Committee Staff Summary for July 17-18, 2024

2. Marine Protected Area (MPA) Regulation Change Petition Evaluation Process

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

Receive and discuss Department-proposed approach for draft binning of petitions for MPA regulation changes following the 2022 decadal management review of the MPA network and management program. (*Note*: *Comments about specific MPA petitions are being received under Agenda Item 3, this meeting.*)

Summary of Previous/Future Actions

• Commission received decadal management review report and Department presentation	February 8-9, 2023
• Marine Resources Committee (MRC) discussed management review, forum, and proposed adaptive management recommendations; MRC recommendation	March 14 and 16, 2023; MRC
• Commission discussed management review and forum, and adopted MRC recommendation	April 19-20, 2023; MRC
• MRC discussed Department-proposed prioritization of adaptive management options; MRC recommendation	July 20, 2023; MRC
• Commission received 20 petitions for changes to MPA regulations	December 13-14, 2023; FGC
• Commission referred 20 MPA petitions to the Department for review and to MRC for discussion	February 14-15, 2024; FGC
• MRC received and discussed Department-proposed approach for reviewing and evaluating petitions for MPA regulation changes	March 19, 2024; MRC
• **Today receive and discuss Department-proposed Phase 1 binning of MPA petitions**	**July 17, 2024; MRC**

Background

At its February 2024 meeting, the Commission referred 20 MPA regulation change petitions to the Department for review, evaluation, and recommendation. The Commission requested that the Department develop a proposed approach to evaluating the petitions, to support a discussion at the March 2024 MRC meeting.

At the March MRC meeting, the Department proposed a three-phase approach for evaluating MPA petition requests (Exhibit 1). Following public input and discussion, MRC recommended approving the Department's proposed evaluation framework and timeline; the Commission approved the approach at its meeting in April 2024 (Exhibit 2).

Update

In May, the Department completed Phase 1 of the three-phase approach; it then released a draft proposed Phase 1 binning of MPA petitions to California Native American tribes, and online for

public review via a blog post on May 31, 2024 (exhibits 3 and 4). The Commission requested feedback by the Commission's Marine Resources Committee public comment deadline of July 5. Through their distribution networks, Commission and California Ocean Protection Council staff helped to inform the public of available materials.

Binning Breakdown and Criteria

Petitions are categorized into two bins with different evaluation timelines: Bin 1 petitions are proposed for evaluation in the near-term, while Bin 2 petitions are proposed for evaluation in the longer-term.

For petitions to be evaluated in the near-term, the Department determined they must meet five criteria: (1) Policy direction is not needed; (2) the petition is within the Commission's authority; (3) immediate evaluation is possible; (4) limited clarification is needed from the petitioner; and (5) limited controversy is anticipated. See Exhibit 4 for tables identifying which petitions are proposed for which bin, with brief justifications.

Today's Meeting – July 17, 2024

Today, the Department will give a presentation to recap the three-phase evaluation process supported by the Commission, describe the Phase 1 binning process, and present the proposed binning of petitions (Exhibit 5). The Department presentation offers a potential "Roadmap for Today's Discussion":

- *Proposed bins and justifications*
  - Feedback on binning of petitions
  - Feedback on criteria, outcomes, and/or justifications
- *Evaluation process and timeline*
  - Phase 2: Individual actions
  - Policy guidance
  - Extent of evaluations and trade-offs
- *Next steps and MRC recommendations for August Commission meeting*

In addition to the proposed roadmap for today's discussion, MRC may wish to discuss and offer input on questions posed by stakeholders in written comments, such as:

- Does placement in Bin 1 imply a petition will be granted?
- What is the anticipated timeline for decisions on Bin 1 petitions?
- What does "obtaining additional policy guidance" entail?
- How would clarification from petitioners help inform the decision-making process?
- When and how will additional information be gathered to inform evaluations of Bin 2 petitions?
- How and when will stakeholders be engaged in discussions about Bin 2 petitions?

Significant Public Comments

MRC received 13 public comments by the comment deadline; they are briefly summarized here.

1. Four comment letters express support for the Department's proposed binning of specific petitions (p*etitions 2023-15MPA, -16MPA, -22MPA, -24MPA, and -26MPA).*
    a. One petitioner requests guidance to help petitioners move forward in Phase 2, and encourages local meetings to allow for public input throughout evaluation (Exhibit 9).
    b. One commenter cites controversy over proposed reduction in protection as rationale for agreeing that two petitions belong in Bin 2 (Exhibit 10)
    c. A commenter agreed with the Department's binning of Petition 2023-24MPA into Bin 2 and urges the Commission to consider the petition through the lens of the recently adopted Coastal Fishing Communities Policy, inviting further discussion (Exhibit 14).
    d. The petitioner for 2023-26MPA submitted letters from NGOs, the City of Oceanside, City of San Diego, and numerous individuals, all agreeing with proposed placement in Bin 1 (Exhibit 6), and provides literature in support of the petition rationale.
2. Five commenters disagree with the Department's proposed binning of specific petitions (*petitions 2023-26MPA*, *-30MPA, and -31MPA)*
    a. Representatives from the cities of Encinitas and Solana Beach (exhibits 7 and 8), and California State Parks (Exhibit 18) disagree with Bin 1 placement of Petition 2023-26MPA, requesting placement in Bin 2 for more in-depth review. They cite concerns about impacts to current uses and access, and urge continued outreach with cities, State Parks, stakeholders, and tribes. They also request a current biological survey, Encinitas requests a modification to the Swami's boundary shift, and the Solana Beach City Manager offers to meet with the Commission for further discussion, either on site or virtually (Exhibit 8).
    b. A commenter supports moving petitions 2023-26 and 2023-31MPA from Bin 1 to Bin 2 to allow for greater stakeholder outreach (Exhibit 11).
    c. Four recreational fishing and/or hunting organizations request that petitions 2023-30MPA and 2023-31MPA be moved from Bin 1 into Bin 2, due to concern over their proposals to limit recreational harvest (Exhibit 15).
3. Four letters provide general suggestions for the Department's proposed binning or the petition evaluation process.
    a. A joint letter from four NGOs (Exhibit 13) and a joint letter from ten NGOs (Exhibit 16) support an adaptive management process that prioritizes strengthening the MPA network and considers broader threats to the ocean. Both appreciate the Department's transparent and proactive communication efforts. One of the letters recommends removing "controversy" from the list of evaluation metrics (Exhibit 13). The other urges a prompt evaluation process and identifies a series of questions and request the MRC to provide feedback at the meeting today (see Exhibit 16).
    b. A California surf fishing organization supports the MPA network and a collaborative petition review and evaluation process (Exhibit 17).

c. City of Laguna Beach representatives recommend developing a framework for local government involvement to facilitate MPA discussions more effectively at the local level and allow city councils to be impactful throughout the adaptive management process, specifically citing petitions 2023-24MPA and 2023-22MPA (Exhibit 12).

Commission staff also developed Exhibit 19 to organize the comments across seven themes as a quick reference guide.

Recommendation

Commission staff: Utilize the Department's roadmap to review the draft binning of petitions. Discuss concerns with and consider potential revision to binning or the placement of specific petitions; provide guidance on the next phases in the evaluation process including potential timelines; and identify any information needs to help the Department prepare for discussion at the August Commission meeting.

Department: Provide guidance on the binning of petitions, provide guidance related to the evaluation process and timeline, discuss next steps, and provide MRC recommendations for the discussion scheduled for the August Commission meeting.

Exhibits

1. Staff summary for Agenda Item 6, March 19, 2024 MRC meeting (*for background purposes only)*
2. Department memo with proposed Three-phase MPA petition evaluation process and timeline, dated April 2, 2024
3. Department memo transmitting proposed Phase 1 categorization of MPA petitions, dated June 27, 2024
4. Department document, *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions,* dated June 20, 2024
5. Department presentation regarding MPA binning
6. Sam Campbell, US Ocean Conservation Specialist, WILDCOAST, petitioner for petition 2023-26MPA, transmitting letters of support from NGOs, the cities of Oceanside and San Diego, and individuals (one with 60 signatures), and attached supporting literature, received July 2, 2024
7. Letter from Todd Mireau, Coastal Zone Program Administrator, City of Encinitas, regarding petition 2023-26MPA , received June 20, 2024
8. Email from Leslea Meyerhoff, transmitting letter from Alyssa Muto, City Manager, Solana Beach, regarding petition 2023-26MPA, received June 29, 2024
9. Letter from Blake Hermann, petitioner for petition 2023-15MPA, received June 25, 2024
10. Letter from Eric Praske, resident, Laguna Beach, regarding petitions 2023-22MPA, 2023-15MPA, and 2023-16MPA, received June 27, 2024
11. Email from Rick Duenas, resident, San Mateo County, regarding petitions 2023-26MPA and 2023-31MPA, received July 3, 2024

12. Email from Jeremy Frimond, Assistant City Manager, City of Laguna Beach, transmitting letters from Laguna Beach Mayor Sue Kempf and former Mayor Bob Whalen, received July 2, 2024
13. Email from Karla Garibay Garcia, transmitting a joint letter from Sandy Aylesworth, Director of Pacific Initiative, NRDC; Anupa Asokan, Founder and Director, Fish On; Tomas Valadez, California Policy Associate, Azul; and Laura Deehan, State Director, Environment California, received July 3, 2024
14. Email and letter from Donna Kalez, Chief Operating Officer, Dana Wharf Sportfishing and Whale Watching, received July 5, 2024
15. Email from Devin O'Dea, Western Policy & Conservation Manager, Backcountry Hunters and Anglers (BHA) transmitting a joint letter from BHA; Chris Killen, All Waters Protection & Access Coalition; Wayne Kotow, Executive Director, Coastal Conservation Association California; and Kevin Godes, Coastside Fishing Club, received July 5, 2024
16. Email from Emily Parker, Coastal and Marine Scientist, Heal the Bay, transmitting a joint letter from Heal the Bay and nine other NGOs, received July 5, 2024
17. Email from Kaspar Kazazian, California Surf Fishing, received July 3, 2024
18. Email from Carrie Benner, transmitting a letter from Darren Smith, Senior Environmental Scientist, California State Parks, San Diego Coast District, received July 5, 2024
19. Quick reference table identifying common themes in comments received, as summarized by Commission staff

Committee Direction/Recommendation

The Marine Resources Committee recommends that the Commission support the Department's proposed draft placement and rationale for petitions in Bin 1 and Bin 2, with the following changes: _____.

Committee Staff Summary for March 19, 2024 MRC
For background purposes only

6. Marine Protected Area (MPA) Regulation Change Petition Evaluation Process

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

Receive and discuss Department-proposed approach to the review and evaluation of petitions for MPA regulation changes following the 2022 decadal management review of the MPA network and management program.

Note that individual MPA petitions are not scheduled for discussion today.

Summary of Previous/Future Actions

• Commission adopted Marine Life Protection Act master plan for MPAs; ten-year management review cycle established	August 2016
• Commission received decadal management review report and Department presentation	February 8-9, 2023
• Marine Resources Committee (MRC) discussed management review, forum, and proposed adaptive management recommendations; MRC recommendation	March 14 and 16, 2023; MRC
• Commission discussed management review and forum, and adopted MRC recommendation	April 19-20, 2023
• MRC discussed Department-proposed prioritization of adaptive management options; MRC recommendation	July 20, 2023; MRC
• **Today receive and discuss Department-proposed approach for reviewing and evaluating petitions for MPA regulation changes**	**March 19, 2024; MRC**

Background

On February 9, 2023, the Commission formally received *California's Marine Protected Area Network Decadal Management Review* (DMR) and the 28 adaptive management recommendations and associated potential management actions. The Department's overview of the comprehensive and partnership-based ten-year review process laid the foundation for future discussions about the evaluation, findings, and guidance for possible adaptive management of the state's MPA Management Program and MPA network, which began with a public management review forum and MRC discussion in March 2023.

At the July 2023 MRC meeting, after an in-depth discussion about a recommendation to consider changes to the MPA network based on the DMR results, MRC advanced a recommendation to the Commission to initiate a process and timeline for considering proposals for MPA changes as part of the prioritized adaptive management recommendations from the DMR; in August 2023, the Commission approved the MRC recommendation to initiate a process and timeline for considering proposals for MPA changes, and identified November 30, 2023 as the preferred deadline for receiving petitions. Commission staff assembled and

shared with the public numerous historical materials to incorporate into petitions and developed a guidance document explaining the process to consider potential changes to the MPA network. See Exhibit 1 for more background information.

MPA Petitions

At its December 2023 meeting, the Commission received 20 petitions for MPA regulation changes. An extension of time was offered to tribes and tribal communities; no additional tribal MPA-related petitions or inquiries have been received to date.

For 17 of the 20 petitions, multiple requested MPA changes are bundled into single petitions, consistent with the Commission's request to consolidate proposals (For a description of petition-requested changes, see Agenda Item 10 from the February Commission meeting); over 80 individual requests are included in the 20 petitions. In addition, 6 of the petitions include non-regulatory MPA management requests and are being tracked separately through the Commission's non-regulatory request process.

In February 2024, the Commission: (1) referred all petitions for MPA regulation changes to the Department for review and recommendation; (2) supported the Department in using the MPA petition framework considerations as presented to the Commission in August 2023 (Exhibit 2) when evaluating referred petitions, along with the master plan for MPAs; and (3) directed staff to coordinate with the Department on engagement activities with other agencies of jurisdiction during the MPA petitions evaluation process. During the February meeting, the Commission provided specific direction for today's meeting that discussion focus on developing the evaluation process, with discussion about specific petitions occurring later, and requested the Department bring to today's meeting a proposed process and binning for prioritization.

Today's Meeting

Consistent with the Commission's request in February, today the Department will present its proposed approach for reviewing and evaluating petitions for MPA regulation changes. The Department presentation (Exhibit 3) focuses on the process rather than individual regulation change petitions; it includes a schematic to portray an approach to categorizing petitions before conducting evaluations, and offers an anticipated timeline. The Department's proposed framework involves a three-phase process that bins petitions into two categories, determines evaluation pathways, and uses an adaptive management evaluation.

The Department proposes that discussion about specific MPA petitions begin at the July 2024 MRC meeting, with follow-up discussions at later MRC meetings for complex petitions requiring more in-depth review and analysis. In addition, stakeholders have reached out to Commission staff to request that discussions about specific petitions be held on a separate day during MRC meetings, thereby making them two-day events. If MPA petition discussions are held separately, Commission staff notes that such discussions could be held on days or times not associated with an MRC meeting. Commission staff seeks direction from MRC on this topic (see Agenda Item 8, Future Agenda Items).

Committee Staff Summary for March 19, 2024 MRC
For background purposes only

Significant Public Comments

The commission received numerous comments related to specific MPA petitions or general comments about expanding or strengthening the network; these comments are included under general public comment, Agenda Item 9 (today's meeting).

Thirteen environmental non-governmental organizations submit a joint letter requesting a special meeting of MRC dedicated solely to reviewing the 20 MPA petitions. They state a need for transparent evaluations using a formal rubric, prioritizing petitions that strengthen the network and align with Marine Life Protection Act goals, and supporting petitions that prioritize tribal stewardship and co-management.

Recommendation

Commission staff: Support the Department's proposed petition evaluation framework to review and evaluate petitions and discuss the Department's anticipated timeline.

Department: Support the proposed petition evaluation framework and anticipated timeline to review and evaluate petitions, as reflected in Exhibit 3.

Exhibits

1. Staff summary from November 16, 2023 MRC meeting, Agenda Item 5, section CIII (*for background purposes only*)
2. Department: "Summary of MPA Regulation Change Petition Framework Discussion," dated August 17, 2023
3. Department presentation
4. Letter from Rikki Eriksen, Marine Ecologist and Director of Marine Programs, California Marine Sanctuary foundation, transmitting a joint letter from 13 environmental non-governmental organizations, received March 6, 2024

Committee Direction/Recommendation

The Marine Resources Committee recommends that the Commission support the Department's proposed petition evaluation framework and anticipated timeline to review and evaluate petitions, as reflected in Exhibit 3.

OR

The Marine Resources Committee recommends that the Commission support the Department's proposed petition evaluation framework and anticipated timeline to review and evaluate petitions, as reflected in Exhibit 3, with the following revisions: _____.

State of California
Department of Fish and Wildlife

Memorandum

Date: April 2, 2024

To: Melissa Miller-Henson
Executive Director
Fish and Game Commission

From: Charlton H. Bonham
Director

Subject: **Proposed Marine Protected Area Petition Evaluation Process and Timeline**

At their February 14-15, 2024, meeting, the California Fish and Game Commission (CFGC) referred 20 Marine Protected Area (MPA) regulation change petitions to the California Department of Fish and Wildlife (CDFW) for review, evaluation, and recommendation. In addition, the CFGC requested CDFW develop a proposed approach to evaluate the petitions to discuss at the Marine Resources Committee (MRC) meeting on March 19, 2024. After discussion and input from interested stakeholders, the MRC recommended approval of CDFW's proposed 3-phase approach to evaluate MPA petitions. The proposed approach is briefly described below and in the enclosed presentation that was provided to the MRC on March 19, 2024.

Proposed 3-Phase Approach to MPA Petition Evaluation

Phase 1: Petitions will be categorized into two bins using the criteria outlined below to determine which petitions can be evaluated in the near-term and which petitions will require additional policy guidance, information, and/or resources prior to evaluation.

- **Bin 1 petitions:** Petitions that can be evaluated in the ***near-term*** must meet all the following criteria:
  - Policy direction not needed for next phases.
  - Within CFGC authority.
  - Immediate evaluation possible.
  - Limited clarification needed from petitioner.
  - Limited controversy anticipated.

- **Bin 2 petitions:** Petitions that do not meet all the above criteria will be categorized into Bin 2. The analysis of these petitions will be more complex as they will require additional policy guidance, information, and/or resources before they can be evaluated. Due to the complexity of these petitions, these will be evaluated in the ***longer term***.

Phase 2: Separate all Bin 1 petitions into individual actions and proceed to phase 3. Separate Bin 2 petitions into individual actions and identify additional policy guidance, information, and/or resources that are necessary to advance individual actions to phase 3.

Phase 3: Adaptive management evaluation and recommendations. Apply the evaluation framework approved by the CFGC to each petition action. The process will identify which petitions, and/or actions within each petition, would be recommended to be granted, denied, or considered through an alternative pathway.

Proposed MPA Petition Evaluation Anticipated Timeline

- **March-April 2024: Development of Evaluation Framework**
  - Receive and discuss proposed 3-phase evaluation process at the March 19 MRC and April 17 CFGC meetings.
- **April-August 2024: Phase 1— CDFW Sort Petitions into 2 Bins**
  - Discuss proposed bins at the July 18 MRC and August 14 CFGC meetings.
- **August 2024 and beyond: Phases 2 and 3—Separate petitions into individual actions**
  - Receive guidance on Bin 2 actions as needed.
  - Move forward with evaluation on both Bin 1 and 2 actions. Evaluation timelines for Bin 1 and Bin 2 actions will vary.

If you have any questions or need more information, please contact Dr. Craig Shuman, Marine Regional Manager, at (805) 568-1246.

Attachment 1: Proposed Marine Protected Area Petition Evaluation presentation.
Attachment 2: Evaluation Framework

ec: Jenn Eckerle, Deputy Secretary for Ocean and Coastal Policy
Natural Resources Agency

Craig Shuman, D. Env., Region Manager
Marine Region

Becky Ota, Environmental Program Manager
Marine Region

Stephen Wertz, Senior Environmental Scientist
Marine Region

Sara Worden, Environmental Scientist
Marine Region

State of California
Department of Fish and Wildlife

Memorandum

Date: June 27, 2024

To: Melissa Miller-Henson
Executive Director
Fish and Game Commission

From: Craig Shuman, D. Env.
Marine Regional Manager

Subject: **Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions**

At their February 14-15, 2024 meeting, the California Fish and Game Commission (CFGC) referred 20 MPA petitions received to the California Department of Fish and Wildlife (CDFW) for review, evaluation, and recommendation. In addition, they requested CDFW provide an administrative update at their March 19 Marine Resources Committee (MRC) meeting on the approach to evaluate the petitions. After discussion and input from interested stakeholders, the MRC recommended approval of CDFW's proposed 3-phase approach to evaluate petitions, and the CFGC approved the approach at their April 17 meeting. CDFW has completed Phase 1 of the 3-phase approach and will present the proposed draft binning at the July 17, 2024, MRC meeting.

Phase 1 petitions are categorized into two bins using the criteria outlined in the 3-phase approach to determine which petitions can be evaluated in the near-term (Bin 1) and which petitions will require additional policy guidance, information, and/or resources prior to evaluation (Bin 2). CDFW released the draft Phase 1 outcomes to California Native American tribes and the public on May 31, which includes tables that outline the proposed Bin 1 and Bin 2 petitions with brief justifications that describe why petitions are categorized into each bin.

If you have any questions or need more information, please contact Dr. Craig Shuman, Marine Regional Manager, at (805) 568-1246.

Attachment 1: 3-phase approach for MPA Petition review and evaluation

Attachment 2: Draft Proposed Phase 1 Categorization of Marine Protected Area Petition background, Bin 1 and Bin 2 tables, and brief justifications

Attachment 3: Power Point presentation outlining process, proposed binning, and next steps

ec: Jenn Eckerle, Deputy Secretary for Ocean and Coastal Policy
Natural Resources Agency

Stephen Wertz, Senior Environmental Scientist Supervisor
Marine Region

Draft Phase 1 Proposed Marine Protected Area Petition Bins

17 July 2024

Presented to:

Marine Resources Committee

California Fish and Game Commission

Presented by:

Dr. Craig Shuman

Marine Regional Manager

How We Got Here: DMR Report and Petition Timeline

2023 Jan-Feb

Public release
CFGC receives DMR report

2023 Mar-Aug

Public meetings:
Discuss DMR results and recommendations

2023 Nov-Dec

MPA Petitions submitted to CFGC

2024 and beyond

Policy guidance on petitions and evaluation

CFGC=California Fish and Game Commission
CDFW=California Department of Fish and Wildlife
DMR=Decadal Management Review

CALIFORNIA MARINE PROTECTED AREAS

Petitions for Proposed MPA Network Changes

- CFGC received **20 petitions** to change MPAs at the December 2023 meeting
- **16 individual organizations** submitted petitions
- Petitions include **80+ proposed petition actions**
- **49+ MPAs and special closures affected** by proposals

Where We Are: MPA Petition Process 2024

2024 and beyond

Policy guidance on petitions and evaluation

- **February 2024 -** CFGC referred all petitions to CDFW for evaluation
- **March 2024 –** CDFW proposed 3-phased approach to petition evaluation process
- **April 2024 –** CFGC accepted CDFW's approach
- **May 2024 –** CDFW released a blog with the draft petition binning for public review
- **July 2024 -** Marine Resources Committee discussion

Petition Evaluation Framework: 3-phase Approach

Phase 1: Bin whole petitions

→

Phase 2: Separate petitions into individual actions to determine evaluation pathway

→

Phase 3: Adaptive management evaluation and recommendations

Phase 1: Bin Whole Petitions

Phase 1:
Bin whole petitions

Bin 1

- Policy direction not needed for next phases
- Within CFGC authority
- Immediate evaluation possible
- Limited clarification needed from petitioner
- Limited controversy anticipated

Bin 2

Do not meet criteria for Bin 1

Draft Proposed Bin 1 Petitions

CFGC Tracking No.	Brief description	Policy guidance needed?	Within CFGC authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-22MPA	Orange County MPAs; change color coding on outreach maps, update regulatory language	**N**	**Y/N**	**Y**	**N**	**Y**
2023-25MPA	Catalina Island MPAs; change color coding on outreach maps, remove fish feeding; boundary update	**N**	**Y/N**	**Y**	**N**	**Y**
2023-26MPA	San Diego County MPAs; change color coding on outreach maps; Swami's SMCA boundary shift	**N**	**Y/N**	**Y**	**N**	**Y**
2023-30MPA_1	Big River SMCA; change Dungeness crab gear and take limits	**N**	**Y**	**Y**	**N**	**Y**
2023-31MPA_1	Drake's Estero SMCA; subsume into Estero de Limantour SMR	**N**	**Y**	**Y**	**N**	**Y**

Draft Proposed Bin 2 Petitions (1 of 3)

CFGC Tracking No.	Brief description	Policy guidance needed?	Within CFGC authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-14MPA	Allow commercial take of sea urchins in 9 SMCAs	**Y**	**Y**	**N**	**N**	**N**
2023-15MPA	Northern Channel Island MPAs; allow take of highly migratory species; pelagic finfish	**Y**	**Y**	**N**	**N**	**N**
2023-16MPA	Bodega Head and Stewarts Point SMRs; redesignate to SMCAs to allow commercial salmon trolling	**Y**	**Y**	**N**	**N**	**N**
2023-18MPA	Santa Barbara County MPAs; modify take allowances; modify special closures; create small SMCA within Vandenberg SMR	**Y**	**Y/N**	**N**	**N**	**N**
2023-19MPA	Designate new tribal SMCA with take exemption for the Santa Ynez Band of Chumash Mission Indians	**Y**	**Y**	**N**	**Y**	**N**

Draft Proposed Bin 2 Petitions (2 of 3)

CFGC Tracking No.	Brief description	Policy guidance needed?	Within CFGC authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-20MPA	Point Buchon MPAs; tribal take exemption for Santa Ynez Band of Chumash Mission Indians, boundary shift	**Y**	**Y**	**N**	**Y**	**N**
2023-21MPA	Pyramid Point SMCA; tribal take only for Tolowa Dee-ni' Nation, boundary adjustment	**Y**	**Y**	**N**	**Y**	**N**
2023-23MPA	Monterey County MPAs; designation changes, new permitting process, various other activities	**Y**	**Y/N**	**N**	**Y**	**N**
2023-24MPA	Laguna Beach no-take SMCA boundary shift	**N**	**Y**	**N**	**N**	**N**
2023-27MPA	Anacapa SMCA; redesignation to SMR, or partial redesignation	**Y**	**Y**	**N**	**N**	**N**

Draft Proposed Bin 2 Petitions (3 of 3)

CFGC Tracking No.	Brief description	Policy guidance needed?	Within CFGC authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-28MPA	San Luis Obispo County; new MPA near Point Sal	**Y**	**Y**	**N**	**N**	**N**
2023-29MPA_1	Santa Barbara County; new tribal co-management MPA with Santa Ynez Band of Mission Indians	**Y**	**Y**	**N**	**Y**	**N**
2023-32MPA_1	Duxbury Reef SMCA; redesignate to SMR and expand boundaries	**Y**	**Y**	**N**	**N**	**N**
2023 33MPA_1	Expand boundaries of multiple SMCAs and SMRs; designate new MPA	**Y**	**Y**	**N**	**N**	**N**
2023-34MPA_1	Redesignate Point Buchon SMCA to SMR; modify take allowances in Farnsworth SMCAs	**Y**	**Y**	**N**	**N**	**N**

Next Steps: Implement DMR Recommendations

Near-Term (ongoing – 2 years)

- Rec 1: Improve state agencies tribal engagement
- Rec 4: Apply Review knowledge to Network/Management changes ★
- Rec 7: Expand outreach and education materials
- Rec 9: Continue OPC coordination
- Rec 10: Improve coordination across Management Program pillars
- Rec 11: Update Action Plan
- Rec 16: More targeted outreach to specific audiences
- Rec 17: Improve SCP process
- Rec 18: Use policy to review MPA restoration/mitigation efforts
- Rec 20: Increase enforcement capacity
- Rec 21: Enhance citation record keeping and management
- Rec 25: Implement MPA climate change research
- Rec 27: Improve understanding of MPA effects on fisheries

Mid-Term (2 – 5 years)

- Rec 2: Create pathway to tribal MPA management
- Rec 3: Build tribal capacity to participate in MPA management
- Rec 6: Include and fund more diverse researchers and stakeholders
- Rec 8: Evaluate MPA accessibility
- Rec 12: Improve understanding of human dimensions
- Rec 13: Explore innovative technologies
- Rec 14: Develop MPA community science strategy
- Rec 15: Evaluate Outreach needs and resource effectiveness
- Rec 22: Increase knowledge on MPA judicial outcomes
- Rec 23: Examine MPA Network design attribute more effectively
- Rec 26: Consider climate change in human dimensions monitoring
- Rec 28: Integrate influencing factors into MPA performance evaluations

Long-Term (5- 10 years)

- Rec 5: Establish targets to meet MLPA goals
- Rec 19: Create MPA Enforcement Plan
- Rec 24: Better incorporate marine cultural heritage into MPA Network

Roadmap for Today's Discussion

- **Draft bins and justifications**
  - Move petitions?
  - Change criteria outcomes and justifications?
- **Evaluation process and timeline**
  - Phase 2: Individual actions
  - Policy guidance
  - Extent of evaluations and trade-offs
- **Next steps and MRC recommendations for August CFGC meeting**

Scan for draft bins and justifications

A. Van Diggelen

Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions

In 2023, the California Department of Fish and Wildlife (CDFW) publicly released the first 10-year comprehensive review of California's Marine Protected Area (MPA) Network that included 28 adaptive management recommendations prioritizing strategies for the next decade of MPA management. One of the near-term priority recommendations called for applying what was learned from the comprehensive management review to support proposed changes to the MPA Network and Management Program. To advance this recommendation, the California Fish and Game Commission (CFGC) requested that MPA regulation change petitions be submitted for their December 2023 meeting. CFGC received 20 petitions with over 80 unique requests for changes to the MPA Network.

At their February 14-15, 2024 meeting, CFGC referred the 20 MPA petitions received to CDFW for review, evaluation, and recommendation. In addition, they requested CDFW provide an administrative update at their March 19 Marine Resources Committee (MRC) meeting on the approach they would take to evaluate the petitions. After discussion and input from interested stakeholders, the MRC recommended approval of CDFW's proposed 3-phase approach to evaluate MPA petitions, and the CFGC approved the approach at their April 17 meeting. CDFW has completed Phase 1 of the 3-phase approach and will present the proposed binning of petitions for discussion and consideration at the July MRC meeting. In addition to the MRC's regularly scheduled July 18 meeting, the CFGC approved a separate day on July 17 be added to the meeting for this discussion. There will be an update about the outcomes from this meeting at the August 14-15 CFGC meeting.

Petitions are categorized into two bins (Tables 1 and 2) using the criteria outlined below to determine which petitions can be evaluated in the near-term (Bin 1) and which petitions will require additional policy guidance, information, and/or resources prior to evaluation (Bin 2). The proposed binning of petitions by CDFW are recommendations for the MRC to consider at their July 17 meeting. It is anticipated the MRC will make a recommendation on the binning of petitions for the CFGC to consider at their August meeting. ***Inclusion in Bin 1 does not automatically mean the requests in any given petition will be granted.*** Following approval of the binning of petitions by CFGC, CDFW will move forward with the evaluation of Bin 1 petitions for subsequent discussion and consideration by the MRC and CFGC.

Bin 1: Petitions that can be evaluated in the ***near-term*** must meet all the following criteria:

- Policy direction not needed for next phases: The requested changes are consistent with existing policies regarding the MPA Network.
- Within CFGC authority: CFGC has clear regulatory authority over the changes requested in the MPA petitions.
- Immediate evaluation possible: Information and resources are available to evaluate petitions in the near-term
- Limited clarification needed from petitioner: The changes requested in the petitions are clear and understandable.
- Limited controversy anticipated: Changes that have limited impact on human uses and network design, such as minor boundary changes and/or updating regulatory language, are expected to cause limited controversy.

Bin 2: Petitions that do not meet all the above criteria are categorized into Bin 2. The analysis of these petitions will be more complex as they will likely require additional policy guidance, information, and/or resources *before* they move forward into the evaluation phase. Bin 2 petitions that could move forward based on CFGC guidance will be evaluated in the ***longer-term***. In addition, due to the larger breadth and scope of these petitions, they will likely require more extensive coordination with California Native American Tribes, other government agencies, partners, and stakeholders.

The tables below outline the proposed Bin 1 and Bin 2 petitions. There are brief justifications following each table that describe why a metric was met or not, and why petitions are categorized into Bin 1 or Bin 2. CFGC is seeking feedback on the draft proposed binning of petitions into either Bin 1 or Bin 2. Comments should be sent directly to CFGC to inform the discussions scheduled for July 17, 2024 at the MRC meeting. Written comments must be received by CFGC by July 5 to be included in the July MRC meeting materials. The CFGC website includes instructions for how to submit written comments and a schedule of upcoming Commission meetings.

Table 1: Proposed Bin 1 Petitions. N=No, Y=Yes. Y/N in the "Within CFGC Authority?" column indicates that some of the actions proposed in the petition do fall within the regulatory authority of the CFGC, while others are non-regulatory requests. MPA designations state marine reserve (SMR), state marine conservation area (SMCA).

CFGC Tracking No.	Name of Petitioner	Short Description	Policy guidance needed?	Within CFGC Authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-22MPA	Wendy Berube, Orange County Coast Keeper	Change color coding on outreach maps, add language to tidepool take prohibitions, modify definition of tidepools, and allow research, monitoring, restoration, and education in Orange County MPAs, with the exception of Upper Newport Bay (Bolsa Chica, Laguna Beach, Crystal Cove, and Dana Point)	N	Y/N	Y	N	Y
2023-25MPA	Burton Miller	Change color designation of Blue Cavern Onshore and Casino Point SMCAs, change boundary of Long Point SMR, and remove allowance for feeding fish and Lover's Cove and Casino Point SMCAs.	N	Y/N	Y	N	Y
2023-26MPA	Lisa Gilfilan, WILDCOAST	Shift Swami's SMCA south from the lifeguard tower to the State/Solana Beach line to cover tidepools on the south side and change map color of no-take SMCAs at Batiquitos Lagoon, San Elijo Lagoon, and Famosa Slough from purple to red.	N	Y/N	Y	N	Y
2023-30MPA_1	Robert Jamgochian	Change gear restrictions within Big River SMCA to only allow Type A hoop nets that are compatible and eliminate the hoop net Type B option (rigid frame) from general provisions, reduce the number of set traps allowed from 10 to 5, and reduce the bag and possession limit for recreational take of crabs from 10 to 5.	N	Y	Y	N	Y
2023-31MPA_1	Ashley Eagle-Gibbs, Environmental Action Committee of West Marin	Subsume Drake's Estero SMCA into Estero de Limantour SMR to create a single SMR.	N	Y	Y	N	Y

Justifications for Proposed Bin 1 Petitions

Proposed Bin 1 petitions do not need policy direction from the CFGC to move forward with evaluation, are within CFGC regulatory authority, can be evaluated in the near-term, require minimal follow-up with the petitioner, and limited controversy is anticipated regarding petition requests. Justifications for each criterion are outlined below.

Petition Number: 2023-22MPA

Petitioner: Wendy Berube, Orange County Coastkeeper

- **Is policy guidance needed for the next phase of evaluation? (N):** Changes requested do not require policy guidance from CFGC.
- **Does the petition fall within CFGC regulatory authority? (Y/N):**
    - Modifying the descriptions of specific MPAs and updating regulatory language are within CFGC authority.
    - Changing the color of a purple no-take SMCA to red *on outreach materials only* is a non-regulatory request. However, alternative pathways for this and other similar non-regulatory requests may be explored as a part of the 3-phase approach to evaluate petitions.
- **Is immediate evaluation possible? (Y):** Related information and data needed to evaluate petition are currently available.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (Y):** Limited controversy anticipated because the requested changes are to simplify and clarify regulatory language.

Petition Number: 2023-25MPA

Petitioner: Burton Miller

- **Is policy guidance needed for the next phase of evaluation? (N):** Changes requested do not require policy guidance from CFGC.
- **Does the petition fall within CFGC regulatory authority? (Y/N):**
    - Boundary clarification at Long Point SMR, and the proposed removal of fish feeding from the regulations all fall within the CFGC's authority.
    - Changing the color of a purple no-take SMCA to red *on outreach materials only* is a non-regulatory request. However, alternative pathways for this and other similar non-regulatory requests may be explored as a part of the 3-phase approach to evaluate petitions.
- **Is immediate evaluation possible? (Y):** Related information and data needed to evaluate petition are currently available.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (Y):** Limited local controversy is anticipated regarding the request to end fish feeding within the Lover's Cove and Casino Point SMCAs.

Petition Number: 2023-26MPA
Petitioner: Lisa Gilfillan, WILDCOAST

- **Is policy guidance needed for the next phase of evaluation? (N):** Changes requested do not require policy guidance from CFGC.
- **Does the petition fall within CFGC regulatory authority? (Y/N):**
  - Changing the boundaries of an MPA is within CFGC authority.
  - Changing the color of a purple no-take SMCA to red *on outreach materials only* is a non-regulatory request. However, alternative pathways for this and other similar non-regulatory requests may be explored as a part of the 3-phase approach to evaluate petitions.
- **Is immediate evaluation possible? (Y):** Related information and data needed to evaluate petition are currently available.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (Y):** Limited local controversy is anticipated regarding the proposed boundary shift.

Petition Number: 2023-30MPA
Petitioner: Robert Jamgochian

- **Is policy guidance needed for the next phase of evaluation? (N):** Changes requested do not require policy guidance from CFGC.
- **Does the petition fall within CFGC regulatory authority? (Y):** The proposed amendments to the allowed take and gear type are within CFGC authority.
- **Is immediate evaluation possible? (Y):** Related information and data needed to evaluate petition are currently available.
- **Is clarification needed from the petitioner? (N):** Limited clarification with the petitioner may be necessary to determine the request for Type A hoop nets only.
- **Is limited controversy anticipated? (Y):** Limited local controversy is anticipated regarding proposed change in Dungeness crab take regulations.

Petition Number: 2023-31MPA
Petitioner: Ashley-Eagle Gibbs, Environmental Action Committee of West Marin

- **Is policy guidance needed for the next phase of evaluation? (N):** Changes requested do not require policy guidance from the CFGC. The requested redesignation aligns with the intent of this MPA identified during the north central coast marine life protection act (MLPA) Initiative design and siting process to redesignate as an SMR once the pre-existing aquaculture lease was terminated.
- **Does the petition fall within CFGC regulatory authority? (Y):** The proposed amendments to the allowed take and gear type are within CFGC authority.
- **Is immediate evaluation possible? (Y):** Related information and data needed to evaluate petition are currently available.

- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (Y):** Limited local controversy regarding ending recreational clamming. This petition is consistent with the recommendation of the northcentral coast MLPA regional stakeholder group at the end of the MLPA Initiative design and siting process.

Table 2: Proposed Bin 2 Petitions. N=No, Y=Yes. Y/N in the "Within CFGC Authority?" column indicates that some of the actions proposed in the petition do fall within the regulatory authority of the CFGC, while others are non-regulatory requests. MPA designations state marine reserve (SMR), state marine conservation area (SMCA).

CFGC Tracking No.	Name of Petitioner	Short Description	Policy guidance needed?	Within FGC Authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-14MPA	David Goldberg, California Sea Urchin Commission	Allow commercial take of sea urchins in 9 SMCAs.	Y	Y	N	N	N
2023-15MPA	Blake Hermann	Reclassify three SMRs in the northern Channel Islands, Santa Barbara County, as SMCAs and allow either the limited take of highly migratory species and possession of coastal pelagic species, or allow the take of pelagic finfish.	Y	Y	N	N	N
2023-16MPA	Richard Ogg	Reclassify Stewarts Point and Bodega Head SMRs and SMCAs to allow commercial take of salmon by trolling.	Y	Y	N	N	N
2023-18MPA	Greg Helms	Create small SMCA within Vandenberg SMR; modify multiple MPAs within the Santa Barbara Channel to allow range of activities, from changes to take of natural resources restrictions to vessel landing requirements.	Y	Y/N	N	N	N
2023-19MPA	Sam Cohen, Santa Ynez Band of Chumash Mission Indians	Designate new Chitaqwi SMCA with a tribal take-exemption for the Santa Ynez Band of Chumash Indians along the central coast.	Y	Y	N	Y	N
2023-20MPA	Sam Cohen, Santa Ynez Band of Chumash Mission Indians	Add a tribal take exemption to Point Buchon SMCA for co-management with Santa Ynez Band of Chumash Indians, and modify northern boundary of the Point Buchon SMR.	Y	Y	N	Y	N
2023-21MPA	Rosa Laucci, Tolowa Dee-ni' Nation	Modify take allowances in Pyramid Point SMCA to no-take with tribal exemption and change northern boundary to align with California/Oregon border.	Y	Y	N	Y	N

CFGC Tracking No.	Name of Petitioner	Short Description	Policy guidance needed?	Within FGC Authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-23MPA	Keith Rootsaert, Giant Giant Kelp	Reclassify three SMCAs as SMRs, designate Tanker's Reef as an SMR, allow kelp restoration in these four MPAs as follows: allow unlimited urchin take, allow outplanting of kelp, kelp spore dispersal, and kelp canopy pruning without a DFW scientific collecting permit (SCP). Proposes several actions to support kelp restoration such as placement of buoys at restoration sites, establishing a new process for restoration permits in DFW SCP program, designating "adopted reefs," and others.	**Y**	**Y/N**	**N**	**Y**	**N**
2023-24MPA	Mike Beanan, Laguna Bluebelt Coalition	Extend Laguna no-take SMCA southern boundary to the southern border of City of Laguna Beach, which will require modification of northern boundary of Dana Point SMCA.	**N**	**Y**	**N**	**N**	**N**
2023-27MPA	Azsha Hudson, Environmental Defense Center	Reclassify Anacapa SMCA as an SMR or reclassify the portion of the SMCA from shore to at least 30 meters deep.	**Y**	**Y**	**N**	**N**	**N**
2023-28MPA	Lisa Suatoni, Natural Resources Defense Council	Designate a new SMR around Point Sal in central California and consult with tribes first to determine whether an SMCA with exemptions for cultural and subsistence purposes.	**Y**	**Y**	**N**	**N**	**N**
2023-29MPA_1	Lisa Suatoni, Natural Resources Defense Council	Designate Mishopshno SMCA, a California-Chumash co-management MPA that allows take by members of Santa Ynez Band of Chumash Indians for traditional, ceremonial, cultural, and subsistence purposes.	**Y**	**Y**	**N**	**Y**	**N**
2023-32MPA_1	Ashley Eagle-Gibbs, Environmental Action Committee of West Marin	Change Duxbury Reef SMCA to an SMR, extend the southern boundary further south, and extend the northern boundary to the Double Point Special Closure.	**Y**	**Y**	**N**	**N**	**N**
2023-33MPA_1	Laura Deehan, Environmental California Research and Policy Center and Azul	Expand boundaries of SMCAs and SMRs, and designate new MPA.	**Y**	**Y**	**N**	**N**	**N**

CFGC Tracking No.	Name of Petitioner	Short Description	Policy guidance needed?	Within FGC Authority?	Evaluate in the near-term?	Clarification needed from petitioner?	Limited controversy anticipated?
2023-34MPA_1	Laura Deehan, Environmental California Research and Policy Center and Azul	Reclassify Point Buchon SMCA as an SMR, and modify regulations of Farnsworth Onshore and Offshore SMCAs to allow only recreational spearfishing.	**Y**	**Y**	**N**	**N**	**N**

Justifications for Proposed Bin 2 Petitions

Petitions that do not meet the above criteria for Bin 1 petitions are categorized into Bin 2. The analysis of these petitions will be more complex as they will likely require additional policy guidance, information, and/or resources, before they can be evaluated. Below are brief justifications that describe why a metric was met or not.

Petition Number: 2023-14MPA
Petitioner: David Goldenberg, California Sea Urchin Commission

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding changing take regulations in SMCAs over a large geographic scale.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):**
    - Requested changes will require coordination with other management priorities such as the Kelp Restoration, Recovery, and Management Plan (KRMP) and updates to invertebrate take regulations.
    - A more in-depth examination of the original MPA design guidance will be needed for this petition before staff can analyze the proposed change.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Changing take regulations in several MPAs statewide is likely to be controversial.

Petition Number: 2023-15MPA
Petitioner: Blake Hermann

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding re-designation of entire SMRs into SMCAs.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** Requested changes will require in-depth analysis of many resources and extensive coordination with external partners, including but not limited to the Channel Islands National Marine Sanctuaries, National Parks Service, and National Marine Fisheries Service.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Redesignating SMRs to SMCAs is likely to be controversial.

Petition Number: 2023-16MPA
Petitioner: Richard Ogg

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding re-designation of entire SMRs to SMCAs.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.

- **Is immediate evaluation possible? (N):** Requested changes will require coordination with other management efforts regarding the ocean salmon fishery.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Redesignating SMRs to SMCAs is likely to be controversial.

Petition Number: 2023-18MPA

Petitioner: Greg Helms

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding partial designation change of an SMR to an SMCA and modifications to special closures.
- **Does the petition fall within CFGC regulatory authority? (Y/N):**
    - Creation of an SMCA and modifications to, or removal of, an existing state MPA or special closure are within CFGC authority.
    - Continued support of M2 radar is a non-regulatory request. Changing the color of a purple, no-take SMCAs to red *on outreach materials only* is a non-regulatory request. However, alternative pathways for this and other similar non-regulatory requests may be explored as a part of the 3-phase approach to evaluate petitions.
- **Is immediate evaluation possible? (N):** Evaluation of this petition will require coordination with many external partners including National Marine Sanctuaries and the National Park Service. A more in-depth examination of the original MPA design guidance will also be needed to analyze the proposed changes.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** The partial redesignation and changes to special closures around the Channel Islands are likely to be controversial.

Petition Number: 2023-19MPA

Petitioner: Sam Cohen, Santa Ynez Band of Chumash Mission Indians

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding approach to co-management of MPAs with California Native American Tribes and creation of new MPAs.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N**): Requested changes will require coordination with the California Natural Resources Agency, other state and federal agencies, local jurisdictions, and other partners regarding policies for co-management of the state's natural resources with California Native American Tribes.
- **Is clarification needed from the petitioner? (Y):** Additional clarification needed from the petitioner regarding the definition of tribal co-management in the context of this petition and proposed regulation changes.
- **Is limited controversy anticipated? (N):** Establishing a new MPA is likely to be controversial.

Petition Number: 2023-20MPA

Petitioner: Sam Cohen, Santa Ynez Band of Chumash Mission Indians

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance on approach to co-management of MPAs with California Native American Tribes and changes in take regulations of an SMCA.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** Requested changes will require coordination with the California Natural Resources Agency, other state and federal agencies, local jurisdictions, and other partners regarding policies for co-management of the state's natural resources with California Native American Tribes.
- **Is clarification needed from the petitioner? (Y):** Significant clarification is needed from the petitioner regarding the definition of tribal co-management in the context of this petition.
- **Is limited controversy anticipated? (N):** Decreasing the level of protection of an SMCA and proposed differences in take allowances by diverse sectors are likely to be controversial.

Petition Number: 2023-21MPA

Petitioner: Rosa Laucci, Tolowa Dee-ni' Nation

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance on approach to co-management of MPAs with California Native American Tribes and the creation of a tribal take-only MPA.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** Requested changes will require coordination with the California Natural Resources Agency, other state and federal agencies, local jurisdictions, and other partners regarding policies for co-management of the state's natural resources with California Native American Tribes.
- **Is clarification needed from the petitioner? (Y):** Clarification is needed from the petitioner about the tribal take exemption.
- **Is limited controversy anticipated? (N):** Creating a tribal-take only MPA and proposed differences in take allowances by diverse sectors are likely to be controversial.

Petition Number: 2023-23MPA

Petitioner: Keith Rootsaert, Giant Giant Kelp Restoration

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding redesignation of entire MPAs and creation of new MPAs.
- **Does the petition fall within CFGC regulatory authority? (Y/N):** Several requested changes are within CFGC authority, while many are non-regulatory requests.
- **Is immediate evaluation possible? (N):** Several requested changes will require coordination with other management priorities such as the KRMP and updates to statewide invertebrate take regulations. Evaluation of the requested changes will require in-depth analysis and coordination with many partners including National Marine Sanctuaries and several other state agencies.
- **Is clarification needed from the petitioner? (Y):** The scope of changes requested in this petition are extensive and complex and will require extensive coordination with the petitioner.

- **Is limited controversy anticipated? (N):** Establishment of new MPAs is likely to be controversial. Stakeholders in the Monterey area have consistently provided public comments on prior CFGC actions like those proposed within the petition, indicating a high degree of anticipated controversy on other petition components.

Petition Number: 2023-24MPA

Petitioner: Mike Beanan, Laguna Bluebelt Coalition

- **Is policy guidance needed for the next phase of evaluation? (N):** Changes requested do not require policy guidance from the CFGC.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** A more in-depth examination of the original MPA design guidance will be needed for this petition to analyze the proposed change.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Public comments/letters have already been received by CDFW and CFGC about this petition, indicating a high degree of anticipated controversy.

Petition Number: 2023-27MPA

Petitioner: Azsha Hudson, Environmental Defense Center

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding re-designation of SMCA to SMR. The requested change does not align with the intent of this MPA identified during the Channel Islands planning process and would affect current tribal take allowances.
- **Does the petition fall within CFGC regulatory Authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** Evaluation of this petition will require coordination with the Santa Ynez Band of Chumash Mission Indians and many external partners including National Marine Sanctuaries, National Marine Fisheries Service, and the National Park Service. A more in-depth examination of the original MPA design guidance will also be needed to analyze the proposed changes.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Re-designation of entire MPA, effects on tribal take exemptions, and effects of proposed changes to the commercial and recreational lobster fisheries are likely to be controversial.

Petition Number: 2023-28MPA

Petitioner: Lisa Suatoni, Natural Resources Defense Council

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding the creation of new MPAs.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.

- **Is immediate evaluation possible? (N):** Requested changes will require coordination with the California Natural Resources Agency, other state and federal agencies, local jurisdictions, and other partners regarding policies for co-management of the state's natural resources with California Native American Tribes.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Establishment of a new MPA is likely to be controversial.

Petition Number: 2023-29MPA

Petitioner: Lisa Suatoni, Natural Resources Defense Council

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding the creation of new MPAs.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** Requested changes will require coordination with the California Natural Resources Agency, other state and federal agencies, local jurisdictions, and other partners regarding policies for co-management of the state's natural resources with California Native American Tribes. A more in-depth examination of the original MPA design guidance will be needed for this petition before staff can analyze the proposed change.
- **Is clarification needed from the petitioner? (Y):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Establishment of a new MPA is likely to be controversial.

Petition Number: 2023-32MPA

Petitioner: Ashley Eagle-Gibbs, Environmental Action Committee of West Marin

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding the redesignation of an SMCA to an SMR that does not align with MLPA design process intent of the MPA and expansion of the existing MPA.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** A more in-depth examination of the original MPA science design guidance will be needed to analyze the proposed change.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Due to this site being a popular area for human use, a designation change and boundary expansion are likely to be controversial.

Petition Number: 2023-33MPA

Petitioner: Laura Deehan, Environment California Research and Policy Center and Azul

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance regarding the redesignations of SMCAs to an SMRs that do not align with MLPA design process intent of the MPA, creation of a new MPA, and expansion of existing MPAs.

- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** Because this petition's stated intent is to assist in kelp forest recovery, this petition will need to be evaluated in concert with the KRMP, which is not yet complete.
- **Is clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N)** Creation of a new MPA and large expansion of existing MPAs are likely to be controversial. There has already been significant local stakeholder discussion regarding the proposed Pleasure Point MPA in Santa Cruz County.

Petition Number: 2023-34MPA

Petitioner: Laura Deehan, Environment California Research and Policy Center and Azul

- **Is policy guidance needed for the next phase of evaluation? (Y):** Requires guidance on the redesignation of the SMCA to an SMR that does not align with MLPA design process intent of the MPA.
- **Does the petition fall within CFGC regulatory authority? (Y):** All requested regulatory changes are within CFGC authority.
- **Is immediate evaluation possible? (N):** Analysis will require a more in-depth examination of the original MPA design guidance regarding the proposed changes.
- **Is Clarification needed from the petitioner? (N):** Changes requested are straightforward and do not require detailed clarification from petitioner.
- **Is limited controversy anticipated? (N):** Anticipated to be highly controversial with the recreational and commercial fishing communities in the areas of the proposed changes.

From: Sam Campbell <sam.campbell@wildcoast.org>
Sent: Tuesday, July 2, 2024 02:16 PM
To: FGC <FGC@fgc.ca.gov>
Subject: Packet in Support of 2023-26MPA

Hello,

Please see the attached packet with letters of support and relevant scholarly articles for the San Diego area petition, 2023-26MPA, submitted by WILDCOAST.

Best,
Sam Campbell
US Ocean Conservation Specialist
WILDCOAST

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WILDCOAST.ORG | COSTASALVAJE.ORG

July 2, 2024

Re: Fish and Game Commission Marine Resources Committee Meeting, July 17, 2024; Agenda Item 2 (Marine protected area (MPA) regulation change petitions evaluation process); Support for San Diego-area Petition (tracking number 2023-26MPA) submitted by WILDCOAST/San Diego MPA Collaborative)

Dear Commissioner Murray and Honorable Members of the Marine Resources Committee,

I am writing to you today to submit a packet in support of the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to the local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

This packet includes letters of support with signatures from 60 local stakeholders and three scholarly articles discussing the importance of increased management efforts for the rocky intertidal zone.

The petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions* and we encourage swift review and approval.

Petition Recommendations

- **Swami's SMCA:** Shift the entire shape south from the lifeguard tower to the State/Solana Beach line to cover tidepools on the south side.
- **Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA:** Change the color of SMCA (No-Take) from purple to red in materials for outreach purposes only.

The proposed changes were developed through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing these areas. These adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

Importance of Proposed Adjustments

- **Swami's SMCA Boundary Shift:** The recommendation to shift the boundary of Swami's SMCA to cover the tidepools on the southern side (Seaside Reef) is a critical step in combating harmful tidepooling practices. This minor adjustment will protect the reef for tidepool protections and outreach purposes without increasing the total size of the MPA. It will also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with

local anglers, LED officers, and MPA managers, further highlighting the collaborative nature of this effort.

- **Color Designation Change:** Changing the color designation from purple to red for the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes will simplify messaging for the general public. This non-regulatory change, also proposed in Santa Barbara County, Orange County, and San Diego County, will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and aligning with CDFW's goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, reflect a shared commitment to the conservation of our coastal and marine resources. This commitment is integral to the well-being of our community and the ecological health of the region.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Sam Campbell
U.S. Ocean Conservation Specialist
WILDCOAST

June 28, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

I am deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. I am writing to express my support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

WILDCOAST's petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions*, and I recommend quick review and approval.

Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepools on the South side).
2. Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA: Change the color of SMCA (No-Take) from purple to red in materials for outreach purposes only.

The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community

structure and function."[1] This minor adjustment shifts the boundaries of Swami's SMCA south to cover the reef for tidepool protections and outreach purposes, without increasing the total size of the MPA. This change would also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with local anglers, LED officers, and MPA managers, further highlighting the collaborative and consensus-driven nature of this effort.

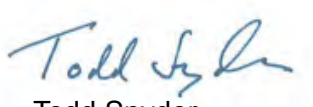
Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, I advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,



Todd Snyder
Director
Stormwater Department, City of San Diego

[1] Garcia, A., & Smith, J. R. (2013). Factors influencing human visitation of southern California rocky intertidal ecosystems. *Ocean & Coastal Management*, *73*, 44–53. https://doi.org/10.1016/j.ocecoaman.2012.12.006

June 27, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

I am deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. I am writing to express my support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

WILDCOAST's petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions*, and I recommend quick review and approval.

Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepools on the South side).
2. Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA: Change the color of SMCA (No-Take) from purple to red in materials for outreach purposes only.

The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community structure and function."[1] This minor adjustment shifts the boundaries of Swami's SMCA south to cover the reef for tidepool protections and outreach purposes, without increasing the total size of the MPA. This change would also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with local anglers, LED officers, and MPA managers, further highlighting the collaborative and consensus-driven nature of this effort.

Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, I advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Mary Munk

Mary Munk, President
Walter Munk Foundation for the Oceans
mary@waltermunkfoundation.org
(619) 840-0250

[1] Garcia, A., & Smith, J. R. (2013). Factors influencing human visitation of southern California rocky intertidal ecosystems. *Ocean & Coastal Management*, *73*, 44–53. https://doi.org/10.1016/j.ocecoaman.2012.12.006

June 28, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

We are deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. We are writing to express our support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

WILDCOAST's petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions*, and I recommend quick review and approval.

Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepools on the South side).
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The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of

community structure and function."[1] This minor adjustment shifts the boundaries of Swami's SMCA south to cover the reef for tidepool protections and outreach purposes, without increasing the total size of the MPA. This change would also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with local anglers, LED officers, and MPA managers, further highlighting the collaborative and consensus-driven nature of this effort.

Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, we advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

Further, San Diego Audubon Society has been deeply invested in protecting the MPA habitat and surrounding areas and the marine mammals and seabirds in La Jolla. Though wildlife use these protected areas and belong to the ecosystem, we and our partners have faced considerable challenges protecting these animals from disturbance and harassment from the general public[2], exposure to toxic pollution from management of this area [2], and lack of enforcement to protect wildlife by the City of San Diego, CDFW, USFWS, and NOAA. We urge you to consider extending MPA protections to the wildlife that forage and depend on resources in these protected areas, but may use peripheral areas surrounding the MPAs for other activities that include breeding, loafing, and roosting.

We urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

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[1] Garcia, A., & Smith, J. R. (2013). Factors influencing human visitation of southern California rocky intertidal ecosystems. *Ocean & Coastal Management*, *73*, 44–53. https://doi.org/10.1016/j.ocecoaman.2012.12.006

[2] Handa, L. (2023). Preserving San Diego's "Jewels." *Sketches San Diego Audubon Magazine*, V75,#2, 8-9. https://www.sandiegoaudubon.org/file_download/e4d01a7c-4c38-4043-96c3-dce159e13b5c

Thank you for your attention to this matter, and we look forward to a positive resolution in the best interests of our shared environment.

Respectfully,

Lesley Handa
Lead Ornithologist
San Diego Audubon Society

CITY OF OCEANSIDE

June 26, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

I am deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. I am writing to express my support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

WILDCOAST's petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions, and I recommend quick review and approval.

Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepools on the South side).

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The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community structure and function." This minor

adjustment shifts the boundaries of Swami's SMCA south to cover the reef for tidepool protections and outreach purposes, without increasing the total size of the MPA. This change would also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with local anglers, LED officers, and MPA managers, further highlighting the collaborative and consensus-driven nature of this effort.

Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, I advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Jayme Timberlake

Coastal Zone Administrator
City of Oceanside
jtimberlake@oceansideca.org

June 24, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

I am deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. I am writing to express my support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

WILDCOAST's petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions*, and I recommend quick review and approval.

Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepools on the South side).
2. Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA: Change the color of SMCA (No-Take) from purple to red in materials for outreach purposes only.

The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community

structure and function."[1] This minor adjustment shifts the boundaries of Swami's SMCA south to cover the reef for tidepool protections and outreach purposes, without increasing the total size of the MPA. This change would also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with local anglers, LED officers, and MPA managers, further highlighting the collaborative and consensus-driven nature of this effort.

Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, I advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Udo Wahn, M.D.
Vice- Chair Executive Committee
Surfrider Foundation San Diego Chapter

[1] Garcia, A., & Smith, J. R. (2013). Factors influencing human visitation of southern California rocky intertidal ecosystems. *Ocean & Coastal Management*, *73*, 44–53. https://doi.org/10.1016/j.ocecoaman.2012.12.006

ENDANGERED HABITATS LEAGUE
DEDICATED TO ECOSYSTEM PROTECTION AND SUSTAINABLE LAND USE

June 25, 2024

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

RE: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

Endangered Habitats League is deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. We are writing to express our support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

WILDCOAST's petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions*, and we recommend quick review and approval.

Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line) to cover tidepools on the South side.
2. Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA: Change the color of SMCA (No-Take) from purple to red in materials for outreach purposes only.

The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can

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Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, We advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

We urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and we look forward to a positive resolution in the best interests of our shared environment.

Yours truly,

Dan Silver
Executive Director

[1] Garcia, A., & Smith, J. R. (2013). Factors influencing human visitation of southern California rocky intertidal ecosystems. *Ocean & Coastal Management*, *73*, 44–53. https://doi.org/10.1016/j.ocecoaman.2012.12.006

June 25, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

I am deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. I am writing to express my support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

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Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepools on the South side).
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I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Elizabeth Ferguson
CEO
Ocean Science Analytics

[1] Garcia, A., & Smith, J. R. (2013). Factors influencing human visitation of southern California rocky intertidal ecosystems. *Ocean & Coastal Management*, *73*, 44–53. https://doi.org/10.1016/j.ocecoaman.2012.12.006

June 26, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

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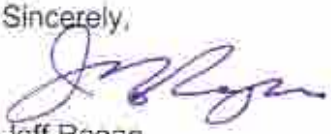
Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, I advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,



Jeff Regan
Secretary - Board of Directors
Batiquitos Lagoon Foundation

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[1] Garcia, A., & Smith, J. R. (2013). Factors influencing human visitation of southern California rocky intertidal ecosystems. *Ocean & Coastal Management*, 73, 44–53. https://doi.org/10.1016/j.ocecoaman.2012.12.006

June 25, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

I am deeply committed to ocean protection and the successful implementation of California's Marine Protected Area (MPA) Network. I am writing to express my support for the petition submitted by WILDCOAST, in collaboration with the San Diego MPA Collaborative, requesting changes to local Marine Protected Area (MPA) regulations in San Diego County (tracking number 2023-26MPA).

WILDCOAST's petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) *Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions*, and I recommend quick review and approval.

Petition recommendations:

1. Swami's SMCA : Shift the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepools on the South side).
2. Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA: Change the color of SMCA (No-Take) from purple to red in materials for outreach purposes only.

The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community

structure and function."[1] This minor adjustment shifts the boundaries of Swami's SMCA south to cover the reef for tidepool protections and outreach purposes, without increasing the total size of the MPA. This change would also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with local anglers, LED officers, and MPA managers, further highlighting the collaborative and consensus-driven nature of this effort.

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These recommendations, born out of extensive research, dialogue, and consensus within the San Diego MPA Collaborative, deserve your serious consideration. They reflect a shared commitment to the conservation of our coastal and marine resources, a commitment that is integral to the well-being of our community and the ecological health of the region.

I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Michael Stewart
Co-Founder / Director
Sustainable Surf / SeaTrees

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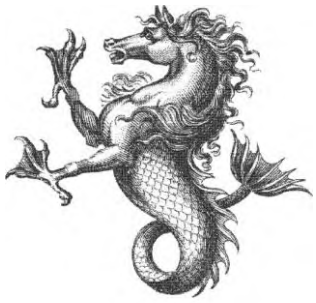

SEA of CLOUDS

June 26, 2024

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

RE: CALIFORNIA FISH AND GAME COMMISSION MARINE RESOURCES COMMITTEE JULY 2024 MEETING: PREVIOUSLY RECEIVED MPA PETITIONS, TRACKING NUMBER 2023-26MPA -- SUPPORT

Dear Commissioners Sklar, Murray, and Marine Resources Committee Staff,

Sea of Clouds is a nonprofit preservation practice interested in human connections to landscapes and seascapes. We appreciate this opportunity to continue to express our support for California's Marine Protected Area (MPA) Network, and the Commission's continued investment in its improvement. We support requested changes to San Diego County MPA regulations, in a petition submitted by WILDCOAST in collaboration with the San Diego MPA Collaborative (tracking number 2023-26MPA).

The petition has been placed in Bin 1 of the California Department of Fish and Wildlife's (CDFW) Draft Proposed Phase 1 Categorization of Marine Protected Area Petitions. We recommend quick review and approval. Specifically, the petition recommendations:

1. **Swami's SMCA:** Shift the entire shape southward (from the lifeguard tower to the State/Solana Beach line to incorporate tidepools on the MPAs southern end).

2. **Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA:** Change from purple to red the color of SMCA (No-Take) on printed and online outreach materials.

The proposed changes outlined in the petition were generated through consideration, engagement, and assessment of the unique challenges facing each of these areas. These changes aim to address compliance, effective enforcement, and simplified regulations to improve public understanding.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools at the MPAs southern end (Seaside Reef, which is unprotected within the MPAs current boundaries) is an important step in addressing harmful and destructive tidepooling practices. As Garcia and Smith (2013) write:

> "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community structure and function."[1]

This boundary adjustment shifts Swami's SMCA southward to cover the Seaside Reef for both practical tidepool protection and improved visitor understanding, without increasing the MPA's size. This change also provides a clearer boundary demarcation and will assist effective enforcement. The Swami's SMCA proposal reflects conversation and compromise reached between local anglers, LED officers, and MPA managers -- further highlighting the collaborative and consensus-driven nature of the proposal.

The proposed color change in color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach materials, is a simplifying step for the public. This non-regulatory change is similarly proposed for

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Santa Barbara County and Orange County no-take MPAs and will be easier for the public to understand and adhere to MPA regulations,

These recommendations emerge from observation, research and dialogue. We urge the Commission to support the petition and take action to implement these changes.

Thank you for your consideration and please feel free to contact me with any questions.

Sincerely,

Michael Blum
Director

June 25, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

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Petition recommendations:

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The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community structure and function."[1] This minor adjustment shifts the boundaries of Swami's SMCA south to cover the reef for tidepool protections and outreach purposes, without increasing the total size

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of the MPA. This change would also provide clearer demarcation and aid law enforcement in safeguarding these valuable ecosystems. This proposal reflects a conversation and compromise reached with local anglers, LED officers, and MPA managers, further highlighting the collaborative and consensus-driven nature of this effort.

Regarding the proposal to change the color designation from purple to red in the Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, and Famosa Slough No-Take SMCA for outreach purposes, I advocate for simplifying messaging for the general public. This non-regulatory change being proposed in Santa Barbara County, Orange County, and San Diego County will make it easier for the public to understand and adhere to MPA regulations, reducing the burden on enforcement officials and is aligned with the CDFW goal of enhancing outreach and educational efforts.

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I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Ann Van Leer
Executive Director

Escondido Creek Conservancy

June 25, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

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Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Laurie Broedling
Co-founder
San Diego Green Infrastructure Consortium

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June 24, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

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Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Eleanora I. Robbins
Director
Science Explorers Club

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June 24, 2024

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P.O. Box 944209
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Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Pamela Heatherington
Board of Directors
Environmental Center of San Diego
30x30 Regional Co-lead

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June 25, 2024

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P.O. Box 944209
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Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Michael Bear
Community Science Director
Ocean Sanctuaries
San Diego, CA
(858) 333-2911

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June 25, 2024

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P.O. Box 944209
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Email: FGC@fgc.ca.gov

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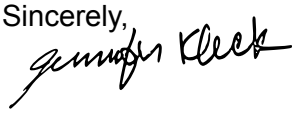
Sincerely,



Jennifer Kleck
Managing Member & Owner
La Jolla Sea Cave Kayaks, LLC

June 25, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

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Sincerely,

Jenna Mitchell
Activism Team Lead
Patagonia Cardiff

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June 25, 2024

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P.O. Box 944209
Sacramento, CA 94244-2090
Email: FGC@fgc.ca.gov

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Sincerely,

Shan Sethna
General Manager
La Jolla Sea Cave Kayaks @ Sea Level

June 24, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

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Tomas Valadez
California Policy Associate
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June 27, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

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June 27, 2024

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P.O. Box 944209
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Email: FGC@fgc.ca.gov

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Encinitas Resident

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June 26, 2024

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P.O. Box 944209
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Email: FGC@fgc.ca.gov

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Viviane Marquez

s
Volunteer and Docent
Batiquitos Lagoon

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Brittany Waddell

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June 25, 2024

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Email: FGC@fgc.ca.gov

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I urge the California Fish and Game Commission to support the petition submitted by WILDCOAST and the San Diego MPA Collaborative and take action to implement these crucial changes. Your support will contribute significantly to the protection and sustainability of San Diego County's marine ecosystems for current and future generations.

Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

Joe Cooper
MPA consultant
WildCoast Contractor

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June 24, 2024

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

Subject: Comments on Fish and Game Commission Marine Resources Committee July 17-18, 2024 Meeting Agenda Item on Previously Received Petitions, Marine Protected Areas (Specifically regarding petition with tracking number 2023-26MPA)

Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

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The proposed changes outlined in the petition were generated through careful consideration, stakeholder and public engagement, and a comprehensive assessment of the unique challenges facing each of these areas. These proposed adjustments aim to address compliance concerns, facilitate effective enforcement, and simplify regulations to improve public understanding and compliance.

In particular, the recommendation to shift the boundary of Swami's State Marine Conservation Area (SMCA) to cover the tidepools on the southern side (Seaside Reef, which is unprotected with the current boundaries) is a critical step in combating harmful tidepooling practices. "The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community

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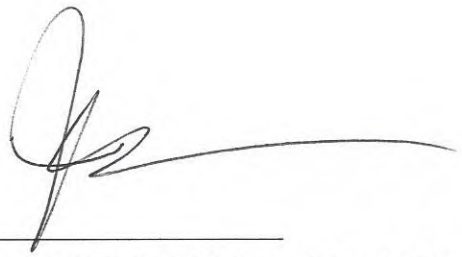
Thank you for your attention to this matter, and I look forward to a positive resolution in the best interests of our shared environment.

Sincerely,

[Signatories' Information:
Your Name Julia Walker
Your Title San Diego, CA 92130
Organizations Name]



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Dear Commissioner Sklar, Commissioner Murray, and Honorable Members of the Marine Resources Committee,

I have spent my career as an environmental attorney specializing in coastal and related issues. I have served as a member of the Coastal Commission, and currently am in my third term as a member of the Del Mar City Council. I write on my own behalf. While much of this letter is in template form, I have reviewed it carefully and agree with all its points.

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D. Dwight Worden June 24, 2024

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Sincerely,
Debra Quick-Jones
Community Member

June 8, 2024

California Fish and Game Commission
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Email: FGC@fgc.ca.gov

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FLIP →

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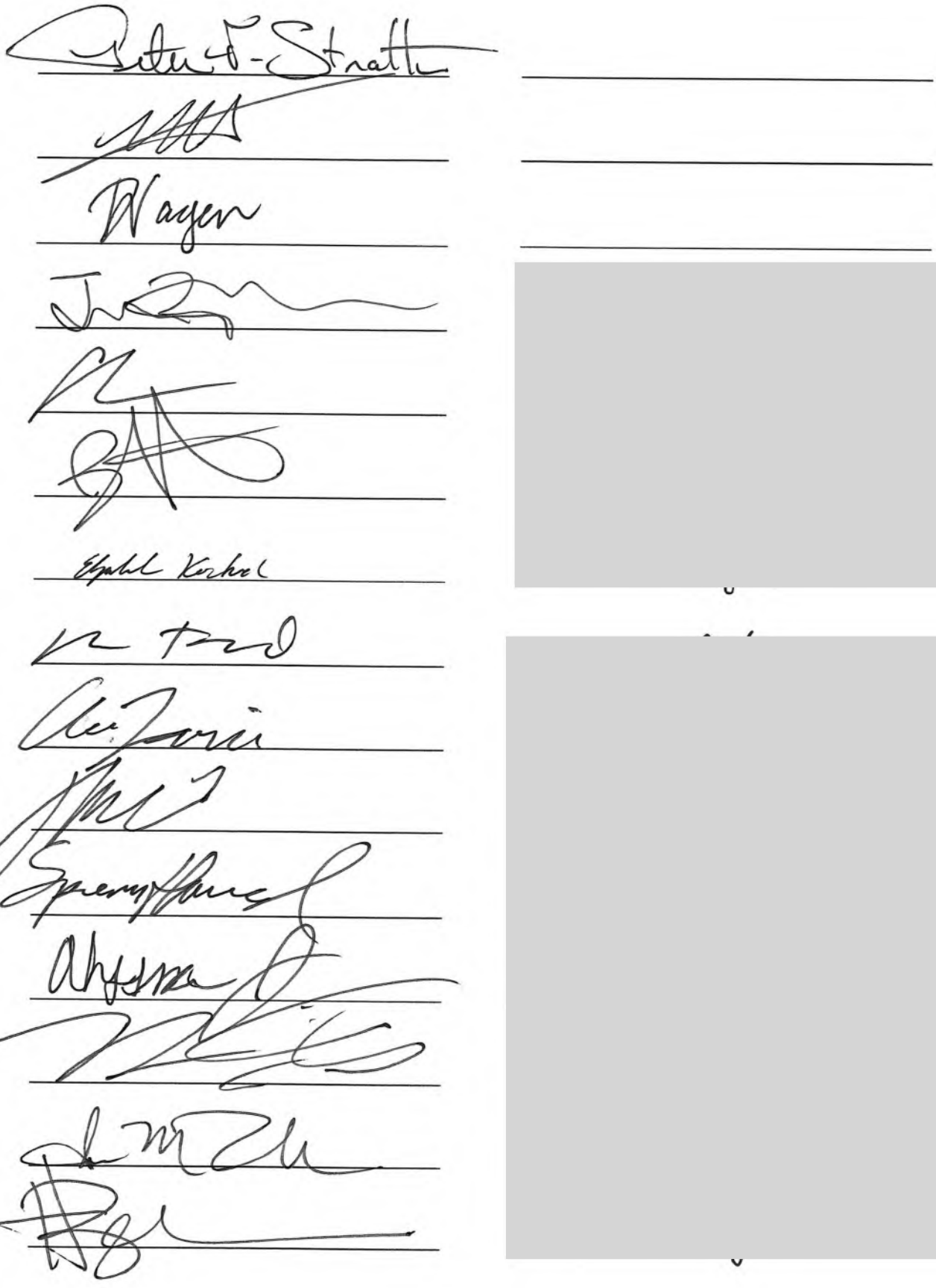

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Alterations in human visitation patterns and behaviors in southern California rocky intertidal ecosystems over two-decades following increased management efforts

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ABSTRACT

In urbanized regions, such as southern California, USA, marine rocky intertidal habitats are frequented by large numbers of human visitors. Visitor activities, such as trampling, rock turning, and collecting, can harm rocky shore flora and fauna, including reducing their abundances, diversity, and reproductive output, shifting their size/age structure, and altering normal ecosystem functioning. Research characterizing human use of these ecosystems in 1995–96 at 8 sites in Orange County, California, revealed that levels of visitation and collecting were high at some sites, despite collecting being prohibited in these Marine Protected Areas, and that these behaviors have adversely affected some organisms. Over the decade following, the Orange County Marine Protected Area Council (OCMPAC), a local conservation collaborative, implemented education, outreach, and enforcement strategies to reduce the harmful activities of visitors. To determine whether human visitation and behaviors have changed over the last two-decades, during a period of increased management associated with OCMPAC efforts, we compared human use patterns between 1995–96 and 2013–14. Comparisons revealed a decrease in the frequency of detrimental activities, such as collecting and fishing, possibly due to management strategies. However, increases in visitation frequency over time, which often includes the detrimental impacts of trampling on organisms, highlights that some activities are increasing and will remain difficult to manage in the future. Comparisons of the size structures of *Lottia gigantea*, an exploited limpet herbivore, over the same time period, reveal an increase in size, possibly indicative of reduced collecting pressure, potentially as a result of OCMPAC management. While some adaptive management is necessary to improve enacted management strategies, it is recommended that the conservation model set by OCMPAC be introduced to other coastal regions exhibiting high levels of human visitation in order to better manage rocky intertidal ecosystems.

1. Introduction

The extensive urbanization of coastal regions results in a number of anthropogenic related disturbances to fragile coastal ecosystems, including the impacts from pollution and eutrophication (Smith, 2003; Islam and Tanaka, 2004; Johnston and Roberts, 2009; Rabalais et al., 2009), climate change (Scavia et al., 2002; Harley et al., 2006; Hoegh-Guldberg and Bruno, 2010), habitat degradation and loss (Rotschild et al., 1994; Lotze et al., 2006; Waycott et al., 2009), and species overexploitation (Jackson et al., 2001; Myers and Worm, 2003; Ling et al., 2009). Globally, rocky intertidal habitats are particularly vulnerable to anthropogenic disturbances as they lie at the interface of the ocean and land and, thus, can be impacted by terrestrial runoff, may be settling locations for ocean oil spills, and are accessible to humans during low tide exposure for exploitation and other impacts associated with human visitation. Along the urbanized southern California, USA coastline, with ca. 18 million residents (2014; http://census.gov) and well over 129 million beach visits on an annual basis (Dwight et al., 2007; use values from only 75 beaches for the years 2000–2004), marine rocky intertidal habitats are heavily visited during low tide periods by a large number of human visitors. Given that rocky intertidal habitats in the southern California are limited to headlands, interspersed by long strands of sandy beach, and constitute only 20% of

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0964-5691/

the coastline (and only 7% in Orange County, the area of particular focus; Smith et al., 1976), use can be concentrated on small areas of habitat. Previous research reveal that use at some locations in the region can exceed well over 50,000 visitors a year (standardized to a 100 m shoreline length; Ambrose and Smith, 2005; Ware, 2009). Although typically high, levels of human visitation to rocky intertidal sites are known to vary among sites in the region, with some low use sites found geographically near high use sites. Recent research has indicated that some characteristics about sites can drive the levels of use (Garcia and Smith, 2013). For example, the popularity of a location for educational field trips by pre-college schools, community colleges, and four-year universities, is positively related to an increase in overall number of visitors. Equally important is the physical effort involved in accessing a site, with sites that are physically difficult to reach having far fewer visitors.

Visitors are "tidepooling" for multiple purposes, including recreation, education, and harvesting of organisms (Addessi, 1994; Murray, 1998; Murray et al., 1999; Ambrose and Smith, 2005). It is well documented that many of the accompanied activities of visitors are known to have multiple harmful effects on rocky intertidal organisms. Trampling (Brosnan and Crumrine, 1994; Keough and Quinn, 1998; Brown and Taylor, 1999; Schiel and Taylor, 1999; Smith and Murray, 2005; Araujo et al., 2009; Huff, 2011; Travaille et al., 2015), handling (Zedler, 1978; Ambrose and Smith, 2005), rock-turning (Zedler, 1978; Cryer et al., 1987; Liddiard et al., 1989; Addessi, 1994), and collecting of live organisms (Castilla and Bustamante, 1989; Duran and Castilla, 1989; Kingsford et al., 1991; Roy et al., 2003; Smith and Murray, 2005) by rocky intertidal visitors can reduce abundances of faunal and floral populations, decrease biodiversity, cause shifts in the size/age structure of populations towards smaller/younger individuals, decrease the reproductive output of populations, and alter normal ecosystem functioning (Zedler, 1978; McLachlan and Lombard, 1981; Ghazanshahi et al., 1983; Castilla and Bustamante, 1989; Duran and Castilla, 1989; Pinn and Roger, 2005; Smith and Murray, 2005; Sagarin et al., 2007).

In southern California, and elsewhere, coastal managers are greatly concerned with monitoring and protecting rocky intertidal habitats from the impacts related to human visitation. A common management tool used to protect marine ecosystems, including rocky intertidal habitats, is to designate specified locations as Marine Protected Areas (MPAs) (Gubbay, 1995; Murray, 1998; Murray et al., 1999; Ambrose and Smith, 2005). Despite differing types of MPAs offering various forms of protection for both pelagic and coastal ecosystems, rocky intertidal MPAs have historically in this region, been fully protected by law, whereby the collecting of organisms is prohibited (McArdle, 1997; California Department of Fish and Wildlife: www.dfg.ca.gov/marine/mpa/index). In cases where offshore fishing is permitted, fishermen can cast while standing in rocky intertidal habitats but cannot collect bait from on-site. Despite these regulations, MPAs have been suggested to be ineffective in protecting rocky intertidal habitats as compliance with regulations has been low, with collecting continuing to be a common occurrence (Murray, 1998; Murray et al., 1999; Ambrose and Smith, 2005). In addition, MPAs do not protect rocky intertidal species from trampling, rock turning, and handling as regulations are focused primarily on collecting (Smith et al., 2008; Travaille et al., 2015). As a result, species that are considered to be strong indicators of use, such as mussels and owl limpets, both species that are targeted for collecting for food and fish bait, are not benefitted by being within a MPA (Kido and Murray, 2003; Smith et al., 2008).

In the mid-1990s, research along a ~15.5 km stretch of shoreline in Orange County in the central portion of southern California was focused on understanding visitation patterns and their effects on rocky intertidal species (Murray, 1998; Murray et al., 1999; Sato, 2001; Kido and Murray, 2003; Smith and Murray, 2005). Murray (1998 et al., 1999) quantified levels of use and characterized the behavior of human visitors in 1995–96 at 8 Orange County MPAs. This study documented a high number of visitors at some sites and highlighted that a large proportion of the visitors were collecting organisms, or involved in other detrimental behaviors, despite organisms at these sites being legally protected under MPA regulations. Murray (1998 et al., 1999) noted that the lack of compliance was likely attributable to lack of enforcement, as the presence of enforcement agents was only observed twice over the 768 h of surveys, and the lack of knowledge of MPA regulations by visitors. During this same period, a series of concurrent studies suggested that human behaviors have detrimentally affected target species as high use sites exhibited a decline in mussels (Smith, 2002) and rockweeds (Denis, 2003) and a shift in the size structure of owl limpets (Kido and Murray, 2003) and trochid snails (Sato, 2001) towards smaller individuals, a result of humans collecting larger individuals.

In response to Murray's findings, a local collaborative was formed to help address visitor use issues in the region, evolving eventually into the Orange County Marine Protected Area Council (OCMPAC). The importance of local stakeholder, or community, supported management strategies generally has been shown to be a major contributor to positive ecological changes in marine sanctuaries (Walmsley and White, 2003). OCMPAC is a stakeholder group and collaboration of federal, state, county, and city officials, institutional representatives, environmental consultants, state parks, academic faculty, and nonprofit organization members. The organization's goals are to set the model for localized implementation of marine conservation efforts through regional communication and cooperation (www.ocmarineprotection.org). OCMPAC uses the various resources and expertise that each member, or member organization, have to develop and support strong management strategies. In the decade following Murray's studies, OCMPAC set forth a series of supplemental management strategies, which evolved, improved, and increased over time, to help alleviate gaps in enforcement and public awareness, in addition to the long-standing MPA regulations (which have remained unchanged at these rocky intertidal sites, despite restructuring of MPA boundaries and designations in southern California in 2012).

OCMPAC strategies to protect local rocky intertidal habitats were initiated by establishing MPA signs that were located at strategic access points to beaches that clearly explained marine reserve regulations as well as suggestions on how to minimize impacts during other tidepooling activities. Signage has been proven to be an effective approach for managing human behaviors and tourism in an effort to conserve other natural resources (Aukerman, 1985; Walmsley and White, 2003; Herstine et al., 2006). These signs have been improved over time and were established at every rocky intertidal access point in the region by the mid-2000s.

Public awareness was also increased through the initiation of tidepool educator programs, whereby trained educators, both paid and volunteer (ie. docents), associated with the Crystal Cove State Park, Dana Point Ocean Institute, or Laguna Ocean Foundation programs are on site at some of the more highly visited locations during low tide periods to educate the public on environmentally safe tidepooling practices. In addition, educators provide for streamlined communication to enforcement personnel when illegal activities are observed. In protected areas, interpretative programs are known to help alleviate human impacts by keeping visitors informed about conservation efforts (Aukerman, 1985; Oliver et al., 1985; Littlefair and Buckley, 2008). In addition, a meta-analyses involving 18 guided marine wildlife interpretative

tours revealed that educational based programs provide visitors with a wide range of marine conservation knowledge, and motivated individuals engaged in the programs to appreciate marine life, shift their attitudes and behaviors to be more environmentally responsible, and produce some long-term marine conservation intentions (Zeppel, 2008). However, Zeppel's study highlighted the need for further research to link observed changes in visitor behavior initiated by marine interpretation programs to beneficial outcomes for marine ecosystems. In Orange County, training of educators from each program is accomplished by OCMPAC through the standardization of practices for all groups, including three annual educator training sessions. Further public outreach and education has been enhanced through a suite of different approaches, including online learning lessons, the distribution of brochures and videos to school groups prior to their visit, and brochures provided to visitors on-site or at local shops in an effort to explain MPA regulations and tidepooling rules. The use of educational video presentations and brochures regarding conservational issues increases visitor knowledge and can potentially influence visitor behaviors (Perdue et al., 2012).

In combination with education and conservation based management, the enforcement of regulations has also demonstrated to be successful in the long-term preservation of Marine Protected Areas (Alder, 1996; Walmsley and White, 2003). Along the OC coastline, enforcement efforts have also been increased. Given prior enforcement relied solely on the underfunded and understaffed California Department of Fish and Game (now Department of Fish and Wildlife), the cities of Laguna Beach and Dana Point passed local ordinances giving local agencies the ability to cite offenders of reserve regulations. OCMPAC has been a driver for enforcement training of numerous local agencies, such as OC Sheriffs, Marine Safety Officers, and Animal Services, among others. In addition, coastal cities in the region have hired marine or resource managers as designated personnel for overseeing local shorelines. Lastly, OCMPAC has encouraged stricter regulations of educational field trips, a major contributor to visitor numbers (Garcia and Smith, 2013). School group requests are now channeled through the use of online forms to help control the number of visitors on any given day in addition to strategic placement of educators when a large number of school groups are present. Use of rocky intertidal locations in the region for research by scientists is also coordinated through similar online forms.

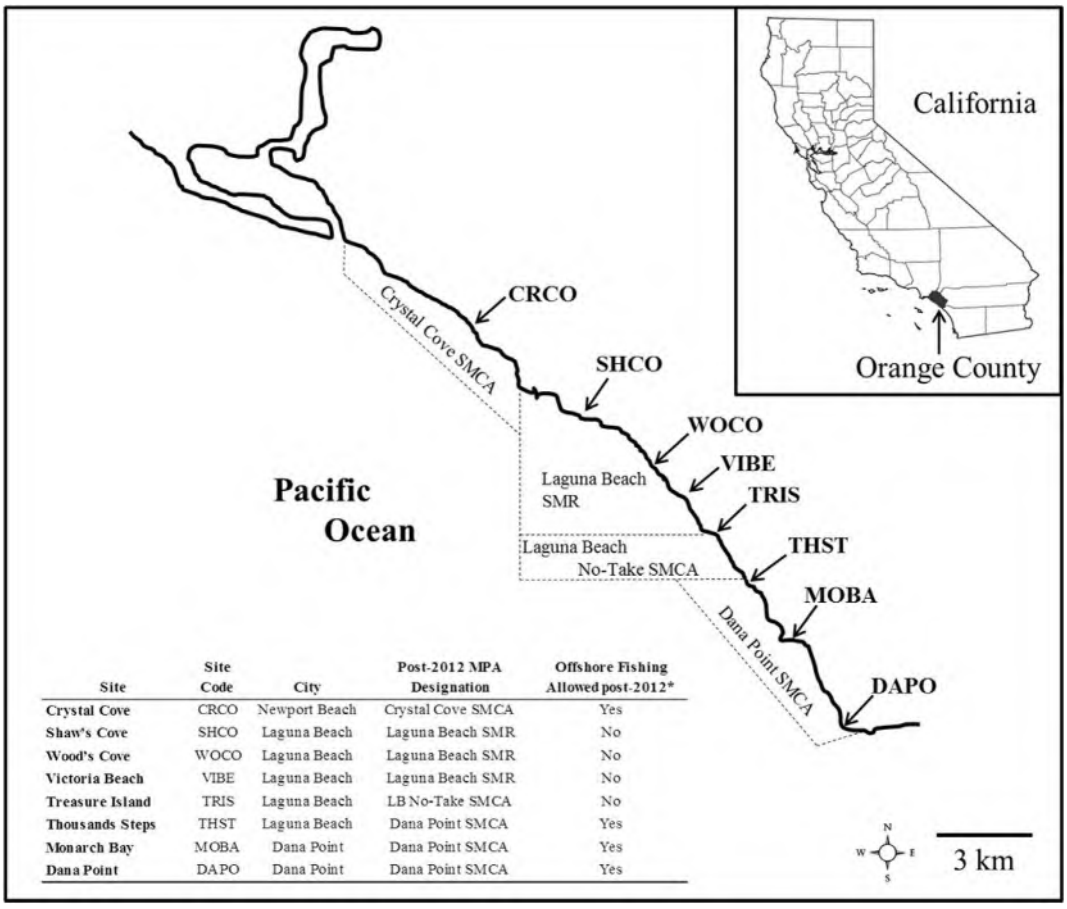
As with any management policy or effort, it is desired to elucidate the effectiveness of conservation strategies to establish whether adaptive management policies need to be set in place. The purpose of this study was to specifically determine whether human use and behaviors, particularly the more deleterious human activities such as fishing and collecting, of visitors to the rocky intertidal zone in 2013–14 in Orange County, CA has changed since previous surveys in the region in 1995–96. Given that numerous supplemental management strategies have been set in place by OCMPAC during this same time period, changes in visitation behaviors may be attributable to OCMPAC management efforts, although other drivers, such as increased ocean literacy or alterations in socio-economics, may play a role. In this case, a rare opportunity was available to examine linkages between changes in use patterns and enacted management strategies using visitation data from before and after management implementation. In addition, we resurveyed the size of owl limpets, with size being a strong indicator of collecting pressure (Kido and Murray, 2003; Sagarin et al., 2007), at these same sites over the same period of time (1997 vs 2013) when OCMPAC management strategies were in place to elucidate whether reduced collecting activities, and possibly increased management, have resulted in increases in size of an exploited herbivore.

2. Methods

2.1. Study sites

Eight rocky intertidal study sites were established along ~15.5 km of Orange County (OC) coastline in southern California, USA (Fig. 1). Sites were distributed relatively evenly along the OC coast, except in northern OC where appropriate rocky habitat is virtually absent and dominated by long stretches of sandy beach. These sites were originally established by previous researchers (see Murray, 1998; Murray et al., 1999; Kido and Murray, 2003) whose data is being used for comparison in this study. Sites were located on rocky outcrops that were interspersed by long spans of sandy beach. The topographic conditions varied little among the eight site locations, exhibiting a fairly uniform coastline, composed of large boulders and flat horizontal rocky benches. Geologically, 7 of the 8 sites were similar with substratum origins formed during the San Onofre Breccia Formation during the Cenozoic Era while the 8th site, Crystal Cove, had substratum origins as part of the Monterey Formation during the Cenozoic Era. In addition to topographic conditions, oceanographic conditions also were relatively similar among sites. Sea surface temperature and salinity varies little among sites (Sapper and Murray, 2003), ranging annually in the region from 13 to 21 °C and 32–34‰. These sites are mostly protected from large wave patterns by the offshore Channel Islands with Treasure Island, Victoria Beach, and Woods Cove having greater relative mean wave forces than the remaining sites (Sapper and Murray, 2003), though wave forces were not markedly larger. Although not sampled specifically, the biology at these locations were relatively similar, with the high intertidal zone dominated by barnacles, middle zone consisting of bands of rockweeds and mussels, and a low zone consisting of red algal turfs and kelps, along with moderately abundant populations of owl limpets. Historically, these eight locations have received varying levels of human activity and related collecting pressures (Murray, 1998; Murray et al., 1999). Sites were located in the cities of Newport Beach, Laguna Beach, and Dana Point with residents in these cities previously and currently being mostly affluent.

All eight locations, historically and currently, have been regulated as marine reserves or as Marine Protected Areas (MPAs; Fig. 1), where collecting of rocky intertidal organisms is prohibited by law. Prior to 2012, sites were located within several designated California Marine Life Refuges (MLRs) that were established in 1969–1971 (including Dana Point, Monarch Bay, Shaw's Cove, and Crystal Cove) and expanded to include the other portions of the OC coastline in 1994 (including Thousand Steps, Treasure Island, Victoria Beach, and Wood's Cove; McArdle, 1997). In January 2012, under the California Marine Life Protection Act (MLPA), much of the Orange County coastline, including all study sites, were designated as either State Marine Reserves (SMRs), State Marine Conservation Areas (SMCAs), or No-Take SMCAs. Victoria Beach, Wood's Cove, and Shaw's Cove sites are located in the Laguna Beach SMR, Treasure Island is in the Laguna Beach No-Take SMCA, Dana Point, Monarch Bay, and Thousand Steps are located in the Dana Point SMCA, and Crystal Cove is in the Crystal Cove SMCA. Despite the different levels of protection with some take being allowed within subtidal habitats of some MPAs, the damage or collecting, recreationally and commercially, of all rocky intertidal resources (living, geologic, or cultural), is, and has been, prohibited at all eight study locations (California Department of Fish and Wildlife: dfg.ca.gov/marine/mpa/index.asp). Prior to the 2012 MPA realignment, offshore recreational fishing while standing in the rocky intertidal zone was legal as long as fishermen were not fishing within tidepools or involved with the collection of intertidal species for bait (ie. mussels). However, following the 2012 MPA changes, offshore



Site	Site Code	City	Post-2012 MPA Designation	Offshore Fishing Allowed post-2012*
Crystal Cove	CRCO	Newport Beach	Crystal Cove SMCA	Yes
Shaw's Cove	SHCO	Laguna Beach	Laguna Beach SMR	No
Wood's Cove	WOCO	Laguna Beach	Laguna Beach SMR	No
Victoria Beach	VIBE	Laguna Beach	Laguna Beach SMR	No
Treasure Island	TRIS	Laguna Beach	LB No-Take SMCA	No
Thousands Steps	THST	Laguna Beach	Dana Point SMCA	Yes
Monarch Bay	MOBA	Dana Point	Dana Point SMCA	Yes
Dana Point	DAPO	Dana Point	Dana Point SMCA	Yes

Fig. 1. Map of 8 study sites in the southern portion of Orange County, California, USA. Indicated are the boundaries of the Marine Protected Areas (MPAs) following the 2012 MPA re-alignment. The site name, site code, city, MPA designation, and whether offshore fishing (with some restrictions) is allowed post-2012 MPA re-alignment are included.

fishing is no longer allowed at locations within the Laguna Beach SMR and No-Take SMCA, but still legal for some catch activities in the other MPAs (Fig. 1).

2.2. Human visitation

In order to determine if changes in visitation patterns have occurred since the use surveys conducted in 1995–1996 (Murray, 1998; Murray et al., 1999), human use levels and characterization of visitor behaviors were examined from October 2013 to June 2014 at the same eight rocky intertidal study sites, using the same methods as those used previously (Murray, 1998; Murray et al., 1999), but on a slightly modified frequency. Previously, human visitation surveys were carried out on 2 weekdays and 2 weekends per month for a year. In our case, we conducted surveys on at least one weekday and on one weekend each month, for a minimum of three weekend days and three weekday days within three established seasons, with exception of Treasure Island in the winter season where only 2 weekend samples were obtained. The seasons sampled were fall (October–December 2013), winter (January–March 2014), and spring (April–June 2014). Previous monthly raw data, provided by S.N. Murray, were combined within our established seasons. All surveys were conducted during hours between sunrise and sunset. In this region, there is seasonality in the timing of the lowest of low tides, with our surveys generally occurring between 1 and 5 PM in the fall, 10 AM-3 PM in the winter, and 6 AM-12 PM in the spring. In southern California, the strong low tides in the summer occur mostly during dark hours (~12–6 AM), after sunset and before sunrise, when visitors are absent and most sites are closed to the public, thus the summer season was avoided in the present study, with summer data from 1995 to 96 omitted from the comparison. Surveys did not occur during periods of inclement weather conditions or during periods of high wave activity, with sampling not conducted due to poor conditions on only 4 of 87 scheduled days of surveys.

Starting 1 h before and ending 1 h and 10 min after a low tide of 0.15 m or less, five 10-min surveys were conducted every 30 min. During 10-min surveys, visitors to the rocky intertidal portions of sites (omitting visitors to the sandy beach habitat) were counted, observed, and categorized into a behavior category based on the most detrimental activity conducted during those 10 min. In order of most detrimental to least, these behaviors included: fishermen collecting bait on-site, collectors of live organisms, collectors of shells, fishermen who brought bait with them, and tidepoolers (walking, handling, and observing). The sum of all these activities provided a numerical value for total human visitation during each 10-min survey. In addition, tidepool educators and enforcement agents within the boundaries of the site (either on the rocky shore or on the sand adjacent to the rocky shore) were counted during each survey. Counts for use and all categories were tallied for each 10-min survey and the mean of the five 10-min surveys at a site was calculated as an individual replicate. The mean of a behavior was then standardized by a 100 m of shoreline, based on the length of shoreline for a designated site. Lastly, anecdotal observations, such as which organisms were collected, whether organisms where replaced after handling, whether enforcement resulted in citations,

and others, were noted when possible.

2.3. Target species

To determine whether changes in the population dynamics of exploited marine organisms occurred during the same period of time of visitor behavior changes and enaction of OCMPAC management strategies, we focused on examining changes in shell length and size-frequency profiles of the owl limpet, *Lottia gigantea*. This species is well known to be a target for extraction, with size profiles being a strong indicator of collecting pressure due to humans collecting larger individuals, resulting in a shift in the population towards smaller-sized limpets (Kido and Murray, 2003; Ambrose and Smith, 2005; Sagarin et al., 2007; Fenberg and Roy, 2012). To examine the change in *L. gigantea* size, we resurveyed and compared owl limpet sizes at all eight sites to data collected previously by Kido and Murray in 1997 (Kido and Murray, 2003); raw data for 1997 were provided by J.S. Kido. Using similar methods to those implemented previously, we measured the shell length of owl limpets with calipers for individuals encountered during thorough searches of appropriate habitat at all 8 sites from May to September 2013. A minimum of 350 individuals were measured at each site. Only limpets greater than 15 mm were recorded as smaller owl limpets were not measured previously (Kido and Murray, 2003), are relatively difficult to distinguish from other limpet species at that size, and often are difficult to detect, hidden in mussel matrices and in cracks and crevices. The mean size and size-frequency distribution, following 5 mm class profiles, of *L. gigantea* was determined for each study location and compared over time.

2.4. Statistics

Data regarding the changes in human activity over time, using all 8 Orange County study sites, was evaluated using a Wilcoxon Signed Rank Tests as all the data collected was not normally distributed. The mean of the observed total visitation (10-min^{-1}), individual activities (10-min^{-1}), and management presence (10-min^{-1}), as well as the percent of individuals categorized as collectors or fishermen based on the total visitors present, were examined to detect differences between the study periods, 1995–96 and 2013–14. For Wilcoxon Signed Rank Test analyses, mean human visitation and individual activity data, as well as the percentage of visitors categorized as collectors or fishers, was determined for each day type (weekend or weekday), for each season (fall, winter, or spring), for each site in 2013–14 and paired with similar data sets for 1995–96 to examine differences between the two study periods (6 pairs of mean data per each of the 8 sites). Pairing by day type and by season aids in controlling for differential use on weekdays and weekends, with weekends typically having more visitation (Ambrose and Smith, 2005; our data), and for variable timing of surveys, which were within relatively short time windows within seasons, as previously described. Though no seasonality was found in other human use surveys in the region (Ambrose and Smith, 2005), spring sampling in our study was found to generally have lower use.

To test whether the mean shell length of *L. gigantea* significantly changed over time within a study site, a Mann–Whitney U test was performed to examine differences between the two study periods in 1997 and 2013. In addition, changes in mean owl limpet size through time, using all 8 Orange County study sites, was evaluated using a Paired Sample t-test. For this analysis, mean limpet size for the two sampling periods was paired by site. In order to further detect within-site shifts in owl limpet sizes between 1997 and 2013, the size-frequency distributions, following 5 mm class profiles, were constructed for each site individually and tested using two-sample Kolmogorov–Smirnov Tests.

All statistics were performed using Minitab 17, except two-sample Kolmogorov–Smirnov Tests which were run using SAS 9.3. Normality was examined using the Kolmogorov–Smirnov Test, and testing for equal variances was accomplished by using Levene's Test.

3. Results

3.1. Human visitation

Statistical analyses (Wilcoxon Rank Signed Test) revealed significant patterns for all analyses, with 2013–14 exhibiting higher total visitation (all behaviors combined), a higher frequency of both educators and enforcement agents, and more visitors engaged in shell collecting (Table 1). Conversely, 2013–14 exhibited significantly lower numbers of visitors categorized as fishermen who collected bait on-site, fishermen not collecting, and collectors of live organisms (Table 1). The direction and degree of change for these activities varied among sites (Table 2). To take into account the increase in overall use over the two decades, data for individual behaviors were converted to the percent ofvisitors engaged in that activity during 10-min surveys. The percentage of visitors characterized as fishermen collecting bait and collectors of live organisms has significantly declined since 1995–96; however, no significant change over time was detected in the percentage of fishermen not collecting and shell collectors (Table 3).

Total visitation increased from 1995 to 96 to 2013–14, with the mean current visitation (8.33 individuals ± 1.47 per 10-min survey) nearly double that observed previously (4.36 individuals ± 0.53) across all sites (Table 1). The increase in visitation occurred within a site for 7 of the 8 sites (Fig. 2, Table 2), although the degree of change was highly variable; one site, Dana Point, decreased in visitation over time.

Both tidepool interpretive programs and increased enforcement capabilities had not been established previous to the 1995–96 surveys. Therefore, educators were absent in 1995–96 but increased to a mean of 0.232 individuals per 10-min survey (+/−0.066) in 2013–14 (Table 1). Tidepool educators in 2013–14 were only present at 5 of the 8 sites with Treasure Island having the highest presence (Fig. 3A). In 1995–1996, enforcement agents were only observed on two occasions across all sites (mean 0.002 individuals ± 0.001 per 10-min survey) but increased over a 10-fold magnitude in 2013–14 (0.025 individuals ± 0.007 per 10-min survey) (Table 1). Current enforcement was primarily focused on two sites, Dana Point and Crystal Cove, while absent at half of the 8 sites (Fig. 3B; Table 2).

While visitors who were shore fishing and collecting bait within the rocky intertidal zone were relatively common previously (0.387 individuals ± 0.076 per 10-min survey), this activity was fairly rare in 2013–14 (0.007 individuals ± 0.005 per10-min survey), decreasing 55-fold over time (Table 1). The percent of visitors engaged in fishing and collecting bait on-site declined from 11.6% of visitors (+/−2.81) in 1995–96 to 0.13% (+/−0.09) in 2013–14, an 89-fold decline (Table 3). The declines in fishermen collecting bait (Fig. 3C; Table 2) were evident at all 8 sites in the region with fishermen currently observed at only 3 of the sites.

As with fishermen collecting bait on-site, the number of visitors engaged in fishing but who brought their own bait with them and did not collect bait on-site has dramatically decreased over time (1995–96: 0.195 individuals ± 0.048, 2013–14: 0.020 individuals ± 0.009 per 10-min survey; Table 1). This trend was most pronounced at 5 of the 8 study sites (Fig. 3D; Table 2), whereas 2 sites did not change, and one site, Monarch Bay, increased in

Table 1
Results of the Wilcoxon Signed Rank Tests testing differences in total use, presence of educators and enforcement agents, and human behavior categories between 1995–96 and 2013–14, including: median (individuals/10-min), mean (individuals/10-min), standard error (individuals/10-min), n_d, T-stat, and p-value (significance at $p \leq 0.05$ denoted in bold).

Category/behavior	Median: 95–96, 13–14	$\overline{X}_{95-96}, \overline{X}_{13-14}$	SE_{95-96}, SE_{95-96}	n_d	T-stat	p-value
Total visitors	3.289, 5.150	4.356, 8.330	0.534, 1.470	48	205.0	**<0.001**
Educator presence	0.000, 0.041	0.000, 0.232	0.000, 0.066	25	0.0	**<0.001**
Enforcement presence	0.000, 0.000	0.002, 0.025	0.001, 0.007	16	7.0	**0.002**
Fishermen collecting bait	0.178, 0.000	0.387, 0.007	0.076, 0.005	36	8.0	**<0.001**
Fishermen (not collecting bait)	0.031, 0.000	0.195, 0.020	0.048, 0.009	33	80.0	**<0.001**
Live collectors	0.033, 0.000	0.108, 0.062	0.022, 0.015	37	197.5	**0.021**
Shell collectors	0.000, 0.047	0.024, 0.092	0.007, 0.017	35	96.5	**<0.001**

Table 2
Relative direction of change (+, −, 0) in total visitors, visitor behaviors, and owl limpet size from 1995 to 96 to 2013–14 for each of the 8 sampling sites (site codes located in Fig. 1) and for all sites combined. The number of symbols indicates the degree of change over time, subjectively assessed. Statistical analyses for total visitors and visitor behaviors were conducted on with all sites combined, exhibiting significant differences over time for each category (Table 1). Owl limpet size change statistics are located in Table 4.

Site code	Total visitors	Educator presence	Enforcement presence	Fishermen collecting	Fishermen not collecting	Live collecting	Shell collecting	Owl limpet size
DAPO	−	+	++	−	−	−	+++	++
MOBA	+	0	0	−	+	−	+++	++
THST	++	0	+	−	−	−	−	−
TRIS	+++	+++	0	−	−	−	+	+
VIBE	+	0	0	−	−	−	++	+
WOCO	++	++	−	−	−	−	++	+++
SHCO	++	++	+	−	−	−	+++	−
CRCO	++	++	+++	−	−	+	+++	++
All Sites	++	+	+	−	−	−	++	++

Table 3
Results of the Wilcoxon Signed Rank Test testing differences in the percentage of individuals engaged in behaviors between 1995–96 and 2013–14, including: median (%), mean (%), standard error (%), n_d, T-stat, and p-value (significance at $p \leq 0.05$ denoted in bold).

Category/Behavior	Median: 95–96, 13–14	$\overline{X}_{95-96}, \overline{X}_{13-14}$	SE_{95-96}, SE_{95-96}	n_d	T-stat	p-value
Fishermen collecting bait (%)	10.96, 0.00	11.63, 0.13	2.81, 0.09	8	0.0	**0.014**
Fishermen (not collecting bait) (%)	3.47, 0.06	4.43, 1.42	1.67, 1.31	8	8.0	0.183
Live collectors (%)	2.29, 0.61	3.39, 0.74	1.14, 0.22	8	0.0	**0.014**
Shell collectors (%)	0.18, 1.43	0.47, 1.91	0.21, 0.53	8	5.0	0.080

Table 4
Results of the Mann–Whitney (M–W) tests examining site differences in owl limpet size (n, U-stat, and p-value) and the two sample Kolmogorov Smirnov (K–S) Tests examining site differences in owl limpet size frequency distributions (n, D-stat, and p-value) between 1997 and 2013. Significance at $p < 0.05$ denoted in bold. Sites are arranged from south to north with site codes located in Fig. 1.

Site code	n_{97}, n_{13}	M–W owl limpet size		K–S owl limpet size frequency	
		U	p-value	D-stat	p-value
DAPO	243, 421	152184.0	**<0.001**	0.311	**<0.001**
MOBA	506, 499	290572.5	**<0.001**	0.258	**<0.001**
THST	355, 558	247096.0	**0.030**	0.129	**0.001**
TRIS	301, 405	155352.0	**<0.001**	0.178	**<0.001**
VIBE	360, 368	144661.5	**<0.001**	0.140	**<0.001**
WOCO	327, 402	182902.0	**<0.001**	0.481	**<0.001**
SHCO	553, 350	150326.5	**0.039**	0.067	0.295
CRCO	313, 502	218367.0	**<0.001**	0.184	**<0.001**

fishermen use in 2013–14. A comparable, although not significant, decreasing trend through time was observed in the percentage of visitors engaged in this activity, decreasing from 4.43% (+/− 1.67) to 1.42% (+/− 1.31; Table 3).

Overall, the total number of fishermen, collecting of bait on-site or not, has dramatically declined between the two study periods. Following the 2012 MPA realignment, no offshore recreational fishing, nor any other type of fishing, is allowed in the Laguna Beach SMR and No-Take SMCA (which includes Treasure Island, Victoria Beach, Wood's Cove, and Shaw's Cove). While fishing from rocky shorelines at these Laguna sites was common previously, it was rarely observed in 2013–14 (Fig. 4), with 2013–14 ranking significantly lower than 1995–96 (Wilcoxon: $n_d = 28$, $T = 0.0$, $p < 0.001$). Although not as pronounced of a difference, the sites outside the Laguna Beach MPAs, where fishing without collecting bait from the rocky intertidal zone is still legal, also exhibited a decline in fishing (Fig. 4) with 2013–14 ranking lower (Wilcoxon: $n_d = 12$, $T = 12.5$, $p = 0.041$).

The number of visitors collecting live organisms also decreased over time, although only to about half of that observed previously, changing from 0.108 collectors per 10-min survey (+/− 0.022) in 1995–96 to 0.062 collectors (+/− 0.015) in 2013–14 (Table 1). A general decreasing trend in the number of collectors of live organisms over time was observed at 6 of the 8 study sites, particularly at Dana Point and Victoria Beach (Fig. 3E; Table 2). Crystal Cove was the only site to exhibit an increasing trend in the mean number of collectors through time while Thousand Steps remained the same (Fig. 3E). The percent of visitors categorized as collectors of live organisms decreased approximately five-fold from 3.39% (+/− 1.14) previously to 0.74% (+/− 0.22) currently (Table 3).

Unlike other visitor behaviors analyzed, which exhibited significantly declines in 2013–14, there was a marked increase from 1995 to 96 (0.024 individuals ± 0.007 per 10-min survey) to 2013–14 (0.092 individuals ± 0.017 per 10-min survey) in the number of visitors collecting shells (Table 1). More individuals were categorized as shell collectors during the 2013–14 study at 7 of the

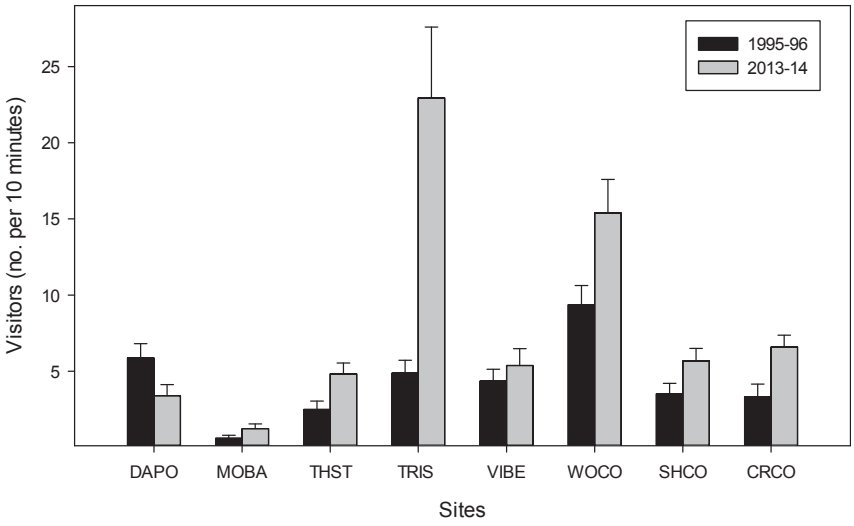


Fig. 2. Number of visitors (10-min^{-1} +/− 1 SE), for all behaviors combined, for 1995–96 (dark bars) and 2013–14 (light bars), for each site. Values are standardized to 100 m of shoreline. Sites are arranged from south to north with site codes located in Fig. 1. 1995–1996 raw data obtained from Murray, S.N.

8 sites (Fig. 3F; Table 2). However, the percentage of visitors classified as shell collectors (increasing from 0.47% +/− 0.21–1.91% +/− 0.53) was not significantly different over time (Table 3).

3.2. Target species

The mean shell length of the owl limpet *L. gigantea* significantly increased (Paired-t, df = 7, t = −2.50, p = 0.041) between 1997 (29.51 mm ± 1.07) and 2013 (33.38 mm ± 1.80) with all sites combined. These significant increases in limpet size over time were observed at 6 of the 8 sites while 2 sites exhibited a significant decrease (Mann–Whitney: Table 4; Fig. 5). Similar to mean shell length, a significant shift in the size frequency distributions of owl limpets towards a higher frequency of larger size classes in 2013 was detected at 6 sites (Kolmogorov–Smirnov Test; Table 4; Fig. 6). At the Thousand Steps site, a significant shift was detected with a higher frequency of individuals in both the smaller and larger size-classes in 2013. No significant change was observed at Shaw's Cove.

4. Discussion

In southern California, and elsewhere, increases in human population and tourism subject rocky intertidal shorelines to growing levels of human visitation and anthropogenic stressors associated with visitation activities. In heavily urbanized southern California, rocky shorelines receive extremely large numbers of visitors which has nearly double over the past two-decades in the region. Without the installation of suitable conservation policies, the harmful activities associated with visitation can have devastating effects on intertidal organisms (Crowe et al., 2000; Thompson et al., 2002). In this study, we document changes in visitor usage and behaviors over a two-decade time period, a period in which numerous supplemental management strategies to MPA regulations were enacted by a local stakeholder conservation collaborative, the Orange County Marine Protected Area Council (OCMPAC). Past conservation efforts to preserve protected areas have generally indicated that locally installed management, composed of stakeholder groups offering a wide array of resources and knowledge, can be an effective means in the organization of environmental policies, managing of environmental issues (Beierle and Konisky, 2001), and protection of vulnerable ecosystems (Klein et al., 2008). Over the past two-decades, declines in the detrimental activities of visitors, such as collecting of live organisms and fishing, were observed which provides some support that OCMPAC management strategies have likely been effective, though several drivers of behavioral changes are possible. Despite these potential successes, it is clear that adaptive management is needed to further improve rocky intertidal management policies. One of the major obstacles for conservation programs involved with the visitor management, such as OCMPAC, are that they must overcome the sheer magnitude of visitors present at these locations, which appears to be growing over time.

With the population of Orange County, California increasing from approximately 2.6 million in 1995, to ca. 3.1 million in 2013 (The United States Census Bureau: www.census.gov), as well as documented increases in tourism from roughly 38.7 million in 1995 to 42.9 million visitors in 2011 (Anaheim Orange County Visitor and Convention Bureau: http://press.anaheimoc.org), it is not surprising that an increase in human visitation was detected along the rocky shores of Orange County, California. The near doubling of visitation rates over the two time periods was proportionally higher than the magnitude of change in population and tourism, likely driven by a number of confounding factors that may include increased public knowledge about the beauty of coastal resources for recreation and tourism, highlighted by tidepooling being in the top five things to do while visiting local coastal cities in visitor guides (e.g. visitlagunabeach.com). The changes that were observed in visitation rates were variable among sites; however, a marked increase in use was clear at both Treasure Island and Wood's Cove. The primary source of visitors to Treasure Island is a nearby luxury retreat, the Montage Laguna Beach resort, which was built adjacent to the Treasure Island site in 2002. This not only increased visitation from tourists staying at the resort but also provided easy access and an attractive place for southern Californians to visit, although the site was relatively easy to access prior to the opening of the resort. A large increase in use at Wood's Cove could be attributable to the site's location being near to the city center of Laguna Beach, California, offering a close, near pristine, coastal get-away for tourists and visitors. In addition, this site was highlighted in the media (e.g. lagunabeachmagazine.com) as a “hidden treasure” thus likely causing an influx in visitation over the past several years. The ebb and flow of the popularity of specific locations have been observed

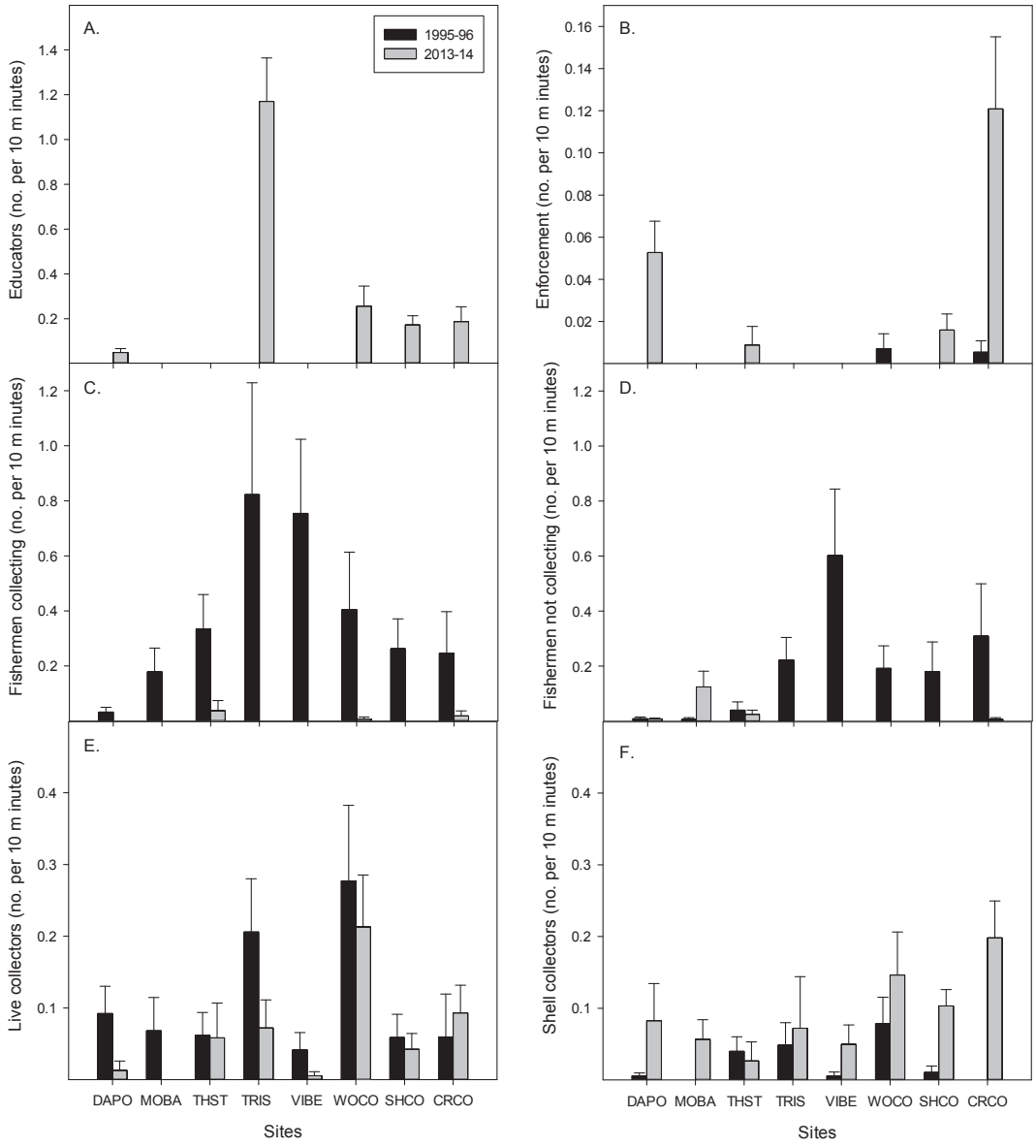


Fig. 3. Number (10-min^{-1} +/− 1 SE) of educators (A) and enforcement agents (B) or visitors categorized as fishermen collecting bait (C), fishermen not collecting bait (D), collectors of live organisms (E), and collectors of shells (F) for 1995–96 (dark bars) and 2013–14 (light bars) for each site. Values are standardized to 100 m of shoreline. Sites are arranged from south to north with site codes located in Fig. 1. 1995–1996 raw data obtained from Murray, S.N.

in other locations in the region as well (Smith, personal observation). The differences in use among locations at any given time and the change in popularity of sites over time highlight the need for future installation of a conservation model to other regions be based upon the understanding of local visitation patterns and that the local visitation patterns are monitored after management implementation. In order for the levels of human use to be adequately managed at highly visited sites, tidepool educator programs, outreach, and changes in enforcement capabilities need to be appropriately directed to these locations and locations of focus for programs be adaptable based on shifts in visitation among locations over time.

One of the strategies for reducing human impacts in Orange County rocky intertidal zones has been the implementation of a tidepool interpretive program. Here, as observed during surveys, tidepool educators interact with the public, educate them about rocky intertidal organisms, and distribute waterproof educational pamphlets. In addition, educators often warn people not to turn rocks, handle, or collect organisms, and to walk with care, minimizing trampling effects. As discussed by Zeppel (2008), conservation based interpretive programs are often advocated as a fundamental component of sustainable visitor interactions with wildlife (Orams and Hill, 1998; Ham and Weiler, 2002; Woods and Moscardo, 2003). Environmental interpretive programs, examined in the meta-analysis conducted by Zeppel (2008), involve the use of tour guides, interpreters, and rangers to communicate the on-site regulations, the general biology and ecology of the location, as well as conservation plans. These practices can enhance the educational and conservation outcomes of visitors participating in these programs (Schänzel and McIntosh, 2000; Madin and Fenton, 2004; Tisdell and Wilson, 2001; Andersen and Miller, 2006). In addition, marine interpretive programs, built upon a heavy emphasis of education, can initiate long-term behavioral changes in visitors which may lead to reduced environmental impacts, and

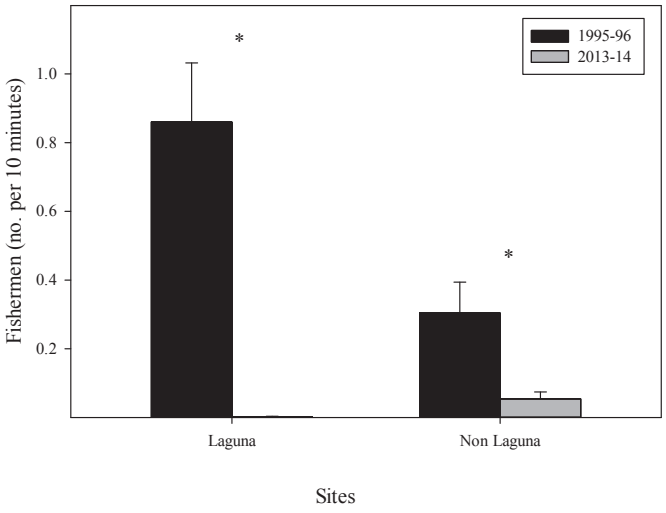


Fig. 4. Number (10-min^{-1} +/− 1 SE) of fishermen (bait collectors and non-collectors combined) in the Laguna SMR and No-Take SMCA, where all fishing is illegal, and in non-Laguna MPA sites, where fishing from intertidal zones, while not collecting bait on site, is still legal, for 1995–96 (dark bars) and 2013–14 (light bars). In both regions, 1995–96 ranked significantly higher in fishermen use (Wilcoxon Signed Rank Test, $p \leq 0.05$ as indicated by *). 1995–1996 raw data obtained from Murray, S.N.

visited site and exhibited the largest increase in visitation, likely as a result of the building of the Montage Resort. The tidepool interpretive program through the Laguna Ocean Foundation, funded by the Montage Laguna Beach resort, provided, on average, one educator during low tide periods; this site also currently exhibits one of the lowest percentages of visitors that engage in collecting of live organisms. Conversely, Wood's Cove has the highest number of collectors while educator presence was not common; furthermore, when educators were present, they were often outnumbered and collecting was observed despite their presence. This highlights the need to monitor visitor activities for strategic focus of tidepool educator programs as well as the need for investigations into an effective educator to visitor ratio, unknown at this current time. While funding is extremely important and beneficial in maintaining a strong educational program, such as that observed at Treasure Island, other sites with limited funding, such as Dana Point and Crystal Cove, have been able to establish volunteer educator programs with consistent participation, taking advantage of coordination and training by OCMPAC.

Similar to the results seen in the tidepool interpretive program, an increased enforcement presence was also detected in 2013–14. However, this significant change through time seems to be an effect predominantly driven by the Crystal Cove and Dana Point sites, where permanent resource managers or park rangers are present.

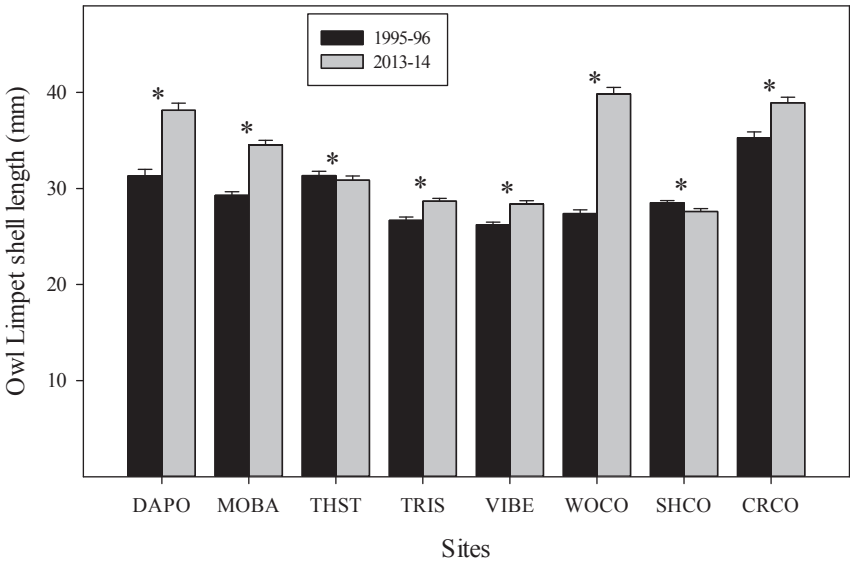


Fig. 5. Owl limpet (*Lottia gigantea*) shell length (mm) for 1997 (dark bars) and 2013–4 (light bars) within individual sites. Sites are arranged from south to north with site codes located in Fig. 1. Within-site significance at $p < 0.05$, for Mann–Whitney U test, is denoted with * (Table 4). 1995–1996 raw data obtained from Kido, J.S.

support for conservation issues (Mayes et al., 2004), although educational knowledge has been shown in other studies to have no effect on depreciative behaviors (Alessa et al., 2003). Zeppel (2008) noted, however, that the majority of present research measured visitors' intentions to change behaviors, rather than observed changes in behavior, and a link between marine educational programs and attaining conservation goals needs further research.

While no education program existed in 1995–96, educators were commonly found at certain sites in 2013–14. Our investigations into relationships between educator presence and changes in behaviors yielded no notable patterns, though were complicated by non-normal data sets and lack of replication of sites consistently with and without educators. A focus of the educator program was placed on Treasure Island which was the most heavily

Again, relationships between enforcement presence and changes in behaviors were not found, likely due to non-normal data sets and lack of replication of sites with consistent or absent enforcement. Since the Crystal Cove site falls within a much larger stretch of sandy coastline that composes Crystal Cove State Park, the Crystal Cove Rangers observed in the 2013–14 study were always seen transiently patrolling the site via a truck. However, as indicated by the 2013–14 human use surveys, the brief drive-by patrols appear to be somewhat ineffective at deterring collectors of live organisms. On the contrary, enforcement agents at Dana Point were seen patrolling the site by foot in 2013–14 study. This method of enforcement appears to be more effective as collecting pressures were minimal, and rangers were observed on several occasions making contact with individuals engaged in collecting activities.

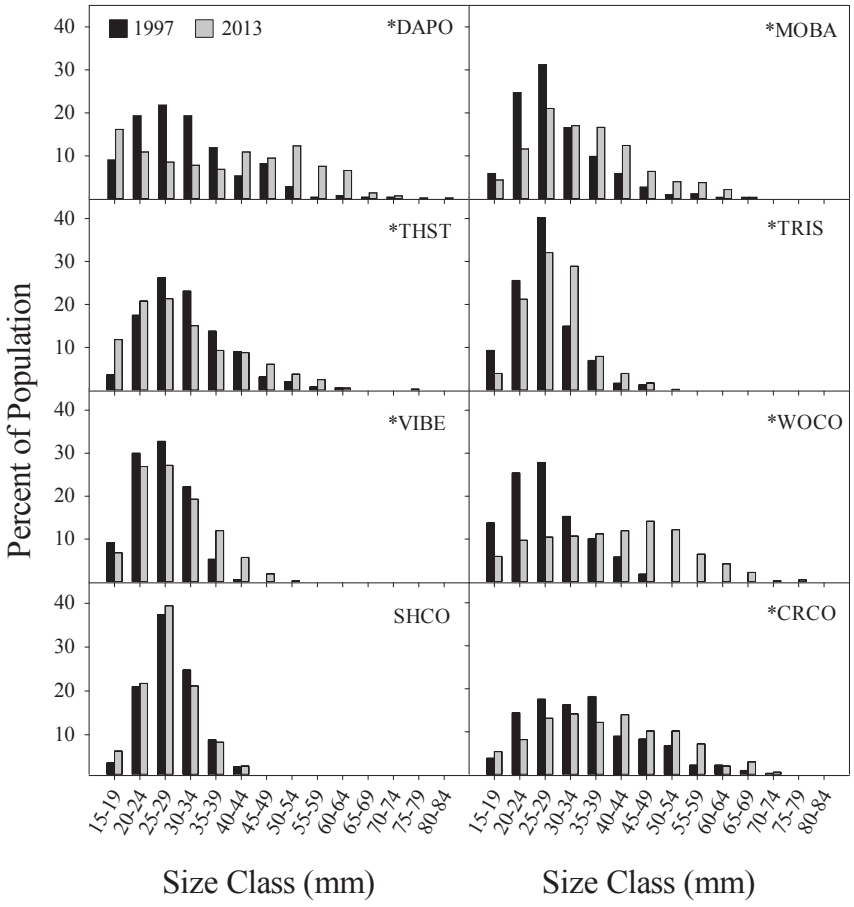


Fig. 6. Size-frequency distributions in 5-mm class size of the owl limpet *Lottia gigantea* for all 8 sites in 1997 (dark bars) and 2013 (light bars). Site codes are indicated in Fig. 1. Significant differences in size profiles are indicated by an * as tested using Kolmogorov–Smirnov test (Table 4). 1995–1996 raw data obtained from Kido, J.S.

Outside of the Crystal Cove and Dana Point sites, there was very little change in enforcement presence. Many of these sites fall within the City of Laguna Beach, which, as a whole, is comprised of a much longer stretch of shoreline with multiple different access points. In addition, enforcement primarily fell under the responsibility of a single part-time Marine Protection Officer during the 2013–14 studies. This officer often was not often observed on site but did patrol many locations from afar. Future installation of this conservation plan should involve the simultaneous introduction of both the tidepool educator program and increased enforcement capabilities. When combined, these management tools create a synergistic relationship which allows for rapid communication between visitors, educators, and marine managers, which helps to effectively reduce the negative impacts of visitors.

Fishermen, casting offshore from rocky intertidal habitats, who illegally collected organisms for fish bait were common in 1995–96 but were practically absent across the 8-study sites in 2013–14. Furthermore, fishing without the collection of bait on-site, legal in 1995–96, also decreased markedly over time. It seems unlikely that public interest in recreational fishing has waned over the years in the region. However, state-wide, an approximate 10% decline in the number of sport fishing permits from the CA Department of Fish and Wildlife, including all types of recreational fishing, was observed from the late 1990s to 2013, but the numbers of permits purchased were still high (~1.8 million in 2013; CA DFW). Another possible contributing factor to this change could be the implementation of the new California South Coast MPAs in 2012. Here, regulations prohibit any fishing, from shore or otherwise, at a portion of our sites that fell within the Laguna Beach SMR and Laguna No-Take SMCA. It has been well documented that compliance with MPA regulations in rocky intertidal habitats has been low in the past (Murray, 1998; Murray et al., 1999; Ambrose and Smith, 2005), thus new MPA regulations alone are likely not the only reason for the lack of fishing in Laguna Beach. Furthermore, decreases in fishermen, particularly those collecting bait on site, were observed at sites outside of the Laguna reserves where offshore fishing is still allowed, as it was in the past. Due to the new regulations in most of Laguna Beach, we expected a spill-over effect in which fishermen would have increased at sites outside of Laguna reserves where shore fishing is still legal. However, fishing, with or without collecting, generally declined outside of the Laguna MPAs. Alterations in fishing behaviors could partially be driven by OCMPAC management and education efforts.

Collection of live organisms by non-fishermen was also strikingly high during the 1995–96 surveys but decreased markedly over time, although not as strongly evident as the declines observed in collecting by fishermen. The difference in magnitude of change in the two types of collectors may be due to the inability of fishermen to hide fishing poles, while the egregious collectors, observed on a few, rare occasions in 2013–14, could hide their tools and collections in backpacks and thus evade detection by enforcement or educators. While the decline in collecting provides further evidence that OCMPAC management strategies may have been effective, collecting of live organisms continued to occur, particularly at Wood's Cove and Crystal Cove, thus highlighting the need for adaptive management to be set in place. In this case,

enforcement and educator programs should be enhanced at these locations (see also Underwood, 1993; Keough and Quinn, 2000). The decline in live collectors is likely understated, however, when the magnitude of collecting is taken into consideration. Although based on anecdotal evidence, collecting in the mid-1990s often involved large quantities of individuals collected, often buckets or large bags full of multiple species (Smith, personal observation), whereas, the collection effort in 2013–14 rarely exceeded a few individuals of a certain species. Collecting appeared to be mostly recreational, not commercially, during both sampling periods. The most commonly observed form of collecting observed in 2013–14 was individuals, usually children, crushing mussels to feed fish and anemones living in the tidepools. Therefore, the overall impact of collecting in 2013–14 has likely decreased on a much larger scale than the actual decrease in the numbers of collectors.

While the detrimental behaviors of visitors have markedly declined over time, the improvement of the biological health of the ecosystem, with emphasis on enhancement of the species that were negatively affected by harmful visitation behaviors, is the desired outcome of behavioral changes by visitors. The owl limpet (*L. gigantea*) is strong indicator species for human exploitation pressures, with heavily exploited areas known to have a shift in the mean size and size-frequency distribution towards smaller individuals (Kido and Murray, 2003; Ambrose and Smith, 2005; Sagarin et al., 2007; Fenberg and Roy, 2012). The general increase in mean size and higher frequency in larger individuals in 2013–14, as compared to 1997 (Kido and Murray, 2003), helps elucidate a potential correlation between the reduction of collecting and the enhancement of a target species, that might be attributable to management efforts.

Unlike the patterns observed in live collecting activities, the number of visitors engaged in shell collecting has increased since the 1995–96 studies (although the percent of visitors engaged in shell collecting has remained the same), despite being clearly stated as an illegal activity on signs and in the MPA regulations. During the 2013–14 human use surveys, it was often noted that both tidepool educators and enforcement agents would not confront individuals collecting shells. Given the focus on live collectors and other detrimental activities, shell collecting may have been of lower priority. The removal of shells from rocky intertidal ecosystems can potentially decrease rocky intertidal diversity and species abundances for organisms that are dependent on the presence of shells (e.g hermit crabs), initiate habitat changes through a loss of substrate and by erosion, and disrupt normal nutrient recycling (Kowalewski et al., 2014). However, the effects of the loss of shells, primarily limited to mostly those in good condition, have remained untested and may not be a primary concern for conservation purposes, particularly when limited resources place a hierarchy on enforcement priorities. Nonetheless, this is an area in need of improvement for management in the region.

Many of the locations in this study received an incredible amount of foot traffic, with trampling activities known to have detrimental effects on many tidepool organisms (e.g. Beauchamp and Gowing, 1982; Ferreira and Rosso, 2009). While trampling was not a behavior used to categorized visitors in this study, all visitors were engaged in trampling to some degree. Given the marked increase in total visitation over the past few decades, the impacts of trampling are of concern yet this activity is much more difficult to manage and continues to be an obstacle for conservation of these ecosystems. Exclusion of visitors from sites, as suggested by many (Zedler, 1978; Fletcher and Frid, 1996; Keough and Quinn, 1998; Garcia and Smith, 2013), would eliminate trampling, as well as other impacts (Keough and Quinn, 2000). However, this is likely difficult, at least in California, due to public access rights, such as that associated with the California Coastal Act. It may be possible, however, to create closures in portions of the habitat within a site, at least at locations where educator presence is common and exclusion areas can be consistently marked off during each low tide. Alternatively, rather than complete exclusion, other approaches could be used to reduce use at some sites. Garcia and Smith (2013) provided a number of recommendations for this region. For example, managers concerned with levels of human visitation at specific locations could increase the difficulty in accessing a site through the restructuring of site entrances and parking, making access to a site more physically exerting. In addition, more focus could be placed on a management strategies for school groups, the greatest contributor to levels of use (Garcia and Smith, 2013), through the funneling of the majority of schools to a few specific locations, thus, sacrificing a small number of sites for the greater good of the remaining coastline (also suggested for general public by Fletcher and Frid, 1996; Keough and Quinn, 1998; Addison et al., 2008).

Having detected a significant decline in the two most detrimental activities (fishermen collecting bait and collectors of live organisms) over the same time period of the installation of OCMPAC's supplemental management efforts suggests that OCMPAC has played a role in reducing these harmful behaviors. We were unable to test whether specific management efforts, such as tidepool educator programs, were more effective than others; however, we believe that the combination of management efforts (signs, brochures, managers, enforcement, outreach, educator programs) were effective as a whole. However, other factors may have driven changes in behaviors over time, such as a general increase in public awareness and ocean literacy, a shift in the socio-economic conditions in the region, or other unaccounted for drivers.

Ocean literacy, or the public understanding of the value of the ocean and human impacts on marine systems, has been a focus of educators and scientists concerned with promoting ocean education (Plankis and Marrero, 2010). If the public is more educated about ocean sciences, they are more likely to have an appreciation for natural coastal ecosystems, such as the rocky intertidal zone, as well as have a greater understanding of the impacts of humans on these systems. An increase in ocean literacy could potentially result in a decrease in detrimental behaviors, as well as an increase in visitation with a greater public desire to experience tidepool systems in person. While there certainly has been an increase in programs aimed towards educating the public in the U.S., both nationally and locally, including those by OCMPAC, there is little information available on the effectiveness of these outreach programs. A study conducted by the Ocean Project (2009) suggests that the American public awareness and the concerns about oceanic conservation remained low from 1999 to 2009. While Plankis and Marrero (2010) note that ocean literacy in pre-college age students can be effective when ocean literacy programs are implemented, there is a general lack of these programs. In addition, there is a need for longitudinal studies to determine if ocean literacy results in behavioral changes. While the ocean literacy of visitors during our study was not examined, other work in the region suggests that public awareness of rocky intertidal ecosystems and protective regulations may be low. For example, despite heavy signage and consistent educator presence at several of our sites, experienced educators note (pers. communication) that visitors predominantly have little knowledge of tidepool organisms or ecology and were often unaware that they were in an MPA, nor have a clear understanding of what an MPA is. However, surveys conducted by various groups at different sites in the area (Ware, 2009; Laguna Ocean Foundation, unpublished data; Jhaveri and Smith, unpublished data) reveal mixed results, depending on the specific location. Here, awareness that a visitor was within an MPA ranged from 30 to 70%, although a good portion of visitors did not

fully understand MPA regulations. Despite this general lack of public knowledge, it is unclear whether public awareness has changed over the same period of time in which we have documented behavior changes.

The socio-economics of the region can also play a role in the change of behaviors of visitors to coastal marine ecosystems. For example, during periods of economic downturns, it is possible that fewer visitors are likely to travel to the beach while subsistence harvesting may increase. Economically, California was generally in a good position in both the mid-1990s and currently, though the economic status during 2013–14 was likely poorer; for example, inflation-adjusted per capita state spending was lower in 2012 than in 1999 (California Legislative Analyst's Publications, 2013). Changes in the diversity of races and ethnicities may also drive changes in visitation patterns and behaviors as some ethnicities more commonly exploit marine ecosystems because of cultural traditions; anecdotally, Hispanics and Asians more commonly comprise the collectors and fishermen on our shores (Smith, pers. observation), though this was not specifically examined. Hispanic and Asian populations in California have increased every decade from 1980 to currently (California Legislative Analyst's Publications, 2013; Pew Research Center, 2014), with the percent of the population made up of Hispanics increasing from 25% in 1990 to 39% in 2013 and Asian-Americans increasing from 9% to 13% (Pew Research Center, 2014). This reflects similar changes in southern California (The United States Census Bureau: www.census.gov). While examinations of the socio-economics of the region over time are outside of the focus of this study, preliminary investigations suggest that this warrants further investigations to determine whether changes in socio-economics have occurred and how these changes may affect visitor behaviors.

5. Conclusions

During a period in which signage, tidepool interpretive programs, and increased enforcement, among other OCMPAC management strategies to reduce the impacts of human visitors to rocky intertidal ecosystems, were enacted, we observed a significant reduction in the more deleterious activities of visitors, such as collecting and fishing. Furthermore, results suggest that changes in collecting frequency may have potentially aided in the enhancement of a target species, the owl limpet, which is negatively affected by collecting behaviors. While other factors potentially play a role in reducing these harmful activities, the linkage in use behaviors and OCMPAC management not only highlights the importance of the combination of education and enforcement based management, it further exemplifies both the capability and strength that can result in conservation management that utilizes resources and expertise from a representative group of local stakeholders. Despite potential successes, some improvements to management and needs for further research have been identified. While the increase in shell collecting points towards a need for more focus on this activity by outreach programs, on-site educators, and enforcement, the ability to manage the large numbers of visitors, and thus trampling, remains elusive. The tidepool interpretive programs appear to be successful yet needed expansion of the program requires increased funding. As Garcia and Smith (2013) suggest, funding from local cities and tourist attractions (shops, diners, and hotels) could benefit these interpretive programs and, in turn, conservation of local shorelines could continue to attract the high numbers of visitors that frequent these establishments. Research examining the optimal educator to visitor ratio could also provide a benefit in reducing detrimental activities during periods of high use while also aiding in planning and placement of educators across more locations.

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Factors influencing human visitation of southern California rocky intertidal ecosystems

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ABSTRACT

In highly urbanized regions, rocky intertidal habitats attract a large number of visitors for recreation, education, and subsistence harvesting. The collecting, trampling, and handling activities of visitors can have detrimental impacts on intertidal flora and fauna, including reduced abundances and biodiversity and alteration of community structure and function. Despite the large human population in southern California, USA, the level of visitor use at accessible rocky intertidal locations can vary greatly. The goal of this study was to investigate a suite of factors that may influence the number of visitors a site receives. Thirty-two rocky intertidal sites interspersed along ~175 km of shoreline between Los Angeles and San Diego County in southern California were established and the relative visitor use intensity determined during four aerial surveys conducted during low tide periods. Site-specific characteristic, including cost and availability of parking, physical exertion in reaching a site, popularity of site for educational field trips, density of local human population, and the presence of local attractions, were examined and related to relative use intensity. Popularity of a site for educational field trips was the most significant driver, followed by physical exertion and presence of non-tidepooling attractions. Results from this study may be used as a potential management tool to reduce use and protect anthropogenically-disturbed rocky shores by, for example, regulating educational field trips and manipulating attributes that could alter the degree of physical exertion needed to reach a site.

1. Introduction

Coastal ecosystems are threatened by various human activities associated with heavy urbanization of coastal areas (Thompson et al., 2002; Halpern et al., 2008; Crain et al., 2009), including impacts from pollution (Islam and Tanaka, 2004; Rabalais et al., 2009), habitat destruction (Rotschild et al., 1994), climate change (Harley et al., 2006; Helmuth et al., 2006; Hoegh-Guldberg and Bruno, 2010), the introduction of non-native species (Ruiz et al., 2000; Carlton, 2001; Molnar et al., 2008), and overexploitation (Jackson et al., 2001; Scheffer et al., 2005; Ling et al., 2009). The rocky intertidal ecosystem, located at the interface of the land and sea, is particularly threatened by human activities due to its near proximity to terrestrial runoff, often containing pollutants, and easy access to humans for exploitation and other detrimental visitation activities during exposure at low tide. Rocky intertidal ecosystems are known to attract a large number of individuals for a diverse array of activities, including subsistence harvesting, recreation, and education. These activities can significantly deplete floral and faunal populations, reduce biodiversity, and alter trophic and community structures through the detrimental impacts from the intensive collection of targeted species (e.g. Castilla and Bustamente, 1989; Duran and Castilla, 1989; Kingsford et al., 1991; Smith and Murray, 2005), exploratory manipulation of rocks, also known as 'rock-turning' (Addessi, 1994), handling of organisms (Ambrose and Smith, 2005), and trampling (e.g. Beauchamp and Gowing, 1982; Keough and Quinn, 1998; Brown and Taylor, 1999; Schiel and Taylor, 1999; Smith and Murray, 2005; Huff, 2011).

The most obvious impact from human visitation is the collection of targeted flora and fauna for food, fish bait, research, souvenir, and home aquaria use. Extraction has been documented to deplete the population size of numerous target species, including mussels, limpets, octopus, abalone, and seaweeds collected for subsistence (Santelices et al., 1980; Moreno et al., 1984; Hockey and Bosman, 1986; Pour et al., 2012) and mussels and tunicates collected for fish bait (Fairweather, 1991; Kyle et al., 1997; Smith and Murray, 2005). Given that humans tend to be large size-selective

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predators (Branch. 1975; Moreno et al., 1984; Siegfried et al., 1985; Hockey and Bosman, 1986), collection can also result in shifts in the size and age structure of the population towards younger, smaller individuals (Siegfried et al., 1985; Ortega, 1987; Hockey et al., 1988; Roy et al., 2003; Smith et al., 2008); this also can indirectly alter the reproductive output of the population (Espinosa et al., 2009) as gonadal indices increase exponentially with size. Indirect effects on community structure as a result of the collection of target species also has been documented (Godoy and Moreno, 1989; Sharpe and Keough, 1998). For example, community changes were documented at locations where the large, predatory snail *Concholepas* is collected, with a mid-intertidal zone dominated by a monoculture of mussels, compared to a mid-intertidal zone consisting of barnacles and macroalgae where collecting is prohibited (Duran and Castilla, 1989).

Maybe less obvious is the impact of trampling, handling, and rock turning. These activities can have similar impacts as collecting when mortality occurs. Trampling and rock turning can crush or dislodge flora and fauna (Beauchamp and Gowing, 1982; Addessi, 1984; Denis, 2003; Smith and Murray, 2005) while handling can lead to indirect mortality through attachment damage or zone displacement (Addessi, 1984; Ambrose and Smith, 2005). In some cases, mortality does not directly occur but trampling, rock-turning, and handling can cause decreased fitness. For example, trampling on mussel beds can weaken the attachment strength of a clump of mussels causing them to be dislodged from wave forces (Smith and Murray, 2005) while walking on rockweeds causes the reproductive tips to be pinched off, resulting in lowered reproductive potential of a population (Denis, 2003). Similar to collecting, indirect impacts can be observed; for example, trampling of a coralline turf habitat resulted in declines in turf associated organisms due to reduced turf height and loss of sand caused by trampling, rather than the damage to the organisms by trampling itself (Brown and Taylor, 1999).

In southern California, USA, the coastal Los Angeles, Orange, and San Diego Counties are heavily urbanized, with ca. 16 million people in 2010 (http://factfinder2.census.gov/); a majority of this population lives within driving distance (<50 km) from the coastline. Coastal ecosystems in this region, therefore, are particularly subject to anthropogenic impacts (see Schiff et al., 2000). For rocky intertidal habitats, visitation can vary greatly, with levels reaching remarkable numbers at some sites. For example, Murray et al. (1999) documented over 1400 persons on a 500-m length shoreline within a single afternoon low tide while yearly estimates, standardized to a 100 m shoreline, ranged from ~50,000–75,000 people at some high use locations (Ambrose and Smith, 2005; Ware, 2009) in the region. During the last several decades, during a period of large population growth, large alterations in rocky intertidal community structure have been documented (Widdowson, 1971; Thom and Widdowson, 1978; Gerrard, 2005; Smith et al., 2006; Smith et al., unpublished data), likely attributable to some degree to human visitation. In addition, comparisons of sites with high and low visitation intensities in the region have documented depletions in abundance and size of particular organisms, such as mussels, limpets, sea hares, and sea stars, and shifts in community composition (Kido and Murray, 2003; Ambrose and Smith, 2005; Smith et al., 2008).

The detrimental impacts of human visitation in rocky intertidal habitats are widely documented; thus in urbanized regions such as southern California, coastal managers are concerned with visitation levels and their associated disturbances. A common management tool for protecting particular rocky intertidal habitats worldwide is the establishment of Marine Managed Areas (MMAs), such as Marine Protected Areas (MPAs), Conservation Areas, and State or County Beaches and Parks (Murray et al., 1999; Ambrose and Smith, 2005; Smith et al., 2008). In southern California, MMAs offer various levels of protection, mostly in laws prohibiting collecting of flora and fauna (California Department of Fish and Game: www.dfg.ca.gov). However, studies have indicated that MMAs in southern California may not be particularly effective in protecting rocky intertidal populations (Murray et al., 1999; Kido and Murray, 2003; Ambrose and Smith, 2005; Smith et al., 2008). Many MMAs are lacking the necessary enforcement to uphold existing regulations, often combined with low compliance, poor signage, and lack of public awareness that certain activities are unlawful (Murray et al., 1999; Smith et al., 2008). Furthermore, legal prohibition of collecting organisms does not limit the number of human visitors in rocky intertidal habitats, thus trampling, rock turning, and handling are still major sources of disturbance (Smith et al., 2008). Therefore, protection of rocky intertidal ecosystems from detrimental human activities will require a new management approach aimed at addressing the other detrimental activities of visitors (Smith et al., 2008). In addition, for those sites not afforded MMA designation, alternative means of protection may be desired.

While exclusion of humans from some shorelines will eliminate all visitor impact, thus likely an effective tool, this strategy is not entirely feasible as the California Coastal Act explicitly encourages open use of the coast. Despite the necessity for open access to the shoreline in California, some *de facto* human exclusion sites exist due to the technical or physical difficulty required in reaching the rocky intertidal habitat. For example, sites on private lands or exclusive communities may be fenced off with an entrance point some distance away. In addition, offshore islands or at sites surrounded by steep cliffs, access may only be provided through use of a boat. Although not resulting in complete exclusion, locations with open access but with limited or expensive parking combined with a long, strenuous hike to the site may drastically reduce the numbers of visitors. In these cases, there are certain characteristics about these sites that lead to low levels of human use; equally, there are other site characteristics that could potentially lead to increased intensity of use. Therefore, it is imperative to investigate whether there are characteristics of sites that may drive or influence the level of visitation in order to better understand potential management strategies to reduce visitation and their associated impacts. The purpose of this study was to determine the relationships between the relative level of use at numerous rocky intertidal sites in southern California, USA, and the characteristics of the site, including measures of: cost and availability of parking, physical exertion required in reaching the site, popularity of site for educational field trips, density of the local human population, and presence of nearby attractions. Results from this study may give coastal managers and policy-decision makers potential tools to decrease use at severely disturbed locations.

2. Methods

2.1. Study sites

Thirty-two rocky intertidal sites (Fig. 1; Table 1) interspersed along ~175 km of shoreline between Los Angeles and San Diego Counties in southern California, USA, were established to examine factors influencing human visitation. The coastline in the region is characterized by long sandy beaches interspersed between small rocky headlands; thus rocky intertidal habitat in this region is somewhat limited. Nine sites were sampled in southern Los Angeles County (Palos Verdes Peninsula), sixteen sites were sampled in Orange County, and seven sites were sampled in northern San Diego County. Given the use of aerial photographs from a plane to obtain relative use levels, sites in northern Los Angeles County were not sampled due to difficulties in conducting

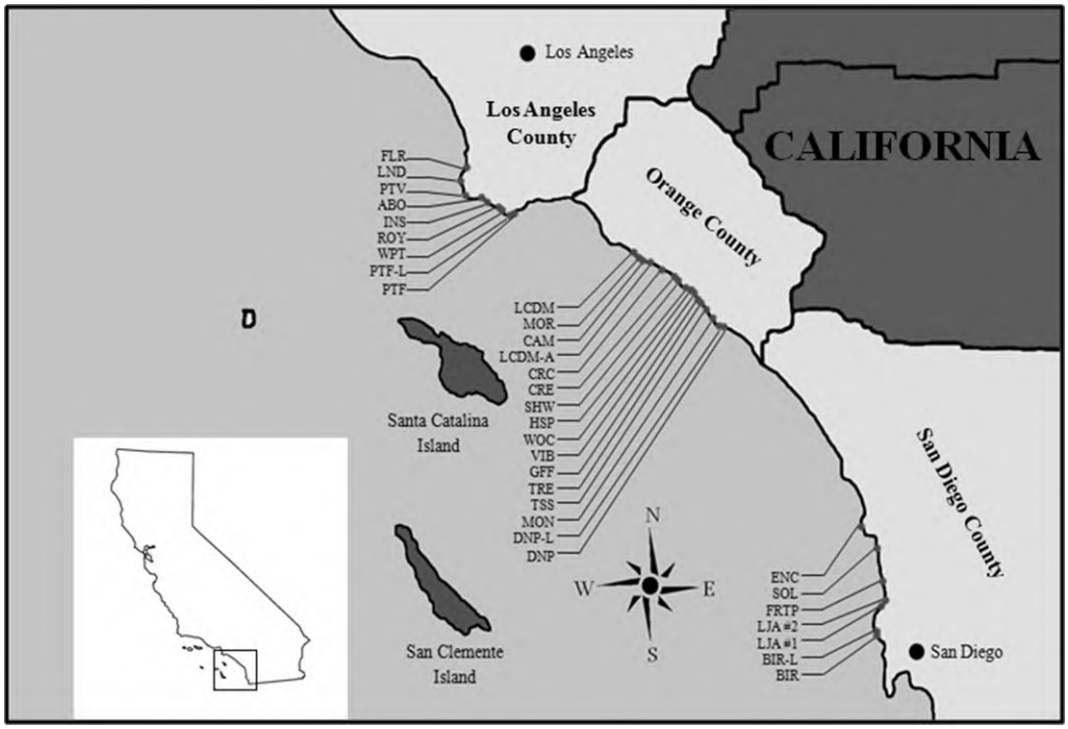

Fig. 1. Map of the 32 rocky intertidal sites within Los Angeles, Orange, and San Diego County, California. Site codes and their corresponding names are located in Table 1.

aerial surveys because of the Los Angeles International Airport and sites in southern San Diego were not sampled due to limited ability to fly near military establishments. Sites were chosen in attempts to obtain a range of differing levels of use from low to high in different regions based on estimates from previous knowledge. Additional sites were chosen haphazardly to fill in geographic gaps between sites of known levels of usage. In some cases, sites that were particularly large or that offered the ability to isolate certain driving factors were divided in two separate sections, separated by a distance of non-sampled area in between. For example, Dana Point and Point Fermin were both divided into two locations, one near the entrance point and one $\sim 1/2$ km away that required a longer hike for access.

2.2. Relative human use measures

To quantify the relative frequency of human visitation within each site, high resolution digital photographs were taken during a total of four aerial surveys of the sampled coastline using a fixed-wing airplane provided by LightHawk. Aerial surveys were conducted as it is known that intensity of use varies on a daily basis (Ambrose and Smith, 2005; Ware, 2009), thus surveys across a large geographic area were required to be conducted on the same low tide period for appropriate relative comparisons. Three surveys were conducted on clear, warm days during daylight hours between 10 AM and 3 PM during low tides lower than 0.1 m amplitude between March and April, 2010, with an additional survey under similar conditions in February, 2011. Two of the four surveys were conducted on weekdays (Friday April 23, 2010 and Tuesday February 15, 2011) with the remaining two on weekends (Sunday March 29, 2010 and Sunday, April 15, 2010). Several additional flights were scheduled but canceled due to weather and logistical problems. Although additional surveys would have been ideal, we feel the limited data collected is a robust representation of the relative intensity of visitation among sites. Intensity of visitation was determined by counting the number of visitors within a photograph at each location for each survey. Only visitors within the rocky intertidal portion of the beach were counted while visitors on the sandy beaches adjacent to the intertidal zone were ignored. Site boundaries were typically determined by the extent of the rocky outcropping and the natural breaks of sandy beach separating rocky habitats. In cases where a sandy beach break was not obvious, we attempted to use other barriers such as large, difficult to cross crevices or other distinguishable breaks. Although the length of shore for each site varied from 20 m to 200 m, with most sites in the 55–105 m range, the length (or area) was not deemed important as the relationship between use and site characteristics were determined for each isolated site. No linear relationship existed between use and shoreline length ($R^2 = 0.0004$).

To determine whether instantaneous photographic counts of use from aerial surveys were appropriate measures of relative use intensity at sites over a longer period (e.g. a 2 h low tide), on-site observations were conducted on 46 occasions (spread across all sites with some locations sampled on multiple occasions) in Spring and Fall 2010 and Winter and Spring 2011. Beginning 1 h before and ending 1 h after the time of low tide, we counted the number of persons on site at 20-min intervals as an indicator of instantaneous counts, yielding a total of seven instantaneous count samples per site; a mean instantaneous count was then determined from these seven counts. In addition to instantaneous counts, the total number of unique individuals to visit each site during the whole 2 h duration of low tide also was counted. These data were used to determine the relationship between the mean instantaneous counts per sampling period and total count over the 2 h period. If no relationship occurred, instantaneous photographic counts would prove an ineffective method to obtain relative level of use among sites.

2.3. Site characteristics

To determine whether relative intensity of use was related to a suite of site characteristics that could attract or deter human visitation, we determined for each site: the cost and availability of

Table 1
Name, code, county (LA = Los Angeles, O = Orange, SD = San Diego), location (latitude and longitude), use intensity, number of parking spots, mean cost of parking ($), physical effort in reaching a site (Z-score), subjective rank of popularity for educational field trips, sum of ranks of attractions, and nearby human population density for 32 sites sampled. Sites are listed in order from North (Los Angeles County) to South (San Diego County). Site codes are used in the map located in Fig. 1.

Site name	Site code	County	Latitude	Longitude	Use intensity	Parking spots	Cost of parking ($)	Physical effort *Z*-score	Education popularity scale	Human population	Attractions scale
Flat Rock	FLR	LA	33° 47.838′N	118° 24.488′W	5.3	147	0.0	3.6	0	16,035	0
Lunada Bay	LND	LA	33° 46.278′N	118° 25.364′W	0.0	393	0.0	2.3	0	16,134	6
Point Vincente	PTV	LA	33° 44.461′N	118° 24.685′W	0.0	48	0.0	2.8	0	8663	13
Abalone Cove	ABO	LA	33° 44.268′N	118° 22.534′W	13.3	45	5.0	2.3	5	16,744	4
Inspiration Point	INS	LA	33° 44.199′N	118° 22.192′W	3.0	45	5.0	3.6	0	16,744	4
Royal Palms	ROY	LA	33° 43.105′N	118° 19.472′W	0.0	110	8.0	−3.0	0	24,628	13
White Point	WPT	LA	33° 42.944′N	118° 19.190′W	28.0	207	5.9	−3.1	7	26,242	10
Point Fermin Low Use	PTF-L	LA	33° 42.344′N	118° 17.281′W	1.0	353	0.6	−1.1	0	19,824	28
Point Fermin	PTF	LA	33° 42.419′N	118° 17.147′W	24.5	353	0.6	−1.7	10	19,824	28
Little Corona Del Mar	LCDM	O	33° 35.341′N	117° 52.091′W	19.3	322	0.0	−1.2	9	16,447	20
Morning Canyon	MOR	O	33° 35.218′N	117° 51.952′W	0.3	322	0.0	−0.5	0	16,447	11
Cameo Shores	CAM	O	33° 35.177′N	117° 51.915′W	1.3	322	0.0	0.4	0	16,447	4
Little Corona Del Mar Arches	LCDM-A	O	33° 35.079′N	117° 51.848′W	3.0	322	0.0	1.8	0	16,447	11
Crystal Cove	CRC	O	33° 34.251′N	117° 50.270′W	14.0	231	15.0	1.2	7	17,396	28
Crescent Bay	CRE	O	33° 32.709′N	117° 48.033′W	8.3	359	0.2	−1.2	2	22,814	17
Shaw's Cove	SHW	O	33° 32.684′N	117° 47.971′W	9.0	107	0.1	−1.7	3	24,474	17
Heisler Park	HSP	O	33° 32.573′N	117° 47.530′W	19.8	516	0.6	−0.8	4	27,607	24
Wood's Cove	WOC	O	33° 31.485′N	117° 46.129′W	2.8	171	0.0	−0.2	0	14,874	11
Victoria Beach	VIB	O	33° 31.186′N	117° 45.842′W	3.8	84	0.1	0.6	0	14,458	17
Goff Island	GFF	O	33° 30.831′N	117° 45.619′W	13.0	284	0.3	0.3	0	13,102	22
Treasure Island	TRE	O	33° 30.801′N	117° 45.485′W	17.0	285	0.3	−1.0	1	13,102	22
Thousand Steps	TSS	O	33° 29.923′N	117° 44.578′W	0.0	148	0.0	3.5	0	13,646	11
Monarch Bay	MON	O	33° 29.062′N	117° 43.907′W	2.3	532	1.0	2.9	0	26,889	16
Dana Point Low Use	DNP-L	O	33° 27.624′N	117° 42.676′W	1.8	183	0.0	0.1	5	22,440	12
Dana Point	DNP	O	33° 27.624′N	117° 42.676′W	6.0	183	0.0	−0.8	9	22,440	25
Encinitas	ENC	SD	33° 2.076′N	117° 17.645′W	23.5	41	0.0	0.6	0	25,575	20
Solana Beach	SOL	SD	32° 59.932′N	117° 16.709′W	18.5	762	5.0	−3.3	0	16,996	17
Flat Rock Torrey Pines	FRTP	SD	32° 54.837′N	117° 15.526′W	12.0	337	10.0	0.4	0	23,450	21
La Jolla #2	LJA #2	SD	32° 51.068′N	117° 16.415′W	20.3	1259	4.5	−2.7	7	12,626	28
La Jolla #1	LJA #1	SD	32° 50.862′N	117° 16.733′W	16.8	1259	4.6	−1.7	7	11,386	28
Bird Rock Low Use	BIR-L	SD	32° 48.973′N	117° 16.434′W	2.3	373	0.0	−0.9	0	20,694	3
Bird Rock	BIR	SD	32° 48.973′N	117° 16.434′W	2.3	373	0.0	−1.1	3	20,694	3

parking, the physical effort required in reaching a site, the popularity of a site for educational field trips, the nearby human population, and non-tidepooling site attractions. In some cases, sites that use the same entrance point may share some similar site characteristics. Therefore, both locations at Dana Point, for example, shared the same entrance point thus parking numbers/cost and human population were similar.

Parking availability was determined by constructing a 0.32 km radius around the closest parking spot to the entrance pathway leading down to the rocky intertidal site using Google maps; all available parking spots within that radius were manually counted during visits to each individual site. Available parking that did not contain designated markers or parking spots (i.e. residential neighborhoods) were counted by using the length of a typical car, roughly 5 m long, to estimate parking spaces along the sidewalks. The price of each parking spot was also determined during site visits; often parking was free or at a flat rate but, if metered (timed) parking spots, the cost for an hour of parking was determined. In several cases, a mixture of different types of parking costs were present; the mean cost per parking spot was calculated.

Physical effort required in reaching a site was measured using a combination of techniques, including change in heart rate, total distance needed to walk, and slope of the pathway (indicating whether the pathway was flat or required walking up and down hills). Heart rate change was determined by one individual (Garcia) during visits to each individual site by measuring heart rate by hand before and after walking from the closest available parking spot to the rocky intertidal site, and vice-versa. The maximum change in heart rate, either to the site or returning to the pathway entrance, was used as the first indicator of physical exertion. The second indicator of physical exertion was the total distance required to walk from the closest parking spot to the rocky intertidal site, determined using a GPS. Finally, the slope of the entrance pathway leading to the rocky intertidal site was determined by calculating change in elevation from the highest point to the lowest point over distance walked using a GPS. A *z*-score of physical exertion was constructed by taking the sum of the standardized values of the maximum heart rate change, total distance, and the slope of the pathway in order to determine the physical effort required per site. The *z*-score ranking of physical exertion that each site required was compared with qualitative ranks of exertion by both authors prior to *z*-score establishment; *z*-scores and qualitative estimates of physical exertion were closely matched.

The rank popularity of a site for educational field trips was assessed using a number of methods, including published reports, records of organized field trips, contacting various pre-college (also known as K-12, or elementary and secondary) schools, two-year community colleges, and four-year universities within the three counties, using both aerial and ground surveys, and use of previous knowledge (summarized in Table 3). Minimal reports (Ambrose and Smith, 2005; Ware, 2009) have examined human use at established sites in the region but provided some data on educational use at ten of our sites. Where applicable, managers of rocky intertidal locations were contacted via email or in person to provide any recorded estimates of: a) the number of different schools, and b) the total students to visit their respective locations over a year period; for a school group to visit some locations, such as the Crystal Cove State Park or Little Corona del Mar reserve, each

Table 2
Results of the multiple regression, including the coefficient, standard error coefficient, *T*-stat, and *p*-value (significance denoted in bold).

Predictor	Coef	SE Coef	*T*-stat	*p*-value
Constant	0.3051	6.4351	0.05	0.963
Education field trips	1.0113	0.4367	2.32	**0.029**
Attractions	0.2057	0.1806	1.14	0.265
Physical effort	−0.7586	0.7855	−0.97	0.343
Parking cost	0.2737	0.3584	0.76	0.452
Population	0.0001	0.0003	0.40	0.695
Total parking	0.0014	0.0052	0.28	0.781

ANOVA: Regression df = 6, MS = 185, *F*-stat = 3.89, *p*-value = 0.007.

individual school must contact the park or reserve manager prior to their visit, although cases of schools not contacting managers prior to visits are acknowledged. Managers of many of these sites have kept informal records of schools and/or the number of students visiting but the data varies in integrity. We also contacted the major educational programs in the region, such as the Ocean Institute in Dana Point, the Cabrillo Aquarium in San Pedro, and the Orange County Department of Education Inside the Outdoors program, to determine the number of schools and/or estimates of students that visited local sites through their organized programs. Data from both managers and educational programs likely accounted for a large number of schools in the region, although a number was not obtainable due to the variability in the type of data reported by those contacted. We also attempted to directly contact a large population of schools and teachers throughout the area both at the pre-college level and college level. For pre-college schools, we first posted a request on the UCLA Oceanlistserv (mass email) whose membership contains a large number of pre-college educators in the region that are interested in marine biology to determine whether they or any other teachers at their school take students to local rocky intertidal locations, what location they visit, and how many students per year participate. A total of 12 responses were appropriate to our study, with a few additional responses that visited sites outside of our region or not on our site list. In addition, we contacted via email and telephone, 264 individual schools in the region as well as some of their respective districts with similar requests. Response to our communications was low with over 237 not responding and only 6 responses with field trips to our study locations. For college level field trips, 14 universities and community colleges in the region were contacted to determine whether field trips to rocky intertidal habitats are taken, what specific site they frequent, and how many students typically attend within a year; a total of 10 responses were applicable to our study sites. Through individual school/educator responses, 6 educational programs, and 5 rocky intertidal managers, we accounted for roughly 130,000 students within our rocky intertidal sites annually; recorded student counts are vastly underrepresented as not all responses included the number of students and only a portion of

Table 3
Education rank for each sampled location was obtained by incorporating information from rocky intertidal managers, educational programs, and pre-college/college teachers and programs. Data obtained from these sources varied in nature, mostly the number of different schools and/or the estimated number of students to visit the site in a year period. Additional information was considered, including the number of observations of school groups on site during aerial surveys and site visits, published reports of estimated levels of educational use (Ambrose and Smith, 2005; Ware, 2009), and experience of the authors during repeated site visits for other research purposes (only sites with authors' confidence are enumerated).

Site name	Education rank	No. different schools/programs	% of school responses	No. students	No. observations	Other reports	Author experience
Flat Rock	0	0	0.0		0		
Lunada Bay	0	0	0.0		0		
Point Vincente	0	0	0.0		0		
Abalone Cove	5	4	8.2	>65	2	Moderate	Moderate
Inspiration Point	0	0	0.0		0	None	None
Royal Palms	0	0	0.0		0		
White Point	7	2	4.1	>80	0	High	High
Point Fermin Low Use	0	0	0.0		0	None	None
Point Fermin	10	6	12.2	>120000	1	High	High
Little Corona Del Mar	9	8	16.3	>1000	0	High	High
Morning Canyon	0	0	0.0		0	None	None
Cameo Shores	0	0	0.0		0	None	None
Little Corona Del Mar Arches	0	0	0.0		0		None
Crystal Cove[a]	7	10	20.4	>7000	0	Moderate to High	Moderate
Crescent Bay	2	1	2.0	>50	0		Low
Shaw's Cove	3	4	8.2	>200	0		Moderate
Heisler Park	4	0	0.0		0	Moderate	Moderate
Wood's Cove	0	0	0.0		0		
Victoria Beach	0	0	0.0		0		None
Goff Island	0	0	0.0		0		None
Treasure Island	1	0	0.0		0		Low
Thousand Steps	0	0	0.0		0		
Monarch Bay	0	0	0.0		0		None
Dana Point Low Use[b]	5	7	14.3	>5000	1		Moderate
Dana Point[b]	9	7	14.3	>5000	2		High
Encinitas	1	0	0.0		1		
Solana Beach	0	0	0.0		0		
Flat Rock Torrey Pines	0	0	0.0		0		
La Jolla #2[c]	7	5	10.2	>800	0		Moderate to High
La Jolla #1[c]	7	5	10.2	>800	0		Moderate to High
Bird Rock Low Use	0	0	0.0		0		None
Bird Rock	3	2	4.1	>30	1		Moderate to Low

[a] One rocky outcropping of several rocky intertidal areas at Crystal Cove was chosen for this study. However, educational use information from managers did not distinguish which outcropping was used by students. Therefore, more emphasis was placed on other observations for the specific rocky shore studied.

[b] Educational use information given for Dana Point and did not distinguish between Dana Point proper, located near the entrance point, from Dana Point Low Use, accessible only by hiking ~1/2 km on boulder rock field. Based on experience of the authors, Dana Point Low Use was given a lower ranking.

[c] La Jolla divided into two sites, it is unclear from the responses which site was visited by each educator response. Based on experience of the authors, sites were both given equal ratings.

schools responded. Aerial and ground surveys were also used to determine the relative popularity of a site for school field trips. In total, 7 school field trips were observed within our sites. To a lesser degree, the estimated level of popularity of sites for educational field trips based on the author's (Smith) 15+ years of experience at these locations was also taken into account when gaps in data existed. For example, at Crystal Cove, numerous schools and students were recorded to have visited this site based on educator responses but Crystal Cove contains multiple rocky intertidal patch habitats and it is unclear whether these recorded school groups visited the particular reef sampled in this study. Here, experience of repeated sampling at this specific reef was taken into account. Given that we were examining the relative ranking of popularity, our subsampling and combination of techniques provided a robust measure of overall popularity of sites in relation to one another. Because of the complexity in the type of data obtained on educational use by schools in the region, we scaled the level of popularity for educational field trips from 0 to 10. The most important characters determining scale was: a) the relative frequency of field trips occurring among the different sampling sites, and b) the number of students and schools that annually visited the sites. For example, sites that received no reports or indications of educational use received a score of 0, while sites that contained a combination of a high frequency of school visitation and a high number of total students received a score of 10.

Local human population was determined using GIS measurements of population densities using 2010 census data estimates within a 2 km radius around the entrance pathways leading down to the rocky intertidal sites. The southern California coastline is heavily populated in most areas, except locations that are not accessible, such as the Camp Pendleton Marine Corps Base, thus sites isolated from urbanization were mostly absent.

The influence of local attractions, such as aquariums, museums, historical monuments, restaurants, surfing or fishing spots, were scaled based on the number and type of different attractions potentially bringing visitors to the rocky intertidal sites. During visits to each site, we determined the presence of eight different categories of attractions placed in ranking order of likelihood (1–8) in attracting the most visitors. In order of most to least likely to attract visitors, we determined whether the site: (8) had educational facilities, aquariums, or historic sites, such as the Ocean Institute and the Cabrillo Aquarium; (7) was next to popular sandy beaches; (6) was adjacent to popular water recreation activities such as diving or surfing spots; (5) was close to large resort hotels or other vacation rentals; (4) was a popular fishing spot; (3) contained picnicking areas, tables and/or fire pits; (2) was near restaurants or locally exclusive dining places adjacent to the site (excluding major fast food restaurant chains); and (1) was close to stores, shops, or malls. When present, each attraction at a site was given a value based on the ranking of the attraction and the total value determined by calculating the sum of all attractions. For example, a site with an educational facility (8), a resort hotel (5), and restaurants (2) was given an attraction value of 15; the highest possible score was a 36.

2.4. Statistical analyses

To determine whether certain site characteristics are influencing the relative intensity of human use that sites receive, we conducted a series of regressions comparing the mean relative use intensity obtained from aerial photographs to the individual site characteristics. A multiple-regression was conducted to determine the most important characteristic influencing intensity of use.

3. Results

3.1. Level of use

The mean instantaneous intensity of human use varied greatly among sites (Table 1) and ranged from zero visitors (multiple sites) to a high of ~28 visitors (White's Point). Although we chose sites to obtain an expected range of levels of use, most sites fell in the 6–12 visitors range. The highest number of visitors found in a single aerial survey was at Heisler Park, with 66 visitors observed. Instantaneous counts were found to correlate well with the total number of visitors over a 2 h low tide period ($R^2 = 0.837$; df 1, 46; $F = 235.8$; p-value < 0.001; Fig. 2), suggesting our methodology of using aerial photography was a good indicator of relative levels of use among sites.

3.2. Site characteristics

Measures or scaled rankings of site characteristics, including the cost and availability of parking, the physical effort in reaching a site, the popularity of a site for educational field trips, the density of human population near the site, and other attractions at the site, varied greatly among sites (Table 1). Parking availability ranged from 1259 total spots at the La Jolla #1 and #2 study areas while Encinitas contained only 41 parking spots. On average, the highest cost per parking spot was found at Crystal Cove State Park where a flat fee of $15 US is required; several sites offered free parking. Physical effort in reaching a site was based on a z-score where zero requires the standardized mean effort, negative numbers indicating easier access, and positive numbers indicating more physical effort is needed. Flat Rock was found to be the most difficult to reach physically with an effort z-score of 3.6 with several other sites in close range of difficulty. Most of these sites contained combinations of long walks up steep cliffs, hikes over difficult to traverse boulder fields, or in the case of Thousand Steps, a steep staircase with 230 steps (often used as an exercise medium). On the other end of the spectrum, sites such as Solana Beach, White's Point, and Royal Palms were physically easiest to reach, where you can drive and park your car <50 m from the intertidal zone. Of the 32 rocky intertidal sites studied, 10 sites were reported to have been visited by school groups/educational programs with an additional three having other data suggesting educational use (Table 3). The site that contained the highest number of educational field trips by schools and programs was Crystal Cove (10 different schools and programs) while the highest number of students were reported at Point

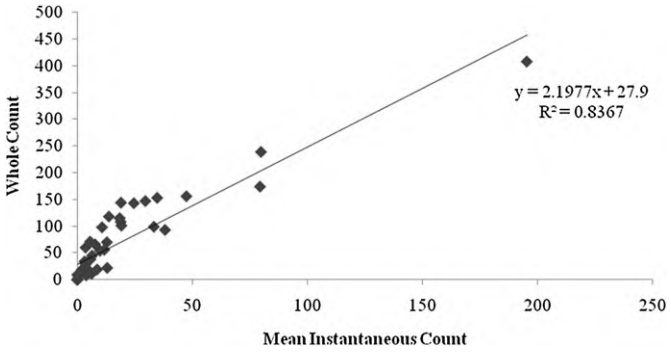

Fig. 2. The relationship between ground survey instantaneous counts and whole counts over a 2-hr low tide period. Instantaneous counts are the mean number of visitors measured during 20 min interval surveys for the 2 h period of low tide ($n = 7$); representative for our mean aerial snap-shot surveys. Whole count is the total number of unique visitors a site received throughout the 2 h period of low tide. Each site was surveyed at least once ($n = 46$). Regression analyses revealed a significant correlation.

Fermin (>120,000 over 1 yr). Using our scaling system, Point Fermin, Dana Point, Little Corona del Mar, and La Jolla were the most popular sites for educational field trips. These sites are spread out geographically and likely used by schools within each region. Using the 2010 census data estimates, the Heisler Park study area in the heart of Laguna Beach contained the highest local human population of 27,607 people in a 2 km radius from the entrance point while Point Vincente, located on the isolated bluffs of Palos Verdes Peninsula contained the least with 8663 people. Since most of southern California's shoreline is heavily urbanized, a majority of population counts fell in the 15,000–23,000 range. Using the local attraction scale of 1–8 based on the eight different categories of attractions, the highest ranking of local attractions were Point Fermin, Point Fermin Low Use, Crystal Cove, La Jolla #1, and La Jolla #2, with a score of 28. These sites contained education facilities (except La Jolla) and are located near popular beaches that attract tourists, residents, and recreational water users, such as divers and surfers. The lowest score was found in Flat Rock, which contained no local attractions, thus receiving a score of 0.

3.3. Relationships of site characteristics and relative intensity of use

A series of regression analyses were conducted using each site characteristic measure/ranking against the relative intensity of use. Parking availability ($R^2 = 0.073$; df 1, 30; $F = 3.427$; p-value $= 0.074$; Fig. 3A) and mean cost per parking spot ($R^2 = 0.077$; df 1, 30; $F = 2.486$; p-value $= 0.125$; Fig. 3B) exhibited weak positive relationships but neither were significant. Physical effort required to reach a site was significantly related ($R^2 = 0.195$; df 1, 30; $F = 8.498$; p-value $= 0.007$; Fig. 3C), indicating that use was higher at sites that more physically easier to reach. In addition, the more popular a site is for use for educational field trips, the higher the relative level of use ($R^2 = 0.341$; df 1, 30; $F = 17.070$; p-value < 0.001; Fig. 3D). The density of local human population had no relationship with use ($R^2 < 0.01$; df 1, 30; $F = 0.823$; p-value $= 0.372$; Fig. 3E), although the most isolated from a high human population had the lowest visitation, while the presence of site attractions increased the level of use ($R^2 = 0.240$; df 1, 30; $F = 10.797$; p-value $= 0.003$; Fig. 3F). A multiple regression was used to determine the most important factors influencing use when all other factors were taken into account. Results indicate (Table 2) that the popularity of a location for educational field trips is the most important factor driving relative visitation levels while the remaining factors were not significant.

4. Discussion

At low tide, rocky intertidal ecosystems attract a large number of visitors as these habitats provide a peak into the natural marine world that is normally inaccessible without specialized equipment and offer a source of food, fish bait, entertainment, and education. Therefore, coastal managers are challenged with balancing open public access to the shore with the protection of rocky intertidal populations that are known to be detrimentally impacted by the activities of these visitors. Numerous experimental studies have documented the detrimental impacts of human activities on intertidal biota (e.g. Schiel and Taylor, 1999; Smith and Murray, 2005; Huff, 2011) with comparisons of flora and fauna at high and low use sites further supporting negative impacts on susceptible populations and alterations of community structure (e.g. Castilla and Bustamante, 1989; Addessi, 1994; Ambrose and Smith, 2005). In southern California, long term changes in macroinvertebrates and seaweeds have long been attributed to human impacts (Dawson, 1959; Littler, 1980), often noted by large declines of conspicuous organisms, such as octopus, abalone, sea stars, sea hares, and mussels, and shifts in seaweed composition from large fleshy seaweeds to more disturbance-tolerant, turf forming seaweeds (Miller and Lawrenz-Miller, 1993; Addessi, 1994; Smith et al., 2006; Smith et al., unpublished data). Current management tools for protecting rocky intertidal habitats rely on Marine Managed Area (MMA) designation of some locations where laws inhibit the collecting of flora and fauna (Murray et al., 1999; Ambrose and Smith, 2005; Smith et al., 2008; California Department of Fish and Game: www.dfg.ca.gov). However, in many cases, these management tools are ineffective as enforcement and compliance are low (Murray et al., 1999; Ambrose and Smith, 2005) and these laws do not protect intertidal population from the negative impacts of trampling, handling, and rock turning (Smith et al., 2008). In addition, several locations are not protected by MMA designations. It is, therefore, imperative that alternative strategies to protect rocks shores be considered.

This study was an attempt to determine whether there are specific site characteristics that influence the intensity of human visitation over a large geographic region with results that potentially could be used by coastal managers to decrease levels of use as an indirect means to decrease the impacts from visitation. Of the site characteristics investigated, the popularity of a site for use by schools and educational programs provided the clearest relationship with relative levels of use, followed by physical effort required in reaching a site and the presence of local attractions. Parking availability, parking cost, and nearby human population density were not related.

Surveys of pre-college schools/districts, colleges, and educational groups reveal that educational field trips are limited to 13 of the 32 sites used in this study with an additional three sites in the study region that were reported to be used but were not on our study site list. Therefore, across ~175 km of shoreline, albeit mostly consisting of sandy beaches with interspersed rocky headlands of an unknown but large number of isolated sites, well over the underreported 130,000 students are funneled into 16 rocky intertidal locations, with a majority of the schools and students visiting six particular sites (Point Fermin, Dana Point, Little Corona del Mar, Crystal Cove, La Jolla, and White Point). While it is clear that the students visiting these sites are influencing the level of use, counts of human visitors during aerial and on-site surveys did not frequently included school groups. This suggests that the educational field trips themselves were not necessarily influencing the relative level of use. We believe that an indirect effect of these educational field trips also plays a role in the relative level of use whereby visitors are more likely to revisit sites that they visited while in school or where their children visited during school trips. In essence, we hypothesize that popular sites for schools groups propagate continued visitation during non-school related visits in the future.

While the authors recognize the importance of education and hands-on learning and, therefore, would not recommend banning field trips, it is clear that school field trips lead to higher levels of use and subsequent detrimental impacts to rocky intertidal flora and fauna. Our study suggests that managers may have the means to help regulate levels of use through regulation of educational field trips, if deemed appropriate. Regulation may be approached in several ways, including continued funneling of a majority of the school groups to a few, specific locations, spreading out school groups across several locations, or creating a carrying capacity which limits the number of school groups and students that can visit a site during a certain time period. These strategies rely on strong communication between schools and managers and, in some regions of southern California, this system is already in place. For example, in Orange County, school groups are required to request permission of managers to visit rocky intertidal

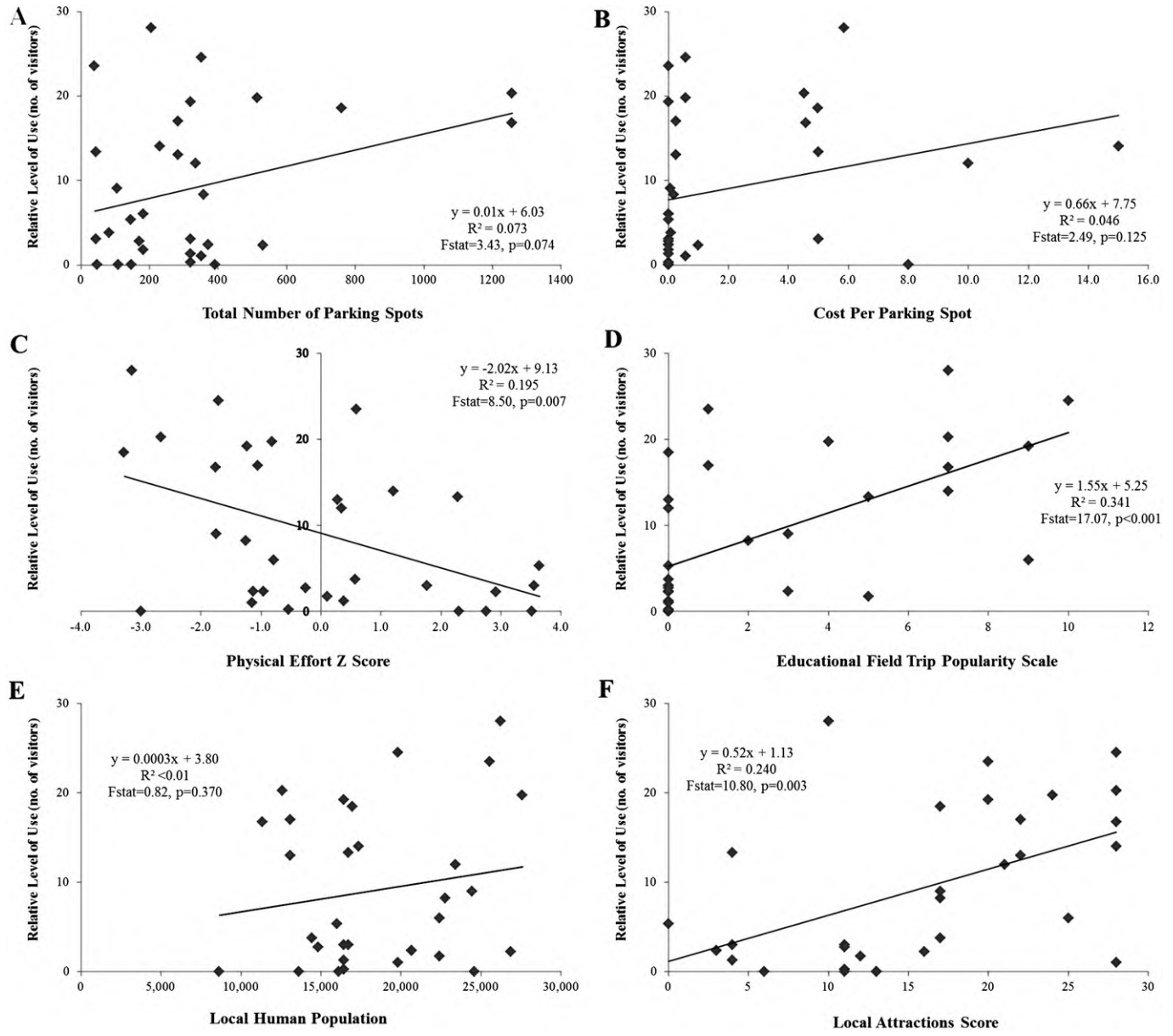

Fig. 3. Regression analyses for 32 rocky intertidal sites of the relative intensity of use and: A) total available parking; B) mean cost per parking spot; C) physical effort *z* score required in reaching (positive values requires more physical effort to reach than the mean − 0); D) popularity for educational field trips (with 10 being the most popular, based on a combination of the number of schools, programs, and students that conducted field trips to the site); E) size of the local human population; and F) local attractions score (eight different categories of local attractions were assessed and ranked from 1 to 8 based on its influence of human visitation with higher scores having more attractions). Reported is the results of the individual regression analyses, including r^2, *F*-stat, and *p*-value (df of all analyses = 1.30).

locations, facilitated by the Orange County Marine Protected Area Council (http://www.ocmarineprotection.org), a consortium of managers, state parks officials, NGOs, consulting firms, universities, and state and county officials. In some rare cases, managers have urged school groups to visit on alternate dates as too many school groups have requested to visit that site on a particular day (Newport Beach manager M. Clemente, pers. comm.). Although this strategy appears to be working at the local county level, a more integrated approach should be considered state-wide. This relies on appointments of marine managers and an enhanced communication system with pre-college and college educational systems.

The first strategy of continued funneling of educational field trips to a few locations leads to a focus of visitation and their detrimental impacts to a few specific sites, allowing other sites to escape a majority of visitation. This strategy also facilitates a system in which docents or educational staff can be strategically placed at these limited number of sites to decrease the impacts of use (such programs are in place in Orange County). Educational staff at these locations communicate verbally with visitors and hand out brochures on environmentally-friendly tidepooling rules. They also monitor the activities of visitors to ensure no egregious activities are taking place and have direct communication with enforcement officers in cases where offensive activities occur. Given the funding limitations of most municipalities, focused education and docent programs on a few specific locations is financially necessary. Education is a key component of rocky intertidal conservation and a funneling of students to a limited number of locations could lead to enriched educational programs that may lead to the long-term preservation of these habitats.

A second strategy could be undertaken whereby sites used for educational field trips are rotated on a periodic basis; for example, schools can be encouraged to visit a few sites in one year and in the following year encouraged to visit other sites, allowing previously heavily visited sites to recover. Although a little less feasible, coastal managers could attempt to distribute school field trips across a larger number of sites, spreading out the impacts so that no one site is particularly damaged by visitors. Given that school groups are likely focused around sites that have easy access for children and at sites where educational programs are in place, spreading out field trips may prove difficult. An additional strategy would be to limit the number of students that can visit a site over a period of time, based on a carrying capacity. In terrestrial systems, monitoring the level and intensity of different types of visitors is common, and recreational usage of parks and other natural systems by visitors has received much attention. Often, parks and other managed terrestrial ecosystems are protected through limitations of types and extent of use. For example, the Visitor Experience and Resource Protection (VERP) framework attempts to balance resource use while reducing impacts by determining the carrying capacity (the point in which the level of human visitation affects the natural and cultural resources) for the ecosystem and limiting the number of visitors below that capacity (Valliere and Manning, 2003). Management of educational field trips among the rocky intertidal ecosystems could follow the terrestrial park carrying capacity framework; however, the carrying capacity for rocky intertidal zones in the region, and worldwide, are unknown with some research suggesting the carrying capacity is quite low (Ambrose and Smith, 2005) whereby a good number of schools and students would be unable to visit any rocky shores.

Physical effort was related with levels of use with a site that is more difficult to access having lower visitation intensity. Physical effort also may be closely related to educational field trips as the sites most heavily used by school groups tend to be physically easy to access; however, this is a complex relationship as there are a number of easily accessible sites that are not used by educational field trips. Given that physical effort can influence visitation intensity, coastal managers may use this knowledge to decrease use at particular sites. It may be feasible that entrance pathways leading down to the rocky intertidal habitats can be reconstructed to make it more difficult for visitors to reach the sites, such as through removal of paved pathways or moving parking a longer distance away from the access point.

The number and type of other attractions adjacent to the rocky intertidal zone is also related to intensity of human visitation. Here, humans may be visiting the location primarily for the non-tidepooling attractions but may wander into the rocky intertidal zone as an unplanned additional exploration, therefore drawing visitors that typically would not visit the intertidal zone. For the cases of hotels or resorts adjacent to tidepool habitats, guests that would not typically visit the intertidal zone may do so because it is available for them at relative ease. Alternatively, visitors may specifically choose locations where there is a combination of both tidepooling adventures and other activities, such as a popular beach or an aquarium. Although not likely feasible to remove attractions, recognition that sites with certain types of attractions leads to higher levels of use could be used as a management tool. For example, hotels, restaurants, and shops could contribute funds or provide services to help protect local rocky intertidal habitats since they are likely drawing a large number of visitors and, potentially, vice versa. Services could be as simple as providing literature to visitors on the environmentally safe ways to explore rocky intertidal habitats. In other cases, as new attractions are established, a system can be set up in which “mitigation” could occur whereby establishments are contributing to protection of rocky shores. This has occurred in the past when the Montage Resort was built adjacent to the Treasure Island rocky intertidal site in Laguna Beach; recognizing that the resort would draw a large number of guests who would venture into the adjacent tidepools, the Montage Resort has provided funding for an educational docent program in which an educator is present on-site during most low tides, as well as some monitoring of the impacts of increased visitation (Laguna Ocean Foundation, J. Rosaler pers. comm.).

Although some patterns emerge when examining site characteristics that influence relative human visitation intensity across a large geographic region, it is also evident that there are a number of sites that do not follow the pattern thus management action should carefully examine the specifics of the site in question. For example, Royal Palms in Palos Verdes is an easy site to access, sharing the same high capacity parking lot as the heavily used White’s Point location, yet has very low levels of use. Furthermore, Crystal Cove State Park is somewhat difficult to access physically yet is a popular site for educational field trips and has moderately high levels of use. Finally, there is a complexity of some of the factors examined that may correlate with each other. For example, educational field trips mostly occur at locations that are easy to access and may explain why physical exertion was not a significant driver in the multiple regression analysis.

5. Conclusions

Rocky intertidal habitats are heavily impacted by the activities of human visitors. Although open access to tidepool habitats is required by the California Coastal Act, we suggest that there are indirect ways to decrease the intensity of use if a particular site is being heavily damaged. Our results suggest that there are certain characteristics of sites, with some of the characteristics intertwined, that could be manipulated by managers to decrease use. The popularity of a site for educational field trips, the physical ease in reaching a site, and the presence of certain types and numbers of additional attractions at a site can lead to a higher intensity of human use. Managers concerned with visitation may consider actions such as controlling the number of educational field trips taking place at their site, increasing the physical difficulty in reaching a site through construction or displacement of nearby parking, and requiring that local establishments (such as resorts or stores) contribute to the protection of rocky intertidal habitats.

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HUMAN VISITATION AND THE FREQUENCY AND POTENTIAL EFFECTS OF COLLECTING ON ROCKY INTERTIDAL POPULATIONS IN SOUTHERN CALIFORNIA MARINE RESERVES

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ABSTRACT

Humans intensely use southern California rocky shores for recreational activities such as fishing, exploration, walking, enjoyment of the out-of-doors, and educational field trips. People also collect intertidal organisms for consumption, fish bait, home aquariums, and other purposes. In Orange County, visitors concentrate their activities on a few rocky headlands and reefs. Many of these shores have been designated as California Marine Life Refuges (CMLRs) or State Ecological Reserves (SERs), where the removal of most intertidal organisms, except for scientific purposes, has been unlawful for 30 years. In a yearlong study of eight Orange County shores, unlawful collecting of organisms was often observed. In addition, lifeguards have frequently observed unlawful collecting on these and other shores. The CMLR or SER designation did not deter collecting. Mussels, trochid snails, limpets, urchins, and octopuses were the most commonly collected organisms, primarily for food or fish bait. Several of the gastropod species targeted by human collectors had low population densities and population structures dominated by smaller and less fecund individuals, characteristics that often occur in populations exploited by humans. Most collected invertebrates were broadcast spawners that require high densities of fertile individuals to optimize reproduction. The cascading effects of collecting on community structure and the reproductive success of exploited populations are unknown. Except for state park rangers at one site, no state enforcement personnel were seen during 768 hours of low-tide observations throughout the year. Without effective enforcement, adequate signage, and educational programs to increase public awareness, CMLRs and SERs are not protecting rocky intertidal populations on heavily visited southern California shores. Improved management practices are needed if CMLRs and SERs are to protect rocky intertidal populations and to serve as benchmark sites where changes in populations due to regional climatic events or chronic human disturbances can be measured and evaluated in the absence of exploitation.

INTRODUCTION

The human population residing in the coastal zone is growing by more than 1% per year in the United States (Culliton et al. 1990). This growth has been particularly rapid in coastal southern California counties, where the population has increased by more than 50% over the past three decades (Anon. 1969, 1998). The disturbance produced by the activities of this expanding population is thought to have resulted in a widespread reduction in the biodiversity of southern California's rocky shores (e.g., Littler 1980; Littler et al. 1991; Murray and Bray 1994).

Previously, declines in rocky intertidal biodiversity have largely been ascribed to chronic, persistent disturbances including discharged sewage and industrial effluents (Dawson 1959, 1965; Widdowson 1971; Thom and Widdowson 1978; Littler 1980). But more episodic disturbances resulting from visitor foot traffic (Brosnan and Crumrine 1994; Keough and Quinn 1998); the collection of organisms for human consumption, fish bait, aquariums, and other purposes (Griffiths and Branch 1997); and the exploratory manipulation of rocks and specimens (Addessi 1995) can also significantly affect rocky intertidal populations and communities. Yet, little attention has been given to the effects of human visitation, despite the large numbers of people that use southern California rocky shores throughout the year for activities such as recreational fishing, food and specimen gathering, educational field trips, exploration, walking, and enjoyment of the out-of-doors.

Globally, marine protected areas (MPAs) are receiving increasing attention as management tools for protecting marine populations from human activities (Gubbay 1995; Ticco 1995; Agardy 1997). In the last fifteen years, the number of MPAs has grown from about 400 to more than 1,000 worldwide (Gubbay 1995). Along the heavily urbanized southern California mainland, California Marine Life Refuges (CMLRs), State Ecological Reserves (SERs), and Marine Resources Protection Act (MRPA) Ecological Reserves are the most common MPAs established to protect intertidal organisms from on-site visitor disturbance (McArdle 1997).

Although minor variations occur among sites, CMLRs and SERs prohibit the removal of almost all marine plants and invertebrates except with a scientific permit or special authorization by the California Department of Fish and Game (Smith and Johnson 1989; McArdle 1997). Exceptions generally include invertebrates of historical importance to recreational sport and commercial fishers,

such as lobster (and in the past, abalone), which can be extracted lawfully from most CMLRs and SERs with an appropriate license or permit. The taking of most species of finfish with a sportfishing or commercial license is also allowed in most CMLRs and many SERs; only MRPA Ecological Reserves prohibit the extraction of all plants and invertebrates, and fishing for finfish without special authorization (McArdle 1997). Interestingly, none of these CMLRs, SERs, or MRPA Ecological Reserves include regulations that limit human access or restrict exploratory human activities.

Most of southern California's CMLRs and SERs were established between 1968 and 1973 (Smith and Johnson 1989; McArdle 1997), a period of heightened public interest in environmental issues. Unfortunately, like many other coastal conservation measures enacted at that time, the measures did not institute programs to evaluate the results of CMLR or SER establishment. Thus, a question of fundamental importance to the management and conservation of rocky intertidal populations and communities in southern California is: Have CMLRs and SERs been effective in protecting rocky intertidal invertebrate, plant, and finfish populations from the activities of an expanding human population during the last 30 years?

The purpose of this paper is to discuss how visitors can affect CMLRs, SERs, and unprotected rocky shores in urban southern California. On the basis of work performed on Orange County rocky shores, we describe and discuss (1) the magnitude of human visitation; (2) the collecting of intertidal invertebrates for food, fish bait, home aquariums, and other purposes; (3) the apparent decline of selected intertidal invertebrate populations; and (4) the effectiveness of CMLRs and SERs in protecting rocky intertidal populations and communities in urban southern California.

THE STUDY AREA AND HUMAN VISITATION

Orange County, located just south and east of the city of Los Angeles, has undergone extensive urbanization as its population has more than doubled during the past 30 years (Anon. 1969, 1998). The infrastructure created to support this urbanization includes major highways and roads that have made most of the county's shoreline easily accessible to visitors throughout the region. Because rocky headlands and low-lying bedrock reefs mostly occur along the Orange County coast between Little Corona Del Mar and Dana Point (fig. 1) and are separated by stretches of sandy beach, human visitors concentrate their activities on only a small portion (<20 km) of the county's shoreline. Most of this rocky intertidal habitat lies within the boundaries of seven CMLRs and the Heisler Park SER; these MPAs were established about 30 years ago. An additional section of the Orange County coastline was placed under CMLR protection with the implementation of SB-716 on January 1, 1994. This bill expanded the southern boundary of the Laguna Beach MLR to include the previously undesignated section of coastline between the Laguna Beach and South Laguna MLRs (fig. 1).

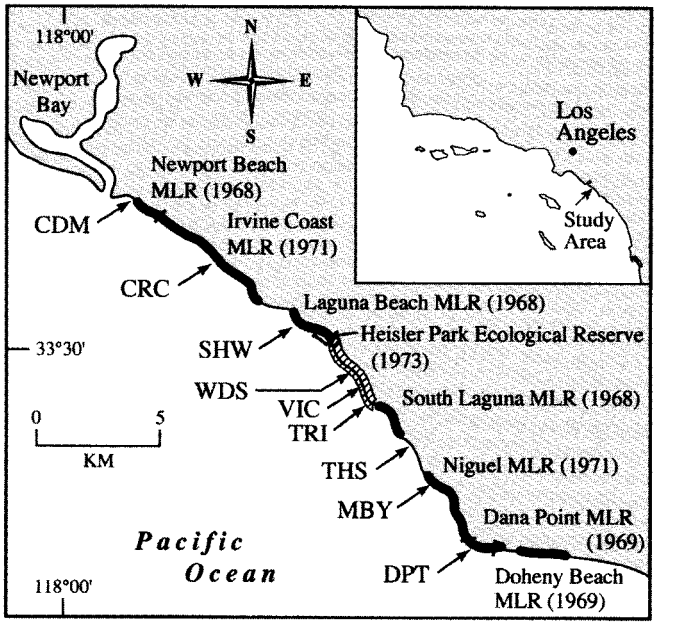

Figure 1. The south Orange County coastline, indicating California Marine Life Refuges (CMLRs) and State Ecological Reserves (SERs) and the dates of their establishment. Shaded areas indicate longstanding (ca. 30 years) CMLRs; the cross-hatched area depicts the January 1, 1994, extension of the Laguna Beach MLR. Arrows indicate the 8 sites assessed for human collecting: Crystal Cove (CRC), Shaw's Cove (SHW), Woods Cove (WDS), Victoria Beach (VIC), Treasure Island (TRI), Thousand Steps (THS), Monarch Bay (MBY), and Dana Point (DPT). The Little Corona Del Mar site (CDM) and the Heisler Park SER are also shown.

Rocky shores have long served as important recreational and educational resources for outdoor-oriented southern Californians (fig. 2). Although data on the number of visitors are not kept for most sites, partial records are available for selected locations where educational group activities take place. During 1996, for example, 7,690 people explored three to four rocky intertidal reefs at Crystal Cove State Park (M. Eaton, G. Scott, and W. Bonin, Calif. Park Service, pers. comm.) and 12,204 participated in organized field trips held within the Dana Point MLR (H. Helling and J. Goodson, Orange County Marine Inst., pers. comm.). In the same year, 12,000–15,000 persons made low-tide visits to a shoreline extending only about 125 meters at Little Corona Del Mar (fig. 1), a popular location for educational field trips in the Newport Beach MLR (T. Melum, City of Newport Beach, pers. comm.). At times, the number of shore visitors during a single afternoon low tide has reached levels as high as 1,443 persons in the Dana Point MLR (H. Helling, pers. comm.).

The activities of high concentrations of visitors, including their foot traffic, can significantly damage a wide

Figure 2. A large group of young people walks on organisms while participating in an educational field trip in the Dana Point MLR.

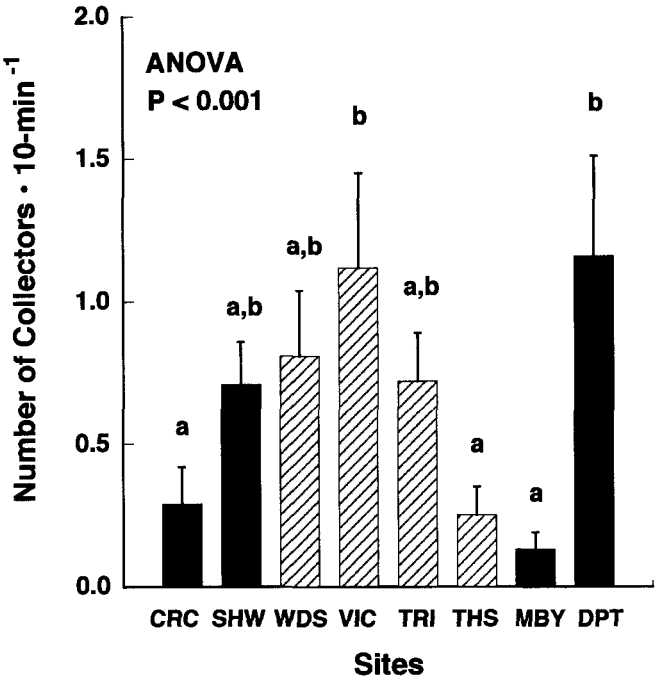

Figure 3. Human collecting activity at eight Orange County study sites (see fig. 1 for locations and abbreviations; after Murray 1998). Filled bars indicate longstanding, signed CMLRs; cross-hatched bars designate nonreserve sites (prior to 1994). Signs indicating CMLR status were not posted at nonreserve study sites given protection on January 1, 1994, until after all our data were collected. Plotted values represent the annual mean number of collectors (+1 SE) for each site calculated from the twelve monthly averages obtained between February 1995 and January 1996. Mean values designated by the same letter (a or b) belong to the same subset on the basis of the Student-Newman-Keuls (SNK) a posteriori multiple comparison test.

variety of rocky intertidal species (Keough and Quinn 1991, 1998; Brosnan and Crumrine 1994; Addessi 1995; Brown and Taylor 1999). Southern California intertidal populations susceptible to trampling include fleshy seaweeds, coralline algae, fragile tube-forming polychaetes, bivalves such as mussels, acorn barnacles, limpets, and grapsid crabs that seek refuge under loose rocks and seaweeds during low tide (Ghazanshahi et al. 1983; Murray 1998). Upper-shore fleshy seaweeds have been shown to be particularly susceptible to damage from human foot traffic throughout the world (Boalch et al. 1974; Beauchamp and Gowing 1982; Povey and Keough 1991; Brosnan and Crumrine 1994; Keough and Quinn 1998; Murray 1998; Schiel and Taylor 1999).

HUMAN COLLECTING ON ORANGE COUNTY ROCKY SHORES

Collecting Activity

A direct and potentially damaging effect of human visitation to the intertidal zone is the extraction of organisms. We quantified the frequency of human collecting of invertebrates and plants monthly for one year at eight rocky intertidal sites, four of which were within well-signed, longstanding CMLRs where collecting intertidal organisms without a scientific collector's permit was unlawful (Murray 1998). We visited the sites four times per month, twice during weekends and twice during weekdays between February 1995 and January 1996, to obtain monthly averages of collecting frequency. All site visits took place between sunrise and sunset; we did not sample on rainy days. Observations began one hour before and ended one hour after the predicted time of lower-low water. During each visit, the number of persons observed collecting was recorded for 10 minutes at the beginning of each 30-min period to produce five 10-min samples. We used these data to calculate the mean number of collectors observed per 10-min period for each site visit.

Our surveys indicate that collecting is frequent on Orange County rocky shores and does not appear to be deterred by CMLR designation in the absence of active education and enforcement. We estimated annual means of 0.1 to 1.1 collectors per 10-min observation period, indicating that at sites where collecting activity was most intense (i.e., Victoria Beach and Dana Point), an average of at least one person was engaged in collecting during every 10-min low-tide observation period throughout the year (fig. 3). No significant difference in the amount of collecting was detected between longstanding CMLRs and unprotected areas (one-tailed paired t test; $T = 1.007$; df = 11; $P = 0.17$; analysis based on comparisons of monthly averages of the number of collectors per 10-min period recorded for CMLR and nonreserve sites).

Collecting intensity, however, did vary significantly (ANOVA performed on square-root transformed data: df = 7; $MS = 0.342$; $F = 4.162$; $P < 0.001$) among the eight sites (fig. 3). Collecting was generally greatest on shores most easily accessible to visitors (e. g., Shaw's Cove, Woods Cove, Dana Point) and where recreational fishers were frequently seen removing organisms for fish bait (Shaw's Cove, Victoria Beach, Treasure Island).

Uniformed or other identifiable enforcement officials were never seen viewing the shore from overlooks, questioning people leaving the beach, or on the shoreline at our study sites during a total of 768 hrs of low-tide observations throughout the year. The only visible enforcement officials were state park rangers at our study site located inside Crystal Cove State Park, and lifeguards on duty during the summer and on holidays at sandy beaches adjacent to several of our study areas.

Records kept by Laguna Beach lifeguards also provide evidence that collecting is widespread and extensive along Orange County rocky shores, even in CMLRs and SERs (M. Klosterman, Marine Safety Chief, City of Laguna Beach, pers. comm.). For example, in 1997 and 1998, Laguna Beach lifeguards gave an annual average of 25,532 ecological advisements to persons collecting or engaged in ecologically damaging activities to intertidal populations and communities. Most advisements were given when tides were unfavorable for low-tide visitors, in the late morning and afternoon during the late spring and summer months when lifeguards were on duty. Lifeguards generally were not present in the fall and winter, when visitors most intensely use southern California rocky shores during favorable midday and afternoon lower low tides (Murray 1998). All advisements were given over a shoreline span (ca. 5 km) that extended from just north to just south of the historical limits of the Laguna Beach MLR and that included the Heisler Park SER (fig. 1). In summer (June–August) 1996, more than 40% of a total of 12,269 advisements were given at stations located either inside the Laguna Beach MLR or the Heisler Park SER. Heisler Park is a well-signed SER where all recreational and commercial extraction of marine plants, invertebrates, and finfish is prohibited without a scientific collector's permit or special authorization (McArdle 1997).

Species Collected

Slow-moving and sessile intertidal invertebrates are particularly vulnerable to collecting. Our surveys, and observations made during subsequent visits to our study sites, indicate that the organisms most commonly collected on southern California rocky shores are mussels, trochid snails, limpets, urchins, and octopuses.

Most collectors seemed to remove organisms for food or fish bait, although sometimes we found people taking animals for personal or commercial aquariums. Specimen collecting for scientific or educational purposes was seldom observed. Collectors often used iron bars, hammers, knives, or chisels to obtain mussels, and they frequently overturned rocks or damaged the rocky substrata while probing crevices and searching beneath larger boulders for octopuses. Flagrant collecting of large quantities of organisms occurred mostly when visitors took bags of mussels, presumably for food (fig. 4). Laguna Beach lifeguards also reported that the most extreme collecting incidents usually involved mussels (M. Klosterman, Marine Safety Chief, City of Laguna Beach, pers. comm.). On a few occasions, collectors took organisms for unusual purposes. For example, we saw a fisher leaving a signed CMLR with a bucket filled with kelp snails (*Norrisia norrisi* Sowerby) to be used the next day for fish bait in a nearby freshwater lake. We saw plants being collected only for scientific or educational purposes.

Figure 4. Collectors fill a bag with mussels in the Laguna Beach MLR.

We saw that recreational shore fishers fished at sites with steeply sloping rock platforms containing beds of mussels. Like recreational shore fishers in Australia (Kingsford et al. 1991), local fishers concentrated their bait-gathering adjacent to their preferred fishing spots, whether or not they were inside a CMLR or SER. Our observations indicate that mussels are by far the most commonly collected bait organism on southern California shores. Recreational fishers pull and cut mussels directly from the substratum; these practices also eventually dislodge other mussels by weakening their byssal attachment threads to each other and to rock surfaces. Recent surveys at our sites also revealed more gaps and less mussel

cover within beds frequented by recreational fishers, probably as a result of bait removal.[1]

Effects of Collecting

The most direct effects of intense collecting are decreased abundances of exploited species and, because humans preferentially collect larger individuals, altered population size structures (Griffiths and Branch 1997). Decreased density and reduced size structures have been reported for exploited invertebrate populations in Chile (Moreno et al. 1984; Castilla and Durán 1985; Oliva and Castilla 1986); Costa Rica (Ortega 1987); South Africa (Branch 1975; McLachlan and Lombard 1981; Hockey and Bosman 1986; Lasiak and Dye 1989; Branch and Moreno 1994); Tanzania (Newton et al. 1993); and Australia (Catterall and Poiner 1987; Keough et al. 1993). In addition, reduced abundances of certain exploited invertebrates, including mussels (Siegfried et al. 1985; Hockey and Bosman 1986), oysters (Dye 1988), predatory gastropods (Moreno et al. 1986; Durán and Castilla 1989), and limpets (Hockey and Bosman 1986; Oliva and Castilla 1986; Lindberg et al. 1998) can lead to significant changes in community structure.

The status of several intertidal invertebrate populations on southern California shores may reflect recent human exploitation, even where CMLRs and SERs have made almost all extraction by humans unlawful for nearly 30 years. For example, recent qualitative observations made at longstanding CMLRs and SERs and at historically unprotected southern California sites revealed sparse populations of most species of mid- and large-sized snails (>30 mm in maximum shell dimension) and grapsid crabs, particularly on smaller rocky platforms (<75 m of shoreline) that receive high concentrations of human visitors. On some of these small rocky platforms, the densities of common mid-intertidal turban snails (*Tegula gallina* Forbes and *T. funebralis* A. Adams) were found to be extremely low (0 to <1 m^{-2}) despite the availability of suitable habitat (Sato and Murray, unpublished data). Also, Kido[2] found the mean shell sizes (26.2 to 35.2 mm maximum shell length) of populations of the relatively long-lived owl limpet (*Lottia gigantea* Sowerby) at our eight study sites to be comparable to sizes reported by Pombo and Escofet (1996) for sites in Mexico where human exploitation is common. Collecting of *L. gigantea* is known to drive populations toward low densities of small individuals and to have cascading effects on other intertidal populations (Lindberg et al. 1998).

Reduced density and altered size structures can also have profound repercussions on the reproductive success of intensely exploited populations (Branch 1975; Wells 1997). As discussed by Hockey and Branch (1994), this is particularly true for broadcast spawners, where the probability of fertilization is already low for individual gametes (Denny et al. 1992); decreased density can further reduce fertilization success (Levitan 1991; Tegner et al. 1996). Furthermore, the preferential exploitation of larger-sized individuals can significantly decrease reproductive output because the production of gonadal mass greatly increases with size in most marine invertebrates. For example, changes in size structure due to human exploitation led to more than an 80% reduction in the reproductive output of a South African limpet population (Branch 1975; Branch and Moreno 1994). For protandrous species like *Lottia gigantea*, whose individuals change from males to females with age, greater exploitation of larger and older animals may further diminish the reproductive output of local populations by reducing the availability of females. Allee effects on the reproductive success of southern California invertebrates that rely on external fertilization are unknown but may be significant where density and size structure have declined over broad regional scales.

CONCLUSIONS

Our observations raise serious questions about the effectiveness of CMLRs and SERs as they are currently being managed in urban southern California. Low-tide surveys made throughout the year at eight Orange County sites, together with records kept by Laguna Beach lifeguards, indicate that unlawful collecting of intertidal organisms is common on many southern California rocky shores. Moreover, sites that are easy for visitors to reach and that are preferred by fishers seem to have the highest frequency of collecting disturbance regardless of whether the sites have long histories of CMLR or SER designation and whether signs indicating their protected status are posted at entry points. Unfortunately, historical data on the abundances and sizes of recreationally exploited invertebrates are unavailable for most southern California shores, so it is difficult to measure population declines and to evaluate the current status of any population. However, our qualitative observations and recent studies suggest that several exploited intertidal invertebrates have densities and size structures characteristic of overexploited populations.

Compliance with regulations is listed as a key to MPA success (Causey 1995; Ticco 1995) but is often difficult to achieve (Proulx 1998). The almost complete absence of visible enforcement officials has clearly contributed to the high frequency of unlawful collecting in southern California CMLRs and SERs. Maintaining effective

[1]Smith, J. R. 1999. The effects of bait collection and trampling on *Mytilus californianus* Conrad communities on southern California rocky shores. M.A. thesis, Calif. State Univ., Fullerton (in preparation).

[2]Kido, J. S. 1999. The status of *Lottia gigantea* Sowerby (owl limpet) populations among and within sites on southern California rocky shores. M.A. thesis, Calif. State Univ., Fullerton (in preparation).

enforcement is important especially for urban shores where visitors come from inland locations many kilometers away to exploit intertidal populations, and where coastal residents cannot depend on peer pressure or local educational efforts to achieve compliance with MPA regulations.

Clearly, the management of state MPAs in urban southern California has not received appropriate attention, and CMLRs and SERs do not seem to be effective in protecting intertidal populations from damaging activities. Improved and new management practices are needed, including the provision of effective enforcement, the use of volunteers or docents, the development of educational programs, and the initiation of scientific studies to evaluate MPA effectiveness. Only under these conditions can CMLRs and SERs protect rocky intertidal populations and communities, preserve coastal ecosystem functioning, and serve as benchmark sites in rapidly changing urban environments against which changes due to regional climatic events or the chronic inputs of anthropogenic pollutants can be scientifically evaluated in the absence of human exploitation.

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From: Todd Mierau <[redacted]>
Sent: Thursday, June 20, 2024 5:15 PM
To: FGC <FGC@fgc.ca.gov>
Cc: Benner, Carrie@Parks <[redacted]>; Leslea Meyerhoff <[redacted]>; Bradley Nussbaum <[redacted]>
Subject: To be included in the record for the Marine Resources Committee meeting on July 17, 2024 (Petition No. 2023-26MPA)

To Whom it May Concern:

Please include the attached letter in the record for Petition No. 2023-26MPA, being heard on July 17, 2024.

Sincerely,

Todd Mierau
Coastal Zone Program Administrator
Development Services Department
505 South Vulcan Ave, Encinitas, CA 92024
760-633-2693 | [redacted]
www.encinitasca.gov

City of Encinitas
Development Services Department
505 S. Vulcan Avenue, Encinitas, California 92024-3633

June 20, 2024

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

Re: Petition Number 2023-26MPA; Lisa Gilfillan, WILDCOAST and San Diego MPA Collaborative; July 17, 2024, Marine Resources Committee meeting

Dear Fish and Game Commissioners,

My name is Todd Mierau. I am the Coastal Zone Program Administrator for the City of Encinitas. I am responsible for managing six miles of coastline that front our jurisdiction within our city limits. This includes portions of the Batiquitos Lagoon State Marine Conservation Area (SMCA) and Ecological Reserve at the northern boundary, the San Elijo Lagoon SMCA and Ecological Reserve at our southern boundary, and the Swami's SMCA that spans 3.5 miles of our coastline, reaching from Moonlight State Beach, south to South Cardiff State Beach.

Attached is the petition information (Attachment A) and the general map (Attachment B) outlining the request to be heard at the Marine Resources Committee meeting on July 17, 2024. I would like to recommend a modification of the proposed "shift" to the Swami's SMCA boundary south towards the City of Solana Beach for the following reasons:

- The City of Encinitas manages the northern portion of the Swami's SMCA from the Cottonwood Creek outfall, south to the Swami's Marine Lifeguard Tower at the public stair accessway. Our lifeguards and other related city staff would have to help enforce the Marine Protected Area (MPA) rules that change with the northerly boundary adjustment. It is important that the **"No Collecting"** and **"No Take"** provisions that apply to geologic or culturally sensitive resources found within the Swami's SMCA remain in place at this location.

- Cottonwood Creek, a riparian waterway that outfalls at the northern most portion of Moonlight State Beach, is a clear delineation marker as the current northern boundary for the Swami's SMCA for those wishing to fish within the MPA's shore limits. It is easy for the public to understand the limits as the creek separates the MPA limits from the non-MPA limits.

- The city requests that a complete mete and bounds survey showing the complete limits of the boundary adjustment or "shift" so that we (along with other stakeholders) can evaluate how this could change the existing MPA limits. Additionally, the city requests that a recent marine biological survey be completed in the areas south of the current limits (proposing to be expanded) that we and other stakeholders may review. Finally, the city requests that

a current cultural resources study be completed in the MPA area overall prior to requesting this change.

Based on the incomplete information noted above, I request that the Commissioners move this Item into **"Bin 2"** to allow for further review and study. Additionally, I suggest that the Commission have the Petitioner, WILDCOAST, meet with the City of Encinitas, City of Solana Beach, California State Parks, Nature Collective, manager of the San Elijo Lagoon SMCA, and California Department of Fish and Wildlife to see how these proposed "shifts" or boundary adjustments and rule changes would impact all jurisdictions that manage these facilities and maintain this sensitive geographic marine area.

Thank you all for your time and consideration.

Sincerely,

TODD MIERAU,
Coastal Zone Program Administrator

ATTACHMENT A
PETITION NO. 2023-26MPA

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

Tracking Number: (2023-26MPA)

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: Lisa Gilfillan
   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) -** WILDCOAST is an international non-profit that conserves coastal and marine ecosystems and addresses climate change through natural solutions. We often work in partnership with the MPA Collaborative Network and serve as co-chairs for the San Diego MPA Collaborative group. We will reference the Collaborative Network's Vetted Regulation Recommendations for this petition. Given the complete consensus received within the San Diego MPA Collaborative, we are proposing four changes (one boundary change, and three other changes) across four MPAs. The proposed changes are as follows:
   - Line/Row #162- affecting Swami's SMCA: Our Reg recommendation= Shifting the entire shape South (from the lifeguard tower to State/Solana Beach line to cover tidepool on South side)
   - Line/Row #160, #164, & #170- affecting Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA: Our Reg recommendation= changing the purple to red for outreach purposes only, if boundaries remain the same

4. **Rationale (Required) -**

The above proposed recommendations are based on WILDCOAST's extensive MPA work in San Diego County and also through our collaboration with the MPA Collaborative Network (as a long-standing co-chair for San Diego County). These proposed recommendations came about after a robust discussion with local San Diego stakeholders on June 26, 2023, at the last San Diego MPA Collaborative meeting.

Line/Row #162- Swami's SMCA: There is a compliance concern here regarding harmful tidepooling, especially at Seaside reef. Enforcement for take of lobster is difficult at the southern boundary since it splits two jurisdictions and the reef (hard to know where they are actually taking from and who is responsible for enforcing what). This proposed change keeps the same size MPA but covers the impacted tidepool area on the Southern boundary. Additionally, the Lifeguard tower would serve as a clear boundary at the North end.

Line/Row #160, #164, & #170- affecting Batiquitos Lagoon No-Take SMCA, San Elijo Lagoon No-Take SMCA, & Famosa Slough No-Take SMCA: The compliance concerns in these locations are all the same- there is confusion amongst the general public around the purple No-Take SMCA designation versus a red SMR. It is therefore easier for the public to understand the regulations when there are fewer designations. It would simplify the rules if all No-Take areas were red for education and outreach purposes. It is anticipated that other MPA Collaborative members will be submitting similar petitions across the South Coast region. Additionally, this change supports Decadal Review Prioritized Recommendation #15.

SECTION II: Optional Information

5. **Date of Petition:** November 28, 2023

6. **Category of Proposed Change**
   - ☐ Sport Fishing
   - ☐ Commercial Fishing
   - ☐ Hunting
   - ☒ Other, please specify: MPAs, Section 632.

7. **The proposal is to:** (*To determine section number(s), see current year regulation booklet or https://govt.westlaw.com/calregs*)
   - ☒ Amend Title 14 Section(s):Westlaw regulations.
   - ☐ Add New Title 14 Section(s): Click here to enter text.
   - ☐ Repeal Title 14 Section(s): Click here to enter text.

8. **If the proposal is related to a previously submitted petition that was rejected, specify the tracking number of the previously submitted petition** Click here to enter text.
   Or ☒ Not applicable.

9. **Effective date**: If applicable, identify the desired effective date of the regulation.
   If the proposed change requires immediate implementation, explain the nature of the emergency: N/A

10. **Supporting documentation:** Identify and attach to the petition any information supporting the proposal including data, reports and other documents:
    - MPA Collaborative Network Vetted Regulation Recommendations

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: N/A

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

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

ATTACHMENT B
EXISTING NORTHERLY BOUNDARY AND SIGNAGE AT COTTONWOOD CREEK OUTFALL

MOONLIGHT BEACH ACCESS

Northern Boundary

(Left), sign indicating northern boundary at outfall; (right), looking back toward outfall (pt. 1)

EXISTING SOUTHERN BOUNDARY OF CITY OF ENCINITAS IN GREEN.

PROPOSED SHIFT IN SWAMI'S SMCA SOUTHERN BOUNDARY

From: Leslea Meyerhoff <[redacted]>
Sent: Saturday, June 29, 2024 02:24 PM
To: FGC <FGC@fgc.ca.gov>; Benner, Carrie@Parks <[redacted]>
Cc: 'Todd Mierau' <[redacted]>; 'Dan King' <[redacted]>; 'Jayme Timerlake' <[redacted]>
Subject: City of Solana Beach Letter for the record for Marine Resources Committee meeting on July 17, 2024 (Petition No. 2023-26MPA)

All – Please see attached letter submitted on behalf of the City of Solana Beach.

Leslea Meyerhoff, AICP, Principal
Summit Environmental Group, Inc.
Summitenvironmental.org

CITY OF SOLANA BEACH
www.cityofsolanabeach.org
635 SOUTH HIGHWAY 101 • SOLANA BEACH, CA 92075 • (858) 720-2400 • Fax (858) 720-2455

June 25, 2024

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

Re: Petition Number 2023-26MPA; Lisa Gilfillan, WILDCOAST and San Diego MPA Collaborative; July 17, 2024, Marine Resources Committee Meeting

Dear Commissioners:

The purpose of this letter is to request that you move this Item into "Bin 2" to allow for further review and study by affected jurisdictions including the City of Solana Beach. The City learned of this request to shift the boundary of the Swami's Marine Protected Area (MPA) less than one month before it was scheduled to be considered. Learning about this proposal at this late date deprives the City of a meaningful opportunity to review and provide comment on this proposal.

We suggest that the Commission convene a stakeholder outreach meeting and request the Petitioner, WILDCOAST, meet with representatives of the City of Solana Beach (City) and Encinitas, California State Parks, and other interested stakeholders to discuss the rationale, justification and impacts for the proposed "shift" or boundary adjustments and rule changes. As coastal stewards and managers, it is important the City have a full and complete understanding of how this proposal could affect our day-to-day operations as it relates to the management of the beach in the area of the proposed boundary change.

Further, this area has been a source for sand nourishment – both as an offshore sand resource site and on-shore receipt location. As a resiliency measure, sand nourishment is a critical tool that cities have up and down the coast to directly mitigate global effects of climate change. While we have climate action plans to reduce, or avoid, the emissions of greenhouse gases, nourishment is an essential adaptation measure to combat the already occurring effects of sea level rise (SLR) as a result of climate change.

This area is also used for fishing by community members, some who have fished in this area for generations. The proposal should include analysis of any potential impact on historical fishing uses, including Indigenous native American populations. This rulemaking could have the unintended consequence of denying Indigenous or multi-generational community members access to sustainable fishing resources.

The City also requests a complete mete and bounds survey showing the limits of the boundary adjustment or proposed "shift" of the Swami's MPA so that the City, along with other stakeholders, can evaluate the potential effects of this proposed change on the ground including locating the proposed boundary as it relates to the City's municipal limits, Encinitas municipal limits, State Lands, State Parks and CDFW jurisdiction.

This area of coastline is very popular for school groups and visitors to the region due in part to its proximity to a large public parking lot that provides important coastal access for visitors to the City and region. It is an important coastal resource that serves a vital educational role, including historically underserved populations, in the City and region and is well known for tide pooling, fishing, including spearfishing. In reaching out to our community members, it appears that no one in the community is aware of this pending proposal by WILDCOAST. Due to the limited engagement with the City of Solana Beach to this point, we would like to request that prior to any further consideration of this stakeholder proposal, additional coordination with the City should be conducted, along with community outreach and education. This includes coordination on the specific area delineated, restrictions on use, signage, and on-going monitoring and enforcement.

Additional considerations with regard to education and enforcement are required from City resource managers and our Marine Safety staff to ensure compliance with any adopted changes. The City is requesting more considerations and input on the time period for implementation; warning system (prior to fines); and defining the responsible entity for enforcement (e.g., State Parks and/or California Department of Fish and Wildlife (CDFW)). Given the popularity of this beach and reef, there would likely be an increase in the need for patrolling and enforcement if the SMCA is expanded further south.

The City requests that a recent marine biological survey be completed for the areas south of the current limits (proposing to be expanded) that we and other stakeholders may review. If a recent survey has already been completed, please forward it to the City for review.

We reiterate our concern that any changes would have an adverse effect on coastal public use and access, and due to lack of stakeholder outreach and the potential effects on existing City operations, and the long-term SLR resiliency mitigation needs, that such a boundary change could have on local jurisdictions, this item is more appropriately moved into "Bin 2" to allow for further review and study by all interested parties.

We appreciate the opportunity to learn more about the stakeholder proposal and provide our comments. We are committed to collaborating to ensure the protection of coastal resources and the resilience of our shorelines in the face of climate change. We are available to meet

with you either in person at the site or virtually. Please contact me via email at [redacted] or by phone at [redacted] to arrange a meeting time..

Sincerely,

Alyssa Muto
City Manager

From: Blake Hermann [redacted]>
Sent: Tuesday, June 25, 2024 07:58 AM
To: FGC <FGC@fgc.ca.gov>
Subject: Comment to July MRC Meeting

Hello,

The attached comment concerns the MPA petitions' proposed binning, and includes points felt to be important regarding the process as we move forward.

Thank you,
Blake Hermann

Letter to MRC
Regarding Petition2023-15MPA and Future Process (Phase 2 and 3)

Dear Marine Resource Committee,

As the petitioner of Petition2023-15MPA, I would like to comment on the set bins of the 20 MPA related petitions and provide additional process commentary on possible future analysis of the petitions as we move into phases 2 and 3.

I would like to first say that the bin rankings all appear justified and are generally in line with what was expected by my local community. In terms of my own petition and its bin 2 placement, it is understandable that redesignation of existing SMRs/FMRs to SMCAs/FMCAs is a process that should allow for more in-depth analysis and input from interested parties (state and federal agencies, governmental and non-governmental organizations, and the public). This binning is something I, as the petitioner, expected. Because of this, I have been working to garner as much input from other sources as possible.

Since petition submittal, I have kept communication lines open with participants in the original MPA network process around the Channel Islands such as this Commission and CDFW. Additionally, federal bodies like CINMS, NMFS, and the PFMC are also following this petition and are either following the state along its process or developing their own input evaluation procedures. This federal inclusion is due to the federal overlap of the MPAs the petition discusses requiring input, recommendations and possible amendments be made by these federal groups through their own processes.

For the process as a whole, as we transition into phase 2 of the petition process, I would like to emphasize a few points that I believe are needed for both the petitioners and the public to best engage with the FGC, MRC, and CDFW through this process.

- The required additional policy guidance, input, or resources from other parties that is required to move a bin 2 petition forward must be specific, giving us petitioners and the public the most information possible on what is needed for each petition to move forward.
    - Rationale - This is so petitioners and the public may know what must be done prior to the petition before possibly moving forward into phase 3 of the evaluation process and to have the chance to actively participate in these additional input processes/meetings.

- If there is no need to group petitions into the same timeline, a petition's movement through the process should be at its own pace, not held back or accelerated by other petitions. Individual actions of a specific petition could be bundled if it makes sense, but bin 1 or 2 petitions that have acquired all the relevant data or input should not be held up by those that are still in the data gathering process.
    - Rationale – Will allow the process to work piecewise overtime vs in large jumps in pace. Additionally, those interested in multiple petitions can better

schedule involvement in the process if petitions streamline out as they wrap phase 2/3, versus having large meetings where all of a bin's petitions are considered, and a multitude of organizations and individuals present.

- If it is determined that meetings (FGC, MRC, or special meetings) need to be held to gauge public insight on specific petitions, meetings should be held locally as is practical to the areas where the petitions are affecting. In some cases, for those petitions affecting large areas of the state, multiple meetings may be required.
    - Rationale – Would allow for the best chance of input from local stakeholders that individual petitions are affecting the most.

I would like to thank DFW, for completing the binning phases of the petition process, and the FGC, and MRC for their efforts thus far in this decadal adaptive management process. I look forward to future discussions related to these petitions.

Thank you,
Blake Hermann

From: Eric Praske <[redacted]>
Sent: Thursday, June 27, 2024 04:56 PM
To: FGC <FGC@fgc.ca.gov>
Subject: July MRC comment letter

Good afternoon,

I would like to submit the attached comment letter for consideration at the July MRC meeting. Thank you.

Eric

Dear California Fish and Game Commissioners,

Thank you for the opportunity to comment on the proposed categorization of Marine Protected Area (MPA) petitions.[1] I support the Department of Fish and Wildlife's (DFW) proposed categorization and would like to offer specific comments on three of the petitions.

Petition 2023-22MPA:
I agree with the classification of this petition as a Bin 1 near-term priority with limited controversy. I urge both the DFW and the Fish and Game Commission (FGC) to advance this petition promptly.

Petitions 2023-15MPA and 2023-16MPA:
I support the inclusion of these petitions in Bin 2 due to their highly controversial nature. These petitions aim to weaken protections in State Marine Reserves (SMRs), which form the backbone of California's MPA Network. In my previous letter, I highlighted important considerations regarding the potential for these petitions to compromise MPA enforcement and California's 30x30 initiative.[2] The Ocean Protection Council's recently released 30x30 Decision Making Framework for Coastal Waters underscores the importance of maintaining strong protections, especially in areas that are already highly protected.[3] Granting these petitions would severely undermine the robust protections afforded by SMRs and signal to the fishing community that FGC would entertain future petitions to weaken highly protected areas. I strongly urge the FGC to adopt a firm position that any petitions aiming to weaken protections in SMRs will not be granted.

Thank you for considering my comments. I look forward to closely following the MPA petition review process.

Sincerely,

Eric Praske

Eric Praske
Laguna Beach

[1] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=223591&inline
[2] Significant Comments Received for the February 14-15, 2024 Commission Meeting Related to Agenda Item 10, Exhibit 3, available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=219990&inline
[3] https://opc.ca.gov/wp-content/uploads/2024/05/Item-7-Exhibit-A-Draft-30x30-Decision-Making-Framework-Coastal-Waters-508.pdf

From: Rick Duenas <[redacted]>
Sent: Wednesday, July 3, 2024 04:13 PM
To: FGC <FGC@fgc.ca.gov>
Subject: Public comment on July 2024 MRC item 2: Petition Binning

Dear Commissioner Sklar and Commissioner Murray,

My name is Rick Duenas and I am a resident of coastal San Mateo County and a consumptive stakeholder in much of the state. I am writing to provide public comment on July MRC item 2: Petition Binning. While I appreciate the Department staff's effort in sorting the MPA petitions, I respectfully suggest that petitions 2023-26MPA (Swami's boundary shift) and 2023-31MPA (Drakes Estero SMR conversion) be moved from bin 1 to bin 2 because stakeholder controversy may be wider than anticipated.

Regarding 2023-26MPA, shifting the boundary of Swami's SMCA south will effectively bisect the rocky reef at the southern edge of Cardiff State Beach. This reef is popular amongst lobster divers, spearfishermen, and anglers, warranting further discussion on the implications of the boundary shift. This petition would be better served in bin 2 to allow time for stakeholder input.

Regarding 2023-31MPA, subsuming Drakes Estero SMCA into Estero de Limantour SMR will bar take of clams within Drakes Estero. The northern portion of Drakes Estero is a popular recreational clamming area. In fact, over 20% (44 / 192) of the canoe/kayakers in the petitioners' own survey were thought to be consumptive users. This petition would be better served in bin 2 to allow for consumptive stakeholder outreach.

Please consider re-binning petitions 2023-26MPA and 2023-31MPA into bin 2. Thank you for your time.

Sincerely,
Rick Duenas

From: Frimond, Jeremy CM <[redacted]>
Sent: Tuesday, July 2, 2024 08:53 AM
To: FGC <FGC@fgc.ca.gov>
Cc: Fabian, Erin <[redacted]>
Subject: Public Comment - July 17, 2024 FGC Meeting - City of Laguna Beach

Good Morning,

On behalf of the City of Laguna Beach, please include the attached comment letter for the July 17 FGC meeting.

Respectfully Submitted,

Jeremy Frimond
Assistant City Manager
City Manager's Office
505 Forest Avenue, Laguna Beach, CA 92651
Phone: [redacted]
Email: [redacted]

June 21, 2024

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

Subject: **Request for Local Government Participation Framework During the Marine Protected Area Petition Process**

Dear Members of the California Fish and Game Commission,

While the City of Laguna Beach did not submit a petition requesting changes to the MPAs along its jurisdictional coastline, two petitions were submitted to the State, including:

- **Petition 2023-24MPA (Laguna Bluebelt Coalition)** requesting that the No-Take Laguna Beach State Marine Conservation Area's southern boundary be extended to the City's southern border, which will require modification of northern boundary of the Dana Point State Marine Conservation Area. This petition was placed into Bin 2.

- **Petition 2023-22MPA (Orange County Coast Keeper)** requesting color modifications to informational mapping materials, modifying the definition of tidepools, and permitting research, monitoring, and restoration activities in Orange County MPAs, including Laguna Beach. Petition 2023-22MPA was placed into Bin 1.

We collectively, as Californians, are passionate about our ocean. As such, the petition process is of great importance to coastal communities. Local agencies are facing increased pressure to take positions on petitions within their jurisdiction without clear direction or analysis from the state related to scope or feasibility of a petition. We believe that providing a framework for local government involvement will more effectively facilitate the discussion regarding MPA modifications at the local level and allow City Councils to be impactful when contemplating MPA policies or boundary revisions.

The City thanks the Commission in advance of its July 17, 2024, meeting and hopes it will consider the City's request to provide local governments with direction during this process. As expressed in the City's letter dated November 29, 2023 (attached), the Laguna Beach City Council remains willing to engage in discussions regarding the MPA networks along its coastline.

Sincerely,

Sue Kempf
Mayor

Attachment 1

November 29, 2023

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

Re: Support for Future Discussions Regarding Potential Changes to the Existing Marine Protected Areas off the Coast of Laguna Beach

Dear Members of the California Fish and Game Commission,

I am writing on behalf of the City of Laguna Beach to express our sincere appreciation for the outstanding leadership and commitment you have demonstrated in managing California's Marine Protected Area (MPA) Network since its inception in 2012. Your dedication to preserving our state's marine ecosystems has not only ensured the conservation of biodiversity but has also contributed significantly to the sustainable management of our coastal resources.

On January 23, 2023, the California Department of Fish and Wildlife released its decadal management review report, marking a crucial milestone in the evaluation of the effectiveness of the MPA Network. The City of Laguna Beach is pleased to have participated in this process by submitting a letter on February 6, 2023, in support of the local MPA boundaries as designated.

We acknowledge the comprehensive efforts undertaken by the Commission to assess the current state of California's MPAs and the commitment to enhancing their effectiveness. The recommendations outlined in the report, particularly those regarding potential changes to MPA regulations, reflect a proactive approach to adaptive management that we commend.

While the City of Laguna Beach is not submitting a petition to consider altering its local boundaries at this time, we want to express our willingness to actively engage in future discussions regarding the Vision 30 by 30 initiative and potential changes to the existing MPA in the southern portion of the City, including those outlined in the attached letters received by the City from the Laguna Bluebelt Coalition, South Laguna Civic Association, and the Three Arch Bay Community Services District. As stewards of our coastal environment, we recognize the importance of collaborative efforts in achieving the goals of marine conservation and sustainable resource management.

In conclusion, we extend our gratitude to the California Fish and Game Commission for your exemplary leadership in managing the Marine Protected Area Network. We look forward to the continued success of California's MPAs and to participating in future discussions to address issues raised in the attached letters and that contribute to the achievement of the Vision 30 by 30 initiative.

Sincerely,

Bob Whalen
Mayor

From: Karla Garibay Garcia <[redacted]>
Sent: Wednesday, July 3, 2024 06:43 PM
To: FGC <FGC@fgc.ca.gov>
Cc: Laura Deehan <[redacted]>; Tomas Valadez <[redacted]>; [redacted]; Aylesworth, Sandy <[redacted]>
Subject: NRDC, EnvCA, Azul, and Fish On July 2024 MRC Written Comments

Dear Fish and Game Commission,

I am writing on behalf of the Natural Resources Defense Council, Environment California, Azul, and Fish On to submit written comments for the July 17, 2024, Marine Resources Committee meeting.

Thank you for the opportunity to comment on the adaptive management process.

Best,
Karla Garibay Garcia
Policy Consultant

July 3, 2024

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

Submitted electronically via fgc@fgc.ca.gov

RE: Comments on Fish and Game Commission July 17, 2024 - Marine Resources Committee, MPA Petition Review Process

Dear President Murray and Honorable Commissioners:

The Natural Resources Defense Council, Environment California, Azul, and Fish On respectfully offer the following comments in response to the California Department of Fish and Wildlife's (CDFW) proposed binning decisions for Phase I of the adaptive management process for the California Marine Protected Area (MPA) network. We hope these comments are useful in informing the July 17 California Fish and Game Commission (FGC) Marine Resources Committee (MRC) meeting.

We appreciate CDFW's efforts and success in releasing the proposed petition binning and associated justifications six weeks in advance of the MRC meeting. Our organizations have emphasized the importance of fostering a transparent and inclusive public process as CDFW and FGC begin to implement the Decadal Management Review (DMR) recommendations. Providing members of the public with ample time for review and amplifying public participation opportunities are critical to ensure Tribes, members of the public, and organizations can participate in and inform management of the MPA network. Further, we appreciate the transparency in providing the justifications for the Bin 1 petitions and the initial assessment of the type of policy guidance, information, and/or resources required for Bin 2 petitions.

Our organizations generally agree with CDFW's proposed petition binning. Approving the Bin 1 petitions would result in minor changes to the network that would improve CDFW's ability to enforce MPA regulations and/or strengthen protections for MPAs within the network. We urge CDFW and FGC to make affirmative decisions on Bin 1 petitions no later than December 2024.

With respect to Bin 2 petitions and the ensuing Phase II and III evaluations, we offer the following comments.

1. **The adaptive management process should result in a net strengthening of the MPA network. FGC should therefore deny petitions that would weaken the network.**

The Marine Life Protection Act (MLPA) clearly states that the purpose of an MPA is to protect marine biodiversity, "MPAs are primarily intended to protect or conserve marine life and habitat."[1] The MLPA also notes the special importance of no-take Marine Life Reserves in conserving ecosystem health and

[1] Marine Life Protection Act, California Fish and Game Code § 2582 (c)

declares that no-take MPAs "shall be maintained to the extent practicable in an undisturbed and unpolluted state."[2,3] The MLPA states that adaptive management "means a management policy that seeks to *improve* [emphasis added] management of biological resources, particularly in areas of scientific uncertainty, by viewing program actions as tools for learning."[4] Given the foundational goal of an MPA is to conserve biodiversity, the MLPA's affirmation of the value of no-take Marine Life Reserves, and the guidance that adaptive management is to result in improved resource management, petitions that fail to enhance biodiversity conservation are inconsistent with the statute.

Finally, as a practical matter, the Department and FGC have limited time and resources for the adaptive management process. The consideration of petitions that propose changes to weaken the network is a poor use of those limited resources. Petitions 2023-15MPA, 2023-16MPA, and 2023-18MPA seek to allow commercial or recreational take within State Marine Reserves (SMRs), where it is currently prohibited. Approval of these petitions would constitute a weakening of the network. Petitions promoting commercial and/or recreational fishing in SMRs weaken the network, in part, by inviting significant enforcement challenges. MPA enforcement is inherently challenging, and this is compounded by limited state resources for these activities. The conversion of five SMRs to State Marine Conservation Areas (SMCAs), as proposed by petitions 2023-15MPA and 2023-16MPA, would compromise a significant portion of the MLPA network. While more limited in scope, petition 2023-18MPA proposes to allow shore-based fishing in the largest SMR — the only SMR that met the Science Advisory Committee's original size guidelines. This will undercut its important role in the MLPA network. No-take reserves provide unique benefits like helping to restore the size and age distributions of harvested fish populations. Therefore, our organizations support the denial of petitions 2023-15MPA, 2023-16MPA, and 2023-18MPA before the Department begins Phase III of the MPA Petition Evaluation Framework.

2. **Strengthening and expanding the MPA network is consistent with OPC, FGC, and CDFW MPA policy.**

The Proposed MPA Petition Evaluation Framework notes that policy direction for certain Bin 2 petitions is needed.[5] The FGC, Ocean Protection Council (OPC), and CDFW have all indicated that changes to the MPA network that strengthen or enhance it are acceptable outcomes of the adaptive management process, thereby providing policy direction for petitions seeking to re-designate SMCAs to SMRs, expand existing MPAs, and create new SMRs or highly protected SMCAs.

As the policy lead for California's MPA network, OPC specified that the adaptive management of the MPA network is one of the state's four key strategies to achieve 30x30 in coastal waters—a Newsom Administration priority that was recently codified into state law. Since the state requires additional

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[2] FGC § 2581(f) Marine life reserves are an essential element of an MPA system because they protect habitat and ecosystems, conserve biological diversity, provide a sanctuary for fish and other sea life, enhance recreational and educational opportunities, provide a reference point against which scientists can measure changes elsewhere in the marine environment, and may help rebuild depleted fisheries.
(g) Despite the demonstrated value of marine life reserves, only 14 of the 220,000 square miles of combined state and federal ocean water off California, or six-thousandths of 1 percent, are set aside as genuine no take areas.
(h) For all of the above reasons, it is necessary to modify the existing collection of MPAs to ensure that they are designed and managed according to clear, conservation-based goals and guidelines that take full advantage of the multiple benefits that can be derived from the establishment of marine life reserves.
[3] FGC § 2582 (d)
[4] FGC § 2852 (a)
[5] California Department of Fish and Wildlife. (2024). Proposed MPA Petition Evaluation Framework

conservation actions to meet the 30x30 goal, decisions to strengthen or expand the MPA network are consistent with OPC policy. Further, in its discussion of MPAs, the 30x30 Draft Decision-Making Framework for Coastal Waters states, "Fully or highly protected areas have the greatest potential to protect biodiversity, confer resilience, and benefit species and ecosystems."[6] It is, therefore, wholly consistent with OPC policy for the Department to evaluate and approve petitions that would re-designate SMCAs to SMRs, expand existing MPAs, and create new SMRs or highly protected SMCAs.

Overwhelming public input for DMR Recommendation 4, which states "Apply what is learned from the first Decadal Management Review to support proposed changes to the MPA Network and management program," resulted in CDFW and FGC embarking on the current adaptive management process.[7] Part (b) of Recommendation 4 calls on decision-makers to "Identify and utilize best science-based approaches to inform potential changes to the MPA network in order to enhance Network performance."[8] Based on the policy guidance within the DMR, it is clear that the adaptive management process should result in changes to the network that enhance its performance.

As CDFW Director Bonham has publicly affirmed since the DMR was completed, the MPA network is working. California's Natural Resources Secretary Crowfoot and Deputy Secretary for Oceans and Coastal Policy for Natural Resources Eckerle agree that the MPA network should not be weakened through the adaptive management process. Secretary Crowfoot rightfully noted at the 30x30 Senate Natural Resources and Water Informational Hearing in March 2024 that we need more conserved areas to meet our biodiversity goals. Our organizations also appreciate Commissioner Sklar's confirmation at the February 2024 FGC meeting that, "one of the Commission's goals is to in no way weaken the network... including specific MPAs." Our organizations agree with these comments from our state leaders and urge the Department and FGC to ensure the adaptive management process does not result in the weakening of the MPA network.

3. **"Controversy" should not be a factor in the evaluation process for Bin 2 petitions.**

Controversy was a main factor in the binning phase of the MPA Petition Evaluation Framework. While there has been no indication that controversy will factor into Phases II and III, our organizations would like to emphasize that controversy should not be an evaluation metric or influence decision-making. We agree with and support FGC and CDFW's statements thus far that modifications to the network will be scientifically driven, will enhance MPA management, and must align with the goals of the MLPA.

4. **MPA petition decision-making should continue to be transparent.**

As previously stated, we appreciate CDFW's transparency in sharing the proposed binning and justifications with the public. We also appreciate the call for public input and explanation of the MPA petition evaluation process in the Marine Management News blog, dated May 31, 2024. We hope to see more of these efforts throughout the petition evaluation process. Our organizations will continue to amplify these opportunities and information with our networks to expand public participation in MPA decision-making.

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[6] California Ocean Protection Council. (2024). 30x30 Draft Decision-Making Framework for Coastal Waters.
[7] California Department of Fish and Wildlife. (2022). California's Marine Protected Area Network Decadal Management Review.
[8] Decadal Management Review.

We urge CDFW's presentation at the July 2024 MRC to include a timeline for Phases II and III for Bin 1 petitions, and, at the very least, an anticipated date by which Bin 2 petitions will be separated into individual actions. In preparation for Phase III, we request that CDFW elaborate on how it will apply the evaluation considerations to each petition action by the upcoming October 2024 FGC meeting. The Phase III visual shows 14 considerations under the three categories of MPA Management Program, MPA Governance, and MPA Network Performance.[9] Although we know CDFW will evaluate individual petition actions against those considerations, it is unclear whether certain considerations will be weighted or which, if any, considerations a petition must meet to be approved. Regardless of how these considerations are applied to each petition action, we ask that CDFW provide verbal and written updates to the public throughout Phase III.

5. **Adaptive management should consider the broader threats facing our ocean.**

As our organizations have previously stated, the adaptive management process is occurring in the context of unprecedented changes to California's ocean. We very much agree with Secretary Crowfoot's opening in the DMR,

> As we embark into the next decade of MPA Management, we must steady ourselves for the challenges ahead. While we see evidence of MPA protections benefiting key species and habitats, we must continue to invest in long-term monitoring to further understand how MPAs are meeting the goals of the MLPA and what additional steps may be necessary to further strengthen the Network. We need to consider climate change impacts and ensure that California's MPAs promote ecosystem resilience and support sustainable fisheries outside their boundaries. [10]

California's ocean and coastal areas are experiencing significant environmental stressors from climate change. Ocean waters are rising, becoming warmer, more acidic, lower in oxygen, and prone to extreme events.[11] Combined with the impacts of existing local stressors (e.g., fishing, pollution), climate change poses a significant threat to California's ocean biodiversity and coastal economy.

Furthermore, as heavily impacted as the California seascape is now, the human pressures to use the ocean more intensively are only rising.[12] California is investing heavily in offshore wind energy production as a key component of its clean energy transition.[13] Demand for the expansion of aquaculture is also rising.[14] As the severity of the freshwater crisis in California intensifies, there will be sustained pressure to develop desalination plants along the coast. Efforts to develop ocean-based carbon dioxide removal (CDR) strategies are intensifying. Because of these trends, scientists warn that we are embarking on an era of

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[9] California Department of Fish and Wildlife. (2024). Proposed MPA Petition Evaluation Framework.
[10] California Department of Fish and Wildlife. (2023). Marine Protected Area Decadal Management Review Report: Prioritized Recommendations
[11] H.-O. Pörtner et al., "IPCC Special Report on the Ocean and Cryosphere in a Changing Climate," Intergovernmental Panel on Climate Change, 2019, https://www.ipcc.ch/site/assets/uploads/sites/3/2019/12/SROCC_FullReport_FINAL.pdf.
[12] Benjamin Halpern, et al., "Spatial and temporal changes in cumulative human impacts on the world's ocean." *Nature communications* 6, no. 1 (2015): 1-7 6. 7615. 10.1038/ncomms8615.
[13] California Energy Commission. (2022). Offshore Wind Energy Development off the California Coast
[14] Rosamond Naylor et al., "A 20-year retrospective review of global aquaculture." *Nature* 591, no. 7851 (2021): 551-563. https://www.nature.com/articles/s41586-021-03308-6.

large-scale habitat modification in the sea that could trigger a wave of extinctions like those that have occurred on land.[15]

MPAs can guard marine ecosystems from ocean crowding and help them face unprecedented changes in ocean conditions in numerous ways: by reducing cumulative impacts from local stressors; by helping to protect species, genetic, and phenotypic diversity; by creating refuges in areas that are climatically stable through time; and by creating functional networks to help maintain migration and dispersal corridors.[16,17] These impacts make California's MPAs an important tool to invest in the future health of our coastal ecosystems and offer direct benefits to communities, including enhanced recreation and the potential for improved subsistence-level fishing outside of MPA boundaries.

The adaptive management process is an opportunity for California to examine the current MLPA network in this broader context. We urge the FGC to take stock of current and future threats to our coastal ecosystems as they make decisions about the petitions. Twenty years ago, California exhibited leadership in establishing a network of ecologically connected highly and fully protected MPAs. It is time for the state to recommit to the goal of a healthy and resilient ocean and take additional and significant action to protect biodiversity and help ensure resilient systems now, while we can.

Thank you in advance for considering these comments. We look forward to participating in the binning discussion at the July 2024 MRC.

Sincerely,

Sandy Aylesworth
Director, Pacific Initiative
Natural Resources Defense Council

Anupa Asokan
Founder and Director
Fish On

Tomas Valadez
CA Policy Associate
Azul

Laura Deehan
State Director
Environment California

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[15] McCauley DJ, Pinsky ML, Palumbi SR, Estes JA, Joyce FH, Warner RR. Marine defaunation: animal loss in the global ocean. Science. 2015 Jan 16;347(6219):1255641. doi: 10.1126/science.1255641. PMID: 25593191.

[16] Marissa L. Baskett and Lewis A. K. Barnett. "The ecological and evolutionary consequences of marine reserves," *Annual Review of Ecology, Evolution, and Systematics* 6 (2015): 49-73, https://doi.org/10.1146/annurev-ecolsys-112414-054424.

[17] Callum M. Roberts et al., "Marine Reserves Can Mitigate and Promote Adaptation to Climate Change," *PNAS* 114, no. 24 (2017): 6167-75, https://doi.org/10.1073/pnas.1701262114.

From: Donna Kalez <[redacted]>
Sent: Friday, July 5, 2024 11:12 AM
To: FGC <FGC@fgc.ca.gov>
Subject: comments for Marine resources meeting July 17-18

Please see our letter regarding 2023-24 bin 2

Thank you

Donna Kalez, COO
Dana Wharf Sportfishing & Whale Watching
34675 Golden Lantern
Dana Point, Ca. 92629
949.496.5794 ext 116
www.danawharf.com
www.linktr.ee/danawharf
Dana Point : The Dolphin & Whale Watching Capital of the World ®
Keep in touch: **Twitter**, **Facebook** , **Instagram** , **You Tube**
Chair: Festival of Whales Foundation

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EST. 1971

7/4/24

California Fish and Game Commission

Subject: Concerns Regarding Binning of MLPA Petition submittals.

Dear Fish and Game Commission Marine Resources,

I am writing to express my deep and continued concerns regarding the MLPA Decadal review and the petition 2023-24 to expand the closures in the coastal area of Laguna Beach in Orange County (2023-24MPA Mike Beanan, Laguna Bluebelt Coalition Extend Laguna no-take SMCA southern boundary to the southern border of City of Laguna Beach, which will require modification of northern boundary of Dana Point.) We understand that you have put the petition in BIN 2 and we want to assure you that we are still very much opposed to this petition :When you ask in the report Is limited controversy anticipated? (N): Public comments/letters have already been received by CDFW and CFGC about this petition, indicating a **high degree** of anticipated controversy. This is a very true statement and the fishing community is extremely worried . Below is testimony I provided back in January 2024 and should be reviewed again .

As a long-standing business owner for over 50 years , Dana Wharf Sportfishing and Whale Watching, a business started by my father Don Hansen, I feel compelled to share my perspective on this matter.

Since 1971, Dana Wharf Sportfishing and Whale Watching has been an integral part of the Dana Point community, providing daily fishing trips from Dana Point Harbor. Over the past 12 years, we have diligently followed the rules and adapted to the closure of a significant fishing area in Laguna Beach immediately to the north of our Harbor due to the MLPA implementation. While we fish in the waters off San Clemente to our south as well as waters off shore on our longer trips. The proposed expansion of the closure areas in Laguna Beach includes highly popular spots for both commercial and recreational fishing for our shorter trips.

Expanding the Marine Protected Areas (MLPA) in these areas would have devastating consequences for the livelihoods of local fishermen, my business, and the well-being of our employees and patrons. Having efficient, equitable access to good fishing spots close to our location is essential for individuals who may not be able to take longer trips for many reasons including special needs, children, seniors and those who cannot afford longer trips to catch their

fish. Shorter trips not only provide more affordable options but also cater to individuals who cannot be on a boat for an extended period.

The proposed expanded areas would not allow us to provide enjoyable fishing experiences without requiring extensive travel, it would limit our access and take away vital options to the fishery. It is crucial to consider that the Marine Life Protection Act was implemented with strict guidelines for determining closure areas along our coast; it is a network of protected areas . I can assure you that the MLPA was a long and painful process for all involved. Accepting a petition to expand an area that does not warrant expansion would not align with the original intent of the act. Instead, we should focus on conducting more long-term monitoring and comprehensive surveys to better understand the current state of the fishery in the closure area. We should be supporting science and adaptive management.

Dana Wharf Sportfishing and Whale Watching has been a steadfast partner in adapting to the MLPA closure. We employ 50 individuals who make a living on the water, through both fishing and whale watching activities. When evaluating petitions, I implore you to prioritize the use of scientific data and consider the economic and social impact on the community.

You recently finished your

Coastal Fishing Communities Policy

We are a coastal fishing community working within all the regulations and closures already so any future closing or restrictions will be devastating .

Should you require any additional information or wish to discuss this matter further, please do not hesitate to contact me at [redacted].

Sincerely,

Donna Kalez
Owner
Dana Wharf Sportfishing and Whale Watching

From: Devin O'Dea <[redacted]>
Sent: Friday, July 5, 2024 12:56 PM
To: FGC <FGC@fgc.ca.gov>
Cc: Chris Killen <[redacted]
<[redacted]>; Wayne Kotow <[redacted]>; Mark Smith
<[redacted]>; [redacted] <[redacted]>;
Joel Weltzien <[redacted]>
Subject: MRC meeting comments on MPA petitions

Good afternoon members of the Marine Resources Committee,

Please find comments attached pertaining to agenda item 2 (Marine protected area regulation change petitions evaluation process) for the upcoming Marine Resources Committee meeting. I have also attached our previous letter sent to the Commission with more background information on many of the petitions currently being evaluated.

Thank you, and I hope you all had a wonderful Independence Day.

Sincerely,

Devin O'Dea | Western Policy & Conservation Manager
Backcountry Hunters & Anglers
Phone: [redacted]
www.backcountryhunters.org

July 5th, 2024

Marine Resources Committee
California Fish and Game Commission
1416 9th Street, Room 1320
Sacramento, CA 95814

RE: Agenda Item 2 - Marine protected area regulation change petitions evaluation process

Dear Members of the Marine Resources Committee,

We appreciate the opportunity to comment on the proposed binning process to sort through the numerous petitions currently before the Fish & Game Commission (Commission) and Department of Fish & Wildlife (Department). Our organizations support the strategy to place non-controversial petitions into bin 1 to efficiently address the varied recommendations and requests before the Commission, however we do not agree with all of the petitions currently placed into bin 1, and we strongly encourage the Commission to revise its current proposal.

Specifically, we request that petitions 2023-30MPA_1 (Big River SMCA restrictions) & 2023-31MPA_1 (Drakes Estero) be moved into bin 2. Both of these petitions seek to reduce or eliminate recreational harvest, yet neither provide scientific documentation for doing so. It is imperative that the Department has an opportunity to review and provide recommendations for both of these proposed restrictions so that the Commission has a scientific framework with which to evaluate the proposed closures. Once the Department has an opportunity to present the best available science and data with respect to these petitions, and if there is a clear need to reduce or eliminate recreational harvest to ensure the sustainability of the species present, our organizations will gladly support those changes to ensure the long-term viability of crustaceans, bivalves and the overall ecosystem in the respective MPAs.

Sincerely,

Devin O'Dea
Backcountry Hunters & Anglers

Chris Killen
All Waters Protection & Access Coalition

Wayne Kotow
Coastal Conservation Association California

Kevin Godes
Coastside Fishing Club

April 25th, 2024

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

RE: Marine Protected Area regulation change petitions

Dear President Murray, Vice President Zavaleta & Commissioners,

We appreciate the opportunity to comment on the numerous petitions under consideration at the February meeting of the California Fish & Game Commission, and we offer the perspective of the many hundred thousand supporters of our organizations to the Commission. We express grave concerns regarding several of the proposals to eliminate fishing access along large stretches of the California coast and argue that many of the petitions lack adequate scientific support and documentation to substantiate their positions.

The Decadal Management Review (DMR) of the Marine Protected Area Network (MPA) has offered important insights for MPA managers to help shape the adaptive management of MPA regulations, including promising research that MPAs may increase biomass and provide resiliency against the impacts of a changing climate for some species. The intent of the Marine Life Protection Act (MLPA) and the stewardship of our coastal resources are of paramount importance to California's heritage. However, these laudable goals and conservation benchmarks should not preclude access to harvest coastal foods where state and federal fisheries managers have demonstrated robust and resilient fish stocks without any current threat of overfishing, nor for those species where targeted fishing and active management would benefit the overall ecosystem balance.

There are numerous, seemingly well-intentioned petitions currently before the Fish & Game Commission that seek to preserve California's coastal waters citing anthropogenic impacts to biodiversity and ecosystems such as pollution, rising sea temperatures, disease, development and overfishing. While we support the intent to safeguard our fish stocks, biodiversity, and ecosystem integrity, we strongly disagree with the all-or-nothing approach adopted by many of the petitioners who proffer the wholesale elimination of fishing access without adequate scientific rationale or the acknowledgement of regulatory mechanisms already in place such as those established by the Magnuson-Stevens Fishery Conservation and Management Act working through the Pacific Fisheries Management Council, National Oceanic and Atmospheric Administration (NOAA) Fisheries, the California Department of Fish and Wildlife (CDFW), the Fish & Game Commission, and the additional state/federal laws and agencies dedicated to this task. Simply put, many of the petitions referenced below seek to advance preservation at all costs, pushing for wholesale closures that circumvent the regulatory processes already in place, ultimately bludgeoning access for the diverse angling communities that have revered these coastal traditions for generations.

Anglers and consumptive users will often be the first and loudest voices to advocate for restrictions or even closures to ensure the sustainability of a fishery, as evidenced by the numerous fishing groups and organizations advocating for the closure of the 2023 salmon season following the data and dismal projections provided by the Pacific Fisheries Management Council and CDFW. However, a Californian

constitutional right to fish seems to stand in conflict with the presumption that restriction of access is permissible where there is a lack of scientific evidence or data to justify the closure. Section 1, Article 25 of the California Constitution states, "the people shall have the right to fish upon and from the public lands of the State and in the waters thereof," and the courts in re Quinn (1973) defined "public lands of the state" referenced in this article to include "access to fish in the inland streams and coastal waters of the state."

Shore fishing, diving/spearfishing, kayak/boat fishing and coastal gathering are low impact activities that reflect the broad spectrum of California's diverse community and constitute a valuable resource for individuals across the economic divide to access nature and provide food for their families. We encourage the Commission and MPA managers to consider the numerous communities that enjoy the state's many sustainable food resources when considering protections and recommendations that might unnecessarily exclude these groups. We feel that these considerations are in line with the California Natural Resources Agency's Outdoors for All initiative and its commitment in the Pathways to 30x30 document to "implement projects that do no further harm or pose unintended consequences to historically marginalized communities."[1] Specifically, we wish to highlight this issue with regards to the expansion of California's MPA network which restricts shore-based diving, foraging, and fishing access for all Californians – especially historically marginalized communities, communities of color and Native American tribes. From California's Constitutional Right to Fish:

> Anglers from historically marginalized communities may be less able to travel to fishing locations and are more likely to require shore access, as opposed to access from a boat. Anglers in communities like this need accessible shore-fishing, particularly given the importance of subsistence fishing in poorer communities. Moreover, fishing opportunities offer physical and psychological benefits to disadvantaged communities, not just access to fish as food.[2]

It is within this context that we urge the Commission to take the following actions with regards to the petitions they have received.

Petition 2023-14MPA: *Allow commercial take of red sea urchins in nine state marine conservation areas (SMCAs)*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation.

Petition 2023-15MPA: *Reclassify three northern Channel Islands state marine reserves (SMRs) to SMCAs and allow take of highly migratory species, pelagic finfish, and/or coastal pelagic finfish*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation, but are encouraged by the proposal and the potential opportunity to gather more data on limited take MPAs and long-term MPA monitoring at the Channels Islands.

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[1] https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/30-by-30/Final_Pathwaysto30x30_042022_508.pdf

[2] Coats, Francis, and Karrigan Bork. "CALIFORNIA'S CONSTITUTIONAL RIGHT TO FISH." *Environmental Law*, vol. 51, no. 4, 2021, pp. 1085–147. *JSTOR*, https://www.jstor.org/stable/48647570. Accessed 22 Mar. 2023.

Petition 2023-16MPA: *Reclassify Stewarts Point and Bodega Head SMRs to SMCAs and allow commercial take of salmon.*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation.

Petition 2023-18MPA: *Modify allowed uses for four marine protected areas (MPAs) in Santa Barbara Channel and eliminate two special closures.*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation.

Petition 2023-19MPA: *Designate new "Chitqawi" SMCA near Morro Bay for California-Chumash co-management*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation.

Petition 2023-20MPA: *Reclassify and rename Point Buchon SMR to "Chumash SMCA" for co-management with tribal take exemption.*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation.

Petition 2023-21MPA: *Modify Pyramid Point SMCA to remove recreational take of surf smelt and allow tribal take exemption for Tolowa Dee-ni' Nation.*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation.

Petition 2023-22MPA: *Define "rocky intertidal zone," add research, monitoring, restoration and education allowance, and clarify protections in several Orange County MPAs.*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation.

Petition 2023-23MPA*: Reclassify three SMCAs to SMRs, designate one new SMR in Monterey, and make various changes related to kelp restoration.*

We recommend the Commission deny this petition.

While the petitioner's intent to restore kelp forests and ecosystem integrity at tankers reef and in the surrounding waters is laudable, this broadly proscriptive petition would unnecessarily restrict access for anglers where there is no clear scientific rationale. In fact, the petitioner submitted a very similar petition seeking to close access for groundfish along a large stretch of the coast in this region in 2023 which the Department of Fish & Wildlife rejected citing a lack of scientific evidence to support the claim. We support the ongoing efforts to restore kelp forests through urchin culling and other means, however we oppose reclassifying these SMCAs to SMRs and the establishment of a new SMR in Monterey.

Petition 2023-24MPA: *Expand Laguna Beach no-take SMCA southward to border of City of Laguna Beach and modify Dana Point SMCA boundaries*

We recommend the Commission deny this petition.

We oppose this petition on the basis that it lacks scientific documentation or justification to eliminate fishing access in the proposed area. The petitioner argues primarily for administrative ease that the no-take closure be extended to the edge of city limits. During the implementation of the MLPA, MPAs were sited utilizing careful selection criteria based on habitat type, proximity from other MPAs, impact to communities and more. The petitioner argues that all beaches within the City of Laguna Beach should be no-take MPAs in order to streamline enforcement and that homeowners "feel that it is not equitable to have only the north and central beaches protected." It should be noted that the petitioner also states clearly in the Economic or Fiscal Impact section of the petition that "estimated resident property values gain an increase of 20% from proximity to a fully protected MPA" which may explain more robust support from the city and homeowners.

The petitioner also cites kelp forest health as justification for eliminating fishing access, however the 100 + page report included with the petition doesn't reference fishing pressure or boat activity with regards to kelp forest health and instead focuses on water temperature, nutrients, wave height, upwelling, rainfall and other stressors. As such, we recommend the Commission deny this petition since there is no scientific documentation to support its claims, and it would only negatively impact anglers who would be forced to travel further to reach fishing grounds.

Petition 2023-27MPA: *Reclassify a portion or all of Anacapa SMCA to an SMR to protect eelgrass*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation. We recognize the value of eelgrass beds for overall ecosystem health and habitat; however, it should be noted that many recreational anglers who target pelagic fish do not anchor and instead prefer to drift fish or troll instead which would have zero impact on the bottom habitat and eelgrass.

Petition 2023-28MPA: *Designate a new SMR at Point Sal, or designate as an SMCA with a tribal take exemption based on tribal consultation*

We recommend the Commission deny this petition.

While the petitioner takes time to identify the important habitat types, larval transport zones, and cultural significance of the Point Sal area, and they reference potential threats to the region from coastal development and industry, they fail to elaborate in any substantive way why fishing access should be removed from this wild and iconic central coast fishing destination. The petitioner states: "current [commercial] fishing in the proposed area is limited, likely due to its considerable distance from nearest port areas of Morro Bay and Santa Barbara." They also admit that they have no data or analysis with regards to recreational fishing and state, "our request to CDFW for recreational fishing data from this area was being processed at time of submission; we will evaluate the potential impact to recreational fishers and submit it to the state following receipt of the requested data."

A limited google search of "Point Sal fishing" also uncovers a large number of recreational fishing blogs and videos detailing the remote and adventurous hike to fish this area from a diverse population of anglers. In 2023 one blogger wrote, "had a great time hiking miles and miles and miles to fish Point Sal with Martin Mansera from Mansera Outdoors…It's such a remote location and so difficult to access, it

makes for a really rad adventure." Recreational fishing trips to the area by boat are also common, and fishing is noted in nearly every travel guide or city/county website that talks about visiting Point Sal.

Regarding access and disadvantaged communities, the petitioner writes, "the California Environmental Protection Agency identifies the adjacent city of Guadalupe as "disadvantaged" under CA Senate Bill 535, and their synthesis of environmental and socioeconomic indicators further reveals that Guadalupe – alongside Santa Maria and Lompoc – are underprivileged communities that experience significant cumulative impacts from pollution. Given these communities' close proximity to Point Sal, implementing an SMR at the proposed site could enhance access for disadvantaged populations to valuable coastal resources and fishing opportunities."

To justify this confounding claim that removing fishing access could somehow *enhance fishing opportunities* for disadvantaged communities, the petitioner cites a study of commercial lobster fishing and the concept of "spillover." They write, "California's MPAs have been shown to increase the biomass of fishery-targeted species and promote "spillover" into nearby coastal areas, benefitting nearby fishing grounds."

Spillover and the positive impacts to fisheries located in waters adjacent to MPAs are often referenced in association with the MPA network, and the limited, initial science has demonstrated some positive correlations with spillover of invertebrates like lobsters to adjacent fishing grounds in select study areas and commercial fishing for tuna in Hawaii. However, there remains an opportunity to further study this hypothesis and to promote scientific research that successfully documents spillover of targeted finfish across the MPA network in California. Some data from MPA monitoring along the Central California Coast indicated limited evidence of spillover from targeted finfish that were tagged and recaptured at a later point during the study period as evidenced from the Starr et al study: Variation in Responses of Fishes across Multiple Reserves within a Network of Marine Protected Areas in Temperate Waters:

> As of July 2014, a total of 251 individual tag recaptures have been reported (Table 8). Tagged fishes were recaptured by commercial and recreational hook-and-line fishermen, commercial trap fishermen, SCUBA divers, and during our fishing surveys. Of all the tagged fishes recapture and reported, 71% were recaptured in the same site and grid cell as they were released, and 22% of recaptured fishes were caught within the same site but outside the original grid cell where they were released. Only 18 fish, or 7% of the recaptured fishes, were recaptured beyond the boundaries of the MPA or REF site in which they were released. The mean net distance moved by eight of nine species recaptured was less than half the length of the MPAs we studied.[3]

While we do not seek to draw conclusions regarding the overall merits of spillover to adjacent fisheries from the results of one study, we do encourage additional research to evaluate the impacts that MPAs have on local fisheries and fisheries as a whole, especially within the context of varied siting and disparate habitat types evidenced across the MPA network. As the Forcada study indicated, "We conclude that spillover effects are not a universal consequence of siting MPAs in temperate waters and they are related to the distribution of habitats inside and around MPAs." (Forcada et al., 2009).

Due to the limited scientific understanding of spillover as it relates to the Marine Protected Area Network as a whole, especially with regards to finfish which would be the primary target of recreational shore and

[3] 4 Starr RM, Wendt DE, Barnes CL, Marks CI, Malone D, et al. (2015) Variation in Responses of Fishes across Multiple Reserves within a Network of Marine Protected Areas in Temperate Waters. PLOS ONE 10(3): e0118502. https://doi.org/10.1371/journal.pone.0118502

boat-based anglers at Point Sal, we disagree with the petitioner's logical assumptions and the argument as a whole. In fact, when considered in the context presented from the *Constitutional Right to Fish* article, the discussion is turned on its head entirely. "Anglers from historically marginalized communities may be less able to travel to fishing locations and are more likely to require shore access, as opposed to access from a boat. Anglers in communities like this need accessible shore-fishing, particularly given the importance of subsistence fishing in poorer communities."[4]

With the two large no-take SMRs located just South of this newly proposed MPA (Vandenberg SMR & Point Conception SMR) and Point Buchon to the North, it would seem the opportunities to fish and forage the coast for residents of Guadalupe, Lompoc and Santa Maria are already few and far between. In fact, in 2022 the City of Lompoc petitioned the Fish & Game Commission to allow for shore-fishing access along a ½ mile stretch of beach with in the Vandenberg SMR, citing a lack of access to historic fishing grounds for the local communities.

We share the petitioner's concerns regarding habitat disruption from off-shore energy production and the associated infrastructure, however, we note the likely establishment of the Chumash Heritage National Marine Sanctuary (CHNMS) designation which would effectively curtail any development or offshore energy production in this region. Planning for the CHNMS has included fishing access as a key component of the proposed designation.

As a result, we recommend the Commission deny this petition.

Petition 2023-29MPA: *Designate a new SMCA with a tribal take exemption for and co-management with Santa Ynez Band of Chumash Indians in Santa Barbara*

We recommend the Commission deny this petition.

We oppose the petitioner's request to designate a new, no-take SMCA in Carpinteria for several reasons. First, the petitioner argues that spacing and connectivity is a key concern in this location with the distance between the Campus Point and Point Dume SMCAs at 64 nautical miles (nm) instead of the recommended 54 nm to ensure ecological connectivity. When this request is examined within the broader context of MPA siting, it is clear that the target spacing between MPAs could be easily achieved by moving the Campus Point SMCA South or the Point Dume SMCA North, since both are located well-within the recommended 54nm from adjacent MPAs on either side.

Additionally, the petitioner cites the location as important nursery habitat for juvenile great white sharks as justification for establishing a no-take SMR. They write, "Research conducted in the Southern California Bight has found that fisheries bycatch is likely the main source of mortality for JWS." However, the article they cite to support this claim, John F. Benson et. al., discloses that for great white sharks they captured and tagged, "mortality risk was substantially greater off the coast of Baja, Mexico compared with California." Importantly, the research paper also states, "that incidental gillnet capture continues to be the primary source of mortality for juveniles. The lower mortality risk we documented in California waters suggests that full closure of gillnet fishing close to shore is a more effective management strategy than simply banning targeted fishing to reduce mortality risk due to bycatch." [5]

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[4] Coats, Francis, and Karrigan Bork. "CALIFORNIA'S CONSTITUTIONAL RIGHT TO FISH." *Environmental Law*, vol. 51, no. 4, 2021, pp. 1085–147. *JSTOR*, https://www.jstor.org/stable/48647570. Accessed 22 Mar. 2023.

[5] Benson JF, Jorgensen SJ, O'Sullivan JB, et al. Juvenile survival, competing risks, and spatial variation in mortality risk of a marine apex predator. *J Appl Ecol*. 2018; 55: 2888–2897. https://doi.org/10.1111/1365-2664.13158

As the petitioner is undoubtedly aware, gillnet fishing is banned in state waters and therefore the proposed MPA would have no impact on the gillnet fishery or likely the mortality risk to great white sharks.

The petitioner notes the location's popularity with recreational lobster divers and the likely opposition from stakeholders who would oppose the additional loss of access. The mortality risk to great white sharks from the recreational lobster fishery is zero, similar to the risk from spearfishing, yet the petitioner seeks to eliminate access entirely without providing any scientific rationale for the closure. As a result, we request that the Commission deny this petition.

Petition 2023-31MPA: *Reclassify Drakes Estero SMCA to an SMR and combine with Estero de Limantour SMR as a single SMR:*

We recommend referring this petition to the Department of Fish & Wildlife for review and recommendation but encourage the Commission to maintain access for clamming unless there is a clear threat to the fishery or surrounding ecosystem.

It is worth noting that the National Park Service mentions in their comment letter that the area is now Congressionally Designated Wilderness and that "recreational take of shellfish appears to be very rare, [and] requires long kayak trips in wilderness area." Just because something is difficult doesn't mean it should be illegal.

Petition 2023-32MPA: *Reclassify Duxbury Reef SMCA as an SMR and expand northern and southern boundaries*

We recommend that the Commission deny or refer this petition to the Department of Fish & Wildlife for review and recommendation but emphasize maintaining fishing access for local communities at Duxbury Reef. The vast majority of complaints regarding Duxbury reef are related to enforcement and compliance, rather than a scientific justification for eliminating access. Shore fishing is an important past-time for the diverse communities that comprise the North Bay Area, and removing access to a popular fishing destination should not be justified simply based on the actions of a few bad apples.

Petition 2023-33MPA: *Expand the boundaries of five SMRs and one SMCA, and designate a new SMR off Pleasure Point, in Santa Cruz*

We recommend that this petition be denied or referred to the Department of Fish & Wildlife for review and recommendation due to its broad scope and complexity. The petitioner seeks to enhance protections for kelp forests, but does so with an overly broad brush. Rather than advocating for reducing fishing pressure for predators of kelp grazers, like lobster and sheepshead, the petition advocates for the closure of all fishing, including the harvest of grazer species like urchins that have been documented to decimate kelp forests.

The petitioner argues that eliminating fishing pressure within the proposed MPA areas would somehow bolster kelp populations, but the claim is not well documented by scientific research in this petition. A noteworthy case study, by comparison, is the ongoing Tanker's Reef kelp restoration project, where volunteers have been culling purple urchins within study plots and tracking kelp recovery within the study area and a control site nearby. The initial data for the last three years shows a clear correlation between the removal of purple urchins and kelp recovery in the study plot with no kelp recovery in the adjacent control where urchins were not removed. Fishing is permitted in the Tanker's reef area, however, in adjacent MPA's that have not permitted active restoration and where fishing is not allowed, urchin barons persist and kelp recovery remains minimal.

Kelp forest health and resiliency is a complex and multi-variable equation that can be impacted by numerous factors including water temperature, disease, pollution, algal blooms, wave energy, commercial harvest and more. We support efforts to restore kelp forests across the coast and recognize the role they play in the overall ecosystem health of fisheries, especially the abalone fishery that remains closed until 2026. We urge caution, however where broad fishing closures are enacted in the attempt to solve a problem that requires a more nuanced and carefully crafted multidisciplinary approach.

It should also be noted that the petitioner indicates support for recreational hook and line fishing and spearfishing as an acceptable alternative in several of the MPAs referenced in the petition.

Petition 2023-34MPA: *Reclassify Point Buchon SMCA to an SMR and modify take at Farnsworth Onshore and Offshore SMCAs to only allow recreational spearfishing.*

We recommend that the Commission deny this petition and we emphasize the substantial impacts to current fishing access. The petitioner argues that since the salmon season was closed in 2023 it will likely be closed in perpetuity, which would justify eliminating salmon and albacore fishing access at the Point Buchon SMCA. Salmon populations often decrease during drought years and can rebound with increased precipitation or water allocation as was the case in 2008 and 2009 when the fishery was closed and then reopened. We are cautiously optimistic that the salmon numbers will once again bounce back following the increased precipitation received over the past two years.

In the draft Pathways to 30x30 document, the CNRA writes: "It should be noted that limited-take State MPAs provide an excellent model for other jurisdictions looking to balance biodiversity conservation with sustainable well-managed commercial and recreational fishing." We feel that reclassifying the Point Buchon SMCA as an SMR and eliminating fishing in this area would be inappropriate; however, we support any attempts to improve enforcement and compliance with existing regulations.

Furthermore, the proposal to modify take at Farnsworth Onshore and Offshore SMCAs would disproportionately impact a broad variety and collection of user groups who may not be physically able or inclined to spearfish. For this reason and the lack of concrete scientific data to justify the additional restrictions, we recommend the Commission deny this petition.

Sincerely,

Devin O'Dea
Backcountry Hunters & Anglers

Wayne Kotow
Coastal Conservation Association California

Keely Hopkins
Congressional Sportsman's Foundation

Chris Killen
All Waters Protection & Access Coalition

Rachel Fischer
National Marine Manufacturers Association

James Stone
Nor-Cal Guides & Sportsman's Association

Larry Phillips
American Sportfishing Association

Kevin Godes
Coastside Fishing Club

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

RE: Discussion Item 10 - Regulation change petitions (marine)

Dear President Sklar, Vice President Zavaleta & Commissioners,

As an organization dedicated to ensuring our North American heritage of hunting and fishing in a natural setting with over 350,000 supporters, Backcountry Hunters & Anglers expresses serious concerns regarding several of the petitions currently before the California Fish & Game Commission that would eliminate fishing access along large stretches of the California coast.

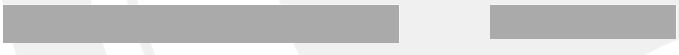
The intent of the Marine Life Protection Act (MLPA) and the stewardship of our coastal resources are of paramount importance to California's heritage. However, these laudable goals and conservation benchmarks should not preclude access to harvest coastal foods where state and federal fisheries managers have demonstrated robust and resilient fish stocks without any current threat of overfishing, nor for those species where targeted fishing and active management would benefit the overall ecosystem balance.

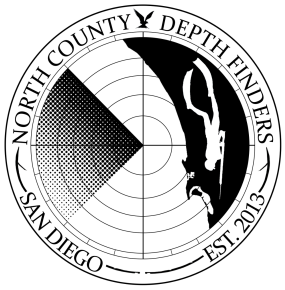
There are numerous, seemingly well-intentioned petitions currently before the Fish & Game Commission that seek to preserve California's coastal waters citing anthropogenic impacts to biodiversity and ecosystems, such as pollution, rising sea temperatures, disease, development and fishing. While we support the intent to safeguard our fish stocks, biodiversity, and ecosystem integrity, we strongly disagree with the all-or-nothing approach adopted by many of the petitioners who proffer the wholesale elimination of fishing access without adequate scientific rationale.

Simply put, many of the petitions seek to advance preservation at all costs, pushing for wholesale closures that circumvent the regulatory processes already in place, ultimately bludgeoning access for the diverse angling communities that have revered these coastal traditions for generations.

Shore fishing, diving/spearfishing, kayak/boat fishing and coastal gathering are low impact activities that reflect the broad spectrum of California's diverse community and constitute a valuable resource for individuals across the economic divide to access nature and provide food for their families at the same time. We encourage the Commission and MPA managers to consider the numerous communities that enjoy the state's many sustainable food resources when considering protections and recommendations that might unnecessarily exclude these groups.

It is within this context that we urge the Commission to deny those petitions (outlined in our detailed letter to the Commission on 2/1/24) that would unnecessarily erode our longstanding coastal fishing and foraging traditions.




NORTH COUNTY DEPTH FINDERS
SAN DIEGO
EST. 2013


LONG BEACH
NEPTUNES


UNDER WATER HUNTING &
FATHOMIERS
DIVING CLUB OF L.A.


WATERMEN'S ALLIANCE
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TRITONS
SPEARFISHING CLUB


Santa Cruz
FLY
FISHING CLUB


Santa Barbara
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Santa Barbara Freedivers


TSM


SANTA CRUZ
KELP STALKERS
FREEDIVE CLUB

Date	Prefix	First	Last	Country	Action Taken
2024-04-07 10:59:01.567		Casey	Capparelli	US	Signed
2024-03-28 13:22:48.067		Shelley	Gray	US	Signed
2024-03-28 01:58:03.323		Ashley	Gray	US	Signed
2024-03-28 01:35:43.43		Seth	Parrish	US	Signed
2024-03-28 01:15:11.92		Jeff	Lorelli	US	Signed
2024-03-28 00:44:13.803		Kierstin	Parrish	US	Signed
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2024-03-22 19:18:36.283		Joseph	Tumpap	US	Signed
2024-03-22 14:36:06.907		Richard	Porterfield	US	Signed
2024-03-22 14:29:34.227		Meagan	Porterfield	US	Signed
2024-03-22 11:22:18.287		Michael	Giammona	US	Signed
2024-03-22 10:05:59.737		Ian	Cole	US	Signed
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2024-03-07 16:56:05.023		Jeff	Croci	US	Signed

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2024-02-29 19:09:53.407	Ms.	Flynne	Murphy	US	Signed
2024-02-29 19:05:26.427		Trevor	Wiles	US	Signed
2024-02-29 18:31:00.537		Jamie	Sehorn	US	Signed
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2024-02-26 12:34:48.583		Matthew	Mitchell	US	Signed
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2024-02-07 23:03:48.227		Jason	McKay	US	Signed
2024-02-07 22:48:43.453	Mr.	Jason	Hohlt	US	Signed
2024-02-07 22:47:38.227		Eric	Shipley	US	Signed
2024-02-07 22:45:00.32		Richard	Estes	US	Signed
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2024-02-07 22:23:34.157		Kyle	Carroll	US	Signed
2024-02-07 21:59:09.033	Mr.	Ed	Fiedler	US	Signed
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2024-02-07 18:23:11.943	Mrs.	Mary Ann	Viveros	US	Signed
2024-02-07 18:18:48.657	Mr.	David	Valle	US	Signed
2024-02-07 16:52:22.8	Mr.	Robert	Mowen	US	Signed
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2024-02-07 15:16:24.077	Mr.	Daniel	Fernandez	US	Signed
2024-02-07 15:15:28.717		Gary	Applebee	US	Signed
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2024-02-07 14:46:57.947	Mr.	Shawn	Andreatta	US	Signed
2024-02-07 14:44:10.777		Steve	Popper	US	Signed
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2024-02-07 14:33:19.19	Mr.	Frank	Thacker	US	Signed
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2024-02-07 14:19:39.017		kaven	myers	US	Signed
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2024-02-07 13:40:31.47		Jason	Bickford	US	Signed
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2024-02-07 13:31:45.813		Sam	Landrum	US	Signed
2024-02-07 13:30:19.807	Mr.	Shawn	Hauptman	US	Signed
2024-02-07 13:29:40.317		John	Cooper	US	Signed
2024-02-07 13:26:50.6	Ms.	Rochelle	Gravance	US	Signed

2024-02-07 13:26:29.103	Mr.	Jeremy	Olmscheid	US	Signed
2024-02-07 13:23:29.913		Zachary	Brady	US	Signed
2024-02-07 13:21:14.497	Mr.	Jeremy	Meshew	US	Signed
2024-02-07 13:19:49.873		John	Eggers	US	Signed
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2024-02-07 13:14:36.687	Mr.	James	Childress	US	Signed
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2024-02-07 13:00:30.55		Charles	Clayton	US	Signed
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2024-02-07 11:18:44.323		Tim	Hacker	US	Signed
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2024-02-06 23:08:08.18		Paul	Rodriguez	US	Signed
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2024-02-06 22:19:05.267		Nathan	Love	US	Signed
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2024-02-06 15:55:20.943		Christine	Van peursem	US	Signed
2024-02-06 15:50:14.67		john	kern	US	Signed
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2024-02-06 13:03:56.36		Dennis	Elliott	US	Signed
2024-02-06 12:59:08.01	Mr.	Adam	Wood	US	Signed
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2024-02-02 13:15:13.017		Valerie	Bednarski	US	Signed
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2024-02-01 19:31:26.837		Devin	O'Dea	US	Signed

From: Emily Parker <[redacted]>
Sent: Friday, July 5, 2024 04:41 PM
To: FGC <FGC@fgc.ca.gov>
Subject: Public Comment on FGC MRC July Agenda Item #2

Good Afternoon,

Please accept the attached letter as public comment from NGOs on the Fish and Game Commission Marine Resources Committee July Meeting Agenda Item #2: Marine protected area (MPA) regulation change petitions evaluation process. Please feel free to reach out with any questions.

Best,
Emily

Heal the Bay

EMILY PARKER | COASTAL AND MARINE SCIENTIST
She/Her/Hers (What does this mean?)
Heal the Bay
1444 9th Street
Santa Monica, CA 90401
[redacted]

July 5, 2024

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

Submitted electronically via fgc@fgc.ca.gov

RE: Comments on Fish and Game Commission July 17-18, 2024 Marine Resources Committee Agenda Item 2 - MPA Petition Review Process

Dear President Murray and Honorable Commissioners:

The undersigned organizations are dedicated to ocean protection in California and have decades of combined experience in marine protected area (MPA) management, research, compliance, education, and outreach. We applaud the Fish and Game Commission's (FGC) commitment to meeting the goals of the Marine Life Protection Act (MLPA) through support of the Marine Protected Area (MPA) Network, including adaptive management as part of the decadal management review. As the FGC and California Department of Fish and Wildlife (CDFW) begin evaluating petitions to modify California's MPA Network, our organizations respectfully offer the following comments on agenda item 2 (Marine protected area (MPA) regulation change petitions evaluation process) of the July 17-18 Marine Resources Committee meeting.

Support for the Petition Binning Outcome and Transparent Process

We would like to first extend our sincere gratitude to CDFW staff for publishing the draft binning document far in advance of the July MRC meeting. Access to materials far in advance supports public engagement and promotes equity by allowing ample time for review and preparation. We appreciate the transparency in presenting the justifications for the Bin 1 petitions as well as the initial assessment of the Bin 2 petitions. This openness is crucial for maintaining public trust and ensuring that all stakeholders have a clear understanding of the decision-making process. Overall, we are in general agreement with the current binning outcomes for the MPA petitions. The criteria used to classify the petitions are thorough and well-founded. Specifically, we support the inclusion of certain Bin 1 petitions that align with the objectives of the MLPA and the goals of maintaining and enhancing marine protections across the Network.

Petition Evaluation Must be Rooted in Science

We firmly believe that the scientific merit of a petition should be the primary factor in its evaluation, regardless of whether the petition is considered controversial. As both CDFW and FGC have previously emphasized, modifications to the network should be scientifically driven. We are wary of using controversy as a key metric for evaluating petitions and urge that the weight of this particular criterion be reconsidered and that the focus of petition evaluation be concentrated on scientific rigor and broad community engagement. It is essential that modifications to the MPA Network are grounded in robust scientific evaluation and driven by data that reflect the current and anticipated future conditions of our oceans. This will require consideration of both local and regionally relevant data and forecasts. Equally important is the incorporation of community input, as local stakeholders offer invaluable perspectives and knowledge that can enhance the effectiveness and acceptance of management decisions.

As we have stated in prior communication, **our organizations strongly oppose any proposals that would weaken the MPA Network** including: 1) Petition 2023-14MPA by David Goldberg of the California Sea Urchin Commission to llow to allow commercial take of sea urchins in 9 SMCAs, 2) Petition 2023-15MPA by Blake Hermann to reclassify three SMRs in the northern Channel Islands, Santa Barbara County, as SMCAs and allow either the limited take of highly migratory species and possession of coastal pelagic species, or allow the take of pelagic finfish, and 3) Petition 2023-16MPA by Richard Ogg to reclassify Stewarts Point and Bodega Head SMRs and SMCAs to allow commercial take of salmon by trolling.

Petitions that would result in a net loss of protection should not be considered, as they contradict the foundational principles of the MLPA. Given the limited time and resources available for the adaptive management process, it is essential to prioritize petitions that strengthen or maintain the network rather than those that would undermine it. We would like to affirm statements made by President Murray and Commissioner Sklar during previous FGC MRC meetings regarding the policy direction of ensuring no net weakening of the MPA Network as a result of this petition process.

Petition Evaluation Must be Prompt and Consider Numerous Threats

The adaptive management process must consider historical, scientific, and future contexts. While historical context is important, it is critical to acknowledge that our oceans are undergoing significant changes and to acknowledge the communities absent from the initial implementation of the MLPA. Adapting to these changes and including diverse voices is critical and consistent with the goals of the MLPA. From a scientific perspective, petition evaluation must account for numerous threats to ocean health, particularly the climate crisis. Rising ocean temperatures, acidification, and other climate-related threats are putting unprecedented pressure on our marine ecosystems. Due to these pressing and immediate stressors, we need to examine the current network with respect to its resilience to climate change and ensure that changes to its design help to enhance both climate and ecological resilience. It would also be prudent to move forward with necessary adaptive management changes within a reasonable time frame. **We urge CDFW to complete the Bin 1 review promptly and proceed to the evaluation of Bin 2 petitions without delay.**

Questions for the Marine Resources Committee

We have several questions that may need further discussion outside this letter but are critical for understanding the overall petition evaluation process:

- What does obtaining additional policy guidance entail?
- How would clarification from petitioners help inform the decision-making process?
- While we recognize that Bin 1 petitions are those that can be evaluated in the near term and meet specific criteria, it appears that only petitions likely to be approved were included. Why were certain petitions that could be simple denials not included in Bin 1?
- When will updates be provided regarding the information gathered about Bin 2 petitions?
- What is the timeline for decisions on Bin 1 petitions?

In conclusion, we once again stress the urgency of completing the Bin 1 petition review and moving forward to the Bin 2 petition evaluation. The health of our marine environments cannot afford delays. We sincerely thank the FGC and CDFW for their continued dedication to the protection and management of California's MPA Network. The adaptive management of our MPAs is more critical than ever, especially in the face of the escalating climate crisis. Adaptive management allows us to respond to these changes in real-time, ensuring that our MPAs can continue to provide vital ecological, economic, and social benefits. We again thank you for this opportunity to comment and look forward to discussing the MPA petition binning outcomes at the upcoming July MRC meeting.

Sincerely,

Emily Parker
Coastal and Marine Scientist
Heal the Bay

Rikki Eriksen, PhD
Marine Spatial Ecologist
California Marine Sanctuary Foundation

Laura Deehan
State Director
Environment California

Angela Kemsley
Director of Conservation Impact
WILDCOAST

Ashley Eagle-Gibbs, Esq.
Executive Director
Environmental Action Committee of West Marin

Sandy Aylesworth
Director, Pacific Initiative
Natural Resources Defense Council

Anupa Asokan
Founder and Director
Fish On

Tomas Valadez
CA Policy Associate
Azul

Ray Hiemstra
Associate Director
Orange County Coastkeeper

Laura Walsh
California Policy Manager
Surfrider Foundation

From: California Surf Fishing <[redacted]>
Sent: Wednesday, July 3, 2024 09:19 AM
To: FGC <FGC@fgc.ca.gov>
Subject: July MRC Written Comment - From California Surf Fishing

This is Kaspar Kazazian from California Surf Fishing. We are showing support for the MPA network protecting our fish populations and ecosystems. We've seen firsthand how these protected areas can benefit the health of our favorite on-shore fisheries. We are hopeful for a collaborative and non-contentious MPA review process moving forward, starting with the binning on individual proposals. Through these meetings, we look forward to expressing the interest of recreational surf fishermen who largely practice catch and release fishing.

Best,
Kaspar Kazazian
[redacted]

From: Benner, Carrie@Parks <[redacted]>
Sent: Friday, July 5, 2024 10:50 AM
To: FGC <FGC@fgc.ca.gov>
Cc: Smith, Darren@Parks <[redacted]>; Ahmad, Marya@Parks <[redacted]>; [redacted] <[redacted]>; Leslea Meyerhoff <[redacted]>; Homer, Sean@Parks <[redacted]>; Burgan, Erik@Parks <[redacted]>; Gunther, Timothy@Parks <[redacted]>; [redacted]
Subject: State Parks Comment Letter for Item #2 on July 17 Marine Resources Committee Agenda

Good morning,

Please find attached State Parks San Diego Coast District's comments on Agenda Item #2 for the upcoming July 17 Marine Resources Committee meeting.

Thank you,

Carrie Benner (she/her)
Coastal Environmental Scientist
California State Parks | San Diego Coast District
4477 Pacific Highway, San Diego, CA 92110
(619) 994-4018

State of California • Natural Resources Agency
Gavin Newsom, *Governor*
DEPARTMENT OF PARKS AND RECREATION
Armando Quintero, *Director*
San Diego Coast District
4477 Pacific Highway
San Diego, CA 92110
(619) 688-3260 FAX (619) 688-3229

July 5, 2024

California Fish and Game Commission
Marine Resources Committee
P.O. Box 944209
Sacramento, CA 94244-2090
FGC@fgc.ca.gov

RE: PETITION NO. 2023-26MPA ON JULY 17-18 FISH AND GAME COMMISSION MARINE RESOURCES COMMITTEE AGENDA

Dear Marine Resources Committee,

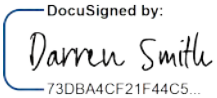
Thank you for the opportunity to comment on the proposed binning of petition number 2023-26MPA to amend the boundary of Swami's State Marine Conservation Area (SMCA). The mission of the California Department of Parks and Recreation (State Parks) is to preserve the state's extraordinary biological diversity, protect its most valued natural and cultural resources, and create opportunities for high-quality outdoor recreation. This mission aligns well with the goals of California's Marine Protected Area system and is particularly reflected in State Parks' management of lands adjacent to and within Swami's SMCA.

Swami's SMCA currently extends three nautical miles from the mean high tide line beginning in the north at Moonlight State Beach (managed by the City of Encinitas), extending south through City beaches and San Elijo State Beach, and terminating in the south adjacent to Cardiff State Beach. San Elijo and Cardiff State Beaches are very popular and offer a variety of high-quality recreational activities, including surfing, swimming, tide pooling, spearfishing, and surf fishing. Due to this high visitation by a variety of beachgoers, State Parks staff interact daily with the public. This often includes communicating about the SMCA's purpose and boundaries and enforcing SMCA regulations both on the beach and in the water.

It is our understanding that part of the proposed petition would shift the boundaries of Swami's SMCA to the south so that the southern boundary would align with the southern boundary of Cardiff State Beach, which borders the City of Solana Beach. State Parks supports the petition's overall goal of enhancing protection at the southern end of Cardiff State Beach and clarifying the southern boundary of Swami's for enforcement purposes. However, more review and discussion are needed to develop an effective alternative boundary; as proposed, the new boundary would still bisect the reef and not necessarily eliminate confusion over where the SMCA ends. Therefore, the review should include extensive stakeholder outreach to affected land managers (State Parks, City of Encinitas, and City of Solana Beach) as well as the public (including inland residents who visit the beach to fish) and tribes. The review should also include biological surveys and recreational fishing surveys to help inform these discussions.

We appreciate the opportunity to comment on this item and look forward to engaging on this as it moves through the review process.

Sincerely,



Darren Smith, Senior Environmental Scientist

CC'd

Sean Homer, Sector Superintendent
Erik Burgan, Peace Officer Lifeguard Supervisor
Timothy Gunther, Lifeguard / Peace Officer
Carrie Benner, Environmental Scientist

California Fish and Game Commission

Comment Letters Received for the July 17-18, 2024 Marine Resources Committee Meeting Regarding Department's Proposed Binning and Evaluation of Petitions

July 10, 2024

Themes	Comment Letters' Exhibit Numbers
Suggestions for evaluating petitions, including metrics and criteria, emphasizing the importance of clear scientific guidance	13, 15, 16
Supporting local and state government involvement during evaluation of petitions	7, 8, 12, 18
Improving stakeholder outreach and engagement to support evaluation of petitions	9, 11
Requests movement of petitions from Bin 1 to Bin 2 or vice-versa	7, 8, 11, 18, 15
Supports location of specific petition(s)	6, 9, 10, 14,
Encourages reviewing petitions through the lens of the Commission's recently adopted Coastal Fishing Communities Policy	14
Offered to meet with the Commission regarding specific petitions	8, 14