

Staff Summary for October 13-16, 2026

36B. Petition 2023-27MPA_AM1 (Anacapa Island SMCA)**Today's Item****Information** ☐**Action** ☒

Request to modify Anacapa Island State Marine Conservation Area (SMCA) or Anacapa Island Special Closure to protect eelgrass meadows through one of three options related to disallowing deployment of lobster traps in part or all of the SMCA or increasing the special closure depth restriction.

Consider evaluations, recommendations, and public comments in determining whether to grant or deny marine protected area (MPA) Petition 2023-27MPA_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 5-6, 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 2023-27MPA | 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 Regulations 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.

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Overview of Proposed Regulatory Actions

Submitted by the Environmental Defense Center, this petition proposes to amend Anacapa Island SMCA or Anacapa Island Special Closure with one of three options to best protect eelgrass (*Zostera spp.*) meadows while allowing for community access (as amended). There is only one proposed action:

- Action 1. Amend the existing Anacapa Island SMCA (which currently allows recreational take of spiny lobster and pelagic finfish, commercial take of spiny lobster, and a tribal exemption for the Santa Ynez Band of Chumash Indians) or amend the Anacapa Island Special Closure (which currently disallows using nets or traps in waters less than 20 feet deep off the Anacapa Islands and has a seasonal brown pelican fledgling closure), evaluating three options (solutions) and choose the one that best protects the eelgrass meadow while allowing for community access:

Option 1: Change Anacapa Island SMCA regulations to disallow commercial California spiny lobster (*Panulirus interruptus*) fishing year-round.

Option 2: Change Anacapa Island SMCA regulations to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows.

Option 3: Change the border of the Anacapa Island Special Closure, prohibiting the deployment of lobster traps in waters from 0-30 meters (0-98.43 feet) deep instead of the existing 0-20 feet (0-6.1 meters) deep off Anacapa Island

Overview of Non-Regulatory Requests

This petition does not contain any non-regulatory requests.

Petitioner's Stated Intent

The petitioner explains that the proposed change is motivated by findings of a study at the island that suggests lobster trapping and anchoring cause damage to eelgrass meadows. They maintain that their petition supports the goals of the Marine Life Protection Act (MLPA), aligns with state and federal policies focused on eelgrass resilience and health, and protects important eelgrass and associated marine life at Anacapa Island. 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

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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 2023-27MPA proposes one action with three options located within the Northern Channel Islands and Santa Barbara Island; therefore, the petitioned action and options were discussed at the May 5-6, 2026 regional meeting days. For regional meeting materials, see the [Staff Summary for May 5-6, 2026](#) and [petitioner presentation to the Commission on May 6, 2026](#).

Notably, during the regional meeting the petitioner provided a modified option for consideration, changing their option 3 to be 0-50 feet for the Anacapa Island Special Closure instead of their previously requested 0-30 meters, in alignment with data they presented on eelgrass distribution.

Petitioner Clarifications

The petitioner has indicated a desire to further modify their request and now asks the Commission to consider the recommendation from OPC. While OPC's recommendation is not one of the three options proposed in the petition, nor is it the option discussed at the May 5-6, 2026 regional meeting, the petitioner agrees that OPC's proposed solution will effectively protect eelgrass at Anacapa Island, increasing eelgrass biodiversity protections in the MPA Network.

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:

- Although there has been a decline and lack of eelgrass recovery at Frenchy's Cove, there is no indication that the primary driver of the decline or lack of recovery of eelgrass in Frenchy's Cove is bottom contact fishing gear and anchoring that may occur during the two-month window when fishing is allowed in the brown pelican (*Pelecanus occidentalis*) fledgling area.
- The proposed options are unlikely to have a biologically meaningful impact on eelgrass at this location beyond what is already offered by the Anacapa Island SMCA and Special Closure and brown pelican fledgling area, and it would unnecessarily restrict an important fishing ground that was carefully contemplated and deliberated during the Northern Channel Islands MPA planning and implementation process.

Ocean Protection Council (OPC)

OPC staff, in its science and policy recommendations presented at the August 12-13, 2026 Commission meeting, recommends modifying SMCA regulations to prohibit the deployment of lobster traps shallower than 50 feet (Exhibit 3). In summary:

- OPC recommends modifying regulations in the Anacapa Island SMCA to prohibit deploying lobster traps in waters shallower than 50 feet. This approach provides needed

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protection for eelgrass meadows across their full depth range (0–45 feet) without unnecessarily restricting fishing outside the SMCA.

- OPC finds the petitioner's other options either overly broad (Option 1), difficult to enforce (Option 2), or inconsistent with the intent and clarity of existing protected area boundaries (Option 3). Given statewide eelgrass declines and the ecological importance of these meadows, enhanced nearshore protections are warranted.
- OPC also recommends exploring non-regulatory measures, such as installing moorings, to reduce seafloor impacts from anchoring and other non-consumptive activities.

Key Considerations

- *Ecological*

Eelgrass provides important habitat and ecosystem benefits, and its protection supports California's marine conservation priorities. Existing regulations protect eelgrass at Frenchy's Cove from fishing gear year-round in waters shallower than 20 feet and for ten months annually in deeper waters within the Brown Pelican Fledgling Area. The Department found insufficient evidence linking fishing gear to observed eelgrass declines or demonstrating that additional restrictions would provide meaningful ecological benefits. OPC recognizes uncertainty regarding the causes of eelgrass decline but identifies potential lasting impacts from fishing gear during the remaining two-month fishing season.

- *Socioeconomic*

The Northern Channel Islands MPAs have substantially reduced available lobster fishing grounds, and further restrictions would affect remaining opportunities during the limited November–December season. The petitioner has demonstrated flexibility in proposing approaches intended to protect eelgrass while minimizing impacts on existing fishing activities.

- *Management and Monitoring*

The Commission may weigh the potential benefits of additional precautionary protection against uncertainty about site-specific impacts, existing protections, anticipated achievement of ecological benefits, and effects on fishing opportunities. Continued eelgrass monitoring may help clarify habitat conditions and inform future adaptive management. OPC also identifies non-regulatory options, including potential moorings, to reduce impacts from anchoring.

- *Agency Recommendations*

The Department recommends denial based on existing protections, available evidence, and anticipated ecological benefits. OPC recommends prohibiting lobster trap deployment shallower than 50 feet within Anacapa Island SMCA to extend protection to deeper eelgrass habitat, while retaining lobster fishing opportunities outside the SMCA. OPC considers this a more focused and enforceable alternative to the petitioner's proposed options.

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- *Petition Cross-References*

Anacapa Island SMCA is also addressed in Petition 2023-14MPA (Agenda Item 26, this meeting), which proposes allowing urchin take.

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. Two elected officials jointly ask for a full and fair consideration of proposals that would strengthen California's MPA network, including those guided by the OPC recommendations (notably petitions 2023-27MPA, 2023-28MPA, 2023-29MPA, and 2023-33MPA), noting their relevance to biodiversity conservation, climate resilience, and the state's broader 30x30 goals. They emphasize the importance of considering Tribal stewardship opportunities and also considering the economic and cultural significance of fisheries to coastal communities while maintaining a science-based, collaborative, and trusted decision-making process. (Exhibit 4)
2. Heal the Ocean supports Petitions 2023-27 and 2023-29, stating that both proposals would strengthen ecological protections — by safeguarding eelgrass meadows at Anacapa Island and preserving diverse habitats at the proposed Mishopshno SMCA, including portions of Carpinteria Reef. They believe these actions would enhance biodiversity, improve MPA network connectivity, and advance Tribal co-management; they urge the Commission to approve both petitions. (Exhibit 5)
3. Ventura County Commercial Fishermen's Association (VCCFA) opposes Petition 2023-27, stating that, while eelgrass protection is important, the proposal lacks adequate analysis of how restricting lobster fishing at Anacapa would displace effort into other fishing grounds, potentially causing ecological, economic, and operational impacts across the broader Channel Islands fishery. VCCFA emphasizes that meaningful spatial displacement and socioeconomic evaluation is missing from the record and urge the Commission not to approve any MPA expansion without a complete assessment of foreseeable consequences for fishermen, working waterfronts, and fisheries management. (Exhibit 6)
4. The petitioner continues to support their petition, stating that the best available science shows lobster traps in the Anacapa Island SMCA are damaging eelgrass beds, reducing biodiversity, and undermining habitat recovery efforts. They contend

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that modifying the SMCA to prohibit bottom-contact gear aligns with the MLPA's adaptive management requirements and is necessary to protect and restore this ecologically important habitat. (Exhibit 7)

5. A commercial lobster operator opposes the proposed changes to the Anacapa Island SMCA, stating that the scientific evidence cited does not clearly link eelgrass decline to lobster fishing or justify new restrictions. They urge the Commission to reject the petition and maintain current regulations until stronger, site-specific research is available. (Exhibit 8)
6. A commercial fisherman opposes Petition 2023-27MPA, stating that additional restrictions on commercial lobster fishing at Anacapa Island should not proceed without a more robust, site-specific scientific and economic evaluation. They urge the Commission to deny or defer the proposal, emphasizing that the Department recommended against it and that long-time fishermen should have the opportunity to present evidence before any permanent loss of access is enacted. (Exhibit 9)

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 2023-27MPA_AM1 (Exhibit 1).

Department: Deny all petition actions, for the reasons detailed in Exhibit 2 and summarized under “Agency Evaluations and Recommendations.”

Ocean Protection Council: Modify Anacapa Island SMCA regulations to prohibit the deployment of lobster traps shallower than 50 feet — for the reasons detailed Exhibit 3 and summarized under “Agency Evaluations and Recommendations.”

Exhibits

1. [Petition 2023-27MPA_AM1](#), received November 30, 2023 and amended January 7, 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. [Letter from Gregg Hart, Assemblymember, 37th District, and Monique Limon, Senate President Pro Tempore, 19th Senate District](#), received September 30, 2026
5. [Email from Noah Bland, Program Manager, Heal the Ocean](#), received September 30, 2026
6. [Email from Dave Colker, Executive Director, Ventura County Commercial Fishermen’s Association](#), received September 30, 2026

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7. [Email from Azsha Hudson, Marine Conservation Analyst and Program Manager, Environmental Defense Center](#), received September 30, 2026
8. [Email from Michael Volaski Jr](#), received September 26, 2026
9. [Email from Mike Volaski Sr](#), received September 28, 2026

Motion

Moved by _____ and seconded by _____ that the Commission **grants** Petition 2023-27MPA_AM1.

OR

Moved by _____ and seconded by _____ that the Commission **grants** Petition 2023-27MPA_AM1:

- _____ **Option 1** (change Anacapa Island SMCA regulations to disallow commercial spiny lobster fishing year-round), or
- _____ **Option 2** (change Anacapa Island SMCA regulations to disallow hard bottomed fishing gear, including anchoring if applicable, near eelgrass meadows), or
- _____ **Option 3** (change border of Anacapa Island Special Closure, prohibiting deployment of lobster traps in waters from 0-30 meters (0-98.43 feet) deep off Anacapa Island), or
- _____ **Regional meeting option** (change border of Anacapa Island Special Closure, prohibiting deployment of lobster traps in waters from 0-50 feet deep off Anacapa Island), or
- _____ **OPC option** (change Anacapa Island SMCA regulations to prohibiting deployment of lobster traps in waters shallower than 50 feet).

OR

Moved by _____ and seconded by _____ that the Commission **denies** Petition 2023-27MPA_AM1.



January 17, 2025

California Fish and Game Commission
715 P Street, 16th Floor, Sacramento, CA 95814

**Re: Anacapa Island State Marine Conservation Area (2023-27MPA) Revised
Petition Cover Message**

Dear President Murray and honorable commissioners:

In November 2023, the Environmental Defense Center (“EDC”) submitted a petition (2023-27MPA) to reclassify the Anacapa Island State Marine Conservation Area (“Anacapa SMCA”) as a State Marine Reserve (“SMR”) or, at a minimum, to reclassify the portion of the SMCA from shore to at least 30 meters depth to better protect eelgrass habitat. We now request that the Fish and Game Commission (“FGC”) and California Department of Fish and Game (“CDFW”) evaluate the below solutions and choose the one that best protects the eelgrass meadow while allowing for community access:

- Change current regulations to disallow commercial lobster fishing year round
- Change current regulations to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows
- Change the existing border, prohibiting the deployment of lobster traps from 0-30 meters (0-98.43 feet) instead of the existing 0-20 feet

We came to the above alternative solutions after extensive and ongoing community outreach (please refer to EDC’s July 31, 2024, letter re: Petition for Anacapa State Marine Conservation Area – Agenda Item 6(c) for more detailed explanation (see attached). The goal of our petition is to protect the historic eelgrass meadow that has gone through rehabilitation and replantation efforts and is being directly threatened by hard bottomed lobster traps, with potential impact from other hard bottomed items like anchors.

Sincerely,

Azsha Hudson
Marine Conservation Analyst & Program Manager





Tracking Number: (2023-27MPA)

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. Person or organization requesting the change (Required)

Name of primary contact person: Azsha Hudson

Address: [REDACTED]

Telephone number: [REDACTED]

Email address: [REDACTED]

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) - Summarize the proposed changes to regulations: ~~This petition seeks to reclassify the Anacapa State Marine Conservation Area (SMCA) as a State Marine Reserve (SMR) or at a minimum reclassify the portion of the SMCA from shore to at least 30 meters depth to better protect eelgrass habitat.~~

This petition seeks to protect the eelgrass meadows located in the Anacapa Island State Marine Conservation Area (SMCA) from hard bottomed objects such as the gear type listed for the commercial lobster fishery and anchors used for vessels. We ask the Commission to evaluate the below solutions and choose the one that best protects the eelgrass meadow while allowing for community access:

- Change current regulations to disallow commercial lobster fishing year round
- Change current regulations to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows
- Change the existing border, prohibiting the deployment of lobster traps from 0-30 meters (0-98.43 feet) instead of the existing 0-20 feet



4. Rationale (Required) - Describe the problem and the reason for the proposed change:

Numerous state and federal policies underscore the importance of eelgrass as an important yet vulnerable species that provides nursery habitat for fish, reduces coastal erosion, acts as a carbon sink, and increases species diversity by providing three-dimensional structure on sandy bottomed habitats.

Based on a scientific study conducted at the Anacapa SMCA from 2016 to 2019¹, and a growing body of literature on eelgrass recruitment and ecology, there is compelling evidence that seasonally occurring lobster trapping and anchoring in the SMCA is destroying eelgrass beds that are otherwise thriving in the adjacent Anacapa SMR.

~~The limited subset of pelagic fishing methods allowed at the Anacapa SMCA also creates challenges for enforcement by requiring officers to board vessels and confirm compliance on an individual basis.~~ This petition requests Fish and Game Commission (FGC) approval to support the goals of the Marine Life Protection Act (MLPA), align with state and federal policies focused on eelgrass resilience and health, and protect important eelgrass and associated marine life at Anacapa Island.

SECTION II: Optional Information

5. Date of Petition: ~~11/17/2023~~
1/17/2025

6. Category of Proposed Change

☐ Sport Fishing

☐ ~~Commercial~~ Commercial Fishing

X 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>)*

X 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 [Click here to enter text.](#)

Or X 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: November 1, ~~2024~~ 2025

¹Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities



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

- Petition narrative on eelgrass at Anacapa SMCA
- White paper research from Jessica Alstatt.

11. 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:

This petition protects habitat that confers biodiversity and biomass benefits that enhance the health of Anacapa Island and surrounding ecosystems. Eelgrass beds filter nutrients, stabilize sediments, and increase complexity of the substrate and effective habitat for marine life. As demonstrated by numerous reports of lobster traps “fishing the line” of the Anacapa SMR, fishers perceive that the nearby fully protected MPA has created a beneficial habitat for lobster trapping. Notably, a recent study on the California spiny lobster fishery determined that the short-term losses from a restrictive MPA is compensated by an over 200% increase in total catch after about 6 years of MPA designation.²

This petition is intended to protect ~~would close~~ the Anacapa SMCA eelgrass meadow and associated biodiversity from ~~to~~ lobster trapping which occurs during the months of November and December. The proposed amendment would extend the prohibition to include these months, and would also prevent anchoring damage from pelagic fishing efforts. The three potential options we offer to the Commission ~~While converting this SMCA into an SMR may~~ have short term impacts on recreational and commercial fishing, any such impacts will be offset by the long-term ecosystem wide benefits of protecting eelgrass function at this valuable site.

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: [\[Click here to enter text. \]](#)

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:

² Lenihan, H.S., Gallagher, J.P., Peters, J.R. et al. Evidence that spillover from Marine Protected Areas benefits the spiny lobster (*Panulirus interruptus*) fishery in southern California. Sci Rep 11, 2663 (2021). <https://doi.org/10.1038/s41598-021-82371-5>



State of California – Fish and Game Commission

PETITION TO THE CALIFORNIA FISH AND GAME COMMISSION FOR REGULATION CHANGE

FGC 1 (Rev 06/19) Page 4 of 4

- ☐ Denied by FGC
- ☐ Denied - same as petition Tracking Number
- ☐ Granted for consideration of regulation change



Tracking Number: (2023-27MPA)

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. Person or organization requesting the change (Required)

Name of primary contact person: Azsha Hudson
Address: 906 Garden Street, Santa Barbara, CA 93101
Telephone number: 805.963.1622 [REDACTED]
Email address: ahudson@environmentaldefensecenter.org

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) - Summarize the proposed changes to regulations: This petition seeks to reclassify the Anacapa State Marine Conservation Area (SMCA) as a State Marine Reserve (SMR) or at a minimum reclassify the portion of the SMCA from shore to at least 30 meters depth to better protect eelgrass habitat.

4. Rationale (Required) - Describe the problem and the reason for the proposed change:

Numerous state and federal policies underscore the importance of eelgrass as an important yet vulnerable species that provides nursery habitat for fish, reduces coastal erosion, acts as a carbon sink, and increases species diversity by providing three-dimensional structure on sandy bottomed habitats.

Based on a scientific study conducted at the Anacapa SMCA from 2016 to 2019, and a growing body of literature on eelgrass recruitment and ecology, there is compelling evidence that seasonally occurring lobster trapping and anchoring in the SMCA is destroying eelgrass beds that are otherwise thriving in the adjacent Anacapa SMR.

- At Anacapa Island the main threat to eelgrass, as found by the study conducted by Jessica Altstatt, are hard bottomed objects.



- Dive surveys found the transplanted eelgrass meadows at Frenchy's Cove within Anacapa SMCA to be damaged and greatly reduced. Concurrent interviews with mariners and National Park rangers revealed that Frenchy's Cove was being fished heavily by spiny lobster fishermen during the two months (November and December) that the brown pelican Special Closure was open.
- Boaters that come to the Channel Islands prefer areas that overlap with eelgrass habitat, leaving the eelgrass susceptible to damage from anchoring.

The limited subset of pelagic fishing methods allowed at the Anacapa SMCA also creates challenges for enforcement by requiring officers to board vessels and confirm compliance on an individual basis. This petition requests Fish and Game Commission (FGC) approval to support the goals of the Marine Life Protection Act (MLPA), align with state and federal policies focused on eelgrass resilience and health, and protect important eelgrass and associated marine life at Anacapa Island.

SECTION II: Optional Information

5. Date of Petition: 11/30/2023

6. Category of Proposed Change

☐ Sport Fishing

☐ Commercial Fishing

☐ Hunting

X 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>)

X 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 [Click here to enter text.](#)

Or X 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:

November 1, 2024

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

- Petition narrative on eelgrass at Anacapa SMCA: Anacapa-MPA-Petition-Narrative_FINAL_2023_11_30
- White paper research from Jessica Alstatt: Altstatt_Eelgrass report_2021_03_01
- Sign on letter for support: Frenchys-Cove-Sign-On_FINAL_2023_11_29



- 11. 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:

This petition protects habitat that confers biodiversity and biomass benefits that enhance the health of Anacapa Island and surrounding ecosystems. Eelgrass beds filter nutrients, stabilize sediments, and increase complexity of the substrate and effective habitat for marine life. As demonstrated by numerous reports of lobster traps “fishing the line” of the Anacapa SMR, fishers perceive the nearby fully protected MPA has created a beneficial habitat for lobster trapping. Notably, a recent study on the California spiny lobster fishery determined that the short-term losses from a restrictive MPA is compensated by an over 200% increase in total catch after about 6 years of MPA designation.

This petition would close the Anacapa SMCA to lobster trapping year round and would also prevent anchoring damage from pelagic fishing efforts. While converting this SMCA into an SMR may have short term impacts on recreational and commercial fishing, any such impacts will be offset by the long-term ecosystem wide benefits of protecting eelgrass function at this valuable site.

- 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: 11/30/2023 |

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

Petition Narrative

Overview

This petition seeks to reclassify the Anacapa State Marine Conservation Area (SMCA) as a State Marine Reserve (SMR) or at a minimum reclassify the portion of the SMCA from shore to at least 30 meters depth to better protect eelgrass habitat. Numerous state and federal policies underscore the importance of eelgrass as an important yet vulnerable species that provides nursery habitat for fish, reduces coastal erosion, acts as a carbon sink, and increases species diversity by providing three-dimensional structure on sandy bottomed habitats.

Based on a scientific study conducted at the Anacapa SMCA from 2016 to 2019¹, and a growing body of literature on eelgrass recruitment and ecology, there is compelling evidence that seasonally occurring lobster trapping and anchoring in the SMCA is destroying eelgrass beds that are otherwise thriving in the adjacent Anacapa SMR.

The limited subset of pelagic fishing methods allowed at the Anacapa SMCA also creates challenges for enforcement by requiring officers to board vessels and confirm compliance on an individual basis. This petition requests Fish and Game Commission (FGC) approval to support the goals of the Marine Life Protection Act (MLPA), align with state and federal policies focused on eelgrass resilience and health, and protect important eelgrass and associated marine life at Anacapa Island.

Importance of Eelgrass Habitat

Eelgrass, specifically *Zostera marina*, is a marine plant that provides significant ecosystem services in shallow, sandy-bottom habitats. Eelgrass beds support complex food webs, filter nutrients, and improve water quality, stabilize sediments, and serve as important refuge and nurseries for marine vertebrates and invertebrates.² Eelgrass beds are typically found from shallow waters down to depths of up to 30 meters (98 feet).³

Given its ecological importance, eelgrass habitat restoration and conservation has been identified as a high priority by numerous federal and state policies and planning documents. The National Oceanic and Atmospheric Administration (NOAA) has released several policies related to eelgrass, including the 2014 “California Eelgrass Mitigation Policy and Implementing Guidelines” that emphasize the importance of recovering and sustaining eelgrass across California.⁴ Eelgrass is designated as Essential Fish Habitat for various federally managed fish species within the Pacific Coast Groundfish and Pacific Coast Salmon Fisheries Management

¹Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

²Engle, J. M., & Miller, K. A. (2005, November). Distribution and morphology of eelgrass (*Zostera marina* L.) at the California Channel Islands. In *Proceedings of the Sixth California Islands Symposium. Institute for Wildlife Studies, Arcata, CA* (pp. 405-414).

³ marinespecies.wildlife.ca.gov/eelgrass/

⁴<https://www.fisheries.noaa.gov/resource/document/california-eelgrass-mitigation-policy-and-implementing-guidelines>

Plans and is a habitat area of particular concern for various species within the Pacific Coast Groundfish Fishery Management Plan.⁵

California state policy also recognizes the critical importance of eelgrass; see California Senate Bill 1363 (2016), the Ocean Protection Council (OPC) Strategic Plan (2020-2025) and OPC Ocean Acidification Management Tool (Nielsen et al. 2018), and California Coastal Act sections 30230, 30231. Specifically, the OPC Strategic Plan lists eelgrass preservation and recovery as a priority in its Strategic Plan Target 3.1.4 and aims to protect 15,000 acres of California's eelgrass and create 1,000 new acres by 2025.⁶ OPC's Ocean Acidification Action Plan also prioritizes protection and conservation of eelgrass due to its associated carbon storage benefits in sections 4.1.2 and 4.1.3.⁷ Globally, eelgrass populations have declined during the past 25 years through a combination of natural and anthropogenic deterioration.^{8,9}

While eelgrass restoration efforts have been conducted in the West Coast for over 60 years at significant effort and cost, restoration projects have had mixed success, demonstrating the importance of both protecting existing eelgrass habitat and prioritizing restoration projects that result in successful eelgrass reintroduction.¹⁰

Ecological Benefits

There have also been a suite of studies demonstrating both the ecological benefits of eelgrass habitat and of fully protected areas, which include higher abundance of commercially important species and that fully protected areas can better support climate adaptation and resilience than lightly protected areas.^{11,12} The Channel Islands are home to some of the greatest biodiversity in California and are a critical habitat for a wide range of commercially, recreationally, and culturally important species. Because healthy eelgrass habitat is both ecologically valuable and limited, protecting areas where it can thrive should be a high priority for the State.

Anacapa Island Eelgrass: Need for Improved Protection

Eelgrass used to be abundant at multiple sites at Anacapa island until white urchin (*Lytechinus anamesus*) populations increased and locally extirpated eelgrass following the 1983 El Nino.¹³

⁵<https://www.fisheries.noaa.gov/feature-story/importance-eelgrass>

⁶https://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20200226/OPC-2020-2025-Strategic-Plan-FINAL-20200228.pdf

⁷ https://www.opc.ca.gov/webmaster/_media_library/2018/10/California-OA-Action-Plan-Final.pdf

⁸ Short, F.T. and S. Wyllie-Echeverria. 1996. Natural and human-induced disturbance of seagrasses. *Environmental Conservation* 23:17–27.

⁹ Hemminga, M.A. and C.M Duarte. 2000. *Seagrass Ecology*. Cambridge University Press, Cambridge, UK, 298 pp.

¹⁰ Melissa Ward and Kathryn Behestri. Lessons learned from over thirty years of eelgrass restoration on the US West Coast. *Ecosphere*, Volume 14, Issue 8, August 2023.

¹¹ *Front Ecol Environ* 2018; 16(7): 381–387, doi:10.1002/fee.1934

¹² Roberts, C. M., O'Leary, B. C., McCauley, D. J., Cury, P. M., Duarte, C. M., Lubchenco, J., ... & Castilla, J. C. (2017). Marine reserves can mitigate and promote adaptation to climate change. *Proceedings of the National Academy of Sciences*, 114(24), 6167-6175.

¹³ Jessica Altstatt, Richard Ambrose, Jay Carroll, James Coyer, Joseph Wible, John Engle "Eelgrass Meadows Return to Frenchy's Cove, Anacapa Island: Recovery Ten Years after Successful Transplantation," *Monographs of the Western North American Naturalist*, 7(1), 500-517, (1 January 2014)

Frenchy's Cove, which is located within the Anacapa SMCA, historically sustained the largest eelgrass meadow around all Anacapa Island. Researchers at Anacapa Island found that there had been no sign of recruitment at Frenchy's Cove since 1991 up until the 2000s when efforts were made to reintroduce eelgrass into the area.^{14,15} Transplanting efforts in 2002 restored eelgrass at several sites at Anacapa Island.

In dive surveys conducted by Jessica Altstatt and her team from 2016 to 2019 at transplantation sites at Anacapa Island and other Channel Islands, Anacapa eelgrass sites had 13-14 species of fish recorded, except for Frenchy's Cove (which had no remaining eelgrass), which only reported six species.¹⁶ Similarly, the lowest densities of kelp bass were largely found at the sites with little to no eelgrass; and the lowest number of observed fish species was at the Frenchy's Cove restoration site, over barren sand.¹⁷ These findings underscore that healthy eelgrass beds have been shown to support increased fish biodiversity and enhance marine life and function at sites around Anacapa Island, and the lack of eelgrass is correlated with diminished marine biodiversity and richness.

The eelgrass species at Anacapa Island, *Zostera marina*, is especially vulnerable to disturbance as it grows in soft sediments and can be easily uprooted by activities like trap fishing, which drag along the sandy bottom and disturb vulnerable habitat. Eelgrass beds at Anacapa Island are typically 20-45 feet in depth, and they expand through fragmentation of the stems and through seed dispersal at short distances, meaning that localized protections are important for eelgrass reproduction.¹⁸

Dive surveys conducted in 2016 and 2019 found the transplanted eelgrass meadows at Frenchy's Cove within Anacapa SMCA to be damaged and greatly reduced.¹⁹ Concurrent interviews with mariners and National Park rangers revealed that Frenchy's Cove was being fished heavily during the two months (November and December) that the brown pelican Special Closure was open.²⁰ In November 2019, Channel Islands National Marine Sanctuary staff reported at least 100 lobster traps within the Anacapa SMCA, some as shallow as 17 feet, with another 100 traps along the Anacapa SMR boundary line.²¹ Fishing block data for the mainland showed that effort

¹⁴ Ruckelshaus, M.H. 1996. Estimation of genetic neighborhood parameters from pollen and seed dispersal in the marine angiosperm *Zostera marina* L. *Evolution* 50:856–864.

¹⁵ Reusch, T.B.H., W.T. Stam and J.L. Olsen. 2000. A microsatellite-based estimation of clonal diversity and population subdivision in *Zostera marina*, a marine flowering plant. *Molecular Ecology* 9:127–40.

¹⁶ Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

¹⁷ *Id.*

¹⁸ Olesen, B., Krause-Jensen, D. & Christensen, P.B. Depth-Related Changes in Reproductive Strategy of a Cold-Temperate *Zostera marina* Meadow. *Estuaries and Coasts* 40, 553–563 (2017). <https://doi.org/10.1007/s12237-016-0155-4>

¹⁹ Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

²⁰ *Id.*

²¹ *Id.*

more than doubled within blocks containing fishing areas adjacent to SMRs.²² Notably, eelgrass continued to thrive within the Anacapa SMR itself, 200 meters to the east of the SMCA.²³

In the summer and fall of 2016, the research team also marked and reported four abandoned lobster traps within Frenchy's Cove, with one along the boundary with the Anacapa SMR. The other three traps were within a mapped footprint of the eelgrass restoration site within the SMCA, where there was no longer any eelgrass remaining.²⁴ In a 2019 survey, an abandoned trap was found "ghost fishing" and was filled with live lobsters along the Anacapa SMR boundary.²⁵

The impact of lobster trapping and boat anchoring (from lobster trapping, as well as other fishing and recreational sources) within Anacapa SMCA has been to denude transplanted eelgrass beds and prevent ongoing recruitment and growth of this important species and habitat.²⁶ Disturbing and harming the sandy bottom has a conclusively negative impact on eelgrass survival. Converting this area to an SMR is necessary to protect future eelgrass recovery efforts and all the associated benefits to fish and marine ecosystems.

Notably, the Altstatt paper from 2021 contained the following specific policy recommendation:

Re-classify the shallow soft-sediment bottom within the Frenchy's SMCA as SMR or No Entry (it is already a Special Closure 10 months out of the year). Suitable habitat for eelgrass within Frenchy's Cove only exists within certain hydrodynamic and depth parameters (20'-45'), and over soft bottom not rock. This area historically sustained the largest eelgrass meadow at all of Anacapa Island. Our restoration work showed that eelgrass will rapidly colonize and thrive if anthropogenic disturbance (trapping) were to cease.²⁷

Impact of Hard Bottom Objects on Shallow Root Eelgrass (*Zostera marina*)

Eelgrass faces many threats in Southern California, including increased turbidity, dredging, construction, and pollution.²⁸ At Anacapa Island the main threat to eelgrass, as found by the study conducted by Jessica Altstatt, are hard bottomed objects.²⁹ Lobster traps are not the only

²² Lenihan, H. S., Gallagher, J. P., Peters, J. R., Stier, A. C., Hofmeister, J. K., & Reed, D. C. (2021). Evidence that spillover from Marine Protected Areas benefits the spiny lobster (*Panulirus interruptus*) fishery in southern California. *Scientific Reports*, 11(1), 2663.

²³ Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

²⁴*Id.*

²⁵*Id.*

²⁶*Id.*

²⁷ Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

²⁸ Merkel, K.W. 1991. The use of seagrasses in the enhancement, creation, and restoration of marine habitats along the California Coast: Lessons learned from fifteen years of transplants. Technical Advisory Panel presentation to Marine Board, National Research Council Committee on the role of technology in marine habitat protection and enhancement. 20 March 1991. San Francisco, CA.

²⁹ Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

object that can reduce transplantation success. A study conducted in Puget Sound on seagrass that has a similar makeup to the eelgrass present in the waters surrounding Anacapa Island looked at the impact of Dungeness crab traps set in an eelgrass bed. It was determined that traps could lead to the destruction of the eelgrass immediately beneath it and create a scour hole that would also be devoid of eelgrass.³⁰ Recovery of the eelgrass after a few months saw less than 50% recovery, but no further growth was found after eight months.³¹

Anchors are also detrimental to survival and expansion of eelgrass. Boaters that come to the Channel Islands prefer areas that overlap with eelgrass habitat, leaving the eelgrass susceptible to damage from anchoring.³² In areas that attract boaters there is a cumulative impact from the setting and dragging of the many anchors used over time.³³ Hard bottomed objects resting on top of eelgrass for extended periods cause blades to become broken or abraded, which may disrupt normal blade function.³⁴ Other impacts to the eelgrass include blades of grass being crushed into the underlying anoxic sediments, likely suffocating the plants and leading to eventual deterioration of above-ground plant, and shading by traps that reduces light availability, thereby inhibiting photosynthetic function.³⁵

Increasing Enforcement Efficacy

This petition requests that the Anacapa SMCA be converted to an SMR, removing commercial and recreational lobster fishing and pelagic fishing from the allowable activities. Current regulations for the Anacapa SMCA state the following:

It is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource, EXCEPT:

Recreational take of lobster and pelagic finfish (northern anchovy, barracudas, billfishes, dorado (dolphinfish), Pacific herring, jack mackerel, Pacific mackerel, salmon, Pacific sardine, blue shark, salmon shark, shortfin mako shark, thresher shark, swordfish, tunas, Pacific bonito, and yellowtail) is allowed.³⁶

Converting Anacapa SMCA into an SMR will support law enforcement effectiveness as officers will be able to assess compliance from a distance and not required to individually contact, board, and verify each fishing vessel to determine the species and gear being deployed. It is notable that the ocean salmon fishery has closed as of 2023 due to poor fish survival, so removing this species from allowable activities would have no impact on the industry in the near term.

³⁰ June J. , Antonelis K. 2009. Marine Habitat Recovery of Five Derelict Gear Removal Sites in Puget Sound. Natural Resources Consultants, Inc, Seattle, WA. Report for the Northwest Straits Initiative. 19 pp.

³¹ *Id.*

³² <https://www.nps.gov/chis/learn/nature/seagrass-beds.htm>

³³ Santa Barbara Channel Keeper (2009-2010). The Role of Eelgrass Beds as Fish and Invertebrate Habitat. <https://www.sbck.org/wp-content/uploads/2013/06/Eelgrass-Report.pdf>

³⁴ Uhrin, A. V., Fonseca, M. S., and DiDomenico, G. P. 2005. Effects of spiny lobster on seagrass beds: damage assessment and evaluation of recovery. American Fisheries Society Symposium, 41: 579–588.

³⁵ *Id.*

³⁶ <https://wildlife.ca.gov/Conservation/Marine/MPAs/Anacapa-Island>.

Socioeconomic Impacts

This petition protects habitat that confers biodiversity and biomass benefits that enhance the health of Anacapa Island and surrounding ecosystems. Eelgrass beds filter nutrients, stabilize sediments, and increase complexity of the substrate and effective habitat for marine life. As demonstrated by numerous reports of lobster traps “fishing the line” of the Anacapa SMR, fishers perceive the nearby fully protected MPA has created a beneficial habitat for lobster trapping. Notably, a recent study on the California spiny lobster fishery determined that the short-term losses from a restrictive MPA is compensated by an over 200% increase in total catch after about 6 years of MPA designation.³⁷

This petition would close the Anacapa SMCA to lobster trapping during the months of November and December and would also prevent anchoring damage from pelagic fishing efforts. While converting this SMCA into an SMR may have short term impacts on recreational and commercial fishing, any such impacts will be offset by the long-term ecosystem wide benefits of protecting eelgrass function at this valuable site.

Advancing Goals of the MLPA

This petition advances MLPA goals 1, 2, 3, and 5.

- Goal 1: Converting the Anacapa SMCA to an SMR will directly “protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems” by removing a significant and specific threat to eelgrass – recreational and commercial lobster fishing. In its absence, the 2019 study authors explicitly state: “Our restoration work showed that eelgrass will rapidly colonize and thrive if anthropogenic disturbance (trapping) were to cease.”
- Goal 2: This petition also “sustains, conserves, and protects marine life populations” of both eelgrass and a wide range of marine species that rely on and benefit from eelgrass, as shown by studies indicating higher biodiversity in areas with eelgrass versus the bare sandy bottom that results from lobster trapping and damage from boat anchors. Global research has also shown that fully protected MPAs confer biodiversity and biomass benefits, which further supports the request of this petition.
- Goal 3: Anacapa’s transplanted eelgrass beds are a critical “study opportunity” for understanding how to restore eelgrass in other parts of California and temperate climates. Anacapa Island is an important natural laboratory that has been used by researchers to inform broader eelgrass management efforts since the 1980s. Increasing eelgrass research and recovery is a priority for agencies including OPC and NOAA. The proposed conversion to an SMR can support that important work by helping restore eelgrass beds where they are currently harmed by fishing pressures.

³⁷ Lenihan, H.S., Gallagher, J.P., Peters, J.R. et al. Evidence that spillover from Marine Protected Areas benefits the spiny lobster (*Panulirus interruptus*) fishery in southern California. *Sci Rep* 11, 2663 (2021). <https://doi.org/10.1038/s41598-021-82371-5>

- Goal 5: As the state considers adaptive management of the MPA network, it is important to make decisions that support “effective management measures and adequate enforcement and are based on sound scientific guidelines.” The current allowable activities at the SMCA include take of select pelagic fish, which creates complexity for enforcement officers who must ensure individual compliance with regulations. Commercial and recreational lobster fishing is also allowed; but as described above, recent surveys and studies demonstrate that there is a clear and specific fishing-related threat to eelgrass beds at the Anacapa SMCA, and that converting to an SMR will remove that pressure and allow for ecosystem recovery. Prohibiting these fishing pressures will support enhanced enforcement and align with recently available scientific findings about the significant damage caused by lobster traps and boat anchoring.

Alignment with Decadal Management Review

This petition supports the Decadal Management Review (DMR) recommendation #4: “Apply what is learned from the first Decadal Management Review to support proposed changes to the MPA Network and Management Program.” Over the past decade, significant research has been conducted in the Anacapa SMCA and surrounding ecosystems to better understand how policy protections can support eelgrass ecosystem recovery and safeguard this critical species. The DMR report and recommendations also underscore that enhancing MPA enforcement is a continued priority, so creating regulations that facilitate compliance and simplify allowable activities is a clear pathway for addressing this ongoing management goal.

Available data demonstrates that lobster traps and boat anchors in Anacapa SMCA cause significant harm to eelgrass recovery efforts. Eelgrass beds in the nearby Anacapa SMR were healthy, while those in the SMCA were degraded or nonexistent following lobster season. When combined with the benefit of streamlining enforcement by removing piecemeal fishing allowances, this petition clearly responds to the DMR and confers multiple benefits for MPA management.

By approving the conversion of Anacapa SMCA to an SMR, the FGC will integrate the best available science into MPA policy; support the goals of the MLPA; advance federal and state policies advocating for the recovery and protection of eelgrass; and directly support the DMR’s goal of adaptively managing MPAs based on findings from the past decade.

Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition, Health and Extent of Beds and Biological Monitoring of Associated Fish and Invertebrate Communities



March 1, 2021

Jessica Altstatt

Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

Abstract

Eelgrass (*Zostera pacifica*) meadows were present along the northern shores of Anacapa Island prior to the late 1980s, when sea urchin over-grazing led to local extirpation. No natural recruitment occurred over 12 years and in 2002, ~500 eelgrass (*Zostera pacifica*) shoots from two large meadows at Santa Cruz Island (Smugglers, Prisoners) were transplanted to Frenchy's Cove, Anacapa Island. The short-term survivorship and growth of eelgrass at the transplantation site and continuing expansion of eelgrass from the restoration site to the east along Middle Anacapa Island was documented over a 17 year period, along with conditions at naturally occurring beds at Santa Cruz and Santa Rosa islands. Eelgrass bed dynamics and associated fish and invertebrate communities were characterized in 2016 and 2019 and compared with existing conditions within the donor beds and other Channel Islands eelgrass meadows. At Anacapa, eelgrass meadows have persisted longer post-transplantation (2003-2019) than was documented without natural recovery prior to our efforts (1991-2002), and are fully functioning habitat as shown by fish and invertebrate communities, and when compared to natural meadows at Santa Cruz Island.

Introduction

Seagrasses are flowering plants that have evolved from land plants to live in the ocean, forming lush green underwater meadows. These meadows or beds are an important coastal habitat and support complex food webs, provide refuge for animals, filter out nutrients, and stabilize sediments. Species diversity in seagrass beds can be nearly twice as high as on nearby sandy intertidal and subtidal habitats (Engle et al, unpublished data). Through photosynthesis, seagrass fixes carbon from carbon dioxide dissolved in seawater, and transfers that carbon to the sediments. Growing interest in the potential of seagrass as a 'green carbon' solution to climate change is amplified by recent evidence that subtidal seagrass beds could play a critical role in slowing or reversing the deleterious effects of ocean acidification on marine larval invertebrates and fishes. The focus of most seagrass research has been in intertidal estuaries but submerged beds occurring along the open coast may contribute as much or more value. Thus, the need for up-to-date information on the size, health and habitat function of the major seagrass beds around the Channel Islands and Santa Barbara mainland coast is ever-more relevant and timely.

There are two types of seagrasses found along the California coast- surfgrass and eelgrass. Surfgrass (genus *Phyllospadix*) grows in rocky wave-swept environments while eelgrass (genus *Zostera*) grows in soft sediment found in sheltered coasts, bays and estuaries. *Zostera sp.* was historically abundant in California's shallow inlets but has been especially damaged by coastal development and up to 90% of

its historic range has been lost. DNA analysis has defined two species occurring at the California Channel islands—*Z. marina* and *Z. pacifica* (Coyer *et al.* 2007).

Although both surfgrass and eelgrass are flowering plants and produced seeds, eelgrass is especially vulnerable to disturbance as it grows in soft sediments and can be uprooted. Additionally, eelgrass beds expand through vegetative growth of rhizomes and the chance of long-range dispersal of seeds is very low. Thus, its ability to naturally spread over long distances happens only over a very long time scale. Evidence from genetic studies suggests that the largest eelgrass beds around the Channel Islands are mostly clonal and may be thousands of years old (Coyer *et al.* 2007).

Expeditions of the Channel Islands Research Program (CIRP) in the 1980s and 1990s yielded information on location and size estimates of major eelgrass meadows around the Channel Islands, as well as data on associated fish and invertebrate density (Engle and Miller 2005). These meadows (along with several along the mainland coast) were then re-surveyed in 2007-9 by some of the same research cruise participants.

Up until the mid 1980s, eelgrass had been abundant at multiple Anacapa Island locations from Frenchy's Cove to Cathedral Cove. An unusual recruitment event of the white urchin *Lytechinus anamesus* following the 1983 el Niño led to over-grazing and extirpation of eelgrass from all of Anacapa. In 2002, a trial restoration project was initiated to test whether or not eelgrass recruitment could be 'jump-started' by using vegetative material from nearby Santa Cruz Island. Over ten years, a meadow coalesced, expanded, and spread from within the Anacapa Special Closure and State Marine Conservation Area (SMCA), towards the east into the State Marine Reserve (SMR). The project was deemed a success with eelgrass spreading most of the length of Middle Anacapa Island (Altstatt *et al.* 2014).

Observations and data collected at the restoration site in 2011 and 2012 suggested that something was impacting the soft bottom habitat within Frenchy's Cove. Information gained from mariners and National Park rangers confirmed that the cove was being targeted by trap fishing during the commercial season months of November and December.

MPAs are even more critical for providing resilience and refuge within a changing ocean. Eelgrass habitat, limited by water clarity and exposure, faces very real threats from climate change-related physical disruption from increased wave activity and storm severity. In addition, sea level rise may reduce the resiliency of some beds due to steep shore topography and reflection from waves.

2016-2019 Project Purpose

We assessed eelgrass condition, density and abundance within major beds at Santa Cruz and Santa Rosa Islands, and along the north side of Anacapa Island that include our restoration site and "downstream" areas of restored meadows (seeded from the restored population). We also gathered information on density and abundance of associated invertebrate and fish species. Information gathered was then compared to that from large-scale, multi-island surveys performed in 1994-1997 (Engle,

CIRP) and in 2007- 2009 (Altstatt, CIRP). Additional opportunistic surveys occurred at various sites between this range of dates.

Anacapa and eastern Santa Cruz island sites were visited in 2016 but survey scope was limited. Enough information was gathered, however, to determine that the commercial lobster trap fishery had severely impacted the epicenter of our restored eelgrass bed within the Anacapa State Marine Conservation Area at Frenchy's Cove. Eelgrass occurring within the neighboring marine reserve was flourishing. This unexpected and very interesting result needs focus, as it has implications for soft-bottom (and other) habitats that fall just outside of marine reserves. In light of the recent years of unprecedented warm water, the health of the beds is unknown and potentially facing dramatic change due to disease, increased predation from recruitment of warmer water species, or physical disruption from increased wave activity during el Niño storms.

We envisioned that the 2019 season of surveys could be the first in a much larger multi-year effort, that will collect information needed to conduct stock assessments for threatened species, the ability of specific seagrass meadows to adapt to changes in sea levels and storm damage due to climate change, and could help address the capacity of eelgrass meadows to buffer changing pH levels.

Primarily, this study was conducted to address the following questions:

- how stable over time are shoot density and meadow extent in naturally occurring eelgrass beds?
- how similar in size and density are the meadows at Anacapa to naturally occurring beds at Santa Cruz and Santa Rosa?
- do the restored eelgrass meadows at Anacapa perform at the same habitat level as naturally occurring beds at Santa Cruz?

Additional questions include:

- does eelgrass extent/coverage/patchiness affect determine fish and invert species richness, abundance?
- do eelgrass beds within Marine Reserves and their associated fish and invertebrates differ from those outside?
- are there implications for management of Marine Protected Areas, and what are the recommendations?

Methods

Site Descriptions

We surveyed thirteen island eelgrass meadows between April 24 and July 27 2019. We chose meadows that were known to be temporally stable, and/or that had been sampled repeatedly since the 1990s. One site was at Santa Rosa Island, eight sites at Santa Cruz Island, and four sites at Anacapa Island including the original restoration site within Frenchy's Cove (Figure 1).

We also chose two locations that we suspected may have changed (East Prisoners) or that had been mapped in 2015 (Merkel 2015) that we wanted to ground-truth (East Scorpion). In general, the most protected sites were closest to shore and those sites subject to wave action were deeper and farther offshore. Specific dive locations were chosen with the help of our previous maps and notes to ensure that a full survey could fall within eelgrass meadow rather than sandy plain.

Most sites were visited at least twice; Old Ranch, Eagle Canyon, East Scorpion, and Smugglers, only once.

Divers mapped the western and inner meadow edge at Scorpion, and this data was then provided to the National Park Service (NPS) to assist in their process planning for construction of the new pier. The trackline created by this dive is shown in Figure 2.

Santa Rosa Island

Old Ranch

This expansive eelgrass meadow was not known to CIRP during the 1990s. It is far enough offshore that it escaped detection until we were alerted by a commercial crab fisherman in 2002 who found his traps fouled with eelgrass. Dives occurred in 2002 and 2003 for mapping and general description, but no qualitative surveys were done. We surveyed this bed in August 2008, with additional scouting. Work in Fall 2009 was aborted after one dive as the current was too strong. The 2019 surveys did not reach the outer edge of the mapped eelgrass bed, which we estimated to be another 150-200m to the east, as it was approximately 600m offshore and thus subject to strong currents.

This eelgrass meadow is more than 800 meters long and at least 350m wide. The sediment is white clean sand and meadows occur from 35' to 50' depths. We sampled two sites each ~430m off of the beach.

Santa Cruz Island

Prisoners Harbor

Prisoners Harbor is perhaps the most sheltered location on the island, tucked inside a large bight on the north side of the island. The NPS maintains a pier and mooring can in shallow water (~17'). This is a popular location with pleasure boats, especially northwest of the pier. Holes in the eelgrass bed from anchoring are evident in this area. The western headland protects the nearshore habitat from even strong westerly swells. The area is only rarely affected by strong Santa Ana winds that produce steep wind waves from the NE. These meadows are 135m off the beach and 80m off the western headland. The eelgrass bed to the west of the pier extends roughly N-S for hundreds of meters and in to 11' depth inside of the pier. The sediment in the inner harbor is fine and dark. We sampled two areas (~60m apart) in 2019.

In the surveys of the 1990's, it was thought that a separate bed lay 2 km to the east at Cañada del Agua. During our 2009 mapping study, we swam this stretch of coastline and documented that a solid band of eelgrass extends the entire distance. This bed is fairly defined both on the shallow and deep edge. Moving easterly from the pier, the north side of the island becomes more exposed to prevailing swell and current, and the eelgrass meadows are in deeper water.

East Prisoners

This site is east of the pier off to the first headland. The sediment immediately offshore of the Cañada del Puerto wetlands and creek mouth bears evidence of occasional terrestrial inputs of branches, cobbles and boulders. There has been a narrow canyon carved out from previous heavy flows that is up to 10' deeper than surrounding areas. The creek mouth is closed off from the ocean most of the time but it is evident that when the creek is discharging, eelgrass habitat is affected. In 2001 the eelgrass was described in this area as very patchy (Richards 2001), but was more continuous and uniform when mapped in 2009. It is unknown what the long-term effects of the on-going Cañada del Puerto watershed restoration by NPS will be, although it is possible that the wetlands will prevent the 'flashiness' of previous high water years, and thus could reduce scouring in the nearshore environment.

This area is 110m – 150m offshore.

There are several minor headlands to the east of Prisoners that provide protection from prevailing swell. We sampled three of these areas in 2019. The locations in the eastern lee of these headlands are Eagle Canyon, Cañada del Agua and Aguaje Escondido.

Eagle Canyon

The only time that we dove here in the past was for mapping in 2009. The eelgrass meadow is 90 meters offshore.

Cañada del Agua

In 1997, Cañada del Agua meadows were described as isolated and no grass was detected to the east. In 2001, it was noted that this area was the east end of roughly 1.5 km of eelgrass patches and meadows stretching from the Prisoners pier. In 2003 using the ship's fathometer, the bed was estimated at between 1-10 hectares with 0.5 km or less of shoreline. In 2009, during diver surveys it appeared that eelgrass tapered off past the cove and was not continuous to the east.

The eelgrass meadows are 130 meters off the headland and roughly 100 meters wide, centered at 28' depth.

Aguaje Escondido

This area was not surveyed in the 1990s, as at that time it was limited to several small patches. In 2003, eelgrass habitat at this location was less 2.5 acres and less than 500 meters of shoreline. It did not appear that the area was contiguous with eelgrass to the west.

During the cruises conducted 2008-09, based on these earlier observations, we did not chose to re-survey or map here. The 2015 NMFS sonar surveys found that this bed had expanded and was now a continuous band with eelgrass to the west.

The eelgrass meadows are 110 meters off of the headland and are up to 250 meters wide.

Scorpion

There has been a meadow in this sheltered location as least as far back as 1981 (Engle, personal communication). Grazing by white urchins occurred in the late 1980s and surveys in 1994 found the bed to be 0.1-1 hectare with less than 0.5 km of shoreline. A flash flood in December 1997 caused extreme flooding within Scorpion Canyon, leading to deposition of sediment and debris into the cove, leading to an estimated reduction in eelgrass by 30% or more (Richards, personal communication). In 2001, the eelgrass bed was a series of very dense patches 3-8 meters in diameter. This eelgrass bed is in a heavily used anchorage in front of the National Park island headquarters and popular visitor area. Two mooring balls were placed within Scorpion for use by NPS and concessionaire vessels in the 1990s. Since then, the bed has been a mosaic of meadows with circular open areas resulting from periodic relocation of the NPS mooring anchors and chain, and old anchor scars. Advocacy work in 2007-8 temporarily resulted in NPS suspending the chain off the sea floor by using a sub-surface float. Within a few years, however, the subsurface floats were removed by maintenance staff and the chain once again was on the bottom. This Marine Protected Area will continue to be affected by the chains on the bottom, and routine maintenance of the mooring chain every time the anchors are pulled up and redeployed in a new location, until NPS decides to modify their practices.

This eelgrass meadow is approximately 300 meters long and at least 74 m wide. The bed was mapped as 5.8 acres in 2009.

East Scorpion

This site is 500 meters east of Scorpion and is somewhat less protected. We chose to survey this location as it had been mapped as a solid eelgrass meadow (130 x 100 meters) in 2015 (Merkel 2015). The area is 130 meters offshore and 100 meters west of Scorpion Rock.

Smugglers Cove

Smugglers Cove, at the east end of Santa Cruz Island, is a wide embayment sheltered from prevailing northwest swell. The bay is exposed to long-period south swells which are common during the summer and fall months. During such events, sediments are suspended near shore and the visibility drops to near zero. Smugglers is both the farthest offshore and the deepest bed at Santa Cruz Island. To the south, there are eelgrass meadows closer to Yellowbanks, but that area is even more susceptible to bad visibility due to the fine sediment and much of this eelgrass is interspersed with low-lying rocky reefs.

Based on previous mapping efforts, the Smugglers eelgrass meadow is more than 1,300 meters long and up to 265 meters wide, and nearly 500 meters offshore. occurring from 38'-50' depths

Anacapa Island

CIRP records of eelgrass at Anacapa in 1979-1981 found extensive eelgrass meadows of 1-10 hectares along the north side of all three islets, and at Cat Rock on the south side of West Anacapa. All the Anacapa beds disappeared in the late 1980's, due to overgrazing by the white urchin, *Lytechinus anamesus* following an extraordinary post- el Niño recruitment event (Engle et al., unpublished data). By 1991 all eelgrass was gone (with the exception of a small patches at Cat Rock and Cathedral Cove, which persisted for a few more years). In April 2003, the entire north side of Anacapa became either a State Marine Reserve or State Marine Conservation Area.

The boundary between the Marine Protected Area (no take, to the east) and the Anacapa Marine Conservation Area (to the west, which allows for take of pelagic fin fish and lobster) runs N-S through Frenchy's Cove. Our two sites straddle this line. There is also a Special Closure to the west of the line for Brown Pelican breeding that closes the area within 1000' of shore to vessel traffic from January through October, but historically it has not been regularly enforced.

Frenchy's Cove, West Anacapa

Historic beds here in the 1980's ranged from 20-45' depths (Engle and Miller 2008). In 1981 this extremely sheltered location area supported the largest bed at Anacapa. By 1991, the eelgrass had been extirpated and CIRP established a permanent transect to monitor yearly for recovery. In 2001 we developed a trial restoration plan for this location with a site within the Seasonal Pelican Closure in the western part of the cove (Altstatt, 2005, Altstatt et al. 2014) with regular monitoring in subsequent years (with the exception of 2013-2015). In 2009 the bed was mapped as 2.9 acres.

Frenchy's Cove is the most protected area at Anacapa Island, offering moderate protection from NW winds and swell. Inshore of about 20' the sand turns to gravel, cobble and shell hash, which limits the inshore distribution of eelgrass. In deeper water, the parchment tube worm *Chaetopteros* has been common to abundant here, building 'reefs' of tubes at or just under the sediment surface. Offshore to the east, there is a rocky outcrop in 60-75' which is at least 100 meters offshore of the eelgrass bed. In cool water years, there is seasonal recruitment of giant kelp and other brown algae onto worm tubes, pebbles and cobble, but this algae rarely persists year-round. The historic eelgrass bed was 100m from shore.

East Frenchy's

This area is just 300 meters to the southeast of the restoration site. Within the first year of restoration planting at Frenchy's, most of the shoots had been dislodged and carried away by water motion. Upon surveying East Frenchys, we found single shoots with new growth, and we realized that these resulted from our work up-current. The eelgrass spread initially from vegetative material that re-rooted, and then from both seed dispersal and vegetative extension of rhizomes. We have monitored growth and spread in to patches here and to the east since 2004.

Current meadows are 90 meters from shore.

Keyhole, Middle Anacapa

This location is ~ 1 km to the east from East Frenchy's. In 1980 eelgrass was dominant here at 25' - 40' depths. We first observed single eelgrass shoots here in 2004. Eelgrass meadows are 85 meters from shore.

East NPS, Middle Anacapa

In 1982, substantial eelgrass meadows were found here from 30-40'. There was no eelgrass here in 2004 or 2005, but by 2011 and 2012 there were scattered patches in 33' to 40' depths. Eelgrass meadows are 150 meters from shore.

Cathedral Cove, East Anacapa (scouting only)

A few small patches of eelgrass persisted here during the urchin over-grazing until 1998. Diver observations through 2012 did not find any remaining eelgrass here. Sonar mapping suggested that sparse eelgrass was present (Merkel 2015).

2019 Survey protocols

The amount of effort at each site varied, but was designed to collect the minimum information needed for site characterization.

A full survey consisted of the following:

- quantitative fish transect 30m x 2m band
- band transect for large invertebrates and algae 30m x 2m band
- 0.25m² quadrats for eelgrass leaf shoot, flowering shoot and seedling density, urchin counts, % cover tubeworms and other sessile invertebrates,
- point-intercept for eelgrass extent and cover along transect line (10cm intervals)

General Dive Plan

All SCUBA activities were approved either by the University of California, Santa Barbara Diving Safety Officer, NOAA scientific diving program, or both. Divers were either NOAA or American Academy of Underwater Scientists (AAUS)-certified and familiar with species identification and survey protocols.

Dive sites were chosen based on our knowledge of preexisting eelgrass bed locations and conditions (Table 1). We planned for one central dive location at the smaller sites and two dive sites at the larger beds (Prisoners, Smugglers, Scorpion, Old Ranch). The anchor was dropped on predetermined GPS coordinates. Transects generally were laid out in cardinal directions (headings of 360, 90, 180 and 270 degrees) starting at the boat's anchor location, resulting in transects that generally ran alongshore, offshore and onshore. A complete survey required two teams of diver buddy-pairs. The first team laid out the tape while doing the fish survey and then conducted band transects and eelgrass extent point intercept survey on way back, leaving the tape in place. The second team scored quadrats and reeled in the tapes. The depth was measured along the transect at each quadrat location.

A typical survey at one dive location would yield four 30m fish transects + up to four extra 30m transects as extensions from the core transects, four 60m² bands, and fifteen 0.25m² quadrats per core transect for 60 quadrats total.

Although the site locations were chosen generally for the probability that they were within the last known extent of eelgrass, once on the bottom we did not abandon or re-route the transects to choose areas of higher density or extent.

Quadrat method

Quadrats were 0.25m² area (0.5m square) and were placed at set locations (every other meter) along the tape, yielding 15 per transect. Counts were conducted within each quadrat for the number of eelgrass turions (shoots), seedlings, and reproductive (flowering) shoots. Divers also searched for urchins and

estimated percent cover of brittlestars and parchment tube worms. Depth was recorded for each quadrat.

Point-intercept method

We performed point-intercept counts every 10cm along each transect in order to estimate how much of the transect fell within an eelgrass patch or meadow. We scored the extent of eelgrass beneath the transect line by assessing the substrate at 10cm intervals along the transect. This yielded a percent of each 30m transect that was either eelgrass bed, bare sand, or other (e.g. worm tubes). These points were tallied and the categories were converted to percentages. For analysis and comparison with previous survey years where detailed point-cover was not consistently recorded for all transects, point-cover was converted to a 1-4 density scale (Orth et al 2021) where 0-10% cover is Very Sparse, 10-40% is Sparse, 40-70% is Moderate, and 70-100% is Dense. This measure gives an idea of the ‘patchiness’ of the eelgrass at a dive location, and potential compatibility with other seagrass studies.

Quantitative Fish transects

The diver performing the fish survey would slowly swim in the designated direction, extending the meter tape until 30 meters was reached. Any fish observed within the 2m wide transect corridor would be recorded. Fish were scored into four size categories: young of the year (YOY), <15cm, 15-30cm, and >30cm. The diver could pause during the count while recording in order not to miss other fish. Divers usually completed the transect within 3-5 minutes. Most surveys included additional fish transects that extended an additional 30m past the end of each main transect, on the same heading.

Roving Diver Fish Counts

We conducted 30-minute roving diver fish counts (CINP Kelp Forest Monitoring Program 1997) to determine indices of species presence, abundance and diversity. Fish species were scored both on the 5-minute time intervals during which they were encountered, and on abundances recorded during the overall 30-minute survey which were scored into four categories (single [1], few [2-10], common [11-100], and many [>100]). For analysis, we created a weighted abundance index that combined the ‘Time Interval Code’ and ‘Abundance Code’ (if a species was not tallied the Abundance Code was zero). The index was the $(TIC/10) \times AC$. This gives more weight to fish seen earlier in the 30-min count, so for example a species with an overall abundance of common (3) seen in the second time interval (9) would have a weighted index of 2.7.

At least one Roving Diver Fish survey was performed at all but two of the dive locations (due to time constraints no Roving Diver Fish surveys were performed at Eagle Canyon or East Scorpion).

Band Transects

The dive team would visually search within 1m bands to each side of the main transect tape and record any major invertebrate or macroalgae encountered, yielding 60m² search area per transect. We did not

sample sediments for infauna other than for obvious bivalves, tube anemones and tube worms extending above the surface. Epifauna was only scored if larger taxa (urchins, sea hares, etc).

In addition to the core methodology, notes, photos and video were taken as time allowed.

2016 Surveys

We did an abbreviated suite of diver surveys at six sites in the summer of 2016 (Table 3). This included quantitative fish transects, invertebrate band transects, and quadrats for eelgrass metrics. In addition we scouted and mapped eelgrass along Middle Anacapa and ground-truthed some reports of eelgrass from a 2015 National Marine Fisheries Service-contracted acoustical mapping effort (Merkel 2015).

2008-2009 Surveys

We collected monitoring data at six islands beds during the 2008-09 field seasons, using methods as described above. During the twelve days of these cruises, between four and seven divers participated each day, collecting the following information: 865 $\frac{1}{4}$ m² quadrats for shoot density and sessile invertebrates, 200 30m quantitative fish transects, and 133 30m band transects for motile invertebrates.

A total 156 individual dives were performed.

1990s Surveys

Three dedicated soft-bottom survey Channel Islands Research Program multi-day cruises to the northern Channel Islands took place in August of 1994, 1995, and 1997. Surveys targeted known or suspected eelgrass beds to determine areal extents, depth ranges, plant density, and community composition, and were repeated at three core sites (Prisoners, Scorpion, Smugglers) in subsequent years to assess annual and multi-year changes. Surveys included detailed eelgrass meadow infaunal and epibiont surveys, and comparisons with non-eelgrass bed sandy habitats. Results were compiled in a draft report to the California Coastal Commission in 1998 and major findings were published in Engle and Miller 2005. The density, meadow extent, and fish and major invertebrate transect data are used in the current study to determine meadow function and stability over time.

Statistical Analysis

To account for differences in sampling effort, eelgrass abundance was scaled to the same spatial unit across sites and years. Due to challenges with some transects located almost entirely outside of eelgrass meadows, only quadrats with eelgrass present were included in statistical analysis. To address small sample sizes and non-normal distributions, non-parametric statistics, including median, confidence interval, and interquartile range were included. The Kruskal-Wallis test was used as a nonparametric test between two samples (Conover 1999). All statistics and graphing were conducted in R version

4.0.3 (ref), using packages *ggplot2*, using packages *ggplot2*, *PerformanceAnalytics*, *tidyverse*, and *Hmisc*.

Results

In general, eelgrass meadows at the largest sites appeared unchanged in location or scale, with the expected suite of species present. Highlights and exceptions are noted in the following sections.

Quadrats Results

A total of 1,095 quadrats were scored during the 2019 study.

Eelgrass Shoot Density

As the dive locations were not adjusted once underwater, some transects ran through patchy or sparse meadows or across bare sand rather than through a dense bed. We excluded those quadrats that fell onto bare sand outside of meadows from analysis of shoot density. The 2019 mean shoot density for 11 sites is shown in Figure 3 (East Scorpion and Frenchy's are excluded as density was $\sim 0\%$). In general, density ranged from 31 to 65 shoots/m².

Sites grouped by similarity in density. Prisoners (65/m²), Eagle Canyon (65/m²) and Scorpion (58/m²) were the highest in density and not significantly different. The three Anacapa SMR sites were not significantly different from each other in density, with a mean of 46/m². Smugglers and Old Ranch (42/m²) were similar, and East Prisoners, Cañada del Agua, and Aguaje Escondido were similar (~ 33 /m²).

Variation in density with depth

At each site, our design ensured that we scored quadrats along 60m of transect that was parallel to shore at a constant depth, and along 60m of transects that crossed the bed from shallow to deep. Depending on the site, the cross-section transects may have captured the inshore edge of the eelgrass, the offshore edge, both, or neither. Two Anacapa beds, East NPS and Keyhole, are shown in Figure 4. The width of the bed at East NPS was ~ 120 m, while at Keyhole the bed was 68m wide. In both cases, eelgrass shoot density tended to increase in shallower water.

Eelgrass patchiness and extent

Mean point-intercept and a four-point density scale for eelgrass are summarized in Figures 5 and 6. Old Ranch, Prisoners, Cañada del Agua, Scorpion, Smugglers, Keyhole and East NPS were categorized as mostly or entirely dense meadows. Eagle Canyon, Aguaje Escondido and East Frenchy's were categorized as moderately dense. East Scorpion and East Prisoners were mostly very sparse. Frenchy's was entirely bare sand but categorized as very sparse (0-10% cover).

Site Conditions

Frenchy's, the original restoration site, had no remaining eelgrass meadows and only a couple of single shoots were observed. Across the cove at East Frenchy's, there were good eelgrass meadows to the east but much of the permanent transect line towards the west and close to the marine reserve boundary was denuded. We did observe meadows off the transect in shallower water.

The greatest increase in meadow extent was found at East NPS, where by 2016 there were extensive uniform (100% cover) meadows in 30-40'. Keyhole was slightly less uniform and similar density. There was no significant difference in shoot density between East NPS, Keyhole and East Frenchy's, although East Frenchy's meadows were the most fragmented. All three Anacapa sites had higher shoot density than Smugglers, which was one of the original donor material locations. Smugglers was extremely uniform in meadow extent (100%) but with moderate density (42 shoots/m²).

Large bare scars were observed just off the transect corridors at Scorpion, near each of the two mooring anchors, and the mooring cans were no longer held up by sub-surface floats. The NW and inner edge of the bed was similar to previous years. Our tracklines from June 2019 (green) are shown with bed extent mapped by SCUBA in 2009 (purple) and eelgrass delineated by sonar in 2015 (red) in Figure 2. It appears that the bed may have expanded from 2009 to 2015 in all directions, and then contracted by 2019.

The meadows at Aguaje Escondido also expanded from 2009-2019, but were moderately patchy compared to Cañada del Agua. We sampled two locations at each of these sites, and patchiness differed more between the two dive sites at Aguaje Escondido than at Cañada del Agua.

At Eagle Canyon, one of three transects fell entirely on bare sand, but the eelgrass on the other two was the highest mean density observed during the study, 65 shoots/m² with a single quadrat at 112/m².

Another big change was that the meadow at East Prisoners (in front of the wetland and canyon mouth) had mostly disappeared and the eelgrass that we did encounter was the lowest mean density of the study- 31/m².

Both Prisoners and Old Ranch at Santa Rosa Island have remained fairly uniform in cover.

Our site-checks at Cathedral Cove on East Anacapa found no evidence of eelgrass returning to this location (ship's fish finder and by SCUBA on 9/20/2016, and by ship's fish finder on 6/20/2019).

Flowering and Seedlings

Eelgrass flowering was detected at varying density within quadrats at nine sites (Figure 7). The greatest densities were found at Keyhole (4/m²), Smugglers (2.9/m²) and East NPS (1.53/m²). Seedlings were found at seven sites, with the highest density at East NPS (1.13/m²) and Keyhole (0.6/m²). No flowers

or seedlings were found within quadrats at Prisoners Harbor, although developing flowers were documented at the site by photograph in April. Neither flowers nor seedlings were found at Frenchy's, East Scorpion, or East Prisoners.

Other quadrat categories

The white urchin *Lytechinus* was present in 16% of quadrats at Frenchy's (1.14/m²), and a single urchin was found at East Prisoners. Parchment tube worms (mostly *Chaetopterus* sp.) were present in low numbers at all sites but were greatest at predominantly sandy sites (Frenchy's, East Scorpion, East Prisoners). The small red sea cucumber *Pachythione rubra* was found at two sites, Aguaje Escondido and Old Ranch, where they were only in a few of the quadrats but in especially high numbers at Old Ranch.

Fish Results

During site visits, sea lions were observed at Anacapa Island (East NPS and East Frenchy's) and harbor seals at Eagle Canyon, Santa Cruz Island.

Quantitative Transects

We completed 136 quantitative fish transects during the study. Each 30m x2m transect took 4-6 minutes to complete. Data for all transects are summarized in Table 4.

Size

Fish were generally recorded in 3 size categories (>30cm, 15-30cm, <15 cm), plus young of the year (YOY) but the three sizes have been lumped for density analysis, with the exception of a discussion of kelp bass sizes below.

Species

39 different species categories were found in total across all transects and all sites (Table 3). Density of the eight most common fish are shown in Figure 6. The two most commonly encountered species were kelp bass, *Paralabrax clathratus*, which were scored at all sites except for Frenchy's and East Frenchy's and in 65% of all transects; and seniorita, *Oxyjulis californica*, which occurred in 40% of all transects. The third most common fish was black perch, *Embiotica jacksonii*, found at six sites and in 20% of all transects.

12 species were only encountered once. 9 of these fish taxa were bottom-dwellers.

YOY species

Surveys occurred too early in the year to catch many young of the year (YOY) fish. Fall surveys would have captured recent recruitment of typical species such as kelp bass, seniorita, rockfishes and perches. Our surveys found YOYs of 4 categories: kelp bass, unidentified rockfish, black eye goby and giant kelpfish. Of these, giant kelpfish were by far the most common, occurring in 12.5% of all fish transects and at 6 of the 12 sites.

Kelp bass

The size classes of kelp bass found at all sites are shown in Figure 7. Size classes could help distinguish between legal and sub-legal size of kelp bass, a popular recreationally-fished species. However, in 2013 the DFG commission increased the minimum harvest size from 12" (~30cm) to 14" (35.6cm) length over all. We did not change our estimated size categories after this regulation was enacted, but it is not clear whether it would make a difference in results.

The greatest density of kelp bass overall (nearly twice that of other sites) was found at Scorpion. This SMR site had fish of all three size categories plus YOYs, and the largest fraction of small and medium kelp bass at any site. The lowest densities of kelp bass were found at the sites with little to no eelgrass, with the exception of East Frenchy's. A large sea lion was observed there during the monitoring, perhaps contributing to the general lack of fish seen on this particular survey as kelp bass were commonly encountered during the roving diver fish counts on a later date. The largest proportion of legal-sized (or close to legal) kelp bass were found at Keyhole and Scorpion, both within State Marine Reserves.

Perch

We encountered seven species of perch. The most perch and four out of the six most common species were found at Prisoners Harbor. Large schools of shiner perch were present over the transects at Prisoners, accounting for 27% of the total fish observed. Rainbow perch only were found at the two deep sites, Smugglers and Old Ranch. Black perch were at six sites, and white perch at four sites. No perch were seen at the predominantly sand habitat sites (East Frenchy's, Frenchy's, East Scorpion). No YOY perch were observed.

Elasmobranchs

We found three taxa of elasmobranchs along quantitative transects: horn sharks, leopard sharks and bat rays. Horn sharks were scored at East Frenchy's, Scorpion, and Aguaje Escondido; leopard sharks at Aguaje Escondido, Cañada del Agua, and Prisoners. Bay rays were scored at Scorpion, Cañada del Agua, East Prisoners and Old Ranch.

Sheephead

Sheephead were found at seven sites. The greatest density was at Scorpion (0.86/transect). Males were only seen along transects at Scorpion and Cañada del Agua. No YOY sheephead were found.

Schooling Fish

We found three taxa of schooling fish: jack mackerel (two sites), topsmelt (three sites) and barracuda (three sites). All three occurred at both Scorpion and Cañada del Agua.

Senorita

Senorita were the most numerous common fish found and occurred at six sites and all three islands. The greatest number were found at Old Ranch SRI (22/transect).

Miscellaneous Fish

We found ~ a dozen taxa that were represented by single individuals at one or more sites. Scorpion had four of these species. Of note was the orangethroat pikeblenny, a benthic fish that shelters in empty shells or parchment worm tubes. In 1994 the published northern-range limit of this pikeblenny was extended to Frenchy's Cove, Anacapa Island, as reported by CIRP researchers. In April 2019, we found them at two locations on Anacapa (East Frenchy's, Frenchy's), and at East Prisoners, Santa Cruz Island where they were common on and off transects. At Prisoners we scored a moray eel and a white seabass, both unusual for a quantitative transect.

Roving Diver Fish Counts

A total of 33 combined species were recorded from Roving Diver Fish Counts at ten sites (Figure 10). Due to the restricted level of field effort, Roving Diver (RD) counts were not performed at all sites in replicate numbers and no surveys occurred at East Prisoners, Eagle Canyon, or East Scorpion. RD surveys were done in late June and July. A single survey was performed at two sites (Scorpion, Old Ranch), while the rest had 2-4 surveys each. Results shown are the Fish Average Abundance Index averaged for all observations at that site. The Fish Average Abundance Index takes into account the number of a particular fish seen and the time during the dive that the fish is first observed.

Anacapa eelgrass sites had 13-14 species, with the exception of Frenchy's Cove (no eelgrass) which reported 6 species. Santa Cruz sites ranged from 10 (Smugglers) to 17 species at Aguaje Escondido, the most species observed during a RD survey. Old Ranch at Santa Rosa had 8 species. The greatest number of species within an individual single 30 min count were recorded at East Frenchy's. It should be noted that on the day that the quantitative surveys were done at East Frenchy's, there was a sea lion actively swimming through the area and fish were scarce. The lowest number of fish species observed was at the Frenchy's restoration site, over barren sand.

Kelp bass and Senoritas were universal across all sites. Opaleye, the only predominantly herbivorous fish seen, were found at all sites except for Frenchy's and Old Ranch. Sheephead were common within the SMR at Scorpion. They were uncommon along middle Anacapa SMR sites, rare at Northern SCI sites and absent from Prisoners and Old Ranch.

Shiner surfperch are schooling fish. They were common to abundant at Scorpion, Prisoners, and Old Ranch, and rare at East NPS, Aguaje, and Cañada del Agua. Black perch were found at all sites except at Frenchy's. They were common at Smugglers and Prisoners. White perch were only found at the four northern SCI sites, where they ranged from rare to common. Pile perch were found at all sites except at Frenchy's and Smugglers.

Many taxa were only recorded as individuals and/or at one site, or in one survey at a particular site.

These include schooling fish such as yellowtail (Frenchy's), barracuda (Scorpion, Aguaje) and salema (Prisoners). The stand-out was giant sea bass, where two individuals were seen at the end of the fish count at Keyhole, Middle Anacapa Island in June 2019.

Four taxa of flatfish were observed. Three of these were found at only Anacapa sites (halibut, c-o turbot, sand dab), while one fantail sole was observed at Old Ranch.

Four taxa of elasmobranchs were observed during RD counts, with most seen at Prisoners, Cañada del Agua, and Aguaje Escondido. Angel sharks were seen at East NPS and Cañada del Agua.

Comparison of Methods

Both Roving Diver (RD) and Quantitative transects were performed at ten of the thirteen sites. At six of these, RD yielded more species. Because the observer swims throughout the eelgrass meadow during the count, Roving Diver surveys, at 30 minutes in length, may constitute a more comprehensive snapshot of fish assemblages. Transect surveys only record those fish that swim within the transect corridor. The two methods, while distinct, are complementary in describing fish assemblages.

Fish Species Richness

We calculated fish species richness as the total number of fish taxa seen at a site considering all methods (Figure 8). By far the greatest number of taxa (22) and the most fish per transect (44.43) were found at Scorpion, followed by Cañada del Agua and Aguaje Escondido. Eagle Canyon and East Scorpion had the fewest fish and were the least diverse.

2019 Band transects results

Invertebrates

76 individual band transects were counted, for a total of 4,560m² of sea floor habitat. 34 different taxa were recorded across all band transects during the study. Most taxa were not found at every site; sites varied in species richness and composition (Table 5).

In general, the major invertebrates found within eelgrass meadows are species that may also be present on bare sandy bottoms or on rocky reefs. This is not surprising, given that rocky reefs are bordered by sand and many of the smaller eelgrass sites are close to rock habitat. The eight most commonly encountered species are shown in Figure 11.

The most numerous animal found at any site was *Pachycerianthus fimbriatus*, a tube-dwelling cerianthid anemone, which was extremely common at the four northern SCR sites from East Prisoners to Aguaje Escondido. The highest mean density occurred at Eagle Canyon with 128/60m², followed by 96/60m² at East Prisoners. Surprising, there were only 2/60m² at nearby Prisoners Harbor. Low densities occurred elsewhere, and none occurred at Smugglers or Scorpion.

The wavy top snail *Megastraea undosa* was common at all but three sites (East Scorpion, Scorpion and Old Ranch). The greatest density was found at East Frenchy's, at 45 snails/60m² transect.

Bivalves were also common at several sites, this category was comprised of at least 3 different genera (*Tresus*, *Zirfaea* and *Panopea*; species not always scored separately and so were lumped for this report). Bivalves were reported at eight out of the thirteen sites.

The sand star *Astropectin armatus* was found at eight study sites, with the greatest density at Frenchy's. The only other star found in our transects was the bat star *Patira miniata*, which was found at Old Ranch and in low abundances at Frenchy's and Aguaje Escondido.

The warty sea cucumber *Parastichopus parvimensis* was found at seven sites, and was the most common at Frenchy's and Eagle Canyon.

Seven taxa of crabs were found (Table 3) but in low numbers. They are shown combined for the category 'all crabs' in Figure 11. No crabs were found at any of the Anacapa sites in 2019.

The only sea urchin found during our surveys was the white urchin *Lytechinus anemesus*, found at Frenchy's at 28.2 per 60m² transect (equaling 0.47 per m²).

The sea pen *Stylatula* and sea pansy *Renilla* were generally co-occurring. Sea pansies were the most common at Aguaje Escondido and Eagle Canyon.

Brown macroalgae were also scored in band transects (data not shown). Three taxa were found. The invasive *Sargassum horneri* was found at all four Anacapa Island locations, but individuals were very small and were growing on either small rocks or shells. Giant kelp recruits were found at East NPS and at Old Ranch, while *Stephanocystis osmundacea* was found at Smugglers and Prisoners. All brown algae were growing on hard surfaces.

By Site Comparisons of Invertebrates

We sampled three pairs of sites, that resulted with one a dense eelgrass meadow and the nearby second site mostly or all sand plain. This difference in eelgrass habitat appeared to make a difference in major invertebrate taxa. Prisoners and East Prisoners are 250 meters apart, but only shared four invertebrate species in common. There were nearly twice as many taxa found at East Prisoners than within the dense eelgrass bed within the cove. East Prisoners had been a continuation of the Prisoners meadow tens year prior (the sites are ~ 300 meters apart). It is possible that the sediment grain size and organic content is different between the two sites, due to the river mouth or along-island current patterns, as East Prisoners had very high densities of tube anemones.

Scorpion and East Scorpion, although 500 meters apart only shared rare wavy turban snails in common. The day that Scorpion surveys occurred, there was a lot of drift algae obscuring the bottom for much of the transects. We attempted to move it aside but it made surveys more difficult. We found no evidence that there had been a moderate size eelgrass meadow at East Scorpion. The sediment seemed fairly coarse, with scattered rocks, and the area is more exposed. We have no historical information on an eelgrass bed in this location.

Frenchy's and East Frenchy's, 265 meters apart, shared six species in common, but wavy turbans and bivalves were much more common at East Frenchy's. White urchins *Lytechinus* were only present at Frenchy's, at similar densities to wavy-top snails.

Major invertebrate composition and density were consistent throughout the larger sites that had two sampling locations similarly spaced (Smugglers, 560 meters apart, and Old Ranch, 260 meters apart), and that were moderate or dense eelgrass cover.

Invertebrate Species Richness

Invertebrate species richness at all dive sites is shown in Figure 13. The richest locations were East Prisoners and Aguaje Escondido, followed by Eagle Canyon. These three sites fall within a 1,200 meter stretch of coastline.

Results and discussion of comparison with Reef Check

Our assumption was that the density and species richness of fish and invertebrates associated with eelgrass would be less than at near-by kelp beds, even when sampled at the coarse scale of this study. We compared our data to that collected by Reef Check, a program that has been monitoring rocky reefs inside and outside of Marine Protected Areas throughout California, including at the Channel Islands, since 2006, and that uses similar methods to those used in this study to score a set list of species. We compared means for several common species from three Reef Check sites (summarized in their Final Report, South Coast MPA Baseline Monitoring Report (data 2011-2014) with one of our nearby eelgrass sites. Kelp bass were three times as dense within Scorpion eelgrass, and four times as dense within Anacapa eelgrass, as on the corresponding rocky reefs. There were 35 times more wavy turban snails in the Anacapa eelgrass than on the rock reef. Overall, though, there were more taxa of major invertebrates on the reefs.

Data Correlations

We ran a Spearman's rank correlation to create a matrix of meadow extent, fish richness, and invertebrate richness, to examine and test for any relationships (Figure 14). The factors considered were Site ID (from west to east, representing gradient across channel), Meadow Percent (percent cover along transect), Meadow Class (density scale 1-4), Fish Species from Quantitative transects, Fish Species Richness Total, and Invertebrate Species Richness. There was a strong and significant positive correlation between Meadow Percent and Meadow Class, which was expected. There was also a strong positive correlation between Meadow Class and Fish Total Richness, with a weaker positive correlation between Fish Total Richness and Meadow Percent. There was a significant negative relationship between Invertebrate Richness and Meadow Class, and Meadow Percent.

To further examine these correlations, we ran regressions separately for species richness as a function of eelgrass meadow extent (percent cover), for fish and invertebrates (Figure 15). In both cases, there was a significant relationship between species richness and eelgrass meadow extent (positive for fish, negative for invertebrates).

We compared shoot density between six natural beds at Santa Cruz Island and three restored beds at Anacapa Island that resulted from our 2002 restoration effort (Figure 16). There was no significant difference based on overlap of the 95% confidence interval around the median.

We compared species richness between six natural beds at Santa Cruz Island and three restored beds at Anacapa Island that resulted from our 2002 restoration effort, for fish (Figure 17) and invertebrates (Figure 18). In both cases, there was no significant difference (Kruskal-Wallis test) between the mean species richness at restored meadows and natural meadows, even though there was a greater range in diversity at natural beds.

Finally, we compared eelgrass shoot density at six sites across multiple years (Figure 19).

Discussion

It is clear from our surveys that eelgrass meadows create lush, three-dimensional habitat for a range of other species large and small. The majority of eelgrass meadows at Santa Cruz Island appear to be stable over time in location and scale, even after two years of elevated water temperature from el Niño and marine heatwaves in 2014-2016.

How stable over time are shoot density and meadow extent in naturally occurring eelgrass beds?

We compared quadrat data from sites 1-3, 5, 7, 9 in 2019 to 2016, 2008-9, and 1994, 1995, 1997 (Figure 19). Not all sites were sampled at every period. Overall, there was a trend of declining and partially rebounding shoot density, with some sites more severe or significant than others. The most dramatic decline over the period was at Scorpion, where density has declined by two-thirds since 1997, and from a record high of 188 shoots/m² in 2001 (data not shown). We also compared eelgrass cover along transects at four Santa Cruz Island sites in 1994, 1995, 1997, 2009 and 2019 (Figure 20). Three of the sites are remarkably stable over time. East Prisoners, although only sampled twice, suffered massive losses of eelgrass habitat in addition to density over ten years. This site is in front of the river mouth at Cañada del Puerto.

How similar in size and density are the restored meadows at Anacapa to naturally occurring beds at Santa Cruz and Santa Rosa?

We compared quadrat data from pooled Anacapa sites 11-13 to pooled sites 1, 2, 5, 6, 7, 9 in order to test for differences between eelgrass meadow density (Figure 13). There was no significant difference in density between the two groups.

Do the restored eelgrass meadows at Anacapa perform at the same habitat level as naturally occurring beds at Santa Cruz?

To address this question, we compared the fish and invertebrate species richness levels at pooled Anacapa sites 11-13 to pooled SCR sites 2, 5, 6, 7, and 9 (Figures 17 and 18). There was no significant difference between total species richness of either fish or invertebrates between the sites. However, there was a greater range in fish diversity at Santa Cruz sites. The eastern Santa Barbara Channel experiences warmer currents coming up from the south and it is well known that the assemblages of fish and invertebrates are structured by the current regime, with assemblages more similar to southern islands than to the more western islands (as summarized in Aíramé 2003). All of the eelgrass meadows within this study, with the exception of Old Ranch at Santa Rosa (removed from this analysis), fall within the eastern Channel regime and California Province (Hamilton *et al.* 2010), with Prisoners falling a few kilometers to the east of the accepted cold/warm current boundary. It is not too surprising that similar assemblages of fish and invertebrates were found at all sites. However, there were some differences, most noticeable with surf perch. Roving diver surveys found that pile and black perch were present at both islands but more common at Santa Cruz, while white and shiner were almost entirely absent from Anacapa. Our study did not sample for epifauna such as copepods, amphipods, and small mollusks, which are an important part of the food chain especially for fish predators. We hope to do this additional work in the future.

Do eelgrass beds within reserves and their associated fish and invertebrates differ from those outside?

We encountered more bat rays at Scorpion than at any other site. Interestingly, there were very few wavy turban snails within transects at Scorpion. At other locations, wavy turban snails are a major herbivore within eelgrass meadows. We have observed remnants of crushed turban snail shells within

bat ray feeding pits at other sites, so it may be that rays can break apart the thick shell of even large turban snails with their stout jaws. Other known predators include seastars, lobsters, and fish such as sheephead and cabezon (mostly likely preying on smaller, younger snails). Scorpion also had the highest abundance of sheephead. Our findings suggest that the protective SMR status at Scorpion has fostered the survival and growth of large predators, allowing eelgrass to be released from grazing pressure.

Does eelgrass extent/coverage/patchiness affect determine fish and invert species richness, abundance?

There is evidence from seagrasses world wide that patchiness can affect both recruitment and survival of organisms living within (Bell *et al.* 2001, Healey and Hovel 2004, Lefcheck *et al.* 2016). From the present study, no fish were counted along 18% of the total core transects, and 83% of those transects without fish also had little to no eelgrass cover. We plan to compare species assemblage to eelgrass density categories (dense and moderate areas to sparse and very sparse) but this analysis has not concluded at the time of writing.

Implications for location of marine protected areas/ fishing boundaries

During the process of designating reserves in Federal waters around the Channel Islands, it was stated that “The existing State marine zones protect a variety of species of interest, including marine algae, seagrasses, invertebrates, and fishes... Eelgrass and surfgrass beds, which serve important roles as nursery habitat for young invertebrates and fishes, are protected in North Anacapa Island SMCA...” (54 FINAL_Resources_FEIS_4_13_07_v5, CINMS). The decision to create an area open to trap fishing was justified with “All extractive activities and injury to Sanctuary resources would be prohibited in the marine conservation area with the exception of lobster harvest.” At the time of the initial island reserve designation process (2002-04), our eelgrass restoration project was underway but success was uncertain. The fact that the geographic orientation of Frenchy’s Cove allowed for the historic persistence of the largest eelgrass bed throughout all of Anacapa Island, was not considered. There was intense pressure from the fishing industry to keep some part of the north side of Anacapa open, and the resulting boundary line was drawn within Frenchy’s Cove at the separation between North and Middle Anacapa.

The effect of trap fisheries on the benthos has been examined mainly for rocky habitat with most researchers concluding that deployment of traps results in little lasting damage (Shester and Micheli 2011) especially when considering the value of the fishery (SCS 2004). As seagrass systems world-wide are targeted for a variety of trap-caught fishes and invertebrates, there has been interest in determining the environmental cost of fishing over soft-bottom habitat. The effect of trap fishing on two different species of Atlantic seagrass was investigated within the Florida Keys National Marine Sanctuary (Uhrin and Fonseca 2005). A key finding was that the two species within the study, which differed in root and rhizome structure, responded differently to the disturbance. The shallow rooted seagrass was more easily dislodged and slower to recover. Another consequence of frequent

disturbance to seagrass is fragmentation of the bed. If the seagrass cannot respond through vegetative growth to keep up with or outpace the disturbance, then the fragments may continue to shrink until they lose the capacity to function as a cohesive habitat and drop below a sustainable threshold. Studies in the Mediterranean Sea have found that constant anthropomorphic disturbance leads to higher fragmentation of meadows (Montefalcone *et al.* 2010) which has implications for meadow function and recovery.

In California, fishermen are required to raise and service traps at intervals not exceeding 96 hours, weather permitting (FGC § 9004, revised from 72 hours). The trap is hauled, serviced and redeployed while the boat drifts out of gear (Altstatt, personal observation). At the beginning of the season, traps may be pulled and redeployed daily. *Zostera pacifica* is shallow rooted with rhizomes extending only a few centimeters in to the sediment. There is ample evidence of significant damage from vessel anchors, which, like traps, are heavy metal objects that are frequently deployed and redeployed, in all of the Channel Islands eelgrass sites. Based on the total loss of our restoration site within an area that has only recently become heavily fished, and decades of other observations, we surmise that *Z. pacifica* is extremely susceptible to disturbance from trap fishing.

The California Department of Fish and Wildlife acknowledges that the recent increase in commercial fishing effort has raised questions about the... ‘negative consequences on the fishing grounds and associated ecosystems from increased gear usage’ (California Spiny Lobster Fishery Management Plan, April 2016). The Plan states that hard bottom is the primary lobster habitat and that traps are set on the bottom in rocky areas. There does not appear to be any expectation that traps will be set in areas that are not hard bottom, and especially not in sensitive seagrass habitat.

In 2014, we learned from mariners that Frenchy’s Cove was being fished heavily during the two months (November, December) that the brown pelican Special Closure was open. We were unable to return for dive surveys until the summer of 2016, four years after our last survey visit in 2012. In the summer and fall of 2016, we marked and reported 4 abandoned lobster traps within Frenchy’s Cove, with one along the boundary with the SMR. The other three traps were within the 2012 mapped footprint of the eelgrass restoration site, where there was no longer any eelgrass remaining. On November 4 2016, NPS rangers reported “hundreds of traps” within the SMCA. In June 2019, we discovered an abandoned trap “ghost fishing” and filled with live lobsters along the SMR boundary line. In November 2019, CINMS staff reported at least 100 traps along the SMR boundary line, with another 100 to the west further within the SMCA, some as shallow as 17’ (note that DFW prohibits commercial trapping in water depths shallower than 20’). Eelgrass continues to thrive within the SMR, 200 meters to the east.

The marine reserve network at the Channel Islands went in to effect in 2003. Frenchy’s Cove was not traditionally an area targeted by lobster fisherman as nearly all of the shallow bottom substrate is soft rather than rocky (Altstatt, personal observation). However, a network of reserves was established on the mainland in 2012, excluding fishers from no-take areas and concentrating that effort elsewhere. Fishing block data for the mainland showed that effort more than doubled within blocks containing fishing

areas adjacent to SMRs (Lenihan *et al.* 2021). Visual inspection of the trap marker floats in November 2019 reveal that at least nine different fishermen set traps along the SMR/SMCA boundary and within Frenchy's Cove. Even though California's marine reserve system may be 'an integrated, well-enforced network of no-fishing zones designed to protect productive subtidal rocky reefs that are essential habitat to populations of many target species' (Lenihan *et al.* 2021) it is apparent that the intentional and dramatic increase in fishing effort along all SMR boundaries (regardless of bottom type) has degraded the eelgrass meadow habitat and has extirpated eelgrass from within the Anacapa SMCA. Although we had originally chose a location that we believed to be protected for 10 months out of the year (within the Anacapa Special Closure), the intensity of the fishing effort during the open two months was enough to disturb, and eventually eliminate, the restored eelgrass meadow within the SMCA. This unexpected finding showcases the need and value of marine reserves and has serious implications for habitats that are exposed to trapping. Although our restoration work has restored more than 30 acres of eelgrass meadows, it could have failed had there not been a SMR established adjacent to our original site, and if the implementation of the mainland reserves occurred sooner.

A next step to further understand how fishing has changed around Anacapa after the mainland reserves went in to effect, and the resulting impact to the seafloor, would be to analyze the catch data from reporting block 684 (North Anacapa Island). This information has been requested from the Department of Fish and Wildlife (March 2021).

Changing Climatic Regime

Zostera beds at the Channel Islands face increasing threats from multiple stressors, including increasing frequency and severity of storms, as seen by the dramatic change in eelgrass bed size, density and extent at East Prisoners between 2009 and 2019. Factors may have included a combination of big rainfall years and change in hydrological function of Cañada del Puerto following NPS wetland and canyon restoration. There was evidence of scour, evidence of deposition of cobbles and tree limbs into the eelgrass meadow habitat immediately offshore of the canyon mouth as far as 30' depth. Google Earth photo shows extreme turbidity where we had mapped eelgrass in 2009 and where is lacking now. We witnessed a similar event happen at Scorpion in December 1997, where a historic micro-burst created a flood within Scorpion Canyon leading to sediment deposition and loss of more than a third of the eelgrass bed (data not shown).

Warm water events

Multiple large-scale warm water events have occurred during the time frame of our eelgrass monitoring, beginning with the 1983 el Niño. The long-term trend of increasing sea surface temperatures (SST) apparently contribute to the duration and intensity of marine heatwaves events (MHW) (Fumo *et al.* 2020). In 2014 a large MHW event known as 'the Blob' persisted and combined with warming from the 2015-2016 el Niño to create one of the strongest and longest-lasting SST warming events on record (SCCOOS). Indeed, positive temperature anomalies persisted in to 2020.

Depth may not be a refugia from such events as glider data found that the temperature anomaly extended to more than 100m in the water column.

Lab studies have shown that for the sympatric species, *Z. marina*, plants exposed to elevated temperatures (7°C above ambient) respond with significantly reduced growth, shoot density, productivity and biomass (Kim *et al.* 2019). The MHW event in Southern California produced long-lasting temperatures elevated 4°C above ambient, but similar studies have not been done for *Z. pacifica* nor did the authors test a range of elevated temperatures. Our photos of eelgrass from 2016 clearly show a progression of yellowing in leaves that is more pronounced in September of that year. Yellowing can be related to loss of tissue and chlorophyll and is an indication of overall stress. It has been shown that depth may serve as a refugia (Aoki *et al.* 2020) for intertidal and shallow subtidal *Zostera marina* in Virginia USA, but whether that holds for our much deeper, subtidal *Z. pacifica* when confronted by longer lasting, more extreme MHW events remains unclear.

Implications for disease

Several years of sustained unusually warm water resulting in bleached and yellowish *Z. pacifica* leaves with black spots of disease increasing throughout the summer of 2016 (Plate # 10). Anacapa sites look particularly bad by September, with leaves cropped, black and decomposing. This condition was documented throughout all Santa Cruz major eelgrass meadows to a lesser degree.

As reviewed in Sullivan *et al.* (2017) the risk to seagrasses from disease may be amplified by stressors from climate change. However, the possibility of a genetic component to resiliency to warming waters (Franssen *et al.* 2011) cannot be overlooked, especially at the Channel Islands where large meadows of *Z. pacifica* have likely existed for many thousands of years since diverging from *Z. marina* (Coyer *et al.* 2007).

Loss of Blue Carbon

Arias-Ortiz *et al.* (2018) found that 36% of the largest expanse of Australian seagrass meadows were damaged by a MWH event in 2010/2011, leading to potential massive losses of stored ‘blue carbon’ from the sediment. In Virginia, documented declines in seagrass density and extent as a result of marine heatwaves led to the loss of stored carbon (Aoki *et al.* 2021). To date, there have been no sediment analyses done in or near eelgrass meadows at the Channel Islands, but the contribution of stored carbon by eelgrass could be significant.

Vulnerability to mass recruitment events

Following the 1982-83 el Niño, white urchins and brittlestars recruited to mid-depth rocky reefs around Anacapa and the eastern end of Santa Cruz. The white urchins also settled on sand, which led to eventual over-grazing of Anacapa eelgrass meadows in the late 1980s. In 1991, urchin density remained high at 60/m² at Frenchy’s even though the eelgrass was gone, but had declined to 0/ m² by the time our restoration began in 2003. Since then, subsequent warm water events have led to migration

or recruitment of warm-water invertebrates such as pelagic red crabs, white urchins and wavy turban snails. All three of these were observed at Anacapa in 2016. Size frequencies of white urchins in 2019 at Frenchy's revealed smaller urchins (compared with historic CIRP data), most likely resulting from the prior wave of recruitment 3-4 years before. Even though urchin densities were the highest at Frenchy's out of all of the 13 sites surveyed in 2019, their numbers were still quite low when compared to the densities that persisted following the late 1980s eelgrass over-grazing event. Other seagrass overgrazing events have been linked to persistent urchin densities greater than $>22/\text{m}^2$ (Rose *et al.* 1999). Recruitment to this area may be tied to small-scale very localized hydrology as white urchin numbers were extremely low only 200 meters away across the cove.

Recommendations and Conclusions

Science

The scope of the present study was extremely limited, but given the findings, additional work is both warranted and necessary to help resource managers prioritize future conservation measures.

- quantify the contribution of seagrass to carbon storage—perform sediment/CN grain size analysis for all eelgrass bed sites- old beds vs young beds;
- re-survey the 3 main beds at SCR plus ANA sites using detailed survey methods from CIRP 1994-97 cruises to quantify complete ecosystem function of restored beds, and whether main beds are still serving same role as 25 years ago—collect infauna/sediment cores, and perform detailed epifaunal survey at each site;
- primary production and biomass estimates;
- fish surveys in fall to capture recruitment events;
- C-14 analysis of fish and inverts in and out of eelgrass beds to quantify contribution.
- Using finding from this report, and from future work, identify island eelgrass meadows that provide most ecosystem benefit and those that are at highest risk from climate change.

Policy

We recommend specific actions that would have immediate and direct positive impact on eelgrass meadows.

- 1. Re-classify the shallow soft-sediment bottom within the Frenchy's SMCA as SMR or No Entry (it is already a Special Closure 10 months out of the year).** Suitable habitat for eelgrass within Frenchy's Cove only exists within certain hydrodynamic and depth parameters (20'-45'), and over soft bottom not rock. This area historically sustained the largest eelgrass meadow at all of Anacapa Island. Our restoration work showed that eelgrass will rapidly colonize and thrive if anthropogenic disturbance (trapping) were to cease.
- 2. Act to reduce damage from anchoring and mooring within eelgrass beds, particularly within SMRs (Scorpion).** This is surely the easiest and most cost-effective way to reduce anthropogenic disturbance, especially where it is as well documented as the eelgrass meadow within the Marine Protected Area at Scorpion.
- 3. Use adaptive management to protect the meadows providing greatest ecosystem benefit and are at highest risk from climate change, and consider restoration in key locations that may provide refugia from a changing ocean environment.**

The majority of nearshore habitat around the northern Channel Islands is sandy, and yet only a small fraction of that can sustain persistent eelgrass meadows due to exposure, depth and sediment grain size/nutrient content. Eelgrass meadows, like kelpbeds, provide a suite of functions that greatly enhance their value far past that factored only on sea floor extent. Our surveys show that island beds contribute food, shelter and habitat to fish and invertebrate species, this function has been stable over decades at the largest beds, and that restored beds (15+ years post restoration) are providing the same function at Anacapa. This study should serve as justification for more in-depth work to look at long-term food chain biodiversity, nutrient cycling, resiliency to changing climatic factors, and carbon storage. And, as eelgrass is universally valued as Essential Fish Habitat, every effort must be made to protect it both inside and outside of SMRs.

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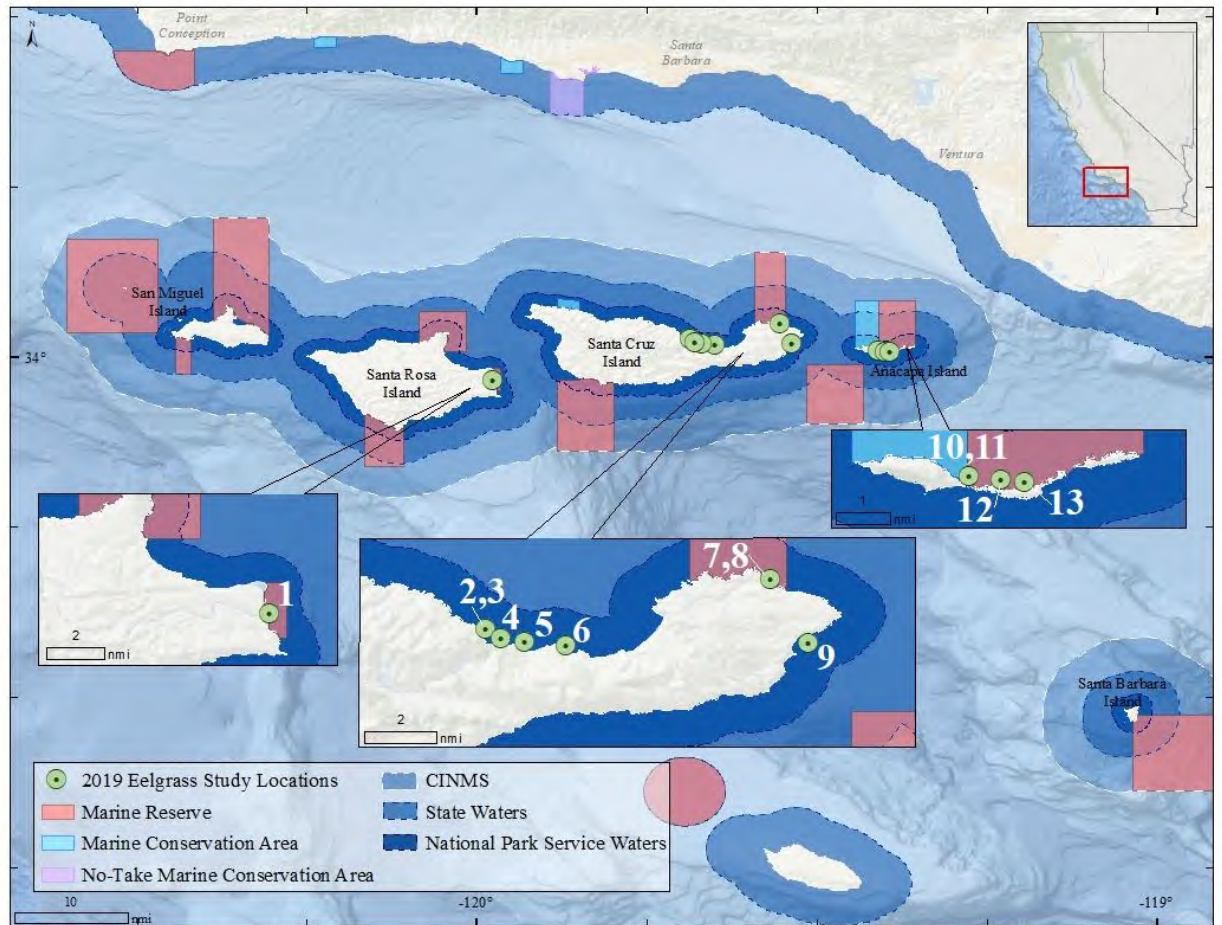


Figure 1. Location of study sites for 2019 eelgrass surveys. Sites are numbered 1-13 from west to east. Numbers refer (in order) to site names: Old Ranch SRO, Prisoners SCR, East Prisoners SCR, Eagle Canyon SCR, Cañada Agua SCR, Aguaje Escondido SCR, Scorpion SCR, East Scorpion SCR, Smugglers SCR, Frenchy's ANA, East Frenchy's ANA, Keyhole ANA, East NPS ANA. SRO= Santa Rosa, SCR= Santa Cruz, ANA= Anacapa. Other known locations of eelgrass not shown.



Figure 2. Trackline of meadow edge at Scorpion in June 2019 (green) compared with 2015 sonar mapping (red) and 2009 diver surveyed and mapped area (pink).

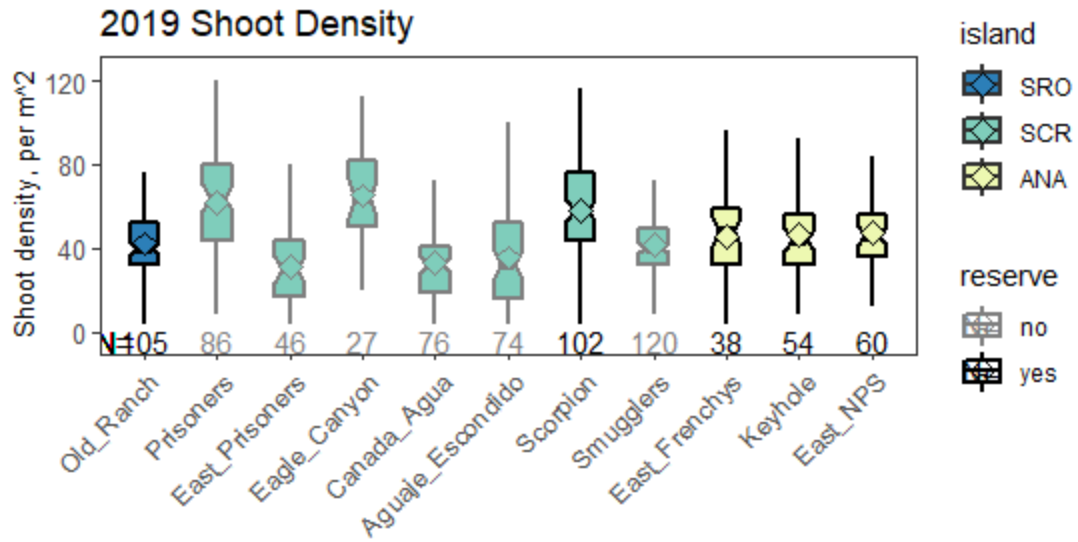


Figure 3. Boxplot of shoot density in quadrats with eelgrass present in 2019. N refers to the number of quadrats with eelgrass present per site. Boxplots are presented as follows: boxes show the interquartile range, whiskers represent the upper and lower quartiles, horizontal lines represent the median, diamonds mark the means, and notches show the 95% confidence interval of the median. Shading denotes island and outline denotes reserve status. Outliers not shown. Frenchys (N=0) and East Scorpion (N=3) not shown.

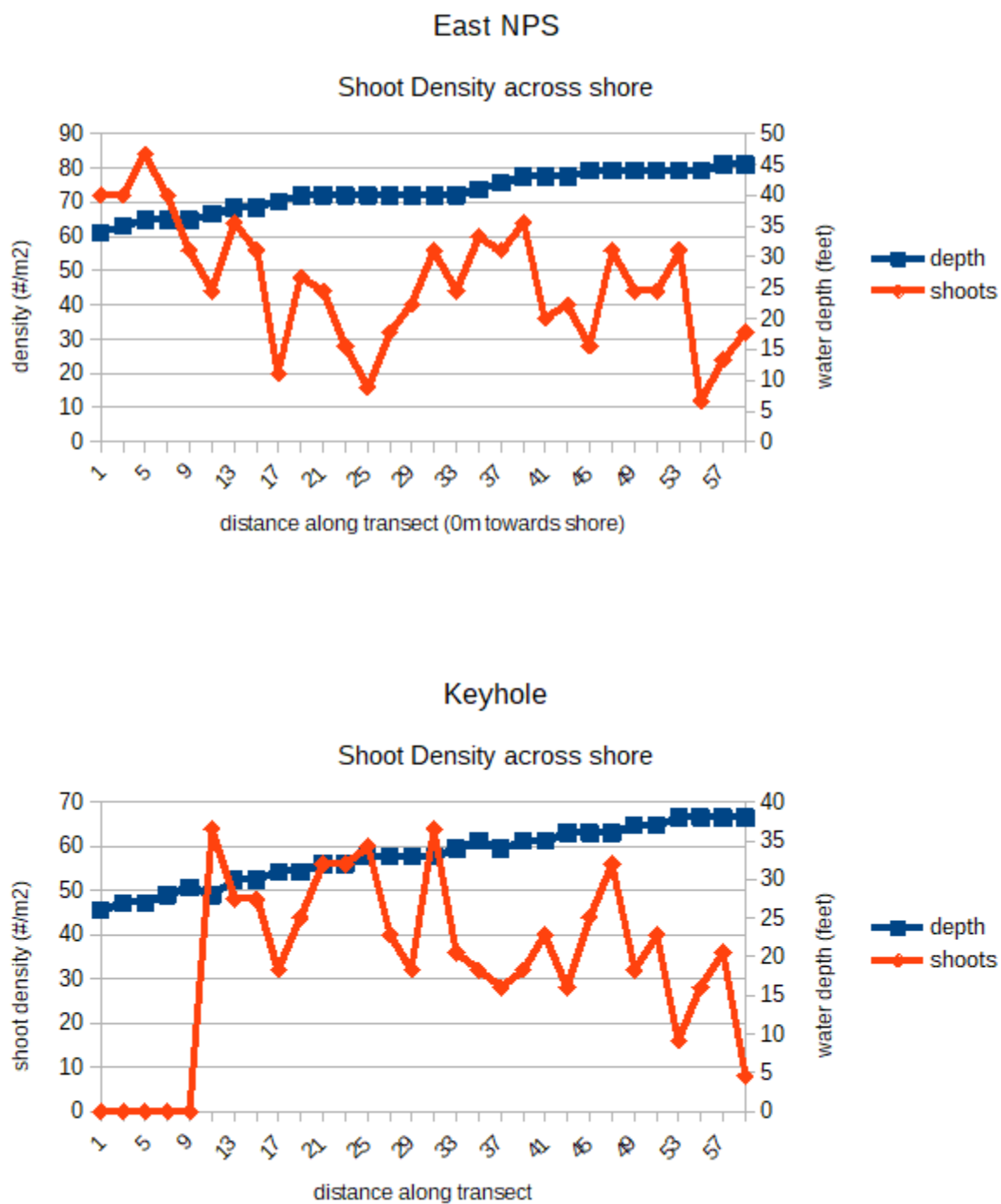


Figure 4. Eelgrass shoot density and depth from across shore (shallow to deep) 60m transects at two Anacapa locations.

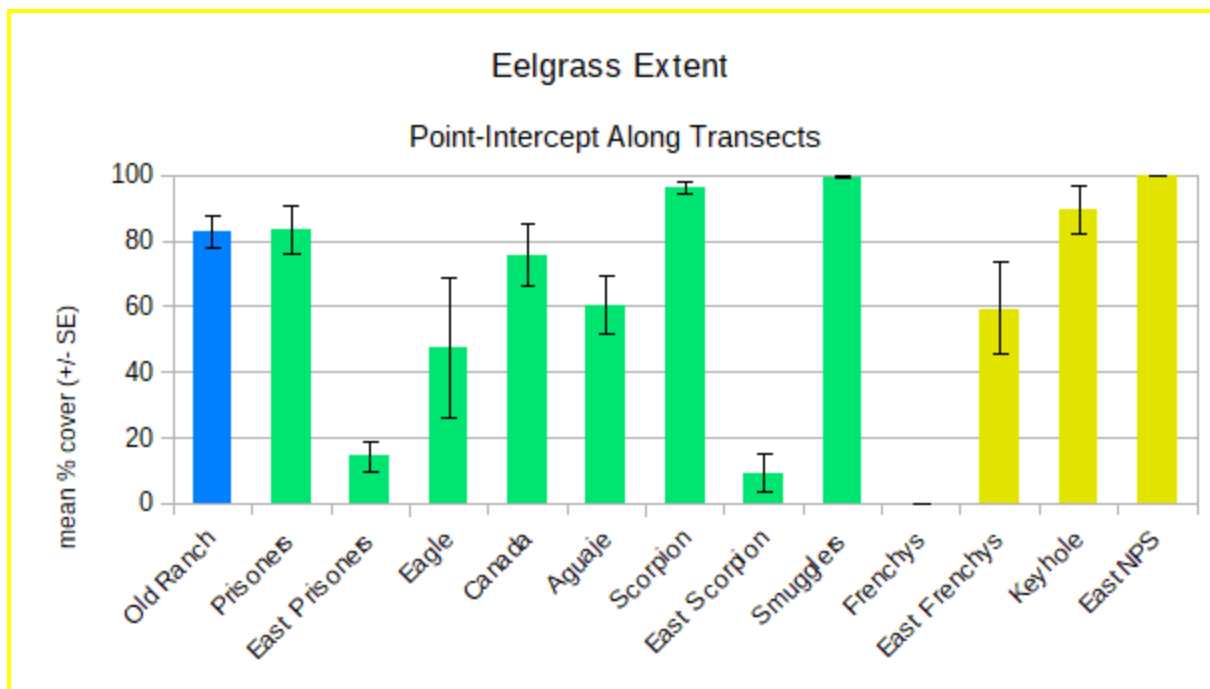


Figure 5. Mean eelgrass cover from point-intercept data for all core transects. Number of transects by site N= 8,7,9,3,5,8,8,4,8,5,4,4,4.

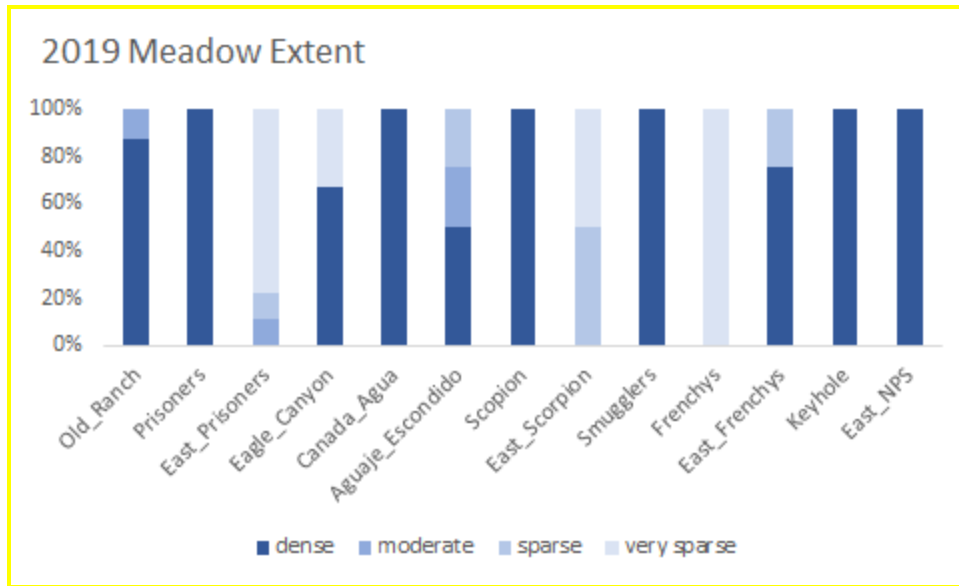


Figure 6. Eelgrass meadow extent as measured by point-intercept along core transects. Percent cover converted to density scale (Very Sparse= 0-10%, Sparse=10-40%, Moderate= 40-70%, Dense = 70-100%. Number of transects by site= 8,7,9,3,5,8,8,4,8,5,4,4,4.

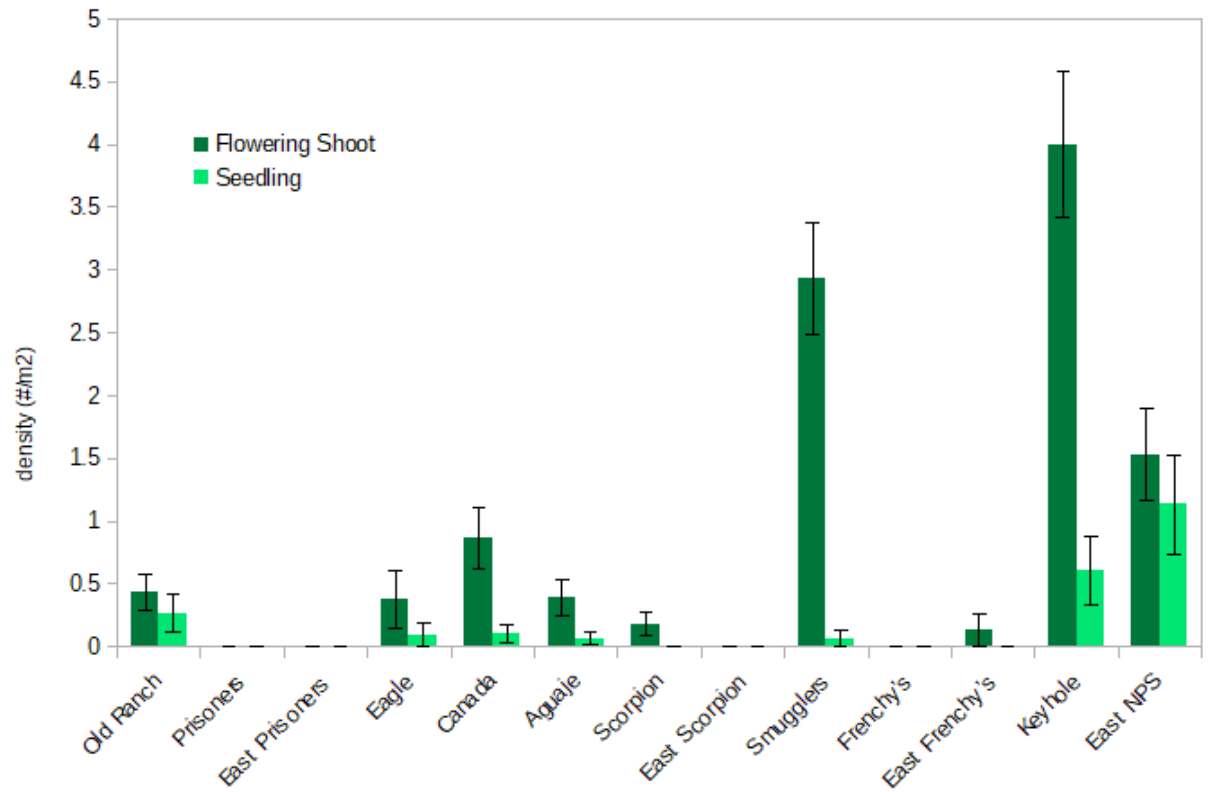


Figure 7. Density (means $\pm$ standard error) of eelgrass flowering shoots and seedlings from quadrat data.

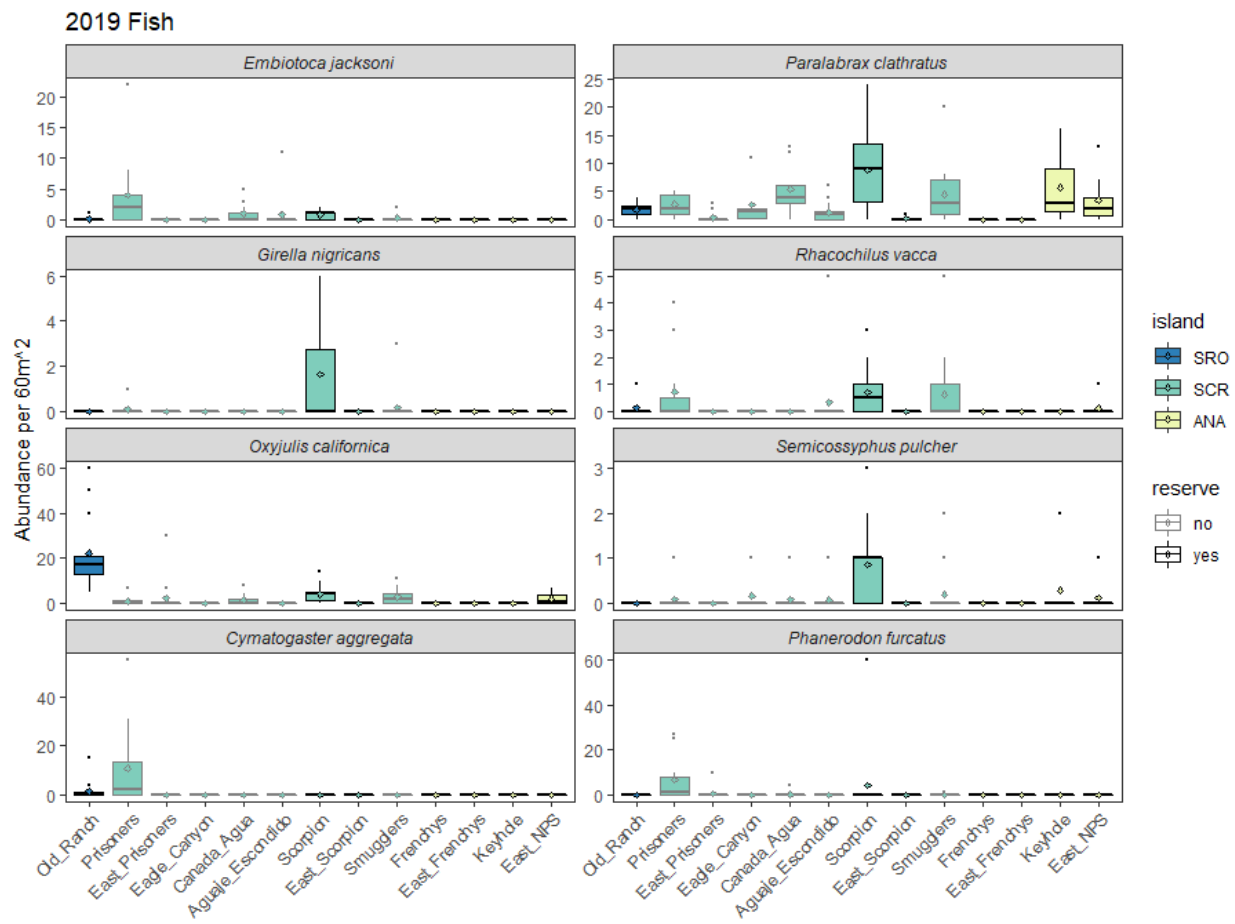


Figure 8. Fish abundance (per 60m²) across sites for select taxa in 2019. Bars represent average value of band 60m² transects (core plus extra).

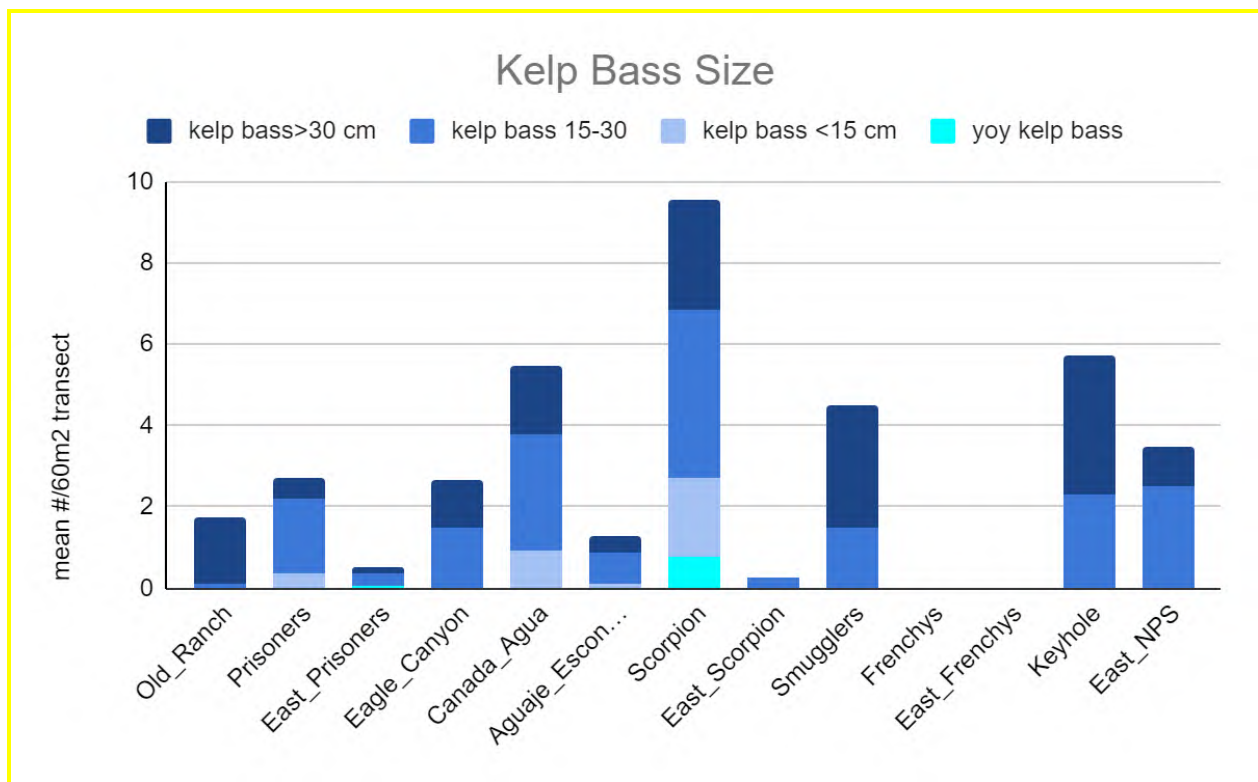


Figure 9. Density of kelp bass by four size classes at all 13 sites. Data are means of quantitative fish transects (core plus extra).

Site	Old_Ranch	Prisoners	Canada_Agua	Aguaje_Escondido	Scorpion	Smugglers	Frenchys	East_Frenchys	Keyhole	East_NPS
angel shark			0.60							1.00
barracuda				1.80	0.90					
bat ray			0.93	1.37	2.00					
black surfperch	1.00	3.00	1.96	1.03	2.00	3.00		1.47	1.10	1.27
blackeye goby							0.70			
blacksmith								1.80		
c-o turbot								1.00	0.90	0.70
fantail sole	0.70									
giant kelpfish		2.53	1.93	2.03	0.50			1.20	1.33	
giant sea bass									0.80	
giant seabass									1.60	
halfmoon			2.05	1.60		0.80		1.80	0.60	1.50
halibut							1.00		1.05	1.20
horn shark		0.50		0.60				0.95		
jack mackerel				2.85						2.60
kelp bass	3.00	3.00	3.20	3.20	3.00	2.90	2.00	2.53	3.50	3.22
leopard shark		1.25	1.80	1.28				0.55		
ocean whitefish					1.00				0.70	
opaleye		1.60	2.10	0.60	1.80	2.00		1.60	0.95	1.30
pile perch	2.00	1.80	2.50	0.85	2.00			1.20	1.65	1.03
rainbow surfperch	2.00					3.00				
rock wrasse		1.00	1.60	1.87	2.00	1.53		1.80	1.55	1.77
rubberlip seaperch			1.60							
salema		2.00								
sand dab							1.80			
sarcastic fringehead							0.00			
sargo					0.60					
senorita	3.00	1.30	1.80	1.67	3.00	4.00		1.00	3.00	3.00
sheephead			0.70	1.40	2.50	1.17		1.80	1.59	1.12
shiner surfperch	3.00	4.00	0.70	1.50	3.60					1.30
topsmelt		3.00			2.70					
tube-snout	0.80			1.00		2.40				
white surfperch		3.00	1.85	1.90	2.70					
yellowtail							2			

Figure 10. Roving Diver Fish Surveys summarized for all sites surveyed by the Average Fish Abundance Index (0-4, with 4 as the most common and seen earliest in the dive). Details are in text.

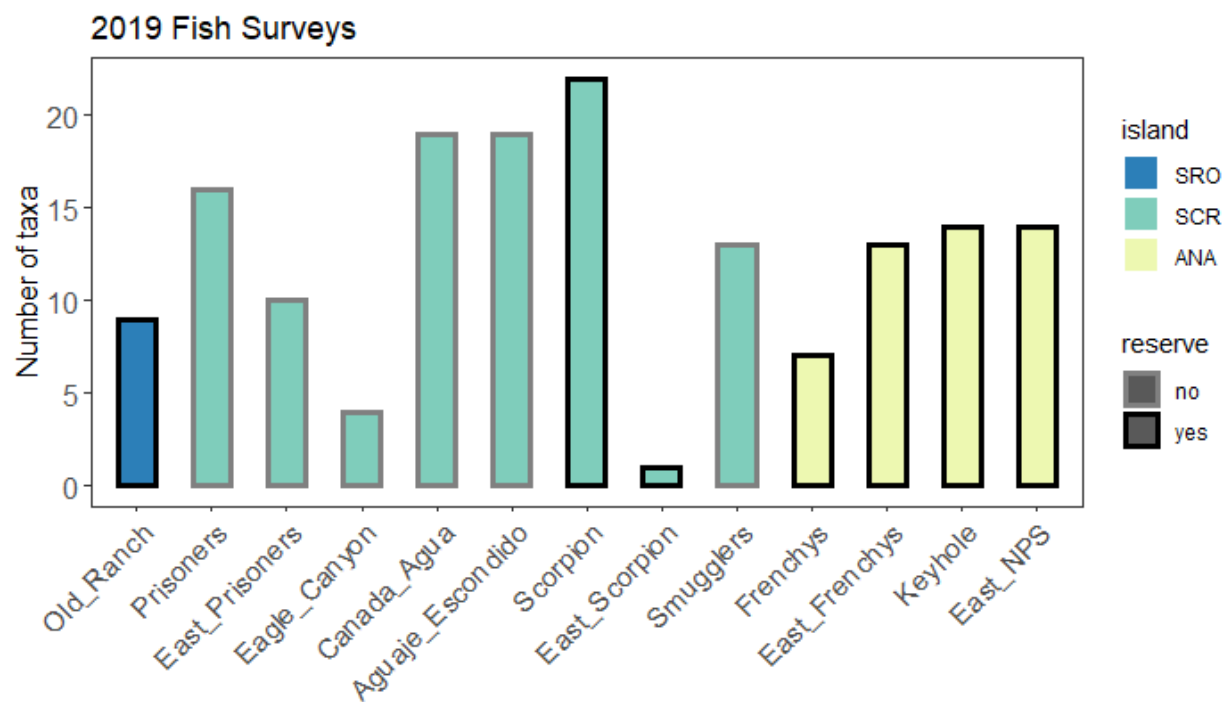


Figure 11. Total Fish Species Richness. Data are for the total number of fish taxa observed at each site (combination of quantitative transects, Roving Diver, and other observations during surveys).

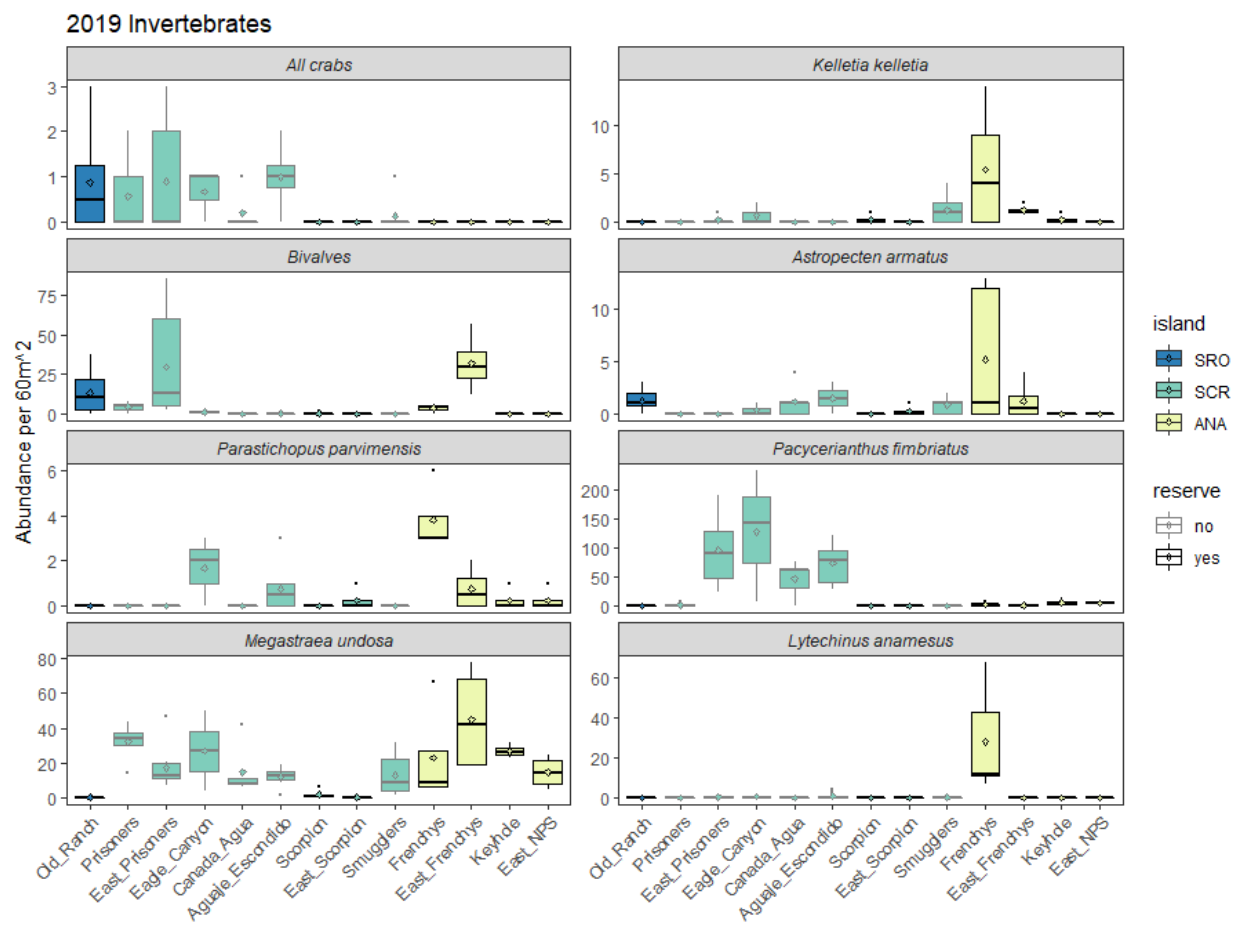


Figure 12. Invertebrate abundance (per 60m²) across sites for select taxa in 2019. Bars represent average value of (n=3-15) band 60m² transects.

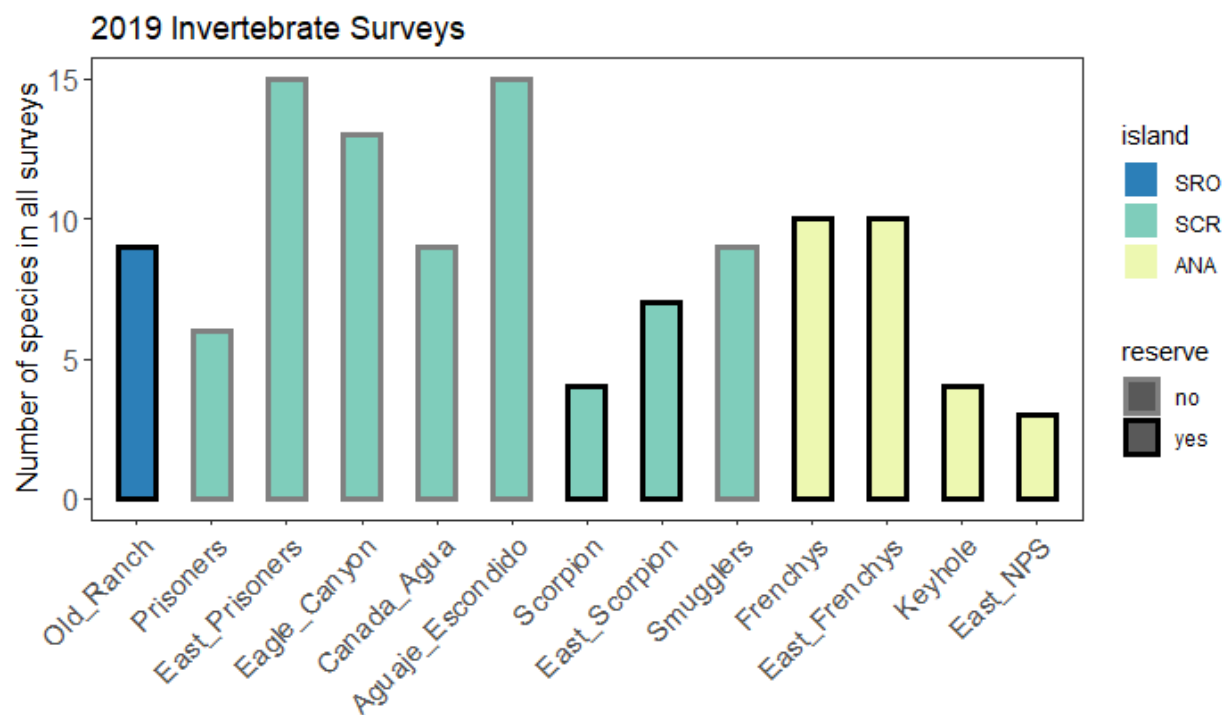


Figure 13. Total Invertebrate Species Richness. Data are for the total number of invertebrate taxa observed at each site along band transects.

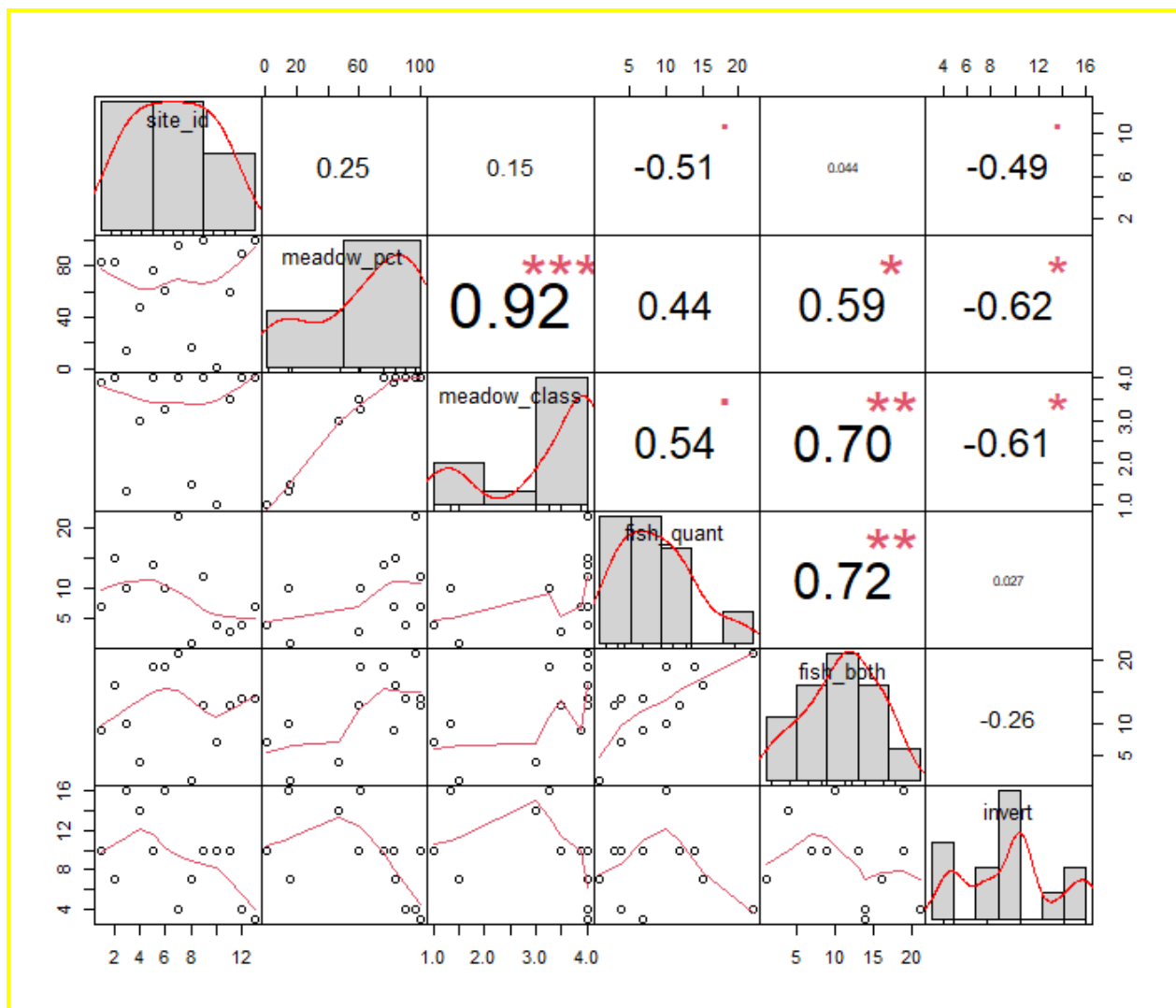


Figure 14. Correlation matrix of meadow extent, fish richness, and invertebrate richness in 2019. Spearman's rank correlation computed due to non-normal distributions and small sample sizes. ***, $p < 0.001$; **, $p < 0.01$; *, $p < 0.05$; • $p < 0.1$). Red lines represent smoothing of raw data and histograms. Font size in upper panels relates to correlation strength.

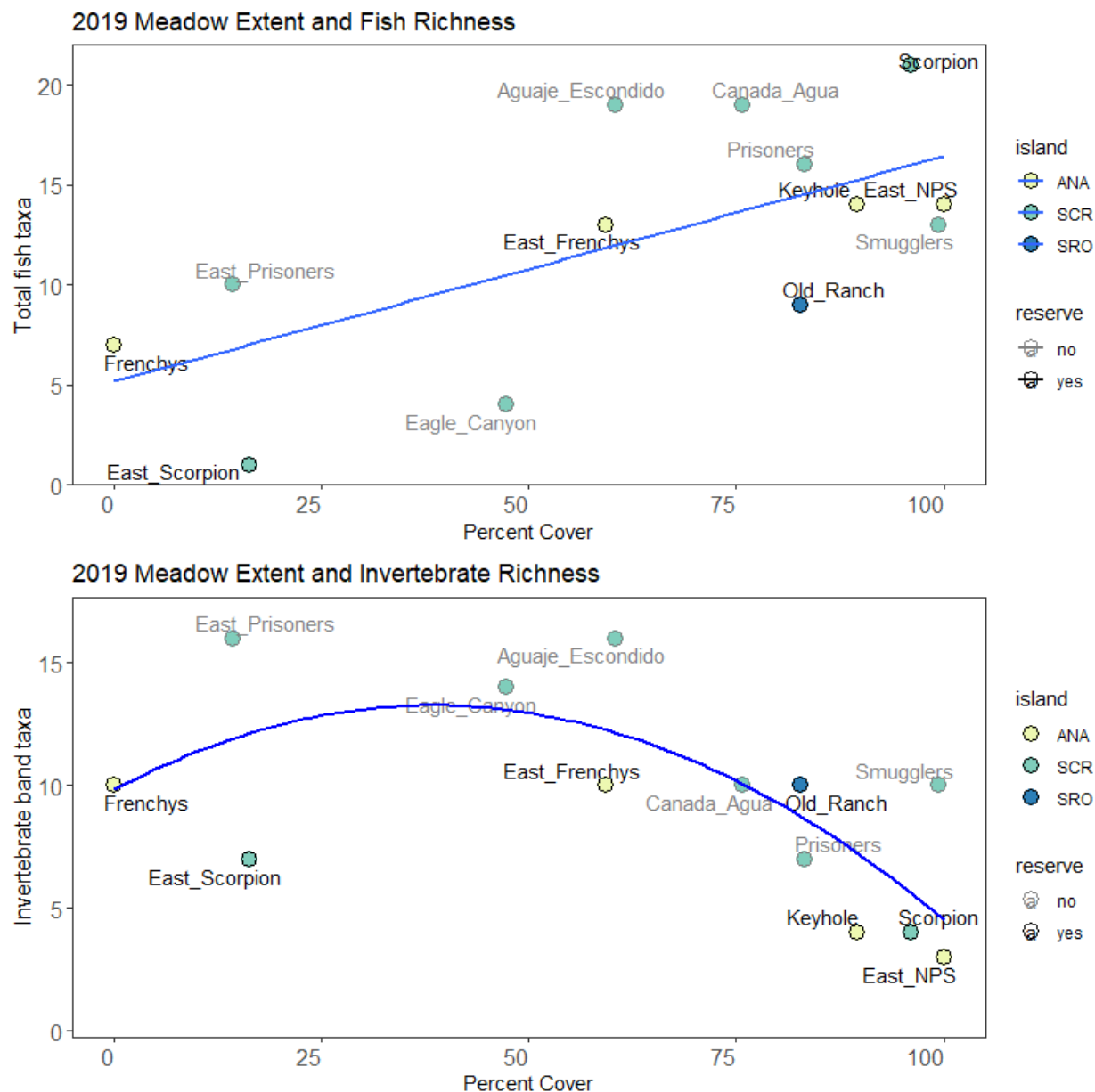


Figure 15. Species richness as a function of eelgrass meadow extent in 2019. Each data point represents averages for each site. Taxa data are total species richness, percent cover data are from point intercept data along transects. Top panel: fish species richness for band and roving diver transects. Line shows fitted linear regression ($r^2=0.42$, $p=0.01$). Bottom panel: invertebrate species richness for band transects. Line represents fitted second order polynomial regression ($r^2=0.49$, $p=0.03$), which explains more variance than a linear regression ($r^2=0.26$, $p=0.07$).

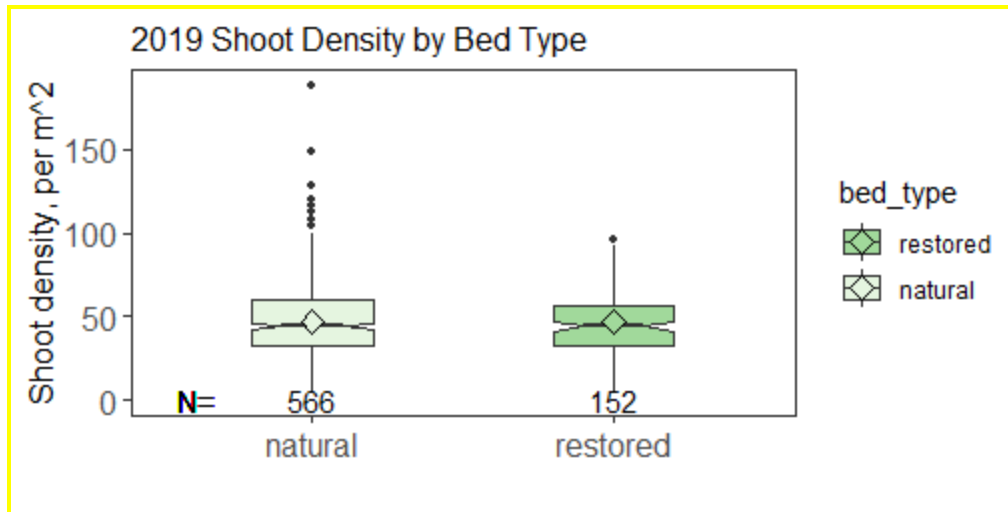


Figure 16. Comparison of shoot density in natural vs restored beds in 2019. Bed types are not significantly different based on overlap of 95% confidence interval around the median.

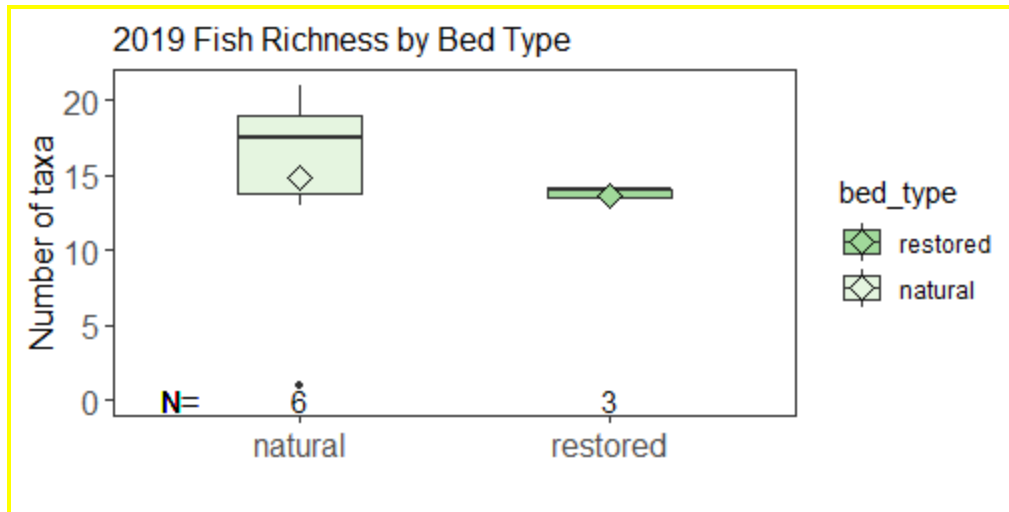


Figure 17. Comparison of fish richness in natural vs restored beds in 2019. Bed types are not significantly different (Kruskal-Wallis test, $p=0.54$). N is the number of sites in each category. Averages are the same, greater range for natural.

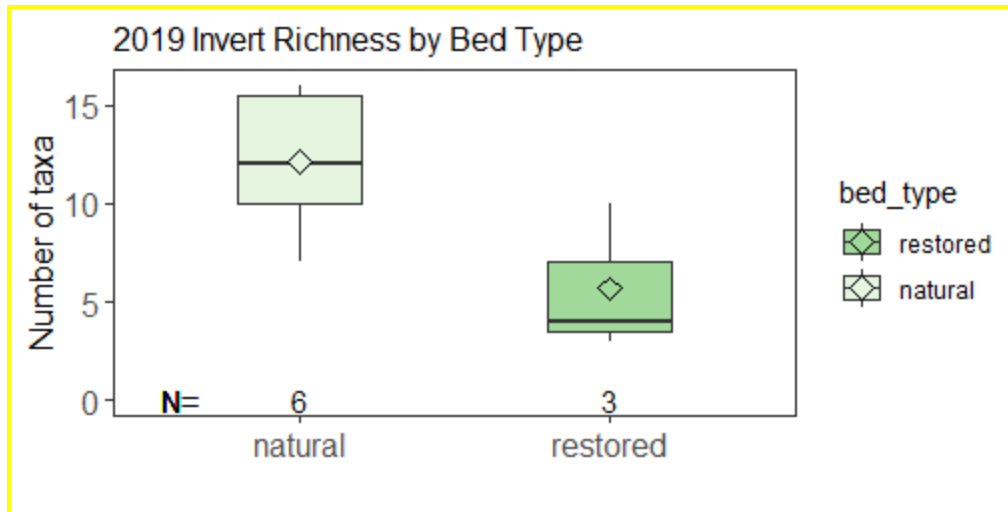


Figure 18. Comparison of invertebrate richness in natural vs restored beds in 2019. Bed types are not significantly different (Kruskal-Wallis test, $p=0.40$). N is the number of sites in each category.

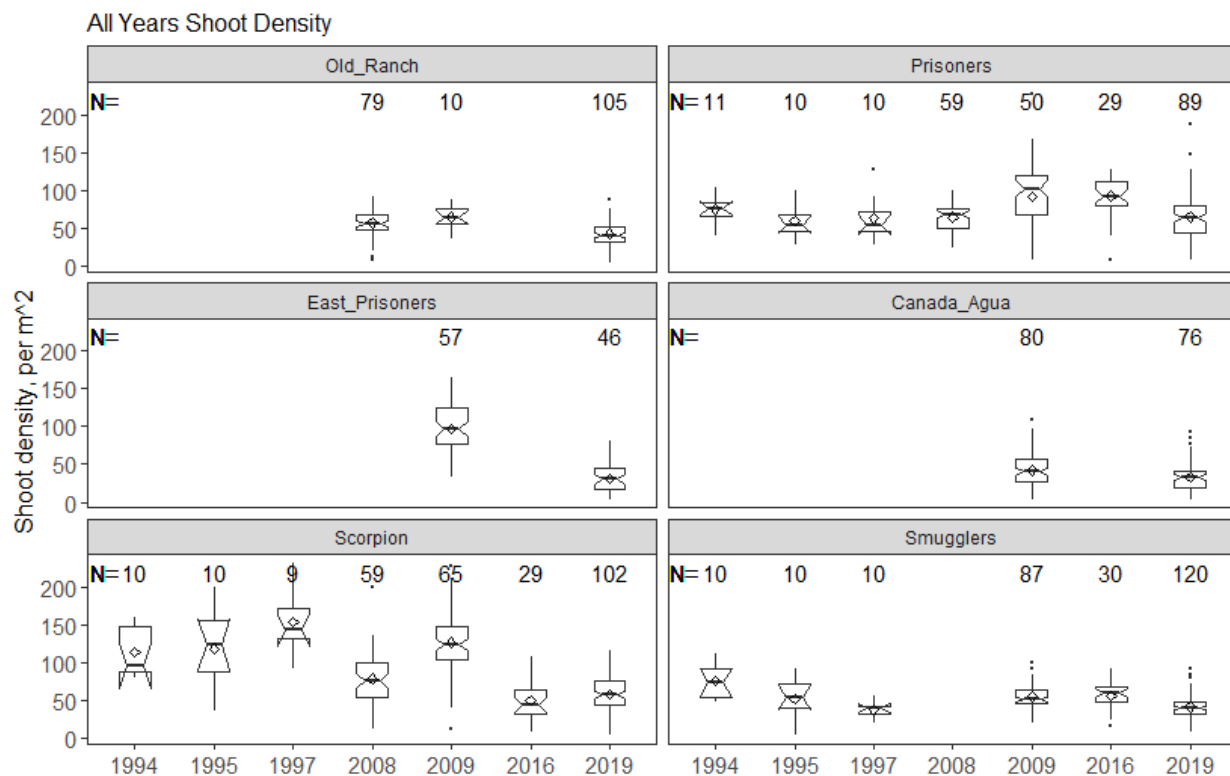


Figure 19. Boxplots of shoot density in quadrats with eelgrass present for sampled years, for select sites. N refers to the number of quadrats with eelgrass per year. For each year: box shows the interquartile range, whiskers represent the upper and lower quartiles, horizontal line represents the median, the diamond marks the mean, dots represent outliers, and notches ascribe the 95% confidence interval of the median.

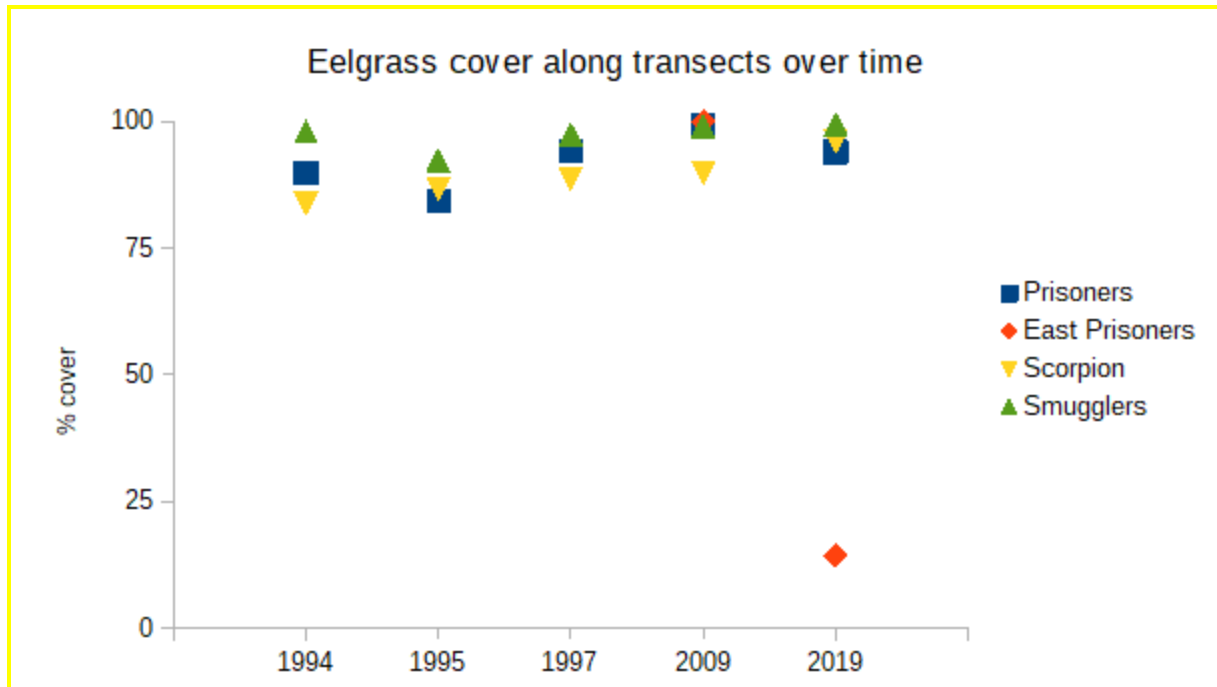


Figure 20. Eelgrass cover along transects at four Santa Cruz Island sites. East Prisoners not sampled in 1994, 1995, and 1997.

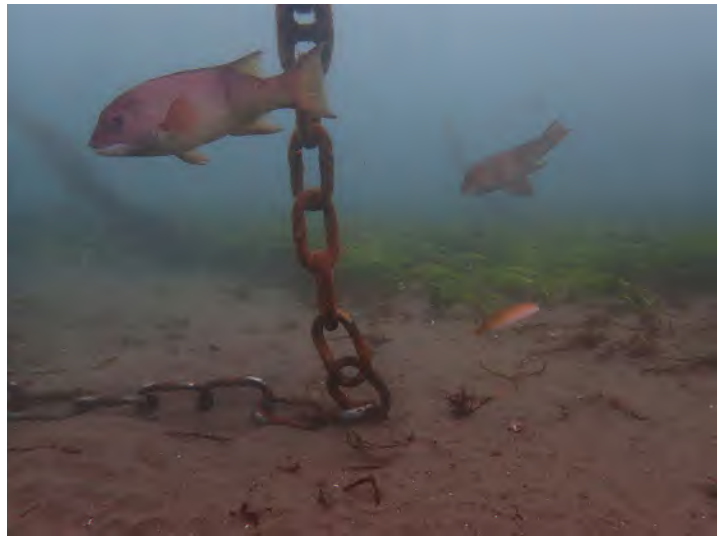
Table 1. Channel Islands Eelgrass Meadows 2019 Survey Sites				
Site_name	site_id	Island	General Coordinates	Date Surveyed
Old_Ranch	1	SRO	34.96351 -119.97329	20190624
Prisoners	2	SCR	34.02090 -119.68586	20190424, 20190724
East_Prisoners	3	SCR	34.02087 -119.68201	20190424, 20190509
Eagle_Canyon	4	SCR	34.02033 -119.67372	20190509
Canada_Agua	5	SCR	34.01807 -119.66876	20190606, 20190626, 20190724
Agua_Escondido	6	SCR	34.01783 -119.64918	20190606, 20190626, 20190724
Scorpion	7	SCR	34.04970 -119.55496	20190514, 20190606, 20190727
East_Scorpion	8	SCR	34.04772 -119.54955	20190514
Smugglers	9	SCR	34.02076 -119.53563	20190625
Frenchys	10	ANA	34.00918 -119.41086	20190523, 20190620
East_Frenchys	11	ANA	34.00763 -119.40873	20190523, 20190620
Keyhole	12	ANA	34.00736 -119.39976	20190524, 20190620
East_NPS	13	ANA	34.00796 -119.39227	20190524, 20190626
Table 2. Channel Islands Eelgrass Meadows 2016 Survey Sites				
Site_name	site_id	Island	General Coordinates	Date Surveyed
Prisoners	2	SCR	34.02090 -119.68586	20160808
Scorpion	7	SCR	34.04970 -119.55496	20160808
Smugglers	9	SCR	34.02076 -119.53563	20160808, 20160929
Yellowbanks		SCR		20160808
Frenchys	10	ANA	34.00918 -119.41086	20160624, 20160929*
East_Frenchys	11	ANA	34.00763 -119.40873	20160701, 20160929*
Keyhole	12	ANA	34.00736 -119.39976	20160920*, 20160628*
East_NPS	13	ANA	34.00796 -119.39227	20160920*, 20160628*
Cathedral Cove		ANA		20160920*

2019 Fish Band Transects

		Abundance per 60 m ²														
Scientific name	common name	Num Sites Present	Avg Abund	Old_Ranch	Prisoners	East_Prisoners	Eagle_Canyon	Canasta_Agua	Aguaite_Escobedo	Scorpion	East_Scorpion	Smugglers	Frenchys	East_Frenchys	Keyhole	East_NPS
<i>Paralabrax clathratus</i>	kelpbass	11	3.2	1.7	2.7	0.4	2.7	5.5	1.3	8.8	0.3	4.5	0.0	0.0	5.7	3.5
<i>Paralabrax clathratus</i> YOY	kelp bass yoy	2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
<i>Oxyjulis californica</i>	senorita	7	3.8	22.1	0.9	2.3	0.0	1.4	0.0	4.1	0.0	2.8	0.0	0.0	0.0	2.0
<i>Oxyjulis californica</i> YOY	senorita yoy	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Halichoeres semicinctus</i>	rock wrasse	6	0.3	0.0	0.3	0.0	0.0	0.4	0.2	0.8	0.0	0.1	0.0	0.0	0.0	1.9
<i>Embiotoca jacksoni</i>	black perch	6	0.6	0.1	4.0	0.0	0.0	1.0	0.8	0.8	0.0	0.3	0.0	0.0	0.0	0.0
<i>Embiotoca jacksoni</i> YOY	black perch yoy	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Rhacochilus vacca</i>	pile perch	6	0.3	0.1	0.7	0.0	0.0	0.0	0.3	0.7	0.0	0.6	0.0	0.0	0.0	0.1
<i>Rhacochilus vacca</i> YOY	pile perch yoy	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Hypsurus caryi</i>	rainbow perch	2	0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
<i>Hypsurus caryi</i> YOY	rainbow perch yoy	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Rhacochilus toxotes</i>	rubberlip perch	1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Cymatogaster aggregata</i>	shiner perch	2	1.1	1.5	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Phanerodon furcatus</i>	white perch	5	1.0	0.0	6.1	0.6	0.0	0.3	0.0	4.3	0.0	0.1	0.0	0.0	0.0	0.0
<i>Phanerodon furcatus</i>	white perch yoy	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Sebastes</i> sp. YOY	yoy rockfish UNID	1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Myliobatis californica</i>	bat ray	4	0.1	0.3	0.0	0.1	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
<i>Girella nigricans</i>	opaleye	3	0.2	0.0	0.1	0.0	0.0	0.0	0.0	1.6	0.0	0.2	0.0	0.0	0.0	0.0
<i>Semicossyphus pulcher</i>	sheephead F	7	0.1	0.0	0.1	0.0	0.2	0.0	0.1	0.6	0.0	0.2	0.0	0.0	0.3	0.1
<i>Semicossyphus pulcher</i>	sheephead M	2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
<i>Semicossyphus pulcher</i>	sheephead all	8	0.2	0.0	0.1	0.0	0.2	0.1	0.1	0.9	0.0	0.2	0.0	0.0	0.3	0.1
<i>Heterostichus rostratus</i>	giant kelpfish	5	0.1	0.0	0.1	0.0	0.0	0.2	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.0
<i>Heterostichus rostratus</i>	YOY giant kelpfish	6	1.6	0.0	7.5	0.4	0.0	2.8	0.3	0.0	0.0	1.0	0.0	11.7	0.0	0.0
<i>Aulorhynchus flavidus</i>	tubesnout	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Rhinogobiops nicholsii</i>	black eye goby	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
<i>Rhinogobiops nicholsii</i>	black eye goby yoy	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
<i>Chaenopsis alepidota</i>	Orange-throat	3	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
<i>Medialuna californiensis</i>	halfmoon	4	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.7	0.0	0.0	0.0	0.0	0.1	0.1
<i>Paralichthys californicus</i>	halibut	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
<i>Synodus lucioceps</i>	lizardfish	1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>flatfish unid</i>	flatfish unid	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
<i>Trachurus symmetricus</i>	jack mackerel	2	2.2	0.0	0.0	0.0	0.0	15.4	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0
<i>Atherinops affinis</i>	top smelt	3	1.4	0.0	6.4	0.0	0.0	5.8	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
<i>Sphyræna argentea</i>	barracuda	3	1.3	0.0	0.0	0.2	0.0	1.5	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0
<i>Atractoscion nobilis</i>	white seabass	1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Anisotremus davidsonii</i>	Sargo	1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
<i>Caulolatilus princeps</i>	ocean whitefish	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
<i>Triakis semifasciata</i>	leopard shark	3	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Scorpaena guttata</i>	CA scorpionfish	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
<i>Heterodontus francisci</i>	Hornshark	3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.2	0.0	0.0
<i>Leiocottus hirundo</i>	lavender sculpin	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
<i>Pleuronichthys coenosus</i>	CO turbot	1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Citharichthys stigmatæus</i>	sanddab	3	0.1	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
<i>Gymnothorax mordax</i>	moray eel	1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Neoclinus blanchardi</i>	sarcastic fringehead	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
<i>Sebastes rastrelliger</i>	grass rockfish	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Brachyistius frenatus</i>	kelp perch	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Hyperprosopon argenteum</i>	walleye perch	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Embiotoca lateralis</i>	striped perch	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Sebastes serranoides</i> YOY	olive rockfish yoy	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Squatina californica</i>	angel shark	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Scorpaenichthys</i>	cabezon	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Sardinops sagax</i>	sardines	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Sebastes serranoides</i>	olive rockfish	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Sebastes paucispinis</i> YOY	boccacio yoy	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table. Invertebrate abundance in 2019 surveys

			Abundance per 60 m²														
Scientific name	common name		Num Sites Present	Avg Abund	Old_Ranch	Prisoners	East_Prisoners	Eagle_Canyon	Canada_Agua	Aguaje_Escudido	East_Scorpion	Smugglers	Frenchys	East_Frenchys	Keyhole	East_NPS	
<i>Anthopleura sola</i>	solitary anemone	1	0.002	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Pacycerianthus fimbriatus</i>	tube_anemone	11	7.236	0.1	2.0	96.1	128	47	74	0.0	0.3	0.0	24	1.0	5.5	5.0	
<i>Renilla koellikeri</i>	sea_pansy	5	0.152	0.0	0.0	0.0	2.7	0.2	2.5	0.0	1.8	0.5	0.0	0.0	0.0	0.0	
<i>Phyllactis</i> sp	sand_anemone	2	0.023	0.0	0.0	0.0	0.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Stylatula elongata</i>	sea_pen	6	0.073	0.0	0.0	0.0	1.0	0.2	0.6	0.0	0.3	0.4	1.2	0.0	0.0	0.0	
<i>Eudistyla</i> sp	feather duster worm	1	0.003	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Bivalves</i>	misc_bivalves	18	1.652	13.4	2.6	29.7	1.0	0.0	0.1	0.3	0.0	0.0	3.6	32.0	0.0	0.0	
<i>Megastrea undosa</i>	wavy_turban_snail	13	4.570	0.1	32.3	17.3	27.0	15.0	12.3	1.8	0.3	13.0	23.0	45.0	26.8	14.8	
<i>Aplysia californica</i>	sea_hare	3	0.022	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.6	0.0	0.0	0.0	0.0	
<i>Kelletia kelletia</i>	kellet_whelk	7	0.186	0.0	0.0	0.2	0.7	0.0	0.0	0.3	0.0	1.3	5.4	1.3	0.3	0.0	
<i>Bula/Haminoea</i>	bubble_snail	1	0.284	0.0	0.0	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Neverita lewisii</i>	mud_snail	3	0.015	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	
<i>Pluerobranchus</i> sp	Pluerobranchus sp	1	0.020	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Navanax inermis</i>	Navanax inermis	4	0.063	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.3	0.0	1.0	1.0	0.0	0.0	
<i>Rixtaxis</i>	snail	1	0.033	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Octopus</i> sp	octopus	1	0.005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	
<i>Nomisia nomisii</i>	kelp_snail	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Conus californicus</i>	cone_snail	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Crossata californica</i>	California frog shell	1	0.003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
<i>other_snail</i>	other_snail	1	0.004	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Loxorhynchos grandis</i>	sheep_crab	2	0.005	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Cancer</i> sp.	cancer_crab	3	0.020	0.5	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Portunus xantusii</i>	swimming_crab	1	0.002	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Pagurus/Paguristes</i>	hermit_crab	6	0.042	0.0	0.3	0.8	0.3	0.2	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	
<i>Pugettia/Talepus</i>	kelp_crab	2	0.005	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Heterocrypta occidentalis</i>	elbow_crab	1	0.008	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Cancer gracilis</i>	slender_crab	1	0.005	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Panulirus interruptus</i>	lobster	1	0.004	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Randallia ornata</i>	globe_crab	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>unid_crab</i>	other_crab	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>all_crabs</i>	all_crabs	7	0.087	0.9	0.6	0.9	0.7	0.2	1.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	
<i>Phoronida</i>	phoronid	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Parastichopus parvimensis</i>	sea_cucumber	7	0.154	0.0	0.0	0.0	1.7	0.0	0.8	0.0	0.3	0.0	3.8	0.8	0.3	0.3	
<i>Astropecten armatus</i>	sand_star	8	0.237	1.3	0.0	0.0	0.3	1.2	1.5	0.0	0.3	0.9	5.2	1.3	0.0	0.0	
<i>Pisaster</i> sp.	giant-spined sea star	1	0.005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	
<i>Dendroaster excentricus</i>	sand dollar	1	0.009	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Arbacia stellata</i>	Arbacia urchin	1	0.004	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Lytechinus anamesus</i>	white_urchin	5	0.608	0.0	0.0	0.6	0.7	0.0	0.9	0.0	0.0	0.1	28.2	0.0	0.0	0.0	
<i>Strongylocentrotus franciscanus</i>	red_urchin	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Strongylocentrotus purpuratus</i>	purple_urchin	1	0.002	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Patinia miniata</i>	bat_star	3	0.039	1.5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0	0.0	
<i>unidentified cucumber</i>	unidentified cucumber	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Luidia foliolata</i>	deep sand star	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Pycnopodia</i>	sunflower_star	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<i>Pachythione rubra</i>	small red cucumber	0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	



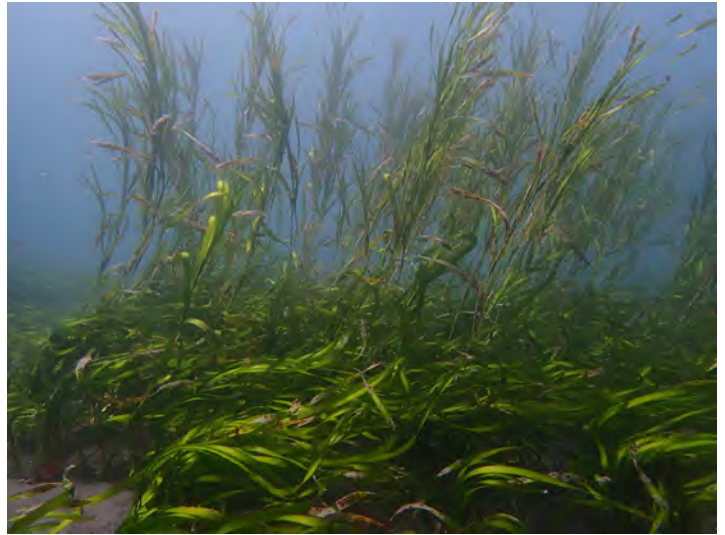
Anthropogenic disturbances to eelgrass. CW from UL: Mooring anchor and chain in 2016 and 2019 (Scorpion SCR); small vessel anchor (East NPS ANA); debris from land (Scorpion SCR); fishing gear (Frenchys ANA); sunken vessel (Keyhole ANA).



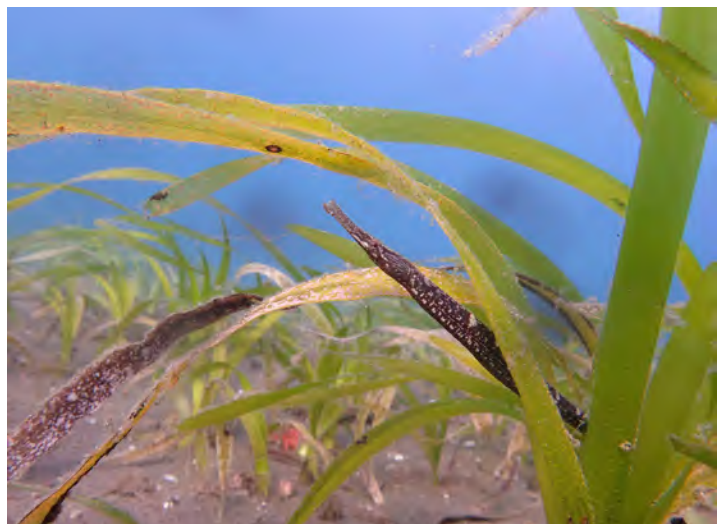
Natural disturbances to eelgrass meadows. CW from UL: Bat ray feeding pits (Scorpion SCR); urchin grazing (Eagle Canyon SCR); wavy turban snail grazing (Smugglers SCR); invertebrate mobbing (*Pachythione rubra* Old Ranch SRO); sea hare mass spawning (Aguaje Escondido SCR); disease (East Frenchys ANA).



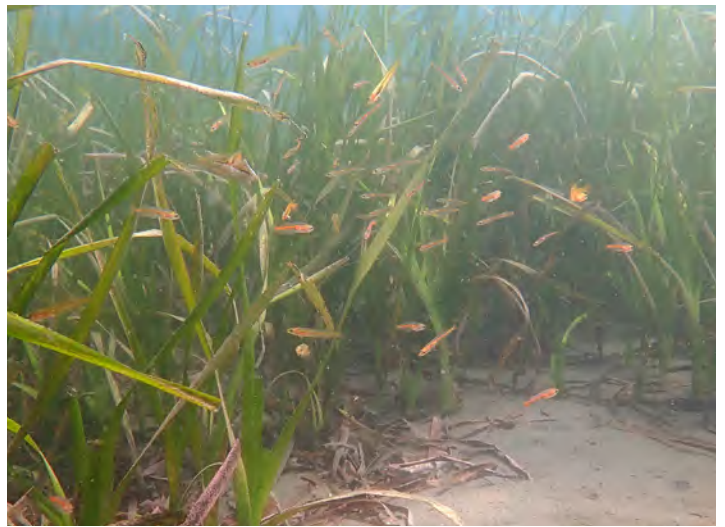
Major invertebrates found in eelgrass beds. CW from UL: Sea cucumber (Prisoners SCR); Cancer crabs (Prisoners SCR); sand star (East Frenchys ANA); lobster (Frenchys ANA); sand tube anemone (Canada Agua SCR); clam (Aguaje Escondido SCR).



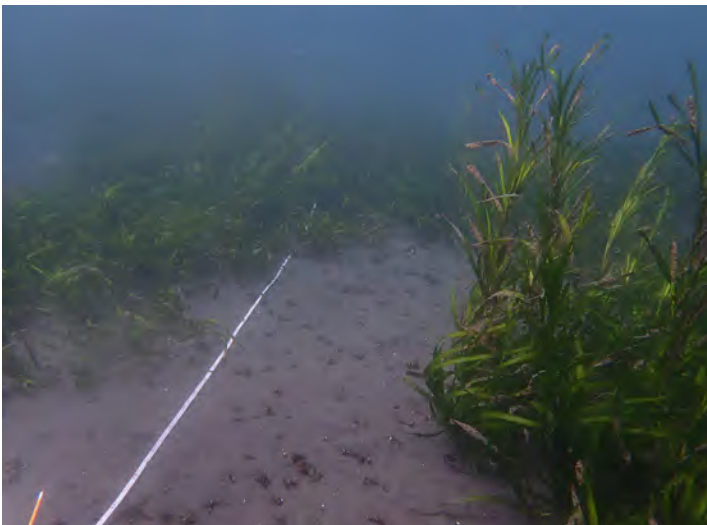
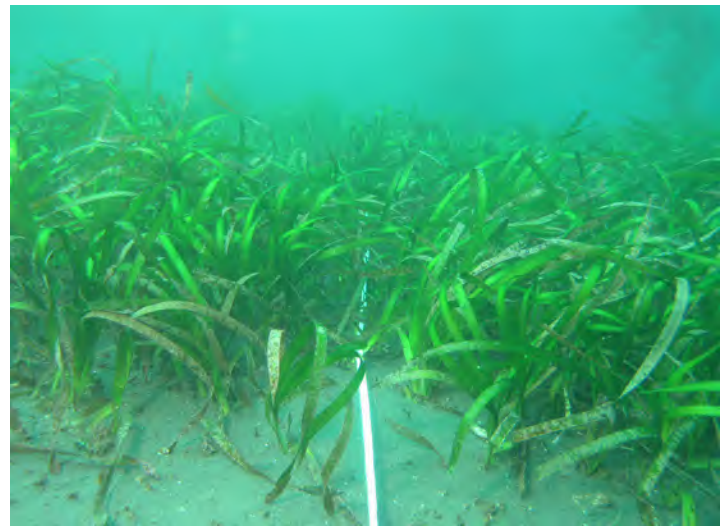
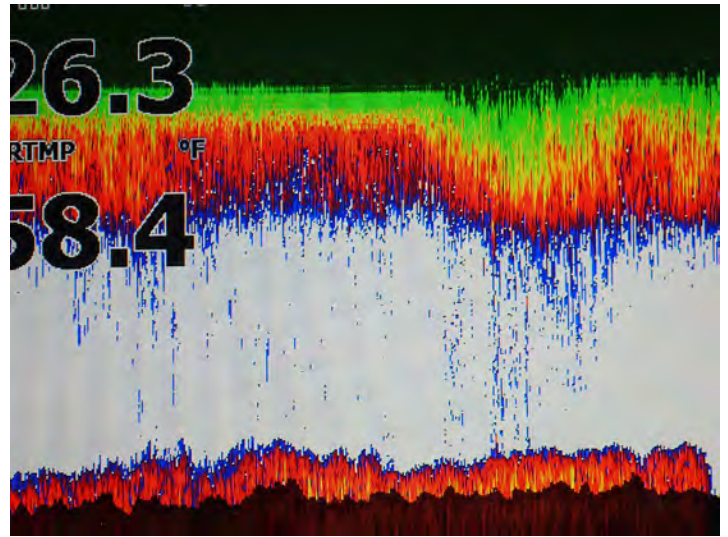
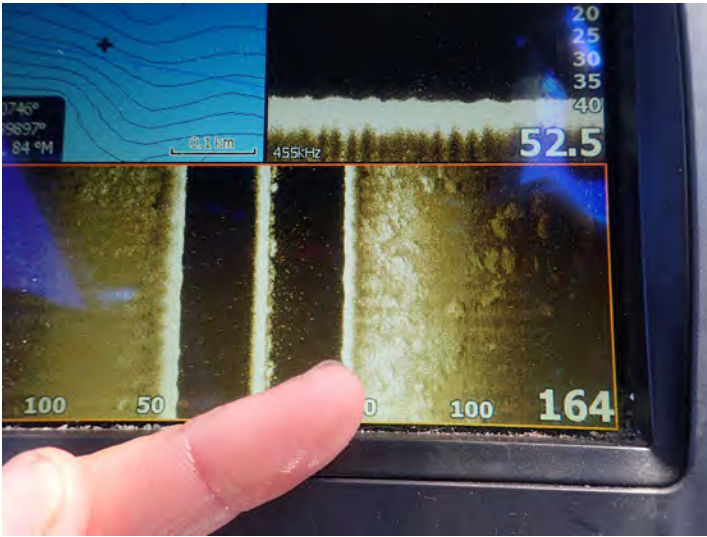
Reproductive phases in *Zostera pacifica*. CW from UL: New reproductive shoots developing in late spring (Keyhole ANA; and at East Frenchys ANA); close-up of an open spathe with male flowers (Prisoners SCR); ripening seeds (Aguaje Escondido SCR); a seedling (Canada Agua SCR); senescing reproductive shoot in late July (Prisoners SCR).



Common fishes in eelgrass. CW from UL: White and pile perch (Scorpion SCR); rainbow and black perch (Smugglers SCR); sheephead (Scorpion SCR); bay pipefish (East Frenchys ANA); kelp bass (Keyhole ANA); halibut (East NPS ANA).



Fish reproductive use of eelgrass meadows. CW from UL: Black perch exhibiting courtship behavior; juvenile horn shark (both East Frenchys ANA); young of the year (YOY) giant kelpfish (Canada Agua SCR); gravid shiner perch (Scorpion SCR); topsmelt eggs on eelgrass (Frenchys ANA) kelp bass YOY recruit (Frenchys ANA).



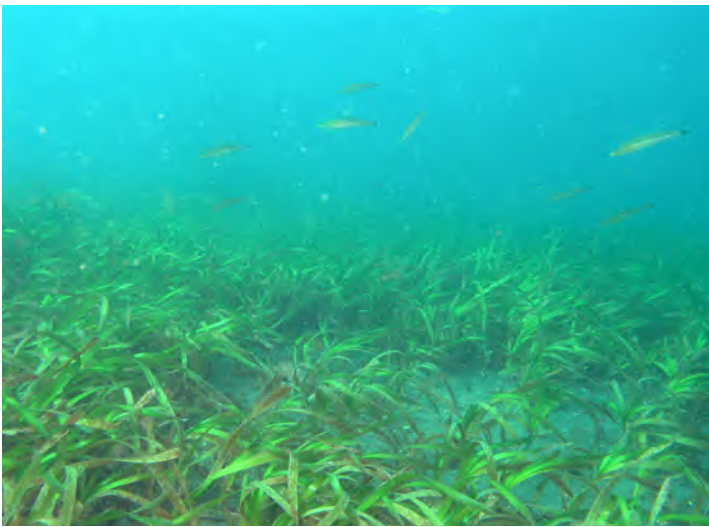
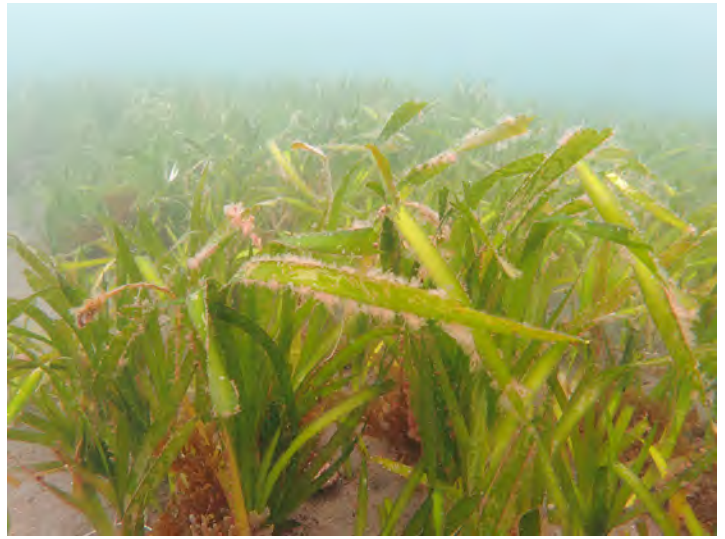
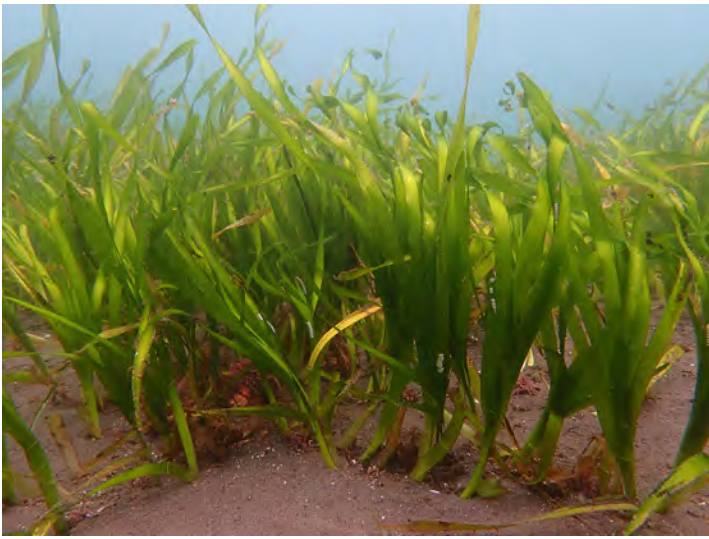
Mapping and quantifying eelgrass meadows. CW from UL: Eelgrass along Middle Anacapa imaged on ship's sounder (2016); imaged on fish finder (2019); Frenchys restoration transect within MCA (2006); and same restoration transect in 2019; control transect at East Frenchys within MPA (2019); diver mapping patch along same control transect in 2009.



Interesting observations during 2016 and 2019 surveys. CW from UL: Giant sea bass (2019 East Frenchys ANA); moray eel (2019 Prisoners SCR); sea sweet potato (2016 Prisoners SCR), pelagic red crab (2016 East Frenchys ANA); juvenile white seabass (2019 Prisoners SCR); black sea hare (2016 East Frenchys ANA, the largest of all sea slug species).



Commercial trapping at Frenchys. Top row: Lobster floats November 2016 on the MPA/MCA bounday (left) and in the MCA (right); Middle row: November 2019 on the MPA/MCA bound-ary, facing north (left), December 2020 looking south in to the cove along the boundary , > 2 dozen visible (right); Bottom row: abandoned trap within MPA September 2016 (left); aban-doned trap on the restoration transect (diver touching marker stake) in MCA September 2016.



Physiological stress in eelgrass following warm-water events, compared to cooler years. Top row L and R: Eelgrass in late June 2019 (cooler) and late June 2016, el Nino (both East Frenchys ANA); Center and bottom rows: left, mid- September 2007 (cold) and right, 2016, el Nino (both at East Frenchys ANA).



November 30, 2023

Eric Sklar, President
California Fish and Game Commission
715 P Street, 16th Floor
Sacramento, CA 95814

**Re: Decadal Management Review Marine Protected Areas Petition Process:
Anacap SMCA at Anacapa Island**

Dear President Sklar and Honorable Commissioners:

The undersigned organizations have decades of combined experience and interest working on Marine Protected Area (“MPA”) management, research, compliance, outreach, and education efforts. We submit this letter to support the submission of an MPA petition for the Anacapa State Marine Conservation Area (“SMCA”) as a part of the Decadal Management Review (“DMR”) process. This petition seeks to reclassify the Anacapa SMCA as a State Marine Reserve (“SMR”) or at a minimum reclassify the portion of the SMCA from shore to at least 30 meters depth to better protect eelgrass habitat.

The DMR is a momentous step in adaptive and community-based conservation. We commend the California Fish and Game Commission, California Department of Fish and Wildlife, and California Ocean Protection Council for the enormous effort undertaken to

complete this first 10-year review. The MPA Network was designed to function as an ecological network to ensure the protection of California's diverse coastal ecosystems. Eelgrass meadows are one of the many habitats protected by MPAs. The eelgrass found in California and at Anacapa Island is *Zostera marina*. This subspecies of eelgrass used to be abundant at multiple sites at Anacapa Island until white urchin (*Lytechinus anemexus*) populations increased and invaded the area following the 1983 El Nino. Transplantation efforts at Anacapa Island have had some success, however the shift of spiny lobster trapping to soft bottom habitat has led to a decline in the transplanted eelgrass population at Frenchy's Cove.

Anacapa Island Historic Eelgrass Cover

Eelgrass plays an important role in many marine systems like species survival, reducing coastal erosion, acting as a carbon sink, etc. Globally eelgrass populations have declined during the past 25 years through a combination of natural and anthropogenic deterioration. By 1995, only 2 small eelgrass patches were present at East Anacapa Island, and both disappeared by 1999. Past research at Anacapa Island found that there had been no sign of recruitment at Frenchy's Cove since 1991 up until the 2000s when efforts were made to reintroduce eelgrass into the area. The annual surveys conducted from 1991 to 2001 at Frenchy's Cove revealed no eelgrass seedlings, adult plants, or drift material, underlining the limited long-distance dispersal capabilities of this species.

Impacts to Anacapa SMCA Eelgrass Meadows

Follow up surveys in 2014 and 2016, after the transplantation effort in the early 2000s, found the transplanted eelgrass meadows at the Anacapa SMCA to be damaged and greatly reduced. Information gained from mariners and National Park rangers revealed that Frenchy's Cove was being fished heavily during the two months (November, December) that the brown pelican Special Closure was open. Fishing block data for the mainland showed that effort more than doubled within blocks containing fishing areas adjacent to SMRs. Notably, eelgrass continues to thrive within the Anacapa SMR, 200 meters to the east.

Before the shift in fishing efforts for spiny lobster, in 2012 the research team responsible for the transplantation in the early 2000s found additional patches 200 meters to the east of the transplant site and scattered shoots were observed at the west end of East Anacapa Island. The unintended differences in usage of the SMCA and SMR showed that eelgrass will rapidly colonize and thrive if anthropogenic disturbance (i.e., trapping) were to cease.

The impact of fishing for spiny lobster during the two months allowed is destroying the eelgrass meadows. Research shows that recruitment of new eelgrass is a long process, but it is possible when the ideal habitat is left undisturbed. Currently the SMCA allows for recreational take of spiny lobster and pelagic finfish and commercial take of spiny lobster. The Brown Pelican special closure allows for lobster traps in November and December. We ask that the SMCA be reclassified as a SMR or reclassifying the portion of the SMCA from shore to at least 30 meters depth.

Conclusion

We celebrate the success of the MPA network in a time when ocean conservation wins are more important than ever. While we rely on oceans to contribute to many of our societal needs, from food to energy, we must remain committed to protection of our shared resources, not only for future generations but also for the intrinsic value of a thriving ocean. This petition to reclassify the Anacapa SMCA as an SMR or reclassifying the portion of the SMCA from shore to at least 30 meters depth will allow Anacapa Island to recover its historic eelgrass meadow.

Thank you for your consideration of the MPA petition. If you have any questions, please contact Azsha Hudson, ahudson@environmentaldefensecenter.org.

Sincerely,

Azsha Hudson, Marine Conservation Analyst
Environmental Defense Center

Richard Smalldon, Director
Santa Barbara Museum of Natural History, Sea Center

Robert Mazurek, Executive Director
California Marine Sanctuary Foundation

Tomas Valadez, California Policy Associate
Azul

Elizabeth Purcell, Policy and Communications Intern
Turtle Island Restoration Network

Ted Morton, Executive Director
Santa Barbara Channel Keeper

Jim Taylor, Group Chair
Sierra Club, Santa Barbara – Ventura

Robert Vergara, Roger Arliner Young (RAY) Ocean Conservation Fellow
Natural Resources Defense Council

Ashley Eagle-Gibbs, Interim Executive Director & Legal and Policy Director
Environmental Action Committee of West Marin (EAC)

Attachment 1

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

COMPANION DOCUMENT



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

Attachment I: Companion Document July 2026 Version

Date	Milestone
<i>Aug 2024</i>	CFGF approves binning petitions, requests CDFW evaluate the five Bin 1 Petitions and develop a proposed framework to evaluate 15 Bin 2 Petitions
<i>Nov 2024</i>	CDFW releases recommendations for five Bin 1 Petitions
<i>Dec 2024</i>	CFGF makes decisions on Bin 1 Petitions and establishes March 14, 2025 deadline for amendments to Bin 2 Petitions
<i>Mar 14, 2025</i>	Deadline for amendments to Bin 2 Petitions
<i>Apr 2025</i>	CFGF refers amended Bin 2 Petitions to CDFW for evaluation
<i>Apr-May 2025</i>	CDFW develops Draft Bin 2 Petition Evaluation Framework with Ocean Protection Council and CFGF staff
<i>May 2025</i>	Update and discussion at CFGF Tribal Committee (TC) meeting on Bin 2 MPA Petitions and proposed approach for evaluations
<i>Aug 2025</i>	Update and discussion on 2023 MPA Petitions and Draft Evaluation Framework at CFGF TC and CFGF. Four Tribally-led petitions identified and CFGF approves framework for evaluating Bin 2 MPA Petitions
<i>Dec 2025</i>	Update and discussion at CFGF TC on Bin 2 MPA Petitions; identifies one more Tribally-led petition; directs CDFW to return to April 2026 CFGF TC to discuss MPA Petitions prior to releasing evaluations for the Tribally-led petitions
<i>Mar 20, 2026</i>	CDFW releases evaluations and recommendations for the 64 proposed actions in the ten non-Tribally-led Bin 2 MPA Petitions and the Companion Document
<i>Apr 2026</i>	Update and discussion at CFGF TC on five Tribally-led petitions. CFGF accepts amendments to four of the Tribally-led petitions and refers them to CDFW for evaluation
<i>Apr-May 2026</i>	Regional CFGF 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
<i>July 2026</i>	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 petitions, 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 Guide¹. 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). The 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.

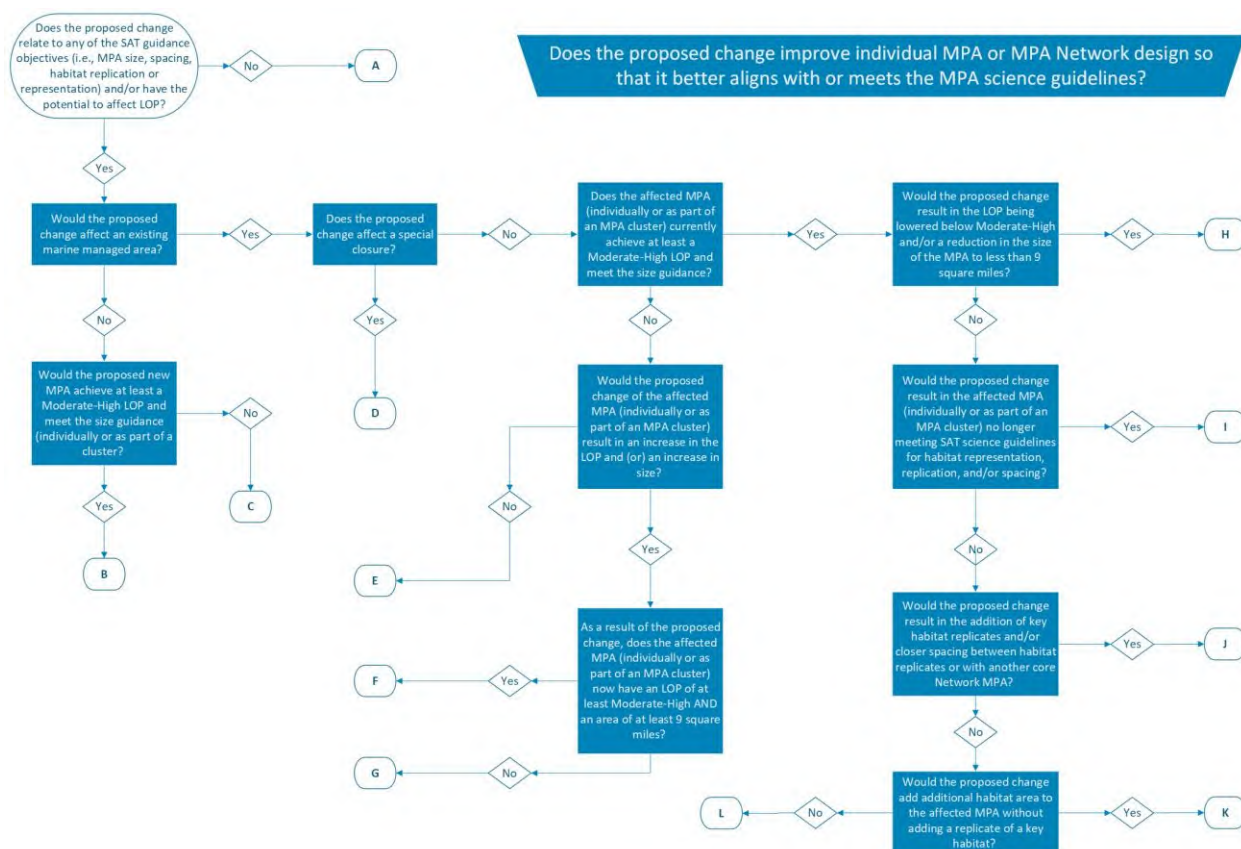


Figure 1. Decision tree framework used to formulate responses for Question 9 for each proposed action. The starting point, at the upper left corner, is based on whether the proposed change has the potential to affect the MPA's size or Level of Protection (LOP). The rest of the questions help to identify 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

CFGF'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 CFGF Coastal Fishing Communities Policy?

CFGF staff conducted this analysis and prepared the responses to Question 17 for the proposed actions in the evaluations. CFGF staff provided this additional context for their evaluations of Question 17.

Coastal Fishing Communities Policy Overview

The CFGF Coastal Fishing Communities (CFC) Policy guides CFGF, 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 CFGF 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 CFGF's CFC Policy marked the first time CFGF staff have attempted to apply the policy's principles to inform CFGF decision-making. Through the process of evaluating MPA petitions against the policy, CFGF 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](#)

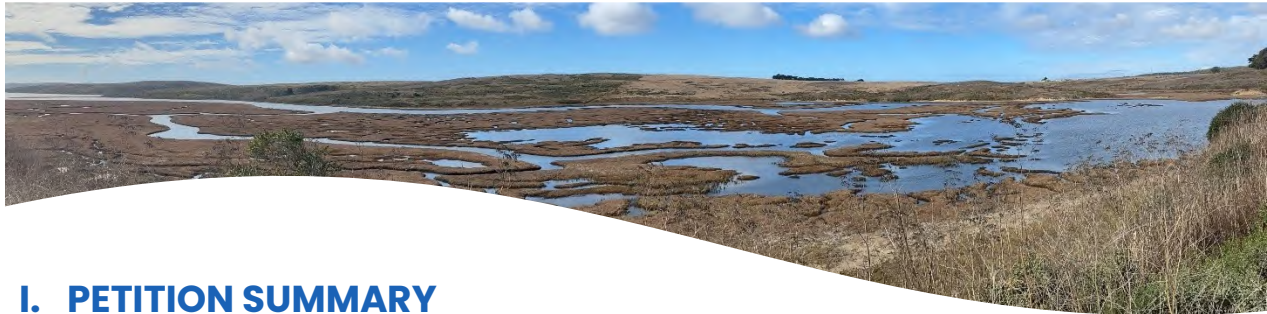
Partner website, California Fishing Communities, providing profiles of the history, economics, and culture of California’s fishing communities (last updated in 2023 with 2021 data): [FishingCommunities.net](#)

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:

Amend Existing Anacapa Island SMCA or Special Closure to Protect Eelgrass (2023-27MPA_AM)



I. PETITION SUMMARY

CFGF Tracking Number	2023-27MPA_AM
Petition Contact/Affiliation	Azsha Hudson, Environmental Defense Center
Number of Proposed Actions	1
Affected MPAs	Anacapa Island State Marine Conservation Area (SMCA) or Special Closure
Petition Summary	Amend existing Anacapa Island SMCA or Special Closure with one of three options to best protect eelgrass (<i>Zostera</i> spp.) meadows while allowing for community access (removed classification change and modified take regulations as amended). See detailed options in Section II.
Link to StoryMap page	2023-27MPA_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, the 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
2023-27MPA_1_AM1 Amend existing Anacapa Island SMCA or Special Closure, evaluating three options (solutions) and choose the one that best protects the eelgrass meadow while allowing for community access: Option 1: Change Anacapa Island SMCA regulations to disallow commercial California spiny lobster (<i>Panulirus interruptus</i>) fishing year-round. Option 2: Change Anacapa Island SMCA regulations to disallow hard bottomed	The petitioner's stated intent for the proposed change is to protect eelgrass meadows located in the Anacapa Island SMCA from hard bottomed objects such as the gear type listed for the commercial lobster fishery and anchors used for vessels.	Deny the petition, including all three options. CDFW acknowledges the significant ecological importance and value of eelgrass meadows. Although there has been a decline and lack of eelgrass recovery at Frenchy's Cove, there is no indication that the primary driver of the decline or lack of recovery of eelgrass in Frenchy's Cove is bottom contact fishing gear and anchoring that may occur during the two-month window when fishing is allowed in the brown pelican (<i>Pelecanus occidentalis</i>) fledgling area. The proposed options are unlikely to have a biologically meaningful impact on eelgrass at this location beyond what is already offered by the Anacapa Island SMCA and Special Closure and brown pelican fledgling area, and it would unnecessarily restrict an important fishing ground that was carefully contemplated and deliberated during the Northern Channel Islands MPA planning and implementation process.

CDFW EVALUATION 2023-27MPA_AM Hudson

Petition Action ID and Proposed Action	Petitioner's Stated Rationale and Brief Justification for Proposed Actions	CDFW Recommendation and Brief Justification
fishing gear (including anchoring if applicable) near eelgrass meadows. Option 3: Change the border of the Anacapa Island Special Closure, prohibiting the deployment of lobster traps in waters from 0-30 meters (0-98.43 feet) deep instead of the existing 0-20 feet (0-6.1 meters) deep off Anacapa Island.		

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 tribes¹ (tribes) throughout the petitions process, and a summary of outreach and engagement with Tribally-led petitioners. Tribally-led petitions were evaluated with 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 2023-27MPA_1_AMI

The petitioner has requested consideration of three options for regulatory change to enhance protection of eelgrass within Frenchy's Cove at Anacapa Island SMCA and Special Closure. The petitioner asserts that the proposed options are "intended to protect the Anacapa Island SMCA eelgrass meadow and associated biodiversity from lobster trapping [and anchoring] which occurs during the months of November and December [when the California brown pelican fledgling area is open]."

The three options proposed by the petitioner include:

1. Change Anacapa Island SMCA regulations to disallow commercial lobster fishing year-round,
2. Change Anacapa Island SMCA regulations to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows, or
3. Change the border of the Anacapa Island Special Closure, prohibiting the deployment of lobster traps in waters from 0-30 meters (0-98.43 feet) deep instead of the existing 0-20 feet (0-6.1 meters) deep off Anacapa Island.

Frenchy's Cove is a popular recreational and fishing destination on the western islet of Anacapa Island that includes a small beach and tidepools and is situated within both the island-wide nearshore Anacapa Island Special Closure and the larger Anacapa Island SMCA. The Anacapa Island Special Closure prohibits setting nets and traps around the island in waters less than 20 feet deep year-round to protect seabirds and prohibits public activities from occurring within the 20 fathom (120 feet) brown pelican fledgling area from January 1 – October 31 to protect nesting birds, nests, and fledglings during brown pelican nesting season. The west and east borders of the brown pelican fledgling area include the west end of the beach at Frenchy's Cove and Portuguese Rock, which is ~0.8 miles (~1.3 km) to the east. The Anacapa Island SMCA regulations allow commercial and recreational take of lobster and recreational take of pelagic finfish² (Cal. Code Regs., tit. 14, § 632 subd. (a)(3)).

CDFW acknowledges the significant ecological importance and value of eelgrass meadows and shares concern regarding the lack of eelgrass recovery at Frenchy's Cove.

² Pelagic finfish as defined for MPA regulations include: northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena* spp.), billfishes (family Istiophoridae), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasii*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus* spp.), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias* spp.), swordfish (*Xiphias gladius*), tunas (family Scombridae) including Pacific bonito (*Sarda chiliensis*), and yellowtail (*Seriola dorsalis*).

The petitioner asserts that the proposed options to enhance eelgrass protection at this location align with one or more of the MLPA Goals and Decadal Management Review (DMR) Recommendations. However, given the biology of eelgrass and other factors discussed below, CDFW's evaluation finds the options proposed by the petitioner:

- Are inconsistent with the goals of this MPA, as defined during the implementation process around the Northern Channel Islands and the MLPA Initiative planning process,
- Do not align with original intent of this MPA or the full Anacapa Island Special Closure,
- Would not advance management of the MPA Network or address a current or emerging MPA management challenge,
- Would not advance management of the MPA Network, and
- Do not enhance or improve enforcement of the MPA and Special Closure regulations.

Eelgrass, a seagrass that is found in the very low intertidal to subtidal zone, is inherently episodic and variable, and the persistence of a stable meadow can be affected by many physical factors (i.e., temperature, sedimentation, currents) (Livingston 1984, Frederiksen et al. 2004, Krumhansl et al. 2021, DuBois et al. 2022). Before the MPAs were established around the Northern Channel Islands in 2003, eelgrass meadows at Anacapa Island nearly disappeared after white urchin (*Lytechinus pictus*) numbers increased and heavily grazed the eelgrass in the wake of the 1982-1983 El Niño (Alstatt 2003, 2014, 2021, Engle and Miller 2005). While many eelgrass meadows around Anacapa Island recovered and are present today, eelgrass did not re-colonize the historical site in Frenchy's Cove, and a restoration plan was developed and implemented in 2002. Restoration efforts were successful at re-establishing eelgrass in Frenchy's Cove yet monitoring and mapping efforts have observed a steady decline since (Fig. 1) (Alstatt 2014, 2021). The last mapping effort of eelgrass meadows around the Northern Channel Islands occurred in 2015, coinciding with the 2014-2016 Marine Heat Wave (MHW). The most recent diver surveys were conducted in 2019. Both efforts showed little-to-no eelgrass present at the restoration site in Frenchy's Cove (Fig. 1). However, stable eelgrass meadows occur elsewhere around Anacapa Island and other Channel Islands, including in areas where fishing and boating activities occur. While the Special Closure, including the brown pelican fledgling area, was designed to protect sea birds around the island, at Frenchy's Cove the seabird protections also provide 10 months of ancillary eelgrass protection within waters less than 120 feet (~36.5 meters) deep in the brown pelican fledgling area and year-round ancillary eelgrass protection within waters less than 20 feet (~6 meters) deep. Although there is potential for impacts from bottom contact fishing gear and anchoring to occur during the two-month window when fishing is

allowed in the brown pelican fledgling area (i.e., >20 feet deep November 1 – December 31), it is likely there are additional factors, including the 2014-2016 MHW, and site-specific attributes such as temperature, currents, and suitable substrate to sustain eelgrass, that are also contributing to the lack of recovery of eelgrass in Frenchy's Cove. Thus, prohibiting commercial lobster fishing in the Anacapa Island SMCA year-round (Option 1) is unlikely to address the petitioner's stated problem.

Another proposed option offered by the petitioner would extend the Special Closure depth limit to 98 feet (30 meters) to prohibit the deployment of lobster traps in water depths less than this limit (Option 3). Although the deepest observations of persistent eelgrass meadows around Anacapa Island have occurred at a maximum depth of about 45 feet (13.7 meters) (Engle and Miller 2005, Alstatt 2014, 2021, Sherman and DeBruyckere 2018), eelgrass around the Channel Islands typically occurs within shallower depths of 0 to 20 feet (~6 meters) (Engle and Miller 2005, Sherman and DeBruyckere 2018). Given the brown pelican fledgling area currently offers protection to eelgrass at Frenchy's Cove within the 120 foot (~36.5 meters) depth limit for 10 months out of the year and within the 20 foot (~6 meters) depth limit year round, it is unlikely that extending the island-wide Special Closure boundary to 98 feet (30 meters) would provide measurable benefits or protection to eelgrass in Frenchy's Cove beyond what the Special Closure and associated brown fledgling area already provide. The second option presented by the petitioner to prohibit hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows is inherently problematic for MPA regulations due to the dynamic nature of eelgrass and associated enforcement feasibility concerns.

CDFW also finds that the proposal's potential impacts to consumptive and non-consumptive users are anticipated to be significant, as the Anacapa Island SMCA continues to be an important fishing ground, especially for the recreational and commercial lobster fisheries and an important site for non-consumptive users (Fig. 2). The proposed option to extend the depth limit of the Special Closure into deeper waters would further restrict all access to Anacapa Island for all users and not just commercial lobster activities. Given the proposal is not expected to provide measurable benefits or enhanced protection for eelgrass in Frenchy's Cove, it would unnecessarily restrict an important area to consumptive and non-consumptive users that was carefully contemplated and deliberated during Northern Channel Islands MPA planning and implementation (MRWG n.d.). All proposed options deviate from the original intent of the Anacapa Island SMCA, which was to provide commercial and recreational fishing opportunities in lieu of a State Marine Reserve (SMR) at this location and to compensate for consumptive losses around the other Northern Channel Islands due to implementation of other SMRs (MRWG n.d., MLPA 2009).

RECOMMENDATION FOR 2023-27MPA_1_AMI

Given these considerations and the information in the evaluation below, **CDFW recommends the California Fish and Game Commission (CFGC) DENY petition 2023-MPA27**, including all three options proposed within **2023-27MPA_1_AMI** to "...amend existing Anacapa Island SMCA or Special Closure, evaluating three options (solutions) and choose the one that best protects the eelgrass meadow while allowing for community access."

In lieu of a regulatory change to the MPA Network, CDFW recommends continued eelgrass research and monitoring at Frenchy's Cove and other areas where eelgrass persists around the Northern Channel Islands. This could provide more insight into the suite of drivers that may be impacting eelgrass persistence at this location and would better inform potential management actions. Although there is no quantitative evidence to support the presumption that bottom contact or fishing activities are the primary driver of eelgrass loss in this area, the installation of mooring buoys at Frenchy's Cove is an MPA adaptive management measure that has potential to address some of the petitioner's concerns at this site when it is accessible to boating activities, while also maintaining the MPA's intended goals.

The information below applies to the three options, and in certain cases, there is additional option-specific information.

EVALUATION QUESTIONS

2023-27MPA_1_AMI: Amend Anacapa Island SMCA or Special Closure with one of three options (see petition summary above for options) to best protect eelgrass meadows while allowing for community access.

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 were intended to 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 amending the Anacapa Island SMCA or Special Closure regulations would better protect eelgrass meadows at Frenchy's Cove during the two-month window when the brown pelican fledgling area is open and that this proposed amendment is consistent with MLPA Goals/MPA Master Plan objectives 1, 2, 3, and 5, which are related to enhancing natural diversity, sustaining marine life populations, providing recreational, educational, and research opportunities, and ensuring science-informed management measures.

Although the petitioner asserts the proposed actions would align with the MLPA Goals and MPA Master Plan objectives, in the broader adaptive management framework, the proposed change would not advance management of the MPA Network.

Anacapa Island SMCA was designed with the goals of balancing ecosystem level biodiversity protections, recognizing the rich marine heritage that the marine waters around the Channel Islands provide, and maintaining important fisheries in a portion of state waters and the Channel Island National Marine Sanctuary (CINMS). These goals are aligned with MLPA Goals 2, 3, 4, and 5 and are still relevant today. Thus, the proposed change would offer no change in the design of the affected MPA for these goals.

CDFW recognizes the important role that eelgrass plays as a foundational species that enhances biodiversity (Duffy 2006, Nordlund et al. 2016, Sherman and Debruyckere 2018) (Goal 1) and the importance of protecting unique habitats such as eelgrass meadows (Goal 4). However, given the typical shallow distribution of eelgrass and many factors potentially influencing its persistence at this site, the proposed options for change in the Anacapa Island SMCA or Special Closure are unlikely to benefit eelgrass at Frenchy's Cove beyond what is currently offered by the Special Closure and brown pelican fledgling area.

Additionally, all the proposed options would conflict with the intended goal to maintain important fisheries (Goal 3). Given the data gaps that exist regarding the presence of eelgrass currently in Frenchy's Cove and the drivers contributing to its population dynamics, more work is needed to make a science-informed decision regarding the management of this species in this location (Goal 5).

QUESTION 2A: DOES THE PROPOSED CHANGE ADVANCE ADAPTIVE MANAGEMENT RECOMMENDATIONS IN THE DECADAL MANAGEMENT REVIEW?

No. The petitioner asserts that the proposed options would advance two prioritized DMR Recommendations #4: to apply what is learned from the DMR to support proposed changes to the MPA Network, and #9: to advance OPC's 2020-2025 Strategic Plan priorities specific to protecting and restoring eelgrass habitat in the state's coastal waters (OPC Strategic Plan Target 3.1.4). However, given the typical shallow depth

distribution of eelgrass and many factors potentially influencing its persistence in the area, the proposed options are unlikely to result in measurable, biologically meaningful benefits to eelgrass in Frenchy's Cove beyond what the Special Closure and brown pelican fledgling area currently offer. Thus, the proposed options in the petition would not advance management of the MPA Network. See Question 2a of Attachment 1 for the Decadal Management Review and adaptive management Recommendations.

QUESTION 2B: IF NOT, DOES THE PROPOSED CHANGE ADDRESS A CURRENT OR EMERGING MPA MANAGEMENT CHALLENGE?

No. The proposed options in the petition would not address a current or emerging MPA management challenge. While the lack of eelgrass recovery at Frenchy's Cove is a concern, eelgrass restoration is not currently an MPA management challenge. It is important for any eelgrass restoration effort to implement intervention measures that address the site-specific ecological drivers of eelgrass loss, and there is insufficient evidence to support the assertion that bottom contact or fishing activities that are occurring in a two-month period annually is the primary driver contributing to eelgrass loss or lack of recovery in Frenchy's Cove.

CDFW recommends continued research and monitoring at Frenchy's Cove and other areas where eelgrass persists around the Northern Channel Islands. This could provide more insight into the suite of drivers that may be impacting eelgrass persistence at this location and would better inform potential management actions.

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. The following is a list of tribes, agencies, and other entities that may be impacted by the proposed change.

National Oceanic and Atmosphere Administration (NOAA), CINMS: CINMS manages an MPA (Anacapa Island Federal Marine Conservation Area (FMCA)) in federal waters

directly adjacent to the state Anacapa Island SMCA. For reasons such as ease of enforcement, the federal and state MPAs around the Northern Channel Islands have the same regulations. This change would make the regulations inconsistent and CINMS and NOAA would need to pursue updating the federal regulations to end commercial lobster fishing in the federal Anacapa Island SMCA if CFGC chooses to grant Option 1. Furthermore, NOAA is the lead federal agency that administers the Marine Mammal Protection Act and CDFW shares jurisdiction of the Anacapa Island Special Closures. If CFGC chooses to grant the petition, CDFW would need to coordinate enforcement, updates to signage, and outreach efforts with CINMS.

National Park Service: CDFW shares jurisdiction of the Anacapa Special Closures with Channel Islands National Park and would need to coordinate enforcement, updates to signage, and outreach efforts.

State Water Resources Control Board and Regional Water Quality Control Board (Water Boards): The Anacapa Island MPAs all fall within an existing Area of Special Biological Significance. It is unclear whether the proposed change would have direct or indirect effects on the management activities of the Water Boards for these ASBS.

State Lands Commission (SLC): The Anacapa Island Special Closure overlaps with active SLC lease 8390 for the Anacapa Island boat dock. It is unclear whether the proposed change would have direct or indirect effects on SLC's regulatory or management activities.

Santa Ynez Band of Chumash Indians: There is a tribal exemption for the Anacapa Island SMCA for the Santa Ynez Band of Chumash Indians.

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:

- Results from ongoing eelgrass monitoring at this site and other locations around the Channel Islands,
- Eelgrass mapping around Anacapa Island, including Frenchy's Cove (available through 2015) and additional diver survey data from 2019,

- Existing science and guidance pertaining to eelgrass recovery and restoration in California (including OPC's 2026-2030 Strategic Plan statewide targets for eelgrass restoration),
- Fishing block data for the commercial California spiny lobster fishery, and
- MLPA Initiative planning documents, historical documentation of the implementation of MPAs around the Northern Channel Islands, and other related information (e.g. MLPA Goals and MPA Master Plan adaptive management objectives).

The information provided in the petition, along with other information CDFW reviewed, did not demonstrate that the proposed change would advance MPA adaptive management or that a change in MPA regulations is warranted.

Without more definitive evidence of a place-based need linking eelgrass declines to specific drivers, including fishing and boating activities in Frenchy's Cove, it is unlikely the options presented in the petition would result in measurable, biologically meaningful benefits to eelgrass beyond what the Special Closure and brown pelican fledgling area currently provide.

CDFW will continue to work with tribes and other partners to identify priorities and critical data gaps to fill to better inform management actions to benefit eelgrass at this location and statewide.

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 eelgrass.

QUESTION 7A: WAS THE PROPOSED CHANGE CONSIDERED DURING THE MLPA INITIATIVE PLANNING PROCESS OR THE IMPLEMENTATION PROCESS OF MPAS AROUND THE NORTHERN CHANNEL ISLANDS?

No. Before the Northern Channel Islands MPA planning process, protections in this area were already in place in the form of an ecological reserve. During the Northern Channel Islands MPA planning process, the Anacapa Island Special Closure was intentionally designed to retain the existing regulations of the ecological reserve at the time and to serve a targeted conservation purpose beyond the broader protection of the MPA Network (MRWG n.d.). The Anacapa Island Special Closure, which prohibits setting nets and traps within 20 feet of shore around the island, was established primarily to protect feeding and roosting seabirds, including the California brown pelican.

Subsequently, during the MLPA Initiative planning process in the South Coast Region (MLPA 2009), and following CFGC guidance, this Special Closure was left unchanged.

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. DMR Recommendation 18 identifies the need to develop a framework to evaluate appropriate restoration and mitigation actions within MPAs, which could include eelgrass habitats that have been affected by anthropogenic and environmental factors. However, Recommendation 18 also stresses the need to align regional restoration and mitigation actions with a statewide framework, which has not yet been developed.

While our knowledge regarding the success of eelgrass restoration and the effects of climate change on eelgrass species has advanced since the implementation of the Northern Channel Islands MPAs (Ward and Beheshti 2023), there is a need for more recent eelgrass survey data around the islands, including Frenchy's Cove. CDFW recommends continued research and monitoring of eelgrass and the factors that could affect its persistence at Frenchy's Cove. Such efforts are more likely to inform appropriate management and restoration measures and have greater potential to be more effective in addressing the petitioner's stated problem than amending MPA regulations for the Anacapa Island SMCA or Special Closure.

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 options do not align with the original intent of the Anacapa Island SMCA or Special Closure, which combined were intended to provide habitat protection for feeding and nesting birds, while allowing some level of recreational and commercial take, including the take of lobster, to continue.

The original intent of the Anacapa Island Special Closure, which prohibits the setting of nets or traps in waters less than 20 feet around the island, was to decrease entanglement risk for birds feeding near roosting grounds on the island. The original intent of the seasonal brown pelican fledgling area (Jan. 1-Oct. 31) within the Anacapa Island Special Closure and larger Anacapa Island SMCA was to provide protection from human disturbance to an important brown pelican rookery area when juvenile brown pelicans are fledging from their nesting sites. Although the original intent of the Special

Closure was not to protect eelgrass meadows, it offers protection to eelgrass in the shallow waters around Anacapa Island during the closure.

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.

Take of lobster and pelagic finfish are currently allowed in Anacapa Island SMCA, both of which are Moderate-low LOP activities. Under all three proposed options to protect eelgrass meadows, pelagic finfish take would remain allowed, meaning the level of protection would not increase. Since none of the options would increase the size or level of protection of the SMCA, implementation would not improve the design of the individual MPA or the MPA Network, nor would it enhance alignment with the MLPA Science Guidelines, and thus, does not warrant a change. See Question 9 of Attachment 1 for the MPA Science Guidelines and additional context.

QUESTION 10A: DOES THE PROPOSED CHANGE ALIGN WITH CDFW FEASIBILITY GUIDELINES?

Option 1 (change Anacapa Island SMCA regulations to disallow commercial lobster fishing year-round):

Yes. This proposed change aligns with the Feasibility Guidelines, as it does not intend to change the spatial design of the MPA and simplifies the take regulations.

Option 2 (change Anacapa Island SMCA regulations to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows):

No. The proposed change aligns with the Feasibility Guidelines, with the exception that it deviates from the MPA design guidance under “Multiple Zoning” to “avoid having areas split to allow for different uses in different portions of an MPA.” Furthermore, prohibiting the use of specific gear types near eelgrass meadows is not enforceable because the presence of eelgrass meadows can be highly variable and change over time.

Option 3 (change the border of Anacapa Island Special Closure, prohibiting the deployment of lobster traps from 0–30 meters (0–98.43 feet) instead of the existing 0–20 ft (0–6.1 meters) deep):

No. The proposed change does not align with the purpose of a special closure designation, which was intended during the MLPA Initiative planning process to be utilized to protect breeding seabirds and marine mammal populations from human disturbance. The Feasibility Guidelines advise that special closure restrictions should not be directly related to take of living marine resources, such as eelgrass. See Question 10a of Attachment 1 for 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 options and CDFW has not identified a feasible alternative that would meet the intent of the proposed options but better align with the Feasibility Guidelines.

QUESTION 11: DOES THE PROPOSED CHANGE MAINTAIN OR IMPROVE ENFORCEABILITY OF MPA REGULATIONS?

Option 1 (change Anacapa Island SMCA regulations to disallow commercial lobster year-round):

Yes. The proposed action (i.e., disallowing the commercial take of lobster but retaining the recreational take allowance) has potential to increase enforceability by removing a method of take.

Option 2 (change Anacapa Island SMCA regulations to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows):

No. The proposed action (i.e., change SMCA regulations to disallow hard bottomed fishing gear (including anchoring if applicable) near eelgrass meadows) is not enforceable as proposed. The location and extent of eelgrass meadows are not stationary and without specific boundaries, this option does not meet CDFW Feasibility Guidelines.

Option 3 (change the border of the Anacapa Island Special Closure, prohibiting the deployment of lobster traps from 0–30 meters (0–98.43 feet) instead of the existing 0–20 ft deep):

No. The proposed action (i.e., extend the existing [Anacapa Island Special Closure] prohibition of deployment of lobster traps less than 20 feet deep to apply out to 30 meters (0-98.43 feet)) would not meet CDFW Feasibility Guidelines, as depth contour boundaries are traditionally difficult to enforce.

QUESTION 12: DOES THE PROPOSED CHANGE SIMPLIFY REGULATORY LANGUAGE OR ENHANCE PUBLIC UNDERSTANDING WITHOUT CHANGING THE INTENT OF THE MPA?

No. The intent of the proposed change is not to simplify the regulatory language or enhance public understanding. However, the proposed change would change the intent of the MPA and have potential to make the regulatory language more complex. The existing regulations for Anacapa Island are already complex, and Options 2 and 3 would further complicate the regulations.

QUESTION 13: DOES THE PROPOSED CHANGE MAINTAIN OR ENHANCE PROTECTION OF MARINE RESOURCES?

Yes. Option 1 (prohibiting commercial lobster fishing) may confer some extra protection for California spiny lobster, but none of the options are likely to offer meaningful protection to eelgrass as the proposal intends.

Although there is potential for impacts from bottom contact fishing gear and anchoring to occur in Frenchy's Cove during the two-month window when fishing is allowed in the brown pelican fledgling area, it is likely there are other factors, including the 2014-2016 MHW, and site-specific attributes such as temperature, currents, and suitable substrate to sustain eelgrass, that are contributing to the lack of recovery of eelgrass in Frenchy's Cove. Thus, prohibiting commercial lobster fishing in the Anacapa Island SMCA year-round (Option 1) is unlikely to enhance protection of eelgrass within Frenchy's Cove.

Additionally, although the deepest observations of persistent eelgrass meadows around Anacapa Island have occurred at a maximum depth of about 45 feet (13.7 meters) (Engle and Miller 2005, Alstatt 2014, 2021, Sherman and DeBruyckere 2018), eelgrass typically occurs within shallower depths of 0 to 20 feet (0-6 meters) (Engle and Miller 2005, Sherman and DeBruyckere 2018). Given the brown pelican fledgling area currently offers protection to eelgrass at Frenchy's Cove within the 120 foot (~36.5 meters) depth limit for 10 months out of the year and within the 20 foot (~6 meters) depth year round, it is unlikely that extending the island-wide Special Closure boundary to 98 feet (~30 meters) would provide measurable benefits or protection to any remaining eelgrass in Frenchy's Cove beyond what the Special Closure and brown pelican fledgling area currently provide.

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. Significant impacts to the commercial lobster fishery would be expected. The affected MPA overlaps with CDFW fishing block 684, and commercial landings data indicate this fishing block is highly valuable to the commercial California spiny lobster fleet (Fig. 2).

Given the proposed change is not expected to provide measurable benefits or enhanced protection to any remaining eelgrass in Frenchy's Cove, it would unnecessarily restrict an important fishing ground that was carefully contemplated and deliberated during Northern Channel Islands MPA planning and implementation.

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 boat-based fishing participants homeported in the coastal fishing communities of:

- Channel Islands Harbor (Oxnard) (~15 nautical miles (nm) away from area of proposed change),
- Ventura Harbor (~10 nm away from area of proposed change), and/or
- Santa Barbara (~25 nm away from area of proposed change).

The three options proposed by the petitioner would have differing impacts on fishing in this area. It is unclear to what degree it would constrain access for the commercial lobster fleet homeported in the Santa Barbara fishing community, where the commercial lobster trapping fleet represents the second-highest valued homeported fishery.

QUESTION 18: DOES THE PROPOSED CHANGE INTERACT WITH OR HAVE THE POTENTIAL TO AFFECT PROPOSED CHANGES IN OTHER 2023 MPA PETITIONS?

Yes. This petition has the potential to interact with proposed changes in petition 2023-18MPA (proposed actions_6, 7) that aim to reduce the size of the brown pelican fledgling area within the Anacapa Island Special Closure to allow year-round boat access to Frenchy's Cove and to consider abolishing the Anacapa Island Special Closure around the full extent of the island.

This petition also has the potential to interact with petition 2023-14MPA (proposed action_6), which aims to allow commercial take of urchin in the Anacapa Island SMCA.

V. SUPPLEMENTAL ANALYSES, DATA AND INFORMATION, AND CITATIONS

TABLES AND FIGURES

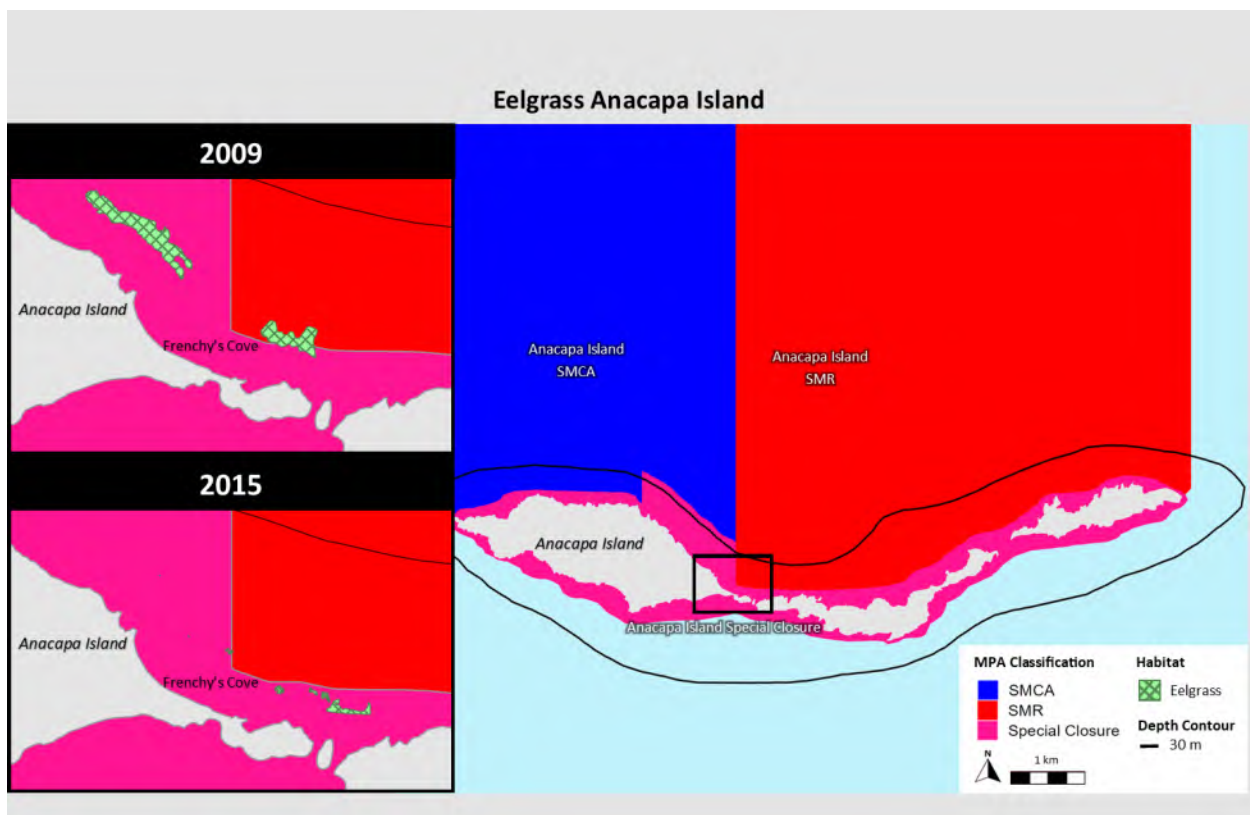


Figure 1. Eelgrass habitat maps in Frenchy's Cove on Anacapa Island, Northern Channel Islands in 2009 and 2015. These are the most recent years that coordinated eelgrass mapping surveys occurred around Anacapa Island. Eelgrass extent is depicted in green crosshatching. The Anacapa Island SMCA (blue) and SMR (red) do extend to the mean

high tide line, however, overlap with the full island Special Closure (out to 20 foot depth) and the seasonal brown pelican fledgling Special Closure in Frenchy's Cove that extends out to 120 foot depth annually January 1-October 31 (Special Closures shown in pink).

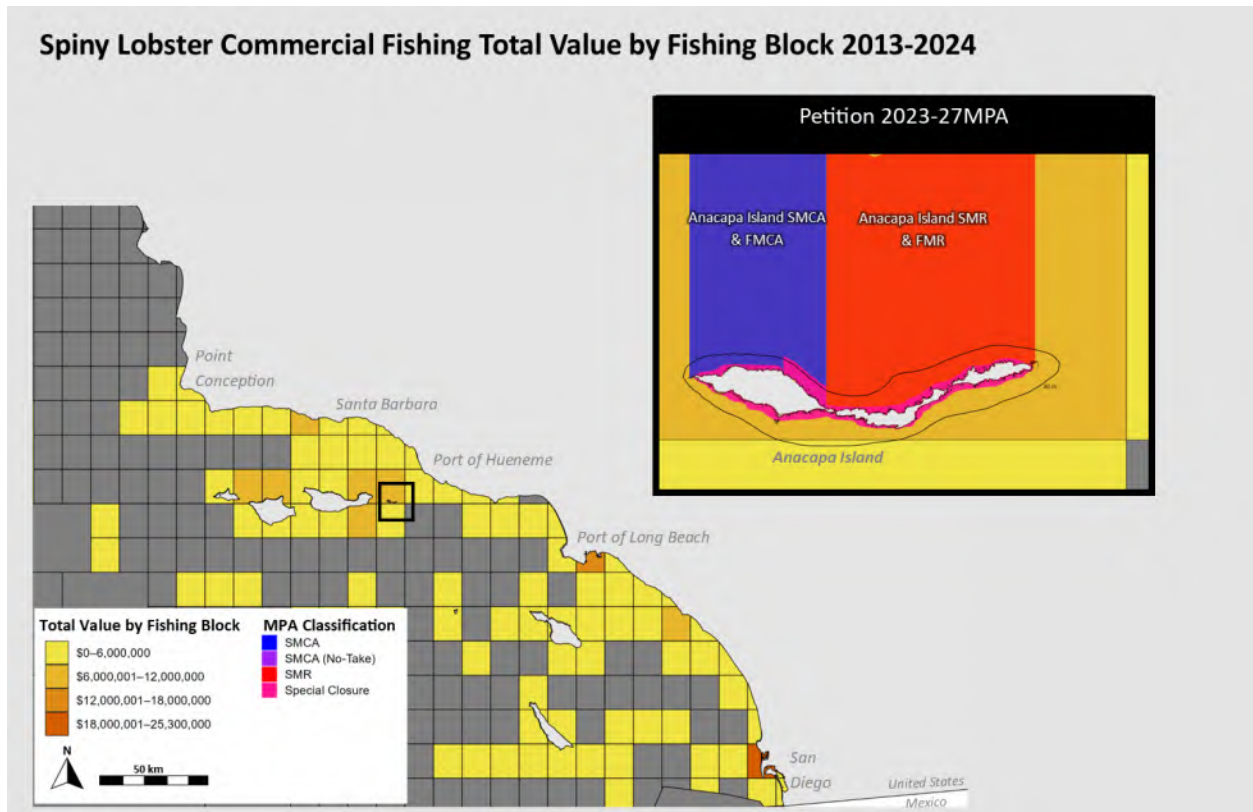


Figure 2. Total value (in millions \$US) of commercially caught California spiny lobster (*Panulirus interruptus*) from 2013 to 2024 by California Department of Fish and Wildlife fishing block for the South Coast Bioregion. Actual value provided within fishing blocks that overlap with Anacapa Island SMCA and Special Closures, and the area referenced in petition 2023-27MPA.

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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 (CFGF) on March 20¹, 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 CFGF. 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 CFGF.

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 Plan² and key recommendations from the Decadal Management Review³.

Overall, **OPC's petition recommendations are rooted in a precautionary approach.** The 2026 California Coast and Ocean Report⁴, 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-

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, 2023-18MPA⁵, and 2023-23MPA_AM⁶). 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 Network⁷ 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

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 Plan⁸ and the California Natural Resources Agency's recently released Tribal Stewardship Policy⁹, 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_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
2023-27MPA_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 access¹⁰ and on advancing CFGC's Justice, Equity, Diversity, and Inclusion Policy¹¹ have been initially assessed via a joint effort between OPC and CDFW¹²; 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 Plan¹³.

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 SMCA¹⁴ and Point Buchon SMR¹⁵. As amended by the tribe at the April 14, 2026 meeting of CFGC's Tribal Committee¹⁶, 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 Coast¹⁷ 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

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 meeting¹⁹, 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 Committee²⁰, 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 Committee²¹, 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.

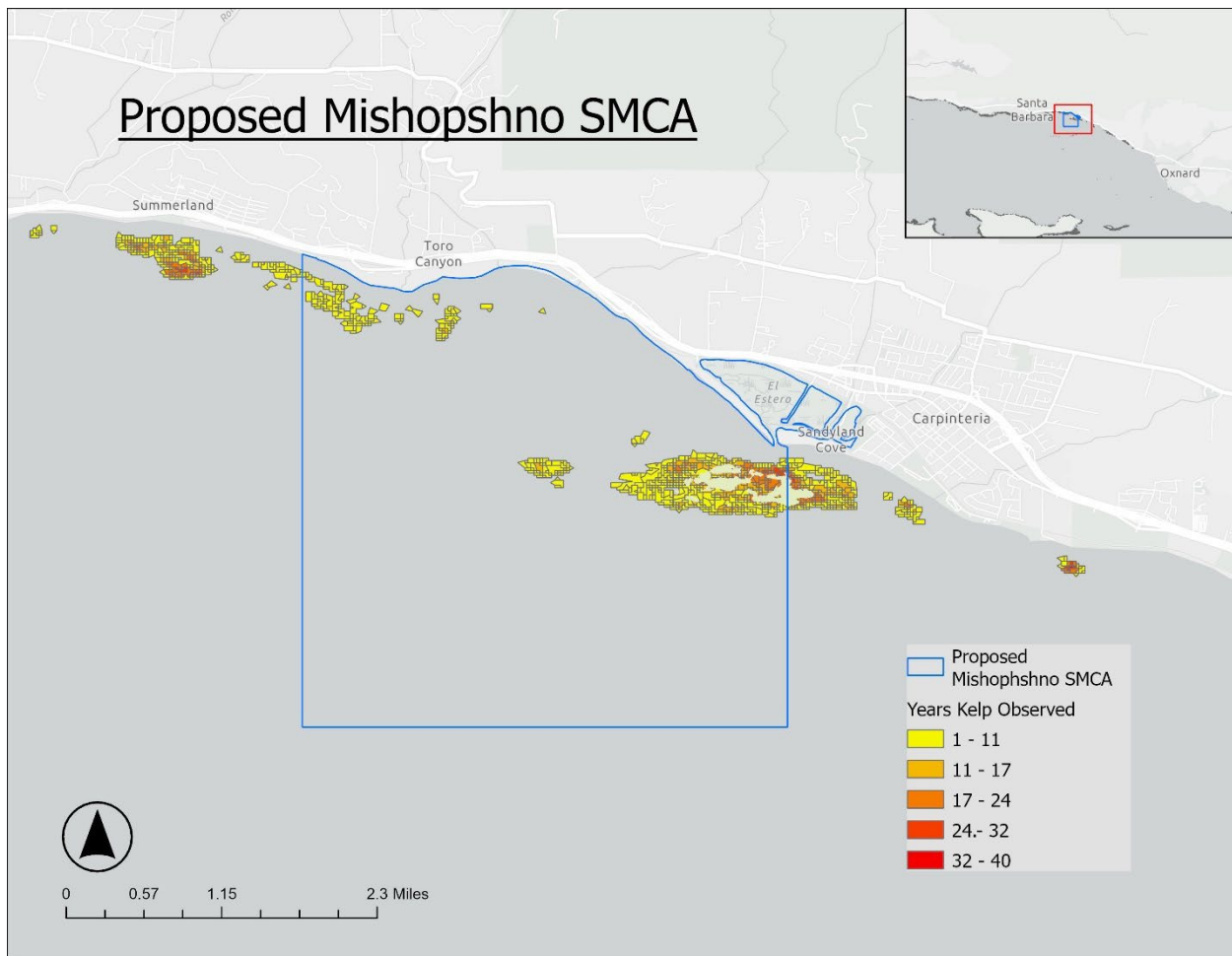


Figure 1. The proposed new Mishopshno SMCA. Satellite monitoring of kelp canopy cover via Landsat from 1984-2023 shows a persistent kelp forest at Carpinteria Reef near the proposed eastern boundary of the SMCA.

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 meeting²², 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 Arafah-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.

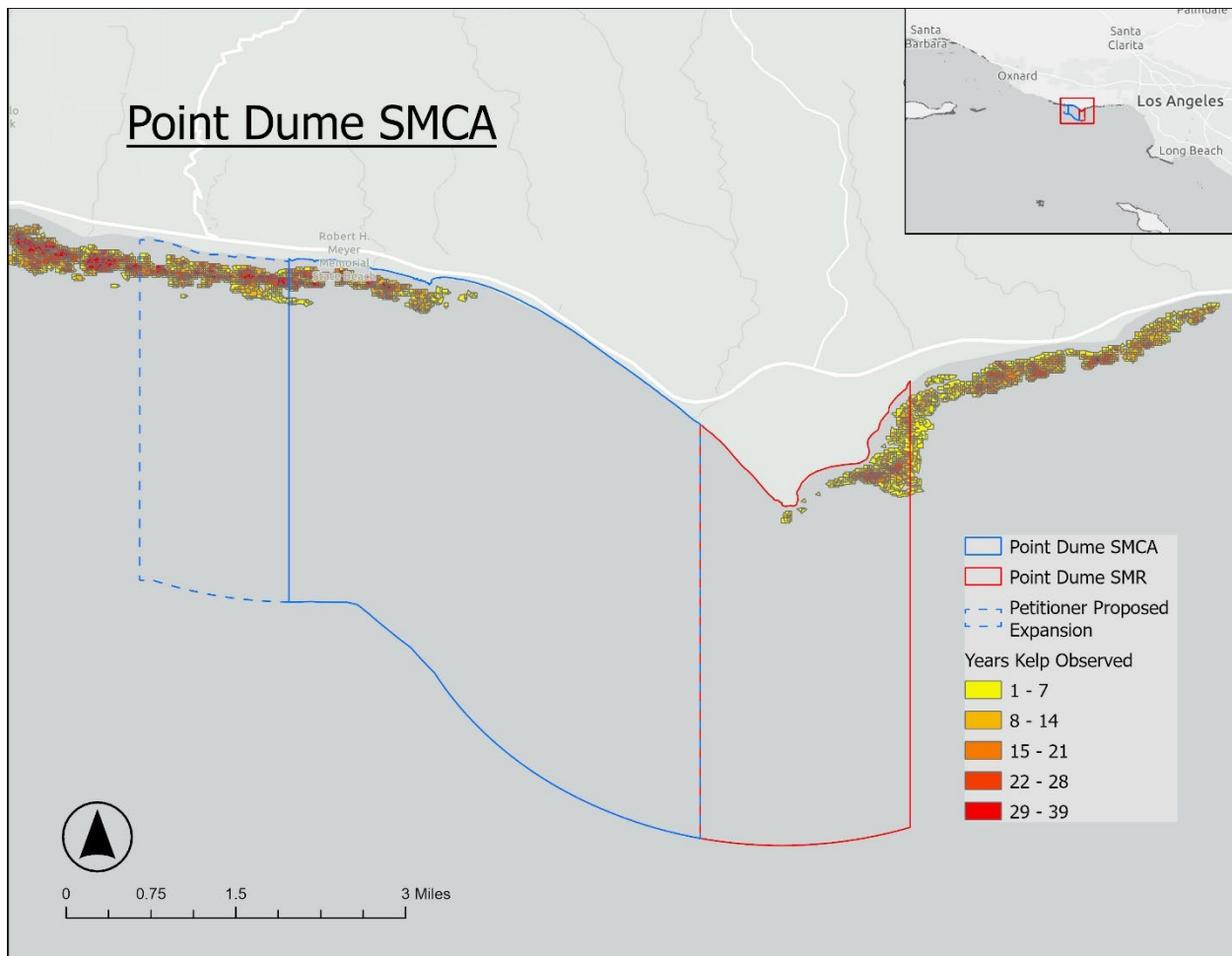


Figure 2. Point Dume SMCA and SMR, with petitioners' proposed expansion of Point Dume SMCA shown.

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).

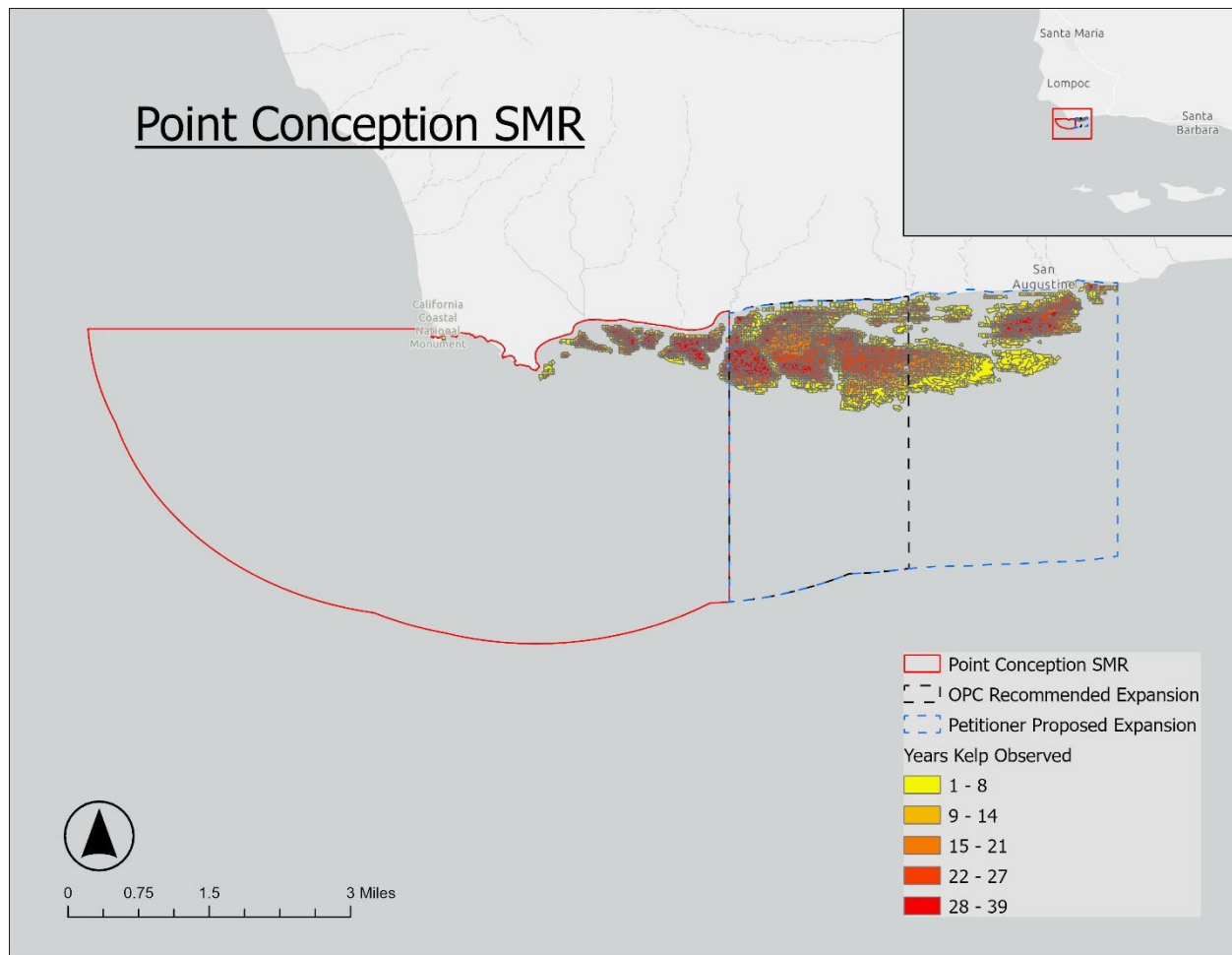


Figure 3. Point Conception SMR with petitioners' proposed expansion (blue dotted line) and OPC's recommended expansion (black dotted line) shown. OPC's recommended expansion encompasses much of the persistent kelp immediately adjacent to Point Conception SMR.

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 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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September 30, 2026

President Eric Sklar
California Fish and Game Commission
715 P Street, 16th Floor
Sacramento, CA 95814

Dear President Sklar and Honorable Commissioners:

We are writing to respectfully request your full and fair consideration of the proposals to strengthen California's Marine Protected Area (MPA) network, with particular attention to the recommendations provided by the Ocean Protection Council (OPC). Specifically, we appreciate the Commission's consideration of proposals affecting the Central Coast, including Point Sal (Petition 2023-28MPA), Mishopshno (Petition 2023-29MPA), Point Conception (Petition 2023-33MPA), and Anacapa Island (Petition 2023-27MPA).

California's MPA network is a cornerstone of our state's approach to ocean stewardship. When thoughtfully designed, MPAs protect biodiversity, strengthen ecosystem resilience, and support the long-term sustainability of our fisheries and coastal economy. Through California's 30x30 initiative, the state has committed to conserving 30 percent of its lands and coastal waters by 2030. Meaningful progress toward this goal will require opportunities to add effective protections that conserve biodiversity and strengthen the resilience of California's coastal waters, and the current MPA review provides an important opportunity to evaluate these objectives as part of the state's broader 30x30 efforts.

We also appreciate the Commission's ongoing efforts, through public hearings and engagement throughout the state, to hear from Tribal communities and consider opportunities for meaningful Tribal co-management and stewardship. The proposed Point Sal and Mishopshno State Marine Conservation Areas are particularly relevant to this ongoing conversation, providing an opportunity to consider Tribal stewardship alongside the ecological and conservation objectives of the MPA network.

At the same time, decisions regarding the MPA network have real impacts on coastal communities. Commercial and recreational fisheries remain an important part of the Central Coast's economy and heritage, and the perspectives of those whose livelihoods depend on these waters deserve continued consideration. California has invested decades in building a scientifically designed MPA network, and durable conservation outcomes depend on sound science, meaningful collaboration, and public trust.

For these reasons, we respectfully request your full and fair consideration of the proposals discussed above, including OPC's recommendations to strengthen California's MPA network. We appreciate the Commission's continued work to steward California's MPA network for future generations.

Sincerely,

Gregg Hart
Assemblymember
37th Assembly District

Monique Limón
Senate President pro Tempore
19th Senate District



Outlook

Heal the Ocean Comment - MPA Petitions 2023-27 and 2023-29

From Noah Boland [REDACTED]

Date Wed 09/30/2026 03:43 PM

To FGC <FGC@fgc.ca.gov>; Karina Johnston [REDACTED]

Dear California Fish and Game Commission Staff,

Please distribute to the Commissioners the attached public comment regarding MPA Petitions 2023-27 and 2023-29 for the October 2026 Commission Meeting. Thank you!

Kind regards,

Noah Boland

--

Noah Boland | *Programs Manager*

Heal the Ocean

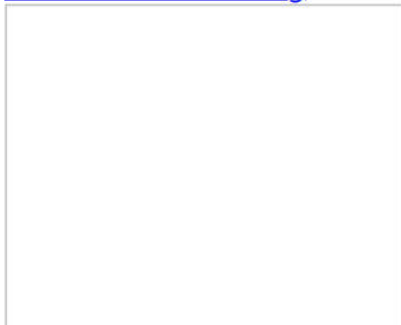
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29 September 2026

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

Re: MPA Petitions 2023-27 and 2023-29

Dear Honored Commissioners,

Heal the Ocean (HTO) is writing to express our support of Petition 2023-27 to modify the Anacapa Island State Marine Conservation Area (SMCA) petitioned by Environmental Defense Center and Petition 2023-29 to establish the Mishopshno SMCA petitioned by the Santa Ynez Band of Chumash Indians, Natural Resources Defense Council, and Environmental Defense Center. HTO is a 501(c)3 non-profit environmental organization that focuses on reducing ocean pollution and providing science-based solutions to improve the health of our oceans and resilience of our coasts to benefit people and wildlife. We represent thousands of stakeholders in Santa Barbara County, and our methods serve as models for other coastal communities across the country.

The Anacapa Island petition (2023-27) will improve protection for restored eelgrass meadows from the impact of commercial lobster traps, conserving an important and rare habitat that is increasingly diminished and impacted by human activities. Eelgrass is critically important for marine biodiversity (Kindeberg et al. 2022) and has declined substantially statewide since the 1950s (Waycott et al. 2009, Harris et al. 2026). 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. HTO supports the science-based recommendations to the Commission made by California Ocean Protection Council (OPC) regarding this petition to modify the regulations at Anacapa Island SMCA to prohibit the deployment of lobster traps shallower than 50 feet. These adjustments will also improve the current MPA network via adaptive management as directed by the Marine Life Protection Act.

The proposed Mishopshno SMCA designation near Carpinteria, California, located approximately twelve miles southeast of Santa Barbara, would protect key nearshore ecosystems

in the Santa Barbara Channel, including a portion of Carpinteria Reef. HTO supports OPC's recommendation of approval, which is based on a thorough and detailed analysis of scientific evidence that is more robust than the analysis completed by the California Department of Fish and Wildlife (CDFW). OPC's report also contained input from several scientists that were part of the MPA Scientific Advisory Committee and highlights the crucial benefits of this SMCA.

The proposed 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).
- Provide new protection for a portion of Carpinteria Reef, a shallow kelp forest and rocky reef ecosystem that is home to a diversity of important marine fishes and invertebrates such as lingcod, California sheephead, kelp bass, both red and purple sea urchins (Levenbach 2008, Carr et al. 2017), and juvenile great white sharks. Perhaps equally as important, this reef encompasses one of the most stable kelp forests in the Santa Barbara Channel despite intense marine heat waves and provides vital biodiversity support.
- Strengthen connectivity between the Campus Point No-Take SMCA to the west and Point Dume SMCA to the southeast, which currently represents a distance of 60 miles (SeaSketch California 2026) between the boundaries. This distance is very near the upper limit of the recommended *minimum* spacing guidelines (31-62 miles for most ecologically and economically important groundfish and invertebrate species) and is the largest distance between MPAs in the entire Network.
- Buffer against future climate impacts on marine connectivity, and strengthen overall resilience in the Santa Barbara Channel.

We disagree with CDFW's recommendation to deny the approval of the Mishopshno SMCA and instead designate it as a State Marine Cultural Preservation Area (SMCPA). This suggestion undermines the core intents of the Petition, which are to provide robust ecological protections necessary to safeguard the region's unique biodiversity and to establish a formal California-Chumash co-management framework to restore indigenous ocean stewardship and manage ecosystem resilience together. 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.

We urge the Commission to approve Anacapa Island Petition 2023-27 (with the OPC recommendations) and approve Mishopshno SMCA Petition 2023-29.

Thank you for your time and consideration of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Karina Johnston". The signature is fluid and cursive, with the first name "Karina" and last name "Johnston" clearly distinguishable.

Karina Johnston
Executive Director, Heal the Ocean
www.healtheocean.org
karina@healtheocean.org

A handwritten signature in black ink, appearing to read "Noah Boland". The signature is cursive and somewhat stylized, with the first name "Noah" and last name "Boland" clearly distinguishable.

Noah Boland
Programs Manager, Heal the Ocean
www.healtheocean.org
noah@healtheocean.org

RE OCTOBER 16 item number 36. Petition 2023-18MPA and Petition 2023-27MPA

From VENTURA COUNTY COMMERCIAL FISHERMEN'S ASSOCIATION [REDACTED]

Date Wed 09/30/2026 09:35 AM

To FGC <FGC@fgc.ca.gov>

RE OCTOBER 16 item number 36. Petition 2023-18MPA and Petition 2023-27MPA (A) Petition 2023-18MPA (San Miguel Island Special Closure and Anacapa Island Special Closure) Request to remove San Miguel Island Special Closure; remove the area of Frenchy's Cove from the brown pelican Anacapa Island Special Closure, and consider removing the 20-foot net-and-trap depth closure at Anacapa Island Special Closure. (B) Petition 2023-27MPA (Anacapa Island SMCA) Request to modify Anacapa Island SMCA or Anacapa Island Special Closure to protect eelgrass meadows through one of three options related to disallowing deployment of lobster traps in part or all of the SMCA or increasing the special closure depth restriction.

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
1237 S. Victoria Ave #284
Oxnard, CA 93035

[REDACTED]
[REDACTED]

September 30, 2026

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

RE: Opposition to Petition 2023-27MPA_AM1 – Anacapa Island SMCA

Dear President Sklar and Commissioners:

The Ventura County Commercial Fishermen's Association (VCCFA) previously submitted written opposition to Petition 2023-27MPA concerning proposed additional restrictions within the Anacapa Island State Marine Conservation Area (SMCA). VCCFA continues to oppose the petition as amended.

VCCFA recognizes the ecological importance of eelgrass habitat and supports reasonable, scientifically supported measures necessary to protect sensitive marine habitat. Our concern is whether the proposed restrictions on commercial lobster fishing and lobster-trap deployment have been sufficiently demonstrated to be necessary and appropriately targeted, and whether the consequences of displacing that fishing activity have been adequately evaluated.

The amended petition presents three potential regulatory approaches: prohibiting commercial lobster fishing throughout Anacapa Island SMCA year-round; prohibiting hard-bottomed fishing gear near eelgrass habitat; or extending the existing lobster-trap restriction within the Anacapa Island Special Closure farther offshore.

These alternatives differ substantially in their effects upon fishermen and should not be treated as interchangeable.

A year-round prohibition on commercial lobster fishing throughout Anacapa Island SMCA would impose the broadest restriction and remove an existing commercial fishing opportunity well beyond the specific footprint of eelgrass habitat. A more geographically targeted restriction would have substantially different consequences.

VCCFA believes that distinction is critical.

If the management objective is protection of eelgrass from physical interaction with lobster traps or other hard-bottomed gear, any regulatory response should be narrowly tailored to the demonstrated location and nature of that impact rather than unnecessarily eliminating commercial lobster fishing throughout the entire SMCA.

CDFW's evaluation of this petition should therefore be considered not simply as a question of whether eelgrass deserves protection—it clearly does—but whether the available evidence demonstrates that each proposed restriction is necessary, appropriately scaled, and likely to address the identified cause of habitat damage.

VCCFA's April 21, 2026 comment also raised a second issue that remains central to our position: **fishing effort does not disappear when access is removed—it is displaced.**

Commercial lobster fishing at Anacapa Island is part of a larger interconnected fishery operating throughout the Northern Channel Islands and mainland waters. Restricting productive lobster grounds at Anacapa can redistribute traps and fishing activity into other areas already utilized by commercial fishermen. Our previous comment identified the resulting potential for increased competition, crowding, gear conflicts, higher operating costs, and increased localized pressure on remaining open fishing grounds.

The central question therefore remains:

Where will the displaced lobster fishing effort go?

And equally important:

What happens to the remaining open fishing grounds when that displaced effort arrives?

Before eliminating or materially restricting an existing commercial lobster fishing area, VCCFA believes the Commission should have sufficient information to determine how much fishing activity presently occurs within the affected area, how much activity would be displaced under each regulatory alternative, where those traps and fishermen are reasonably likely to relocate, how much lobster fishing activity already occurs within those receiving areas, and what ecological, economic, operational, and fisheries-management consequences would result from that redistribution.

This question is especially important at Anacapa Island because the effects do not stop at the boundaries of this particular SMCA. Commercial fishermen operating from Channel Islands Harbor, Ventura Harbor, Santa Barbara, and elsewhere rely upon an interconnected system of Channel Islands fishing grounds.

VCCFA is particularly concerned about evaluating Petition 2023-27MPA in combination with other petitions presently before the Commission that seek additional restrictions within the Northern Channel Islands and Santa Barbara Channel.

Each proposed restriction may appear limited when viewed individually. Collectively, however, additional closures can progressively compress fishing activity into a smaller amount of available fishing territory.

That cumulative displacement deserves meaningful evaluation before additional access is removed.

VCCFA also believes there is an important management distinction between protecting a specifically identified eelgrass meadow from demonstrated physical impacts and broadly prohibiting a fishery throughout an existing SMCA.

If sufficient evidence demonstrates that lobster traps are directly damaging a particular eelgrass meadow, VCCFA supports working with fishermen, CDFW, researchers, and other stakeholders to develop the least restrictive effective measure for protecting that habitat. That could include consideration of narrowly targeted gear-placement restrictions, clearly defined habitat buffers, improved mapping, marking or education, or other measures supported by the evidence.

What VCCFA does not support is using protection of a localized habitat feature as justification for a broader fishing closure than the evidence demonstrates is necessary.

The Commission's adaptive-management process should seek solutions proportionate to the identified problem. Protection of sensitive habitat and continued commercial fishing do not have to be mutually exclusive where a targeted management approach can reasonably accomplish both objectives.

For these reasons, VCCFA continues to **oppose Petition 2023-27MPA_AM1 as a basis for broadly eliminating commercial lobster fishing within Anacapa Island SMCA.**

VCCFA respectfully requests that the Commission decline any broad closure unless the record demonstrates that such a restriction is necessary and that less restrictive alternatives would be insufficient. If additional protection of a specifically identified eelgrass meadow is demonstrated to be necessary, VCCFA encourages the Commission to pursue the most geographically targeted and least disruptive effective alternative, developed with meaningful participation from the commercial lobster fishermen who operate in this area.

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 a sufficiently complete record before additional fishing access is removed.

Respectfully submitted,



Dave Colker
Executive Director
Ventura County Commercial Fishermen's Association (VCCFA)

Ventura County Commercial Fishermen's Association

1237 S. Victoria Ave #284
Oxnard, CA 93035



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

September 30, 2026

RE: General Written Comment Regarding 2023 Marine Protected Area Petitions

Dear President Sklar and Commissioners:

The Ventura County Commercial Fishermen's Association (VCCFA) represents California commercial fishermen and fishing-industry stakeholders associated with Ventura County's three commercial fishing ports and landing harbors: Port Hueneme, Channel Islands Harbor, and Ventura Harbor. VCCFA currently has 85 members and works to support the continued viability of commercial fishing, working waterfronts, local seafood production, and the fishing communities that depend upon them.

VCCFA recognizes the substantial undertaking involved in conducting the first major review and potential modification of California's Marine Protected Area (MPA) Network following the Decadal Management Review. We particularly appreciate the regional meetings and workshop-style opportunities that were presented throughout this process.

It is precisely because these decisions are consequential that VCCFA believes deficiencies identified during this process should be addressed before final regulatory decisions are made.

VCCFA's Interest in the Statewide MPA Petitions

VCCFA's interest in this process extends beyond MPA petitions located immediately adjacent to Ventura County. Our members are California commercial fishermen who operate within a statewide system of fisheries and fishing grounds. Changes in fishing access in one part of California can have consequences for fishermen and fishing grounds elsewhere.

When productive fishing territory is removed from access, the fishing effort that previously occurred there does not necessarily disappear. Some portion of that effort may relocate to other open fishing grounds, including grounds already utilized by fishermen operating from Ventura County ports. For this reason, an MPA modification occurring elsewhere in California can have consequences extending beyond the immediate geographic area of the proposed closure.

VCCFA therefore has an interest in the evaluation of all 15 petitions, particularly those that would expand MPAs or otherwise reduce fishing access. Our participation is based not only upon the direct effects of petitions within or near our region, but also upon the potential statewide consequences of displaced fishing effort, reduced fishing territory, cumulative restrictions upon access, and the resulting effects upon California's commercial fishing communities and working waterfronts.

A Threshold Concern Before Final Decisions Are Made

VCCFA believes it is important to clearly identify, before final decisions are made, what we consider to be a significant deficiency in the information available for evaluating certain petitions that would expand MPAs and reduce fishing access.

Our concern is not that socioeconomic information is entirely absent from the record. Petitioners, the California Department of Fish and Wildlife (CDFW), the Ocean Protection Council (OPC), stakeholders, fishermen, and members of the public have provided varying amounts of socioeconomic, fisheries, and landings information.

The more fundamental question is whether the record for a particular petition provides a sufficiently complete analysis of the reasonably foreseeable consequences of removing fishing access.

Identifying that fishermen may lose access to a productive fishing ground answers only the first part of that question.

For purposes of evaluating an MPA expansion, VCCFA believes meaningful socioeconomic and spatial-displacement analysis should examine, to the extent reasonably ascertainable:

- commercial fishing activity occurring within the proposed closure;
- fishing effort and landings associated with that area;
- the amount of fishing effort reasonably expected to be displaced;
- where that displaced effort is reasonably expected to relocate;
- fishing effort and landings already occurring within likely receiving areas;
- the additional fishing pressure those receiving areas may experience; and
- the potential ecological, economic, productivity, and sustainability consequences of concentrating additional fishing effort within the remaining open grounds.

The absence of adequate analysis of these questions does not mean those consequences do not exist. It means those consequences have not yet been adequately evaluated.

VCCFA therefore strongly urges the Commission not to approve a petition expanding an MPA or otherwise reducing fishing access where the complete record does not provide sufficiently meaningful socioeconomic and spatial-displacement analysis. Such petitions should be denied or deferred until the reasonably foreseeable consequences have been adequately evaluated and incorporated into the record.

California's Own Adaptive-Management Framework Recognizes These Concerns

VCCFA's concern regarding displacement of fishing effort is not a new concept being introduced at the end of this process.

California's MPA management framework has long recognized the importance of ecological and socioeconomic information, human-use patterns, and fishing activity. The Decadal Management Review incorporated both ecological and socioeconomic information and identified continuing knowledge gaps relevant to adaptive management.

Importantly, California's regional MPA planning history also recognized the consequences of shifting fishing effort. Regional design considerations included the objective of preventing fishing-effort shifts that could result in serial depletion. Similar consideration of fishing-effort shifts appears across California's regional MPA planning history.

The current 2023 MPA petitions arose from the adaptive-management process following the first Decadal Management Review. VCCFA therefore believes it is appropriate to evaluate proposed MPA modifications using the broader perspective contemplated by that adaptive-management framework: not simply what may happen within a newly protected area, but what reasonably foreseeable consequences may occur outside its boundaries.

The Petition Process Did Not Require a Complete Displacement Analysis

The application process itself helps explain why important information may now be missing.

The 2023 MPA petitioners used the Commission's FGC-1 Petition for Regulation Change. The required portion of that form did not expressly require the detailed socioeconomic and spatial-displacement analysis described above. Economic or fiscal impacts appeared within the form's optional-information section.

Additional MPA-specific considerations were made available to prospective petitioners, but petitioners were encouraged rather than required to address that supplemental information.

Consequently, the petition process did not expressly require an applicant seeking to remove fishing access to answer fundamental questions such as: How much fishing activity currently occurs within the proposed closure? How much is reasonably expected to be displaced? Where is that effort likely to go? How much fishing activity already occurs there? What additional pressure could those receiving grounds experience? What are the reasonably foreseeable economic and ecological consequences?

CDFW subsequently conducted substantially more detailed technical evaluations of the petitions, and OPC separately provided analysis and recommendations. VCCFA recognizes the additional information those efforts have contributed to the record.

However, the existence of socioeconomic information does not by itself establish that the complete spatial-displacement question has been answered.

The Commission, as the ultimate regulatory decision-maker, should determine whether the

complete record for each petition provides sufficient information to answer those questions before approving additional restrictions.

The Evidentiary Burden Should Begin With the Petitioner

VCCFA does not believe the principal burden of filling these information gaps should fall upon affected fishermen, fishing organizations, CDFW, OPC, Commission staff, or taxpayers after a petition has already advanced toward regulatory action.

The party requesting a regulatory change that would remove fishing access should bear the principal burden of providing sufficient information to evaluate the reasonably foreseeable consequences of that change.

CDFW and OPC have important analytical and advisory roles, and the Commission remains responsible for evaluating the complete record and making the ultimate regulatory determination. But a petitioner requesting additional restrictions should provide sufficient information for the Commission and affected public to understand the likely consequences of the proposal.

If the petition requirements did not require information necessary for that evaluation, the resulting information gap should not be interpreted as evidence that the consequences are insignificant or nonexistent. It is a limitation of the information-development process that should be corrected before final regulatory action is taken.

Once a significant deficiency in the information necessary to evaluate a proposed regulatory change has been identified, completing the process should not take precedence over correcting that deficiency.

Where material information remains incomplete, the appropriate response is to obtain the missing information. The time reasonably necessary to develop an adequate record should take precedence over completing the present adaptive-management cycle according to a predetermined timetable.

Displacement Can Affect Remaining Open Fishing Grounds

MPA boundaries do not operate in isolation.

When fishing access is removed from productive fishing grounds, the fishing activity that previously occurred there does not necessarily disappear. Some portion of that effort may instead be displaced into other open fishing grounds, including areas already supporting existing commercial and recreational fishing activity. This redistribution can occur wherever affected fishermen are reasonably able to continue operating, and its consequences therefore may extend well beyond the boundaries of the proposed closure.

The ecological footprint of an MPA decision therefore cannot always be measured solely by the boundaries drawn on the map.

The point is not to predict with certainty where every fisherman will go. That is precisely why meaningful displacement analysis is necessary.

The central questions are:

Where will the displaced fishing effort go, how much additional pressure will receiving areas experience, and what are the ecological, economic, and operational consequences of that redistribution?

If productive fishing grounds are removed from access while fishing activity continues, some portion of that effort may become concentrated within a smaller amount of available fishing territory. The Commission should have sufficient information to evaluate how fishing activity and landings may shift, the additional pressure likely receiving grounds may experience, and the potential consequences for the productivity and sustainability of those remaining open areas.

Regulatory Displacement Can Create Secondary Management Consequences

The consequences of displacement may extend beyond the immediate effects upon fishermen.

Concentrating fishing effort into remaining areas may increase pressure upon those areas. If conditions subsequently change, future managers examining those fishing grounds should have a record that allows them to understand the regulatory decisions that may have contributed to changes in the geographic distribution of fishing activity.

Without that information, there is a risk of a regulatory cycle in which fishing grounds are closed, fishing effort shifts into remaining grounds, pressure becomes more concentrated within those grounds, and resulting conditions may later contribute to calls for additional restrictions.

VCCFA believes that possibility should be considered before approving additional closures—not years afterward.

Documenting reasonably foreseeable displacement before a regulatory decision is therefore important not only to today's fishermen, but also to future adaptive management. Managers examining conditions 10 or 20 years from now should be able to understand not only what areas were closed, but where displaced fishing activity was reasonably expected to go.

Economic Consequences Extend Throughout Working Waterfronts

The same distinction applies to economic impacts.

Identifying that a proposed closure may affect commercial fishermen does not, by itself, provide a meaningful assessment of the economic consequences to fishing communities.

Commercial fishing operates as an interconnected economic system. Vessel landings support vessel owners and crews, fish receivers and processors, dock and harbor operations, fuel and marine-service businesses, ice and gear suppliers, vessel maintenance and repair, transportation, seafood markets, restaurants, and employees whose livelihoods depend in varying degrees upon continued fishing activity.

A substantial reduction or redistribution of landings can therefore produce consequences extending beyond the vessels directly affected by a proposed closure.

California fisheries-management guidance recognizes the importance of considering direct effects upon fishermen together with broader effects upon employment, businesses, and fishing communities.

This is particularly important to working waterfronts such as Ventura Harbor. According to the Ventura Port District, between 2009 and 2023 Ventura Harbor averaged approximately 23 percent of California market-squid offloading, and nearly \$200 million in market squid was offloaded at Ventura Harbor during that period.

That production does not exist in an economic vacuum.

Meaningful economic analysis of a proposed closure affecting commercially productive fishing grounds should examine, where reasonably ascertainable, the production associated with those grounds; the vessels, fisheries, and ports dependent upon that production; potential changes or redistribution in landings and ex-vessel value; effects upon vessel owners and crews; effects upon receivers, processors, and employment; and reasonably foreseeable downstream effects upon supporting businesses and working-waterfront communities.

It should also consider an important question connecting economic consequences directly to spatial displacement:

Can displaced fishing activity reasonably maintain comparable production from the remaining accessible fishing grounds, and what are the economic and ecological consequences if it cannot?

Commercial fishermen produce food. Decisions reducing access to productive fishing grounds therefore implicate more than fishing opportunity. They can affect domestic seafood production, working-waterfront economies, and the availability of locally landed wild-caught seafood.

Cumulative Spatial Pressures Should Also Be Considered

Commercial fishermen operate within an ocean increasingly subject to competing spatial demands and restrictions, including aquaculture development, energy infrastructure and development, MPAs, and other ocean uses and management measures.

Each individual action may occupy only one portion of the ocean. The cumulative consequence to fishermen, however, can be substantially greater than the effect of any single action considered independently.

For that reason, evaluating an individual MPA expansion solely by the percentage of California waters remaining technically open to fishing can provide an incomplete picture. Not every acre of open ocean represents equivalent fishing opportunity, productivity, accessibility, habitat, seasonality, or economic value.

The more meaningful question is what productive fishing capacity may be affected and whether remaining accessible fishing grounds can reasonably accommodate displaced activity while continuing to support the fishermen, fisheries, and working waterfronts dependent upon that production.

Tribal Engagement, Process Design, and MPA Boundary Decisions

VCCFA recognizes the importance of meaningful engagement with California Native American Tribes and Tribal communities. Tribal knowledge, history, stewardship, and contemporary use are legitimate components of ocean management, and VCCFA supports constructive collaboration and appropriate co-management or cooperative-management frameworks.

Our concern is not Tribal participation itself, but rather ensuring that proposed MPA modifications—regardless of the identity of the petitioner—are evaluated using consistent, transparent, and sufficiently rigorous ecological, socioeconomic, and spatial-displacement standards.

The Decadal Management Review recognizes the importance of increased Tribal engagement, Indigenous knowledge, and meaningful opportunities for collaboration. VCCFA supports those objectives.

Regardless of who submits a petition, VCCFA believes the reasonably foreseeable consequences of the proposed regulatory change should be evaluated using a sufficiently complete record.

Learning From the First Major MPA Modification Process

This process provides California with an opportunity not only to decide the petitions presently before the Commission, but also to improve MPA adaptive-management processes going forward.

VCCFA believes **current and future MPA modification procedures should expressly require meaningful evaluation of:**

- existing commercial and recreational fishing activity within proposed closure areas;
- reasonably foreseeable displacement of that activity;
- likely receiving fishing grounds and existing activity within those areas;
- ecological and productivity consequences of concentrating additional effort;
- socioeconomic impacts upon fishermen, ports, processors, working waterfronts, and fishing communities;
- direct and downstream economic effects, including employment and supporting businesses;
- effects upon domestic and local seafood production;
- cumulative impacts from other spatial restrictions and competing ocean uses;
- relevant historical information concerning existing MPA design; and
- ecological effects occurring both inside proposed protected areas and in areas receiving displaced fishing effort.

California has invested considerable resources in building and monitoring its MPA Network. Decisions modifying that Network should therefore be based upon a record sufficiently complete to evaluate both the anticipated benefits and the reasonably foreseeable consequences of those modifications.

VCCFA respectfully asks the Commission to examine the complete record for each petition and not approve an expansion or additional restriction where meaningful socioeconomic, economic, and spatial-displacement analysis remains materially incomplete.

Where significant information gaps remain, the appropriate response is to obtain the missing information before acting.

The absence of adequate analysis does not mean those consequences do not exist. It means those consequences have not yet been adequately evaluated.

Respectfully submitted,



Dave Colker
Executive Director
Ventura County Commercial Fishermen's Association (VCCFA)

Comments re Oct FGC: 2023-27MPA Anacapa letter of Support

From Azsha Hudson [REDACTED]
Date Wed 09/30/2026 11:33 AM
To FGC <FGC@fgc.ca.gov>
Cc Maggie Hall [REDACTED] Lauren Partch
[REDACTED]

Hello,

Please see the attached letter for the October FGC meeting. Thank you!



environmental
DEFENSE CENTER

AZSHA HUDSON (she/her/hers)
MARINE CONSERVATION ANALYST & PROGRAM
MANAGER
906 Garden Street
Santa Barbara, CA 93101
o: 805.963.1622 X 105 c: 805.335.0962
www.EnvironmentalDefenseCenter.org



We recognize that EDC sits on occupied, unceded, stolen lands of the Chumash Peoples, on Shmuwich Territory, who have called this area home for time immemorial. We commit today to make space to elevate indigenous voices and support our local Chumash and indigenous communities in our work to protect our environment.

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September 30, 2026

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

Re: Fish and Game Commission Agenda Item 36(B): Support for Petition 2023-27MPA (Anacapa Island SMCA)

Dear President Sklar and Honorable Commissioners:

This comment letter is submitted by the Environmental Defense Center (EDC) regarding the California Fish and Game Commission's (FGC or "Commission") consideration of Petition 2023-27MPA_AM1 ("Anacapa Petition"). EDC is a nonprofit public interest environmental law firm dedicated to defending nature and advancing environmental justice on California's Central Coast through advocacy and legal action.

We would first like to thank the FGC and California Department of Fish and Wildlife (CDFW) for the work that has been put into managing California's Marine Protected Area (MPA) Network. We encourage the FGC to exercise its authority at the upcoming October 16, 2026 hearing on the Anacapa Petition by applying a sound interpretation of the Marine Life Protection Act's (MLPA) best-available-science and adaptive management standards.

Over the past decade, significant research has been conducted at Anacapa Island within the existing Anacapa State Marine Conservation Area (SMCA), as referenced in Petition 2023-27MPA, to better understand how policy protections can support eelgrass ecosystem recovery and safeguard this important habitat. This research demonstrates that lobster traps set in the Anacapa SMCA cause significant harm to eelgrass recovery efforts. The Anacapa Petition is not only compatible with the MLPA's goals but is specifically designed to achieve them.

I. The Anacapa Petition Is Consistent with the MLPA's Policies to Use Adaptive Management and Best Available Scientific Information in Managing the MPA Network.

The MLPA embeds adaptive management and using the best readily available scientific information as core obligations for MPA management in its statutory provisions, the MPA

Management Program, and the MPA Management Program’s foundational documents. The Commission should exercise its discretion at the upcoming October 16, 2026 hearing when deciding on the Anacapa Petition by applying a proper interpretation of the MLPA’s best available science and adaptive management standards.

A. Denying the Anacapa Petition Would Be Inconsistent with the MLPA’s Adaptive Management Policy.

Within the MLPA and the MPA Management Program, adaptive management is not merely aspirational—it is a core principle against which the Commission’s decisions on MPA petitions must be measured. The MLPA defines adaptive management as “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,” with an emphasis on “monitoring and evaluation . . . so that the interaction of different elements within marine systems may be better understood.” Cal. Fish & Game Code § 2852(a). The 2016 MPA Master Plan recognizes adaptive management’s “important role in resource management by providing a framework for responsive change in management measures based on current or emerging stressors.”¹

The Anacapa Petition proposes to modify the Anacapa SMCA to protect eelgrass habitat in the existing MPA. “Seagrass beds” are specifically identified in the MLPA as a key type of habitat to be represented within California’s MPAs. Cal. Fish & Game Code § 2856(a)(2)(A). The Anacapa Petition proposal—to restrict hard-bottomed object deployment to preserve eelgrass habitat—is founded on the monitoring and findings in the Alstatt scientific article, whose research on eelgrass habitat was conducted at Anacapa Island. Because the Alstatt study monitored and evaluated the performance of the eelgrass habitat and ecosystem within the existing Anacapa MPA itself, the study’s findings constitute the best available scientific information to inform how well the Anacapa MPA’s current conditions meet the MPA network’s goals. Using the Alstatt study’s findings to modify how the Anacapa SMCA is managed is directly in line with the MLPA’s policy of adaptive management. Disregarding the Alstatt study’s findings and denying the Anacapa petition would be inconsistent with the MLPA’s policy of managing the MPA network through adaptive management.

Furthermore, should the Commission fail to modify the Anacapa SMCA based on the Alstatt study’s findings, this would also be inconsistent with California’s general reliance on adaptive management for effective ecosystem management throughout the state. Indeed, adaptive management serves a foundational role not only within the MLPA, but in many other statutes directing natural resource conservation in California; these include, but are not limited to, statutes governing regional ecosystem protection, fishery management, and the Sacramento-San Joaquin Delta.² Adaptive management’s foundational role in California’s various environmental

¹ 2016 MPA Master Plan at 40 (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=133535&inline>).

² In the Natural Community Conservation Planning Act, performing adaptive management means “to use the results of new information gathered through the monitoring program of the plan and from other sources to adjust management strategies and practices to assist in providing for the conservation of covered species.” Cal. Fish & G. Code § 2805(a) (2016).

programs reveals that the state regards adaptive management's iterative decision-making based on emerging scientific information to be the gold standard for effective habitat and ecosystem management.

B. Denying the Anacapa Petition would be Inconsistent with the MLPA's Policy to Use the Best Available Scientific Information.

The MLPA requires the use of best-available science throughout its provisions governing MPA network management. *E.g.*, Cal. Fish & Game Code §§ 2851(a) (requiring the Commission's master plan guiding "decisions regarding the siting of new MPAs and major modifications of existing MPAs" be "based on the best readily available science"); 2856(a)(1) (requiring CDFW to "use the best readily available scientific information in preparing the master plan"); 2856(a)(2)(C) (requiring MPA network guidelines to "reflect the most up-to-date science"). The Anacapa Petition's proposal is founded on the findings of recent research conducted at the Anacapa MPA, thus reflecting the best available science for the area's habitats and affected species.

The Anacapa Petition is based on the findings of a scientific study conducted between 2016 and 2019 by Jessica Alstatt at Anacapa Island. That study investigated the health of eelgrass habitat in the area during that period, specifically regarding how the use of lobster fishing gear impacted eelgrass health and resiliency. In dive surveys conducted by Jessica Alstatt and her team from 2016 to 2019 at transplantation sites at Anacapa Island and other Channel Islands, Anacapa eelgrass sites had thirteen to fourteen species of fish recorded, except for Frenchy's Cove (which had no remaining eelgrass), which only reported six species.³ Similarly, the lowest densities of kelp bass were largely found at the sites with little to no eelgrass, and the lowest number of observed fish species was at the Frenchy's Cove restoration site over barren sand.⁴ These findings show that healthy eelgrass beds support increased fish

For marine fishery purposes, adaptive management "means a scientific policy that seeks to improve management of biological resources, particularly in areas of scientific uncertainty, by viewing program actions as tools for learning. Actions shall be designed so that even if they fail, they will provide useful information for future actions. Monitoring and evaluation shall be emphasized so that the interaction of different elements within the system can be better understood." Cal. Fish & G. Code § 90.1 (1998).

Wherever adaptive management appears in the Fish and Game Code and is not otherwise specified, it is defined as "management that improves the management of biological resources over time by using new information gathered through monitoring, evaluation, and other credible sources as they become available, and adjusts management strategies and practices to assist in meeting conservation and management goals. Under adaptive management, program actions are viewed as tools for learning to inform future actions." Cal. Fish & G. Code § 13.5 (2012).

Outside of the Fish and Game Code, adaptive management is defined within The Sacramento-San Joaquin Delta Reform Act of 2009 as "a framework and flexible decision-making process for ongoing knowledge acquisition, monitoring, and evaluation leading to continuous improvement in management planning and implementation of a project to achieve specified objectives." Cal. Water Code § 85052 (2010).

³ Jessica Alstatt (2021). *Island Eelgrass (Zostera pacifica): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities*

⁴ *Id.*

biodiversity and enhance marine life and function around Anacapa Island, and that a lack of eelgrass is correlated with diminished marine biodiversity and richness.

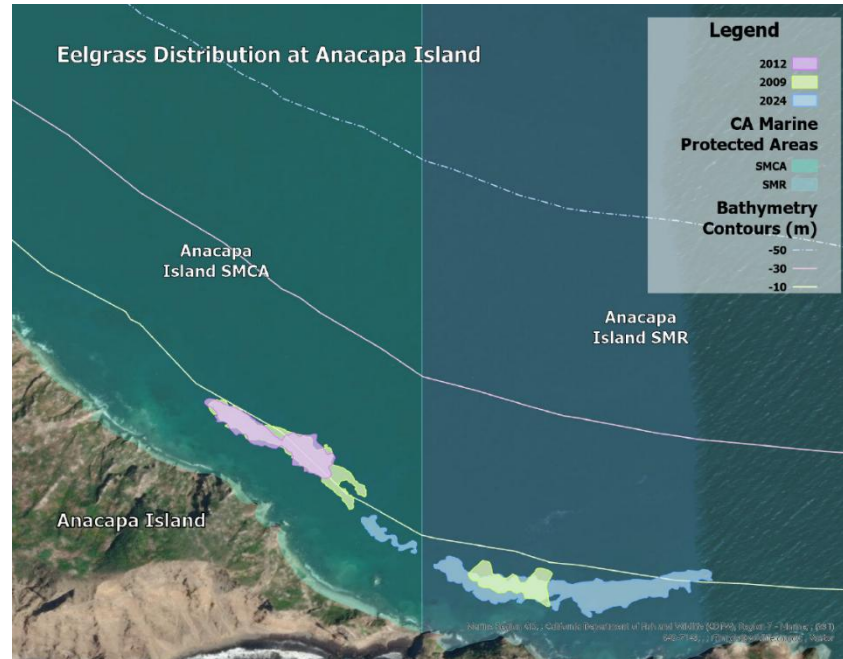


Figure 1. Eelgrass Distribution at Anacapa Island in 2009, 2012, and 2024.

Additional surveys shown in Figure 1 (above), reveal that the 2000s replantation efforts undertaken by Altstatt and her team have been negatively impacted in the SMCA as of 2024, while the eelgrass located within the SMR has grown and thrived. The two MPAs have dramatically different eelgrass distributions due to one main management difference: the SMCA, unlike the SMR, allows lobster traps to be used for two months each year. This two-month window allowing for bottom-contact fishing gear is the likely cause of such a significant decline in eelgrass habitat; indeed, research conducted at Anacapa Island points to lobster traps as the main transgressor at Frenchy's Cove within Anacapa SMCA.⁵ It is imperative that the Commission adaptively manage the Anacapa MPA and modify the regulations to protect eelgrass so that the small remaining amount can recover.

II. Conclusion

We would like to again thank FGC and CDFW for the work being put into managing California's MPA network. By approving the Anacapa Petition (2023-27MPA), the FGC will integrate the best available science into MPA policy; support the goals of the MLPA; advance federal and state policies advocating for the recovery and protection of eelgrass; and directly support the DMR's goal of adaptively managing MPAs based on findings from the past decade.

⁵ Jessica Altstatt (2021). Island Eelgrass (*Zostera pacifica*): Focused Assessment of Condition and Extent of Meadows and Biological Monitoring of Associated Fish and Invertebrate Communities

September 30, 2026

Fish and Game Commission Agenda Item 36B: Support for Petition 2023-27MPA (Anacapa Island SMCA)

Page 5 of 5

We urge the Commission to rely upon science in making the decision for all petitions and grant Petition 2023-27MPA.

Sincerely,

A handwritten signature in black ink, appearing to read 'Azsha Hudson'.

Azsha Hudson
Marine Conservation Analyst

A handwritten signature in black ink, appearing to read 'Lauren Partch'.

Lauren Partch
Staff Attorney & Environmental Justice Program Outreach Coordinator

A handwritten signature in black ink, appearing to read 'Maggie Hall'.

Maggie Hall
Deputy Chief Counsel

MPA petition

From Mikey Volaski
Date Sat 09/26/2026 04:20 PM
To FGC <FGC@fgc.ca.gov>

To: California Fish and Game Commission

Dear Commissioners,

I am writing to respectfully oppose the proposed changes to the Anacapa Island State Marine Conservation Area.

I have fished these waters for decades and have firsthand experience with Anacapa and the surrounding waters. I care deeply about the health of our marine environment and believe in responsible, sustainable fishing. I also believe that decisions restricting access to these waters should be based on strong, site-specific scientific evidence.

After reviewing the information supporting this proposal, I do not believe the evidence is sufficient to justify the additional restrictions being proposed. The scientific study cited in support of the measure identifies several possible causes of eelgrass decline and acknowledges limitations in the available research. It does not establish that lobster fishing is the cause of the decline or that the proposed restrictions are necessary to protect the habitat.

I respectfully ask the Commission to **reject the proposed measure** and maintain the existing regulations while additional, site-specific scientific information is gathered.

Thank you for considering the perspective of someone who has spent decades on these waters and cares deeply about both the resource and the fishing community.

Respectfully,

Michael Volaski Jr.

Commercial Lobster Operator

Captain F/V Regulator and F/V CoastsI Reign

Sent from my iPhone

Re: Petition

From Mike Volaski
Date Mon 09/28/2026 10:31 PM
To FGC <FGC@fgc.ca.gov>

September 28, 2026

CALIFORNIA FISH AND GAME COMMISSION

RE: PETITION 2023-27MPA_AM1 — ANACAPA ISLAND

REQUEST TO DENY OR DEFER PROPOSED COMMERCIAL LOBSTER FISHING RESTRICTIONS

Commissioners:

I respectfully request that the Fish and Game Commission **deny, or at minimum defer, any portion of Petition 2023-27MPA_AM1 that would eliminate or substantially restrict commercial lobster fishing at Anacapa Island until the scientific, economic, and fisheries impacts have been fully and fairly evaluated.**

I have been a licensed California commercial fisherman for more than 40 years and have commercially fished lobster at Anacapa Island for approximately **36 years**. This is not simply another fishing location to me. It represents decades of accumulated knowledge concerning the grounds, habitat, currents, lobster movement, trap placement, and responsible commercial fishing practices around the island.

I understand and support the responsibility of California to protect eelgrass and other important marine habitat. However, restrictions carrying permanent consequences for commercial fishermen should be based upon compelling, site-specific evidence demonstrating that the restriction is necessary and that less restrictive alternatives are inadequate.

Of particular importance, **the California Department of Fish and Wildlife's evaluation of Petition 2023-27MPA_AM1 recommended denial of the proposed options.** Before the Commission proceeds contrary to its own Department's scientific and fisheries recommendation, I respectfully ask that commercial fishermen with decades of direct experience at Anacapa be provided a meaningful opportunity to present evidence and that the competing scientific information be fully evaluated on an equal and transparent record.

The consequences of this decision are particularly significant to fishermen whose livelihoods and fishing histories are tied to Anacapa. Once access to a historic fishing ground is eliminated, the economic and practical damage to individual fishermen may be extremely difficult to reverse.

I therefore respectfully request that the Commission **DENY Petition 2023-27MPA_AM1 as it relates to additional restrictions on commercial lobster fishing, or defer action until an independent and balanced review of the scientific evidence, actual effects of lobster trapping on the Anacapa eelgrass habitat, reasonable alternatives, and economic effects upon the commercial lobster fleet has been completed.**

Conservation and commercial fishing do not have to be opposing interests. After 36 years fishing lobster at Anacapa Island, I ask only that fishermen who know these waters be heard and that any permanent decision affecting this historic fishery be supported by a complete, transparent, and scientifically defensible record.

Respectfully submitted,

Mike Volaski Sr.

California Commercial Fisherman

Retired City of Oxnard Fire Prevention Officer/Investigator