sufficient information to evaluate and make a recommendation on this proposal. When evaluating this petition, CDFW reviewed the information in the petition, as well as information including, but not limited to:

- MED citation and compliance data, which indicate no major enforcement challenges,
- Kelp persistence over time in the northern portion of Dana Point SMCA,
- Historical information on why the boundary between Laguna Beach No-take SMCA, and Dana Point SMCA was placed in the current location and the purpose of the array of MPAs and how they work together to meet MLPA Goals/Master Plan objectives,
- NOAA Fisheries whale entanglement data, and
- Internal consultation with subject matter experts on fisheries in the area and associated data.

QUESTION 6: ARE THERE SIGNIFICANT MANAGEMENT GAPS THAT NEED TO BE FILLED TO INFORM THE EVALUATION OF THE PROPOSED CHANGE?

No. CDFW has sufficient management information to proceed with the evaluation of this proposed change, including the foundational principles of the MLPA and information guiding management of MPAs and relevant fisheries.

QUESTION 7A: WAS THE PROPOSED CHANGE CONSIDERED DURING THE MLPA INITIATIVE PLANNING PROCESS OR THE IMPLEMENTATION PROCESS OF MPAS AROUND THE NORTHERN CHANNEL ISLANDS?

Yes. A similar proposal was considered and extensively vetted and discussed during the MLPA Initiative planning process. The South Coast Regional Stakeholder Group proposal 3 recommended that Laguna Beach SMR extend farther south than the proposed boundary change in this petition (MLPA 2009b). CDFW presented several options in the Initial Statement of Reasons document during the rulemaking, and CFGC chose to adopt Option 2R, which aligned the southern boundary of the No-take SMCA with the division between beaches under city and county jurisdiction at that time, as well as a prominent coastal outcrop of nearshore rocks (CFGC 2010).

QUESTION 7B: IS THERE NEW INFORMATION AVAILABLE, CHANGING CONDITIONS SINCE THE MLPA IMPLEMENTATION PHASE, AND/OR INFORMATION PRESENTED IN THE DMR THAT WARRANTS REEVALUATION OF THE PROPOSED CHANGE?

No. Since implementation of the MPA Network, the Orange County Board of Supervisors voted to transfer ownership and management of South Laguna Beaches to the City of Laguna Beach in 2023, so the jurisdictional line no longer exists. However, extending the boundary southward would not address the petitioner's stated problem and thus, does not warrant reevaluation of the proposed change. The existing boundary still aligns with a prominent coastal outcrop of nearshore rocks, which serves as a clear marker for both off-shore and shore-based users and was intentionally referenced during the MLPA Initiative planning process.

QUESTION 8: IF THE PROPOSED CHANGE AFFECTS AN EXISTING MPA, DOES THE PROPOSED CHANGE ALIGN WITH THE ORIGINAL INTENT OF THE MPA IDENTIFIED DURING THE MLPA INITIATIVE PLANNING PROCESS OR THE IMPLEMENTATION PROCESS OF MPAS AROUND THE NORTHERN CHANNEL ISLANDS?

No. The proposed change to extend the southern boundary of the Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA does not align with the original intent of the MPA identified during the MLPA Initiative planning process. The Laguna Beach No-take SMCA was designed to serve as a habitat replicate (in a cluster with the Laguna SMR) for a variety of habitats, including kelp forests and sandy beaches.

The proposed extension of the No-take SMCA boundary to the south into the neighboring Dana Point SMCA would conflict with the original intent of that MPA, which was to maintain intertidal protections while allowing for take of lobster, urchin, and finfish. The proposed change would eliminate nearly half of the fishing grounds within the boundaries of the Dana Point SMCA and effectively end all fishing opportunities within Laguna Beach city limits.

QUESTION 9: DOES THE PROPOSED CHANGE IMPROVE INDIVIDUAL MPA OR MPA NETWORK DESIGN SO THAT IT BETTER ALIGNS WITH OR MEETS THE MPA SCIENCE GUIDELINES?

The MLPA requires that the design of individual MPAs and the statewide Network be based on the best readily available science and that MPAs be of adequate size, number, protection level, and location to meet MLPA Goals. The science guidelines developed by the Science Advisory Team and outlined in the Master Plan were created specifically to provide this scientific foundation and serve as the starting point for evaluating alternative MPA proposals. Alignment with these guidelines depends on LOP, which is determined by allowed take, and spatial configuration. More specifically, these

guidelines require that an MPA must be at least 9 square miles and meet one of the three highest LOPs (i.e., Very High, High, or Moderate-high) to contribute to ecological goals such as habitat replication and representation.

The MLPA requires that the design of individual MPAs and the statewide Network be based on the best readily available science and that MPAs be of adequate size, number, protection level, and location to meet MLPA Goals. The science guidelines developed by the SAT and outlined in the Master Plan were created specifically to provide this scientific foundation and serve as the starting point for evaluating alternative MPA proposals. Alignment with these guidelines depends on LOP, which is determined by allowed take, and spatial configuration. More specifically, these guidelines require that an MPA must be at least nine square miles and meet one of the three highest LOPs (i.e., Very High, High, or Moderate-high) to contribute to ecological Goals such as habitat replication and representation.

Laguna Beach No-take SMCA, together with neighboring Laguna Beach SMR, currently meet both minimum criteria (Table 1). The proposed change would increase the area protected in Laguna Beach No-take SMCA for kelp, beach, rocky intertidal, and hard and soft bottom (0-30 and 30-100 m depth) habitats, which may improve the design of this MPA. However, this would not necessarily enhance the functioning of the MPA Network beyond that of the current design because the additional protected area would not contribute to additional habitat replication or representation at the Network scale. Therefore, implementation of the proposed change would not improve the design of the MPA Network or enhance alignment with MLPA Science Guidelines. See Question 9 of Attachment 1 for the MLPA Science Guidelines and additional context.

QUESTION 10A: DOES THE PROPOSED CHANGE ALIGN WITH CDFW FEASIBILITY GUIDELINES?

No. The petition aims to align the southern boundary of Laguna Beach No-take SMCA with the city limits of Laguna Beach. However, this does not fall on an even line of latitude. The amended coordinates provided by the petitioner overlap with the northern edge of the Dana Point city limits which could increase regulatory and enforcement complexity for this MPA across different city jurisdictions. The existing boundary aligns with a readily determinable line of latitude, and a prominent coastal outcrop of nearshore rocks, which serves as a clear marker for both off-shore and shore-based users and was intentionally referenced during the MLPA Initiative planning process. Furthermore, the southern boundary of Laguna Beach No-take SMCA was not identified as needing correction during the past adaptive management regulation packages that refined many of the MPA boundaries based on a Network-wide assessment of enforcement challenges. See Question 10a of Attachment 1 for the CDFW Feasibility Guidelines.

QUESTION 10B: IF NOT, IS THERE A RATIONALE FOR MOVING FORWARD WITH THE PROPOSED CHANGE OR AN ALTERNATIVE THAT COULD MEET THE INTENT BUT BETTER ALIGN WITH FEASIBILITY GUIDELINES?

No. There is no rationale for moving forward with the proposed change or an alternative.

QUESTION 11: DOES THE PROPOSED CHANGE MAINTAIN OR IMPROVE ENFORCEABILITY OF MPA REGULATIONS?

No. The petitioner asserts that expanding the southern boundary of the Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA to align with the southern city limits of Laguna Beach would simplify enforcement in the area and alleviate perceived confusion due to different existing regulations within the city limits. However, the amended coordinates provided by the petitioner overlap with the northern edge of the Dana Point city limits which could increase regulatory and enforcement complexity for this MPA across different city jurisdictions. Furthermore, based on MED enforcement data, temporal trends in MPA violations show few violations in the Laguna Beach SMR, Laguna Beach No-take SMCA, and Dana Point SMCA, suggesting that most people using these MPAs are aware of, and comply with, the existing MPA regulations.

While No-take regulations are generally easier to enforce and for the public to understand, expanding the No-take regulations into an existing MPA and split across city jurisdictions where some consumptive uses are allowed has potential to introduce enforcement challenges where none currently exist.

QUESTION 12: DOES THE PROPOSED CHANGE SIMPLIFY REGULATORY LANGUAGE OR ENHANCE PUBLIC UNDERSTANDING WITHOUT CHANGING THE INTENT OF THE MPA?

No. The proposed change does not simplify regulatory language or enhance public understanding, and it would change the intent of the MPA. Although the petitioner's intent for the extension of the Laguna Beach No-take SMCA into the northern portion of the Dana Point SMCA is to enhance public understanding, it has potential to introduce public confusion in an area where most people using these MPAs are aware of, and comply with, the existing MPA regulations (see response to Question 11 regarding enforceability).

QUESTION 13: DOES THE PROPOSED CHANGE MAINTAIN OR ENHANCE PROTECTION OF MARINE RESOURCES?

Yes. The proposed change to expand the southern boundary of Laguna Beach No-take SMCA into the northern portion of Dana Point SMCA would increase the area protected within a portion of the existing Dana Point SMCA (Table 1) and hence, offer increased

protection to the habitats contained within and to the species for which take is currently allowed, including lobster, sea urchin, finfish, and coastal pelagic species (CPS)[5].

QUESTION 14: DOES THE PROPOSED CHANGE PROVIDE MORE EQUITABLE ACCESS OPPORTUNITIES (E.G., FISHING, EDUCATIONAL, AND/OR OTHER RECREATIONAL OPPORTUNITIES) FOR TRADITIONALLY UNDERSERVED OR MARGINALIZED COMMUNITIES?

See Question 14 of Attachment 1.

QUESTION 15: DOES THE PROPOSED CHANGE HAVE THE POTENTIAL TO AFFECT CONSUMPTIVE AND/OR NON-CONSUMPTIVE ACTIVITIES? IF SO, HOW?

Yes. Extending the southern boundary of Laguna No-take SMCA into the northern portion of Dana Point SMCA would end the existing take allowances, including recreational take of finfish by hook-and-line or spearfishing, lobster, and urchin, and the commercial take of spiny lobster, urchin, and CPS, in a portion of the SMCA where these activities are currently allowed. It would also end any consumptive uses within the city limits of Laguna Beach.

The Dana Point SMCA, including the northern portion that is proposed to be closed to fishing, is a very popular location for recreational shore fishing and is the only area open to fishing within the city limits of Laguna Beach. In addition to impacts to shore anglers, CDFW anticipates impacts to the commercial lobster fishery, the commercial sea urchin fishery, and the recreational commercial passenger fishing vessel (CPFV) fleet. The proposed closed area overlaps with CDFW commercial fishing block 757. Commercial landings data summaries indicate block 757 is highly valuable to the commercial lobster fleet (Fig. 1).

QUESTION 16: IS THE PROPOSED CHANGE CONSISTENT WITH THE CFGC JUSTICE, EQUITY, DIVERSITY AND INCLUSION POLICY?

See Question 16 of Attachment 1.

QUESTION 17: IS THE PROPOSED CHANGE CONSISTENT WITH THE CFGC COASTAL FISHING COMMUNITIES POLICY?

The following analysis was prepared by CFGC staff. See Question 17 of Attachment 1 for additional context on CFGC's response. The proposed change would reduce fishing access, particularly for the fishing participants associated with the coastal fishing community of Dana Point (~7 nautical miles away from area of proposed change). Dana

[5] Northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), Pacific mackerel (*Scomber japonicus*), jack mackerel (*Trachurus symmetricus*), and market squid (*Doryteuthis opalescens*).

Point Harbor fishing community is principally dependent on commercial trap fishing and commercial passenger fishing vessel (CPFV) operations (https://fishingcommunities.net/dana-point/fishing-profile/). Available fishing grounds for CPFVs and commercial lobster are constrained in this area due to the Laguna Beach SMR/No-take SMCA complex; the petition would further reduce available fishing grounds for CPFVs and the commercial lobster trap fleet homeported to the Dana Point Harbor fishing community.

QUESTION 18: DOES THE PROPOSED CHANGE INTERACT WITH OR HAVE THE POTENTIAL TO AFFECT PROPOSED CHANGES IN OTHER 2023 MPA PETITIONS?

No. The proposed change does not interact with, or have the potential to affect, proposed changes in other 2023 petitions.

V. SUPPLEMENTAL ANALYSES, DATA AND INFORMATION, AND CITATIONS

TABLES AND FIGURES

Table 1. MPA attributes (area, LOP, depth range, and habitat extent) of the existing and proposed Laguna Beach No-take SMCA, including the percent change associated with the proposed action(s) in petition 2023-24MPA. Percent change is calculated by dividing the difference between proposed and existing values by the existing value and multiplying by 100. Percent change is reported as N/A when the calculation is not possible, such as when the existing MPA does not contain the habitat type or when existing and proposed values are reported in different units. A dash (—) indicates that the MPA does not contain the habitat type. Habitat extent may be reported in linear miles or square miles, depending on data availability and SAT guidance.

Values shown in **bold** in the cluster columns indicate that the MPA attribute meets the relevant science guideline established by the SAT during the MLPA Initiative planning process. An MPA contributes to habitat replication only if it first meets the minimum size (>nine sq mi) and LOP (Very High, High, or Moderate-High) criteria (i.e., first two rows must be bold). Laguna Beach No-take SMCA meets those requirements when clustered with the adjacent Laguna Beach SMR.

	SMR Existing	No-Take SMCA existing	Cluster Existing	No-Take SMCA Proposed	Cluster Proposed	No-Take SMCA Change (%)
MPA Area (sq mi)	6.72	3.09	**9.81**	4.47	**11.19**	45
Level of Protection	Very High	Very High	**Very High**	Very High	**Very High**	—
Min Depth (m)	0	0	0	0	0	—
Max Depth (m)	457.9	523.3	523.3	523.3	523.3	—
Eelgrass (sq mi)	—	—	—	—	—	
Kelp (mi)	1.96	—	**1.96**	0.36	**2.32**	N/A
Beach (mi)	3.48	0.67	**4.15**	1.85	**5.33**	176
Rocky Intertidal (mi)	2.48	0.38	**2.86**	1.60	**4.08**	321
Estuaries (sq mi)	<0.001	<0.001	<0.001	<0.001	<0.001	0
Hard Substrate						
0-30 m (mi)	0.31	0.04	0.35	0.07	0.38	75
30-100 m (sq mi)	1e-3	7e-3	8e-3	8e-3	9e-3	14
100-200 m (sq mi)	—	—	—	—	—	0
>200 m (sq mi)	—	—	—	—	—	0
Soft Substrate						
0-30 m (mi)	4.21	1.02	**5.23**	2.34	**6.55**	129
30-100 m (sq mi)	2.88	0.94	**3.82**	1.54	**4.42**	64
100-200 m (sq mi)	1.13	0.57	**1.70**	0.57	**1.70**	0
>200 m (sq mi)	0.57	1.04	**1.61**	1.04	**1.61**	0

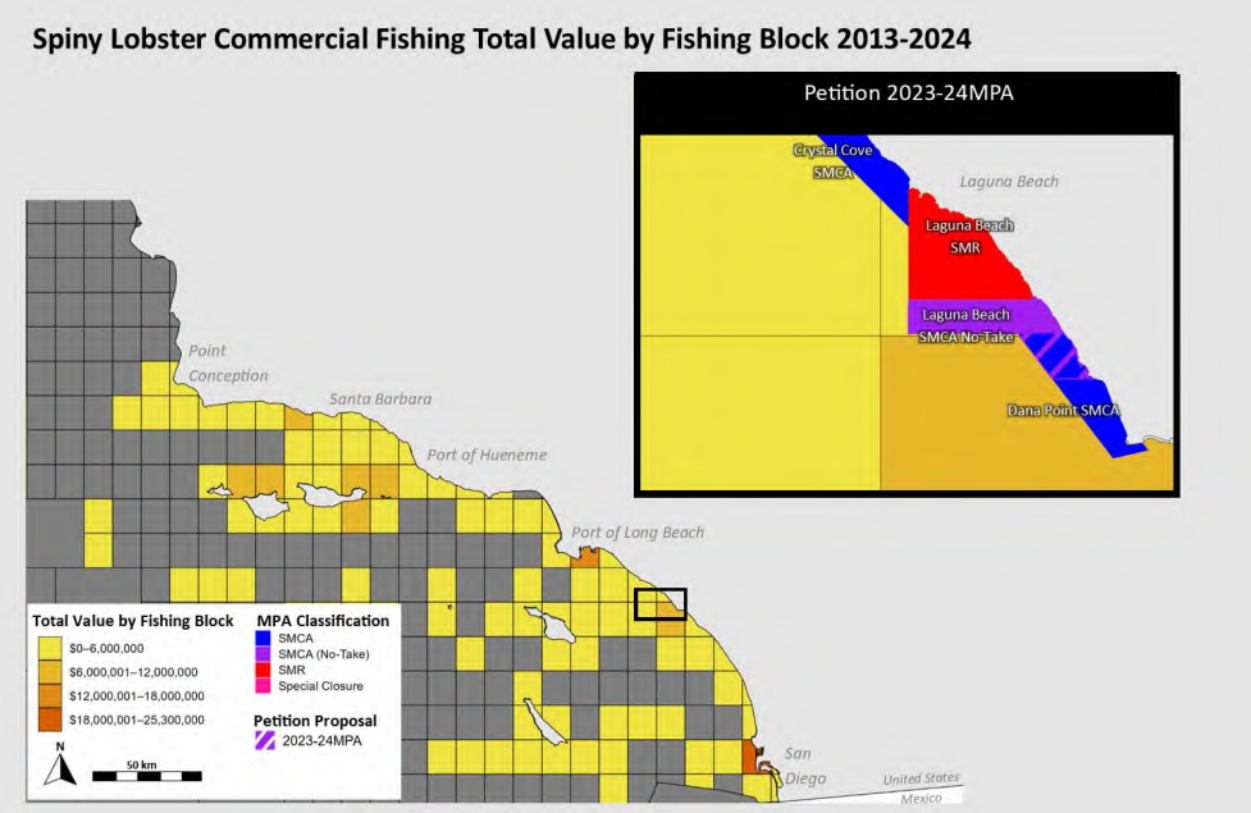


Figure 1. Total value (in millions $US) of commercially caught California spiny lobster (*Panulirus interruptus*) from 2013 to 2024 by California Department of Fish and Wildlife fishing block for the South Coast Bioregion with reference to petition 2023-24MPA. Actual value provided within fishing blocks that overlap with proposed boundary expansion of Laguna Beach No-Take SMCA.

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CALIFORNIA
OCEAN
PROTECTION
COUNCIL

July 31, 2026

California Fish and Game Commission
715 P Street, 16th Floor
Sacramento, CA 95814
Transmitted via email: fgc@fgc.ca.gov

Re: OPC Staff Recommendations - Petitions to Adaptively Manage California's Marine Protected Area Network

Dear President Sklar, Vice President Anderson, and Members of the California Fish and Game Commission,

Thank you for your leadership in managing California's Marine Protected Area (MPA) Network – the global gold standard for marine conservation. Building on our public letter transmitted to the California Fish and Game Commission (CFGC) on March 20[1], which outlined the role of the California Ocean Protection Council (OPC) in MPA management and highlighted major OPC policy priorities for MPAs, we are pleased to provide specific input and OPC staff's recommendations on submitted petitions for changes to the MPA Network currently under consideration by CFGC. As noted in our March 20 letter, this input is intended to complement the comprehensive evaluations of MPA petitions conducted by the California Department of Fish and Wildlife (CDFW) under a separate set of questions and criteria established by CFGC.

The first-ever Decadal Management Review of the MPA Network, released in 2023, clearly demonstrated that MPAs are working to improve California's ocean health. However, the Decadal Management Review did not specifically explore opportunities to strengthen the existing MPA Network. As noted in our March 20 letter, OPC believes that evaluating MPA petitions with this question in mind is essential for ensuring the continued success of California's MPAs, especially as a changing climate increasingly threatens coastal and marine

1 https://opc.ca.gov/wp-content/uploads/2026/03/OPC-letter-on-MPA-petitions_3.20.26-508.pdf

ecosystems and ecosystem services. Therefore, this input provided by OPC staff is explicitly focused on whether proposed actions hold promise to strengthen the performance and durability of the MPA Network. This is consistent with OPC's Strategic Plan[2] and key recommendations from the Decadal Management Review[3].

Overall, **OPC's petition recommendations are rooted in a precautionary approach.** The 2026 California Coast and Ocean Report[4], released earlier this year, indicates that climate change is increasingly threatening coastal and marine ecosystems, as well as benefits provided by those ecosystems to coastal communities and California Native American tribes. In the face of warming oceans, sea level rise, the devastation of our state's kelp forests, severe shocks to fishing communities, and other climate-driven impacts, California's MPA Network is one of our most effective conservation tools for safeguarding biodiversity, building climate resilience, and ensuring the continued delivery of important ecosystem services that drive our state's multi-billion dollar ocean economy.

It is through this lens that we assessed petitions. Specifically, we looked for opportunities to bolster the types of MPA benefits anticipated to serve as an "insurance policy" against changing ocean conditions, such as increased population sizes, higher genetic diversity, strengthened ecological connectivity, and intact food webs. In doing so, we acknowledge that the effects of climate change are uncertain and that MPAs are not a panacea for the threats facing our ocean. We strongly support continued research and monitoring to assess the impacts of climate change on coastal and marine ecosystems and how MPAs may mitigate these impacts. In particular, California's robust MPA monitoring program, which is actively tracking the effects of MPAs across key ecosystems and coastal communities statewide, will continue to be a crucial tool in evaluating the overall success of the Network and any adaptive management changes made through the petition process. OPC is committed to continuing our support for the development and application of best available science to adaptively manage the Network into the future.

Given this precautionary approach, **we do not recommend that CFGC approve any petition that would weaken the existing MPA Network** (Petitions 2023-14MPA, 2023-15MPA_AM, 2023-

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2 OPC 2026-2030 Strategic Plan Objective 3.1: Strengthen the performance and durability of California's Marine Protected Area Network.

3 Decadal Management Review recommendations #4 (Apply what is learned from the first Decadal Management Review to support proposed changes to the MPA Network and Management Program); #23 (Expand and target monitoring and research efforts to examine the design attributes of the MPA Network more effectively); #28 (Further integrate influencing factors into ecological and human study designs and interpretations of MPA performance).

4 https://opc.ca.gov/wp-content/uploads/2026/03/California-Coast-and-Ocean-Report-2026.pdf

16MPA, 2023-18MPA[5], and 2023-23MPA_AM[6]**.** These petitions include several proposed actions that would open no-take State Marine Reserves or limited-take State Marine Conservation Areas to certain new types of fishing. OPC appreciates the thoughtfulness of petitioners in developing these proposals; however, we find that any actions that would roll back existing protections pose an unacceptable risk to the integrity of the existing Network. Such actions, while well-intentioned, have the potential to compromise existing conservation benefits and degrade the ability of the Network to meet the goals of the Marine Life Protection Act.

As a first step in assessing petitions with potential to strengthen the MPA Network (i.e. proposals for new MPAs, expanded MPAs, or stricter regulations), OPC staff first considered **whether petitions would improve MPA Network design**. Importantly, neither the Decadal Management Review nor CDFW's recently released Science Guide to California's MPA Network[7] identify significant design deficiencies in the MPA Network. Indeed, the Network is largely compliant with science guidance from the MPA planning process, with most MPAs meeting minimum size guidelines and all MPAs meeting minimum spacing guidelines. However, from a precautionary standpoint, some petitions have clear potential to improve MPA Network design, for example by reducing large distances between MPAs or increasing the representation of vulnerable habitats within the Network. OPC finds clear Network design benefits for three petitions: Petition 2023-29MPA_AM2, Petition 2023-32MPA, and two actions within Petition 2023-33MPA_AM1.

As a next step, OPC considered **whether petitions would result in meaningful additional biodiversity protection beyond what the current MPA Network already provides**. This could include actions such as: bolstering protections for important geological or biological features; protecting additional sensitive habitat, such as eelgrass, kelp forests, or rocky shores; protecting ecosystems that are important larval sources, sinks, or retention zones; strengthening ecological

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5 Petition 2023-18MPA includes an action that would open Vandenberg State Marine Reserve to certain types of shore fishing. A petition submitted in 2022 by the City of Lompoc (Petition 2022-04) proposes a similar action and will be considered by CFGC alongside the other petitions discussed here. While we recognize that Petition 2022-04 is intended to improve equitable coastal access for local residents, it would weaken protections provided by Vandenberg State Marine Reserve, which serves as a critical backbone MPA in the region. We recommend that CFGC deny Petition 2022-04.

6 One action in 2023-23MPA_AM (Action 20) has potential to strengthen the MPA Network: designation of a new MPA at Tanker's Reef. However, as proposed, this new MPA falls far below the minimum area required to function as a replicate in the MPA Network and is unlikely to provide meaningful additional conservation benefits beyond those already achieved by the existing Network, especially in the highly protected Monterey Bay region.

7 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=246940&inline

connectivity; reducing fishing pressure on populations in decline; promoting improved ecosystem structure and function; or enhancing the resilience of the MPA Network to current or predicted climate impacts. Importantly, in exploring this consideration, OPC gave equal weight to petitions that would address current specific threats to biodiversity, such as the impacts of fishing gear on sensitive habitats, and petitions that would improve the Network's ability to withstand larger-scale and more diffuse impacts, such as marine heat waves. OPC finds compelling biodiversity benefits for several petitions: Petition 2023-21MPA_AM1, Petition 2023-27MPA_AM1, Petition 2023-28MPA_AM1, Petition 2023-29MPA_AM2, Petition 2023-32MPA, and two actions within Petition 2023-33MPA_AM1.

Finally, OPC considered **whether petitions would help support and revitalize tribally-led stewardship**. OPC is highly supportive of MPA adaptive management actions that advance co-governance, co-management, and collaborative stewardship with tribes. Such actions, which include protecting places with high biocultural significance, are essential not only for righting historical wrongs, but also for reconnecting tribes to traditional stewardship practices that can directly benefit biodiversity. Increased support for tribal stewardship is a top priority in both OPC's 2026-2030 Strategic Plan[8] and the California Natural Resources Agency's recently released Tribal Stewardship Policy[9], which aims to expand tribal stewardship of at least 7.5 million acres of California's lands and coastal waters. OPC finds that the following petitions have strong potential to advance tribally-led stewardship: Petition 2023-20MPA_AM1, Petition 2023-21MPA_AM1, Petition 2023-28MPA_AM2, and Petition 2023-29MPA_AM2.

Based on these considerations, OPC recommends approval of the following petitions, with some modifications. In developing these recommendations, OPC staff evaluated the most recent versions of petitions, including any amendments or clarifications received from petitioners after CFGC's March 2025 deadline for petition amendments.

8 OPC 2026-2030 Strategic Plan Objective 2.1: Strengthen partnerships with California Native American tribes.

9 https://resources.ca.gov/Initiatives/Tribalaffairs/TribalStewardshipPolicyAndToolkit

Table 1. OPC's recommended petitions.

Petition Number	MPA(s) Affected	Petitioner	Proposed Action	OPC Recommendation
2023-20MPA_AM 1 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Point Buchon SMCA and Point Buchon SMR (existing)	Santa Ynez Band of Chumash Indians	Add a tribal take exemption at Point Buchon SMCA, rename Point Buchon SMCA, and adjust northern boundary of Point Buchon SMR	Approve tribal take exemption and renaming; deny proposed boundary change
2023-21MPA_AM1 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Pyramid Point SMCA (existing)	Tolowa Dee-ni' Nation	Remove recreational take of true smelt in Pyramid Point SMCA and adjust northern boundary of Pyramid Point SMCA	Approve proposed removal of recreational take of true smelt; deny proposed boundary change
2023-27MPA_AM1 (as clarified at the May 6, 2026 CFGC regional meeting)	Anacapa Island SMCA (existing)	Environmental Defense Center	Modify regulations at Anacapa Island SMCA to protect sensitive eelgrass habitats (with several options proposed)	Modify SMCA regulations to prohibit the deployment of lobster traps shallower than 50 feet
2023-28MPA_AM2 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Point Sal SMCA (new)	Northern Chumash Tribal Council and Natural Resources Defense Council	Add a new MPA near Point Sal	Approve the proposed new Point Sal SMCA

Petition Number	MPA(s) Affected	Petitioner	Proposed Action	OPC Recommendation
2023-29MPA_AM2 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Mishopshno SMCA (new)	Santa Ynez Band of Chumash Indians and Natural Resources Defense Council	Add a new MPA near Carpinteria	Approve the proposed new Mishopshno SMCA
2023-32MPA (as clarified at the April 21, 2026 CFGC regional meeting)	Duxbury Reef SMCA (existing)	Environmental Action Committee of West Marin	Expand Duxbury Reef SMCA and modify regulations to strengthen protections for intertidal species	Designate two new SMCAs to protect the northern and southern portions of Duxbury Reef, each with take regulations that protect intertidal seaweed and invertebrates while allowing for continuation of other existing shore- and boat-based fishing
2023-33MPA_AM1	Various existing MPAs and one proposed new MPA	Environment California and Azul	Expand six existing MPAs statewide and add a new MPA in Santa Cruz	Approve proposed expansion of Point Dume SMCA, but deny proposed additional take allowance in Point Dume SMCA. Approve a smaller expansion of Point Conception SMR. Deny proposed expansion of Natural Bridges SMR, Cabrillo SMR, South Point SMR, or Gull Island SMR. Deny proposed designation of a new SMCA at Pleasure Point.

Detailed narratives providing justification for these recommendations are provided in the "Recommendation Narratives" section below, starting on page 10.

We recognize that our recommendations do not include three petitions intended to strengthen the MPA Network: Petition 2023-19MPA, Petition 2023-24MPA and Petition 2023-34MPA.

- Petition 2023-19MPA, submitted by the Santa Ynez Band of Chumash Indians, would designate a new SMCA, to be named Chitqawi in honor of a nearby Chumash coastal

village, offshore and to the north of Morro Bay in San Luis Obispo County. The proposed Chitqawi SMCA would protect waters adjacent to Morro Rock. However, the proposed SMCA would be located immediately adjacent to Morro Bay Harbor, a critical regional port, potentially presenting significant challenges. OPC also recognizes that many California Native American tribes, including non-federally recognized tribes, have significant cultural ties to Morro Rock. Given that the original petition focused on co-management of the area as its main goal, OPC recommends that CFGC work with the Santa Ynez Band of Chumash Indians to identify alternative pathways for strengthening protection of Morro Rock and establishing meaningful co-management agreements here and in the broader region. The petition process may have been an irregular fit for the Tribe's goals with this petition and OPC is committed to working with the Tribe going forward to protect this area through meaningful co-management.

- Petition 2023-24MPA, submitted by the Laguna Bluebelt Coalition, would extend the southern boundary of the Laguna Beach No-Take SMCA into the northern portion of Dana Point SMCA, expanding the No-Take SMCA and aligning its southern boundary with the southern border of the City of Laguna Beach. While this would increase overall protection in the area and potentially benefit fished species (e.g. finfish, lobster, and urchin) within the Dana Point SMCA, OPC notes that the existing boundary of the Laguna Beach No-Take SMCA currently aligns with both a clear latitude line as well as prominent rocky outcroppings, which serve as a helpful landmark for both boat-based and shore-based anglers. Changing this well-established and clear boundary has the potential to result in increased confusion and potential enforcement challenges.

- Petition 2023-34MPA, submitted by Environment California and Azul, would reclassify Point Buchon SMCA to an SMR and strengthen protections in Farnsworth Onshore and Offshore SMCAs by removing all take except for recreational spearfishing. Petitioners argue that these changes are necessary to address issues regarding compliance with MPA regulations; however, neither Point Buchon SMCA nor Farnsworth Onshore or Offshore SMCAs appear to have an unusually high number of MPA-related citations and, in fact, citation data demonstrate an overall trend of improved compliance with MPA regulations at Point Buchon SMCA.

For reference, our recommendations on each of the fifteen MPA petitions currently under consideration by CFGC are summarized in the "Recommendations At-a-Glance" table below, starting on page 28.

In closing, OPC appreciates the robust conversation around MPA petitions to date and recognizes that the many Californians who have engaged in this process hold a diversity of

perspectives, interests, and viewpoints related to these petitions. OPC staff attended all three in-person regional meetings of CFGC held earlier this year, which were intended to provide a venue for public feedback on petitions. At those meetings, we heard tribal members, conservation advocates, and students voice strong and passionate support for a strengthened MPA Network that can help protect our vulnerable coast and ocean in a time of rapid environmental change. However, we were also compelled by the serious concerns of many members of local communities, including commercial and recreational fishermen, whose lives and livelihoods have the potential to be significantly impacted by new or expanded MPAs. We deeply value California's commercial and recreational fishing communities and recognize their critical role in supporting a thriving blue economy. To that end, where possible, we have endeavored to provide creative recommendations on petitions that add conservation value to the existing MPA Network while limiting impacts to commercial and recreational fishing. More broadly, as highlighted in Goal 4 of our 2026-2023 Strategic Plan, OPC is committed to advancing a sustainable blue economy by investing in healthy marine ecosystems and resilient coastal communities that can continue to support fishing livelihoods for generations to come.

Additionally, the regional meetings made it abundantly clear that many communities, especially communities entitled to environmental justice, can face significant systemic barriers to accessing the coast and ocean and to participating in MPA management and decision-making processes. Millions of Californians visit the coast each year to access the ocean in different ways, including to engage in both consumptive and non-consumptive uses. Because of this, assessing benefits related to equitable access for individual petitions is a complex undertaking. Impacts of individual petitions on equitable access[10] and on advancing CFGC's Justice, Equity, Diversity, and Inclusion Policy[11] have been initially assessed via a joint effort between OPC and CDFW [12]; OPC is committed to expanding equitable access to the coast and ocean and supporting improved inclusion in coastal and ocean management, consistent with the goal of OPC's 2026-2030 Strategic Plan to maximize community benefits and stewardship, as well as OPC's Equity Plan[13].

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10 Specifically Question 14 in CDFW's Evaluation Framework: Does the proposed change provide more equitable access opportunities (e.g., fishing, educational, and/or other recreational opportunities) for traditionally underserved or marginalized communities?

11 Specifically Question 16 in CDFW's Evaluation Framework: Is the proposed change consistent with the CFGC Justice, Equity, Diversity and Inclusion Policy (https://fgc.ca.gov/About/JEDI)?

12 Available here: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=246997&inline

13 https://www.opc.ca.gov/webmaster/_media_library/2022/11/OPC-Equity-Plan-508.pdf

Thank you for considering our recommendations. We look forward to the work ahead and to continued meaningful engagement with California's diverse coastal communities as the petition process unfolds.

Sincerely,



Jenn Eckerle
Deputy Secretary for Oceans and Coastal Policy, California Natural Resources Agency
Executive Director, Ocean Protection Council

Recommendation Narratives

Petition 2023-20MPA_AM1: Add a tribal take exemption at Point Buchon SMCA, rename Point Buchon SMCA, and change northern boundary of Point Buchon SMR

The Santa Ynez Band of Chumash Indians (SYBCI) has proposed several changes to Point Buchon SMCA[14] and Point Buchon SMR[15]. As amended by the tribe at the April 14, 2026 meeting of CFGC's Tribal Committee[16], these proposed changes are: add a tribal take exemption at Point Buchon SMCA for the Santa Ynez Band of Chumash Indians, rename Point Buchon SMCA, and change the northern boundary of Point Buchon SMR. Located approximately eight miles south of Morro Bay in San Luis Obispo County, Point Buchon SMCA and Point Buchon SMR together protect nearly 19 square miles of rocky reefs, sandy seafloor, beaches, kelp forests, rocky intertidal habitat, offshore pinnacles, and some of the shallowest cold-water corals in California (SeaSketch California 2026). Point Buchon SMR spans approximately 2.5 miles of coastline between Coon Creek and Diablo Canyon and protects 6.7 square miles of coastal waters between shore and approximately 200 feet deep (SeaSketch California 2026). Point Buchon SMCA protects more than 12 square miles of coastal waters offshore of the SMR, ranging from approximately 200 to 400 feet deep (SeaSketch California 2026).

Adding a tribal take exemption to Point Buchon SMCA and renaming Point Buchon SMCA to better reflect Chumash cultural heritage both represent significant opportunities to advance tribal sovereignty, collaborative governance, and tribal stewardship within the Central Coast[17] bioregion of the MPA Network. Similar to other tribal take exemptions currently granted to SYBCI for MPAs in the South Coast bioregion of the MPA Network, such as Kashtayit SMCA, the proposed tribal take exemption for Point Buchon SMCA would exempt SYBCI members from MPA-specific take restrictions and thus allow SYBCI members to harvest living marine resources

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14 SMCA = State Marine Conservation Area. In this type of MPA, certain recreational or commercial fishing activities may be allowed, while other types of take are prohibited. https://wildlife.ca.gov/Conservation/Marine/MPAs/Definitions#mpa

15 SMR = State Marine Reserve. In this type of MPA, all take is prohibited. https://wildlife.ca.gov/Conservation/Marine/MPAs/Definitions#mpa

16 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=245526&inline

17 As defined in the 2018 MPA Monitoring Action Plan (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=161748&inline), the bioregions of the MPA Network are: North Coast (California/Oregon border to San Francisco Bay, including the Farallon Islands), Central Coast (San Francisco Bay to Point Conception), and South Coast (Point Conception to U.S./Mexico border, including the Channel Islands).

for cultural, subsistence, and stewardship purposes. Regulations in the adjacent Point Buchon SMR would remain unchanged.

Point Buchon is also culturally significant. The petition identifies Buchon as a historical Chumash village site and describes the area as having special spiritual significance to Chumash maritime peoples. Establishing a tribal take exemption at Point Buchon SMCA and renaming the SMCA would recognize this significance and advance progress toward tribal co-management of this MPA, which the tribe has requested to pursue through a non-regulatory pathway. **OPC recommends that CFGC approve the proposed tribal take exemption and name change for Point Buchon SMCA.**

Petitioners have also requested to adjust Point Buchon SMR's northern boundary further to the north, arguing that doing so would better capture the full marine area offshore of Point Buchon. However, OPC notes that the existing northern boundary aligns with a readily determinable line of latitude (35° 15.250' N) and prominent onshore landmarks; changing the boundary could cause confusion and enforcement challenges and would also result in a misalignment of the northern boundaries of Point Buchon SMR and SMCA. **OPC recommends that CFGC deny the requested boundary adjustment for Point Buchon SMR.**

Petition 2023-21MPA_AM1: Remove recreational take of true smelt in Pyramid Point SMCA and adjust northern boundary of Pyramid Point SMCA

The Tolowa Dee-ni' Nation has proposed two changes to Pyramid Point SMCA, located at Pyramid Point in Del Norte County near the California-Oregon border: removal of the current recreational take allowance for true smelt, and adjustment of the SMCA's northern boundary. Pyramid Point SMCA is the northernmost MPA in California's MPA Network and covers approximately 14 square miles of sandy beaches, offshore rocks, and soft seafloor; currently the only type of take allowed in this MPA is recreational take of surf smelt (*Hypomesus pretiosus*, known as *lhvmsr* in the Tolowa language)[18] by dip net or Hawaiian-type throw net, as well as tribal take of all species, consistent with applicable state fishing regulations, by the Tolowa Dee-ni' Nation through a tribal take exemption. The proposal is intended to protect a culturally and ecologically important forage fish species while maintaining tribal take of that species,

18 Technically, Pyramid Point SMCA allows take of a three-species "true smelt" group: surf smelt, night smelt, and whitebait smelt. To achieve the requested removal of the recreational take allowance for surf smelt, it is necessary to remove the recreational take allowance for the species group. At the April 14, 2026 meeting of CFGC's Tribal Committee, the Tolowa Dee-ni' Nation amended this petition to change its request from removal of the take allowance for surf smelt to removal of the take allowance for true smelt.
https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=245526&inline

particularly take associated with traditional Tolowa Dee-ni' Nation "fish camps" – annual events where members of the Nation travel to the coast to fish, camp, and traditionally process surf smelt during its spawning months from July to October.

Petitioners argue that removal of the existing recreational take allowance is needed because, according to the Tolowa Dee-ni' Nation's Traditional Knowledges – particularly the observations of traditional surf smelt fishermen – surf smelt populations have declined substantially since the late 1990s. OPC respects and affirms the importance of tribal science and Traditional Knowledges and also notes that this trend has been documented through non-indigenous science. Though no formal stock assessments have been completed for surf smelt, CDFW's 2020 Enhanced Status Report for the species shows that commercial landings statewide (95% of which occur in Humboldt and Del Norte County ports) regularly exceeded 500,000 pounds per year in the mid-1990s but dropped precipitously in 1998-1999 and have not exceeded 250,000 pounds per year in the last twenty years (CDFW 2020). Commercial surf smelt landings declined to record lows of approximately 700-1,000 pounds annually between 2017 and 2019 before showing a modest rebound beginning in 2020, although catches remained well below historical levels (CDFW 2025). California Recreational Fisheries Surveys (CRFS) data summarized in CDFW's Enhanced Status Report that recreational surf smelt landings were negligible from 2005 through 2017, apart from an anomalous spike to approximately 110,000 pounds in 2011; the CRFS program that produced these estimates was discontinued in 2018 (CDFW 2020, CDFW 2025).

The decline of surf smelt populations concerns OPC for several reasons. First, forage fishes such as surf smelt play critical roles in nearshore food webs because they transfer energy from plankton-rich coastal waters to higher trophic levels, supporting fish, seabird, and marine mammal populations (Pikitch et al. 2014, Essington et al. 2015). Surf smelt in particular play a foundational role in Northern California coastal ecosystems by serving as prey for species such as salmon, seabirds, marine mammals, and other predators. As an important forage fish, their abundance can reflect broader ecosystem condition and food web dynamics (Santora et al. 2021, NOAA Fisheries 2022). Second, Native American tribes on California's North Coast have relied on surf smelt since time immemorial for subsistence and cultural heritage. As described in the petition, Tolowa families return to the coast each year for "fish camps" that involve the harvest of surf smelt using traditional A-frame nets, with associated prayers, protocols, and ceremonies. Maintaining access to a healthy surf smelt population is essential to the continuation of tribes' cultural practice, food sovereignty, spiritual relationships, and community well-being (Turner et al. 2008, Charles & Wilson 2009).

Surf smelt are a sensitive species and their population trends can be heavily influenced by a number of factors. This includes not only fishing pressure – heavy fishing can cause surf smelt populations to decline quickly given their short life cycles and the fact that most fishing occurs

during spawning – but also environmental stressors, including warming waters, pollution, and physical impacts to beaches where they spawn (Russell et al. 2022, Tomlin et al. 2021). OPC recognizes that MPAs have limited ability to mitigate these larger-scale threats. However, given the population declines noted above and the ecological and cultural importance of surf smelt, OPC supports stricter MPA regulations to strengthen protections for this vulnerable species. OPC notes that approval of this petition would allow continued tribal harvest of surf smelt, but this traditional take is unlikely to have population-level impacts.

To support the recovery of surf smelt, the integrity of nearshore food webs, and the continuation of tribal stewardship and cultural use of this species into the future, **OPC recommends that CFGC approve removal of the allowance for recreational take of true smelt in Pyramid Point SMCA**. The Tolowa Dee-ni' Nation would retain its existing tribal take exemption for this SMCA.

Petitioners have also requested a boundary adjustment to align the northern boundary of Pyramid Point SMCA with the terrestrial California-Oregon border. California's terrestrial northern boundary was intended to run along the 42° N latitude line, but initial surveys with primitive equipment in 1868 resulted in a zigzag border that deviates up to a half mile north or south of that latitude line. In contrast, the offshore northern boundary is an arc that projects seaward from the 42° N latitude line and connects the outermost headlands of the mainland coast to offshore rocks. For this reason, California's offshore and terrestrial borders are slightly misaligned; the offshore boundary is consistent with California's legally recognized northern border at 42° N latitude and is used in all ocean-based regulations. Changing the northern boundary of Pyramid Point SMCA so that it no longer aligns with this recognized offshore boundary would likely result in regulatory confusion and enforcement challenges. **OPC recommends that CFGC deny the request to modify Pyramid Point SMCA's northern boundary.**

Petition 2023-27MPA_AM1: Modify regulations at Anacapa Island SMCA to protect sensitive eelgrass habitats

Environmental Defense Center has submitted a petition with three options intended to better protect sensitive eelgrass meadows inside the Anacapa Island SMCA from the impacts of lobster traps and other hard-bottomed fishing gear. As clarified by the petitioner at the May 6, 2026 CFGC regional meeting[19], the proposed options are 1) Change regulations to disallow commercial lobster fishing year-round within the Anacapa Island SMCA; 2) Change regulations

19 Video available at https://cal-span.org/meeting/cfg_20260506/. Discussion of Petition 2023-27MPA_AM1 begins at 01:05:13.

to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows within the Anacapa Island SMCA, or 3) Change the border of the Anacapa Island Special Closure to prohibit the deployment of lobster traps from 0-50 feet deep, instead of the existing 0-20 feet deep.

Pacific eelgrass (*Zostera pacifica*) is a foundational species that is found along California's open coast and provides vital habitat, food, and shelter for a variety of marine fishes and invertebrates. Eelgrass also supports sediment stabilization and erosion protection, plays an important role in nutrient cycling, and helps mitigate climate change by sequestering carbon (Waycott et al. 2009, Fourqurean et al. 2012, Duarte et al. 2013). Eelgrass beds are inherently dynamic and naturally fluctuate from year to year; eelgrass persistence is influenced by a variety of environmental factors including temperature, currents, sediment dynamics, water quality, and availability of suitable substrate (Grech et al. 2012, Rock & Daru 2021, Zabarte-Maeztu et al. 2021, Herrera et al. 2022). At the same time, numerous studies have demonstrated that hard-bottomed fishing gear, including traps and pots, can negatively impact eelgrass (Stevens 2021, Rees et al. 2021). Traps can crush eelgrass shoots and rhizomes upon impact, and they may smother eelgrass if left in place. The setting and retrieval of traps, dragging of trap lines, and movement of traps while in the water often leaves bare scouring marks or "haloes" of damage in eelgrass meadows (Abadie et al. 2016, Stevens 2021, Rees et al. 2021).

Eelgrass meadows were once abundant along the north sides of all three islets that make up Anacapa Island, generally found from approximately 0-20 feet deep but sometimes extending to 45 feet deep (Altstatt 2021). Although eelgrass virtually disappeared around Anacapa Island during the late 1980s following the 1982-1983 El Niño and subsequent overgrazing by white sea urchins, it has recovered in many places thanks in part to a successful eelgrass restoration effort initiated in 2002 at Frenchy's Cove on the north side of West Anacapa Island (Altstatt et al. 2014).

Frenchy's Cove is situated within both the island-wide nearshore Anacapa Island Special Closure, which prohibits the use of nets and traps from 0-20 feet deep, as well as the much larger Anacapa Island SMCA, which extends to the three nautical mile state water boundary and prohibits most forms of take except for recreational take of lobster and pelagic finfish, as well as commercial take of lobster. Offshore of Frenchy's Cove, a Brown Pelican Fledgling Area – an extension of the Special Closure across approximately 4,000 feet of coastline – prohibits all boating activity and access from 0-120 feet deep from January 1 - October 31. Together, these regulations protect eelgrass meadows located in 0-20 feet of depth year-round, and meadows located deeper than 20 feet for 10 months out of the year.

These existing regulations already provide eelgrass meadows at Frenchy's Cove with substantial protection from fishing gear impacts. However, eelgrass meadows deeper than 20 feet at Frenchy's Cove are still vulnerable to fishing gear impacts for two months out of the year. Subtidal surveys conducted by the Channel Islands monitoring program show that these deeper meadows represent a substantial proportion of the eelgrass inside the Anacapa Island SMCA (SeaSketch California 2026) and, because eelgrass is a delicate ecosystem that can take years to recover from fragmentation or scarring (Altstatt et al., 2014; Reed & Hovel, 2006), damage accrued during the two months that the Brown Pelican Fledgling Area is open is likely to have lasting and outsized impacts on the integrity and function of these eelgrass meadows.

OPC recognizes that some data gaps exist regarding the distribution of eelgrass at Frenchy's Cove and Anacapa Island more broadly, as well as the drivers contributing to its persistence and loss. However, in the context of substantial declines of eelgrass statewide since the 1950s (Waycott et al. 2009, Harris et al. 2026), and the critical importance of eelgrass meadows for marine biodiversity (Kindeberg et al. 2022), OPC finds that regulatory action to protect the full extent of eelgrass meadows inside Anacapa Island SMCA, i.e. providing new protections for meadows that occur from 20-45 feet, is warranted. In assessing the petitioner's proposed options, OPC finds that Option 1 (prohibiting lobster fishing within the entire Anacapa Island SMCA, which extends three nautical miles offshore to a depth of nearly 500 feet) is unnecessary to protect eelgrass meadows, which are a nearshore ecosystem. Further, OPC notes that Option 2 (prohibiting lobster fishing "near eelgrass meadows") would be difficult to enforce given the inherently dynamic nature of these ecosystems. Finally, OPC is concerned that Option 3 (extending the boundary of the Anacapa Island Special Closure from 20 feet deep to 50 feet deep) could be problematic for multiple reasons: first, the specific intent of the Special Closure is to decrease entanglement risk for birds feeding near roosting grounds on the island; second, changing the boundary could add to existing significant regulatory confusion between the Anacapa Island SMCA, SMR, and Special Closure/Brown Pelican Fledgling Area; and third, this option would unnecessarily restrict lobster fishing opportunities outside of the Anacapa Island SMCA. Therefore, **OPC recommends that CFGC modify the regulations at Anacapa Island SMCA to prohibit the deployment of lobster traps shallower than 50 feet**. This simplified alternative pathway would strengthen protections for eelgrass meadows within their full depth range inside the SMCA, while maintaining lobster fishing opportunities outside the SMCA.

OPC also recognizes that non-consumptive activities, such as anchoring, may have similar impacts on eelgrass meadows as lobster trapping. OPC recommends exploration of non-regulatory management solutions, potentially including installation of moorings within the SMCA, to mitigate other activities that can damage the seafloor.

Petition 2023-28MPA_AM2: Add a new MPA near Point Sal (Point Sal SMCA)

The Northern Chumash Tribal Council and the Natural Resources Defense Council have proposed the designation of a new State Marine Conservation Area at Point Sal, California, situated at the northern end of Vandenberg Space Force Base near the City of Guadalupe in northern Santa Barbara County. As amended by petitioners at the April 14, 2026 meeting of CFGC's Tribal Committee[20], the proposed new Point Sal SMCA, which would eventually be given a name in a Chumash language to honor the importance of the area to local Chumash peoples, would span close to 7 miles of coastline and encompass nearly 15 square miles, from shore to a maximum depth of 187 feet (SeaSketch California 2026). It would prohibit all forms of take except for recreational take of finfish from shore using hook and line.

The proposed new Point Sal SMCA is located roughly 50 miles to the north of Point Conception, at the northern end of a major biogeographic transition zone within the California Current Large Marine Ecosystem, where warmer waters from the south meet colder, nutrient-rich waters from the north, supporting exceptionally high biodiversity (Hamilton et al. 2010, Blanchette et al. 2008, Arafeh-Dalmau et al. 2023). The waters offshore of Point Sal in particular are highly productive and nutrient-rich due to seasonal coastal upwelling in the area. This area supports abundant fish and invertebrate populations and serve as critical foraging grounds for seabirds and marine mammals – including multiple iconic California species such as brown pelicans, southern sea otters, and humpback whales (Checkley & Barth 2009).

The proposed new SMCA would protect a large portion of Point Sal's coastline and offshore waters, including sandy beach, rocky shoreline, shallow hard bottom, shallow soft bottom, and deep soft bottom habitats (SeaSketch California 2026). The new SMCA would also include a known krill hotspot that supports feeding blue whales from late spring to early fall (Santora et al. 2011, Savoca et al. 2021). Importantly, as noted by the petitioner, the area inside the proposed SMCA leeward of Point Sal may also function as a larval retention zone. Headlands and coastal promontories like Point Sal can slow or recirculate ocean currents, allowing fish and invertebrate larvae to remain near suitable settlement habitats rather than being transported offshore during upwelling events (Mace & Morgan 2006, Morgan et al. 2011, Harvey et al. 2021, Robinette et al. 2019). Robinette et al. (2019) found that seabird foraging rates, which can be used as an indicator of juvenile fish abundance, are generally higher in the lee of headlands and along south-facing coasts such as Point Sal. This suggests that the proposed new MPA has the

20 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=245526&inline

potential to protect an area of high juvenile fish recruitment, which could potentially add a rich new larval source "node" to the MPA Network.

The proposed Point Sal SMCA would also protect an area of substantial cultural importance to the Chumash people. There are long-standing Chumash connections to Point Sal, including archaeological evidence of occupation near the area dating back nearly 5,000 years. The Northern Chumash Tribal Council has stated that Point Sal is an especially sacred area within the broader Chumash Heritage National Marine Sanctuary, and designation of the proposed new Point Sal SMCA represents a unique opportunity to strengthen biodiversity protections within the Sanctuary.

Importantly, Point Sal is extremely remote. The public access road to Point Sal State Beach was washed out during severe storms during the 1998 El Niño event and was never repaired. Currently, access to Point Sal State Beach requires a round-trip hike of approximately 10 miles. Therefore, although the petitioners' proposed take allowance for hook-and-line fishing from shore would technically result in a moderate-low level of protection for Point Sal based on the science guidelines from the MPA planning process, OPC finds that the proposed new SMCA would likely still provide meaningful and significant biodiversity benefit given the difficulty associated with accessing Point Sal State Beach for shore-based fishing. Should existing conditions change in the future, we would support revisiting the take allowance for shore-based fishing.

Overall, OPC finds that the proposed new Point Sal SMCA represents an important opportunity to protect a pristine and relatively undisturbed biodiversity hotspot, while recognizing the biocultural significance of the area to local Chumash tribes. **OPC recommends that CFGC approve the proposed new Point Sal SMCA.**

Petition 2023-29MPA_AM2: Add a new MPA near Carpinteria (Mishopshno SMCA)

The Santa Ynez Band of Chumash Indians, Natural Resources Defense Council, and Environmental Defense Center have proposed the designation of a new SMCA near Carpinteria, California, located approximately twelve miles southeast of Santa Barbara. The proposed new MPA, to be named Mishopshno in honor of a nearby Chumash coastal village, would protect key nearshore ecosystems in the Santa Barbara Channel, including a large portion of Carpinteria Reef. As amended by petitioners at the April 14, 2026 meeting of CFGC's Tribal Committee[21], the proposed new Mishopshno SMCA would span nearly 4 miles of shoreline and encompass

21 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=245526&inline

approximately 9 square miles, from shore to a maximum depth of 141 feet (SeaSketch California 2026). It would prohibit all forms of take except for recreational take of finfish from shore using hook and line, with a tribal take exemption for the Santa Ynez Band of Chumash Indians.

The Santa Barbara Channel is part of a major biogeographic transition zone near Point Conception, separating cold waters to the north of Point Conception from warmer waters to the south (Dever et al. 2004, Johnson & Hartwell 2018). The proposed new Mishopshno SMCA would protect a number of important coastal and marine habitats within the Santa Barbara Channel, including sandy beach, coastal marsh, estuary, and kelp forest habitats (SeaSketch California 2026). Importantly, a new Mishopshno SMCA would provide new protection for Carpinteria Reef, a shallow kelp forest and rocky reef ecosystem that is home to a diversity of marine fishes and invertebrates such as Lingcod, California Sheephead, Kelp Bass, and both red and purple sea urchins (Levenbach 2008, Carr et al. 2017). This reef supports a large kelp patch that, according to Landsat data from 1984-2023 (Bell et al. 2024), has continued to persist despite the recent 2014-2016 marine heat wave and overall declines in the region, making it one of the most stable kelp forests in the Santa Barbara Channel (Fig. 2). The petitioners also note that Carpinteria Reef may serve as an aggregation site for juvenile Great White Sharks, though such aggregations are often highly dynamic and may shift locations from year to year.

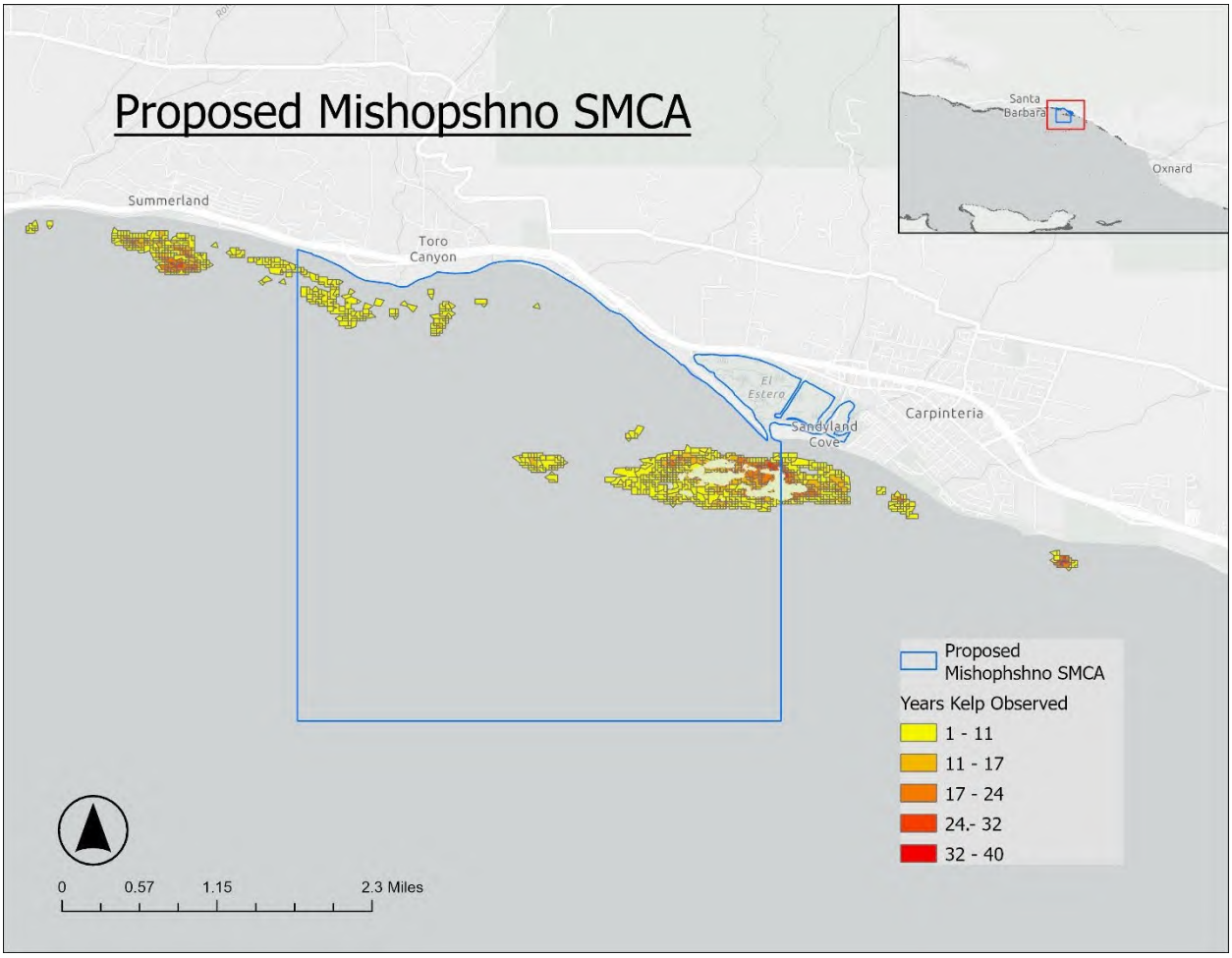


Figure 1. The proposed new Mishopshno SMCA. Satellite monitoring of kelp canopy cover via Landsat from 1984-2023 shows a persistent kelp forest at Carpinteria Reef near the proposed eastern boundary of the SMCA.

In addition to protecting an area of high biodiversity in an ecologically important region of the state, the most significant way in which the proposed Mishopshno SMCA could improve the ecological performance of California's MPA Network is by strengthening connectivity between Campus Point No-Take SMCA to the west and Point Dume SMCA to the southeast. Ensuring that larvae, eggs, spores, or juveniles of marine species are able to move into, out of, or between MPAs is fundamental to the success of California's MPAs as an ecologically connected network. For this reason, science guidance from the MPA planning process included explicit spacing guidelines for MPAs. According to this guidance, in order for MPAs to be within dispersal range for most ecologically and economically important groundfish and invertebrate species, they should be spaced 31-62 miles apart. Currently, the distance between the eastern boundary of Campus Point SMCA and the western boundary of Point Dume SMCA is approximately 60 miles (SeaSketch California 2026). This is very near the upper limit of the spacing guidelines and the largest distance between MPAs in the entire Network.

This distance concerns OPC for multiple reasons. First, while there are several MPAs nearby at the Northern Channel Islands, recent studies suggest the islands may not be as reliably or consistently ecologically connected to the mainland as previously thought due to the presence of small-scale eddies and coastal currents that can impact cross-channel exchange during some oceanographic conditions, while enhancing local retention and alongshore connectivity under others (Dauhajre et al. 2019, Robinette et al. 2012, Harvey et al. 2021). Second, both Campus Point No-Take SMCA and Point Dume SMCA contain kelp forests. Potentially weak connectivity between these habitats could pose risks to kelp resilience in the broader region. Finally, ecological connectivity has the potential to be highly disrupted by the impacts of climate change, which have already been well documented in the Southern California Bight (Magris et al. 2014, Schiff et al. 2019, Wilson et al. 2020, Kekuewa et al. 2022, Frieder et al. 2024). Climate-driven changes in temperature, ocean circulation, and upwelling can dramatically affect larval development, settlement, and survival, with important implications for connectivity (O'Connor et al. 2007, Kendall et al. 2016, Pecl et al. 2017, Pinsky et al. 2019, Wilson et al. 2020). Additionally, in some cases, climate impacts can eliminate important larval source populations entirely, such as when kelp forests are converted to urchin barrens (Rogers-Bennett & Catton 2019, Starko et al. 2024) – potentially making the effective ecological distance between intact protected habitats much greater than the geographic distance between MPA boundaries (Wilson et al. 2020).

The proposed Mishopshno SMCA, which would be located 14.6 miles from Campus Point No-Take SMCA and 44.1 miles from the Point Dume SMR/SMCA cluster (SeaSketch California 2026), would fill the existing large distance between these two MPAs and potentially act as a key "stepping stone" in the Santa Barbara Channel. This has the potential to improve ecological connectivity between Campus Point No-Take SMCA and Point Dume SMCA, especially between the kelp habitats protected by these MPAs, buffer against future climate impacts on connectivity, and strengthen overall resilience in the Santa Barbara Channel. OPC recognizes that the petitioners' proposed allowance for hook-and-line fishing from shore would result in a moderate-low level of protection per science guidance from the MPA planning process, with potential impacts on connectivity; however, continued shore-based fishing access to this area has significant potential to benefit local communities and non-federally recognized tribes.

OPC also recognizes the cultural significance of this area to local Chumash peoples. Members of the Santa Ynez Band of Chumash Indians have described ecosystems within the proposed Mishopshno SMCA as "living homelands and cultural landscapes" where gathering, teaching, ceremony, and other cultural practices have occurred for millennia. The area is also central to Chumash peoples' creation stories and canoe-building traditions. Designation of the proposed Mishopshno SMCA would represent a significant opportunity to protect the biocultural significance of the area and advance co-management with the Santa Ynez Band of Chumash

Indians, supporting the continued stewardship and care of this area's unique coastal and marine biodiversity by its original guardians.

Overall, OPC finds that the proposed new Mishopshno SMCA represents an important opportunity to improve MPA Network design, strengthen ecological connectivity, and recognize the biocultural significance of the area to local Chumash tribes. **OPC recommends that CFGC approve the proposed new Mishopshno SMCA.**

Petition 2023-32MPA: Expand Duxbury Reef SMCA and modify regulations to strengthen protections for intertidal species

The Environmental Action Committee of West Marin has proposed several actions intended to strengthen protections at Duxbury Reef SMCA. As clarified by the petitioner at the April 21, 2026 CFGC regional meeting[22], those actions are: expand the northern and southern boundaries of Duxbury Reef SMCA to protect the majority of Duxbury Reef's contiguous rocky intertidal habitat and modify regulations in Duxbury Reef SMCA to remove the current allowance for shore-based take of finfish by methods other than hook-and-line.

Duxbury Reef SMCA, located at the southern tip of the Point Reyes Peninsula in Marin County approximately one mile west of Bolinas, was designed specifically to protect Duxbury Reef, one of the largest shale reefs in North America and a unique geological feature found nowhere else in California (U.S. Geological Survey 2005). Duxbury Reef is very large and shallow; its broad, low-relief, gently sloping shale platform hosts an extensive network of cracks and crevices that are exposed at low tide and support exceptionally high biodiversity, including iconic intertidal species such as anemones, sea stars, and nudibranchs. It is one of the most accessible and frequently visited coastal sites in the region for tidepooling, and the reef serves as one of California's premier locations for environmental education and tidepool interpretation. Duxbury Reef SMCA was intentionally designed as a narrow, nearshore MPA that extends from the mean high tide line out to 1,000 feet seaward of mean lower low water, protecting intertidal habitat while allowing for commercial and recreational fishing further offshore, as well as recreational take of abalone (when allowed) and finfish from shore.

Currently, Duxbury Reef SMCA does not encompass the full extent of the reef's rocky intertidal habitat. This means that the northernmost and southernmost portions of Duxbury Reef currently receive no MPA protection, despite functioning as part of the same unique and biodiverse ecosystem as the portion of the reef within the existing SMCA. Expanding protections

22 Video available at https://cal-span.org/meeting/cfg_20260421/. Discussion of Petition 2023-32MPA begins at 03:11:24.

northward to Double Point/Stormy Stack Rock Special Closure and southward to the southernmost fringe of the reef, as proposed by petitioners, would capture the vast majority of Duxbury Reef, nearly doubling the amount of rocky shoreline protected by this MPA from 3.26 linear miles to 6.83 linear miles (SeaSketch California 2026) and improving representation of intertidal habitats, one of the rarest and most vulnerable coastal habitats in California, in the North Coast bioregion of the MPA Network (U.S. Geological Survey 2005).

OPC finds that these additional protections have the potential to increase biomass of currently harvested intertidal species, such as seaweed and shellfish, in the expansion areas, bolster overall species richness and diversity at Duxbury Reef, and improve ecological connectivity across the full reef ecosystem. Additional protection could also strengthen the reef's resilience to future climate change impacts, as protected rocky intertidal ecosystems have been found to exhibit greater resistance to, and recovery from, climate-driven disturbances such as marine heat waves compared to unprotected areas, helping to maintain community structure and ecological function during periods of extreme heating (CDFW 2023, Smith et al. 2023). However, OPC also notes that simply expanding the northern and southern boundaries of the existing SMCA could unnecessarily restrict existing boat-based commercial and recreational fishing activities in the proposed expansion areas, such as an important local commercial hook-and-line halibut fishery, that are not currently impacting intertidal biodiversity.

OPC recommends adding new protections for the intertidal in a way that does not change the existing Duxbury Reef SMCA and does not restrict existing commercial or recreational take, beyond new protections for intertidal seaweed and invertebrates, in the expansion areas. To accomplish this, **OPC recommends that CFGC designate two new SMCAs to protect the northern and southern portions of the contiguous rocky intertidal habitat of Duxbury Reef, with take regulations that protect intertidal seaweed and invertebrates (except abalone when allowed) while allowing for existing shore- and boat-based fishing**. We defer to CDFW to recommend final boundaries for these two new SMCAs based on feasibility and enforceability.

Petition 2023-33MPA_AM1: Expand six MPAs statewide and add a new MPA in Santa Cruz

Environment California and Azul have proposed a suite of actions – six proposed MPA expansions and one proposed new MPA – aimed at strengthening protections for kelp forest habitats across the state. Specifically, this petition proposes to expand Cabrillo SMR (southern San Diego), South Point and Gull Island SMRs (Northern Channel Islands), Point Dume SMCA (north of Los Angeles near the Los Angeles County/Ventura County border), Point Conception SMR (north of Santa Barbara), and Natural Bridges SMR (Santa Cruz). It also proposes the designation of a new SMCA at Pleasure Point (Santa Cruz). The proposed expansions and new MPA are aimed at protecting persistent, healthy kelp patches currently unprotected by the MPA

Network. Petitioners argue that protecting these new locations will help improve the resilience of kelp forest ecosystems across the state in the face of anticipated future marine heat waves and other climate stressors.

Kelp forests in California provide a variety of critical ecological functions and ecosystem services. Kelp serves as habitat and an important food source for a rich diversity of invertebrates, fishes, marine mammals, and birds, including ecologically and economically important species such as abalone, rockfishes, and sea otters (Hamilton et al. 2022, Bell et al. 2020). Kelp forests are critical to the well-being of California's coastal residents and the state's multi-billion-dollar ocean economy, providing valuable recreational opportunities such as scuba diving and wildlife viewing (Schiel & Foster 2015, NOAA Office of National Marine Sanctuaries 2025, Monterey Bay National Marine Sanctuary 2025), and kelp forest ecosystems also hold tremendous cultural significance for California Native American tribes. Unfortunately, recent climate-driven changes have resulted in severe and concerning kelp loss in California. A prolonged marine heat wave beginning in 2014 triggered unprecedented declines in California's kelp forests (Rogers-Bennett & Catton 2019, McPherson et al. 2021). Along the North Coast, more than 95% of bull kelp canopy was lost from 2014-2019 and has shown little recovery since then (McPherson et al. 2021), while statewide more than 75% of kelp forests remain below their long-term average in 2024 (Harris et al. 2026). As marine heat waves are expected to become more frequent and more severe as climate change accelerates, supporting the protection and restoration of these vulnerable ecosystems is a top priority for OPC.

Though MPAs cannot directly mitigate climate stressors such as warming ocean waters, petitioners argue that MPAs can support kelp resilience by promoting intact food webs. Specifically, petitioners note that healthy, abundant populations of predatory organisms, such as California Sheephead and California spiny lobster, can keep populations of kelp grazers like sea urchins in check, preventing urchins from overgrazing kelp (Hamilton et al. 2010, Caselle et al., 2015). While this is an active area of research and scientific evidence for the kelp resilience benefits of MPAs is mixed (Cavanaugh et al. 2019), several recent studies in California have demonstrated support for this "trophic cascade" hypothesis.

Eisaguirre et al. (2020) analyzed decades of subtidal monitoring data from the Northern Channel Islands and found that giant kelp density was significantly higher, and purple sea urchin density significantly lower, inside MPAs compared to adjacent fished areas. Kumagai et al. (2024) combined subtidal monitoring data with remotely sensed kelp canopy data to evaluate the statewide response of kelp forests to the 2014-2016 heat wave and found that fully protected MPAs appeared to enhance kelp forests' resistance to, and recovery from, marine heat waves in Southern California. Ortiz-Villa et al. (2025) used four decades of remote sensing data to examine the effects of 54 MPAs on kelp canopy coverage statewide and found that

implementation of MPAs resulted in an 8.5% increase in kelp canopy coverage compared to unprotected areas, with kelp forests in MPAs showing faster and more significant recovery following the 2014-2015 marine heat wave. Finally, results from the first Decadal Management Review of California's MPA Network showed that kelp canopy was more stable and resilient in MPAs, particularly in the South Coast (CDFW 2023).

Importantly, these documented benefits have largely been limited to Southern California, where lobster and Sheephead are abundant. In central California, where these predators are absent or uncommon and the main predator of sea urchins is the southern sea otter, most studies here have found little to no significant differences in urchin or kelp densities between MPAs and unprotected areas (Hamilton et al. 2010, Eisaguirre et al. 2020).

To identify specific areas to target for additional MPA protection, petitioners focused on areas of overlap between highly persistent kelp patches, as identified by Arafeh-Dalmau et al. (2021) using satellite data, and "medium-priority kelp restoration sites" as identified by Giraldo-Ospina et al. (2025) – defined as historically stable kelp beds that resisted the effects of the 2014-2015 marine heat wave and currently have a high proportion of kelp compared to their historical mean. This classification was intended by the authors of this study for use in a kelp restoration context; however, satellite imagery of kelp forest canopy, specifically Landsat data from 1984-2023 (Bell et al. 2024), does show that the areas identified by petitioners appear to be largely persistent over time (Fig. 2, Fig. 3). Given the anticipated impacts of climate change on kelp statewide, especially in the context of a historic new marine heat wave currently forming along the California coast and a predicted "Super El Niño" this year, OPC finds that, from a precautionary standpoint, protecting additional persistent kelp within the MPA Network is worth exploring at a limited scale.

Of the actions proposed in the petition, OPC recommends that CFGC deny the proposed expansion of Natural Bridges SMR and deny the proposed designation of a new SMCA at Pleasure Point. Both of these areas are located in Santa Cruz, at the northern end of the Monterey Bay. As described above, empirical support for the hypothesized "trophic cascade" benefits of MPAs for kelp has not been found in central California. Additionally, the proposed new MPA at Pleasure Point would not meet minimum guidelines for MPA size or level of protection, making it unlikely to accomplish biodiversity conservation objectives.

The remaining proposed actions are all focused on Southern California, where MPAs may promote improved kelp resilience by promoting trophic cascades. Of these actions, **OPC recommends that CFGC deny the proposed expansion of Cabrillo SMR.** Per the U.S. Navy, this proposed expansion has the potential to impact military readiness in the area. **OPC recommends that CFGC deny the proposed expansions of South Point SMR and Gull Island**

SMR; these proposed expansions would compromise the decades-long, deeply institutionalized state-federal partnership to co-manage the existing Channel Islands MPAs, which currently protect 20% of state waters around the Northern Channel Islands in no-take marine reserves. The proposed expansion of South Point SMR in particular would result in a misalignment with the boundaries of the neighboring Federal Marine Reserve.

OPC recommends approval, with modifications, of the remaining two proposed actions in Southern California (expansion of Point Dume SMCA and Point Conception SMR).

Point Dume SMCA. Located just offshore of Malibu in Los Angeles County, the existing Point Dume SMCA currently protects nearly 16 square miles of sandy beach, rocky shoreline, and kelp forest, as well as portions of a submarine canyon extending more than 2,000 feet deep. Petitioners propose expanding the existing Point Dume SMCA to the west by 4.6 square miles, approximately a 29% expansion, to protect a portion of a large, persistent kelp bed immediately adjacent to the SMCA. This expansion would increase the amount of kelp protected by the SMCA from 1.2 linear miles to 2.9 linear miles (SeaSketch California 2026, Fig. 3). **OPC recommends that CFGC approve the proposed expansion of Point Dume SMCA**. Petitioners have also proposed an adjustment to the take allowance at Point Dume SMCA to allow additional recreational take, including a new take allowance for recreational shore-based hook-and-line fishing. **OPC recommends that CFGC deny the proposed additional take allowance at Point Dume SMCA**, as this would drop the SMCA's Level of Protection from high to moderate-low such that it would no longer serve as a replicate MPA for kelp, beach, rocky intertidal, and soft bottom habitats.

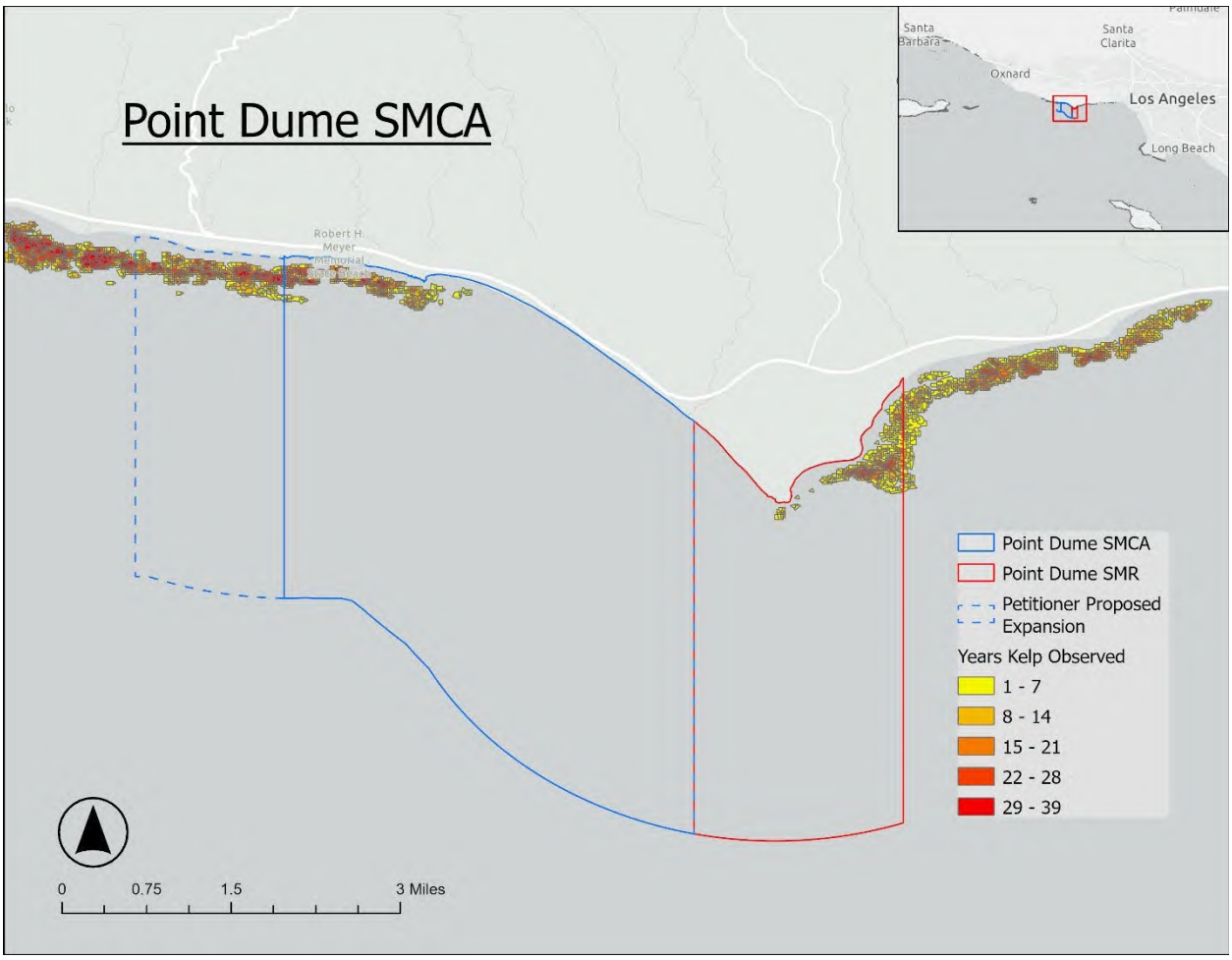


Figure 2. Point Dume SMCA and SMR, with petitioners' proposed expansion of Point Dume SMCA shown.

Point Conception SMR. Located at a major biogeographic transition zone, Point Conception SMR currently protects more than 22 square miles of rocky reefs, surfgrass beds, and kelp forests. Petitioners propose expanding the existing Point Conception SMR to the east by 14.6 square miles, which would include a very large patch of persistent kelp (Fig. 3). However, given the existing large size of this MPA, OPC finds that a smaller expansion, similar to the scale of expansion proposed for Point Dume SMCA, is more appropriate and would capture a significant portion of persistent kelp while maintaining some continued fishing access in this area. **OPC recommends that CFGC expand Point Conception SMR by shifting the eastern boundary of the SMR from the current 120° 25.000' W longitude line eastward to the 120° 23.000' W longitude line** (Fig. 3). This would expand the SMR by 7.65 square miles, approximately a 35% expansion, and increase the amount of kelp protected by the SMR from 2.27 linear miles to 4.44 linear miles (SeaSketch California 2026).

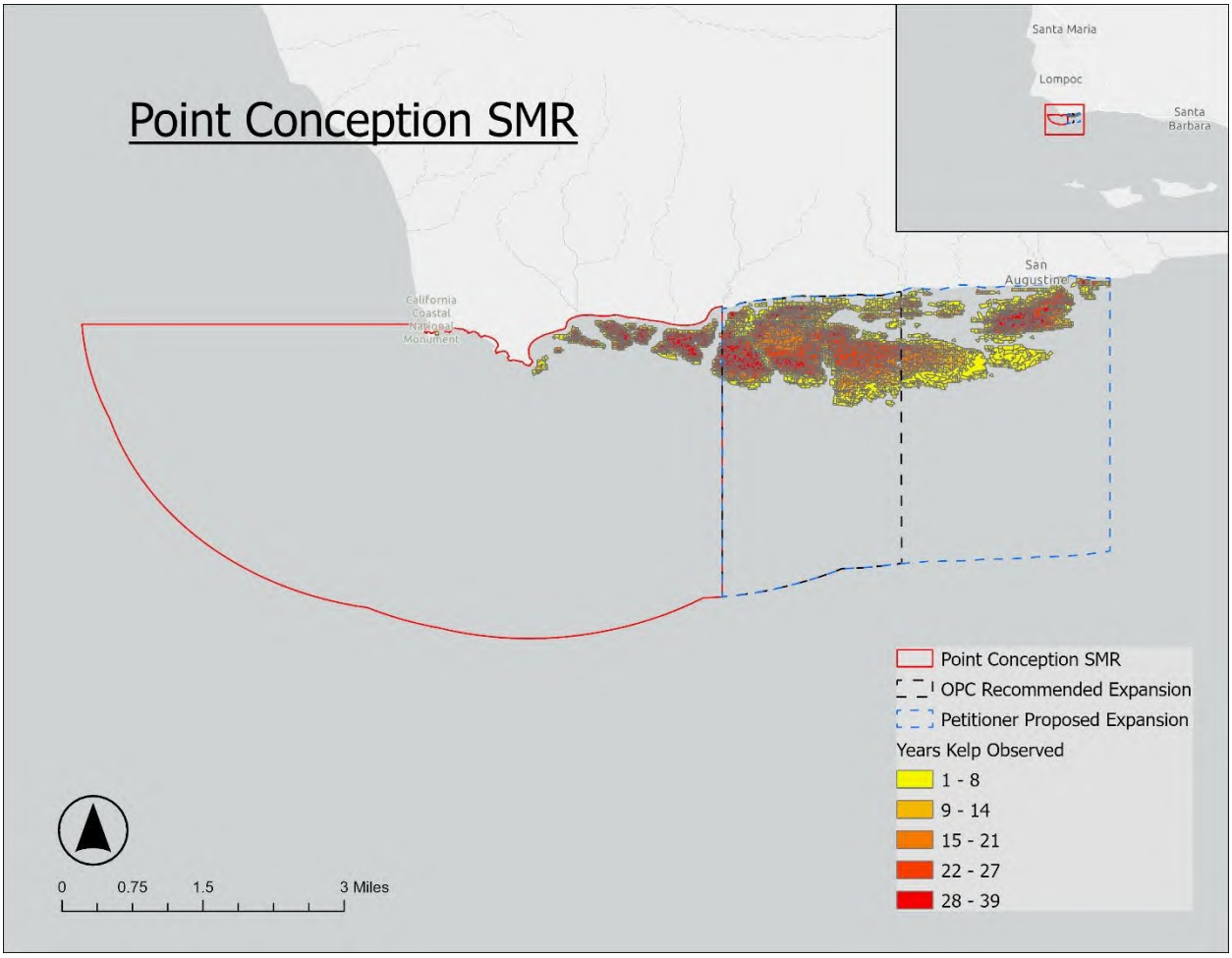


Figure 3. Point Conception SMR with petitioners' proposed expansion (blue dotted line) and OPC's recommended expansion (black dotted line) shown. OPC's recommended expansion encompasses much of the persistent kelp immediately adjacent to Point Conception SMR.

Recommendations At-a-Glance

Table 2. OPC's recommendations on all MPA petitions currently under consideration by CFGC.

Petition Number	MPA(s) Affected	Petitioner	Proposed Action	OPC Recommendation
2023-14MPA	Nine SMCAs statewide (existing)	California Sea Urchin Commission	Allow commercial take of sea urchin in various MPAs	Deny
2023-15MPA_AM	Footprint SMR, Gull Island SMR, and Santa Barbara Island SMR (existing)	Blake Hermann	Reclassify SMRs to SMCAs to allow limited take of highly migratory species and possession of coastal pelagic species, or the take of pelagic finfish	Deny
2023-16MPA	Stewarts Point SMR and Bodega Head SMR (existing)	Bodega Bay Fisherman's Marketing Association	Reclassify SMRs to SMCAs to allow commercial take of salmon by trolling	Deny
2023-18MPA	Vandenberg SMR, Kashtayit SMCA, and San Miguel and Anacapa Island Special Closures (existing)	Ocean Conservancy	Multiple actions to modify allowed uses at several Santa Barbara Channel MPAs	Deny

Petition Number	MPA(s) Affected	Petitioner	Proposed Action	OPC Recommendation
2023-19MPA	Chitqawi SMCA (new)	Santa Ynez Band of Chumash Indians	Add a new MPA near Morro Bay	Deny
2023-20MPA_AM1 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Point Buchon SMCA and Point Buchon SMR (existing)	Santa Ynez Band of Chumash Indians	Add a tribal take exemption at Point Buchon SMCA, rename Point Buchon SMCA, and adjust northern boundary of Point Buchon SMR	Approve tribal take exemption and renaming; deny proposed boundary change
2023-21MPA_AM1 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Pyramid Point SMCA (existing)	Tolowa Dee-ni' Nation	Remove recreational take of true smelt in Pyramid Point SMCA and adjust northern boundary of Pyramid Point SMCA	Approve proposed removal of recreational take of true smelt; deny proposed boundary change
2023-23MPA_AM1	Various MPAs in Monterey County (existing)	Giant Giant Kelp Restoration Project	Modify several regulations related to kelp restoration, including allowing urchin culling in Monterey MPAs; establish a new SMR at Tankers' Reef	Deny

Petition Number	MPA(s) Affected	Petitioner	Proposed Action	OPC Recommendation
2023-24MPA_AM1	Laguna Beach No-Take SMCA and Dana Point SMCA (existing)	Laguna Bluebelt Coalition	Extend the southern boundary of the Laguna Beach No-Take SMCA to the southern border of Laguna Beach	Deny
2023-27MPA_AM1 (as clarified at the May 6, 2026 CFGC regional meeting)	Anacapa Island SMCA (existing)	Environmental Defense Center	Modify regulations at Anacapa Island SMCA to protect sensitive eelgrass habitats (with several options proposed)	Modify SMCA regulations to prohibit the deployment of lobster traps shallower than 50 feet
2023-28MPA_AM2 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Point Sal SMCA (new)	Northern Chumash Tribal Council and Natural Resources Defense Council	Add a new MPA near Point Sal	Approve the proposed new Point Sal SMCA
2023-29MPA_AM2 (as amended at the April 14, 2026 CFGC Tribal Committee meeting)	Mishopshno SMCA (new)	Santa Ynez Band of Chumash Indians and Natural Resources Defense Council	Add a new MPA near Carpinteria	Approve the proposed new Mishopshno SMCA

Petition Number	MPA(s) Affected	Petitioner	Proposed Action	OPC Recommendation
2023-32MPA (as clarified at the April 21, 2026 CFGC regional meeting)	Duxbury Reef SMCA (existing)	Environmental Action Committee of West Marin	Expand Duxbury Reef SMCA and modify regulations to strengthen protections for intertidal species	Designate two new SMCAs to protect the northern and southern portions of Duxbury Reef, each with take regulations that protect intertidal seaweed and invertebrates while allowing for continuation of other existing shore- and boat-based fishing
2023-33MPA_AM1	Various existing MPAs and one proposed new MPA	Environment California and Azul	Expand six existing MPAs statewide and add a new MPA in Santa Cruz	Approve proposed expansion of Point Dume SMCA, but deny proposed additional take allowance in Point Dume SMCA. Approve a smaller expansion of Point Conception SMR. Deny proposed expansion of Natural Bridges SMR, Cabrillo SMR, South Point SMR, or Gull Island SMR. Deny proposed designation of a new SMCA at Pleasure Point.
2023-34MPA	Point Buchon SMCA, Farnsworth Onshore and Offshore SMCAs (existing)	Environment California and Azul	Reclassify Point Buchon SMCA to an SMR to prohibit take; Remove all take except for recreational spearfishing in Farnsworth Onshore and Offshore SMCAs	Deny

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Outlook

Re: Laguna Bluebelt Petition Boundary Docs

From Mike Beanan
Date Thu 08/13/2026 02:22 PM
To FGC <FGC@fgc.ca.gov>; Miller-Henson, Melissa [redacted] Ashcraft, Susan [redacted] fgc@fgc.org <fgc@fgc.org>

(Re-sending letter with attachments and images)

August 13, 2026

President Skylar
Commissioners Anderson, Zavaleta, Murray, Hostler-Carmesin
California Fish & Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

ATTN: Melissa Miller-Henson, Director Via Mail and Email: FGC@FGC.CA.GOV

Re: Laguna Bluebelt Coalition MPA Petition 2023-24 – AM1

President Skylar, Commissioners and Staff,

At your request, we are submitting this letter to ensure that a significant and consequential mapping error is corrected before any decision is made regarding Laguna Petition 23-24-AM1. The error concerns the southern boundary of the Laguna Bluebelt Petition and has directly influenced agency evaluations, assumptions, and recommendations.

The amended petition submitted on March 11, 2025, clearly defines the southern boundary at **33.29.052 N, 117.44.026 W**, marked by a 50-foot bluff at Three Arch Bay. This coordinate is accurately shown by the Google Earth pin (attached). However, the Story Map used throughout the review process incorrectly extends the boundary westward into the middle of a beach—an entirely different location. This misrepresentation is not minor; it fundamentally alters the spatial footprint of the proposed MPA.

Despite repeated efforts—including public comments to the Commission, an in-depth Bluebelt presentation at San Clemente Regional meeting as well as direct communication with staff—this mapping error has never been corrected. As a result, subsequent reviews, including those by OPC, relied on the erroneous boundary and concluded that the petition presents enforcement challenges. These conclusions stem directly from the mapping mistake, not from the petition itself.

We respectfully request your assistance in correcting this error. An administrative update to the map would resolve the issue quickly. If preferred, we are prepared to coordinate a site visit—by land or sea—to show the clearly visible bluff marking the true amended boundary.

We recognize the complexity of evaluating fifteen petitions with extensive technical details and appreciate the Commission's diligence. However, accurate maps and data are essential for fair evaluation. This mapping error has materially affected the review of the Laguna Bluebelt Petition and must be corrected to ensure an informed and equitable decision.

Thank you for your attention and for your continued commitment to California's marine life and fisheries.

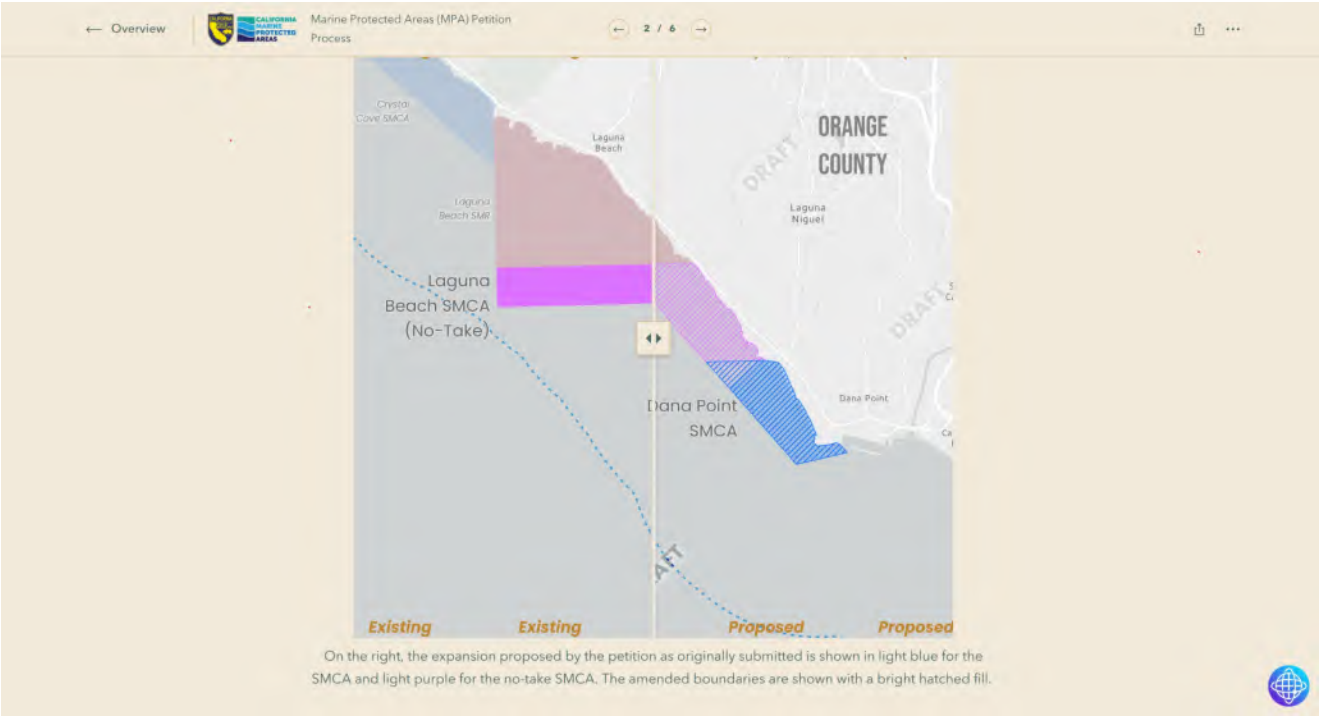
Sincerely,

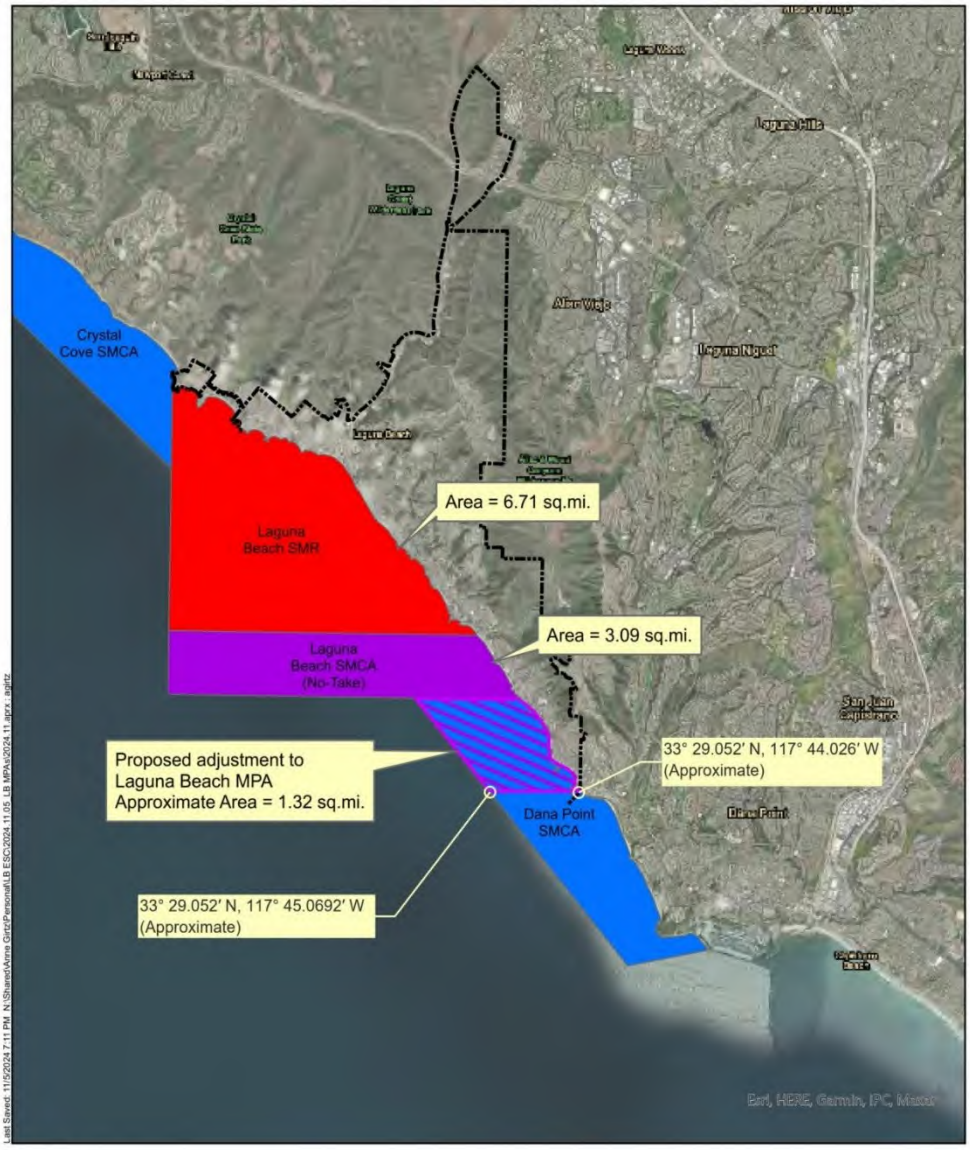
Mike Beanan, Petitioner 2023-24 MPA-AM1
Laguna Bluebelt Coalition

Attached (3):
Laguna Bluebelt Amended Petition with Correct Boundary at Southern Sea Bluff (see yellow pin on Google Earth)

Amended Petition of Southern Boundary at 33 29.052' N, 117 44.026 W

Story Map with incorrect Southern Border to beach not the sea bluff as amended





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Symbology

- City Limits
- SOCWA Effluent Transmission Line
- SOCWA Ocean Outfall
- Proposed Laguna Beach SMCA (No-Take) Adjustment

0 2,500 5,000

Scale in Feet

Figure 1

City of Laguna Beach
Proposed Marine Protected Area Adjustment

Laguna Bluebelt Coalition
MPA Decadal Review


Monarch Bay Dr
Monarch Bay Dr
33°29.052' N, 117°44.026' W

Tracking Number: (**2023-24MPA-AM1**)

To request a change to regulations under the authority of the California Fish and Game Commission (Commission), you are required to submit this completed form to: California Fish and Game Commission, (physical address) 1416 Ninth Street, Suite 1320, Sacramento, CA 95814, (mailing address) P.O. Box 944209, Sacramento, CA 94244-2090 or via email to FGC@fgc.ca.gov. Note: This form is not intended for listing petitions for threatened or endangered species (see Section 670.1 of Title 14).

Incomplete forms will not be accepted. A petition is incomplete if it is not submitted on this form or fails to contain necessary information in each of the required categories listed on this form (Section I). A petition will be rejected if it does not pertain to issues under the Commission's authority. A petition may be denied if any petition requesting a functionally equivalent regulation change was considered within the previous 12 months and no information or data is being submitted beyond what was previously submitted. If you need help with this form, please contact Commission staff at (916) 6534899 or FGC@fgc.ca.gov.

SECTION I: Required Information.

Please be succinct. Responses for Section I should not exceed five pages

1. Laguna Bluebelt Coalition

Name of primary contact person: Mike Beanan

Address: Telephone number: Email address:

2. Rulemaking Authority (Required) - Reference to the statutory or constitutional authority of the Commission to take the action requested: Authority cited: Sections 200, 205(c), 265, 399, 1590, 1591, 2860, 2861 and 6750, Fish and Game Code; and Sections 36725(a) and 36725(e), Public Resources Code.

3. Overview (Required) -

a. Extend the Laguna Beach SMCA no-take regulation down to the southern border of the City of Laguna Beach. This area is currently covered by the Dana Point SMCA, which only protects tide pool resources, not the offshore kelp beds.

4. Rationale (Required) -

The revised Petition is based upon input from the Orange County Marine Protected Area Collaborative (OCMPAC) and enforcement recommendations from participants. The revised Petition locates the southern No Take SMCA border to follow one East/West latitude line to facilitate a consistent offshore boundary. Laguna Beach has recently taken over enforcement of the South Laguna beaches all the way down to the City border. ~~Right now there is confusion due to the different regulations within one city.~~

This regulation change will make enforcement easier and more consistent because it will create continuity within the city, where the same rules apply to all beaches. All Laguna Beach lifeguards have received MPO training and enforce no-take rules for the rest of the city beaches. This will result in an increase in outreach and enforcement effectiveness, which supports priority recommendation number 15.

High fishing and lobstering pressure are taking a toll on the remaining kelp beds in South Laguna due to overharvesting and substrate degradation possibly due to anchor chain drag. The Sustainable Fisheries Act of 1996 established new requirements for fishery management councils to identify and describe Essential Fish Habitat and to protect, conserve, and enhance these EFH for the benefit of fisheries. A 2002 update to these EFH regulations allowed fishery management councils to designate Habitat Areas of Particular Concern (HAPCs). HAPCs are considered high priority areas for conservation, management, or research because they are important to ecosystem function, sensitive to human activities, stressed by development, or are rare. The rocky reef and kelp beds in this particular area of South Laguna are slightly different than those in the rest of the city because of the steep drop of the cliffs into the ocean. This creates a unique microhabitat where water nutrients are mixed due to wave refraction off the cliffs.

There are kelp forests offshore in these areas that are desperately needed as habitat. One of the original design considerations for designating MPAs was to “Include within MPAs suitable rocky habitat containing abundant kelp and/or foliose algae” (CMLPA Master Plan for MPAs, Appendix F). ~~When the MPA boundaries were finalized in 2012, the kelp was at its highest extent of coverage since 1967 (see supplemental graph), so the total area of kelp forest was overestimated.~~ The kelp beds off South Laguna have been nearly decimated possibly by overharvesting and anchor chain drag and need to be protected. This, in combination with the potential for additional kelp decline due to warm water and recent wildfire events makes it imperative that we protect as much as possible. The Science Advisory Team (SAT) determined Laguna Beach’s MPA to be the minimum size for success.

The Marine Mammal Protection Act also requires action to be taken here. The south end of the no-take SMCA is visible from shore as a line of lobster trap buoys extending out from the cliffs and beach. One MPA watch volunteer reported 223 buoys off of Table Rock beach on 11/8/2023. This represents a virtual “wall” of dangerous trap lines that interrupt whale migration paths. Whales have been seen frequently traveling very close to shore along this stretch of coastline (see supplemental photo of Thousand Steps beach). A December 2019, Men’s Journal magazine article stated that in the preceding few weeks Dana Point Boat captains had logged more than 40 sightings of gray whale cow-calf pairs in the shallow coves of Laguna Beach. The lobster buoy lines likely create a dangerous obstacle for migrating whales, which are protected under the MMPA.

Residents in South Laguna support the extension of the no-take SMCA as evidenced by the attached letters of support from the Three Arch Bay Community Services District, Orange County Coastkeeper, Laguna Canyon Conservancy, Laguna Bluebelt Coalition, and the South Laguna Civic Association. They feel that it is not equitable to have only the north and central beaches protected. Please see the attached letters of support. The Laguna Beach City Council also supports further analysis and participation in the process.

SECTION II: Optional Information

5. Date of Petition: 11 /29/2023 AMENDED 03/11/2025

6. Category of Proposed Change

☐ Sport Fishing
☐ Commercial Fishing
☐ Hunting
☒ Other, please specify: MPAs, Section 632 .

7. The proposal is to: (*To determine section number(s), see current year regulation booklet or https://govt.westlaw.com/calregs*)

☒ Amend Title 14 Section(s): Westlaw regulations.
☐ Add New Title 14 Section(s): Click here to enter text.
☐ Repeal Title 14 Section(s): Click here to enter text.

8. If the proposal is related to a previously submitted petition that was rejected, specify the tracking number of the previously submitted petition Or ☒ Not applicable.

9. Effective date: If applicable, identify the desired effective date of the regulation. If the proposed change requires immediate implementation, explain the nature of the emergency: This should be implemented as soon as possible. Ancient California Gray Whale Migration is currently being altered due to proliferation of nearshore lobster traps and rope buoys at the southern SMCA boundary.

10. Supporting documentation: Identify and attach to the petition any information supporting the proposal including data, reports and other documents:

(A) Map of proposed Boundary Adjustment.
(B) Letter of support from the Three Arch Bay Community Services District
(C) Letter of support from the South Laguna Civic Association
(D) Letter of support from the Laguna Bluebelt Coalition
(E) Letter of support from Orange County Coastkeeper
(F) Letter of support from the Laguna Canyon Conservancy
(G) ~~Graphic from "Status of the Kelp Beds in 2019: Orange & San Diego Counties. Prepared for the Region Nine Kelp Survey Consortium" by MBC Aquatic Sciences~~
(H) ~~Full Report: "Status of the Kelp Beds in 2019"~~

(l) Photo of gray whale at Thousand Steps Beach

11. Economic or Fiscal Impacts: Although no socioeconomic data is provided, there may be a fiscal impact on commercial lobster fishers due to reducing their fishing grounds. However, fishing effort will be closer to Dana Point Harbor to save fuel costs and use of ropeless buoys will be encouraged. With removal of lobster buoy lines as migration barriers, whale watching tours can resume in Laguna Beach ($10 million estimated annual revenues to Dana Point economy). Less anchoring by CPFVs will reduce anchor chain drag damaging local reefs and kelp forests. ~~Estimated resident property values gain an increase of 20% from proximity to a fully protected MPA~~

12. Forms: If applicable, list any forms to be created, amended or repealed:

SECTION 3: FGC Staff Only

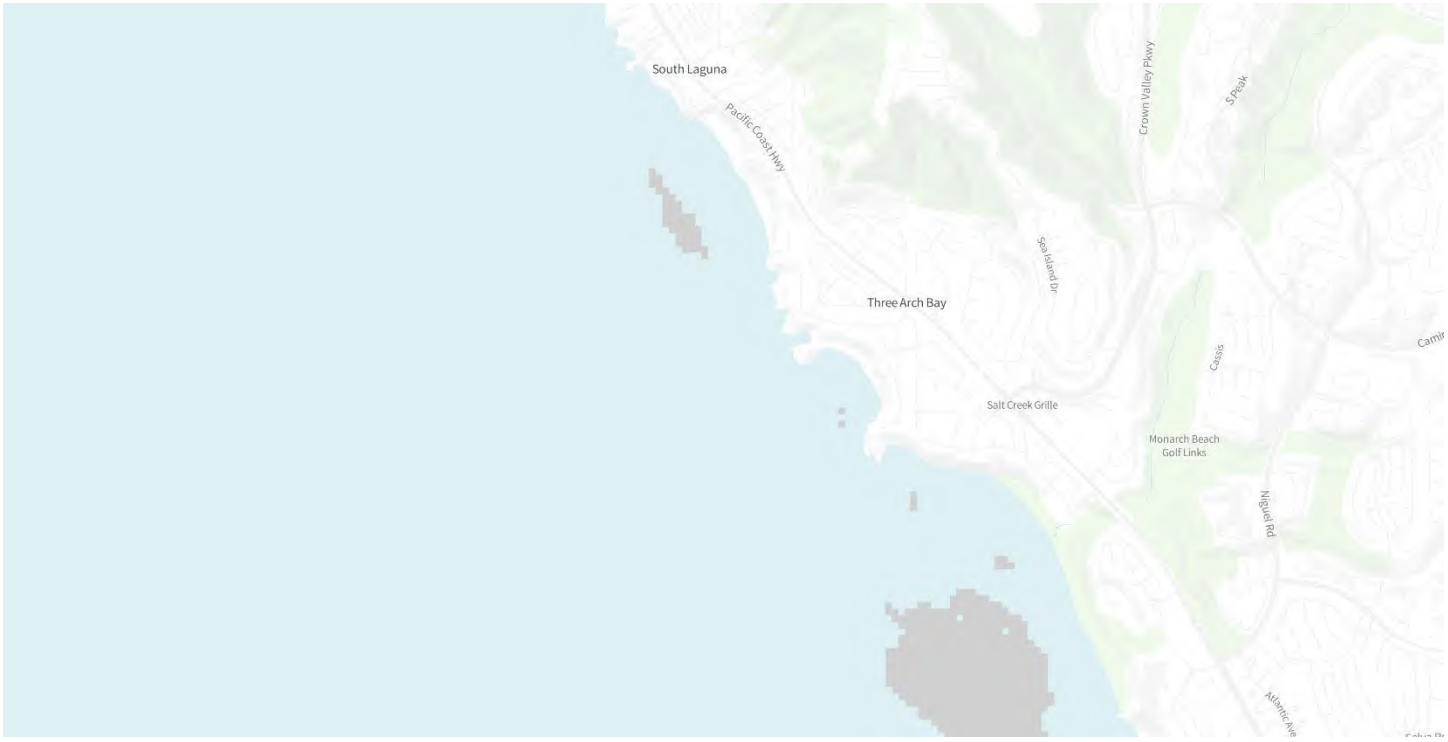
Date received: March 11 **, 2025**

FGC staff action:
☐ Accept - complete
☐ Reject - incomplete
☐ Reject - outside scope of FGC authority
Tracking Number
Date petitioner was notified of receipt of petition and pending action: _____

Meeting date for FGC consideration: _____

FGC action:
☐ Denied by FGC
☐ Denied - same as petition _____
Tracking Number
☐ Granted for consideration of regulation change

Proposed SMCA No Take Rocky Kelp Substrate at Thousand Steps Reef – KelpWatch.org



Proposed SMCA No Take Rocky Kelp Substrate at Thousand Steps Reef – KelpWatch.org



California Fish and Game Commission
Marine Resources Committee fgc@fgc.ca.gov

January 7, 2025

Subject: Revision to Laguna Bluebelt Coalition Petition 2023-24 MPA

Commissioners and Staff,

The Laguna Bluebelt Coalition seeks to revise the southern boundary for Petition 2023-24MPA to a No Take SMCA (State Marine Conservation Area) for citywide enforcement consistency and protection of essential sea life habitat between Palos Verdes and La Jolla MPAs.

The proposed revised No Take SMCA is within the jurisdiction of the City of Laguna Beach and has widespread support from community organizations and the City's Environmental and Sustainability Committee. Community support includes the South Laguna Civic Association, Three Arch Bay Service District, Village Laguna, Laguna Canyon Conservancy, Project O, OC Coastkeeper and many individuals.

The City of Laguna Beach has submitted multiple letters seeking to participate in processing the Laguna Bluebelt Petition. In a December 10, 2024 letter to the Commission, Laguna Beach Mayor Rounaghi emphasized the "City looks forward to reviewing the State's assessment of Petition 2023-24 MPA" and "The City remains committed to actively participate and providing informed input…".

Presently, the southern area of Laguna Beach is inaccurately designated as within the Dana Point SMCA leading to confusion about place names and take regulations. The Petition will simplify the no take regulation for the entire city of Laguna Beach, address inaccurate place names and restore Laguna Beach as the correct jurisdiction for this area. The revised No Take SMCA boundary will be identified by the prominent bluff top outcropping at Three Arch Bay consistent with the Laguna Beach City Limits.

The Petition reflects the MLPA's Adaptive Management Objectives to:

• Protect the structure and function of marine ecosystems • Improve native marine life populations, including those of economic value • Ensure minimal disturbance while allowing for sustainable opportunities for recreation, education and research • Ensure comprehensive representation of all key habitats, including unique habitats • Use learning acquired through administration of the MLPP to adaptively manage the objectives, management measures, enforcement efforts, and scientific guidelines to inform management decisions • MPAs function as a cohesive statewide network

Size and Spacing Considerations

The Science Advisory Team (SAT) spacing requirements determined Laguna Beach is an essential linkage for larval dispersal among Southern California's MPAs. Guidelines set a maximum distance and minimum size for each MPA.

Maximum Shoreline Distance: To ensure the persistence of a suite of species in an MPA network, the maximum distance between MPAs was determined to be within 50 -100 km (31 -62 miles). A network of MPAs 20 km (12 miles) in length met the upper boundary of the preferred size guidelines and led to population persistence for a larger set of movement combinations. With MPAs this large, decreasing spacing produced a more substantial effect. MPAs of 20 km (12 mile) shoreline length protected a much larger range of movement combinations when spaced 50 km (31 miles) apart (51.8%) than when spaced 100 km apart (21.6%). This increase occurred because persistence of populations with large mean larval dispersal was maintained through a network effect, rather than self-persistence. Laguna Beach's MPAs maximum distance are 50 miles from Palos Verdes MPAs and 72 miles from La Jolla MPAs to meet this goal.

In summary, bigger MPAs yield better results for protecting marine life. Laguna Beach is an excellent candidate when you combine community support and the City's present MPA enforcement measures to be able to achieve noteworthy success.

Minimum Alongshore Extent: To best protect adult populations, based on adult neighborhood sizes and movement patterns, Guidelines conclude MPAs should have an alongshore extent of at least 3-6 miles of coastline, and preferably 6-12.5 miles. Larger MPAs would be needed to fully protect marine birds, mammals, and migratory fish. Combined and simplified, the Guideline indicates that MPAs should have a minimum area of 9-18 square miles, or a preferred area of 18-36 square miles.

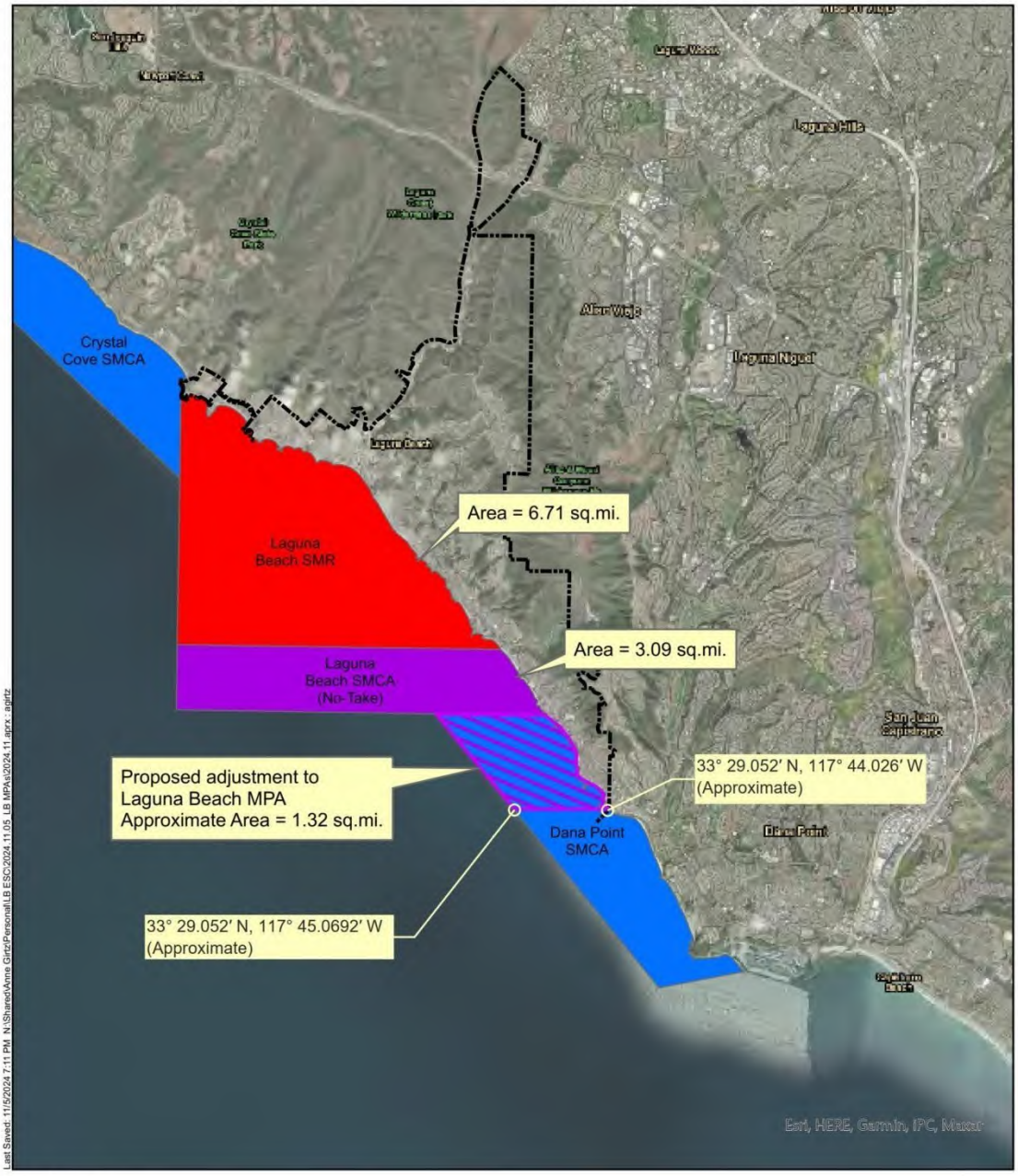
The Revised Petition to include full protection of all of Laguna Beach's MPAs is necessary to comply with SAT Guidelines since, once approved, it will protect 7 miles of coastline slightly within the preferred alongshore extent (6-12 miles). A fully protected Laguna MPA will also grow to 11 square miles, the minimum preferred area (9-18 square miles).

Once approved, the citywide and a fully protected MPA will comply with SAT Guidelines for preferred coastline and size. This will be complimented by local, well-established education and enforcement capabilities to support the continued success for Laguna Beach's MPAs.

Stakeholder Collaboration

The Laguna Bluebelt Coalition, a statewide model for MPA Collaboratives since 2009, has met with key stakeholders through OCMPAC including fishing groups, tribal representatives, game wardens and others to revise Petition 2023-24MPA to accommodate the local lobster fishery. By adjusting the southern SMCA to follow the east/west latitude line at the request of the Dana Point lobster group, placement of lobster traps is facilitated by a consistent GPS latitude line to avoid encroachment into the proposed southern Laguna Beach No Take SMCA.

Revised Boundary Map



Symbology

- City Limits
- SOCWA Effluent Transmission Line
- SOCWA Ocean Outfall
- Proposed Laguna Beach SMCA (No-Take) Adjustment

0 2,500 5,000

Scale in Feet

Figure 1

City of Laguna Beach
Proposed Marine Protected Area Adjustment

Laguna Bluebelt Coalition
MPA Decadal Review

Economic Considerations

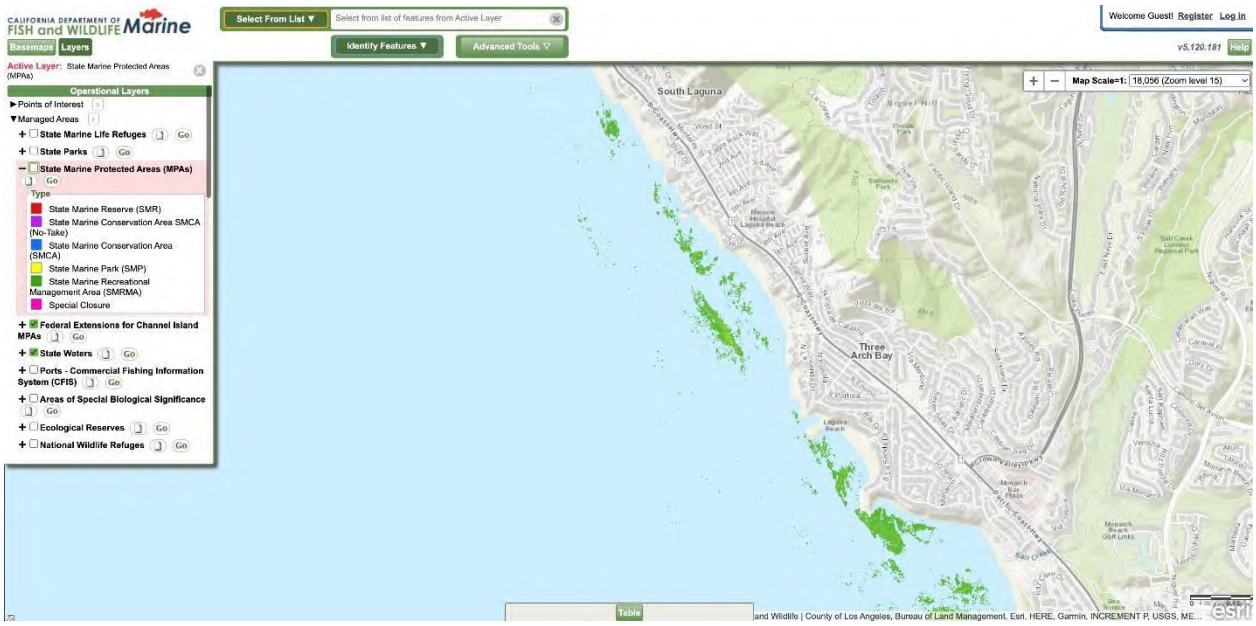
While commercial fishing businesses generally object to MPAs, it is worth noting that Dana Wharf has shifted operations away from fishing to pursue new economic opportunities as the Whale and Dolphin Watching Capital of the World – America's first Whale Heritage Site. The designation of just over 1 square mile of a new No Take SMCA is just a fraction of the present Dana Wharf fishing grounds and will not measurably impact their annual sportfishing and whale tour revenues. Dana Wharf presently operates large fishing grounds spanning hundreds of square miles from Dana Point south to Camp Pendleton and west to Catalina and San Clemente Islands.

See: [The Ultimate Guide To Fishing In Dana Point, CA | Dana Wharf]

Essential Marine Habitats

With steep coastal bluffs, isolated coves and offshore reefs, Laguna Beach's southern coastline provides unique habitats for coastal sea life nurseries. Kelp forests populate local reefs throughout the city while dolphin and whales routinely transit the area for foraging opportunities and annual migration.

Laguna Beach's Essential Kelp Habitat



The City of Laguna Beach has a long ocean tradition and is committed to protecting marine resources. All Marine Safety Lifeguards are qualified as Marine Protection Officers to maintain a robust education and enforcement program.

The Laguna Beach General Plan and Policies recognize the value of coastal resources (see References).

The success of Laguna's Marine Protected Areas over the past 12 years is clear evidence that sea life can be protected and restored in an urban environment. The City's commitment to manage over 6 million visitors continues to educate and motivate compliance with all MPA regulations and policies. Revising the southern SMCA boundary for full citywide protection will support the community's dedication to achieve the goals and objectives of the State's Marine Life Protection Act.

The Laguna Bluebelt Coalition appreciates the dedicated role of the Fish and Game Commission to serve as a global leader in advancing the State's recovery of sea life for present and future generations.

Mike Beanan
w/Laguna Bluebelt Coalition



Julianne E Steers, Sargo School

References

Laguna Beach General Plan and Policies

Action 1.1.1 Protect natural assets and open-space areas to maintain their role as "carbon sinks." Policy

4.1 Policy 4.2 Develop and adopt a program to protect sensitive coastal resources.

Action 4.1.1 Compile an inventory of the City's coastal resources and prepare a Coastal Resources Protection Program.

Action 4.2.2 Enforce State's Marine Life Management Act and identified Marine Life Protected areas within the City and local regulations for the protection of marine life and intertidal resources and to conduct educational and outreach programs.

Action 10.7.2 Periodically review the City's Water Quality Control Ordinance and related policies for protecting marine resources and update as appropriate.

In cooperation with the State Department of Fish and Game, a Marine Preserve was created by the State in 1968 for a portion of the City's shoreline particularly rich in tidepool life. In addition to the Marine Preserve, the State, in conjunction with the City, established an Ecological Reserve in 1974, creating, in essence, a marine sanctuary, or a protected "aquarium".

Policies 2-A Encourage the expansion of the Marine Life Refuges and the designation of particularly unique or ecologically sensitive coastal areas as Ecological Reserves (such as seal and bird rocks), pursuant to the provisions of the State Department of Fish and Game.

2-F Develop a local enforcement program, pending funding availability, consisting of shoreline protection regulations and citation authority for Marine Safety personnel.

2-H Support restoration of offshore kelp beds.

41 Watershed Protection and Restoration Promote the protection and restoration of offshore, coastal, lake, stream or wetland waters and habitats and preserve them to the maximum extent practicable in their natural state. Oppose activities that may degrade the quality of offshore, coastal, lake, stream or wetland waters and habitat and promote the rehabilitation of impaired waters and habitat.

Develop an enforcement program for the protection of marine life resources.

Promote an expanded Marine Life Refuge.

Marine Resources: A small estuary occurs at the mouth of Aliso Creek. As recently as 1976 this estuary supported the Tidewater Goby, a species considered uncommon and declining in numbers due to habitat loss. A resource inventory included in the Orange County Conservation Element identifies the presence of the South Laguna Marine Life Refuge in the South Laguna area. The refuge, near the mouth of Aliso Creek, was given refuge status by the California Fish and Game Commission because the animal populations in the rocky intertidal habitat had not been subjected to the collecting pressures that had occurred in other areas along the south coast.

From: Mike Beanan <[redacted]>
Sent: Friday, March 14, 2025 10:41 AM
To: FGC <FGC@fgc.ca.gov>
Cc: Ashcraft, Susan@FGC <[redacted]>
Subject: Petition 2023-24-R

Hi,

Please add my comments for the record in evaluating Petition 2023-24-R.

Thank you,

Mike Beanan

Laguna Bluebelt Coalition

Laguna Bluebelt - Working Together for a Healthy Ocean

Working Together for a Healthy Ocean. Support our New Marine ReservesYour support is critical if they are to succeed. www.lagunabluebelt.com

Mike Beanan, Co-founder, Laguna Beach Coalition

Thank you for including us in the process to evaluate and, hopefully, approve Petition 202324-R to protect all of Laguna Beach's Marine Life.

Based upon stakeholder input, we have submitted a Revised Petition offered as a compromise to support and ease near shore enforcement along one, common latitude line. The original petition followed Laguna Beach's City Limits extending southwesterly from the shoreline. This made the determination of the offshore boundary difficult according to participants at a recent stakeholder meeting hosted by the Orange County Marine Protected Area Collaborative in Dana Point. While there is some debate about who made the suggestion, which led to an unfortunate misunderstanding, the revised petition before you is a smaller SMCA No Take than originally requested but still protects kelp and essential fish habitats.

When evaluating the Petitions, I suggest we comply with and enhance the goals of the Marine Management Plan by increasing the coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage with full citywide protection. Fortunately, Laguna's unique MPAs have dramatically improved recreational, educational and study opportunities provided by marine ecosystems through coordinated enforcement by Marine Safety Lifeguards, Park Rangers and community volunteers working

together to minimize human disturbance. Petition 2023-4-R is consistent with all of the goals for the Marine Management Act and legislative intent of the Marine Life Protection Act of 1999.

I am not unfamiliar with economic challenges. I grew up in a large working class family in Northern California surfing the cold, wild waves while diving for abalone with my brothers off of Gualala and Mendocino or fishing mountain lakes. Leaving high school and to avoid the draft, I joined the Navy, studied navigation and was assigned to SEAL Team One, as a Platoon Sergeant and sent to Vietnam. Turning 21, I got out, worked my way through college and earned a degree in Biology before being hired as Assistant Dean at UC Irvine to manage veteran programs. One of my first projects was a pioneering Handicapped Scuba Project for wheelchair veterans and others…now a worldwide opportunity for the physically challenged community to enjoy and explore underwater wonders.

I continue now to swim and free dive Laguna's remarkable MPAs while traveling and Scuba diving other MPAs. I encourage FGC staff and commissioners to visit and swim Laguna's MPA and see large Sheepshead and robust kelp forests free of sea urchin barrens.

As a Californian, I feel an opportunity and responsibility to protect and restore our natural heritage - an abundant ocean teeming with sea life. Please consider approving the Laguna Bluebelt's Petition 2023-24-R as part of your legacy for California's sea life protection.





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Symbology

- City Limits
- SOCWA Effluent Transmission Line
- SOCWA Ocean Outfall
- Proposed Laguna Beach SMCA (No-Take) Adjustment

N

0 2,500 5,000

Scale in Feet

Figure 1

City of Laguna Beach
Proposed Marine Protected Area Adjustment

Laguna Bluebelt Coalition
MPA Decadal Review


Tim Duong for DanaWharf.com

SOUTH LAGUNA CIVIC ASSOCIATION
P.O. BOX 9668
SOUTH LAGUNA, CA
92652-7639
southlaguna.org

August 29, 2023

Commissioners and Staff,

Since 2012, with the implementa=on of the California Marine Life Protec=on Act of 1999, Laguna Beach has successfully managed a network of Marine Protected Areas as a statewide model of collabora=on and appreciates the support of the Fish & Game Commission in that effort.

On the heels of annexa=on of South Laguna beaches coming under the purview of the City of Laguna Beach on March 1, 2023, we are reques=ng an expansion of the “No Take SMCA” provisions to extend throughout all Laguna Beach MPAs. In addi=on to alignment with Laguna Beach’s commitment to the na=onal “30 x 30 Ini=a=ve Plan” to conserve 30% of America's land and waters by 2030, a citywide “No Take” provision will provide enforcement consistency and community equity while protec=ng South Laguna kelp reefs – key to carbon sequestra=on, rising sea temperatures and aWenua=ng bluff erosion.

Mul=ple benefits will accompany extending the Laguna Beach No Take MPA from 7.2 to 7.9 miles: from Aliso Beach and Totuava Cove through Three Arch Bay (TAB) southwest to the Laguna Beach city limit, see aWached map. TAB has excep=onal nursery beds for marine life in its bays that are not protected under our current MPAs. For this reason, coupled with the decima=ng impacts of over-fishing in the unprotected SMCA along TAB during the past 10 years, the TAB Community Services District requested in May 2023 that California Fish and Wildlife Commission extend the No Take MPA through “the southernmost point of the city of Laguna Beach – Mussel Cove, also known as Three Arch Bay.”

The Laguna Bluebelt Coali=on, Laguna Ocean Founda=on through their educa=on and outreach programs, the City of Laguna Beach’s Environmental Sustainability CommiWee, and the enthusias=c 100% support and collabora=on of our City Council and Marine Safety Department have enabled us to be strong watchdogs and local stewards of our MPAs. Together, we have focused on habitat restora=on, water-quality educa=on, wildlife and resource protec=on, and networking.

Laguna Beach’s rocky coastline has been scien=fically determined to provide ideal =depool and kelp forest habitats as a vital gene=c linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. No Take MPAs in Laguna Beach have created increased sea life popula=ons,

support an expanding variety of ecotourism recrea=onal opportuni=es, and have proven to be essen=al to mi=ga=ng decades of over-fishing.

Citywide MPA consistency will further improve ocean water quality by reducing harmful greenhouse gas emissions from fishing boats traveling from Dana Point to Laguna Beach.

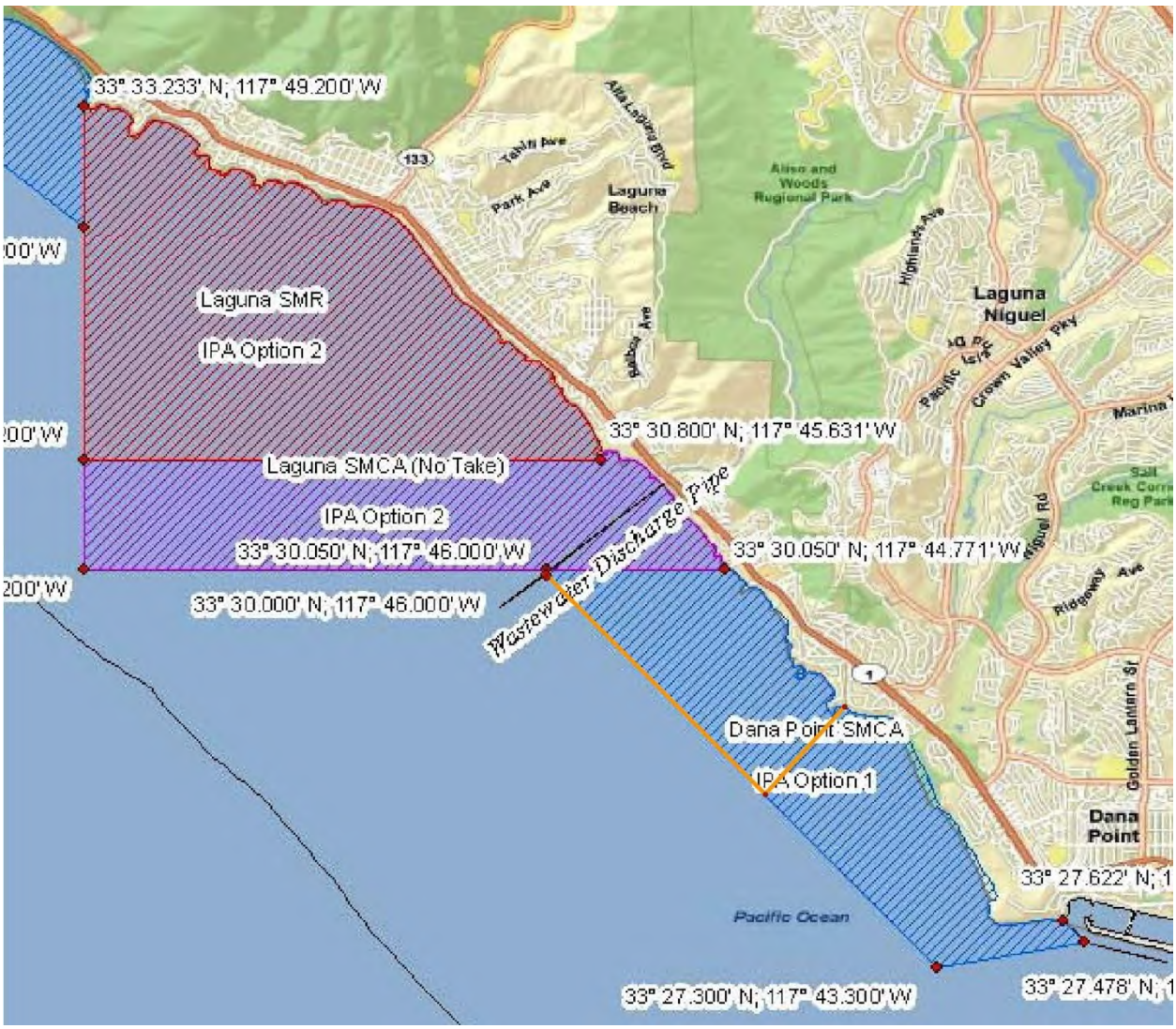
Climate change science recognizes the ocean as key to reversing nega=ve anthropogenic climate impacts.

Thank you for your support of Laguna's Marine Protected Areas and for your considera=on of an expansion of the network of No Take MPAs citywide which will increase protec=ons to California's sea life popula=ons and habitat value while benefidng us all.



Greg O'Loughlin, President
South Laguna Civic Associa=on

Orange outline indicates the proposed No Take MPA extension to Laguna Beach's southern boundary.


33° 33.233' N; 117° 49.200' W
Laguna SMR
IPA Option 2
33° 30.800' N; 117° 45.631' W
Laguna SMCA (No Take)
IPA Option 2
33° 30.050' N; 117° 46.000' W
33° 30.050' N; 117° 44.771' W
33° 30.000' N; 117° 46.000' W
Wastewater Discharge Pipe
Dana Point SMCA
IPA Option 1
Laguna Beach
Laguna Niguel
Dana Point
Aliso and Woods Regional Park
Pacific Ocean
33° 27.300' N; 117° 43.300' W
33° 27.622' N;
33° 27.478' N;

P.O. Box 1383, Laguna Beach, CA 92652 • www.LagunaCanyonConservancy.org

November 22, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
Via email: fgc@fgc.ca.gov

RE: Support for Extending Laguna Beach's Southern MPA Boundary

Dear Commissioners,

The Board of Directors of the Laguna Canyon Conservancy (LCC) joins with our local environmental colleagues and organizations in support of extending the Marine Protected Areas at the southern end of Laguna Beach.

LCC believes a revision is vital to ensuring an increase in protection of California's sea life populations and ecosystems, as well as enforcing consistency of rules and regulations, along with community equity. It is also important to achieve the City of Laguna Beach's 30 x 30 contribution to protect 30% of the world's coastal marine areas by 2030.

As stewards of our wilderness, we hope the Commission will support the goals and requests of Laguna Beach's environmental groups to expand the network of No Take MPAs citywide and protect our coastal environment for present and future generations to come. Thank you in advance for making this critical step forward.

Laguna Canyon Conservancy is a non-profit, all-volunteer environmental organization founded in 1988 to Save and Protect Laguna Canyon. LCC members have been involved in expanding the South Coast Wilderness nature reserves of Orange County that now include over 22,000 acres of parks, open space, and marine preserves. For more information, please visit: www.LagunaCanyonConservancy.org

Sincerely,



Gayle Waite
President, Laguna Canyon Conservancy

Cc: City Council of Laguna Beach
Jeremy Frimond, Assistant City Manager

March 9, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
fgc@fgc.ca.gov

RE: Letter of Support for Citywide "No Take"
Marine Protected Areas (SMR and SMCA) in Laguna Beach, Orange County, California

Commissioners and Staff,

With the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of MPAs as a statewide model of collaboration, education and enforcement. To provide citywide enforcement consistency, the Laguna Bluebelt Coalition requests extending "no take" provisions to include all of Laguna Beach's State Marine Conservation Areas (SMCAs) to the southern City Limits.

Laguna Beach's rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. The City of Laguna Beach continues to benefit economically and ecologically from Marine Protected Areas with experienced Marine Protection Officers (MPOs), community vigilance, marine life education and comprehensive fishing restrictions.

The South Laguna SMCA is characterized by steep bluffs and compact coves to create a unique coastal ecology with tide pools, deep rocks and kelp forests. Wave action and backwash energy from bluffs surrounded by offshore kelp forests offers a local mixing zone for marine mammal and sealife foraging. Annual migrations of California Gray Whales often use South Laguna Coves as a rest stop for mothers and calves. Laguna Beach's other No Take MPAs have increased sea life populations and currently support a variety of ecotourism recreational opportunities.

While most of Laguna Beach restricts fishing, South Laguna is a designated State Marine Conservation Area allowing recreational and commercial fishing. Daily, concentrated fishing effort in the South Laguna SMCA has unfortunately contributed to over-fishing during the past ten years by recreational fishers and commercial passenger fishing vessels (CPFVs). Expansion of Laguna Beach's MPAs is essential to mitigate decades of regional over-fishing.

Expanding "No Take" provisions for all City MPAs will contribute to the City's commitment to the national "30 x 30 Initiative Plan" to conserve 30% of America's land and waters by 2030. The March 1, 2023 annexation of South Laguna beach areas by the City of Laguna Beach requires "No Take" provisions for the South Laguna SMCA to provide citywide enforcement consistency and community equity.

Climate change science recognizes the ocean as key to reversing negative anthropogenic climate impacts and the City of Laguna Beach is committed to a Climate Action Plan. Citywide MPA enforcement

consistency will improve ocean water quality by reducing harmful greenhouse gas emissions from commercial fishing boats traveling far from Dana Point to fish in South Laguna.

The City Council proudly supports the Marine Protected Areas and City policies encourage exapnding marine life refuges.

Thank you for your dedicated efforts to protect California's marine life and for considering our request to extend citywide "No Take" protection for all of Laguna Beach's MPAs.

Mike Beanan
Laguna Bluebelt Coalition https://www.lagunabluebelt.com/

References: https://www.lagunabeachcity.net/home/showpublisheddocument/8148/637406985535730000

City of Laguna Beach: Tide Pools and Marine Habitats

2A Encourage the expansion of the Marine Life Refuges and the designation of particularly unique or ecologically sensitive coastal areas as Ecological Reserves (such as seal and bird rocks), pursuant to the provisions of the State Department of Fish and Game.

ORANGE COUNTY COASTKEEPER®

3151 Airway Ave, Suite F-110
Costa Mesa, CA 92626
714-850-1965
www.coastkeeper.org

California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Re: Support for Laguna Bluebelt Coalition Petition to extend the no-take SMCA to the southern boundary of the City of Laguna Beach

Dear President Sklar and Commissioners,

OC Coastkeeper has the mission to protect swimmable, drinkable, fishable water and promote watershed resilience throughout our region. We have been actively working to support and implement Marine Protected Areas since the passage of the Marine Life Protection Act. We support the Laguna Bluebelt Coalition's petition regarding an extension of the Laguna

Beach no-take SMCA boundary to the southern border of the city and urge you to approve this proposed boundary change.

Orange County beaches have some of the most beautiful beaches and coves found anywhere in the world. Visitation is high, and therefore the protection offered by the MPAs is vital. Most of the city is protected by the Laguna Beach State Marine Reserve (SMR) and the Laguna Beach no-take State Marine Conservation Area (SMCA). However, there is a stretch of coastline that lies within the city limits that does not receive the same level of protection. Commercial and recreational fishing is permitted in these waters and residents are alarmed by the amount of fishing and the number of lobster traps that they see regularly. This area of the coastline has not been sufficiently studied to get scientific data on the impact of fishing, but local residents that spend substantial time in the water have noted a decrease in fish in the unprotected area.

These coves support vital kelp forest habitat, which is on the decline across the state. The rocky substrate that supports the kelp as well as the fish and invertebrates that utilize the kelp are impacted by lobster traps and anchors. The kelp is still present, but now fails to reach the surface. We must protect this habitat while it still has the ability to come back.

Another concern in this area is the whale migration route. Whales frequently come in close to the shore through Laguna Beach on their migration to and from the calving and breeding grounds in Baja California. During Lobster season, the whales run into a virtual wall of lobster ropes and buoys, which pose a serious threat to entanglement.

Extension of the no take SMCA boundary south will assist enforcement of MPA regulations by making the entire City of Laguna Beach a no take zone. The City of Laguna Beach has recently taken over management of all of the beaches in the city. Until last summer, the County of Orange was in charge of managing all of the beaches south of Aliso Creek. Now that beach management is consistent throughout the city, the MPA rules should be consistent as well. This will make it easier for the public to identify where they can and can't fish, and for enforcement officers to do their job.

To help MPA enforcement, protect whales, and preserve the remaining kelp beds, we urge the commission **to extend the no-take SMCA boundary to coincide with the southern boundary of the City of Laguna Beach.** We enthusiastically support California's MPA Network and believe the MPAs are working to preserve biodiversity. In the case of Laguna Beach, the MPA extension will enhance the protection of vital ecosystems and create a more consistent and cohesive enforcement policy.

Sincerely,



Associate Director of Policy and Projects

THREE ARCH BAY
COMMUNITY SERVICES DISTRICT
5 BAY DRIVE, LAGUNA BEACH, CALIFORNIA 92651-6780
(949) 499-4567 FAX: (949) 499-2352

May 1, 2023

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090
fgc@fgc.ca.gov

RE: Letter of Support for Laguna Beach City-wide Marine Protected Areas including South Laguna, to the Southern Point of Mussel Cove, Orange County, California

Dear Commissioners,

Since 2012, with the implementation of the California Marine Life Protection Act of 1999, Laguna Beach has successfully managed a network of Marine Protected Areas (MPAs) as a statewide model of collaboration, education and enforcement. To provide marine protection consistently throughout all of Laguna Beach, the Community Services District of Three Arch Bay supports an extension of marine protection via "no take" Marine Conservation Areas (SMCAs) to the point at the end of Mussel Cove, which is the southern border of Laguna Beach, in the community of Three Arch Bay (TAB).

Laguna Beach's rocky coastline has been scientifically determined to provide ideal tidepool and kelp forest habitats as a vital genetic linkage for marine life between the Palos Verde Peninsula and La Jolla Cove. The City of Laguna Beach continues to benefit economically and ecologically from Marine Protected Areas.

Three Arch Bay (TAB), which includes Mussel Cove, in South Laguna's SMCA, is characterized by steep bluffs and compact coves that create a unique coastal ecology with tide pools, deep rocks and kelp forests. Wave action and backwash energy from bluffs surrounded by offshore kelp forests offers a local mixing zone for marine mammal and sea life foraging.

While most of Laguna Beach restricts fishing, the southern end of Laguna Beach was only designated a State Marine Conservation Area, which allows continued recreational and commercial fishing. Unfortunately, the over-fishing during the past ten years by commercial and recreational fishermen, including commercial passenger fishing vessels (CPFVs), has devastated the kelp beds, fish population, and sea life across South Laguna. Expansion of Laguna Beach's MPAs is essential to mitigate decades of regional over-fishing particularly in South Laguna.

Thus, we request that you initiate and vote to provide an extended "no take" Marine Protected Area (SMR and SMCA) Citywide, across Laguna Beach, including South Laguna, to the Southern Point of Mussel Cove, Orange County, California. This would extend the existing marine protections throughout Laguna Beach, including the southernmost point of the city of Laguna Beach – Mussel Cove, also known as Three Arch Bay.

As a community, we are active stewards of our waterways and marine resources, ensuring quality management of our natural resources, and would appreciate the state's support of our efforts by extending the MPA to the Southern end of Laguna Beach.

Thank you,



Gary Rubel
President
Three Arch Bay Community Services District

Cc: City of Laguna Beach
Board Members of the TAB CSD

Outlook

Bluebelt Petition 2023-24-R

From Mike Beanan <conxtns@hotmail.com>
Date Thu 09/03/2026 12:25 PM
To FGC <FGC@fgc.ca.gov>

Fish & Game Commissioners and Staff,

Please follow the science in reviewing the attached letter for consideration in approving the Laguna Bluebelt Petition 2023-24-R for a citywide fully protected MPA.

Thank you for ensuring a transparent process by all stakeholders throughout the Decadal Review.

Mike Beanan, Petitioner
Laguna Bluebelt Coalition

Fish & Game Commission, State of California
September 4, 2026

Commissioners **Skylar**, **Anderson**, **Zavaleta**, **Murray**, **Hostler-Carmesin**
P.O. Box 944209
Sacramento, CA 94244-2090

ATTN: Melissa Miller-Henson, Director
Via Mail and Email: **FGC@FGC.CA.GOV**

Re: Laguna Bluebelt Coalition MPA Petition 2023–24–R

Commissioners and Staff,

The **Decadal Review** has provided an important opportunity to ensure that the **Marine Life Protection Act (MLPA)** continues to guide California's MPA network using **sound science** and the **Science Advisory Team (SAT)** requirements for the size and design needed to protect marine life and support recovery.

Since implementation began in **2012**, Laguna Beach's successful **Bluebelt** has demonstrated that SAT-based recommendations for minimum effective sizing and MPA design can support meaningful marine recovery outcomes. At the same time, the MLPA framework recognizes that **"minimum" is not necessarily "optimal,"** and that a precautionary approach may be appropriate when design choices affect coherence and the effectiveness of the broader network.

Today, Laguna's fully protected MPAs cover approximately **9.2 square miles**, slightly above the SAT minimum threshold of **9.0 square miles**. While this meets the minimum, the SAT-recommended ideal size is approximately **18 square miles**. The proposed "Last Mile" adjustment—intended to protect approximately **10.2 square miles** in total—supports more consistent, clear local implementation, and helps avoid a gap in protection that could reasonably reduce recovery benefits and complicate citywide messaging and enforcement alignment.

Background: MLPA's Science-First Implementation

When the statewide process began to develop California's **124-MPA Network**, the stated focus was **sound science** as the primary driver, with **secondary considerations** for socioeconomic factors, diversity, equity, and tribal considerations. That science-first structure remains essential to maintaining public trust and ensuring the network delivers on MLPA objectives.

After a decade of marine life recovery and development of robust local enforcement capability, Laguna's MPA system is beginning to produce outcomes consistent with the design intent and SAT recommendations. However, within the larger Southern California network, Laguna currently contributes a **minimum-scale** portion between **Palos Verdes and La Jolla**—a coastline span of approximately **120 miles**.

Given ecological stressors affecting marine ecosystems across the region—including wildfire impacts in parts of the Palos Verdes region, major kelp habitat losses on the Central Coast, and continued population declines in Northern California—Laguna's role as a **genetic and ecological link** becomes especially important. Protecting the "Last Mile" helps strengthen the functional effectiveness of the regional MPA network by addressing a localized boundary that may otherwise reduce ecological coherence.

Heat Wave and Ecological Context

The evaluation of **heat wave impacts** in the petition materials did not fully account for the relationship between the petition area and adjacent fully protected MPAs.

In Laguna Beach's case, the fully protected areas have not shown the same degree of ecological degradation observed elsewhere, which may reflect differences in habitat condition and ecosystem dynamics. For example, the adjacent **Dana Point SMCA** experiences similar seawater temperature conditions yet has shown historic kelp loss. That pattern suggests temperature alone may not fully explain observed differences in ecological response.

For that reason, the Coalition's request to protect the "Last Mile" is consistent with the MLPA's precautionary approach—particularly where the ecological effectiveness of a local protection boundary may influence recovery in nearby areas.

Secondary Considerations (Tribal, Socioeconomic, Justice, Diversity & Equality)

Across the multi-year Decadal Review process, the **Laguna Bluebelt Coalition** worked to build the record through **sound science**, extensive community engagement, and meaningful tribal support. Laguna's Bluebelt is also an example of integrated ecological planning within an urbanized community of approximately **24,000 residents**, with annual visits exceeding **6,000,000 tourists** from across the region and beyond.

Successfully protecting Laguna's MPAs since 2012—supported through enforcement and ongoing education—has become an integral element of local civic pride and public stewardship.

Addressing economic concerns with verified data

The Coalition recognizes the importance of socioeconomic considerations and agrees that such concerns should be evaluated using **credible, transparent, and area-specific data**, including before-and-after comparisons where available.

However, to date, the Coalition has not seen robust, transparent datasets demonstrating a clear, measurable economic harm attributable specifically to the proposed "Last Mile" area. The Coalition respectfully requests that the Commission ensure that any decisive socioeconomic conclusions are supported by verifiable evidence consistent with a science-driven MLPA approach.

Transparency, Community Support, and Scientific Verification

The Coalition's process has emphasized transparency and verification, including:

- **Reef Check** surveys and video documentation supporting observed conditions inside and outside Laguna's MPAs
- Testimony and support from **dozens of citizens** and **three tribal leaders**
- A Change.org petition with approximately **9,000 verified signatures** supporting protection of the "Last Mile"

While the petition process includes a range of stakeholder perspectives, the Coalition believes the final decision should continue to prioritize SAT guidance regarding effectiveness, then incorporate secondary considerations through a structured, evidence-based lens.

Department of Fish & Wildlife Review: Request for Consistency in the Record

The Coalition understands that agencies rely on maps, technical inputs, and review documentation when preparing findings. In the Coalition's view, the initial review process associated with **Petition 2023–24–R** included several items that appear—based on the Coalition's review—to be inconsistent or incomplete in ways that could reasonably affect downstream interpretations, including:

- Whether the **Aliso Creek Ocean Outfall Pipe** was mapped as within the petition area
- Identification of the correct **water quality board** (Santa Ana vs. San Diego Regional Water Quality Control Board)
- Identification of the correct southern land boundary
- Discussion regarding potential enforcement considerations and barriers

The Coalition further requests that, for any key boundary or enforcement assumptions (including the prominence of the southern **50-foot Sea Bluff boundary** described in the record), the Commission consider ensuring the administrative record reflects accurate, site-verified information where appropriate.

Conclusion and Recommendations

California's MPA network will continue to succeed by following **sound science** and SAT recommendations for the **effective size and configuration** of MPAs, while incorporating secondary considerations—including tribal guidance and socioeconomic impacts—through structured, verifiable analysis.

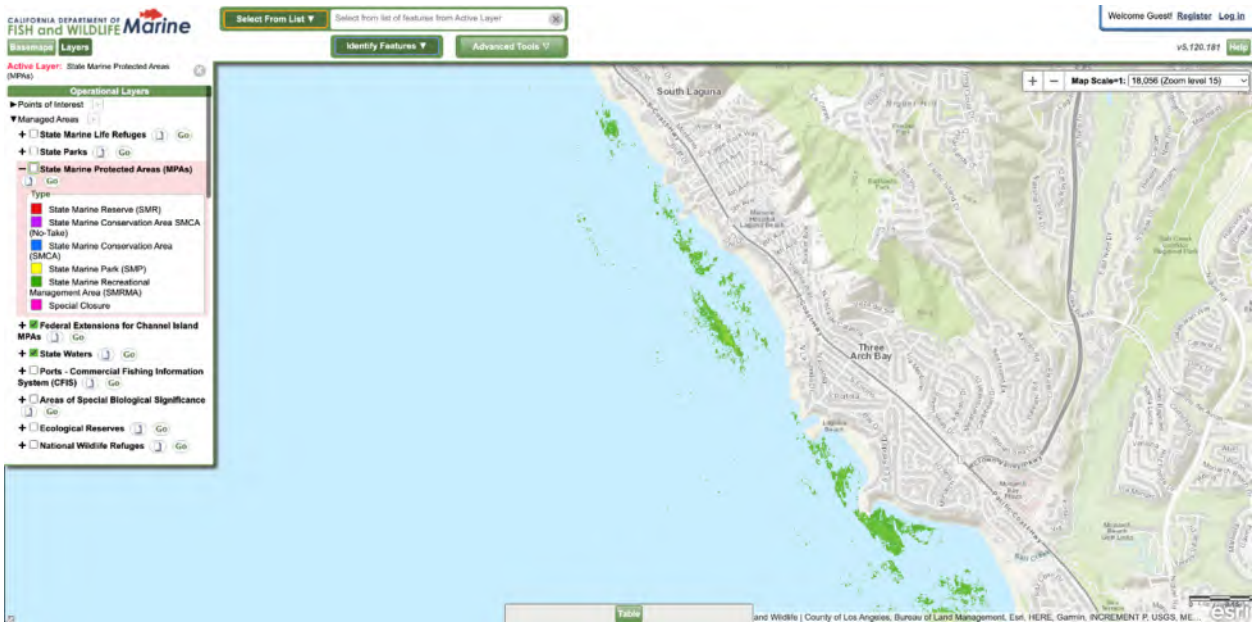
The approval of **Petition 2023–24–R** to protect the "Last Mile" for a **citywide fully protected MPA configuration** would:

- align with MLPA principles and the Decadal Review process objectives,
- strengthen regional ecological coherence, and
- support the long-term health and genetic diversity of marine resources in the Southern California network as envisioned by the MLPA.

Thank you for your dedicated service and for your commitment to protecting California's marine natural heritage.

Respectfully submitted,
Mike Beanan
Petitioner, Laguna Bluebelt Coalition

<u>Historic Kelp Forests in Petition Area</u>



Outlook

MPA Petitions 2023-24 & 2023-34

From Joe Carlucci [redacted]
Date Tue 09/29/2026 08:13 PM
To FGC <FGC@fgc.ca.gov>

Dear President Sklar and Commissioners:

My name is Joseph Carlucci. I am a lifelong resident of Huntington Beach, California.

I ask you to support CDFW's science-based recommendations on MPA Petitions nos. 2023-24 and 2023-34

I have been fishing regularly off the coast of Southern California since 1976, from the Channel Islands to Point Loma, primarily on sportfishing boats. This entire area supports multigenerational fishing, food gathering, and coastal traditions. Additional restrictions would affect that continuing community connection.

Based on the Department's site-specific review, the proposed changes have not shown a clear conservation benefit that justifies these additional restrictions. Please follow the Department's science and process, retain meaningful public access, and use targeted tools for management such as enforcement, education, bag limits, size limits, temporary closures or habitat restoration where appropriate.

Thank you.

Respectfully Submitted,

Joseph Carlucci

Outlook

MPA petition 2023-24 Laguna Beach SMCA

From Brian Woolley [redacted]
Date Wed 09/30/2026 07:15 AM
To FGC <FGC@fgc.ca.gov>

President Sklar and Commissioners,

My name is Brian Woolley, and I am a 30-year Commercial Passenger Fishing Vessel (CPFV) captain at Dana Wharf Sportfishing. I have been fishing and working in the area of the proposed petition for that same period of time.
I ask you to support CDFW's recommendations on the non-tribal Bin 2 MPA petitions. Having spent three decades on the water here, I have personally observed the health of our local fisheries and the dedication of our angling community. Furthermore, we rely on particular areas in the Laguna Beach Marine Protected Area under petition number 2023-24MPA to take hundreds of disabled kids fishing, local kids groups and clubs, and first-time anglers.

Based on the Department's site-specific review, I do not believe the proposed change has shown a clear conservation benefit that justifies additional restrictions.

Please follow the Department's science and process, retain meaningful public access, and use targeted tools for management such as enforcement, education, bag limits, size limits, temporary closures, or habitat restoration where appropriate.

The Commission has the opportunity to show that California's MPA Network can protect marine ecosystems while remaining respectful of sustainable recreational access. The most durable path is to follow the framework already adopted and adopt CDFW's complete recommendations for the 2023-24 Bin 2 petitions.

Thank you,

Brian Woolley
Dana Wharf Sportfishing

Outlook

MPA Petition #2023-24MPA

From Brian Siwecki [redacted]
Date Wed 09/30/2026 11:13 AM
To FGC <FGC@fgc.ca.gov>

Good afternoon President Sklar and Commissioners. My name is Brian Siwecki, and I am an avid recreational angler and part time commercial angler
ask you to support CDFW's science-based recommendations on all MPA petitions. I have fished 2023-24MPA for 15 plus years, and I have personally observed how lifechanging this area for fishing has been to me as well as other families and their kids from sport boats operating out of Dana Point as well as private boaters. Based on the Department's site-specific review, I do not believe the proposed change has shown a clear conservation benefit that justifies additional restrictions. Please follow the Department's science and process, retain meaningful public access, and use targeted tools for management such as enforcement, education, bag limits, size limits, temporary closures or habitat restoration where appropriate. Expanding this new area would cause a significant cultural and economic putting more families at risk of losing their jobs, local market and further destroying the State of CA.
Thank you

Brian Siwecki

Outlook

Support to Approve Petition 2023-24MPA_AM1

From Terry Barman
Date Tue 09/29/2026 08:41 AM
To FGC <FGC@fgc.ca.gov>

California Fish and Game Commission
P. O. Box 944209
Sacramento, CA 94244-2090
Subject: Petition 2023-24MPA-AM1 to protect the last mile of Laguna Beach's reefs.

Dear Commissioners:

I am a Laguna Beach resident who moved to Laguna Beach because of the beautiful coves and beaches. I have lived her for over 30 years and have been a free-diver in the water the entire time. When I first moved here, I was horrified to see spear fishermen walk into the water with spear locked and loaded as they passed by children frolicking and swimming in the ocean. Thanks to the tireless effort of the Laguna Bluebelt Coalition and their many supports, Laguna Beach has a beautiful Marine Protected Area. I have personally watched the kelp be replenished and the fish populations thrive. You have to swim in such a paradise to really appreciate it.

Some people say that they want to see the data that MPAs work. My answer to that is there was enough data to convince 193 United Nation member nations to create the world's first treaty to protect the high seas and preserve marine biodiversity, The High Seas Treaty & Biodiversity Beyond. In September 2025, the mandated 60 nations ratified the treaty and it became international law on January 17, 2026. One of the goals of the treaty is to have 30% of the world's oceans become Marine Protected Areas by 2030. I want Laguna Beach to be a part of that effort by expanding our MPA that "last mile". Our oceans and seas are of vital importance in the sustainability of life on Earth. They produce oxygen, regulate the climate and support billions of livelihoods.

Please help us and the world by approving Petition 2023-24MPA_AM1, and extend the Laguna Beach No-Take State Marine Conservation Area south to the City of Laguna Beach boundary and help us protect the last mile of Laguna Beach's reefs.

Thank you,

Terry Anne Barman, Laguna Beach Resident

Outlook

Laguna Bluebelt Coalition MPA Petition 2023–24–R

From Mike Beanan [redacted]
Date Tue 09/29/2026 02:48 PM
To FGC <FGC@fgc.ca.gov>
Cc Ashcraft, Susan [redacted]

Commissioners and Staff,
Please find attached the Laguna Bluebelt comment letter encouraging your support for the Laguna Bluebelt Coalition MPA Petition 2023–24–R.

Thank you for your dedication to fulfill the goals of the Marine Life Protection Act by protecting Laguna Beach's southern kelp reefs as essential sea life habitats for a successful MPA regional network.

Mike Beanan
Petitioner, Laguna Bluebelt Coalition

September 28, 2026

Commissioners Skylar, Anderson, Zavaleta, Murray, Hostler-Carmesin
Fish & Game Commission, State of California
P.O. Box 944209
Sacramento, CA 94244-2090

ATTN: Melissa Miller-Henson, Director
Via Mail and Email: FGC@FGC.CA.GOV

Re: Laguna Bluebelt Coalition MPA Petition 2023–24–R

Commissioners and Staff,

The Decadal Review has provided an important opportunity to ensure that the **Marine Life Protection Act (MLPA)** continues to guide California's MPA network using **sound science** and the **Science Advisory Team (SAT)** requirements for the size and design needed to protect marine life and support recovery through comprehensive enforcement and stakeholder transparency.

Since implementation began in 2012, Laguna Beach's successful Bluebelt has demonstrated that SAT-based recommendations for minimum effective sizing and MPA design can support meaningful marine recovery outcomes. At the same time, the MLPA framework recognizes that **"minimum" is not necessarily "optimal,"** and that a precautionary approach may be appropriate when design choices affect coherence and the effectiveness of the broader network.

Today, Laguna's fully protected MPAs cover approximately **9.2 square miles**, slightly above the SAT minimum threshold of **9.0 square miles**. While this meets the minimum, the SAT-recommended ideal size is approximately **18 square miles**. The proposed "Last Mile" adjustment—intended to protect approximately **10.2 square miles** in total—supports more consistent, clear local implementation, and helps avoid a gap in protection that could reasonably reduce recovery benefits and complicate citywide messaging and enforcement alignment.

Background: MLPA's Science-First Implementation

When the statewide process began to develop California's **124-MPA Network**, the stated focus was **sound science** as the primary driver, with **secondary considerations** for socioeconomic factors, diversity, equity, and tribal considerations. That science-first structure remains essential to maintaining public trust and ensuring the network delivers on MLPA objectives.

After a decade of marine life recovery and development of robust local enforcement capability, Laguna's MPA system is beginning to produce outcomes consistent with the design intent and SAT recommendations. However, within the larger Southern California network, Laguna currently contributes a **minimum-scale** portion between **Palos Verdes and La Jolla**—a coastline span of approximately **120 miles**.

Given ecological stressors affecting marine ecosystems across the region—including wildfire impacts in parts of the Palos Verdes region, major kelp habitat losses on the Central Coast, and continued population declines in Northern California—Laguna's role as a **genetic and ecological link** becomes especially important. Protecting the "Last Mile" helps strengthen the functional effectiveness of the regional MPA network by addressing a localized boundary that may otherwise reduce regional ecological coherence.

Heat Wave and Ecological Context

The evaluation of **heat wave impacts** in the petition materials did not fully account for the relationship between the petition area and adjacent fully protected MPAs.

In Laguna Beach's case, the fully protected areas have not shown the same degree of ecological degradation observed elsewhere, which may reflect differences in habitat condition and ecosystem dynamics. For example, the adjacent Dana Point SMCA experiences similar seawater temperature conditions yet has shown historic kelp loss. That pattern suggests temperature alone may not fully explain observed differences in ecological response.

A recent comprehensive report identifies the key variables in kelp forest recovery – Sheepshead and California spiny lobsters managing sea urchins. These two keystone species are abundant in Laguna's fully protected MPAs yet remain scarce in the adjacent Dana Point SMCA due to over-fishing.

For that reason, the Coalition's request to protect the "Last Mile" is consistent with the MLPA's precautionary approach—particularly where the ecological effectiveness of a local protection boundary may influence recovery in nearby areas.

Secondary Considerations (Tribal, Socioeconomic, Justice, Diversity & Equality)

Across the multi-year Decadal Review process, the **Laguna Bluebelt Coalition** worked to build the record through **sound science**, extensive community engagement, and meaningful tribal support. Laguna's Bluebelt is also an example of integrated ecological planning within an urbanized community of approximately **24,000 residents**, with annual visits exceeding **6,000,000 tourists** from across the region and beyond.

Successfully protecting Laguna's MPAs since 2012—supported through enforcement and ongoing education—has become an integral element of local civic pride and public stewardship.

Addressing economic concerns with verified data

The Coalition recognizes the importance of socioeconomic considerations and agrees that such concerns should be evaluated using **credible, transparent, and area-specific data**, including before-and-after comparisons where available.

However, to date, the Coalition has not seen robust, transparent datasets demonstrating a clear, measurable economic harm attributable specifically to the proposed "Last Mile" area. The Coalition respectfully requests that the Commission ensure that any decisive socioeconomic conclusions are supported by verifiable evidence consistent with a science-driven MLPA approach.

Transparency, Community Support, and Scientific Verification

The Coalition's process has emphasized transparency and verification, including:

- **Reef Check** surveys and video documentation supporting observed conditions inside and outside Laguna's MPAs
- Testimony and support from **dozens of citizens** and **three tribal leaders**
- A Change.org petition with **9,000 verified signatures** supporting protection of the "Last Mile"

While the petition process includes a range of stakeholder perspectives, the Coalition believes the final decision should continue to prioritize SAT guidance regarding effectiveness, then incorporate secondary considerations through a structured, transparent, evidence-based lens.

Department of Fish & Wildlife Review: Request for Consistency in the Record

The Coalition understands that agencies rely on maps, technical inputs, and review documentation when preparing findings. In the Coalition's view, the initial review process

associated with **Petition 2023–24–R** included several items that appear—based on the Coalition's review—to be inconsistent or incomplete in ways that could reasonably affect downstream interpretations. CDFW errors include:

- Incorrectly mapping the **Aliso Creek Ocean Outfall Pipe** as within the petition area
- Misidentification of the correct **water quality board** (Santa Ana vs. San Diego Regional Water Quality Control Board)
- Mis-labeling the correct southern land boundary
- Inaccurate enforcement considerations and barriers

The Coalition further requests that, for any key boundary or enforcement assumptions (including the prominence of the southern **50-foot Sea Bluff boundary** described in the record), the Commission consider ensuring the administrative record reflects accurate, site-verified information where appropriate.

Conclusion and Recommendations

California's MPA network will continue to succeed by following **sound science** and SAT recommendations for the **effective size and configuration** of MPAs, while incorporating secondary considerations—including tribal guidance and socioeconomic impacts—through structured, transparent, verifiable analysis.

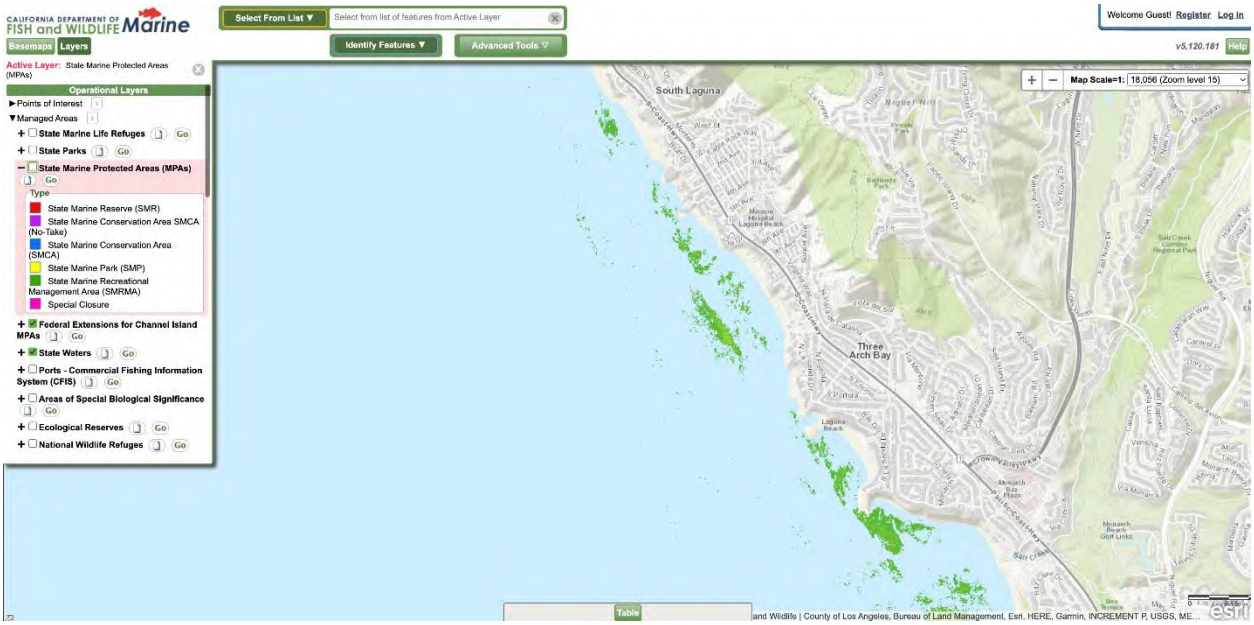
The approval of **Petition 2023–24–R** to protect the "Last Mile" for a **citywide fully protected MPA configuration** would:

- align with MLPA principles, sound science and the Decadal Review process objectives,
- strengthen regional ecological coherence, and
- support the long-term health and genetic diversity of marine resources in the Southern California network as envisioned by the MLPA.

Thank you for your dedicated service and for your commitment to protecting California's marine natural heritage by approving Petition 2023–24–R.

Respectfully submitted,
Mike Beanan
Petitioner, Laguna Bluebelt Coalition

Historic Kelp Forests in Petition Area



Outlook

Comments for October 2026 Commission Meeting

From lisa[redacted]
Date Wed 09/30/2026 01:40 PM
To FGC <FGC@fgc.ca.gov>

Dear CA Fish and Game Commission,

Please find our letter attached to be considered as public comments for the October 2026 Commission Meeting regarding MPA Petitions.
Please feel free to reach out to me if you have any questions.

Thank you,

Lisa Bridge
Everingham Bros. Bait Co.
Office: (619) 477-2248
[redacted]



9/30/2026

To: California Fish and Game Commission

Everingham Bros. Bait Co. is a commercial fishing business in operation for the last 75 years catching and selling live bait. We have bait barges located in San Diego Bay, Mission Bay, and Dana Point Harbor where we sell the live bait to our customers. Our customers include private boaters and sportboats (commercial passenger fishing vessels or CPFVs) across the entire Southern California coast.

Everingham Bros. Bait Co. strongly supports following the recommendations of your science advisors (CDFW) and denying all of the Petitions. We are particularly concerned about Petition 2023-33MPA and Petition 2023-24MPA. These MPA fishing restrictions would have a major impact on our business and associated industries including but not limited to:

- Proposed MPAs eliminate our ability to access historically important bait fishing grounds.
- Proposed MPAs directly impact our customers by restricting them from fishing in areas where they are currently active, reducing their business, causing financial and operational hardships, and limiting public access to fishing to feed themselves and their families.
- Proposed MPAs will affect the sales and income of our business, which in turn will affect the livelihood of our 49+ employees and the many businesses that we work with to maintain our fleet of vessels and bait barge receivers.
- Proposed MPAs will negatively impact tourism, local seafood industry, and marine industries, and the significant number of small businesses in those industries.
- Proposed MPAs set a precedence for a process that increases fishing restrictions without support of scientific evidence or consideration of negative impacts.

Our company is also a member of the San Diego Fishermen's Working Group (SDFWG) and the Sportfishing Association of California (SAC). We concur with the written statements those associations have submitted on our behalf regarding these petitions and other petitions not specifically mentioned above.

Respectfully,

Roy Everingham, Jr.
President

Jason Dunn
General Manager

Office: (619) 477-2248
Fax: (619) 477-2240

Everingham Bros. Bait Co.
PO Box 2449, La Mesa, CA 91943

Email: baitbarge@aol.com
Website: www.baitbarge.com

Outlook

Subject: Letter in Support to Approve MPA Petition 2023-24MPA_AM1

From Steve Ernst [redacted]
Date Wed 09/30/2026 01:00 PM
To FGC <FGC@fgc.ca.gov>

Dear Commissioners,

Attached, please find my letter in support of approving MPA Petition 2023-24MPA_AM1.

Thank you so much for your consideration,
Stephen A. Ernst
Laguna Beach, California

September 30, 2026

California Fish & Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Email: fgc@fgc.ca.gov

Dear California Fish and Game Commissioners,

I am writing to express my strong support for the Laguna Bluebelt Coalition's petition to extend the Marine Protected Area (MPA) no-take protections southward to the city's southern boundary. This "last mile" expansion, spanning from Table Rock down past Thousand Steps Beach and Three Arch Bay, is vital to securing a unified, resilient coastal habitat.

Currently, unprotected reefs in South Laguna are suffering from immense ecological stress. Without uniform no-take protections, heavy fishing pressure removes key predators like California spiny lobsters and California sheephead. This allows sea urchin populations to expand unchecked. These overabundant urchins are overgrazing and eating the base of our giant kelp forests, creating devastating urchin barrens and wiping out the core habitat that local fish populations depend on for food and nursery grounds.

Data from protected zones in North and Central Laguna demonstrate that continuous, no-take protections lead to higher, more stable kelp densities and thriving marine life. Extending these boundaries to the final mile of South Laguna Beach will close a critical enforcement gap, provide an essential buffer for ecological recovery, and allow our kelp ecosystems to heal.

I've been free diving in Laguna Beach for over 30 years, and I've witnessed first-hand the differences between pre and post MPA in North Laguna Beach. I see and swim with multiple generations of California sheephead and other fish species now that the MPA has become more established. Also, when you zoom out and consider the vast area open to fishing and the relatively small area (Last Mile) we are requesting be protected, it is small by comparison but extremely meaningful for the health and well-being of our ocean and marine life environment.

I urgently request that the Commission prioritize the long-term health of our coastline and vote to approve this critical MPA boundary extension.

Thank you for your love of our Ocean and marine ecosystem and thank you for your dedication to protecting California's marine environment.

Respectfully,

Stephen Ernst
Laguna Beach, CA 92651

Outlook

Orange County Coastkeeper comments on Petition 2023-24

From Ray Hiemstra [redacted]
Date Wed 09/30/2026 01:02 PM
To FGC <FGC@fgc.ca.gov>

Hello,
Orange County Coastkeeper respectfully submits the attached comments on Petition 2023-24 for consideration by the California Fish and Game Commission at its October meeting.
Thanks,
Ray Hiemstra
Associate Director of Policy and Projects
Orange County Coastkeeper
Inland Empire Waterkeeper
[redacted]
[redacted]
www.coastkeeper.org

ORANGE COUNTY COASTKEEPER®

3151 Airway Ave, Suite F-110
Costa Mesa, CA 92626
714-850-1965
www.coastkeeper.org

September 30, 2026

California Fish and Game Commission

Subject: Laguna Beach Petition 2023-24

Dear Commissioners,

Orange County Coastkeeper is an environmental organization with the mission to protect the region's water resources so they are swimmable, drinkable, and fishable for present and future generations. We support petition 2023-24 and urge you to approve it at the October meeting. We submit the following comments to provide additional information to support your approval.

With the decision on this petition pending at the October meeting, we urge you to use the best and most accurate data for your decision. There are many recent studies referenced in this letter with relevant information on how MPAs in southern California affect kelp, fish and invertebrates that can help with your decisions. Unfortunately, that does not include the CDFW evaluation of petition 2023-24. The CDFW evaluation contains known critical errors, and in our opinion, a level of speculation in the analysis that makes it inadequate for use in your decision on this petition. While this has been said before, including during our May 19, presentation to the Commission in San Clemente. This letter provides detailed additional information to clarify these issues and provide you with the information you need to make an informed decision.

I will start with the southern boundary of the proposed petition. In the revised petition, it states that the southern boundary is located at 33° 29.052N and 117° 44.026W. This is located at the southernmost tip of a 50 foot bluff at the Three Arch Bay community as seen in the Google Earth map below:



But instead of using these coordinates, the CDFW staff evaluation uses a completely different location, along the shore of a beach in Dana Point for their evaluation as shown in the CDFW Storymap Interactive map below. I have added the location of the petition boundary for comparison to where CDFW placed the boundary for their evaluation. The difference is about 0.18 mile, and the CDFW boundary is not even within the city of Laguna Beach.



This is a critical error that resulted in an inaccurate evaluation of the feasibility and enforceability of the proposed change. Specifically, in the CDFW evaluation of question 10a *Does the proposed change align with CDFW feasibility guidelines*, the CDFW Responds "However, this does not fall on an even line of latitude. The amended coordinates provided by the petitioner overlap with the northern edge of the Dana Point city limits which could increase regulatory and enforcement complexity for this MPA across different city jurisdictions." This error also appears in the CDFW response to question 11 that asks *Does the proposed change maintain or improve enforceability of MPA regulations*, the response is "However, the amended coordinates provided by the petitioner overlap with the northern edge of the Dana Point city limits which could increase regulatory and enforcement complexity for this MPA across different city jurisdictions". CDFW staff then further elaborates on their erroneous boundary with the statement "While No-take regulations are generally easier to enforce and for the public to understand, expanding the No-take regulations into an existing MPA and split across city jurisdictions where some consumptive uses are allowed has potential to introduce enforcement challenges where none currently exist."

It is important to note that in the April 2026 Laguna Bluebelt comment letter we specifically brought up the southern boundary error and twice requested additional CDFW clarification on this error. We never got that, and when we pressed CDFW staff to correct the error during a Zoom meeting they did not deny there was an error or give any clarification. Instead, they said they would not be revising any evaluations because it would create more work and it was our job to point out the errors in the evaluation. We highlighted this error in our presentation to the Commission on May 19th, 2026, and again there was no comment by CDFW staff.

Another odd issue brought up By CDFW in 10a of the evaluation is the statement that the proposed petition boundary does not fall on an even line of latitude and that "The existing boundary aligns with a readily determinable line of latitude, and a prominent coastal outcrop of nearshore rocks". The fact is that none of the boundaries in any Orange County MPA are on an even line of latitude, and that the proposed boundary of 33° 29.052N is just as clear as the existing one of 33° 30.050N. Additionally, the proposed boundary is located at a very prominent 50 foot bluff that is far more identifiable than the existing landmark, as seen in the map below.



in

These errors take on even more importance when put into the larger context of the review of the petition by state and local agencies. The Ocean Protection Council's review of the petition cites enforcement challenges in their decision not to make a recommendation on this petition. Their letter specifically states "OPC notes that the existing boundary of the Laguna Beach No-Take SMCA currently aligns with both a clear latitude line as well as prominent rocky outcroppings, which serve as a helpful landmark for both boat-based and shore-based anglers." The fact is that the proposed boundary also lies on a clear latitude line and has an even more prominent landmark than the existing one that will make it easier for boat and shore based anglers to identify. Also, the Laguna Beach City Council specifically stated that the CDFW evaluation was the foundation for their decision.

Another uncorrected error occurs in the CDFW response to evaluation question 4 *Does the proposed change have the potential to affect existing regulations, permits, leases, or management activities of any other agency or entity?* The CDFW responds Yes and then goes on

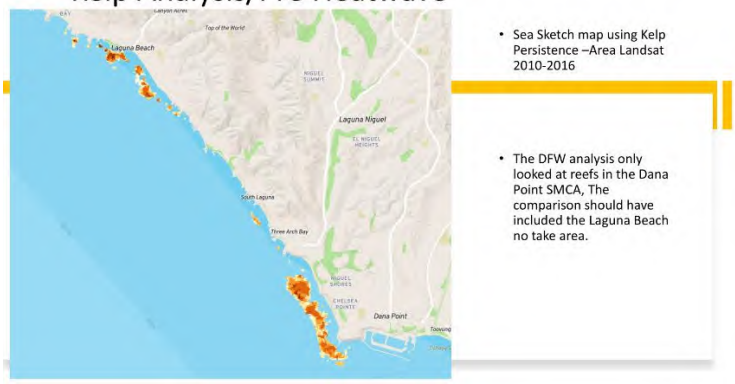
to say that it may affect a permit for a wastewater outfall pipe that is not even in the petition area (it is in the existing Laguna Beach SMCA) and reference the Santa Ana Regional Water Quality Control Board when all of Laguna Beach is within the San Diego Regional Water Quality Control Board's jurisdiction. This is just another example of what seems to be a basic lack of understanding of the geography and regulatory setting of the petition area by CDFW staff.

Moving beyond the above obvious errors in the evaluation, there are also a number of questions that are answered with assumptions and opinions rather than with facts:

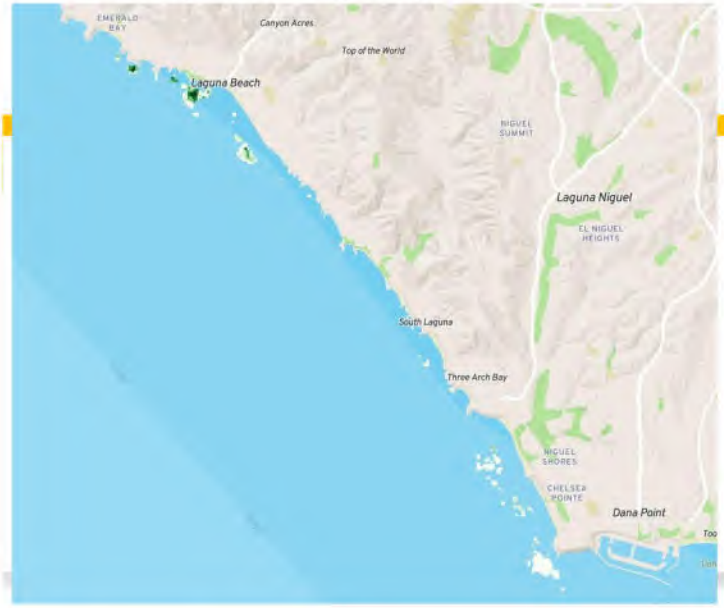
The first example is the CDFW opinion on economic impacts to the fishery. In their evaluation narrative they state that "A detailed analysis of the socioeconomic impacts of this proposed change is an information gap." Then they go on to say they anticipate significant impacts based on catch landings and CDFW knowledge. This is clearly an opinion, and there is good reason to call this opinion into question. CDFW provides no explanation of what "significant" means in this context, and extrapolated data from a huge fishing block for analysis of the 1.3 sq mile petition area. In the narrative CDFW also states that the petition area "Would eliminate nearly half of the fishing grounds within the boundaries of the Dana Point SMCA…" Yet a measurement of the extent of the petition area shows it only makes up 34% of the Dana Point SMCA. That is far less than half, so it appears that the CDFW finding of significant impacts is also based on an inaccurate assumption of the amount of fishing area impacted by the petition. We will never know since there is no explanation of how CDFW came up with its conclusions, just one graphic. However, data from a recent study does show that lobster fisheries adjacent to MPAs show a large increase in catch rates, even with increases in fishing pressure. The Dana Point lobster fishery has been doing very well since the creation of the adjacent MPAs and there is no direct evidence that this proposed small expansion will result in significantly decreased lobster catch.

Another example is the analysis of kelp in the petition area. The CDFW evaluation focuses only on the kelp canopy in the Dana Point SMCA before and after the 2014-16 heat wave to say that fishing pressure had not impacted the kelp at that time. However, they completely ignore current condition of the kelp canopy inside and outside the fully protected MPAs. Maps from Sea Sketch below show that while kelp has declined across the area, the remaining kelp is much more robust inside the fully protected MPAs than outside.

Kelp Analysis/Pre Heatwave



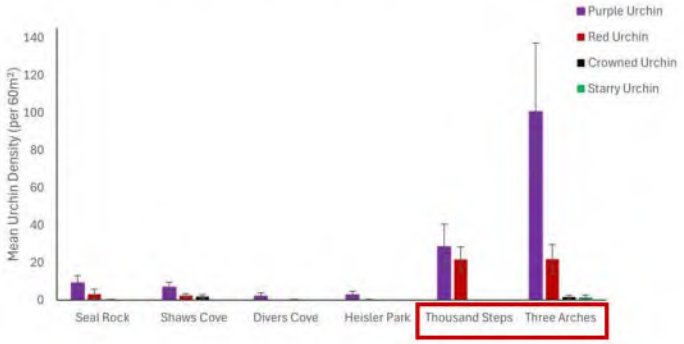
Kelp Analysis/Post Heatwave



- Sea Sketch map using Kelp Persistence – Area Landsat 2017-2023
- Although initial kelp loss can be attributed to the 2014-2016 marine heatwave, we can also observe that areas within the MPA have seen better recovery and exhibit higher kelp persistence than those within the Dana Point SMCA. If no other site specific drivers exist other than fishing, then what is driving the disproportionate kelp recovery across these areas?

The question this poses is what is driving the disproportionate kelp recovery across these MPAs following the marine heat wave? Looking at recent data, some of which was unavailable to CDFW before their evaluation, the answer is clear. A 2024 study showed full MPA protection improved both kelp resistance to, and recovery from, extreme marine heat waves, and that the current network of MPAs offers resilience to climate change impacts, but only when and where MPAs successfully protect urchin predators. A more recent 2026 study done by Reefcheck showed that the Thousand Steps and Three Arch reefs in the petition area have much higher urchin densities than those in fully protected areas. This information was presented to the Commission by Jaclyn Mann of Reef Check at the May 19th meeting in San Clemente and a slide from the presentation is below.

Current Sea Urchin Densities Inside and Outside the Laguna Beach SMR



Looking at this data, the logical conclusion is that there is a lack of urchin predators in the unprotected area. The large sheephead and lobsters that prey on urchins are prime targets of the Commercial Passenger Fishing vessels and commercial lobster fishers that heavily fish these two reefs. Anchor drag and other artifacts of fishing efforts, such as setting lobster traps, obviously cause damage to the rocky reef that is suitable habitat for giant kelp, and while it is unclear if this activity is the primary contributor to kelp loss and/or hindering kelp recovery in the northern portion of the Dana Point SMCA, it is clearly a contributor. The precautionary principle suggests that full MPA protection should result in a better balance of predator/urchin relationship and a better chance of kelp recovery.

Another questionable opinion occurs in the CDFW response to question 15 *Does the proposed change have the potential to affect consumptive and/or non consumptive activities? If so, how.* Here the CDFW staff speculates that the petition area is "very popular" with shore fishers but provides no data. The facts say something different. MPA Watch program data from the petition area showed that during eighty-seven human use surveys over a ten year period from March 1 of 2016 to March 31 of 2026, only nine people were observed shore fishing in the petition area. Due to private property restrictions on public access, shore fishing opportunities in the petition area are minimal. Thousand Steps beach, which would become inaccessible to shore fishing due to the petition is only 0.41 miles of coast, less than half of the proposed petition along the coast. Even testimony from local fishers that oppose the petition confirm that few people shore fish there.

More CDFW speculation shows up in their statement regarding whale entanglement. In the evaluation narrative CDFW states that "It is possible that lobster fishery interactions with gray whales may occur when the whales are migrating through the area. NOAA Fisheries' whale entanglement database reports that gray whale entanglements along their migration route have occurred in California along the Southern California Bight…" They then go on to question where entanglements happen and say "Extending the boundary of the Laguna Beach No-take SMCA into the northern portion of the Dana Point SMCA would likely shift lobster fishing effort further offshore outside of the MPAs, and/or shift fishing efforts south to the new boundary. In either case, this is still within the path of migrating whales." This is an entirely speculative opinion. CDFW staff have no idea where any displaced lobster traps would go, or if they would be a threat to whales in a different location. The clear fact is that if there are no traps in the petition area whales can't get entangled there. Vague statements about the potential future placement of traps and whales getting entangled somewhere else have no value in evaluating the petition area.

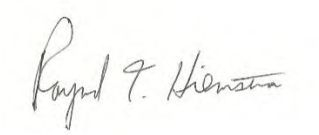
I also want to address the overall approach of the petition evaluation process. Fish and Game Code 2852a states: Adaptive management with regard to marine protected areas, means a management policy that seeks to improve management of biological resources, particularly in areas of scientific uncertainty, by viewing program actions as tools for learning. That calls for the Commission to lean into the science and test hypothesis like the reef recovery we hope to see under this petition. This petition was designed to be a small step in an attempt to answer a

big question, can kelp beds recover better when fishing pressure is removed? Recent studies suggest the answer is yes. Now is the opportunity to test this under controlled conditions.

In conclusion I urge the Fish and Game Commission to embrace adaptive management and use the best available science to learn how to improve individual MPAs as well as the overall network. The vast majority of the public uses our ocean resources in non consumptive ways. They expect and deserve a thriving marine environment, that can also provide healthy and sustainable seafood for generations to come. Your approval of petition 2023-24 is a step in that direction.

Sincerely,

Raymond Hiemstra



Associate Director of Policy and Projects

Outlook

Support for Petition 2023-24 Laguna Beach SMCA expansion

From Vy Vo [redacted]
Date Wed 09/30/2026 01:49 PM
To FGC <FGC@fgc.ca.gov>

Commissioners and Staff, my name is Vy Vo and I support the expansion of the Laguna Beach State Marine Conservation Area as a resident of Orange County.
The expansion of the Laguna Beach Marine Protected Area is essential for the stability of various fields: healthier kelp forests, consistency in rules, biodiversity, and climate resilience.
A 2026 study done by Reef Check shows that reefs inside the Laguna Beach Reserve are more abundant, and have a greater diversity of fish and plant life than those in the proposed expansion area. This study is the best available science for the area, and the results should be no surprise to anyone. Intense fishing pressure in areas near kelp forests creates issues of an overpopulation of sea urchins. This has removed many Sheephead and Lobsters that make up a critical component
of the reef ecosystem. The small one mile expansion of the Laguna Beach State Marine Conservation Area will provide the reefs there the opportunity to recover naturally to the abundance we see in the Reserve area. When fully protecting the Reserve area, it allows California spiny lobsters and California sheephead to be more numerous. These exact predators hunt sea urchins and keep the populations at a healthy level. This allows kelp forests to recover which in return provides vital shelter and food for various types of marine species (garibaldi, kelp bass, abalone, and more). It has been scientifically confirmed that fully protected areas help marine life rebound and gain back a healthy ecosystem. “Few can predict beforehand exactly where habitats will move to, and a network of MPAs helps ensure that there are several stable and safe places to go. More MPAs will increase our ocean’s resilience. MPAs have the power to turn the tides on climate change, but only if we take urgent action to increase marine protection and decrease pollution from fossil fuels and plastics” (Forest Leigh Curtis, 2020).
Alongside the protection of marine biodiversity, consistency in rules keep locals and visitors informed on the no-take boundaries. At Table Rock Beach, the boundary rules change instantly from a strict "No-Take" State Marine Reserve (where you cannot fish or take anything) to a State Marine Conservation Area that allows certain types of fishing. The invisible line confuses civilians as to where it becomes legal to non-legal. This creates scenarios where locals/visitors will fish in "No-Take" areas without knowledge.
The expansion of the Reserve area has multiple benefits. It allows for educational signs at every beach access path, creates easier enforcement tactics for park rangers and lifeguards, and it develops better compliance. When the rules are everywhere in Laguna Beach, it becomes easier for the public to remember and be mindful of the protected waters, wildlife, and land areas.

Best Regards,
Vy Vo

Outlook

Support for MPA Petition 2023-24MPA_AM1 — Extending the Laguna Beach No-Take State Marine Conservation Area Southern Boundary

From Jinger Wallace [redacted]
Date Tue 09/29/2026 01:51 PM
To FGC <FGC@fgc.ca.gov>
Cc Jinger Wallace [redacted]

September 29, 2026

Fish & Game Commission, State of California
Commissioners Zavaleta, Murray, Hostler-Carmesin, Sklar and Anderson
P.O. Box 944209,
Sacramento, CA 94244-2090
Via Email: FGC@FGC.CA.GOV

ATTN: Melissa Miller-Henson, Executive Director

RE: Petition 2023-24MPA_AM1 — Scientific and Evidentiary Report to Support Extending the Laguna Beach No-Take State Marine Conservation Area Southern Boundary

Dear Commissioners,

On behalf of the Laguna Bluebelt Coalition, I respectfully submit the attached report, *The Last Mile: Scientific and Evidentiary Support for Extending Marine Protection to South Laguna's Unprotected Reefs*, in support of Petition 2023-24MPA_AM1. The petition extends the Laguna Beach No-Take State Marine Conservation Area south to the City of Laguna Beach's southern limit, filling a gap in protection where fishing remains legal, unlike the protected reefs immediately to the north.

New analysis with a direct impact on the Commission's decision is included here: forty years of satellite kelp-canopy data, Reef Check's own long-term predator-size survey findings, CDFW's own published research on sheephead predation, and nearly three years of documented, verified fishing activity at Thousand Steps.

Taken together, this evidence shows the reef has reached what marine ecologists call a Tipping Point, and will not recover without additional protection. Both CDFW and OPC's evaluations explicitly concede the extension would increase protection and likely benefit fished species. Their objections rest on boundary clarity and enforcement — concerns OPC adopted directly from CDFW's evaluation — and, in CDFW's case, a further disagreement over whether the 2014–2016 heatwave alone explains the decline, a question this report addresses directly.

We recognize the Commission's time is limited and its responsibilities many. We have made every effort to ensure this report is precise, thoroughly sourced, and directly useful to your review. We respectfully request that the Commission approve Petition 2023-24MPA_AM1, and we thank you for your continued attention to South Laguna's reefs.

Respectfully submitted,

Jinger Wallace
Board Member, Laguna Bluebelt Coalition

September 29, 2026

Fish & Game Commission, State of California
Commissioners Zavaleta, Murray, Hostler-Carmesin, Sklar and Anderson
P.O. Box 944209,
Sacramento, CA 94244-2090
Via Email: FGC@FGC.CA.GOV

ATTN: Melissa Miller-Henson, Executive Director

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We recognize the Commission's time is limited and its responsibilities many. We have made every effort to ensure this report is precise, thoroughly sourced, and directly useful to your review. We respectfully request that the Commission approve Petition 2023-24MPA_AM1, and we thank you for your continued attention to South Laguna's reefs.

Respectfully submitted,

Jinger Wallace
Board Member, Laguna Bluebelt Coalition

The Last Mile

Scientific and Evidentiary Support for Extending Marine Protection to South Laguna's Unprotected Reefs

Supplemental Analysis in Support of Petition 2023-24MPA_AM1

(Extending the Laguna Beach No-Take State Marine Conservation Area Southern Boundary)

Prepared for the California Fish and Game Commission

Submitted by Jinger Wallace, Board Member, Laguna Bluebelt Coalition

September 2026

Executive Summary

New evidence compiled for the California Fish and Game Commission provides the data and analysis needed to support approval of Petition 2023-24MPA_AM1. The petition asks the Commission to extend the Laguna Beach No-Take State Marine Conservation Area southward, filling a gap in protection where fishing remains legal, unlike the protected reefs to the north. This report exists because California's Legislature, scientific experts, and Commissioners have rightly made it clear that petitions to expand marine protection should be approved when they are necessary and important to our fisheries and the goals of the Marine Life Protection Act (MLPA). The Act itself anticipates exactly this kind of case: it defines *"adaptive management"* as a policy that seeks to improve management of marine resources, *"particularly in areas of scientific uncertainty, by viewing program actions as tools for learning."* We believe South Laguna's case meets that standard. Thousand Steps reef has already reached a Tipping Point — the threshold beyond which a kelp forest shifts into a barren state that will not reverse on its own without additional protection.

Source: California Fish and Game Code, Chapter 10.5 (Marine Life Protection Act), Section 2852.

South Laguna's kelp forest is not simply less protected than it should be — it is showing the specific, well-documented ecological signature of a **Tipping Point**. This is not a reef system that has simply gotten worse. It has entered a self-sustaining downward spiral that will not reverse on its own. Protection is the next logical, responsible step — one shown to reverse this same kind of decline elsewhere — and meets precisely the kind of risk the precautionary principle exists to address.

Thousand Steps reef once supported a substantial, thriving kelp forest — 38.1% average coverage before the 2014–2016 heatwave, higher than Laguna Beach's own protected reefs over the same period. Today, that kelp coverage averages just 0.2% — effectively zero, and has not changed for over a decade. The scientific record — including guidelines from California's own Marine Life Protection Act Science Advisory Team, species science from the California Department of Fish and Wildlife, and California's 2025 statewide kelp forest monitoring — explains exactly why: the predator species capable of stopping this shift, and preventing it from happening in the first place (California sheephead and California spiny lobster), are the same species still being actively, continuously fished at this exact location. This report presents the evidence to protect both sites, and respectfully asks the Commission to approve this petition.

Note: Kelpwatch/Landsat satellite data. Thousand Steps reef kelp coverage averaged 38.1% before the 2014–2016 heatwave (2009–2014), falling to 0.2% in recent years (2023–2026).

1. Protect the Last Mile

Kelp forests are among the ocean's most productive ecosystems, often compared to rainforests for the sheer density of life they support. A single kelp forest provides food, shelter, and nursery habitat for hundreds of species — from the urchins and abalone living at its base to the fish, seabirds, and marine mammals that depend on the structure it creates in the water column. When a kelp forest disappears, it doesn't just mean less kelp — it means the loss of the physical foundation an entire nearshore ecosystem is built on, one that supports our fisheries and economy.

The Laguna Beach State Marine Reserve (SMR) and the adjoining Laguna Beach No-Take State Marine Conservation Area (SMCA) protect most of the Laguna Beach shoreline, extending south to Table Rock

(33°30.050’N). There, the coastline falls within the Dana Point SMCA where recreational and commercial take of finfish, lobster, and urchin remains legal.

Reef Check's own report on the area states plainly that this represents *“an additional mile of coastline”* that “remains unprotected” — even though it functions as part of the same reef ecosystem that CDFW's Laguna Beach MPA cluster was already designed to protect. The Petition proposes closing that gap, extending the No-Take SMCA boundary to encompass this entire unprotected mile. Two reef sites anchor this stretch: **Thousand Steps**, roughly a quarter mile south of Table Rock, and **Three Arch Bay**, at the stretch's southern end, near the proposed new boundary. This report presents the evidence to protect both sites.

Source: Reef Check California, Laguna Beach Coastal Kelp Forest Evaluation, Jaclyn Mann, Feb. 2026.

2. The Case for Protecting South Laguna's Reefs

2.1 A Tipping Point at Thousand Steps

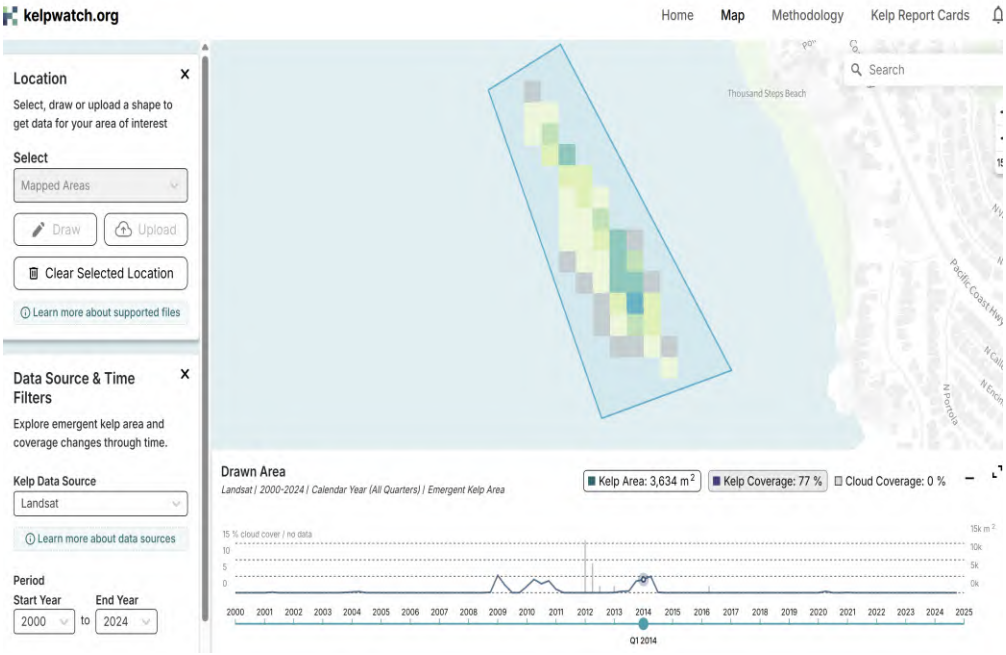
The clearest evidence of this threshold sits at Thousand Steps. In 2014, this reef grew a substantial kelp forest, recruited naturally — not through direct planting — from a 2012 countywide restoration effort that seeded kelp spores at 15 source sites along the Orange County coast specifically so nearby reefs could regenerate kelp on their own. Thousand Steps did exactly that: by 2014, it supported the best kelp coverage this stretch of coastline had seen in thirty years. That kelp forest disappeared in 2015 and has never returned.

The timing tells the story precisely. In the six years immediately before the 2014–2016 heatwave, Thousand Steps averaged 38.1% kelp canopy coverage — a real, substantial, functioning kelp habitat that this reef built on its own, higher even than Laguna Beach's protected reefs averaged over the same years. In the four most recent years, 2023 through 2026, that average has collapsed to just 0.2% — effectively zero, and did not change for over a decade. This was not a marginal or occasional presence that simply faded. It was a real kelp forest, capable of naturally regenerating itself once given the chance, that vanished with the heatwave and has shown no capacity to recover since. The question is why.

Note: Kelpwatch/Landsat satellite data, quarterly, 1984–2026. Thousand Steps held kelp for an unbroken 11-quarter stretch ending in 2014. Pre-heatwave average (2009–2014): 38.1% coverage. Recent average (2023–2026): 0.2%.

Source: Kelpwatch.org (Bell, Cavanaugh, Siegel et al.), Landsat kelp canopy dataset, 1984–2026.

Thousand Steps Kelp Bed, Q1 2014 at 77% Coverage



Note: Kelpwatch.org mapping tool, Thousand Steps kelp bed, Q1 2014 — drawn polygon shows 3,634 m² of mapped kelp area at 77% kelp coverage within the surveyed area, part of the same pre-heatwave kelp bed discussed above.

This is not merely an absence of kelp — it is active, ongoing suppression. Marine biologist Nancy Caruso, who led the original 2012 restoration effort, confirmed on a recent site visit that red urchins are now present at Thousand Steps out in the open — a sign of actively feeding behavior, not dormant grazers sheltering in crevices.

Thousand Steps' seafloor is low-lying bedrock — solid, stable substrate well-suited to supporting kelp holdfasts, according to marine biologist Nancy Caruso's direct diving observations, not the loose cobble sometimes assumed. This is consistent with the reef's own documented history: a real, substantial ~500-meter kelp bed, confirmed independently by Kelpwatch's satellite data and Nancy Caruso's direct visual review, and further corroborated by CDFW's own evaluation, which found kelp canopy in this area *"stable... from 2010-2016."* If the substrate were fundamentally incompatible with kelp, that kelp bed could not have existed. CDFW's own evaluation raises a further, related possibility for why it hasn't returned: *"anchor drag and other artifacts of fishing efforts, such as setting lobster traps, may cause damage to the rocky reef that is suitable habitat for giant kelp"* — meaning ongoing fishing activity itself may be part of why this substrate no longer supports the kelp it once did, coupled with fishing pressure on this species that has more than tripled (+229%) since the reef's last strong kelp year.

Source: Nancy Caruso, Marine Biologist, direct observation; CDFW Evaluation of 2023-24MPA_AM, March 2026.

Three Arch Bay offers a different, equally valuable kind of protection: habitat diversity. Marine biologist Nancy Caruso, who has dived this reef extensively, describes its compact, steep-sided pinnacle structure as creating several distinct habitat zones within one reef — a wave-scoured top, current-swept slopes supporting gorgonians, and a deeper flat area with typical reef species. In 2026, Reef Check independently recorded the first starry urchin ever documented in its 19-year Laguna Beach survey

history at Three Arch Bay — a species previously seen in Southern California only at the Channel Islands. This kind of habitat variety, concentrated within a single reef, is exactly what California's Marine Life Protection Act Science Advisory Team guidelines call for when evaluating whether an MPA network achieves meaningful habitat replication and representation. Together, Thousand Steps and Three Arch Bay offer South Laguna's reefs the kind of balanced, restored habitat diversity a resilient coastal ecosystem depends on — one site rebuilding its kelp forest, the other preserving the hard-bottom diversity a healthy reef network needs.

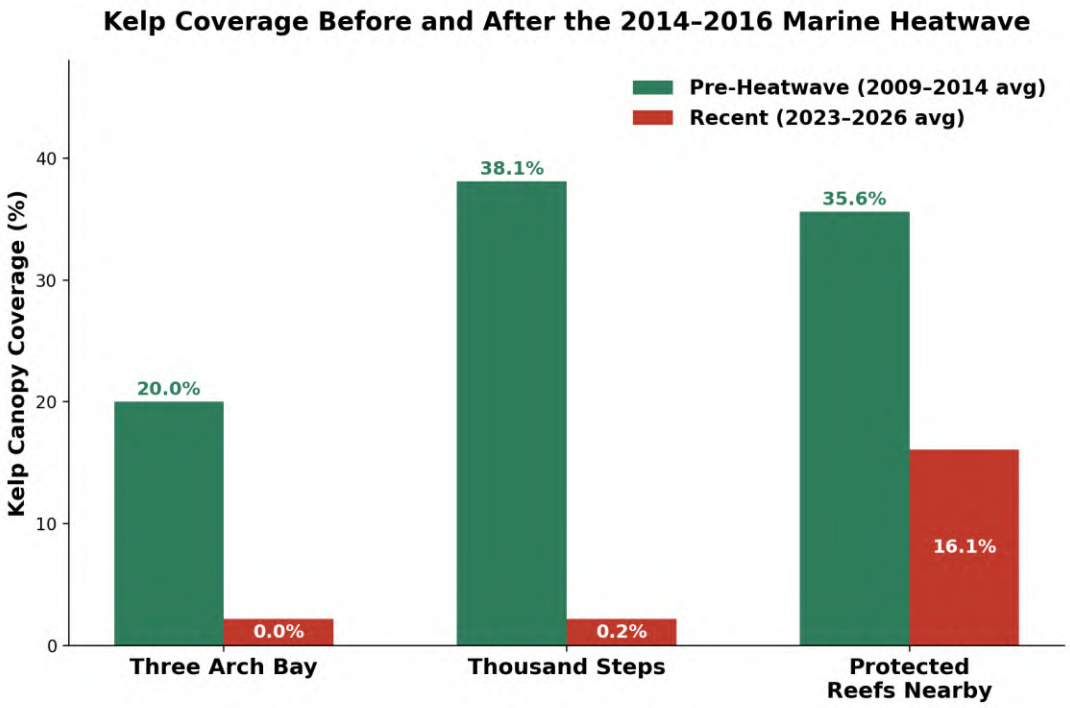
Three Arch Bay's habitat value extends beyond invertebrate diversity. Marine biologist Nancy Caruso has surveyed green abalone across 35 reef sites and over 13,000 square meters in Orange County. She reports that Three Arch Bay shows the highest green abalone density she has recorded anywhere in that survey work. Yet, even here, density remains below the 0.2 per square meter threshold generally considered necessary for a self-sustaining population. Green abalone is a species of significant ongoing conservation concern in California, where the recreational fishery has remained closed in Southern California since 1997. Like California's other abalone species, green abalone were severely depleted by decades of overharvesting, and their slow growth and limited mobility make natural recovery difficult. Without intervention, even South Laguna's strongest known green abalone population remains at risk of continued decline. Extending protection to Three Arch Bay would directly benefit this population, at the exact moment such protection is most needed.

Sources: Reef Check California, Laguna Beach Coastal Kelp Forest Evaluation, Feb. 2026; Nancy Caruso, Marine Biologist, direct observation.

2.2 The 2014–2016 Marine Heatwave

According to the National Oceanic and Atmospheric Administration (NOAA), a marine heatwave is a prolonged period in which ocean temperatures exceed the 90th percentile of historical observations for that time and place — the same basic phenomenon as a heatwave on land, but in the water, and often lasting months or years rather than days. The 2014–2016 marine heatwave that struck the California coast was among the most severe on record, and it hit every reef in this case alike: Thousand Steps, Three Arch Bay, and Laguna Beach's protected reefs all experienced the same event, at the same time, in the same region.

Source: National Oceanic and Atmospheric Administration, "The ongoing marine heat waves in U.S. waters, explained."



Source: Kelpwatch.org (Landsat satellite kelp canopy data, 1984–2026)

What happened next is the real story. In the years immediately following the heatwave, kelp coverage collapsed everywhere — including at Laguna Beach's protected reefs, which fell as low as 2.7% in some years. But the protected reefs did what a healthy reef is supposed to do afterward: they recovered. In the four most recent years, they have rebuilt to 14.1%, 14.2%, 23.9%, and 12.4% coverage — roughly half their earlier levels, and climbing. Thousand Steps has shown no equivalent recovery at all. Twelve years after the heatwave, its kelp coverage remains at 0.2% — essentially zero, exactly where it was in the worst years immediately after the heatwave hit.

Same heatwave. Same region. Same starting point. The only difference between the reef that recovered and the reef that didn't is protection status. That is not a coincidence this report is asking the Commission to overlook — it is the central fact the Commission is being asked to act on.

This is not a hypothetical concern. Rogers-Bennett and Catton (2019) document exactly this outcome in Northern California, where a different combination of predator loss and marine heatwave tipped bull kelp forests into a barren across more than 350 kilometers of coastline. The consequences have not resolved themselves. This Commission closed the recreational red abalone fishery in 2017 in direct response; on December 11, 2025, this Commission voted unanimously to extend that closure another full decade, to April 1, 2036 — a 19-year closure, and counting, for a single fishery tied to a kelp collapse this Commission has already spent nine years trying to reverse.

Sources: Rogers-Bennett & Catton (2019), Scientific Reports 9:15050; California Fish and Game Commission, Dec. 11, 2025 meeting action extending the red abalone fishery closure to April 1, 2036.

Protection status is not simply a matter of policy — it reflects whether a reef's predator population survived the heatwave healthy enough to keep urchins in check as the reef tried to recover, or whether fishing pressure had left it without that defense.

2.3 Why This Is Happening: Small Sheephead Can't Stop the Urchins

Science shows a kelp forest can usually withstand a heatwave alone, or predator loss alone — it is the combination of both that causes a permanent shift. Not all sheephead are equally effective at controlling urchins — size determines almost everything. CDFW's own species status report shows exactly how much a predator's size matters. Sheephead smaller than 8 inches do not eat urchins at all. Separately, when it comes to succeeding against specifically large urchins, sheephead under 11 inches succeed only about one time in ten, while those over 18 inches succeed more than half the time. In plain terms, a reef with only small sheephead is nearly as unprotected from urchins as a reef with none. CDFW's own data show this is not hypothetical: sheephead near the Channel Islands are getting smaller at maturity as fishing pressure has increased there, while in Mexico — where fishing pressure has stayed low — sheephead show no such change. Consequently, where fishing pressure is high, sheephead stay smaller; where it is low, they don't.

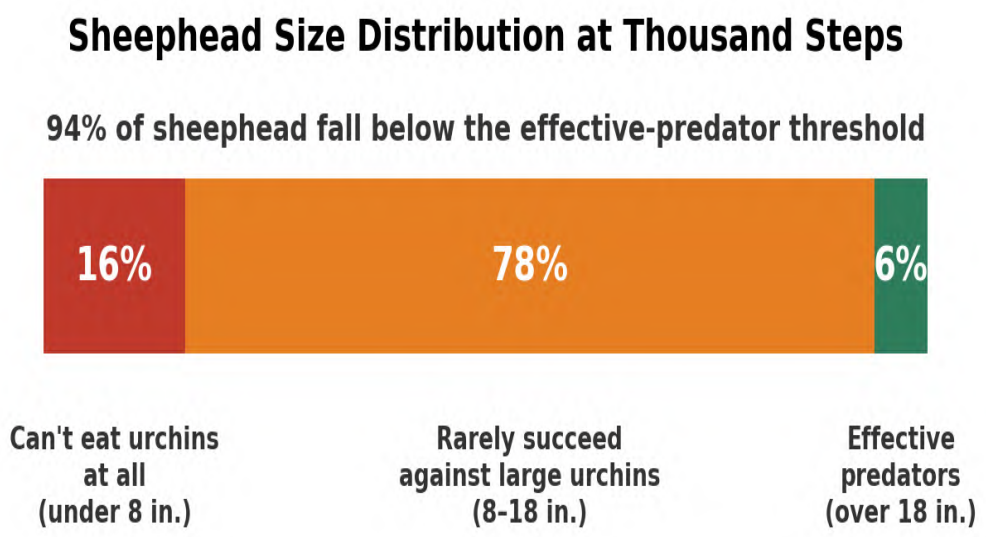
Source: CDFW, Fishery-at-a-Glance: California Sheephead (2019), citing Selden et al. (2017) and Hamilton et al. (2007).

Reef Check's own long-term monitoring program confirms what this looks like in practice, right here in Laguna Beach. Thirteen years of survey data (2007–2019) from the four protected reefs inside the Laguna Beach State Marine Reserve (SMR) — Divers Cove, Heisler Park, Seal Rock, and Shaws Cove — recorded sheephead up to 28 inches (72 centimeters) long. Neither Three Arch Bay nor Thousand Steps has produced anything close to that: the largest sheephead recorded at either site is 20.5 inches (52 centimeters), and at Three Arch Bay, just 16.1 inches (41 centimeters). Protected reefs in this exact system are demonstrably capable of growing sheephead well beyond the size CDFW identifies as an effective urchin predator. The unprotected reefs at the center of this petition are not currently producing fish anywhere near that size. This is not a claim that large sheephead are rare everywhere — it is a claim about here: these reefs do not have them, and reefs just north of them do.

Note: Comparison uses Reef Check California's full long-term dataset for the four protected sites (2007–2019, n=2,069 measured sheephead) against a single-day snapshot survey at Three Arch Bay and Thousand Steps (January 2026, n=96). The protected-site data predates the unprotected-site snapshot and is not perfectly contemporaneous; the size gap is nonetheless striking given the small sample at the unprotected sites.

Predator Loss Is the Mechanism Driving Collapse

- Protected Laguna reefs produce sheephead up to 28 inches — succeeding against large urchins more than half the time
- At Thousand Steps, 94% of sheephead are too small to reliably control urchins — only 6% reach the size CDFW identifies as an effective predator
- With so few sheephead large enough to control them, and fishing pressure on this species more than tripling fleet-wide between 2014 — the reef's last strong kelp year — and 2024, urchins at Thousand Steps have gone effectively unchecked since the kelp forest disappeared in 2015, which is precisely why, twelve years later, it still has not returned



Source: Reef Check California, January 2026 snapshot survey (n=87)

Reef Check's own 2025 statewide report — 233 sites, 20 years of data — adds two more findings. First, sheephead numbers across Southern California dropped significantly from 2021 to 2025. Second, and separately: urchin numbers across the same region, taken as a whole, have actually fallen to less than a third of what they were before the 2014–2016 heatwave — the opposite of what happened in Northern California, where urchins exploded into barrens.

Source: Freiwald et al., Status and Trends of the West Coast's Kelp Forests 2025, Reef Check Foundation, Aug. 2026.

This same size pattern was also seen firsthand by Jordan Manning, the underwater filmmaker who recorded video of Reef Check's 2026 survey of Thousand Steps and Three Arch. He confirmed on the record what the two sheephead captured on film show. Outside the protected area, the sheephead seen was a smaller female. Inside the protected area, at Crescent Bay, a larger male was filmed — consistent with what the long-term data shows: protected reefs in this system support larger sheephead than the unprotected reefs nearby.

That fishing pressure keeps sheephead smaller isn't surprising given the species' underlying biology. California sheephead can live up to 53 years but grow slowly, and often don't complete their natural transition from female to male until somewhere between ages 5 and 13 — consistent with the footage above, showing a larger male at protected Crescent Bay and a smaller female outside it. Because of this slow growth, sustained fishing pressure does not simply remove large fish once; it structurally prevents a population from replenishing them again, since each new generation takes years to grow large enough to become effective urchin predators. The IUCN lists California sheephead as a species of conservation concern for precisely these reasons.

Sources: Aquarium of the Pacific, California Sheephead Marine Species Report Card; Hamilton et al. (2011), PLOS ONE 6(9): e24580.

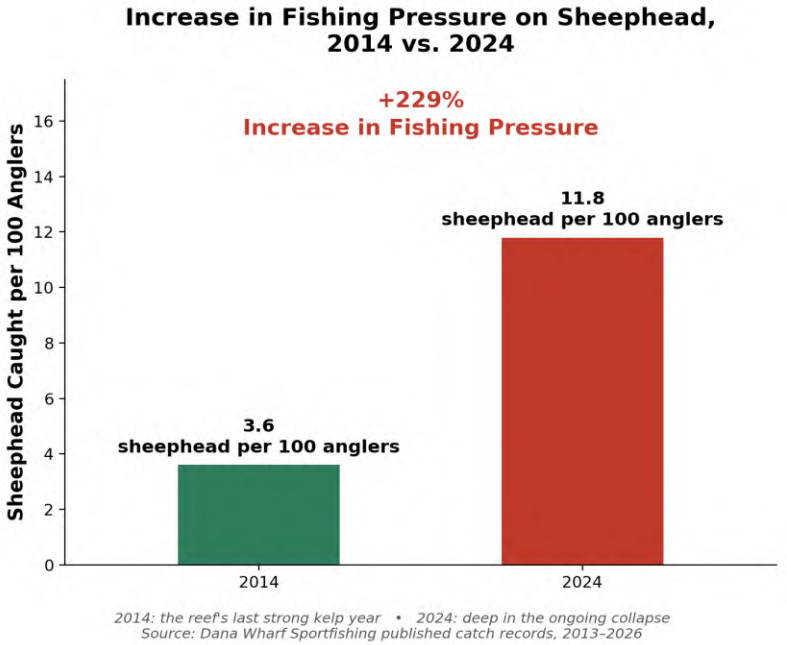
2.4 Sustained Fishing Pressure at Thousand Steps

The predation mechanism described above — that is, fishing pressure removing the large sheephead that would otherwise keep urchins in check — needs one more piece of evidence to complete the picture: proof that this kind of fishing pressure is actually happening at these specific reefs, not simply somewhere in the region. At Thousand Steps, that proof is more direct and more sustained than anywhere else in this record.

Over nearly three years, from October 2023 through August 2026, direct observation documented 50 dated sightings of Commercial Passenger Fishing Vessels (CPFV) anchored at Thousand Steps. Emails documenting these sightings, each with a photograph attached, were sent to Orange County Coastkeeper at the time for nearly all of them — not just a private log. Several boats were identified by name, including **Sum Fun**. One day in particular, September 21, 2025, recorded as many as three separate sightings within hours of each other — and Dana Wharf's own published catch records for that exact date confirm at least three distinct named boats ran half-day trips that day, independent confirmation that multiple genuinely distinct CPFV vessels were active, not the same boat observed repeatedly. Crew were seen on deck; anchor chains were heard dropping in real time. Large numbers of lobster traps are consistently observed at Thousand Steps during lobster season. This matters because California spiny lobster is the other major urchin predator in this case, alongside sheephead — meaning both key predator species are being actively fished at this same reef, not just one.

Note: on September 21, 2025, Dana Wharf's published catch records show Dana Pride (30 anglers, 11 sheephead), Reel Fun (28 anglers, 3 sheephead), and New San Mateo (7 anglers, 2 sheephead) all ran half-day trips, out of a fleet-wide total of 10 boats and 252 anglers that day.

This pattern was checked against Dana Wharf's own published catch records, and the results confirm something important: the days boats were seen at Thousand Steps were genuine, active fishing days, not incidental visits. Of 47 distinct, photographically documented dates in the sighting log, 45 matched directly to real, dated fleet catch records. On those matched days, sheephead catch per angler ran about 52% higher than the fleet's thirteen-year average — meaning the days CPFVs were personally observed at Thousand Steps were disproportionately some of the fleet's best sheephead fishing days. This is evidence of active, sustained fishing pressure at this exact site — a different but complementary signal from the size data in Section 2.3: that data shows what fishing pressure has done to the population's size structure over time; this shows the pressure is real, current, and ongoing.



This same fleet has removed over 33,000 sheephead fleet-wide since 2015 — the exact year Thousand Steps' kelp bed disappeared — underscoring that pressure on this predator species has been sustained, not occasional, throughout the entire period this reef has needed it most to recover.

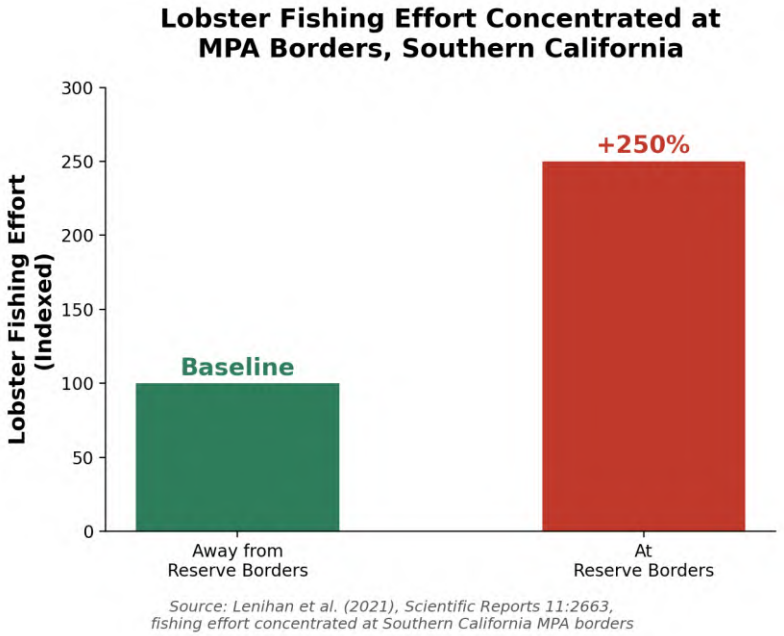
Fleet-wide sheephead catch rates, after rising steadily for a decade, have softened over the past three years — from a peak of 0.133 per angler in 2023 to 0.106 in 2026, a decline of roughly 20%, though this is fleet-wide, not site-specific, data. However, even a decade of rising catch should not be read as a sign of a healthy population. Catching a lot of fish is not the same as catching the right fish: this fleet-wide pattern is consistent with an abundance of small and medium sheephead rather than the large, urchin-controlling sheephead this reef needs — precisely the size imbalance already documented at Thousand Steps in Section 2.3. This catch number simply counts how many fish are being caught — it says nothing about their size, which is the only thing that actually matters for controlling urchins. A busy fishing spot and a healthy predator population are not the same thing.

This pattern is consistent with a well-documented phenomenon in marine protected area science known as “fishing the line” — the tendency for fishing effort to concentrate near MPA boundaries once fishing is displaced from the protected area itself. Using fifteen years of California-specific CCFRP data, marine ecologist Scott Hamilton (Moss Landing Marine Laboratories) confirms this effect is real and measurable in California's own MPA network: *“an examination of CPUE and biomass trends with increasing distance from MPA boundaries has revealed that fishing-the-line behavior and edge effects modify MPA responses in California.”* Thousand Steps' position makes this pattern especially predictable: it is the first reef immediately south of the Laguna Beach No-Take SMCA boundary at Table Rock, roughly a quarter mile away, which took effect January 1, 2012 — making it the nearest, most accessible target for fishing effort displaced from the newly protected area.

This concentration of fishing pressure at the boundary has not gone unnoticed by residents. In public comment to the Laguna Beach City Council on May 12, 2026, resident John Thomas — who lives two houses north of the current boundary — testified to watching this pattern intensify directly, year after year: *“What's happened over the time that the MPA has been in effect is that every year commercial*

lobster fishermen set more and more traps, lines, and floats hugging the southern boundary until there are now hundreds stretching as far as the eye can see."

This effect has been documented specifically for California spiny lobster, the other key predator species in this case. Lenihan et al. (2021, *Scientific Reports*) found a 250% increase in lobster fishing effort concentrated at marine reserve borders in Southern California, where this site sits, with fishers directly confirming they deliberately target reserve edges to intercept lobsters spilling over from protection — precisely the pattern John Thomas describes witnessing at this exact boundary, removing the predators this reef relies on to suppress urchins.



Source: Lenihan et al. (2021), Scientific Reports 11:2663.

This timing matters. Two years of concentrated fishing pressure at Thousand Steps, beginning when the boundary took effect in 2012, means the large sheephead and lobster capable of controlling urchins were already being removed from this reef well before the heatwave ever arrived — the same predation mechanism described in Section 2.3. With fewer large predators present to eat them, urchin numbers at Thousand Steps had likely already started increasing by 2014, beyond what a healthy reef would normally support. When the 2014–2016 heatwave hit, it struck a reef whose natural defense against an urchin outbreak had already been weakened, not a reef starting from full strength — which is exactly why Thousand Steps tipped into collapse while other nearby reefs recovered.

Source: Hamilton, S., Moss Landing Marine Laboratories, Ocean Seminar Series presentation summary.

2.5 Why This Petition Is Necessary

This case does not rest on a single piece of evidence. It rests on four separate lines of evidence:

- A documented Tipping Point in the kelp forest at Thousand Steps
- Clear and quantified evidence that fishing removes the large sheephead and lobster capable of controlling urchins

- Nearly three years of verified and sustained fishing pressure at Thousand Steps
- Independent scientific agreement that protection helps reefs recover from exactly this kind of disturbance

Together, this evidence is more than enough to justify action now — before more of South Laguna's reefs are lost the same way.

In July 2026, twelve independent marine scientists — from institutions including Stanford University, Cal Poly, the Marine Conservation Institute, and Heal the Bay — wrote directly to this Commission, and their message carries particular weight for this petition specifically. One of the twelve signatories is a co-author of the very Ortiz-Villa study that CDFW's own evaluation relies on to argue the 2014–2016 heatwave explains South Laguna's decline. That same scientist's signed letter states plainly that California's marine protected areas *"show significantly greater post-heatwave recovery and overall community stability compared to unprotected reference areas"* — the opposite conclusion from the one CDFW draws from the same underlying research. Their letter goes further, urging the Commission to apply the precautionary principle: where real scientific uncertainty remains, protection should be extended now, not withheld pending further proof. Applied to South Laguna, that principle points toward one outcome: filling the gap in protection at Thousand Steps and Three Arch Bay before the decline already documented here becomes irreversible.

3. Responding to CDFW's and OPC's Evaluations

Neither CDFW nor OPC disputes that kelp cover at these reefs has declined dramatically, or that extending protection would benefit them. Both evaluations explicitly concede the extension would increase protection and likely benefit fished species. Their objections rest on boundary clarity and enforcement — concerns OPC adopted directly from CDFW's own evaluation — and, in CDFW's case, a further disagreement over the cause and permanence of that decline: CDFW attributes it to the 2014–2016 heatwave alone, a question this report addresses directly below.

3.1 The boundary is clear and enforceable

Laguna Beach's Marine Safety Department already maintains active enforcement capacity along this exact stretch of coastline, and the proposed boundary itself is clearly defined. This can help address CDFW's stated concern about boundary alignment and enforcement. CDFW's evaluation notes the proposed boundary *"would not fall on an even line of latitude"* and lacks a clear landmark for enforcement. For the Commission's reference: the proposed boundary sits on a straight line of latitude, 33°29.052'N, within Laguna Beach city limits, at a site with a prominent 50-foot bluff — a landmark comparable in clarity to the existing Table Rock boundary CDFW already relies on today. This correction was shared with the Commission in testimony on May 19, 2026, by the Laguna Bluebelt Coalition.

It may also help the Commission to know that Laguna Beach's Marine Safety Department brings real, established experience to the task. Founded in 1929, the department has spent nearly a century developing the training, staffing, and equipment needed to operate along this coastline, and has directly patrolled South Laguna, including this exact stretch, since the City assumed jurisdiction over it in 2023. The department is responsible for ordinance enforcement across 16.5 miles of ocean and 5.5 miles of coastline, staffs a dedicated Marine Protection Officer position, and operates Wave Watch, a 33-foot vessel commissioned in 2024 for offshore operations and interagency radio coordination. The department also operates personal rescue watercraft for active surf patrol and rapid ocean response.

Their speed and maneuverability make them well suited to patrolling and enforcing boundaries across open water. Extending the boundary to a clearly defined, GPS-verifiable line of latitude falls well within capacity the City already maintains at this exact location.

3.2 The fishing-grounds impact, precisely accounted

The Commission may also benefit from having a precise accounting of the petition's actual impact on fishing grounds. This matters because CDFW's framing suggests a far larger disruption to fishing activity than the petition would actually cause. CDFW's evaluation describes the affected area as *"nearly half"* the fishing grounds within Dana Point SMCA. The real figure is closer to roughly one-third, based on a comparison of the length of coastline this petition would newly protect against the total Dana Point SMCA coastline, once Dana Point SMCA's already-protected, already-restricted tidepool zone is properly excluded from the comparison.

Note: this figure has been calculated in the range of 29-34% depending on precise methodology; 34% is used here for consistency with prior public testimony to the Commission.

Sources: CDFW Evaluation of 2023-24MPA_AM, Table 1; CDFW MPA quick-facts sheet for Dana Point SMCA; May 19, 2026 presentation.

3.3 The Heatwave Is Not a Singular Explanation

Section 2.2 already answered the question at the center of this dispute: whether the 2014–2016 heatwave alone caused South Laguna's kelp loss, or whether protection status determined which reefs recovered from it. CDFW's own evaluation reaches the opposite conclusion, and its reasoning is worth examining directly.

Ortiz-Villa et al. (2025) found that kelp forests inside marine protected areas recovered significantly faster and more fully from the heatwave than unprotected kelp forests — the opposite of how CDFW uses this study. CDFW cites it to justify denying protection for reefs in South Laguna, ruling out fishing pressure as a cause of kelp loss at Thousand Steps and Three Arch Bay, and arguing the 2014–2016 heatwave is instead responsible. The heatwave may well have caused the initial decline everywhere, as CDFW argues. But whether a reef recovers from it afterward depends on protection status. South Laguna has no such protection, whereas Laguna Beach's protected reefs to the north do. This means South Laguna's decline is not simply a fixed consequence of a climate event that has already happened. It is a condition this Commission still has the power to change, by extending the same protection that allowed the reefs to the north to recover.

Source: Ortiz-Villa et al. (2025), J. Applied Ecology 62(9).

Ray Hiemstra's May 19, 2026 testimony made the same point directly to the Commission, using CDFW's own SeaSketch kelp-persistence mapping tool. Areas inside the Laguna protected areas showed better post-heatwave recovery than Dana Point SMCA. But CDFW's evaluation never made that comparison — it only tracked kelp within Dana Point SMCA over time, checking whether kelp there declined after the heatwave. Tracking one place over time cannot tell you whether the heatwave affected every reef the same way, or whether recovery afterward depended on protection status. Hiemstra's testimony supplies the missing comparison, and answers the question. As Hiemstra put it to the Commission: *"If no other site specific drivers exist other than fishing, then what is driving the disproportionate kelp recovery across these areas?"*

McPherson et al. (2021) explains why both things can be true at once: a kelp forest can absorb a heatwave alone, or predator loss alone, and recover. It's **the combination of both** that causes a permanent shift. The heatwave may well have triggered the initial decline at South Laguna. Whether a given reef recovers from it depends on whether its predator population remains healthy — meaning fishing pressure has not removed the large sheephead and lobster a reef needs to keep urchins in check. This is why extending no-take protection, as this petition requests, is necessary for these reefs to recover: it is the only action available to the Commission that directly restores the predator populations this recovery depends on.

Sources: McPherson et al. (2021), Communications Biology 4:298; May 19, 2026 presentation.

3.4 CDFW's Own Evaluation Confirms the Ecological Benefit

Answering its own Question 13 — "Does the proposed change maintain or enhance protection of marine resources?" — CDFW answered yes, stating the extension *"would increase the area protected... and hence, offer increased protection to the habitats contained within."* CDFW's own tables put numbers on that gain: the total protected area in the Laguna Beach SMCA would grow by nearly half again, protected rocky intertidal habitat would more than quadruple, protected beach habitat would nearly triple, and 0.36 square miles of kelp habitat — currently entirely unprotected — would gain protection for the first time — direct, quantified improvement to the exact habitats this petition is meant to protect. The extension fills the final gap in Laguna Beach's protected reef network, restoring the predator populations these ecosystems need to recover.

Note: CDFW's Table 1 reports these gains as percentage increases: 45% for total protected area, 321% for rocky intertidal habitat, and 176% for beach habitat.

3.5 Extending the Boundary Is Not Unprecedented

It may be useful context for the Commission to know that this boundary extension has real precedent in the original planning process for this MPA network. CDFW's evaluation notes that during the original Marine Life Protection Act planning process, a stakeholder proposal recommended extending protection at Laguna Beach even farther south than this petition asks for. The current boundary was one option chosen among several considered at the time, reflecting a range of reasonable approaches rather than a single fixed design.

Source: CDFW Evaluation of 2023-24MPA_AM, Question 7A.

3.6 OPC's Letter Offers Helpful Context of Its Own

Although OPC staff reached a similar recommendation as CDFW's, it was based on data CDFW presented in their evaluation regarding boundary and enforcement considerations. OPC's letter also importantly notes the extension *"would increase overall protection in the area and potentially benefit fished species."*

Source: OPC Staff Recommendations — Petitions to Adaptively Manage California's MPA Network, July 31, 2026.

OPC also states, discussing a separate petition, that healthy populations of California sheephead and California spiny lobster *"keep populations of kelp grazers like sea urchins in check, preventing urchins from overgrazing kelp,"* and that this effect has been documented specifically *"in Southern California,*

where lobster and Sheephead are abundant." OPC's letter cites the same Ortiz-Villa study discussed above, noting that marine protected areas statewide show kelp canopy coverage up by roughly a twelfth compared to unprotected areas. Thousand Steps shows what that same gap can look like at its most severe: not a twelfth less kelp, but essentially all of it — a decline from 38.1% average coverage before the heatwave to just 0.2% today, in a reef with no protection at all.

Note: OPC's letter reports this as an 8.5% increase in kelp canopy coverage.

The specific factual points raised in Section 3.1 above — regarding the boundary's clarity and the City's enforcement capacity — were presented to the Commission on May 19, 2026, by petitioner Mike Beanan and Orange County Coastkeeper Associate Director Ray Hiemstra. This report shares that same context here, as the Commission continues their review.

4. Conclusion and Request

The Commission has rightfully set the standard for approval of petitions — that they be necessary and important to our fisheries and the goals of the MLPA. This petition is necessary because South Laguna's reefs have reached a Tipping Point. Under the real, documented risk to South Laguna's reefs, this report has shown that the Laguna Bluebelt Petition meets that standard, and provides strong evidence to justify your action to support it:

- A documented Tipping Point in the kelp forest at Thousand Steps
- Clear, quantified evidence that fishing removes the large sheephead and lobster capable of controlling urchins, consistent with direct observation of active urchin grazing at Thousand Steps
- Nearly three years of verified, sustained fishing pressure at Thousand Steps
- Independent scientific agreement that protection helps reefs recover from exactly this kind of disturbance

Together, this evidence meets the standard the Commission has set for action: not simply beneficial, but necessary.

We respectfully request that the Commission approve Petition 2023-24MPA_AM1.

Outlook

Laguna Beach Petition 2023-24MPA-AM1

From Kris Evans-Degen
Date Mon 09/28/2026 02:18 PM
To FGC <FGC@fgc.ca.gov>

Dear Commissioners:

I have lived in Laguna Beach since 1976 and have been so pleased to watch the changes that have occurred in the ocean since we began protecting our reefs: the sea life is so much more abundant and balanced in the protected areas than it used to be. Thus I am writing to ask that you extend the protected area to include all of the South Laguna coastline, including Three Arch Bay.

Thank you for your consideration.

Kris Evans



Outlook

Petition 2023-24MPA-AM1: Please consider!

From Judy Teverbaugh
Date Wed 09/30/2026 08:22 AM
To FGC <FGC@fgc.ca.gov>

Dear Commissioners,

I am a 40-year resident of Laguna Beach, a SCUBA diver, snorkeler, and sailor. Our coastline and the creatures that live in its waters are precious to me. I was one of the petitioners back in 2011 when the DFG awarded the highest level of protection to most of our coastline. We are thrilled that the fish in our scalloped coves have recovered and can once again be seen in our rocky reefs.

That has not been the case in South Laguna, where the unprotected reef hasn't bounced back, and fishing pressure never seems to let up. Extending protection to the city boundary is a small change, but it would give Thousand Steps and Three Arch Bay the breathing room they need. Our Marine Safety Department already patrols this coastline daily and knows this stretch well.

I respectfully ask you to consider extending our MPA boundary by approving Petition 2023-24MPA-AM1. We are all grateful for the work that you do.

Sincerely,

Judy Teverbaugh

Outlook

Petition 2023-24MPA-AM1 to protect the last mile of Laguna Beach's reefs

From kathyaird@aol.com [redacted]
Date Wed 09/30/2026 09:22 AM
To FGC <FGC@fgc.ca.gov>

[redacted]

September 30, 2026

California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Subject: Petition 2023-24MPA-AM1 to protect the last mile of Laguna Beach's reefs.

Dear Commissioners:

Although I live in Dana Point, I spend a lot of time at the spectacular beaches in Laguna Beach. I can not believe I have the privilege of living in such beauty.

I am deeply concerned about protecting our kelp. Heavy fishing has completely altered the balance of our oceans, and what will happen after El Niño? I fear that the combination of human destruction and global warming will be devastating.

Please extend the last mile of Laguna Beach's reefs. It will do so much by protecting such a small area.

Thank you in advance for your time.

Sincerely,

Kathy Aird

Outlook

Support for Petition 2023-24 Laguna Beach SMCA expansion

From Germain G [redacted]com>
Date Wed 09/30/2026 11:48 AM
To FGC <FGC@fgc.ca.gov>

Dear Commissioners and Staff,

My name is Germain Garcia and I support the expansion of the Laguna Beach State Marine Conservation Area. The populations of sheep head and lobster are decreasing due to fishing which are an important part of the ecosystem in Laguna Reefs. So increasing a mile of the MCA will provide a bigger niche for fish or other organisms according to a study by Reef Checks and therefore increasing fish populations. And with climate change having a great impact on the planet we can only provide an opportunity for ocean populations to flourish.
Thank you,
Germain

Outlook

Petition 2023-24MPA-AM1 to protect the last mile of Laguna Beach's reefs.

From Theresa Davies [redacted]
Date Wed 09/30/2026 03:06 PM
To FGC <FGC@fgc.ca.gov>

Dear Commissioners:
I have been a resident of Laguna Beach for about 17 years. Up until recently I was unaware of the MPA and where it started or ended in Laguna Beach. I am a night person and I frequent the beach later in than day than most. I have noticed over the past 2 years how alot of the marine life has returned to Laguna. I have also noticed how in the areas that are not protected marine life seems to struggle. Now I am aware that this could just be the way it is as I am not a specialist in this area. However, I do feel strongly about extending the MPA in Laguna beach that last mile. It is easy to explain to tourists that this point until the end point is a protected area. And explaining that it is not permanent. There are time frames to MPA's.

I am greatly in favor of extending the last mile in Laguna Beach.

Sincerely,
Theresa Davies
Avid beach goer
--
Theresa Davies

Outlook

Please deny petition 2023-24

From Donna Kalez [redacted]
Date Fri 09/25/2026 05:58 PM
To FGC <FGC@fgc.ca.gov>

Please see my letter dated 9/25/26 for your upcoming meeting on 10/14-10/16, this item will be heard on 10/16

Thank you

Donna Kalez

34675 Golden Lantern, Dana Point, Ca. 92629 • 949-496-5794 ext 7

55 YEARS DANA WHARF
SPORTFISHING ⚓ WHALE WATCHING
"Daily Adventures, Lifelong Memories"

9/25/26

California Fish and Game Commission
PO Box 944209
Sacramento, Ca. 94244-2090

Re: 2023-24

Dear President Sklar and commissioners,

Thank you so much for all you have done to get this MLPA petition process to the finish line. I am the owner of my family's business Dana Wharf Sportfishing and Whale Watching. We've been operating out of Dana point since 1971 when my father Don Hansen moved his operation from the San Clemente Pier to the newly built Dana Point Harbor . I am writing this letter for what I hope is the last time to express my opposition to this petition to expand the current MPA in Laguna Beach to the border of Dana Point. The area being considered in the petition is an area that we take our short trips to. These are the 4-5 hour trips that our kids and seniors and especially our Fish for Life non profit special needs kids fishing trips - the areas to the south of us are too far for some to travel. This closure will put undue hardships on us as a business and it also has a high level of controversy, but most of all this is not a science based petition and there is absolutely no reason to expand this area.

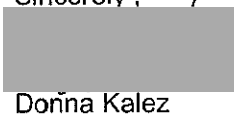
Currently and for the last 12 years the current MPA in LAGUNA is a large 9 mile fishing closure, significantly impacting our fishing area not just for us but for all local fishing boats as well as the lobster fisherman . While we all have supported the **existing MPA** in Laguna Beach and have adapted to that closure over time, we remain opposed to any further expansion to the MPA network, this was an agreement between all parties and took years to form. Dana Wharf Sportfishing and whale watching as well as our community will suffer economic loss if this was to go into effect .

The current MPA has worked and it has achieved the spill over affect that it was supposed to achieve , there is no scientific evidence that supports a need to expand this closure. The Decalde review - was a review of all MPA's in California - looking for what has worked and what has not, furthermore you have said numerous times that you want no wholesale changes to this fragile network . We submit once more 5 letters from public officials in **opposition** to this expansion including both the City of Laguna Beach and the City of Dana Point.

We respectfully request that you follow the recommendations of CDFW and deny this petition 2023-24.

Thank you again for allowing me to comment on this important issue and appreciate your hard work.

Sincerely ,



Donna Kalez
Co - Owner
Dana Wharf Sportfishing and Whale Watching

34675 Golden Lantern, Dana Point, Ca. 92629 • 949-496-5794 ext 7

May 14, 2026

California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

RE: Petition 2023-24MPA_AM Expansion of the Laguna Beach No Take SMCA

Commission Members:

On behalf of the City of Laguna Beach, I would like to thank the Fish and Game Commission, the California Department of Fish and Wildlife, and the many State agencies, partners, and stakeholders involved in preparing the Marine Protected Area decadal review. The City appreciates the substantial effort dedicated to this process and values the meaningful opportunities that were provided for local agencies, community stakeholders, and interested parties to participate in discussions regarding the long-term management of California's marine resources.

As the Commission is aware, the State received Petition 2023-24MPA_AM during the decadal review process. The petition proposed expanding the Laguna Beach no take State Marine Conservation Area to the City's southern jurisdictional boundary.

The City of Laguna Beach would like to acknowledge the significant time, effort, and dedication demonstrated by Laguna Bluebelt throughout this process. We are fortunate to have organizations and advocates that are deeply committed to the long-term stewardship of the marine environment, and we appreciate their continued engagement and participation in the public process.

Following extensive local review, public participation, and deliberation, the Laguna Beach City Council determined at its May 12, 2026 meeting that the City concurs with the published findings and evaluation prepared by the California Department of Fish and Wildlife regarding Petition 2023-24MPA_AM.

The City also respectfully requests that, following completion of the current decadal review process, the Commission consider conducting an after-action evaluation of the review framework and overall process to help inform future decadal reviews. We believe such an effort would provide a valuable opportunity to identify procedural improvements, evaluate stakeholder engagement approaches, and strengthen coordination moving forward.

We further requests that any such review include participation from local agencies through the MPA Collaborative Network. While the management of Marine Protected Areas is appropriately a State responsibility, many of the policy discussions and community impacts associated with MPA management are experienced and debated most directly at the local level. The City would welcome the opportunity to share its experience and observations should a future process evaluation occur.

505 FOREST AVE. • LAGUNA BEACH, CA 92651 • TEL (949) 497-3311 • FAX (949) 497-0771

Thank you again to the Commission and State staff for their continued dedication to balancing public interests while preserving California's extraordinary coastal and marine resources for future generations.

Sincerely,

for Dave

Dave Kiff
City Manager
City of Laguna Beach

505 FOREST AVE. • LAGUNA BEACH, CA 92651 • TEL (949) 497-3311 • FAX (949) 497-0771

ACTION DOCUMENT A
May 6, 2026

President Erik Sklar
California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Subject: Proposed Modification to Laguna Beach and Dana Point State Marine Conservation Area Boundaries, Support CDFW recommendation to deny Petition 2023-24MPA_AM

Dear President Sklar:

On behalf of the City of Dana Point, I am writing in opposition to Petition 2023-24MPA_AM, which proposes extending the Laguna Beach No-Take SMCA into a portion of the Dana Point SMCA.

The City has carefully reviewed the California Department of Fish and Wildlife's (CDFW) March 2026 evaluation and concurs with its findings and recommendation to deny the petition. CDFW clearly determined that the proposed boundary modification does not advance the goals of the Marine Life Protection Act, would not result in meaningful ecological benefit, and could introduce new enforcement challenges. The current boundary was intentionally established through the MLPA process and continues to function as designed without evidence of significant management or compliance issues.

The City is particularly concerned with the direct and disproportionate impacts this proposal would have on Dana Point. The affected area is one of the most actively used fishing locations in the region and supports Dana Point Harbor's commercial, recreational, and charter fishing operations. Eliminating access to this area would result in significant economic and community impacts, while providing little to no additional environmental benefit.

The proposed change would also directly affect Dana Wharf Sportfishing & Whale Watching, one of Dana Point Harbor's oldest and most prominent businesses and a cornerstone of the City's recreational fishing economy. Dana Wharf relies heavily on access to this area for its sportfishing operations, which serve thousands of residents and visitors each year, support local jobs, and generate significant economic activity for adjacent restaurants, retailers, and hospitality businesses. Restricting fishing in this location would substantially limit the opportunities available to recreational anglers, diminish the attractiveness of Dana Point as a regional sportfishing destination, and negatively impact a long-standing community institution that contributes to the City's identity, tourism economy, and harbor vitality.

For these reasons, the City of Dana Point strongly supports CDFW's recommendation and urges the Commission to deny Petition 2023-24MPA_AM. The City remains

committed to collaborative, science-based management of marine resources that balances conservation with public access and local economic vitality.

Thank you for your consideration.

Sincerely,

John Gabbard
Mayor, City of Dana Point

cc: California Department of Fish and Wildlife
Dana Point City Council

KATRINA FOLEY

ORANGE COUNTY BOARD OF SUPERVISORS
FIFTH DISTRICT

COUNTY ADMINISTRATION NORTH
400 W. CIVIC CENTER DR., SIXTH FLOOR
SANTA ANA, CA 92701
(714) 834-3550
Katrina.Foley@ocgov.com

April 10, 2026

President Erik Skylar
California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Re: Support -- CDFW recommendation to Deny Petition 2023-24 regarding the proposed expansion of the Laguna Beach Marine Protected Area

Dear President Skylar:

I write to express my support for the California Department of Fish and Wildlife Recommendation to Deny Petition 2023-24 regarding the proposed expansion of the Laguna Beach Marine Protected Area. As Orange County Supervisor for the Fifth District, I represent 31 beautiful miles of coastline. I remain committed to balancing conservation of our vital natural resources with preservation of public access to our coast and ocean.

The Marine Life Protection Act establishes Marine Protected Areas through a science-based process to protect marine resources. The current established area protects our environment without restricting residents, visitors, and businesses from enjoying our iconic coastline. The proposed expansion lacks meaningful ecological benefits and shifts pressure to nearby areas to accommodate fishing and recreation without evaluating the environmental impacts on those areas.

My district houses a variety of sportfishing organizations and small businesses. Family-owned sportfishing businesses utilize offshore areas for fishing trips, serving visitors, students, seniors, people with disabilities, and low-income families. These trips provide valuable access to the ocean and wildlife for people of all incomes and abilities. The proposed expansion harms our coastal economy and small businesses while disproportionately impacting disadvantaged groups who benefit from these programs.

For these reasons, I urge you to uphold the California Department of Fish and Wildlife recommendation and deny Petition 2023-34. If you have any questions, please contact District Representative Abby Paulson *at (714) 834-3550 or Abby.Paulson@bos5.oc.gov*. Thank you for your consideration.

Respectfully Submitted,

Katrina Foley
Vice Chair, Orange County Board of Supervisors, 5th District

Proudly serving the cities of Aliso Viejo, Costa Mesa, Dana Point, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Newport Beach, San Clemente, San Juan Capistrano and the unincorporated areas of Coto de Caza, Emerald Bay, Ladera Ranch, Las Flores, Rancho Mission Viejo, Stonecliffe, and Wagon Wheel

CAPITOL OFFICE
1021 O STREET
SUITE 6730
SACRAMENTO, CA 95814
TEL (916) 651-4036

DISTRICT OFFICE
301 MAIN STREET
SUITE 212
HUNTINGTON BEACH, CA 92648
TEL (714) 374-4000

SENATOR.STRICKLAND@SENATE.CA.GOV

California State Senate

SENATOR
TONY STRICKLAND
THIRTY-SIXTH SENATE DISTRICT

COMMITTEES
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LABOR, PUBLIC EMPLOYMENT & RETIREMENT
VICE CHAIR
TRANSPORTATION
VICE CHAIR
SUBCOMMITTEE
LOSSAN RAIL CORRIDOR RESILIENCY

May 05, 2026

California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

Dear President Erik Sklar,

I write to express my support for the recommendation of the California Department of Fish and Wildlife to deny Petition 2023-24 regarding the proposed expansion of the Laguna Beach Marine Protected Area.

California's MPA network was established through a rigorous, science-based process under the Marine Life Protection Act, balancing conservation with public access. The Department's review found that the proposed expansion would not provide meaningful additional ecological or management benefit. It also determined that expanding the boundaries would shift recreational fishing activity into nearby areas, including Dana Point, without a demonstrated conservation need, creating potential regional impacts without clear environmental gains.

Maintaining reasonable coastal access is essential for many families, students, seniors, and others who rely on nearby waters for short-duration trips. Limiting this access would disproportionately affect these groups and impact local economies tied to recreational fishing. More broadly, recreational fishing represents a major economic driver across California, generating an estimated $7.9 billion in total economic impact and supporting approximately 43,000 jobs statewide. These figures underscore the importance of preserving responsible access to coastal resources.

Given that the existing MPA is already subject to ongoing review, maintaining current boundaries reflects a balanced and evidence-based approach. For these reasons, I respectfully urge the California Fish and Game Commission to uphold the Department's recommendation and deny Petition 2023-24.

Thank you for your time and thoughtful consideration.

Sincerely,

Tony Strickland

Tony Strickland
California State Senator, 36th District

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0074
(916) 319-2074

DISTRICT OFFICES
2420 VISTA WAY, SUITE 112
OCEANSIDE, CA 92054
(760) 433-7400

32332 CAMINO CAPISTRANO, SUITE 102-A
SAN JUAN CAPISTRANO, CA 92675
(949) 240-7300

Assembly
California Legislature

LAURIE DAVIES
ASSEMBLYMEMBER, SEVENTY-FOURTH DISTRICT

COMMITTEES
VICE CHAIR: GOVERNMENTAL ORGANIZATION
VICE CHAIR: TRANSPORTATION
MILITARY AND VETERANS AFFAIRS
UTILITIES AND ENERGY
ASSEMBLY LEGISLATIVE ETHICS

April 27, 2026

Fish and Game Commission
President Erik Sklar and Commissioners

Subject: Strong Opposition to Petition 2023-24 (Laguna Beach MPA Expansion) – Impact on AD-74 Economy

Dear President Sklar:

I am writing to you today as the Assemblywoman for the 74th District, which includes vital coastal communities such as Dana Point, Laguna Niguel, San Clemente, and San Juan Capistrano. I respectfully urge the Commission to reject Petition 2023-24, and support the recommendation from the California Department of Fish and Wildlife to deny this petition.

While conservation efforts are critical, this proposal to expand the Marine Protected Area (MPA) in Laguna by one mile—effectively closing the entire Laguna coast to both recreational and commercial fishing—lacks the scientific justification for such a drastic expansion. Furthermore, the economic harm to my district and its hardworking constituents is quantifiable and severe.

Quantifiable Economic and Social Consequences for the 74th District:

The proposed expansion threatens the livelihoods of local businesses and families, as detailed by constituents in the sportfishing and commercial sectors:

- **Direct Job and Business Loss:** The closure targets prime 1/2 day fishing grounds essential for short-term trips that serve children, senior citizens, and families. Losing this area would directly compromise the viability of businesses like Dana Wharf Sportfishing and Whale Watching, which currently **employ 50 individuals**. Furthermore, this expansion would likely force **8 to 10 local commercial lobster fishermen out of business**.
- **Strain on Existing Businesses:** Local operators have already sustained significant financial impacts from recent fishery regulations. These regulations and closures have hurt fishing communities like Dana Point.
- **Statewide Economic Impact:** The Commission must recognize the broader financial magnitude of the recreational fishing community. The most recent estimates place the total economic impact of recreational fishing in California at **$7.9 billion dollars**, supporting approximately **43,000 jobs** statewide.

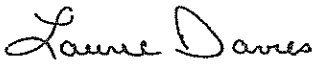
E-MAIL: Assemblymember.Davies@assembly.ca.gov
WEBSITE: www.assembly.ca.gov/Davies

- **Maintenance of Coastal Access**: Protecting responsible coastal access is essential to sustaining this significant economic engine.

My office advocates for a balanced approach that respects conservation goals while protecting the coastal access and economic opportunities vital to our district. The Department of Fish and Wildlife's recommendation to deny this petition follows scientific guidelines and the goals of the original Marine Life Protection Act. I urge the Commission to follow it.

Please prioritize sound scientific data and carefully consider the devastating financial and social impacts on our community by rejecting Petition 2023-24.

Sincerely,



Laurie Davies
Assemblywoman, District 74

Outlook

Fwd: letter

From Susan M [redacted]
Date Wed 09/30/2026 04:24 PM
To FGC <FGC@fgc.ca.gov>

---------- Forwarded message ---------
From: **David Sobolewski** [redacted]
Date: Wed, Sep 30, 2026 at 4:20 PM
Subject: letter
To: Susan M [redacted]

California Fish and Game Commission fgc@fgc.ca.gov 9/30/2026

P.O. Box 944209

Sacramento. CA 94244-2090

Subject: Support to Approve MPA Petition 2023-24MPA_AM1

Dear Commissioners,

I live in South Laguna Beach and have been a resident since 1978, when I moved on to Circle Drive, overlooking Thousand Steps Beach. I am a swimmer, a diver, and a sailor; this ocean is a vital part of my soul. At the time I moved here, this location supported one of the healthiest reefs along our incredible coast. The reef was alive- full of motion, color, and kelp which moved gracefully with the tides. It was teeming with many varieties of fish, abalone, lobster, and wildlife. Today, when I snorkel here, it feels stark and I am alarmed. We desperately need to protect this last mile of our beautiful coastline, just south of the marine protected area, the last mile between Table Rock and the city boundary at Three Arch Bay.

Two things stand out to me more than anything else.
First, the kelp at Thousand Steps hasn't come back the way it has inside the protected areas north. I see kelp returning in Heisler, Shaw's Cove, and other protected coves, not as it was, but there is evidence of hope. Secondly, there is constant fishing pressure at Thousand Steps. I see boats anchored off there regularly, and during lobster season, the trap lines stretch across the reef. I sailed the South Pacific for eight years and I respect fishing, but if one spot carries more pressure than it can handle, it becomes an issue. The reef doesn't have a chance to recover.

These two realities, a reef that hasn't bounced back, and fishing pressure that never seems to let up, lead me to ask you to approve Petition 2023-24MPA_AM1. Extending protection to the city boundary is a small change, but it would give Thousand Steps and Three Arch Bay the chance to make a comeback. Our Marine Safety Department already patrols this coastline daily and knows this stretch well.

The ocean needs our help to survive and we need our wonderful ocean. The children in the South Pacific always asked us to help them save their reefs, and we helped them wherever we could. It is essential that we protect our own reefs for everyone.
Thank you for caring.
Sincerely, Susan McDuffie , Laguna Beach, Ca.

Outlook

Petition 2023-24MPA-AM1 to protect the last mile of Laguna Beach's reefs.

From Charlotte Masarik [redacted]
Date Mon 09/28/2026 08:39 PM
To FGC <FGC@fgc.ca.gov>

[redacted]

September 28, 2026

California Fish and Game Commission fgc@fgc.ca.gov
P.O. Box 944209
Sacramento, CA 94244-2090

Subject: Petition 2023-24MPA-AM1 to protect the last mile of Laguna Beach's reefs.

Dear Commissioners:

I am a Laguna Beach resident who spends much of my life in and around the ocean. For 23 years, I have led a walking group in Laguna, and I am deeply concerned by the loss of kelp and wildlife I have witnessed, particularly at Thousand Steps. I came to Laguna in 1989 retiring from Alaska, before the marine heatwave, and was in awe of the robust kelp canopy in South Laguna. I believe Bluebelt's in-depth report, produced through a month of rigorous scientific collaboration, provides the Commission with a compelling factual basis to approve this petition.

This "last mile" is not simply a line on a map. It includes Thousand Steps and Three Arch Bay—reefs that once supported a thriving kelp forest but are now in severe decline. Before the 2014–2016 marine heatwave, Thousand Steps had a thick, healthy kelp canopy. Today, it has almost no kelp, effectively zero, and that loss has persisted for more than a decade.

This is more than a natural fluctuation. The reef has crossed a tipping point. Urchins are overwhelming the reef because the predators that control them—especially large California sheephead and spiny lobster—are still heavily fished there. Reef Check surveys found that 94% of sheephead at Thousand Steps are below the size needed to prey effectively on urchins.

I have personally witnessed the heavy fishing pressure visible on the water. Commercial Passenger Fishing Vessels regularly anchor at Thousand Steps, and lobster traps span the reef during the season. This concentrated pressure immediately outside the protected-area boundary leaves this first reef south of the SMCA especially vulnerable to "fishing the line."

CDFW and the Ocean Protection Council agree that extending protection would provide ecological benefits. Concerns about boundary clarity and enforcement are manageable. The proposed boundary follows a clear line of latitude at a prominent bluff, much like the existing Table Rock boundary, and Laguna Beach Marine Safety already patrols this coastline daily.

We still have time to prevent a permanent loss. Extending protection to these reefs is a modest boundary adjustment with major ecological value—and a practical, science-based step toward restoring the kelp forest, fish, and marine life that make Laguna Beach exceptional**. It is my dream that, if we care for this coastline wisely, Laguna Beach could one day earn recognition as a UNESCO Marine World Heritage Site…**

I respectfully urge you to approve Petition 2023-24MPA-AM1, extending the Laguna Beach No-Take State Marine Conservation Area south to the City of Laguna Beach boundary **to protect the last mile of Laguna Beach's reefs**. Thank you for your stewardship and consideration.

Sincerely,
Charlotte Masarik
Laguna Beach, California



September 28, 2026

California Fish and Game Commission fgc@fgc.ca.gov
P.O. Box 944209
Sacramento, CA 94244-2090

Subject: Petition 2023-24MPA-AM1 to protect the last mile of Laguna Beach's reefs.

Dear Commissioners:

I am a Laguna Beach resident who spends much of my life in and around the ocean. For 23 years, I have led a walking group in Laguna, and I am deeply concerned by the loss of kelp and wildlife I have witnessed, particularly at Thousand Steps. I came to Laguna in 1989 retiring from Alaska, before the marine heatwave, and was in awe of the robust kelp canopy in South Laguna. I believe Bluebelt's in-depth report, produced through a month of rigorous scientific collaboration, provides the Commission with a compelling factual basis to approve this petition.

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CDFW and the Ocean Protection Council agree that extending protection would provide ecological benefits. Concerns about boundary clarity and enforcement are manageable. The proposed boundary follows a clear line of latitude at a prominent bluff, much like the existing Table Rock boundary, and Laguna Beach Marine Safety already patrols this coastline daily.

We still have time to prevent permanent loss. Extending protection to these reefs is a modest boundary adjustment with major ecological value—and a practical, science-based step toward restoring the kelp forest, fish, and marine life that make Laguna Beach exceptional**. It is my dream that, if we care for this coastline wisely, Laguna Beach could one day earn recognition as a UNESCO Marine World Heritage Site…**

I respectfully urge you to approve Petition 2023-24MPA_AM1, extending the Laguna Beach No-Take State Marine Conservation Area south to the City of Laguna Beach boundary **to protect the last mile of Laguna Beach's reefs**. Thank you for your stewardship and consideration.

Sincerely,
Charlotte Masarik
Laguna Beach, California

SAC SPORTFISHING ASSOCIATION OF CALIFORNIA

5060 N. Harbor Drive, Suite 165
San Diego, CA 92106
(619) 760-4031

President Sklar, Commissioners and Staff. The Sportfishing Association of California offers the following public comment.

Petition 2023-24 proposal to expand the spatial extent of the prohibition of public access for fishing off the City of Laguna Beach.

Deny (in concurrence with the CDFW recommendation and rationale)

The Department found that the proposal does not "address a current or emerging MPA management challenge, or align with the original intent of these MPAs as established during the MLPA Initiative planning process." They found that the proposed action would not further the proposer's stated objectives within their petition – ease of enforcement, kelp protection, whale entanglement risk.

We concur. We also note that the proposer's purpose appeared contrary to providing equitable access to a public trust resource for underserved communities (fishing within the state's submerged lands).

Rather, the intent appears to be an effort to further the relative exclusion of the general public from the shorelines and coastal waters offshore of the economically exclusive community of Laguna Beach.

One of the most poignant public comments during the MLPAI process regarding the now implemented MPA at Laguna was 'The only time you want to see our trucks in your (Laguna Beach) neighborhoods is when we come to mow your lawns, trim your trees and fix your plumbing.'

Our fleet out of Dana Point Harbor regularly takes the public to fish in the waters proposed for closure, a 1.3-mile stretch of some of the most scenic coastline in the state. The loss of access to fish these waters would halve the beautiful near-coastal fishing area north of Dana Point Harbor, where rocky headlands and deep secluded coves predominate.

A roughly 2.5-mile stretch immediately up-coast of the Dana Point Harbor, it is precisely these coves and headlands where the charter fleet out of Dana Wharf Sportfishing and Whale Watching takes organized groups of underserved youth, disabled veterans and others that are on limited time schedules or mobility challenged to experience recreational fishing in beautiful and inspiring surroundings.

Thank you for your attention to the public comments of our Dana Wharf Sportfishing members and their clients.

Thank You for your thoughtful consideration of our perspectives, concerns and recommendations.

Outlook

RE OCTOBER 16 item number 39. Petition 2023-24MPA

From VENTURA COUNTY COMMERCIAL FISHERMEN'S ASSOCIATION [redacted]
Date Wed 09/30/2026 09:47 AM
To FGC <FGC@fgc.ca.gov>

RE OCTOBER 16 item number 39. Petition 2023-24MPA (Laguna Beach SMCA and Dana Point SMCA) Request to shift the nearshore boundary between the Laguna Beach SMCA (No Take) and the Dana Point SMCA south to the Laguna Beach city limit, thereby increasing the nearshore area within the no-take SMCA.

This is a letter VCCFA would like submitted to the record and evaluated prior to the meeting.

Thank you

--
Dave Colker,
Executive Director
Ventura County Commercial Fishermen's Association
[redacted]

Ventura County Commercial Fishermen's Association

Ventura County Commercial Fishermen's Association
1237 S. Victoria Ave #284
Oxnard, CA 93035
[redacted]

September 30, 2026

California Fish and Game Commission
P.O. Box 944209
Sacramento, CA 94244-2090

RE: Opposition to Petition 2023-24MPA_AM – Laguna Beach No-Take SMCA and Dana Point SMCA

Dear President Sklar and Commissioners:

On behalf of the Ventura County Commercial Fishermen's Association (VCCFA), I respectfully submit these comments in opposition to Petition 2023-24MPA_AM, which proposes extending the southern boundary of Laguna Beach No-Take State Marine Conservation Area (SMCA) into the northern portion of Dana Point SMCA.

The proposed change would convert an existing area in which specified commercial and recreational fishing is permitted into a no-take area. After reviewing the petition and the California Department of Fish and Wildlife's technical evaluation, VCCFA believes the record provides substantial reasons not to make this change.

CDFW recommends that the Commission **deny Petition 2023-24MPA_AM.** The Department concludes that the proposed change would not address an identified enforcement challenge, would not advance Decadal Management Review adaptive-management recommendations, would not address a current or emerging MPA management challenge, and would not provide a biologically meaningful improvement in kelp protection beyond the protections already provided by Dana Point SMCA.

Existing Fishing Access Was Deliberately Preserved

One of the most important findings in CDFW's evaluation concerns the original design of these MPAs.

The Laguna Beach and Dana Point MPAs were carefully designed during the original Marine Life Protection Act planning process to provide ecological protection while preserving certain recreational and commercial fishing opportunities.

CDFW specifically explains that the original intent of Dana Point SMCA was to protect rocky intertidal habitat while continuing to allow take of lobster, sea urchin, and finfish. The proposed boundary shift would eliminate nearly half of the fishing grounds presently contained within Dana Point SMCA and effectively eliminate fishing opportunities within the Laguna Beach city limits.

VCCFA believes that history matters.

Existing fishing access should not be removed simply because municipal jurisdiction or a city boundary has changed. The location of a city boundary does not by itself establish an ecological need for a no-take marine boundary.

If fishing access deliberately preserved during the original MPA planning process is now going to be eliminated, there should be a demonstrated ecological or management reason sufficient to justify reversing that original balance.

CDFW does not find such a justification here.

Significant Fishing Impacts

CDFW identifies particularly important socioeconomic consequences.

The Department reports that Dana Point SMCA lies within the **most utilized fishing block for the commercial lobster fishery operating from Dana Point Harbor** and provides the only recreational fishing opportunity within the city limits of Laguna Beach.

CDFW further states that a detailed socioeconomic analysis of the proposed change remains an information gap. Nevertheless, based upon landings information and CDFW's knowledge of commercial and recreational use, the Department anticipates that the fishery impacts would be **significant**, while the ecological benefit beyond the existing MPA Network would be limited.

That finding is directly relevant to concerns VCCFA has raised throughout the current MPA petition process.

Removing fishing territory has consequences beyond the lines appearing on an MPA map.

Where Will the Displaced Fishing Effort Go?

If nearly half of the existing Dana Point SMCA fishing grounds are converted to no-take status, the commercial and recreational fishing activity currently occurring there does not simply disappear.

Where will the displaced fishing effort go?

What happens to the remaining open fishing grounds when that displaced effort arrives?

CDFW's evaluation actually identifies part of that answer for the commercial lobster fishery. The Department concludes that expanding Laguna Beach No-Take SMCA would likely shift lobster fishing effort farther offshore and/or south of the new boundary.

That is precisely the displacement issue VCCFA has repeatedly asked the Commission to evaluate.

The analysis should therefore extend beyond the proposed closure itself and consider the amount of effort displaced, the receiving fishing grounds, existing effort within those grounds, the additional competition and trap concentration that may result, and the ecological, economic, operational, and fisheries-management consequences of that redistribution.

Proposed Ecological Benefits Are Not Demonstrated

The petitioner identifies kelp protection and reduction of whale-entanglement risk among the reasons for expanding the no-take area.

CDFW's evaluation does not find those arguments sufficient.

Regarding kelp, CDFW reports that kelp persistence in Dana Point SMCA was largely stable before the 2014–2016 marine heatwave despite ongoing fishing activity. The Department identifies multiple potential drivers of kelp conditions and concludes that ending fishing activity alone is unlikely to result in meaningful and sustained kelp recovery without better understanding the site-specific causes of kelp loss.

Regarding whales, CDFW concludes that the proposed boundary change is unlikely to reduce entanglement risk because displaced lobster fishing would likely move farther offshore or south while remaining within the migration path.

That point illustrates why displacement analysis is not merely an economic concern.

If fishing activity is shifted rather than eliminated, the ecological effect of a closure cannot be evaluated solely by examining what happens inside the newly protected boundary.

The Enforcement Rationale Is Also Unpersuasive

The petition also argues that aligning the MPA boundary with the Laguna Beach city limit would reduce confusion and improve enforcement.

CDFW's enforcement information does not support that conclusion.

CDFW reports relatively few violations in Laguna Beach No-Take SMCA and Dana Point SMCA and concludes that the existing regulatory differences do not present a significant enforcement challenge. The existing boundary also follows a readily identifiable latitude and prominent coastal feature. CDFW concludes that the proposed boundary could actually increase confusion and enforcement challenges because it would depart from established feasibility guidelines and require new outreach and enforcement efforts.

Changing an established MPA boundary should therefore require more than administrative convenience—particularly where the change would eliminate substantial existing fishing opportunity.

VCCFA Position

VCCFA believes Petition 2023-24MPA_AM illustrates several principles that should guide the Commission during this MPA review.

Existing fishing access deliberately preserved through the original stakeholder planning process should not be eliminated without a demonstrated ecological or management need.

The consequences of displaced fishing effort should be considered outside the proposed closure boundary.

And additional restrictions should provide a sufficiently demonstrated conservation benefit to justify their socioeconomic and operational consequences.

In this instance, CDFW concludes that the proposed change would provide limited ecological benefit, would not solve the asserted enforcement problem, would conflict with the original intent of the affected MPAs, would unnecessarily restrict an important fishing ground, and is anticipated to result in significant fishery impacts.

For these reasons, the Ventura County Commercial Fishermen's Association **opposes Petition 2023-24MPA_AM and respectfully requests that the California Fish and Game Commission deny the proposed boundary expansion.**

VCCFA incorporates and attaches its September 30, 2026 General Written Comment Regarding 2023 Marine Protected Area Petitions. That comment further explains VCCFA's concerns regarding socioeconomic analysis, spatial displacement of fishing effort, impacts upon remaining open fishing grounds, cumulative spatial pressures, working-waterfront economic consequences, and the need for sufficiently complete information before additional fishing access is removed.

Respectfully submitted,



Dave Colker
Executive Director
Ventura County Commercial Fishermen's Association (VCCFA)