

Staff Summary for December 11-12, 2024

11C. Department Marine Region Report**Today's Item****Information** **Action**

Receive updates on items of note since the previous Commission meeting, including:

- I. Annual update on the State's Marine Protected Area (MPA) Management Program activities
- II. Receive a summary of the Department's White Seabass Fishery Management Plan annual review report
- III. Public discussion of action taken in the recreational Dungeness crab fishery to temporarily prohibit the use of crab traps and to issue a fleet advisory to protect marine life from entanglement risk (Pursuant to Section 29.80)

Summary of Previous/Future Actions***MPA Management Program Activities***

- Revised MPA master plan adopted August 24-25, 2016
- Most recent annual update on MPA Management Program activities December 13-14, 2023
- **Today receive annual update on MPA Management Program activities December 11-12, 2024**

White Seabass Fishery Management Plan

- Commission adopted *White Seabass Fishery Management Plan* 2002
- Received annual review reports from the Department 2003-2023
- **Today receive 2023-2024 annual review report December 11-12, 2024**

Background***MPA Management Program Activities***

In 2016, the Commission adopted a revised master plan for MPAs, which marked the point at which the State established the MPA Management Program. As the primary managing agency for California's MPAs, the Department manages them as a statewide network within a collaborative, partnership-based approach. The Department's overall approach is essential to inform adaptive management of the MPA network and to help meet the goals of the Marine Life Protection Act.

The MPA Management Program has four components: (1) outreach and education, (2) research and monitoring, (3) enforcement and compliance, and (4) policy and permitting. When it adopted the master plan for MPAs, the Commission requested that the Department provide an annual report of program activities.

For 2024, the Department has provided a memo detailing actions taken in the past year for each of the four program components (Exhibit 1). Substantial progress was made in 2024,

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including advancing decadal management review (DMR) recommendations with a significant focus on DMR Recommendation 4: “Apply what is learned from the first DMR to support proposed changes to the MPA Network and Management Program” via the Commission’s petition process. Additionally, the Department conducted substantial outreach to increase public awareness of the MPA Network, continued long-term ecological monitoring, initiated coordination with the California Ocean Protection Council to develop a human dimensions research agenda and community science strategy, presented at enforcement trainings, acquired a new 75-foot patrol boat, issued 51 scientific collecting permits for activities within 124 unique MPAs, and participated in state, federal interagency, and international collaboration.

In addition to its own activities, in October 2024 the Department requested its partners provide information about their activities in 2024 that helped implement DMR recommendations. The Department’s summary of partner activities is provided as Exhibit 2.

Looking Ahead

The Department will continue working with partners to advance the DMR recommendations, with a continued focus on the MPA petition process, and improve communication and outreach strategies using new and improved communication tools.

Today’s Meeting

At today’s meeting, the Department will give a presentation highlighting 2024 management activities and significant events (Exhibit 3).

White Seabass Fishery Management Plan

White seabass is managed under a fishery management plan (FMP) adopted by the Commission in 2002, which requires annual monitoring and review of the commercial and recreational fisheries and fish stocks to prevent overfishing or other resource damage. The annual review includes: (1) fishery-dependent and fishery-independent data where available, (2) documented changes within the social and economic structure of industries that utilize white seabass within California, (3) information on the harvest of white seabass in Mexican waters, and (4) other relevant data. Data are used to evaluate the status of the fisheries relative to six “points of concern” criteria adopted by the Commission in the FMP, to help determine when management measures are needed to address conservation issues.

A White Seabass Scientific and Constituent Advisory Panel (WSSCAP) was established to assist the Department and the Commission with reviewing annual fishery assessments, management recommendations, and FMP amendments, when needed. The Department and WSSCAP met on October 28, 2024 to review fishery information for the 2022–2023 fishery season (September 1 to August 31), and to consider whether current management measures provide adequate protection for white seabass. Results and analyses of the white seabass FMP six points of concern identified two criteria were met in 2022-2023.

Annual Review Results and Analyses

The Department presented to the WSSCAP preliminary results from a collaborative study with the Pflieger Institute of Environmental Research on white seabass length at maturity. The results indicate white seabass mature at a size larger than previously understood and the

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current management framework may not be allowing females the opportunity to reproduce at least once before being available to the fisheries. The Department plans to release final results of the maturity study in the coming year, and the results will be discussed with the WSSCAP and other interested stakeholders to consider potential management changes.

Another key point of concern is whether an “overfishing condition exists or is imminent.” As outlined in the annual review report (Exhibit 2), there are three criteria that must be met to determine if an overfishing point of concern exists. The criteria are related to trends in: (1) commercial landings, (2) recreational landings, and (3) the recruitment index. Based on review of 2022–2023 season data, commercial landings of white seabass have increased when compared to the five-season running average, but not at a scale to meet the first overfishing criterion. Recreational landings and average weight decreased; therefore, the second overfishing criterion, for the recreational fishery, was not met. The third criterion, regarding the recruitment index, could not be assessed in the review because no white seabass recruitment surveys occurred during the season. Based on the combined analysis of all three overfishing criteria, the overfished condition point of concern was not met. However, the Department and WSSCAP have concerns regarding these analyses and will look to re-evaluate the criteria outlined in the white seabass FMP.

A key point of concern is “any adverse or significant change in the availability of white seabass forage or in the status of a dependent species is discovered.” Based on the analysis of all the prey species, the WSSCAP and Department agreed this point of concern was not met; however, there is concern about what appears to be an overall reduced prey availability, and the Department will continue to monitor those species.

Looking Ahead

The Department is beginning discussions with the WSSCAP and other interested parties to discuss potential changes to the management framework for white seabass since it has been over 20 years since the FMP was adopted and there are new tools and data available. Changes could include an evaluation of the minimum size limit, incorporating the stock assessment into calculating maximum sustainable yield and optimum yield, assessing the potential impacts of bycatch, and re-evaluating the trigger mechanisms outlined in the FMP.

Today's Meeting

Today, the Department will present an overview of the white seabass FMP and the results and analysis of the annual review pursuant to the FMP.

Actions Taken by the Department Director in the Recreational Dungeness Crab Fishery

Regulations in subsection 29.80(c) specify rules for the use of crab traps, including provisions that became effective in November 2021 allowing the director of the Department, after consulting with the Commission president or the president's designee, to prohibit the deployment and use of crab traps to protect humpback whales, blue whales and/or Pacific leatherback sea turtles when concentrations of these species meet specific numerical triggers.

Whenever the director implements a management action pursuant to subsection 29.80(c), he or she shall notify the commission and request that the commission schedule a public

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discussion of the management action at its next regularly-scheduled commission meeting. Today is the opportunity to discuss recent actions taken in the recreational Dungeness crab fishery to temporarily prohibit the use of crab traps.

Significant Public Comments

The MPA Collaborative Network provides a presentation showcasing its collective efforts in 2024 to advance partner MPA Program objectives (Exhibit # 7).

Recommendation (N/A)**Exhibits**

1. [Department memo, received November 19, 2024](#)
2. [Department's list of projects undertaken in 2024 by MPA management partner organizations that support implementation of the 28 DMR adaptive management recommendations, as of October 2024](#)
3. [Department presentation, MPA program](#)
4. [Department memo, received November 15, 2024](#)
5. [Department annual review of white seabass FMP](#)
6. [Department presentation, white seabass review](#)
7. [Email from Aubrie Fowler, South Coast Specialist, MPA Collaborative network and attached presentation, received December 2, 2024](#)

Motion (N/A)

Memorandum

Date: November 19, 2024

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

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

Subject: **Agenda Item for December 11-12, 2024, Fish and Game Commission Meeting**
RE: Marine Protected Areas Management Program Updates for 2024

I. Overview

In 2016, the California Fish and Game Commission (CFGC) requested the California Department of Fish and Wildlife (CDFW) prepare annual updates about the management of California's Marine Protected Area (MPA) Network. These annual updates are centered around the MPA Management Program ([Management Program](#)), which CDFW uses to manage the MPA Network through a collaborative partnership-based approach. The MPA Management Program is supported by four pillars: (1) outreach and education, (2) research and monitoring, (3) enforcement and compliance, and (4) policy and permitting. This memo provides an overview of CDFW's MPA Management Program activities (section III) and some of the contributions from California Native American tribes and other partners to advance the DMR recommendations (Attachment 1) in 2024, as well as next steps for the MPA Management Program.

II. Decadal Management Review Recommendations

CDFW released the first comprehensive [MPA Decadal Management Review](#) (DMR) in January 2023. The DMR focused on the four pillars of the MPA Management Program and evaluates the progress of the MPA Network towards meeting the [Marine Life Protection Act](#) (MLPA) goals. The DMR included 28 adaptive management recommendations that were developed from a wide range of sources, including California Native American Tribes, the fishing community, the public, and existing reports. These recommendations were [prioritized](#) by the Marine Resources Committee in July 2023 to guide adaptive management of the MPA Network for the next decade.

CDFW staff continued to make progress on the 28 DMR recommendations and spent concerted time and focus in 2024 advancing DMR Recommendation 4: Apply what is learned from the first DMR to support proposed changes to the MPA Network and Management Program. This work included developing a process to assess and

evaluate 20 petitions submitted to CFGC that included 80 individual actions proposing changes to the MPA Network. In addition, CDFW staff provided an update to CFGC in August 2024 outlining [CDFW's MPA Management Program activities](#) to advance the other 27 DMR recommendations.

There have also been significant contributions from California Native American tribes and other partners to advance the DMR recommendations. In October 2024, CDFW sent a request to tribes and other partners at state agencies, academic institutions, and non-governmental organizations to provide information about their activities to help implement the DMR recommendations in 2024. The responses are included in Attachment 1 and include 84 projects led by eight partner organizations that advance 25 of the 28 recommendations, with a significant amount of work being done on MPA outreach (recommendations 7 and 16).

III. MPA Management Program Activities in 2024

(a) Outreach and Education

Efforts continue to focus on increasing public awareness of the MPA Network to help improve compliance with MPA regulations. Notable outreach and education accomplishments from 2024 include:

- A new [MPA Petitions StoryMap webpage](#) was launched in September providing information on the proposed changes to the MPA Network from the petitions referred to CDFW in February. The StoryMap provides an overview of the petition process, categorical lists of petitions (including numerical, by county, and change request type), and an interactive map to help visualize proposed changes.
- CDFW staff participated in 23 MPA Collaborative Network meetings to share information about the MPA Management Program, including the MPA petition process. This platform provided staff with an opportunity to respond in real time to questions about the petition process, which was invaluable for building relationships with stakeholders across different interest groups and communities to improve communication and public trust in MPA management.
- In addition to MPA Collaborative Network meetings, staff engaged with the public at outreach events, including three regional Ocean Protection Council (OPC) [30x30](#) framework meetings.
- CDFW staff authored nine outreach blog posts this year, five dedicated to exploring California's MPAs and four communicating information to the public about the petition process. These were posted to CDFW's [Marine Management News](#) page.

- Two MPA specific social media posts were published this year. One post highlights the CDFW playlist to view MPAs [underwater](#) and the other highlights the MPA Petitions StoryMap webpage.
- CDFW staff distributed 2,900 MPA guidebooks, brochures, and posters to help support compliance with the regulations.

(b) Research and Monitoring

The [MPA Monitoring Program](#) guides research and monitoring activities across California's MPA Network. The Monitoring Program employs a two-phased ([baseline monitoring](#) and [long-term monitoring](#)), ecosystem-based approach, and combines multiple sources of information to guide the state's adaptive management process.

MPA Long-term Monitoring Activities

The next phase of long-term monitoring 2023-2026 is underway in estuaries, rocky intertidal, sandy beach, kelp forests, and rocky reef habitats. Highlights include:

- Estuary monitoring expanded to six new sites that were identified by CDFW staff and [estuary monitoring partners](#) to expand coverage and address data gaps identified during the first ever statewide coordinated effort to monitor estuarine MPAs that launched in 2020.
- A collaborative effort was initiated to refine hook and line sampling for surf zone fish in northern California MPAs among monitoring partners at California Polytechnic State University Humboldt, OPC, and CDFW MPA and State Finfish management staff.
- The [California Collaborative Fisheries Research Program](#) partnered with fisheries researchers at the National Oceanic and Atmospheric Administration (NOAA) to revisit their MPA monitoring sites at the Farallon Islands. These remote sites had previously been dropped due to funding constraints and this partnership filled a geographic gap between the central and north coast MPA monitoring sites. Data collected at the Farallon Islands is expected to inform the upcoming federal quillback rockfish stock assessment.
- CDFW MPA and Groundfish Program staff analyzed MPA monitoring data collected with remotely operated vehicles between 2014 and 2021 to generate estimates of quillback rockfish density and biomass. These estimates will be finalized and presented by CDFW for review at a meeting of the Pacific Fishery Management Council's Science and Statistical Committee's Groundfish Subcommittee in early December of 2024 in

preparation to inform the upcoming federal quillback rockfish stock assessment in 2025.

- A technical expert panel of scientists was convened by OPC and CDFW to [develop key findings and recommendations](#) for long-term monitoring of mid-depth rocky habitats (30-100 meters). This effort informed a competitive request for proposals for monitoring mid-depth rocky habitats in 2025 and 2026 and refine long-term monitoring sampling designs to better inform MPA performance questions. Proposals are due December 16, 2024, and projects are anticipated to begin by May 2025.
- CDFW staff continued to participate in MPA monitoring activities across the habitats throughout the state to help build capacity and to elevate our partnerships with the core MPA monitoring groups.

In addition to these highlights, CDFW staff are coordinating with OPC to develop a human dimensions research agenda and community science strategy to fill in critical gaps in our knowledge regarding how humans interact with the coast and the MPA Network. Furthermore, CDFW's MPA and marine species subject matter experts are identifying opportunities where MPA monitoring data and fisheries conservation efforts can be integrated to inform and improve broader adaptive management goals.

(c) Enforcement and Compliance

Training

CDFW staff supported and presented at four Enforcement Trainings hosted by the MPA Collaborative Network this year in San Mateo, Monterey, San Luis Obispo, and Santa Cruz counties. Training was attended by CDFW's Marine Enforcement Division and enforcement staff from other allied agencies such as State Parks, NOAA, and local harbor authorities. MPA staff provided information on the history, science, and management of California's MPA Network and why enforcement is important. MPA staff also shared MPA violation data and statistics to keep law enforcement professionals informed of violation trends.

Highlights from the Field

A new, state of the art, 75-foot patrol boat was completed and acquired in 2024. Named the Patrol Boat *Barracuda*, this aluminum catamaran will patrol the offshore waters around central and northern California, including patrolling multiple MPAs. The vessel was specifically designed to handle a wide range of enforcement missions, which include extended multi-day patrols, commercial gear inspection and recovery, rapid and safe deployment of a boarding skiff, and dive operations. CDFW's Marine Enforcement Division took possession and

transported the vessel from Washington in early August and have already integrated it into patrol operations.

The vessel made its very first cases in an MPA in September. While out on a training mission offshore of Halfmoon Bay, the *Barracuda* crew observed 5 single shrimp trap buoys inside the Pillar Point State Marine Conservation Area. These traps are illegal to place in this MPA, and thus the crew changed their training plans to inspect the traps. The crew of the *Barracuda* were able to pull 75 Coonstripe shrimp traps, which were all freshly baited. The responsible fisherman arrived on scene and was observed pulling out an additional 50 traps, bringing the total to 125 traps. A formal complaint will be turned into the District Attorney's office requesting the individual be charged for illegal take in an MPA.

(d) Policy and Permitting

Regulatory Petitions

In March 2023, CDFW staff hosted a Management Review Forum to share the outcomes of the DMR and discuss the future of adaptive management. At the forum, there was extensive public comment calling for CDFW and CFGC to prioritize DMR Recommendation 4: to apply what is learned from the first DMR to support proposed changes to the MPA Network and Management Program. To advance this recommendation, CFGC utilized its established petition process to receive proposals for changes to the MPA Network from California Native American tribes and interested parties. At their December 2023 meeting, CFGC received 20 petitions with over 80 unique requests for changes to the MPA Network.

At its February 2024 meeting, CFGC referred all 20 MPA petitions received to CDFW for review, evaluation, and recommendation. CDFW developed a draft 3-phase approach to evaluate MPA petitions that was supported by the Marine Resources Committee (MRC) and approved by CFGC in April. CDFW completed Phase 1, which involved sorting the petitions into two bins, Bin 1, which are "near-term" petitions where CDFW had enough information to evaluate the petition and make a recommendation, and Bin 2 petitions, which are longer-term because there is a need for policy guidance, additional data or information, and/or resources to support evaluation. Five petitions were sorted into Bin 1 and the remaining 15 petitions were sorted into Bin 2. CDFW developed [draft recommendations for the petitions in Bin 1](#), which were considered at the November Marine Resources Committee meeting. CFGC is anticipated to act on the Bin 1 recommendations at their December meeting. For additional information about the MPA petitions and to stay up to date on the petition evaluation process, see CDFW's [MPA Petitions StoryMap](#).

Regulatory Packages

On July 1, 2024, a regulatory package amending California Code of Regulations Title 14 Section 632 to create an allowance for the incidental take of organisms from MPAs during maintenance of existing artificial structures that pre-date the establishment of MPAs became effective. The new regulations will make it possible for any existing infrastructure inside of all MPAs, including state marine reserves (SMRs), to be maintained within a defined buffer around the structure. This regulation benefits public safety across the MPA Network by ensuring historical infrastructure is maintained consistent with the appropriate permits.

Scientific Collecting Permits

In 2024, there was continued interest in conducting research and educational activities across the MPA Network. From January to November 1, 2024, a total of 51 scientific collecting permits (SCPs) were issued for activities within 124 unique MPAs, including 49 SMRs, 60 state marine conservation areas (SMCAs), ten no-take state marine conservation areas, and five state marine recreational management areas (SMRMAs). Two of the SCPs were issued to include activities inside all 124 MPAs in the Network. One was for NOAA, to collect water samples for marine mammal eDNA research. The other statewide SCP was for collecting non-lethal genetic samples from Sunflower Sea Stars (*Pycnopodia helianthoides*).

Since implementation of the MPA Network in 2012, a total of 1,027 SCPs have been issued for research and education activities within MPAs. Regionally, the MPAs with the most SCP activities are [Crystal Cove SMCA](#) – 195 projects (south), [Carmel Bay SMCA](#) – 146 projects (central), and [Bodega Head SMR](#) – 95 projects (north).

CDFW received many SCP requests in 2024 and MPA petitions to allow restoration-related activities inside of MPAs. CDFW is working with OPC and CFGC to identify data gaps and approaches to permitting restoration activities or related research in MPAs.

Interagency Collaboration

CDFW's MPA Management Program staff are coordinating an [MPA Statewide Leadership Team](#) Working Sub-Group. This group will be tracking and assisting with ongoing work to implement the [prioritized DMR Recommendations](#), including cross walking them with the MPA Statewide Leadership Team's [current triannual work plan](#) and beyond.

Federal Collaboration

In addition to the collaborations with federal partners mentioned above, MPA Management Program staff represented CDFW and presented at a 3-day federal workshop about policies and best practices for climate-smart restoration activities inside of MPAs. CDFW is also coordinating with the Office of National Marine Sanctuaries and the Pacific Fishery Management Council on the petition evaluation process.

International Collaboration

CDFW MPA Management Program staff co-authored a publication with authors at the University of Tasmania about using MPA monitoring data to assess MPA effectiveness titled “Diving deep into the network: Quantifying protection effects across California’s marine protected area network using a remotely operated vehicle,” published in [Conservation Science and Practice in August 2024](#).

CDFW and OPC continue to make progress in the effort to add California’s MPA network to the [International Union for Conservation of Nature \(IUCN\)](#) Green List of Protected and Conserved Areas, a global benchmark for effective protected areas worldwide. In July 2024, an expert assessment group of California stakeholders voted unanimously to recommend California’s MPA network be added to the Green List, concluding a 6-year evaluation process. If approved by IUCN, California’s MPA network will be the first multi-site network in the world to be added to the Green List, solidifying the network’s role as a global model for effective marine conservation.

IV. Looking Forward

As we look towards 2025, CDFW will continue to work with OPC, CFGC, California Native American tribes and other partners to continue to advance the [DMR Recommendations](#) to meet the goals of the Marine Life Protection Act.

CDFW anticipates ongoing focus on the MPA petition process and will continue to identify opportunities to partner and leverage resources to advance all the DMR recommendations in 2025. CDFW is also committed to improving and diversifying our communication and outreach strategies to improve communication around the MPA petition process and to encourage stewardship of coastal resources and compliance with regulations.

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

Attachment 1: List of projects undertaken in 2024 by marine protected area (MPA) management partner organizations that support implementation of the 28 Decadal

Melissa Miller-Henson, Executive Director
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Management Review (DMR) adaptive management recommendations as of October 2024. This list may underrepresent some of the work being done to implement the DMR. Text in the table was provided by contributors who responded to a call for input and was minimally edited by CDFW MPA Management Program staff.

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

Kaitlyn Kalua, Deputy Director
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Marine Region

Attachment 1: List of projects undertaken in 2024 by marine protected area (MPA) management partner organizations that support implementation of the 28 Decadal Management Review (DMR) adaptive management recommendations as of October 2024. This list may underrepresent some of the work being done to implement the DMR. Text in the table was provided by contributors who responded to a call for input and was minimally edited by CDFW MPA Management Program staff.

Table 1. Near-term Priorities (Ongoing – 2 years)

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	Tribal Coordination	MPA Collaborative Network (MPACN)	1. Improve state agencies' tribal engagement and relationship building efforts.	1a. Engage in early and frequent communication with California Native American Tribes.	MPACN communicated early and often, following OPC tribal engagement strategy, for land acknowledgements and place names on MPA sign, participation in enforcement trainings, and in outreach materials.
Governance	Tribal Coordination	MPA Collaborative Network	1. Improve state agencies' tribal engagement and relationship building efforts.	1b. Have an understanding and respect for tribal decision-making processes.	MPACN developed and shared a lesson learned document on Tribal engagement and prompts for partners to deepen their understanding of and relationships with tribes.
Governance	Tribal Coordination	MPA Collaborative Network	1. Improve state agencies' tribal engagement and relationship building efforts.	1c. Ensure a transparent and accountable process that provides clarity on agency decision-making and the potential for tribes to affect the final decision.	The MPACN model provides different pathways to decision-makers and connects tribes directly when possible, offering honorarium for engagement and participation.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	Regulatory and Review Framework	MPA Collaborative Network	4. Apply what is learned from the first Decadal Management Review to support proposed changes to the MPA Network and Management Program.	4a. Coordinate with CFGC to evaluate current and future proposed changes to Network design, individual MPAs, and current MPA Management Program priorities and policies in a manner consistent with the findings of this Review.	The MPACN has shared input provided by collaborative members and enforcement partners on potential changes to individual MPAs and wells as suggestions for management priorities. Link to summary of regulation recommendations.
Governance	Regulatory and Review Framework	MPA Collaborative Network	4. Apply what is learned from the first Decadal Management Review to support proposed changes to the MPA Network and Management Program.	4b. Identify and utilize best science-based approaches to inform potential changes to the MPA Network in order to enhance Network performance.	Suggestions from partners on science questions/studies to prioritize and ways to engage stakeholders in data collection has been shared with CDFW and FGC.
Governance	Justice, Equity, Diversity, and Inclusion	WILDCOAST	7. Expand targeted outreach and education materials and events to underrepresented user groups.	7a. Conduct a language assessment of census blocks within 10 miles of each MPA to translate MPA outreach materials into the top three to five languages used in a household and work on finding new approaches to effectively engage underrepresented audiences.	WILDCOAST / MPA Collaborative outreach materials including wildlife and rec guides, coloring books, activity guides are available in English, Spanish, and or Mandarin.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	Justice, Equity, Diversity, and Inclusion	MPA Collaborative Network	7. Expand targeted outreach and education materials and events to underrepresented user groups.	7b. Utilize MPA Program partners to target and engage underrepresented user groups in marine conservation.	The MPACN has a Pathways Initiative for justice, equity, diversity, and inclusion in ocean management and stewardship, focused on underrepresented communities: AAPI, Latine, and Black .
Governance	Justice, Equity, Diversity, and Inclusion	Reef Check	7. Expand targeted outreach and education materials and events to underrepresented user groups.	7b. Utilize MPA Program partners to target and engage underrepresented user groups in marine conservation.	Exploring collaborations with MPA Collaborative Pathway Community Groups and local tribes to engage diverse community members in MPA monitoring through the Dive into Science program.
Governance	Justice, Equity, Diversity, and Inclusion	Resources Legacy Fund	7. Expand targeted outreach and education materials and events to underrepresented user groups.	7b. Utilize MPA Program partners to target and engage underrepresented user groups in marine conservation. Also relevant to 7c.	Supporting outreach statewide on MPAs including through creation of culturally relevant materials and engagement with underrepresented users in marine conservation.
Governance	Justice, Equity, Diversity, and Inclusion	MPA Collaborative Network	7. Expand targeted outreach and education materials and events to underrepresented user groups.	7c. Solicit input on customized/targeted outreach materials from members of diverse user groups.	Pathways participants have provided feedback on outreach materials, and the CN and partners have been using the OCMPAC developed community vetted translation protocol .

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	Justice, Equity, Diversity, and Inclusion	Reef Check	7. Expand targeted outreach and education materials and events to underrepresented user groups.	7c. Solicit input on customized/targeted outreach materials from members of diverse user groups.	Collaborating with tribes and foster youth organizations to customize training and outreach materials to better adapt to communities' needs. Creating outreach videos of the stories of Dive into Science participants.
Governance	MPA Statewide Leadership Team and Partner Coordination	MPA Collaborative Network	9. Continue to coordinate and collaborate with OPC and other agencies on California's ocean and coastal priorities to enhance coastal biodiversity, climate resiliency, human access and use, and a sustainable blue economy.	9a. Support OPC and partners on the MSLT to prioritize relevant OPC Strategic Plan and MSLT Work Plan objectives. Assess feasibility of current timeframes for taking action and adjust if needed.	The MPACN has updated the status of tasks listed within the most recent MSLT work plan , and has created a "crosswalk" document that connects DMR recommendations with future Work Plan outcomes.
Governance	MPA Statewide Leadership Team and Partner Coordination	Resources Legacy Fund	9. Continue to coordinate and collaborate with OPC and other agencies on California's ocean and coastal priorities to enhance coastal biodiversity, climate resiliency, human access and use, and a sustainable blue economy.	9a. Support OPC and partners on the MSLT to prioritize relevant OPC Strategic Plan and MSLT Work Plan objectives. Assess feasibility of current timeframes for taking action and adjust if needed.	Participate in MSLT meetings and working groups to inform the state's MPA objectives and timeframe for accomplishing tasks.
Governance	MPA Statewide Leadership Team and Partner Coordination	MPA Collaborative Network	10. Improve partnership coordination across the four pillars of the MPA Management Program.	10a. Develop and implement a workflow for enhanced coordination between CDFW's Scientific Collecting Permit Program and other agencies' permitting requirements.	Collaborative meetings and trainings include CDFW personnel from all management pillars, including Environmental Scientists, the SCP program, LED officers, and Marine Region management.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	MPA Statewide Leadership Team and Partner Coordination	Reef Check	10. Improve partnership coordination across the four pillars of the MPA Management Program.	10b. Develop strategic plan to strengthen communications between MPA Monitoring Program partners, tribes, and agencies that have overlapping jurisdiction at monitoring sites.	Ongoing conversations and trust building with local tribes through the Dive into Science program to develop monitoring programs specific to their traditional territories.
Governance	MPA Statewide Leadership Team and Partner Coordination	MPA Collaborative Network	10. Improve partnership coordination across the four pillars of the MPA Management Program.	10c. Strengthen connections and communication between CDFW's Marine Law Enforcement Division (LED) and allied agencies.	Local LED officers regularly attend collaborative meetings. Enforcement trainings provide in-person coordination, connections, and communications channels for CDFW LED and allied agencies.
Governance	MPA Statewide Leadership Team and Partner Coordination	WILDCOAST	10. Improve partnership coordination across the four pillars of the MPA Management Program.	10c. Strengthen connections and communication between CDFW's Law Enforcement Division and allied agencies.	Monthly MPA Compliance call including CDFW LED, Lifeguards, City Attorneys, District Attorneys, MPA Collaborative Members to discuss ongoing compliance concerns and solutions.
Governance	MPA Statewide Leadership Team and Partner Coordination	WILDCOAST	10. Improve partnership coordination across the four pillars of the MPA Management Program.	10d. Strengthen cross-border MPA management with West Coast states, Mexico, and Canada.	WILDCOAST works in California and Mexico on Marine Protected Area compliance, outreach, and stewardship. We work in 9 MPAs in Mexico including work on corals reefs and mangroves.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	MPA Statewide Leadership Team and Partner Coordination	MPA Collaborative Network	10. Improve partnership coordination across the four pillars of the MPA Management Program.	10f. Provide partners with consistent MPA messaging and branding for outreach and education activities to support compliance with MPAs.	The MPACN works with the CDFW Education & Outreach team to flag potentially confusing or inflammatory messaging, tailoring to specific audiences while ensuring statewide consistency.
Management Program	Research and Monitoring	Reef Check	11. Update the MPA Monitoring Action Plan framework to improve and sustain a cost-effective long-term monitoring program, including guidelines to ensure monitoring consistency and sustainable funding.	11b. Explore more localized and bioregion-specific monitoring strategies.	Engaging with different constituencies: recreational divers, commercial divers, tribes and underserved communities in the different bioregions to monitor resources of interest to them and their concerns.
Management Program	Research and Monitoring	Southern California Coastal Water Research Project	11. Update the MPA Monitoring Action Plan framework to improve and sustain a cost-effective long-term monitoring program, including guidelines to ensure monitoring consistency and sustainable funding.	11b. Explore more localized and bioregion-specific monitoring strategies.	Worked with the S. CA Wetland Recovery Project to develop a regional estuary monitoring program consistent with the statewide Estuary MPA program.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Research and Monitoring	Reef Check	11. Update the MPA Monitoring Action Plan framework to improve and sustain a cost-effective long-term monitoring program, including guidelines to ensure monitoring consistency and sustainable funding.	11c. Explore CDFW capacity to participate in MPA monitoring to increase long-term program stability.	Discussion with MPA management team about collaboration on MPA surveys including CDFW boat use, training of CDFW staff and collaborative data analysis and reporting.
Management Program	Outreach and Education	WILDCOAST	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16a. Work closely with fishing communities to identify the most effective communication channels and outreach materials for these audiences.	WILDCOAST continues to work with the fishing community in San Diego to educate on MPA success and need for compliance.
Management Program	Outreach and Education	MPA Collaborative Network	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16a. Work closely with fishing communities to identify the most effective communication channels and outreach materials for these audiences.	Fishing collaborative members provide helpful input on how to reach their communities. New relationships are being forged and strategies developed to have info come directly from trusted sources.
Management Program	Outreach and Education	MPA Collaborative Network	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16c. Tailor outreach to better serve specific audiences, such as increasing the availability of waterproof materials, pocket-sized MPA maps, digital and online tools, and regionally tailored teacher toolkits.	Collaboratives have developed waterproof brochures and other materials with local nuances and needs in mind. Many are complete, but specific audience outreach is always needed.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Outreach and Education	Resources Legacy Fund	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16c. Tailor outreach to better serve specific audiences, such as increasing the availability of waterproof materials, pocket-sized MPA maps, digital and online tools, and regionally tailored teacher toolkits. Also relevant to 16e.	Supporting a wide range of partners to develop and create digital and physical MPA outreach materials relevant to their local communities.
Management Program	Outreach and Education	WILDCOAST	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16c. Tailor outreach to better serve specific audiences, such as increasing the availability of waterproof materials, pocket-sized MPA maps, digital and online tools, and regionally tailored teacher toolkits.	WILDCOAST and the MPA Collaborative Network produce and distribute waterproof wildlife and recreation guides, pocket sized fishing guides, teacher toolkits, and coloring books/activity guides.
Management Program	Outreach and Education	MPA Collaborative Network	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16e. Create more regionally focused and culturally informed MPA outreach materials and weave MPA messaging into general ocean content produced by other partners.	Localizing messaging and leveraging and incorporating MPA outreach into existing and partner general ocean materials is a key focal area of the collaboratives.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Outreach and Education	WILDCOAST	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16e. Create more regionally focused and culturally informed MPA outreach materials and weave MPA messaging into general ocean content produced by other partners.	WILDCOAST is developing a South Coast Wildlife and Recreation Guide and continues to maintain San Diego specific MPA signage and distribute MPA outreach materials.
Management Program	Policy and Permitting	MPA Collaborative Network	17. Improve the application and approval process for scientific collecting permits.	17c. Increase transparency and communication in the SCP review and issuance process.	CDFW SCP presentations now occur at all MPA Enforcement Trainings in partnership with CDFW LED. Orange County Collaborative members are working with CDFW to develop application guidelines.
Management Program	Policy and Permitting	Southern California Coastal Water Research Project	18. Develop a framework to evaluate and approve appropriate restoration and mitigation actions within MPAs and marine managed areas.	18b. Use statewide policy guidance and best available science to inform restoration and mitigation actions and decisions in MPAs and marine managed areas, such as permitting the removal of invasive species. Enforcement and Compliance.	Develop agency guidelines that use Estuary MPA monitoring data and SOPs to inform selection of reference sites and development of restoration performance standards.
Management Program	Enforcement and Compliance	MPA Collaborative Network	20. Increase enforcement capacity.	20a. Continue MPA-focused training for CDFW Wildlife Officers and allied agency partners.	The MPACN has an ongoing Compliance Initiative which includes MPA-focused training for CDFW Wildlife Officers and allied agencies in each coastal county, cycling statewide every 3 years.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Enforcement and Compliance	Resources Legacy Fund	20. Increase enforcement capacity.	20a. Continue MPA-focused training for CDFW Wildlife Officers and allied agency partners.	Supporting MPA Collaborative Network through OPC and philanthropic funding to lead MPA officer trainings for CDFW and allied agencies.
Management Program	Enforcement and Compliance	WILDCOAST	20. Increase enforcement capacity.	20a. Continue MPA-focused training for CDFW Wildlife Officers and allied agency partners.	WILDCOAST and the MPA Collaborative Network put on MPA-focused officer enforcement trainings. Last one was April 2023, but are conducted about every 2 years.
Management Program	Enforcement and Compliance	Resources Legacy Fund	20. Increase enforcement capacity.	20c. Explore utilizing technologies that could assist with enforcement cases and evidence-gathering in more remote locations.	Supporting California Marine Sanctuary Foundation to implement use of M2 radar and eFINS to assist with data collection by CDFW and partners, and WILDCOST on M2 implementation.
Management Program	Enforcement and Compliance	WILDCOAST	20. Increase enforcement capacity.	20c. Explore utilizing technologies that could assist with enforcement cases and evidence-gathering in more remote locations.	WILDCOAST manages 3 Marine Monitor (M2) RADARs in SD County to observe five San Diego County MPAs and integrate their use into MPA enforcement activities.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Enforcement and Compliance	Resources Legacy Fund	21. Enhance MPA citation record keeping and data management.	21a. Identify enforcement gaps and violation hotspots for inclusion in enforcement plan and finalize manual data entry of any citations not yet entered into the database from before 2016, as well as citations from 2021 through May 2022.	Funding of eFINS and M2, enforcement technologies that produce data which can help to identify compliance hotspots for CDFW and partner enforcement agencies.
Management Program	Enforcement and Compliance	WILDCOAST	21. Enhance MPA citation record keeping and data management.	21a. Identify enforcement gaps and violation hotspots for inclusion in enforcement plan and finalize manual data entry of any citations not yet entered into the database from before 2016, as well as citations from 2021 through May 2022.	Data from WILDCOAST's three M2 RADARs are analyzed monthly to identify violation hotspots. This data is shared with enforcement partners. Example of analysis reports.
Management Program	Enforcement and Compliance	MPA Collaborative Network	21. Enhance MPA citation record keeping and data management.	21b. Track MPA patrol hours alongside the number of contacts, warnings, and citations in one database.	The MPACN, in collaboration with ProtectedSeas, is in the early stages of geographically tracking MPA patrol presence/hours for allied agencies.
Management Program	Enforcement and Compliance	MPA Collaborative Network	21. Enhance MPA citation record keeping and data management.	21c. Identify efficient ways to track repeat offenders when out in the field.	The MPACN connects officers to eFINS presentations on the app's ability to track repeat offenders and share data between agencies. The online violator training will also identify repeat offenders.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Enforcement and Compliance	Resources Legacy Fund	21. Enhance MPA citation record keeping and data management.	21c. Identify efficient ways to track repeat offenders when out in the field.	eFINS allows for immediate information on past offenses while on patrol.
Network Performance	Climate Resilience and Adaptation	Southern California Coastal Water Research Project	25. Develop and implement climate change research and monitoring priorities and metrics for California's MPA Network.	25a. Develop models for climate change risk on shorter timescales and for both nearshore and deep-water marine species and habitats. Better incorporate tribal-led ecological monitoring into the broader MPA Monitoring Program and adaptation of the MPA Monitoring Action Plan.	Developing and testing climate resiliency indicators for estuaries.

Table 2. Mid-term Priorities (2 – 5 years)

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	Tribal Coordination	Resources Legacy Fund	2. Create a clear pathway to tribal MPA management.	2b. Work with tribes to develop and support co-management programs that can enrich tribal cultural practices and renew traditional values.	Supporting Tribal Marine Stewards Network .
Governance	Tribal Coordination	Resources Legacy Fund	2. Create a clear pathway to tribal MPA management.	2c. Work with tribes to include and integrate traditional knowledge in MPA management, specifically coastal and marine science. Also relevant to 3a and 3b.	Supporting Tribal Marine Stewards Network and Tribal engagement in MPA Watch community science program.
Governance	Tribal Coordination	Reef Check	3. Build tribal capacity to participate in MPA management activities.	3b. Better incorporate tribal-led ecological monitoring into the broader MPA Monitoring Program and adaptation of the MPA Monitoring Action Plan.	Dive into Science program equips tribal communities with knowledge and experience in kelp forest ecology and scientific diving, including Reef Check's monitoring protocol while incorporating TEK: Tolowa Dee-ni' Nation, Pomo Indians and Coastal Chumash and Tongva.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Governance	Justice, Equity, Diversity, and Inclusion	MPA Collaborative Network	6. Include and fund more diverse researchers and stakeholders in research and monitoring projects that directly contribute to the MPA Monitoring Program.	6c. Explore innovative approaches to engage the fishing industry in MPA research and management.	The MPACN offers MPA collaborative meeting spaces as a place for the recreational and commercial fishing community to suggest and participate in MPA outreach and monitoring programs. We have conducted multiple Subsistence Angling Fishing events in Santa Barbara and multiple Youth Fishing trips in Los Angeles.
Governance	Justice, Equity, Diversity, and Inclusion	WILDCOAST	8. Evaluate the accessibility of MPAs to various community groups.	8a. Promote novel projects and utilize existing human use datasets to evaluate accessibility of MPAs to different user groups.	WILDCOAST stands as the statewide manager of MPA Watch , a community science program where volunteers observe and collect data on human uses of coastal/marine resources both inside/outside of MPAs.
Management Program	Research and Monitoring	UC Davis Center for Community and Citizen Science, Resources Legacy Fund	12. Invest in improving understanding of the human dimensions of MPAs and develop a human dimensions working group and research agenda.	12a. Improve collection of demographic data of ocean users and visitors to the California coast. Also relevant to 12c and 12e.	Developed and piloted an intercept survey for potential statewide implementation by the MPA Watch network, a community science program, to collect beachgoer surveys related to ocean visitation and MPA awareness. Final report and recommendations in prep.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Research and Monitoring	WILDCOAST	12. Invest in improving understanding of the human dimensions of MPAs and develop a human dimensions working group and research agenda.	12a. Improve collection of demographic data of ocean users and visitors to the California coast.	WILDCOAST and UC Davis implemented a pilot project in 2023 to bolster MPA Watch data by intercepting beach users to survey them on their use of the ocean in addition to their demographic data.
Management Program	Research and Monitoring	UC Davis Center for Community and Citizen Science	12. Invest in improving understanding of the human dimensions of MPAs and develop a human dimensions working group and research agenda.	12c. Conduct more robust studies about compliance with MPA regulations and the impact of outreach and enforcement efforts.	Ongoing work to refine analysis of MPA Watch data, to examine temporal and spatial coastal use patterns. Publication in prep, slide deck and 1-pager available upon request.
Management Program	Research and Monitoring	Central Coast Wetlands Group @ MLML	13. Explore the use of innovative technologies such as remote sensing, drones, and eDNA, to enhance and streamline traditional monitoring projects.	13b. Augment existing monitoring programs to explore new and improved survey methods.	The Estuary MPA Monitoring Program has incorporated eDNA into its monitoring framework. The resulting data are being compared to other sampling methods of the fish community.
Management Program	Research and Monitoring	Resources Legacy Fund	13. Explore the use of innovative technologies such as remote sensing, drones, and eDNA, to enhance and streamline traditional monitoring projects.	13a. Develop and fund pilot projects to explore novel data collection methods to scale up to regional and statewide monitoring.	Supporting implementation of the Marine Monitor (M2) radar system to remotely assess vessel traffic in select California MPAs; data has been used to support prosecution of poachers.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Research and Monitoring	WILDCOAST	13. Explore the use of innovative technologies such as remote sensing, drones, and eDNA, to enhance and streamline traditional monitoring projects.	13a. Develop and fund pilot projects to explore novel data collection methods to scale up to regional and statewide monitoring.	WILDCOAST and UC Davis implemented a pilot project in 2023 to bolster MPA Watch data by intercepting beach users to survey them on their use of the ocean to scale up statewide monitoring.
Management Program	Research and Monitoring	MPA Collaborative Network	14. Develop a comprehensive community science strategy for MPAs and better utilize community science to supplement core monitoring programs.	14d. Improve coordination between existing community science programs and identify opportunities for new programs.	The MPACN's new community science project with remotely operated vehicles (ROVs) to assess subtidal habitat health in and out of MPAs will launch soon.
Management Program	Research and Monitoring	Reef Check	14. Develop a comprehensive community science strategy for MPAs and better utilize community science to supplement core monitoring programs.	14a. Evaluate the effectiveness and applicability of current community science programs involved in MPA monitoring.	Evaluating Reef Check community science approach with CDFW and engage in OPC's community science strategy development. Broaden engagement in subtidal community science with tribes.
Management Program	Research and Monitoring	UC Davis Center for Community and Citizen Science	14. Develop a comprehensive community science strategy for MPAs and better utilize community science to supplement core monitoring programs.	14d. Improve coordination between existing community science programs and identify opportunities for new programs. Also relevant to 12b.	Advanced research -- surveys and interviews -- on how MLPA has impacted community science programs. Publications in prep. Posters and slides available upon request.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Research and Monitoring	UC Davis Center for Community and Citizen Science	14. Develop a comprehensive community science strategy for MPAs and better utilize community science to supplement core monitoring programs.	14d. Improve coordination between existing community science programs and identify opportunities for new programs. Also relevant to 3b, 6a, 6b, 6c, 12a, 12b, 14a, 14b, and 14c.	Memo submitted to Fish and Game Commission outlining opportunities for community science in MPAs.
Management Program	Research and Monitoring	WILDCOAST	14. Develop a comprehensive community science strategy for MPAs and better utilize community science to supplement core monitoring programs.	14b. Create clear frameworks on regional and statewide scales for the intended use of community science from project onset.	Coordinate statewide MPA Watch program to increase and understanding of community science data on public MPA activities. See reports here.
Management Program	Outreach and Education	Central Coast Wetlands Group @ MLML	15. Evaluate outreach needs, assess effectiveness of resources, and identify and pursue the most impactful and cost-efficient outreach tools for increasing MPA awareness and compliance.	15b. Leverage partnerships to develop projects targeted at closing knowledge gaps in outreach needs. Also relevant to 16b.	The Estuary MPA Monitoring Program is working with San Francisco Estuary Institute to develop an outreach plan for the north coast region of California to build capacity for coordinated estuary monitoring.
Management Program	Outreach and Education	MPA Collaborative Network	15. Evaluate outreach needs, assess effectiveness of resources, and identify and pursue the most impactful and cost-efficient outreach tools for increasing MPA awareness and compliance.	15b. Leverage partnerships to develop projects targeted at closing knowledge gaps in outreach needs.	Collaboratives provide intel on what outreach is most needed for community-driven, effective resource management that is founded on buy-in of diverse community members.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Outreach and Education	MPA Collaborative Network	15. Evaluate outreach needs, assess effectiveness of resources, and identify and pursue the most impactful and cost-efficient outreach tools for increasing MPA awareness and compliance.	15c. Expand the use of mobile apps, digital technologies, and social media to reach wider audiences.	The MPACN has a signage inventory app we created and we use social media and a regular digital newsletter and blog posts to share and amplify MPA outreach, reaching wider audiences.
Management Program	Outreach and Education	WILDCOAST	15. Evaluate outreach needs, assess effectiveness of resources, and identify and pursue the most impactful and cost-efficient outreach tools for increasing MPA awareness and compliance.	15c. Expand the use of mobile apps, digital technologies, and social media to reach wider audiences.	WILDCOAST has reached 1.2 million people via social media, op-eds, video and other media campaigns to spread awareness on MPAs and ocean conservation at large.
Management Program	Enforcement and Compliance	MPA Collaborative Network	22. Increase information gathering regarding MPA violation prosecutions and judicial outcomes.	22a. Track prosecution outcomes to better understand how fines may vary by county for similar offenses.	The MPACN works with district attorney contacts to gather MPA case prosecution outcomes and compile data into lists by county, sharing press releases when applicable. Fine data needs analysis. Approaches vary by county with some DA's using criminal procedures and some using civil. Some county traffic courts (infraction level cites) are more supportive of MPA violations than others.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Enforcement and Compliance	Resources Legacy Fund	22. Increase information gathering regarding MPA violation prosecutions and judicial outcomes.	22a. Track prosecution outcomes to better understand how fines may vary by county for similar offenses.	Support convening of District Attorney MPA Task Force which meets quarterly to discuss MPA prosecution and compliance.
Management Program	Enforcement and Compliance	WILDCOAST	22. Increase information gathering regarding MPA violation prosecutions and judicial outcomes.	22a. Track prosecution outcomes to better understand how fines may vary by county for similar offenses. Also relevant to 22b.	WILDCOAST works closely with San Diego City Attorneys and District Attorneys to monitor prosecution outcomes and support in evidence through WILDCOAST's three Marine Monitor RADARs.
Management Program	Enforcement and Compliance	MPA Collaborative Network	22. Increase information gathering regarding MPA violation prosecutions and judicial outcomes.	22b. Encourage MPA and marine resource outreach to district attorneys and judges to highlight importance of resource prosecution.	The MPACN along with the DA MPA Taskforce, conduct outreach to Commissioners, judges, prosecutors, and judicial staff to highlight the importance of resource prosecution using an enforcement video.
Management Program	Enforcement and Compliance	Resources Legacy Fund	22. Increase information gathering regarding MPA violation prosecutions and judicial outcomes.	22b. Encourage MPA and marine resource outreach to district attorneys and judges to highlight importance of resource prosecution.	Support MPA Collaborative Network through OPC and philanthropic funding to engage with DAs and judges on MPA-specific compliance.
Network Performance	Climate Resilience and Adaptation	MPA Collaborative Network	26. Consider climate change impacts from the outset of planning for monitoring MPA human dimensions.	26a. Leverage planned OPC Science Advisory Team human dimensions working group to identify social and economic service provision of MPAs and intersections with climate change.	The MPACN hosted Community Climate webinars and forums with OPC Science Advisory Team to contribute to the human dimensions input from community members.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Network Performance	Climate Resilience and Adaptation	MPA Collaborative Network	26. Consider climate change impacts from the outset of planning for monitoring MPA human dimensions.	26b. Assess equity issues around MPAs in a changing climate.	Per the above, the MPACN facilitated discussion around equity and access issues in/near MPAs in a changing climate during 14 collaborative hosted climate and MPAs forums.
Network Performance	Fisheries Integration and Other Influencing Factors	MPA Collaborative Network	28. Further integrate influencing factors into ecological and human study designs and interpretations of MPA performance.	28a. Improve estimates of other anthropogenic metrics such as visitation, enforcement presence, other regulatory management actions, and water quality.	The MPACN is partnering with ProtectedSeas to graphical display the MPACN's inventory of MPA signs, education programs, and enforcement presence.

Table 3. Long-term Priorities (5 – 10 years)

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Enforcement and Compliance	MPA Collaborative Network	19. Create and implement a cohesive and actionable MPA Enforcement Plan.	19a. Create a standard operating procedure and citing blueprint/authority for use by CDFW's Law Enforcement Division and allied agencies.	The MPACN has created a standard form for allied agencies to share compliance and patrol data. The MPACN is also working with ProtectedSeas on mapping "patrol presence" of participating allied agencies. Additionally, eFINS is a standardized yet customizable tool shared at our enforcement trainings.
Management Program	Enforcement and Compliance	MPA Collaborative Network	19. Create and implement a cohesive and actionable MPA Enforcement Plan.	19b. Provide guidance on confirming validity of a SCP for collections occurring in the field and improve communications between patrolling officers and field researchers.	CDFW SCP presentations now occur at all MPA Enforcement Trainings. The use of identifiable clothing/banners is encouraged in all collaboratives to reduce confusing permitted activities with violations.
Management Program	Enforcement and Compliance	WILDCOAST	19. Create and implement a cohesive and actionable MPA Enforcement Plan.	19c. Identify ways to determine if an MPA requires heightened enforcement efforts using existing RMS data.	The monthly analysis of data from WILDCOAST's 3 Marine Monitor RADARs informs enforcement agencies on violation hotspots where additional enforcement is necessary.
Management Program	Enforcement and Compliance	MPA Collaborative Network	19. Create and implement a cohesive and actionable MPA Enforcement Plan.	19d. Identify outreach materials enforcement officers most need when contacting individuals in the field.	Enforcement officers get MPA Officer Reference Guides with surveyed boundary images, and often request outreach materials, including localized waterproof brochures with maps and regulations.

Management Cornerstone	Category	Organization	Recommendation	Action	General Status Update
Management Program	Enforcement and Compliance	MPA Collaborative Network	19. Create and implement a cohesive and actionable MPA Enforcement Plan.	19e. Identify potential alternative deterrents to MPA poaching for misdemeanor offenses and/or repeat offenders (example: possible MPA school prior to license renewal).	The MPACN is developing an online training for MPA violators for court assignment to educate violators, deter future violations, and provide a system of tracking repeat offenders.
Network Performance	MPA Network Design	Sea of Clouds	24. Work with CFGC and partners to better incorporate marine cultural heritage into the design of the MPA Network.	24a. Develop a process to incorporate state marine cultural preservation areas (MMAIA section 36700(d)) into existing MPAs and new locations across the Network.	Developing Maritime Heritage Working Group representing CDFW, CA State Parks: (1) Applying existing CA State Parks processes to nominate and designate new areas, (2) Management implications, (3) Connections to sister agencies.



Marine Protected Areas Annual Update: 2024

11 December 2024

Presented to:

**California Fish and Game
Commission**

Presented by:

Rose Dodgen
Environmental Scientist
Marine Region



MPA Management Program Pillars



Outreach and Education



Research and Monitoring



Enforcement and Compliance

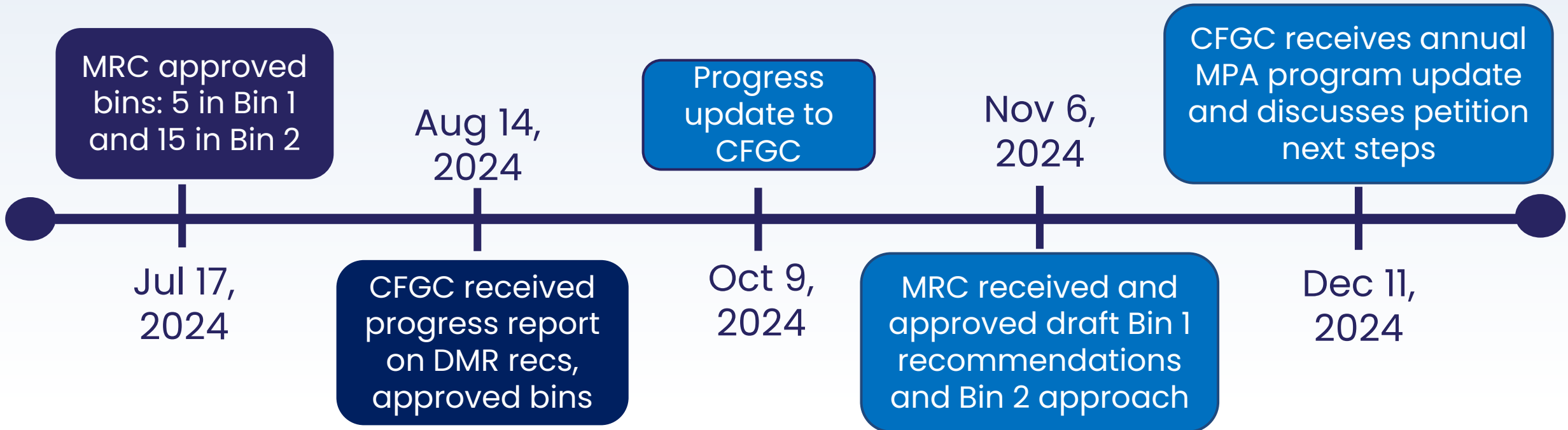


Policy and Permitting



2024 DMR Continuing Progress: Petitions

*Petitions by the Numbers: **20 petitions** and more than **80 proposed actions** referred to CDFW in February 2024*





Outreach and Education

- Released New Petition Storymap Webpage
- Presented at 23 MPA Collaborative Meetings
- Published 9 Blogs and News Highlights
- Participated in Partner Events



Exploring California's Marine Protected Areas: Edward F. Ricketts State Marine Conservation Area



A rockfish takes shelter in a stand of giant kelp near the Monterey Peninsula. © Jeff Jensen

If you're a fan of California's underwater wildlife, and perhaps a member of the scuba diving community, you're likely familiar with the Monterey Peninsula and its iconic kelp forests. You may think you've seen every animal these forests have to offer, but you may not have observed some of the more cryptic animals, such as those found in [Edward F. Ricketts State Marine Conservation Area \(SMCA\)](#), one of the 124 marine protected areas (MPAs) in [California's Marine Protected Area Network](#).



Photo: L. Slatoff, CDFW



Marine Protected Areas (MPA) Petition Process

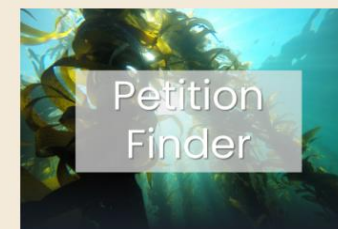
California Department of Fish and Wildlife

Click through the collection to:

→See an **overview** of the petition process, petition evaluation framework, and anticipated timeline

→Dive into an **interactive map** to visualize proposed changes

→Explore **petitions sorted** by numerical order, change category, or county, and click the links to learn more about each petition. Any petition proposing a change that can be visualized on a map (e.g., boundary or designation change) will have an image with a slider to swipe between the existing network and the proposed change. Any petition proposing a non-spatial change (e.g., take allowance or regulatory language change) will have a static image showing the location of the affected MPA(s).



Research and Monitoring

New Publication

28 Days in the Field

Received: 1 November 2023 | Revised: 28 June 2024 | Accepted: 5 July 2024
 DOI: 10.1111/csp2.13190

CONTRIBUTED PAPER

Conservation Science and Practice
 A journal of the Society for Conservation Biology
 WILEY

Diving deep into the network: Quantifying protection effects across California's marine protected area network using a remotely operated vehicle

Nicholas R. Perkins¹ | Andrew Lauermann² | Michael Prall³ |
 Geoffrey R. Hosack⁴ | Scott D. Foster⁴

Photo: Adam Obaza



Photo: California Collaborative Fisheries Research Program



Photo: N. Kreidler, CDFW



Photo: MARINE



Photo: MPA Estuary Monitoring Program-CDFW



Enforcement and Compliance

New Patrol Vessel *Barracuda*



Photo: CDFW - LED

54 Academy Graduates,
4 Coming to Marine Enforcement

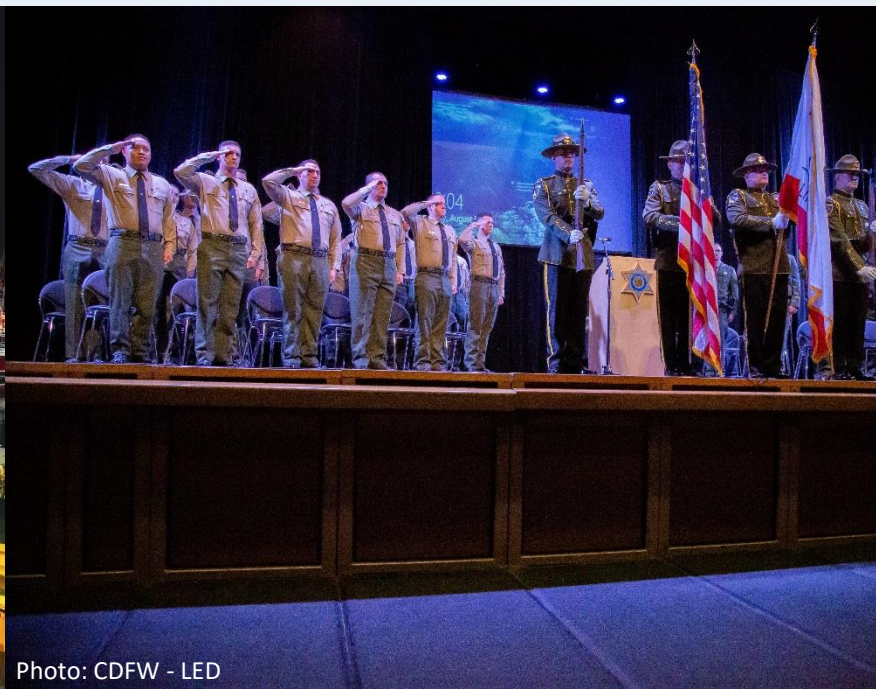


Photo: CDFW - LED

Enforcement Training



Photo: L. Slatoff, CDFW

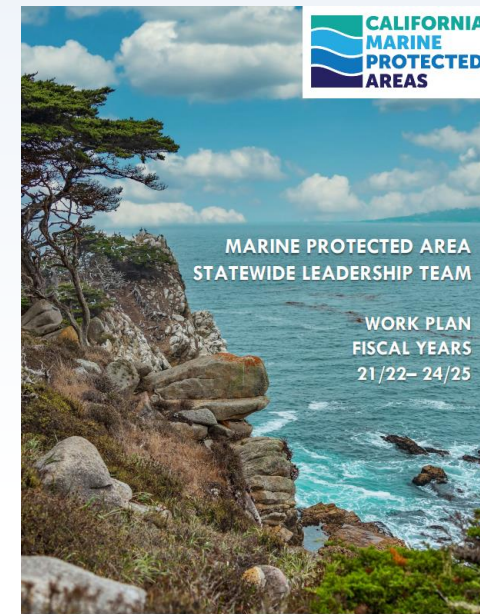
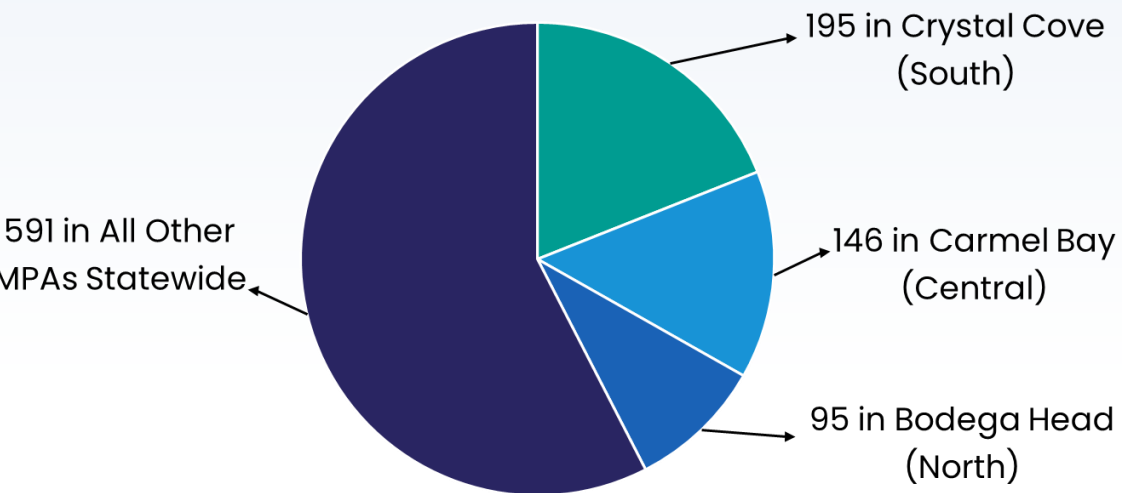


Policy and Permitting

- 51 Scientific Collection Permits Issued for MPA Activities in 2024
- Permitting Portal Updates Coming in 2025
- Rulemaking: Take for maintenance of pre-existing structures in MPAs
- MSLT DMR Recommendations Sub-group

1,027 Total SCPs issued in MPAs between 2012 and 2024.

MPAs with highest number of SCPs by region:

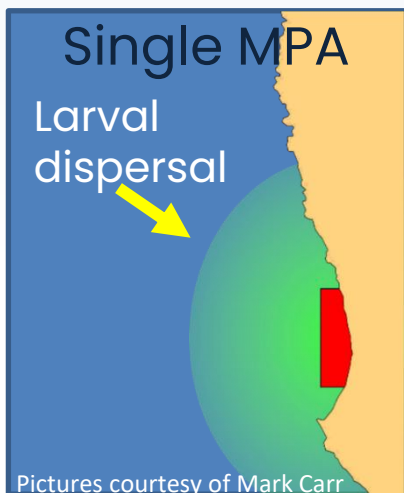


Looking Forward

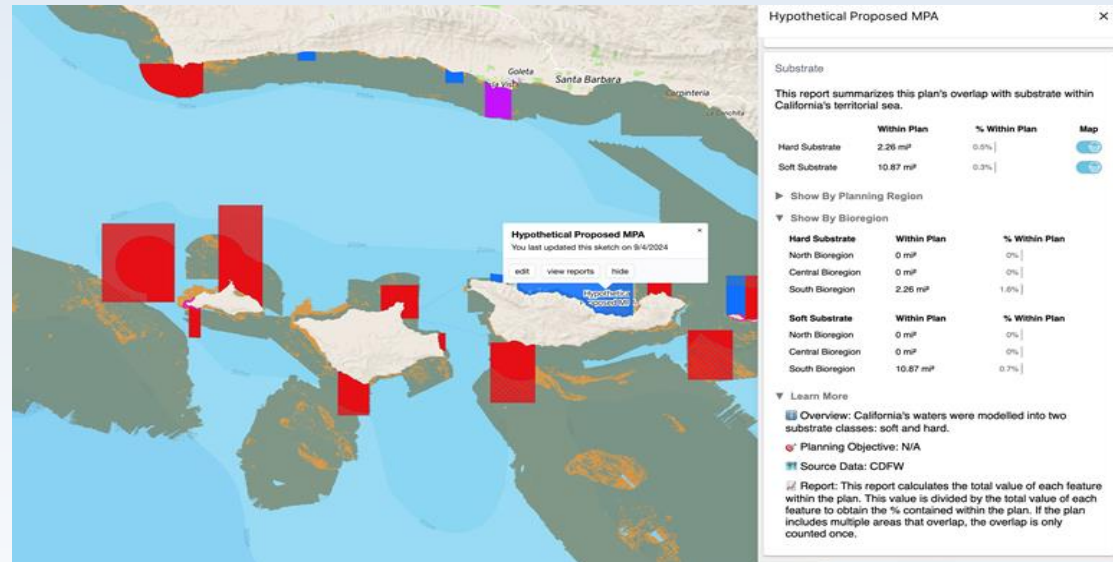
Coming to an MPA Management Program Near You in 2025:

- Petition evaluation will remain a priority (DMR Recommendation 4)
- Continue to partner to advance the other 27 DMR Recommendations

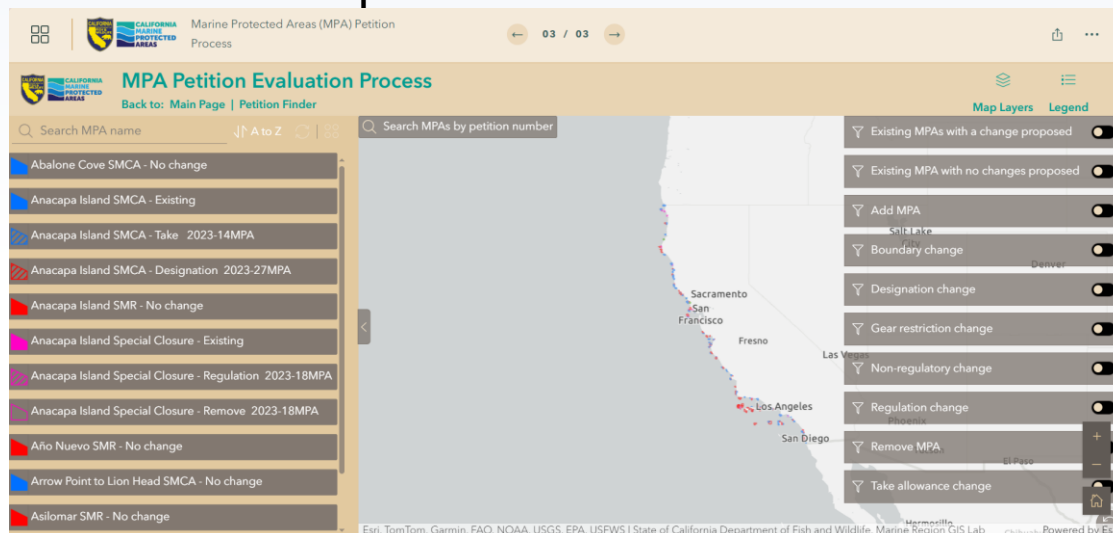
Updating the Connectivity Model



SeaSketch Release



New and Improved Communication Tools





Thank You To Our Many Partners



CALIFORNIA OCEAN SCIENCE TRUST



NATIONAL MARINE SANCTUARIES WEST COAST REGION



RESOURCES LEGACY FUND® CREATIVE SOLUTIONS. LASTING RESULTS.



Thank You ♦ Questions?

Rose Dodgen, Environmental Scientist
mpamanagementreview@wildlife.ca.gov



Memorandum

Date: November 15, 2024

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

From: Craig Shuman, D. Env.
Marine Region

Subject: **Agenda Item for December 11-12, 2024, Fish and Game Commission Meeting**
Re: White Seabass Fishery Management Plan 2022-2023 Annual Review Report

The Department of Fish and Wildlife (Department) requests the Fish and Game Commission (Commission) receive the White Seabass Fishery Management Plan (WSFMP) 2022-2023 Annual Review Report at its December 2024 meeting.

The Department met with the White Seabass Scientific and Constituent Advisory Panel (WSSCAP) in October 2024 to review fishery information and to consider if current management measures were providing adequate protection for the white seabass resource. To determine if management measures need to be recommended, the WSSCAP reviewed the points of concern established in the WSFMP, including criteria-based evaluation of the white seabass fisheries and social and economic information related to the fisheries. Additionally, the Department presented results from a collaborative study with the Pflieger Institute of Environmental Research on white seabass length at maturity. Study results indicates that white seabass mature at a size larger than previously understood and may not be allowing females the opportunity to reproduce at least once before being available to the fishery.

Recognizing that it has been over 20 years since the WSFMP was adopted and there are new management tools and data available, the Department is initiating discussions with the WSSCAP, California Tribes, and other interested stakeholders to discuss potential changes to the management framework for white seabass.

If you have any questions on this item, please contact Dr. Craig Shuman, Marine Region Manager, at (805) 568-1246 or R7RegionalMgr@wildlife.ca.gov.

Attachment

ec: California Department of Fish and Wildlife

Chad Dibble, Deputy Director
Wildlife and Fisheries Division

Melissa Miller-Henson, Executive Director
Fish and Game Commission
November 15, 2024
Page 2

Kirsten Ramey, Environmental Program Manager
Marine Region

Valerie Taylor, Senior Environmental Scientist (Specialist)
Marine Region

Dianna Porzio, Senior Environmental Scientist (Supervisor)
Marine Region

White Seabass Fishery Management Plan 2022-2023 Annual Review



White Seabass, *Atractoscion nobilis*.

(Photo Credit: Scott Aalbers, Pflieger Institute of Environmental Research (PIER)).

Prepared by

California Department of Fish and Wildlife
Marine Region
November 2024



White Seabass Fishery Management Plan 2022-2023 Annual Review

Executive Summary

The California Fish and Game Commission (Commission) adopted the White Seabass Fishery Management Plan (WSFMP) in June 2002. The WSFMP includes a provision for annual monitoring and assessment of the white seabass fisheries. The White Seabass Scientific and Constituent Advisory Panel (WSSCAP) was established to assist the California Department of Fish and Wildlife (Department) and the Commission with the review of the fishery assessments, management proposals, and plan amendments. Although the WSFMP designates the WSSCAP as having seven members representing the scientific community, recreational and commercial fishing industries, and environmental groups, the WSFMP does not identify specific members for the WSSCAP. Therefore, the Department invites stakeholders interested in white seabass management to participate in the annual review. The annual review includes fishery-dependent data (e.g., commercial and recreational landings and length frequencies), and fishery-independent data (e.g., recruitment information) if available, as well as documented changes within the social and economic structure of the recreational and commercial industries that utilize the white seabass resource within California. The review also includes information on the harvest of white seabass from Mexican waters and other relevant data. Based on the results of the annual review, in cooperation with the WSSCAP, the Department will provide management recommendations, if needed, to the Commission.

To assist the Commission in determining if management measures need to be modified or added, the WSFMP framework includes, and the Commission adopted, points of concern criteria to help determine when management measures are needed to address resource issues. The points of concern are:

1. Catch is expected to exceed the current harvest guideline or quota.
2. Any adverse or significant change in the biological characteristics of white seabass (age composition, size composition, age at maturity or recruitment) is discovered.
3. An overfishing condition exists or is imminent.
4. Any adverse or significant change in the availability of white seabass forage or in the status of a dependent species is discovered.
5. New information on the status of white seabass is discovered.
6. An error in data or stock assessment is detected that significantly changes estimates of impacts due to current management.

The Department and WSSCAP met on October 28, 2024, to review the 2022-2023 fishery season (September 1 to August 31). Recognizing that it has been over 20 years since the WSBFMP was adopted and there are new tools and data available, the Department is beginning discussions with the WSSCAP and other interested parties to discuss potential changes to the management framework for white seabass.

Background

The Department and the WSSCAP annually review current information to evaluate the status of the white seabass resource based on six points of concern adopted to implement the WSFMP and to consider whether current management measures provide adequate protection for the resource. The annual review process is intended to foster a continuous review of white seabass stocks and fisheries to prevent overfishing or other resource damage. If a resource conservation issue is found, the WSSCAP will provide its recommendation, rationale, and analysis to the Department. The Department will evaluate the recommendation from the WSSCAP and all available information and will recommend to the Commission management measure(s) to address the issue(s).

Analysis and Results

Analysis and results of the WSFMP six points of concern reviewed for the 2022-2023 fishery season are described below, including an overall summary (Table 1), and section on each point of concern. Two criteria were met in 2022-2023.

Table 1. Overall summary of the WSFMP six points of concern for the 2022-2023 fishing season.

Criteria	Analysis	Result
Catch is expected to exceed the current harvest guideline or quota.	<p>Total catch for 2022-2023 = 234,003 pounds.</p> <p>Optimum Yield = 1.2 million pounds.</p> <p>Total catch is below Optimum Yield.</p>	Criterion not met
Any adverse or significant change in the biological characteristics of white seabass (age composition, size composition, age at maturity or recruitment) is discovered.	<p>Recreational and commercial fishery length frequencies showed no significant change that would indicate a problem in the fishery.</p> <p>The Department completed a length at maturity analyses. Results indicate white seabass mature at a larger size than previously understood, reaching 50% maturity at 34.8 inches (884.3 millimeters (mm)).</p>	Criterion met
An overfishing condition exists or is imminent.	No overall overfishing condition noted. See analysis in Table 2.	Criterion not met
Any adverse or significant change in the availability of white seabass forage or in the status of a dependent species is discovered.	<p>Of the five fisheries analyzed, landings increased for two fisheries while landings declined slightly for two fisheries, and one fishery remained closed in the 2022-23 season.</p> <p>Biomass estimates for Pacific mackerel increased and Pacific sardine remained the same. White seabass, however, are opportunistic feeders and are known to feed on a variety of pelagic fish and invertebrate species when available.</p>	Criterion not met
New information on the status of white seabass is discovered.	The Department completed a length at maturity analyses. Results indicate white seabass mature at a larger size than previously understood, reaching 50% maturity at 34.8 inches (884.3 mm).	Criterion met
An error in data or stock assessment is detected that significantly changes estimates of impacts due to current management.	A stock assessment, which was completed in May 2016, determined that the stock was not overfished or depressed, but the current optimum yield may be too high.	Criterion not met

1. Catch is expected to exceed the current harvest guideline or quota.

The Commission established a fishing season of September 1 through August 31 of the following year. The Commission also adopted an optimum yield (OY) that serves as the harvest guideline or quota. The OY is based on a maximum sustainable yield proxy of the unfished biomass and is currently set at 1.2 million pounds. In the 2022-2023 season, the total recreational and commercial harvest was 234,003 pounds, 20 percent of the allowable catch; thus, the criterion for this point of concern was not met (Appendix A, Table 1).

2. Any adverse or significant change in the biological characteristics of white seabass (age composition, size composition, age at maturity or recruitment) is discovered.

The criterion for this point of concern was met. Although no significant changes were found in the length composition of sampled white seabass, the Department, in collaboration with the Pflieger Institute of Environmental Research (PIER), completed a study that indicates that white seabass mature at a larger size than previously understood; therefore, there may be a need to consider changes in management measures in the fishery.

Length frequency data collected by the Department from the commercial fish markets in California for the past six seasons are presented in Appendix A, Figure 1. In the 2022-2023 season, Department staff measured a total of 211 fish for length. Most samples were taken from gill net landings. The commercial fishery continues to harvest white seabass across a wide size range. In 2022-23, all fish sampled were larger than the minimum size limit of 28 inches (711.2 mm) and 69 percent of the fish sampled were larger than 45 inches (1,143 mm). Based on previous age-at-length information from reading otoliths and from a previously calculated weight/length relationship, those fish larger than 45 inches are likely more than 11 years old and weigh more than 30 pounds.

Recreational anglers tend to land smaller fish than those from the commercial fishery; this is in part due to the selectivity of commercial gill nets which tend to capture larger fish because of the mesh size. Length frequency data for the recreational fishery for the past six seasons are presented in Appendix A, Figure 2. In the 2022-2023 season, Department staff measured a total of 78 fish for length; 32 percent sampled were from private/rental boats, 44 percent from Commercial Passenger Fishing Vessels (CPFV), and two percent from man-made/jetty. Of the 78 fish measured, 10 were less than the minimum size limit of 28 inches (711.2 mm). The remaining 68 fish measured were legal sized with 24 percent larger than 40 inches (1,016.0 mm) total length (TL). Based on previous age-at-length information from reading otoliths and from a previously calculated weight/length relationship, those fish larger than 40 inches are likely more than nine years old and weigh more than 24 pounds.

The current minimum size limit of 28 inches (711.2 mm) for the commercial and recreational fishery for white seabass was established in 1931 based on a single maturity study (Clark 1930) with limited data from 25 immature and 8 maturing females

from southern California. Knowing that it has been almost 100 years since this original assessment, all the samples were from just one region of coast, and the very low sample size, the Department prioritized a study to update this essential fishery information.

The Department collaborated with the PIER to examine white seabass gonads statewide, with a focus on increasing sample size and utilizing the best available science (histology) for maturity assessments. Between 2017-2023, Department and PIER staff collected and analyzed a total of 676 white seabass (393 females, 283 males), ranging in size from approximately 12 to 62 inches TL (305-1,575 mm). White seabass were measured and weighed prior to removing gonads for macroscopic and histological assessments of maturity. In addition to gonadosomatic indices (GSI) generated from white seabass collected during the spawning season, histological assessments of fixed gonad cross sections from 243 white seabass sampled off southern California and 282 individuals collected in the San Francisco Bay area were conducted to assign females to a specific reproductive phase: immature, early developing, late developing, spawning imminent, spawning active, spawned, regressing, or regenerating. Histological assignments were used to generate multiple maturity curves, with the best fit model including females that were in the late developing and spawning phases as well as those regenerating with residual spawning attributes (Appendix A, Figure 3).

Histological evidence used to develop the functional maturity ogive suggests that 50 percent of female white seabass reach maturity around 34.8 inches (884.3 mm) TL, with 95 percent of examined individuals becoming mature by 38.4 inches (975.4 mm). Additionally, a one-inch difference in size at maturity was found geographically with females from northern California reaching 50 percent maturity at 35.6 inches (903.9 mm) and southern California females at 34.6 inches (878.7 mm). Reduced mean GSI values for female white seabass less than 884.3 mm (0.91 ± 0.54) also suggest minimal reproductive output prior to reaching the identified 50 percent size of maturity. Findings from GSI and histological classification both suggest that white seabass begin contributing to the population at a larger size than previously estimated; therefore the existing minimum size limit (28 inch TL) may not allow for all females to spawn at least once before being taken by the fisheries, which was identified as an objective in the WSFMP. Current data aligns with the modified maturity curve presented in the 2016 white seabass stock assessment (Valero and Waterhouse, 2016) as well as with recommendations from Clark (1930), who concluded that fish smaller than 100 cm (39.4 inch TL) should be protected to assure all white seabass are provided at least one unmolested spawning season.

3. An overfishing condition exists or is imminent.

Three criteria (summarized in Table 2), all of which must be met to establish the point of concern, determine if an overfishing condition exists or is imminent. Meeting the criteria in one sector may mean overfishing is occurring in that sector and further investigation may be warranted. The criteria for this point of concern were not met.

Table 2. Analysis to determine if the white seabass resource is overfished (Criteria taken from Section 51.01 (b), Title 14, California Code of Regulations).

Criteria	Analysis	Result
A 20 percent decline in the total annual commercial landings of white seabass for the past two consecutive seasons compared to the prior 5-season running average of landings, based on landing receipt data.	2022-2023: 175,659 pounds = 5% increase; 5-season average = 167,180 pounds. 2021-2022: 139,664 pounds = 24% decrease; 5-season average = 182,830 pounds.	Criterion not met
A 20 percent decline in both the number of fish and the average weight of white seabass caught in the recreational fishery for the same two consecutive seasons, as determined by the best available data.	2022-2023: 3,474 fish = 43% decrease; 17.8 pound average = 36% decrease. 2021-2022: 6,080 fish = 38% decrease; 27.8 pound average = 48% increase.	Criterion not met
A 30 percent decline in recruitment indices for juvenile white seabass compared to prior 5-season running average of recruitment, as determined by the best available data.	2022-2023: No white seabass recruitment surveys have occurred since the 2018/19 season; thus this criterion cannot be analyzed.	N/A

Following are the results for each of the three overfishing sub-criteria.

- A. *A 20 percent decline in the total annual commercial landings of white seabass for the past 2 consecutive seasons, compared to the prior 5-season average of landings, based on fish landing receipt data.*

The WSSCAP and the Department agreed that the overfishing criterion for the commercial fishery was not met because the commercial landings of white seabass did not decrease by 20 percent when compared to the prior 5-season average for the past two consecutive seasons (Appendix A, Table 2). In the 2022-2023 season, commercial landings totaled 175,659 pounds, which is a 5 percent increase compared to the prior 5-season running average of 167,180 pounds. During the previous 2021-2022 season, commercial landings totaled 139,664 pounds, which was a 24 percent decrease compared to the prior 5-season running average of 182,830 pounds.

The set and drift gill net fisheries have consistently landed most of the white seabass each season (Appendix A, Table 2). The trawl fishery and other incidental gears continue to be minor components of the commercial fishery. In the 2022-2023 season, landings increased in the gill net and trawl fisheries but decreased in the hook-and-line fishery.

B. A 20 percent decline in both the number of fish and average weight of white seabass caught in the recreational fishery for the same 2 consecutive seasons as determined based on the best available data.

The WSSCAP and the Department agreed that the overfishing criterion for the recreational fishery was not met because both the number of fish and average weight did not show a 20 percent decline for two consecutive seasons (Appendix A, Table 3). In the recreational fishery, both the number and average weight of fish caught in the 2022-2023 season decreased by 43 percent and 36 percent, respectively. However, the overfishing criterion was not met because the average weight of fish caught during the previous season increased by 48 percent.

C. A 30 percent decline in recruitment indices for juvenile white seabass compared to the prior 5-season average of recruitment, as determined by the best available data.

The Ocean Resources Enhancement and Hatchery Program (OREHP) previously conducted standardized field studies four times a year (August, October, April, and June) for juvenile recruitment. However, reductions in funding curtailed survey effort, and the Ocean Enhancement Stamp fund was insufficient to cover all the OREHP activities as well as the recruitment surveys. Consequently, there was no sampling between 2009 and 2011. In October 2012, sampling, similar to previous surveys, was reinstated by the OREHP Advisory Panel. The objective of the sampling design resumed the prior sampling plan but included more embayment sites and less coastal sites than previously sampled. Recruitment sampling continued through the 2018-2019 season, but because of administrative and funding priority changes within the OREHP, no white seabass recruitment surveys have occurred since the 2018-2019 season. Thus, this criterion could not be addressed in this report.

Based on the analysis of all three overfishing criteria, the WSSCAP and the Department agreed that the overfishing point of concern for the fishery was not met. However, the Department and the WSSCAP have concerns regarding these analyses and will look to re-evaluate the criteria outlined in the WSFMP.

4. Any adverse or significant change in the availability of white seabass forage or in the status of a dependent species is discovered.

White seabass are known to be opportunistic feeders on a variety of pelagic fish and invertebrate species. Certain prey species [northern anchovy (*Engraulis mordax*), jack mackerel (*Trachurus symmetricus*), market squid (*Doryteuthis opalescens*), Pacific mackerel (*Scomber japonicus*), and Pacific sardine (*Sardinops sagax*)] are highly

mobile, and their distributions are affected by oceanographic conditions. A review of these white seabass forage species (Appendix A, Figures 4, 5, 6, 7, and 8) revealed some changes in availability.

A formal stock assessment was conducted for northern anchovy in 2021, and while landings have varied over the last five years, the stock assessment indicated that the biomass has increased over the same time period. The assessment focused on the central subpopulation of northern anchovy, which ranges from roughly northern California, USA to central Baja California, Mexico. In 2018, there was a substantial increase in northern anchovy landings, but then landings declined from 2019 to 2022. In 2023, landings increased by 48 percent. (Appendix A, Figure 4).

Jack mackerel have not been significantly targeted off California, and most landings are caught incidentally to other fisheries. Therefore, regular stock assessments or efforts to collect biological information on jack mackerel have not been a priority. In 2016, jack mackerel landings were high but then decreased each consecutive year from 2016 through 2019. Between 2020 - 2022, jack mackerel landings remained low, but in 2023, landings increased significantly from 32 metric tons (mt) to 121 mt. (Appendix A, Figure 5).

There are currently no estimates of population abundance in California for market squid, but recruitment varies substantially from year to year in response to environmental factors, causing natural fluctuations in abundance. As squid availability fluctuates throughout the season, many vessels target other fisheries (e.g., northern anchovy, Pacific mackerel, or tuna). When squid are readily available, market conditions can drive fishing effort. During the 2018-2019 season, market squid landings decreased from the previous season and continued to decline until the 2020-2021 season when landings increased once again (Appendix A, Figure 6).

Both Pacific mackerel and Pacific sardine landings have remained low over the past eight seasons. Since the 2015-2016 season, Pacific mackerel landings have not exceeded 5,000 mt per season (Appendix A, Figure 7), and Pacific sardine landings have not exceeded 4,000 mt (Appendix A, Figure 8). Additionally, the directed fishery for Pacific sardine has been closed since the end of the 2014-2015 season.

Pacific mackerel and Pacific sardine have stock assessments conducted by the National Marine Fisheries Service and these stock assessments include biomass estimates. Since 2008, Pacific mackerel biomass estimates have been conducted every two years (Appendix A, Figure 9). Pacific sardine biomass estimates are conducted every year (Appendix A, Figure 10). The biomass estimates for both Pacific mackerel and Pacific Sardine have remained at approximately the same level for the past four seasons.

Although this criterion relates to a single forage species, it is more appropriate to consider in aggregate all five of the primary forage species for white seabass. However, it is not a simple matter of summing up annual catch or biomass estimates in determining if there is a problem with overall prey availability. Prey species are highly

mobile, and their distributions are also affected by oceanographic conditions. Additionally, many of the same fishing vessels fish for all five species depending on market factors and availability. Based on the analysis of all the prey species, the WSSCAP and the Department agreed that this point of concern was not met; however, there is concern about what appears to be an overall reduced prey availability, and the Department will continue to monitor these species.

5. New information on the status of white seabass

The Department, in collaboration with the PIER, completed analysis of gonad histology slides. Results indicate white seabass mature at a larger size than previously understood, reaching 50 percent maturity at 34.8 inches (884.3 mm) (See Criterion 2).

6. An error in data or stock assessment is detected that significantly changes estimates of impacts due to current management.

No errors in the current stock assessment have been found.

Additional Information

The Department has used two basic socioeconomic information indicators to characterize the commercial fishery and has provided those summaries to the WSSCAP (Appendix A, Table 4). As a social information indicator, the number of commercial vessels landing white seabass has been tracked over time. In the 2022-2023 season, the number of vessels fishing for white seabass decreased by 15 percent (20 vessels). This decrease in the number of vessels mostly occurred in the hook-and-line fishery. As an economic information indicator, the most frequent ex-vessel price per pound has also been tracked over time. The most common ex-vessel price per pound for the 2022-2023 season was at \$5.00 per pound for all gears combined, a decrease of \$1.00 from the previous season. No similar social or economic data are available for the recreational fleet.

Information about the take of white seabass in Mexican waters was considered by the WSSCAP. California commercial fishermen are prohibited by Mexican law to fish in the territorial seas of Mexico, and no landings of white seabass from Mexico by California commercial fishermen were reported in 2022-2023. Recreational anglers may fish in Mexico under the authority of a Mexican sport fishing license. During the 2022-2023 season, Commercial Passenger Fishing Vessel logbook data reported 55 white seabass taken in Mexico and landed in California, a decrease of 26 fish from the 81 reported taken during the prior season. No additional information about either the recreational or commercial catch of white seabass in Mexico is available.

Conclusion

Since the WSBFMP was adopted by the Commission more than 20 years ago, the Department has developed new tools and collected additional information to improve management of the white seabass fishery. The results from the maturity study indicate that the current minimum size limit (28 inch TL) may not be allowing all females the

opportunity to reproduce at least once before being available to the fishery. It is timely to consider potential changes to the management framework within the WSBFMP, which could include an evaluation of the minimum size limit, incorporation of the stock assessment into calculating maximum sustainable yield and optimum yield, assessing the potential impacts of bycatch, and re-evaluation of the trigger mechanisms that are outlined in the WSBFMP. The Department looks forward to opening those discussions with fishery participants, California Tribes and other interested stakeholders around future management measure for the white seabass fishery.

Appendix A – Data Analyses

Table 1. Total catch (pounds) of white seabass, 2013-2014 to 2022-2023. Source: Department's Marine Landings Database System (MLDS) and California Recreational Fisheries Survey (CRFS) data extracted from the Recreational Fisheries Information Network (RecFIN) database at <http://www.recfin.org>. In 2020, COVID-19 pandemic health safety guidelines prevented CRFS sampling from April - June and restricted observing and collecting biological data on anglers' catch from July - August.

Season	Recreational	Commercial	Total
2013/14	219,116	262,441	481,557
2014/15	63,125	196,521	259,646
2015/16	100,406	247,195	347,601
2016/17	177,582	217,915	395,497
2017/18	129,195	220,687	349,882
2018/19	93,747	168,077	261,824
2019/20	73,408	138,537	211,945
2020/21	198,482	168,934	367,657
2021/22	127,271	139,664	266,935
2022/23	58,344	175,659	234,003

Table 2. Commercial white seabass landings (pounds) by gear type, 2013-2014 to 2022-2023. Source: Department's MLDS.

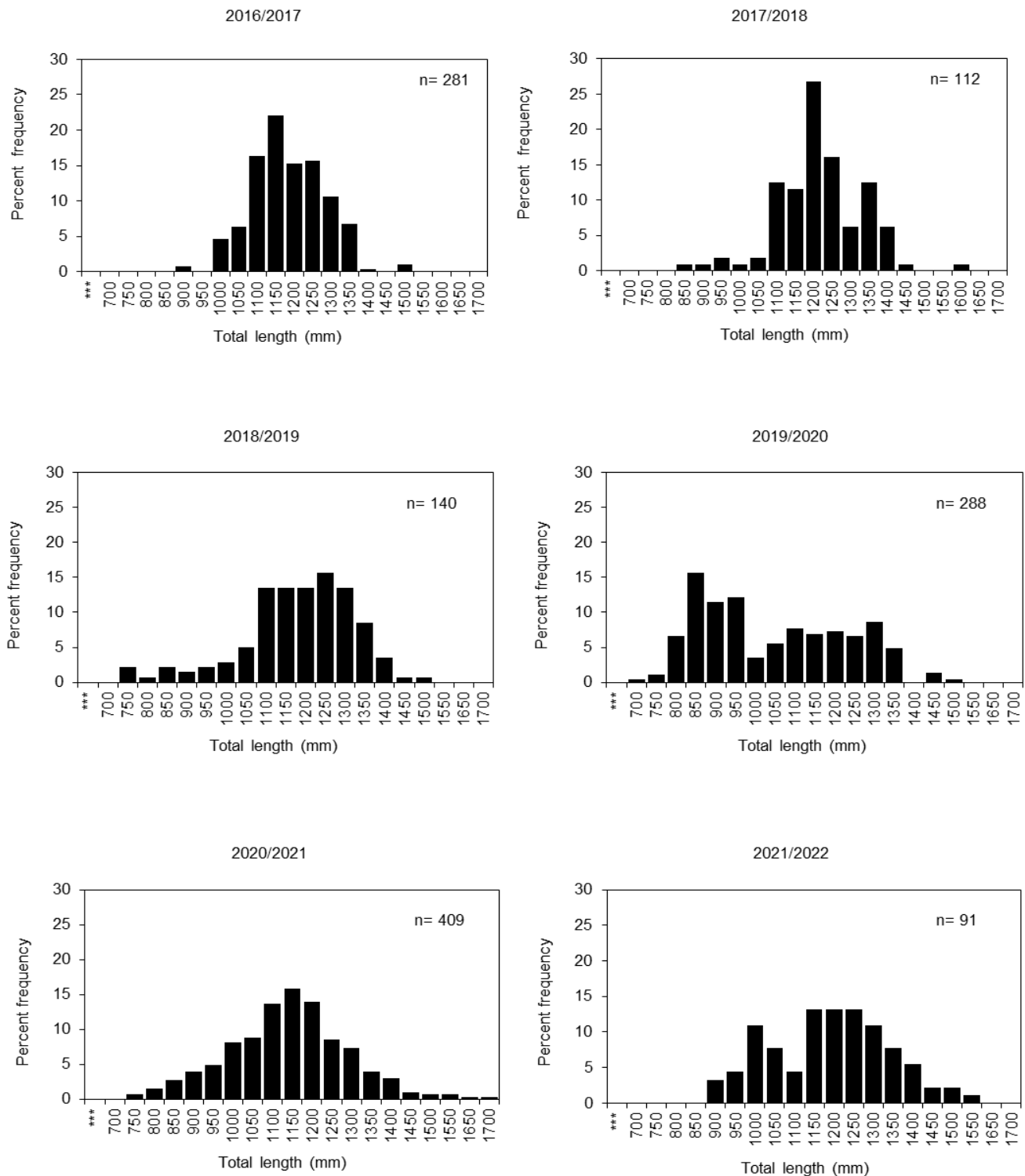
Season	Gill Net	Hook-and-line	Trawl	Other Gears	All Gears Combined	Prior 5-season Average	Percent Change from Previous 5-season Average
2013/14	183,575	76,373	2,237	256	262,441	431,873	-39
2014/15	153,001	38,508	4,909	103	196,521	401,469	-51
2015/16	202,946	36,182	7,404	662	247,195	340,369	-27
2016/17	195,642	19,143	2,924	205	217,915	285,687	-24
2017/18	183,900	32,371	2,535	1,880	220,687	247,921	-11
2018/19	112,840	48,995	5,852	389	168,077	229,196	-27
2019/20	99,255	34,108	1,926	3,248	138,537	210,079	-34
2020/21	120,089	42,590	5,022	1,234	168,934	198,482	-15
2021/22	104,597	30,033	4,310	724	139,664	182,830	-24
2022/23	146,928	21,851	6,851	29	175,659	167,180	5

Table 3. Recreational white seabass catch and estimated average weight (pounds) for recreational caught white seabass, 2013-2014 to 2022-2023. Source: CRFS data extracted from the RecFIN database at <http://www.recfin.org>. In 2020, COVID-19 pandemic health safety guidelines prevented CRFS sampling from April - June and restricted observing and collecting biological data on anglers' catch from July - August.

Season	Total number of fish caught	Percent change in number of fish from prior season	Average weight in pounds	Percent in weight from prior season
2013/14	9,567	-10	22.4	16
2014/15	3,136	-67	18.9	-15
2015/16	3,793	21	23.1	22
2016/17	5,675	50	22.9	-1
2017/18	4,874	-14	23.0	0
2018/19	6,349	30	20.1	-13
2019/20	4,898	-23	19.0	-5
2020/21	9,761	99	18.8	-1
2021/22	6,080	-38	27.8	48
2022/23	3,474	-43	17.8	-36

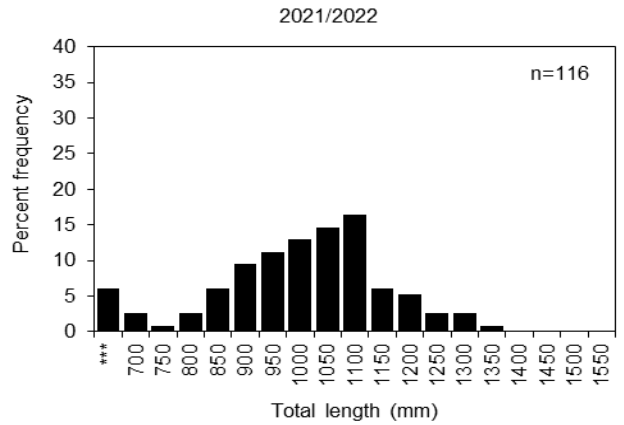
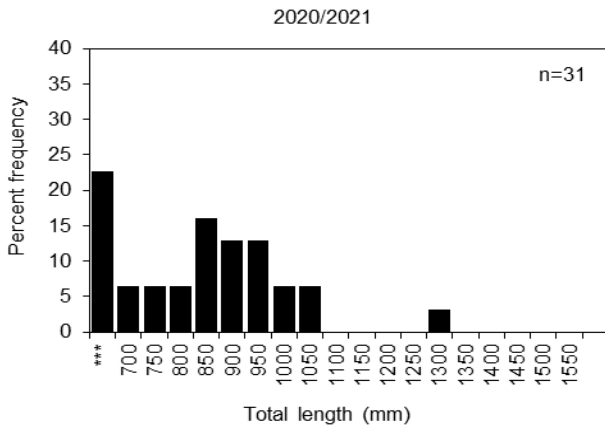
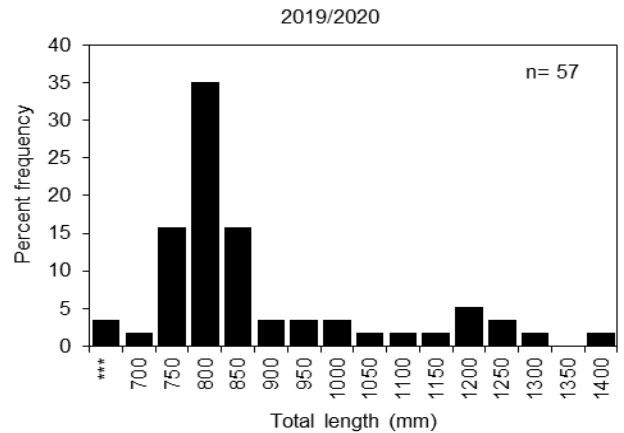
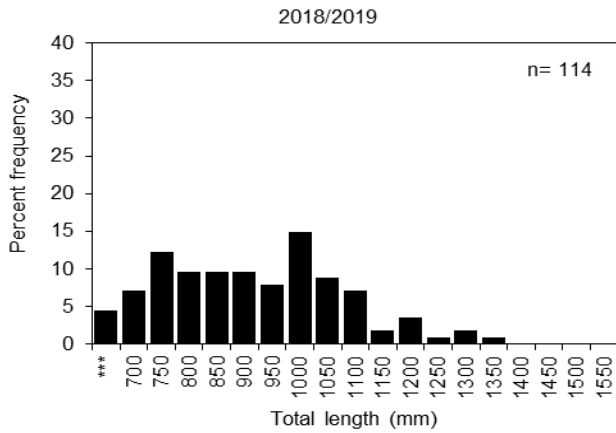
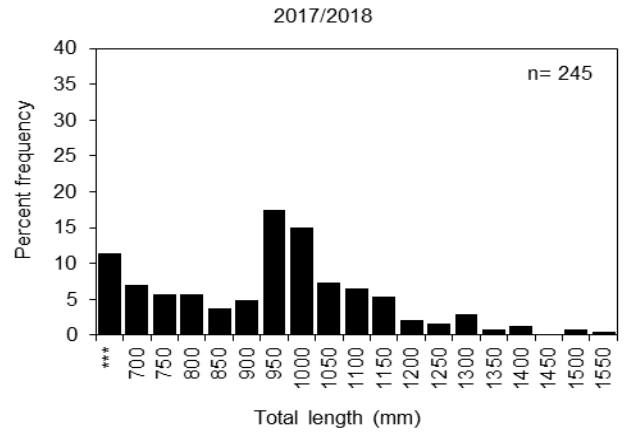
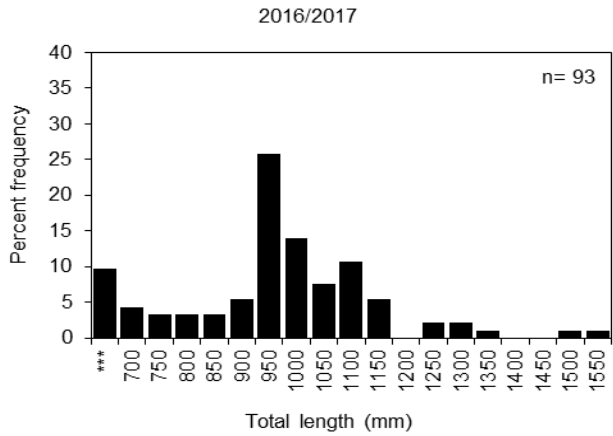
Table 4. Number of commercial vessels landing white seabass by principal gear and most common ex-vessel price per pound paid for white seabass, 2013-2014 to 2022-2023. Source: Department's MLDS.

Season	Gill net	Hook-and-line	Trawl	Other gears	Total number of vessels	Most common ex-vessel price
2013/14	26	181	9	6	222	\$4.50
2014/15	29	164	8	17	218	\$6.00
2015/16	28	135	10	8	181	\$6.00
2016/17	28	92	10	5	135	\$4.00
2017/18	33	135	9	8	185	\$6.00
2018/19	28	140	11	4	183	\$5.00
2019/20	31	130	9	2	172	\$6.00
2020/21	32	141	11	2	186	\$4.00
2021/22	30	89	9	4	132	\$6.00
2022/23	28	74	9	0	111	\$5.00



***all sub-legal fish are grouped together

Figure 1. Commercial white seabass sampled length frequencies, 2017-2018 to 2022 2023. Source: California Department of Fish and Wildlife



***all sub-legal fish are grouped together

Figure 2. Recreational white seabass sampled length frequencies, 2017-2018 to 2022-2023. Source: California Department of Fish and Wildlife and CRFS data extracted from the RecFIN database at <http://www.recfin.org>.

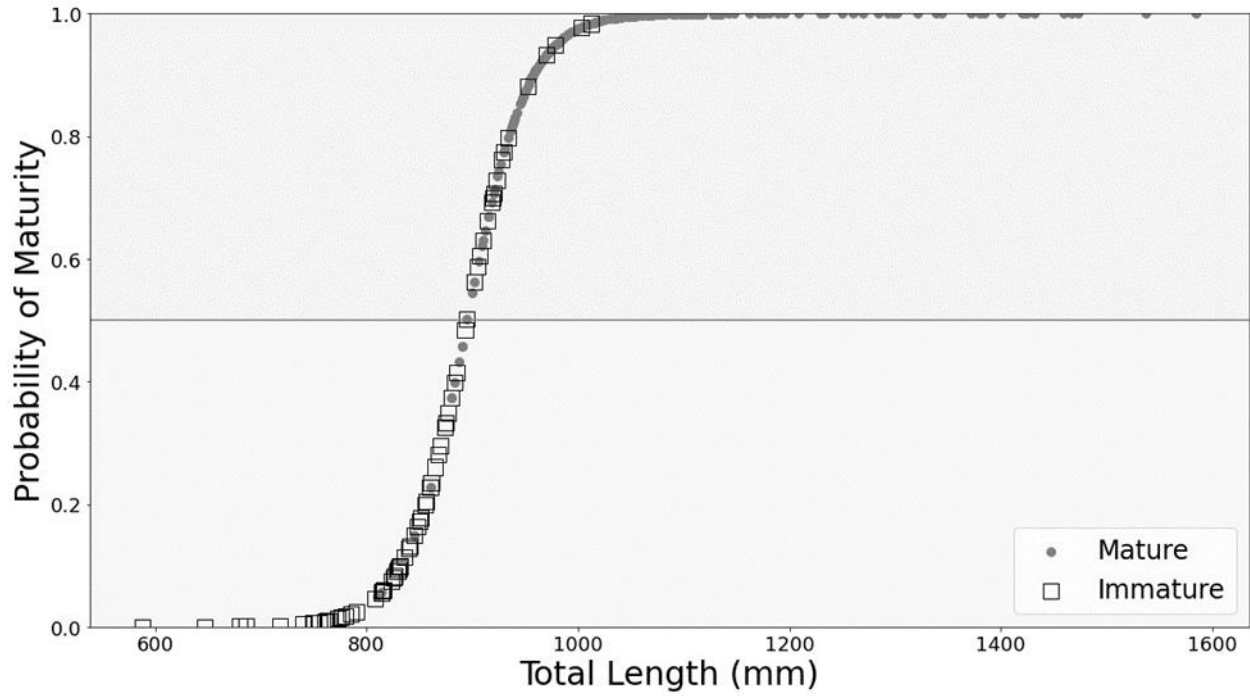


Figure 3. Logistic regression curve showing the probability of maturity for female white seabass based on total length. Females with histological maturity indicators were considered mature. The horizontal line indicates 50% maturity. Squares and dots represent actual data points and their respective maturity assignment.

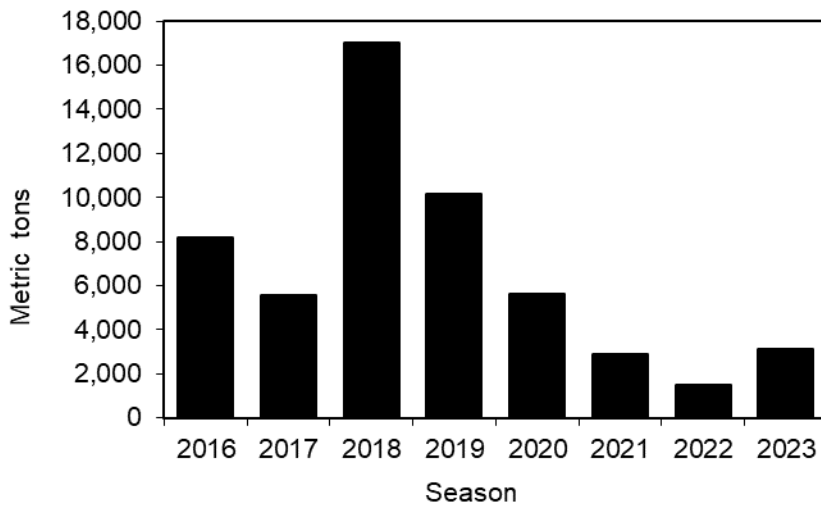


Figure 4. Commercial catch of northern anchovy, 2016 to 2023. Northern anchovy season is January 1 through December 31. Source: Department's MLDS.

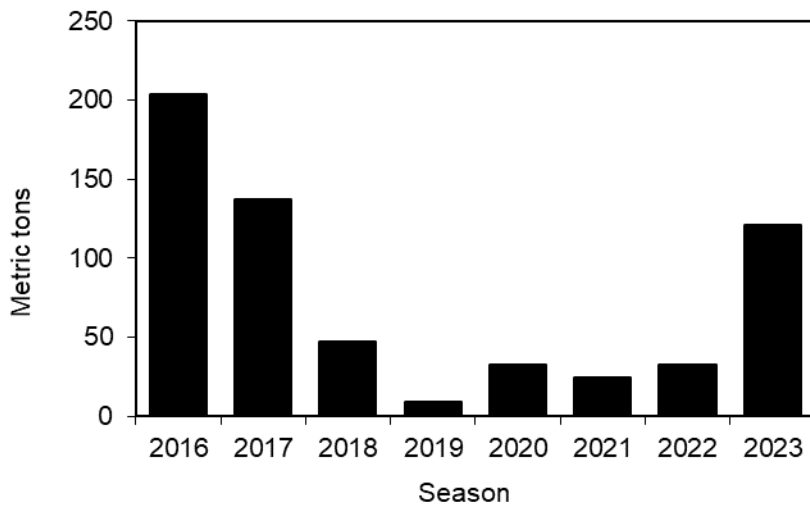


Figure 5. Commercial catch of jack mackerel, 2016 to 2023. Jack mackerel season is January 1 through December 31. Source: Department's MLDS.

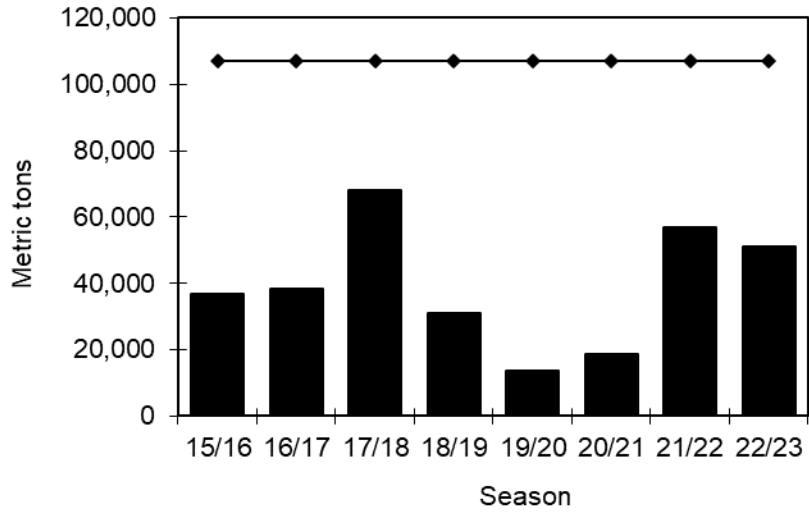


Figure 6. Commercial catch (bars) and harvest guideline (line) of market squid, 2015-2016 to 2022-2023. Market squid season is April 1 through March 31 of the following year. Source: Department's MLDS.

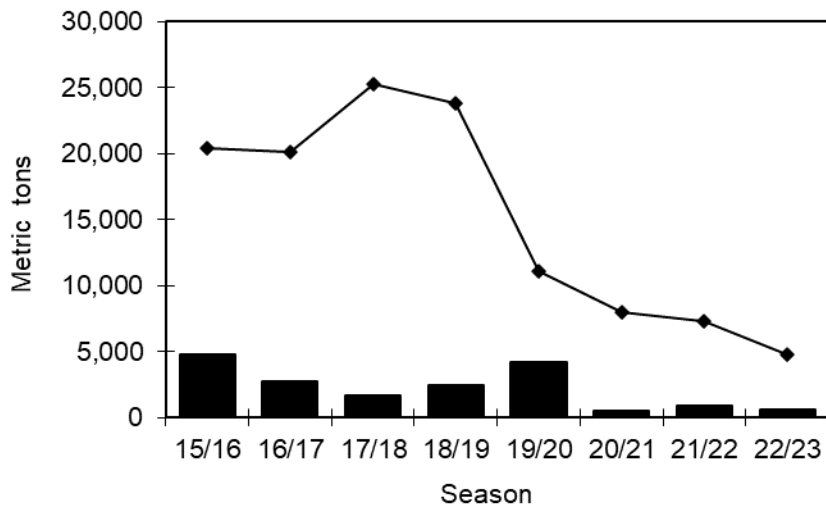


Figure 7. Commercial catch (bars) and harvest guidelines (line) of Pacific mackerel, 2015-2016 to 2022-2023. Pacific mackerel season is July 1 through June 30 of the following year. Source: Department's MLDS.

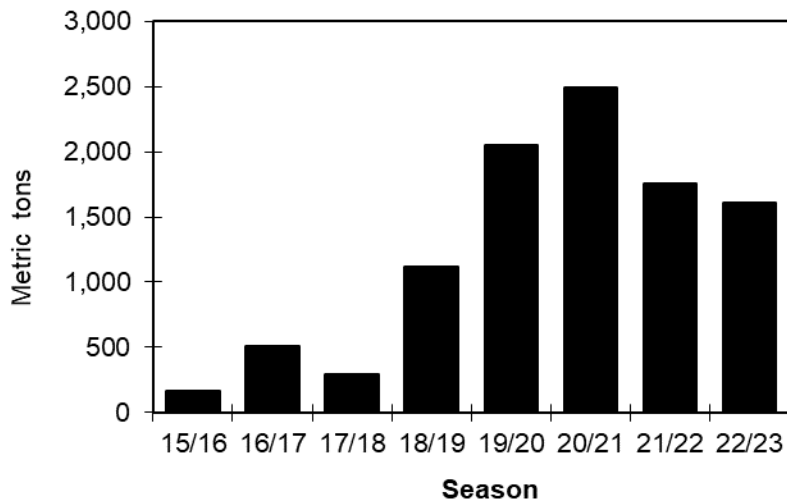


Figure 8. Commercial catch of Pacific sardine, 2015-2016 to 2022-2023. The harvest guideline has been set at 0 mt since the 2015-2016 season. Pacific sardine season is July 1 through June 30 of the following year. Source: Department's MLDS.

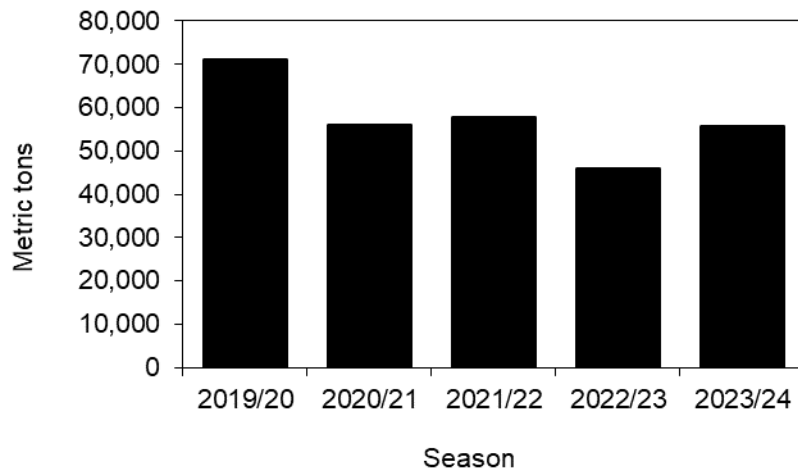


Figure 9. Biomass estimates for Pacific mackerel in metric tons, 2019-2020 to 2023-2024 seasons. Source: Pacific Fishery Management Council (PFMC) CPS SAFE documents and PFMC proceedings.

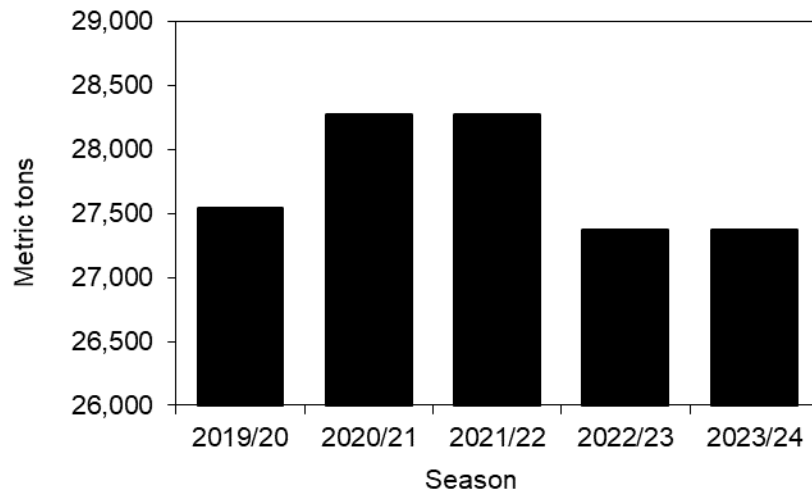


Figure 10. Biomass estimates for Pacific sardine in metric tons, 2019-2020 to 2023-2024 seasons. Source: Pacific Fishery Management Council (PFMC) CPS SAFE documents and PFMC proceedings.



White Seabass FMP Review 2022-2023 Season

.....
Fish and Game Commission Meeting
December 11, 2024

Miranda Haggerty
Environmental Scientist
California Department of Fish and Wildlife





Current Management

- Commercial

- Closed season

- March 15 to June 15

- Incidental: 1 fish per day with gill net

- Minimum Size

- 28 inches total length

- Gear: Hook-and-line, set gill net, trawl

- Minimum mesh size is 6 inches

- Recreational

- Open year-round except:

- March 15 to June 15

- 1 fish limit south of Pt. Conception

- Bag Limit: 3 fish

- Minimum Size

- 28 inches total length

- Gear: Hook-and-line and spear



White Seabass FMP Background

- Adopted June 2002
- Annual review with White Seabass Scientific and Constituent Advisory Panel
- Interested stakeholders



Photo Credit: CDFW



WSB FMP Annual Review

- Annual review includes:
 - Fishery dependent and independent data
 - Social and economic structure of recreational and commercial industries
 - Harvest from Mexican waters
 - Other relevant data

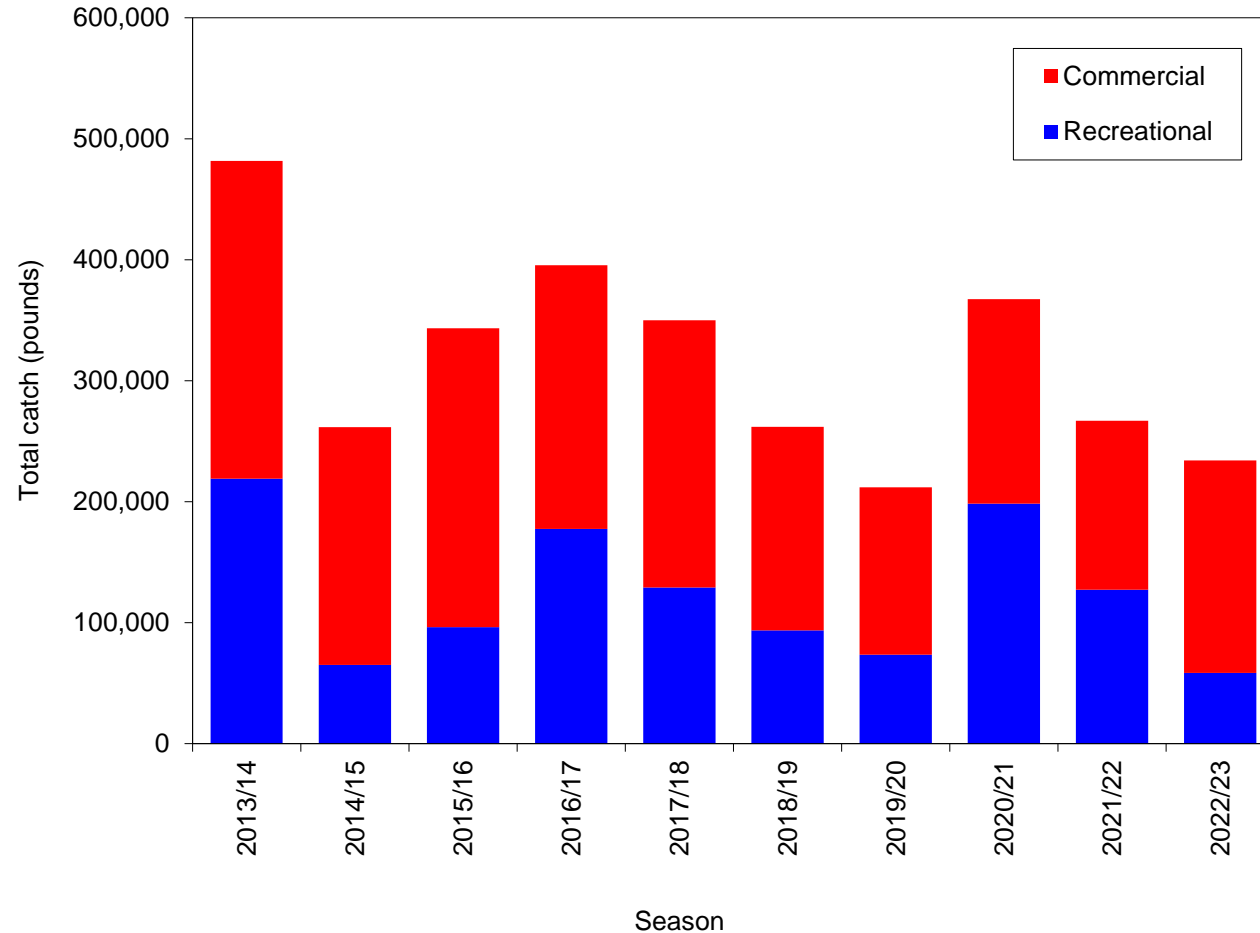


Points of Concern

- Catch is expected to exceed quota
- Adverse change in biological characteristics
- Overfishing exists or is imminent
- Adverse change in status of forage species
- New information is discovered
- An error in data or stock assessment



Total White Seabass Catch



- Optimum yield: 1.2 million pounds
- 2022-23 season: 234,003 pounds
- Percent of OY: 20%



Biological Characteristics

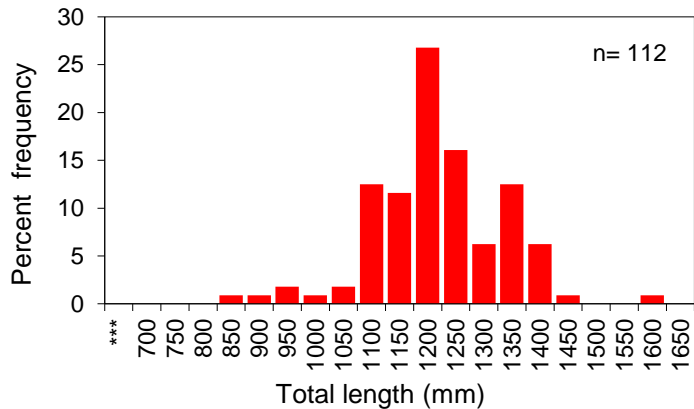
- Length Composition
 - Commercial fishery
 - Recreational fishery
- New information on:
 - Age at maturity



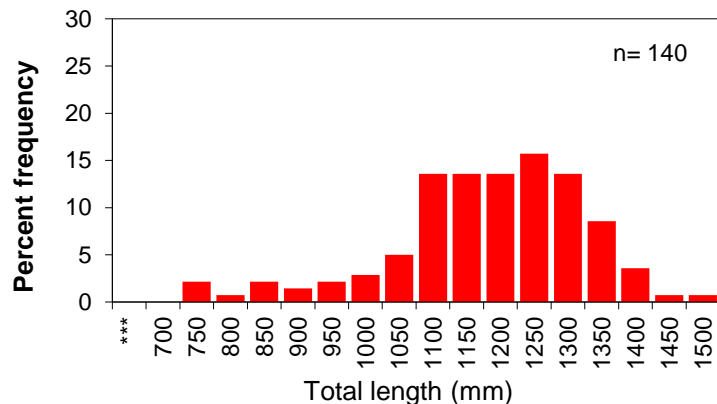


Commercial Length-Frequencies

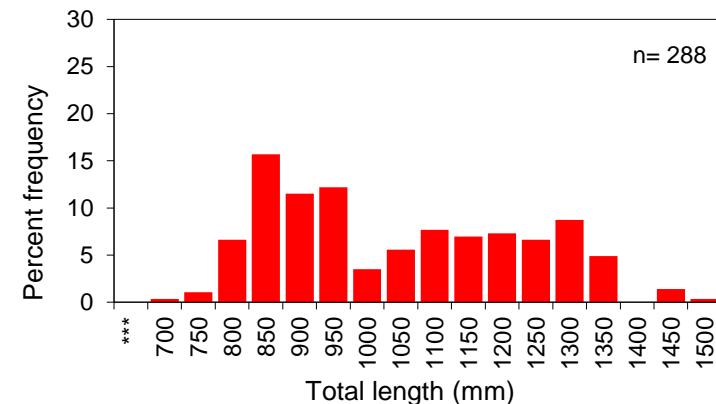
2017/2018



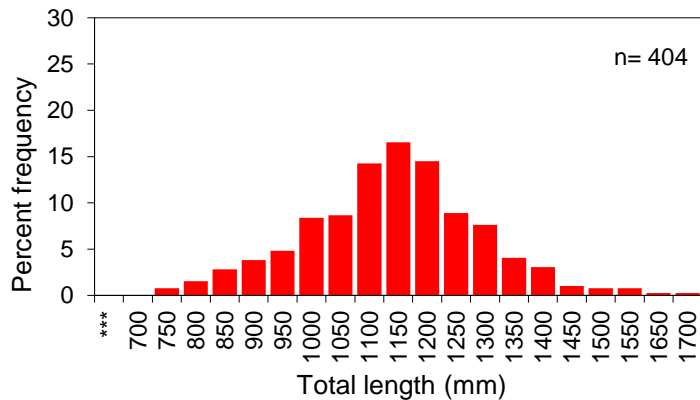
2018/2019



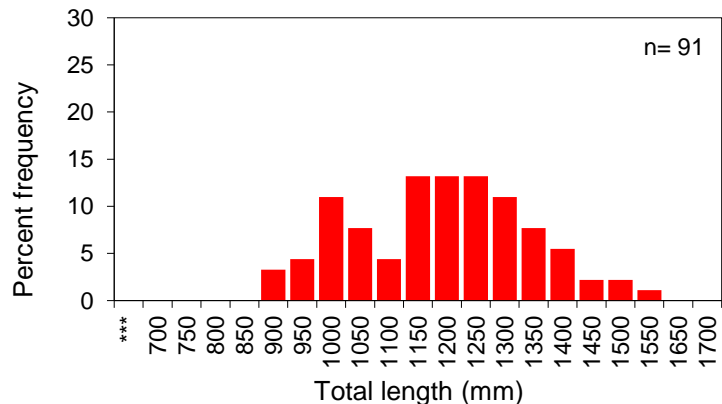
2019/2020



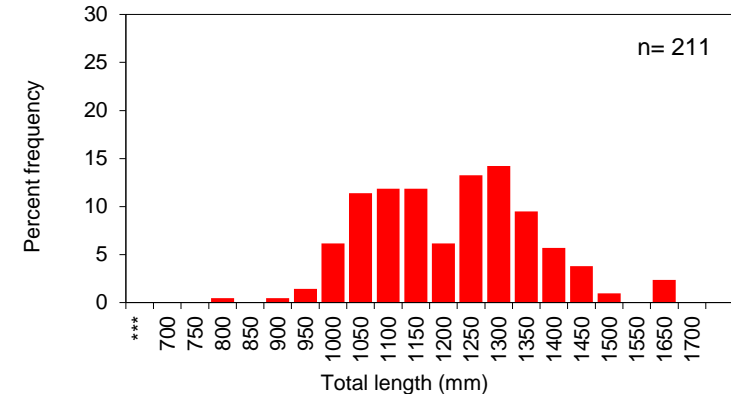
2020/2021



2021/2022

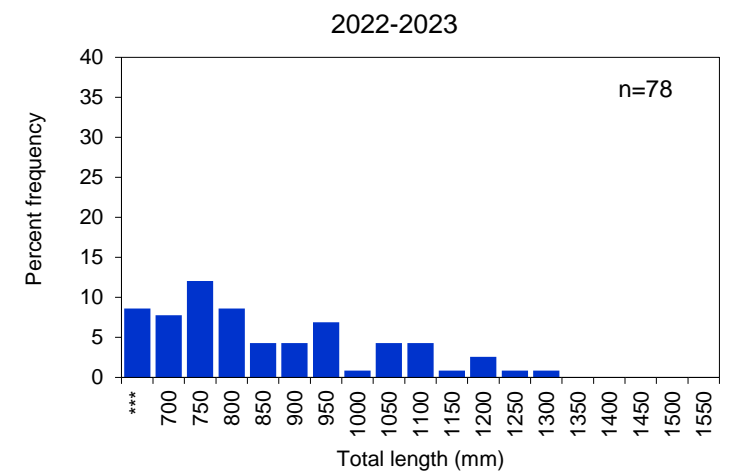
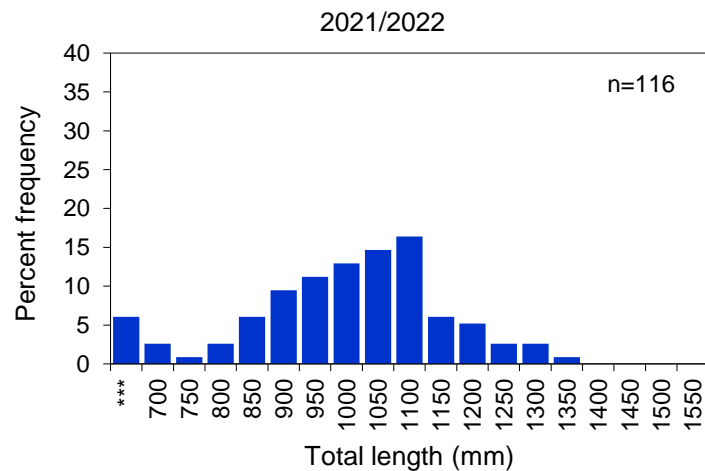
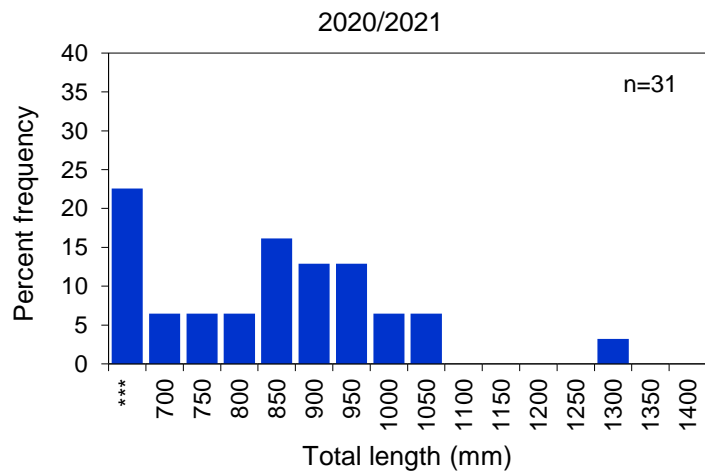
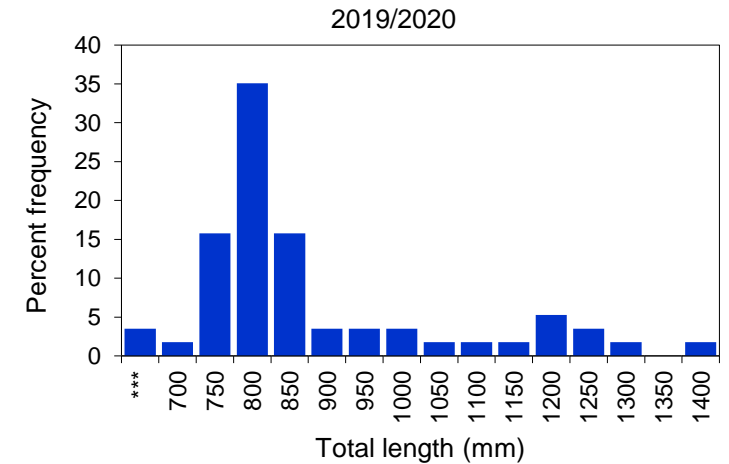
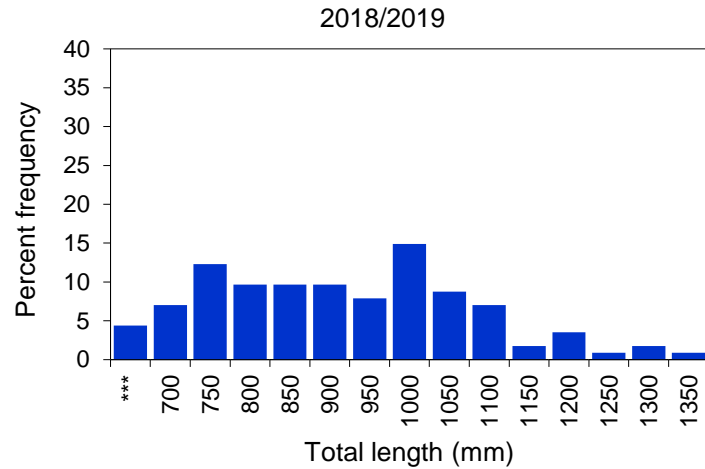
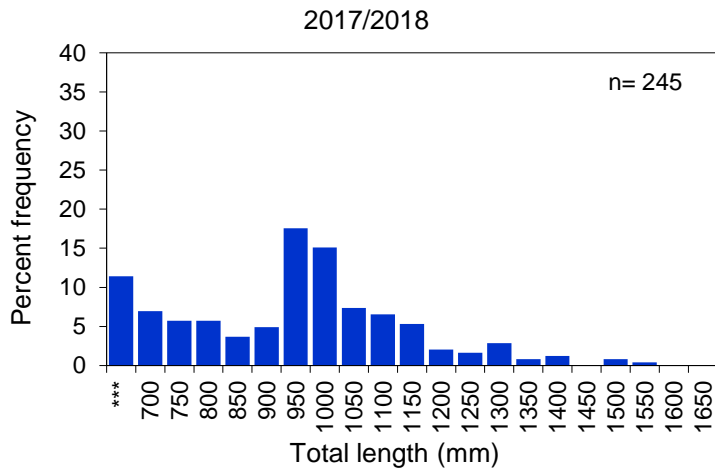


2022/2023





Recreational Length-Frequencies





Overfishing Criteria

- 20% decline in commercial landings
- 20% decline in the recreational number of fish caught and the average weight
- 30% decline in recruitment indices





Commercial WSB Landings

Season	Pounds Landed	Prior 5-season Average	Percent Change from Previous 5-Season Average
2013/14	262,441	431,873	-39
2014/15	196,521	401,469	-51
2015/16	247,195	340,369	-27
2016/17	217,915	285,687	-24
2017/18	220,687	247,921	-11
2018/19	168,077	229,196	-27
2019/20	138,537	210,079	-34
2020/21	168,934	198,482	-15
2021/22	139,664	182,830	-24
2022/23	175,659	167,180	5



Recreational WSB Catch

Season	Total # of Fish Caught	% Change in # of Fish from Prior Season	Average Weight in Pounds	% Change in Weight from Prior Season
2013/14	9,567	-10	22.4	16
2014/15	3,136	-67	18.9	-15
2015/16	3,973	21	23.1	22
2016/17	5,675	50	22.9	-1
2017/18	4,874	-14	23.0	0
2018/19	6,349	30	20.1	-13
2019/20	4,898	-23	19.0	-5
2020/21	9,761	99	18.8	-1
2021/22	6,080	-38	27.8	48
2022/23	3,474	-43	17.8	-36



Recruitment Indices

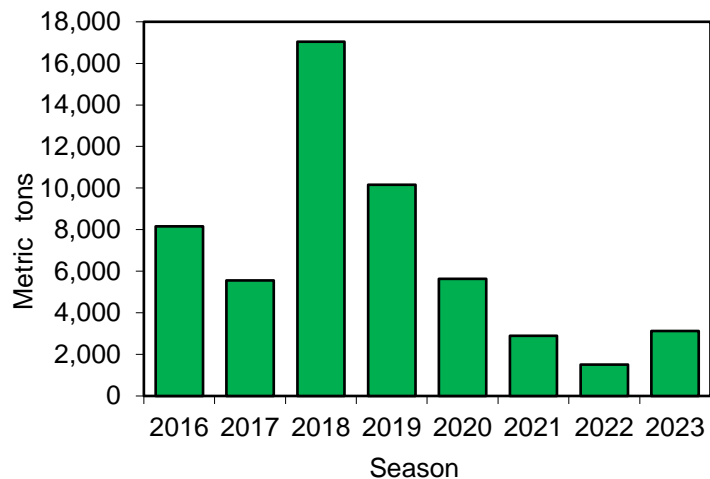
- Ocean Resources Enhancement and Hatchery Program (OREHP) juvenile surveys
- No survey effort since 2018/19 season



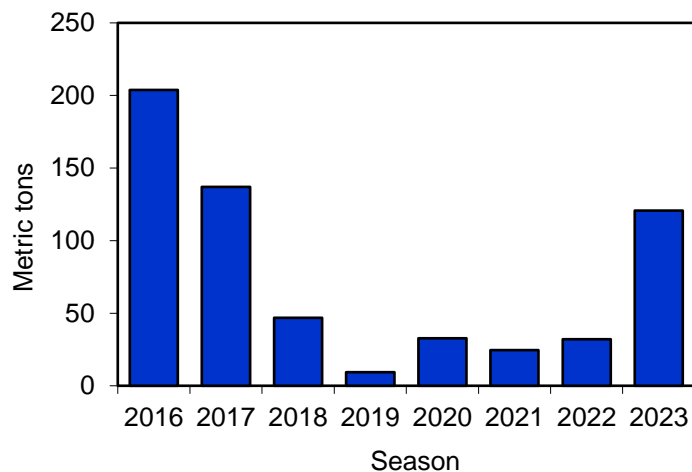


Status of Forage Species

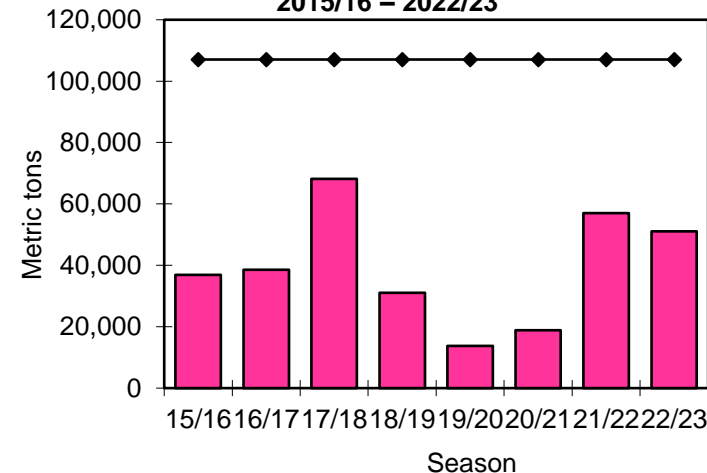
Northern anchovy landings, 2016-2023



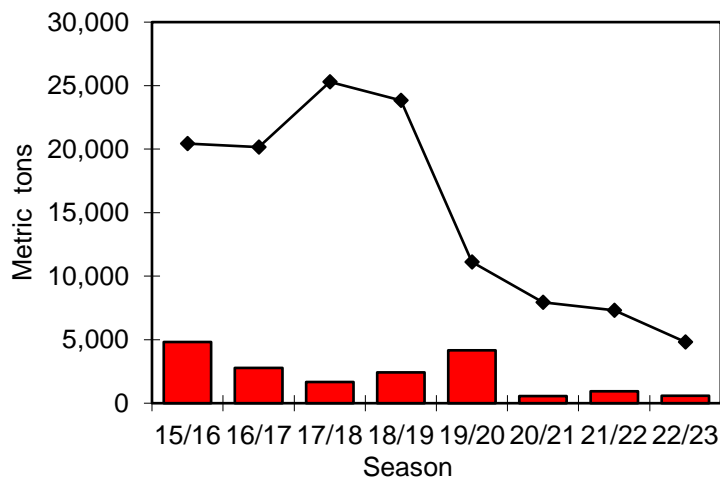
Jack mackerel landings, 2016-2023



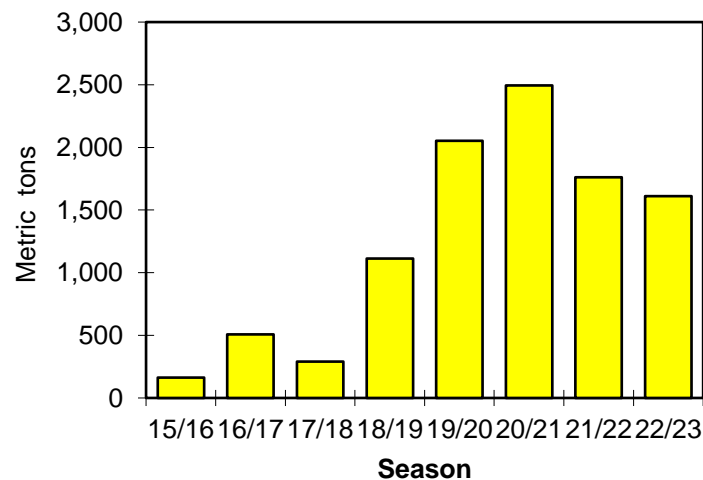
Market squid landings & harvest guideline, 2015/16 – 2022/23



Pacific mackerel landings & harvest guideline, 2015/16- 2022/23



Pacific sardine landings, 2015/16 – 2022/23



Northern anchovy and jack mackerel season is January 1 through December 31.

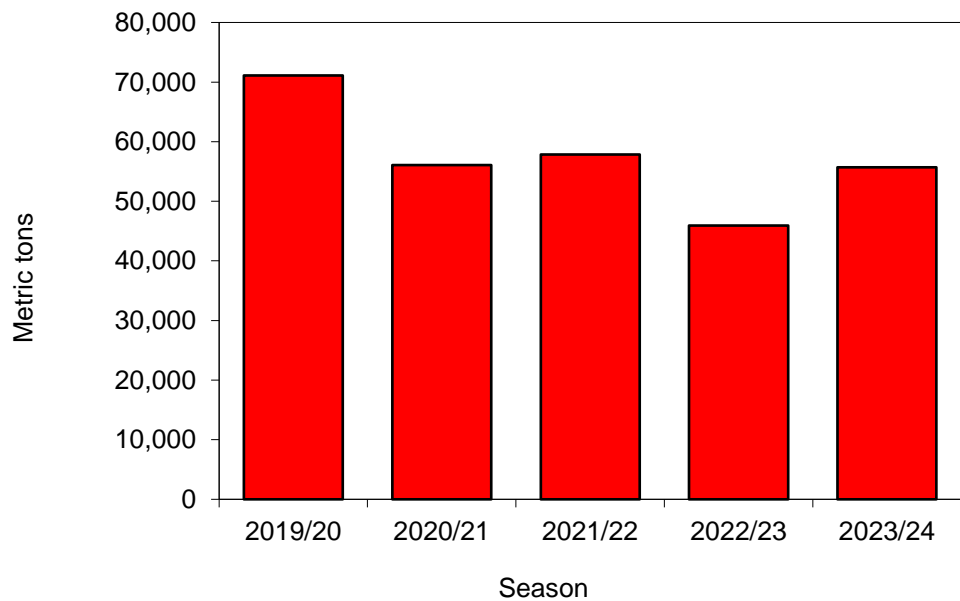
Market squid season is April 1 through March 31 of the following year.

Pacific mackerel and Pacific sardine season is July 1 through June 30 of the following year.

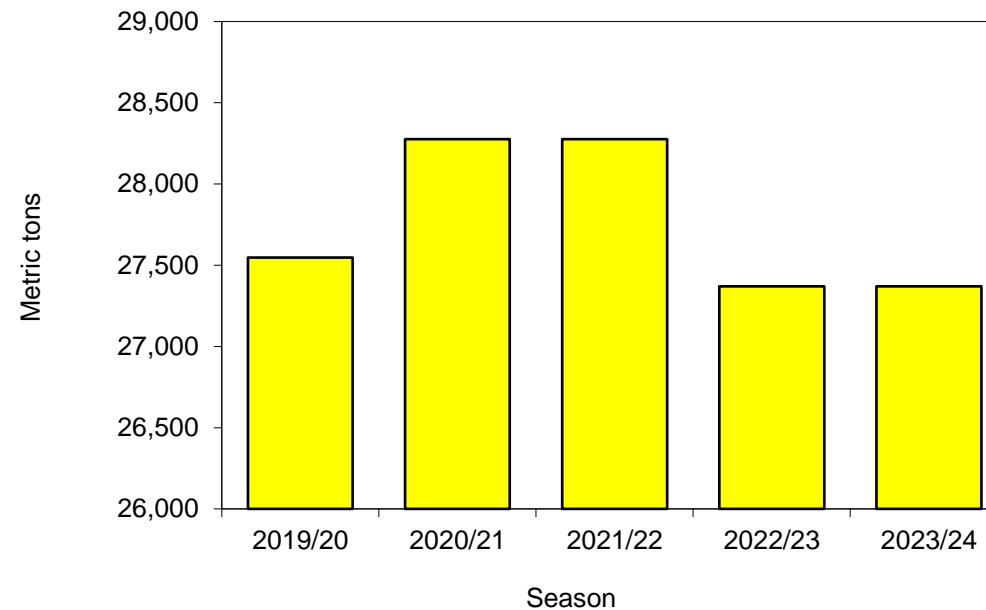


Biomass Estimates

Pacific mackerel



Pacific sardine





Other Points of Concern

- New information on White Seabass
 - Size at Maturity
- Error in the data or stock assessment
 - None discovered





White Seabass Size at Maturity Background



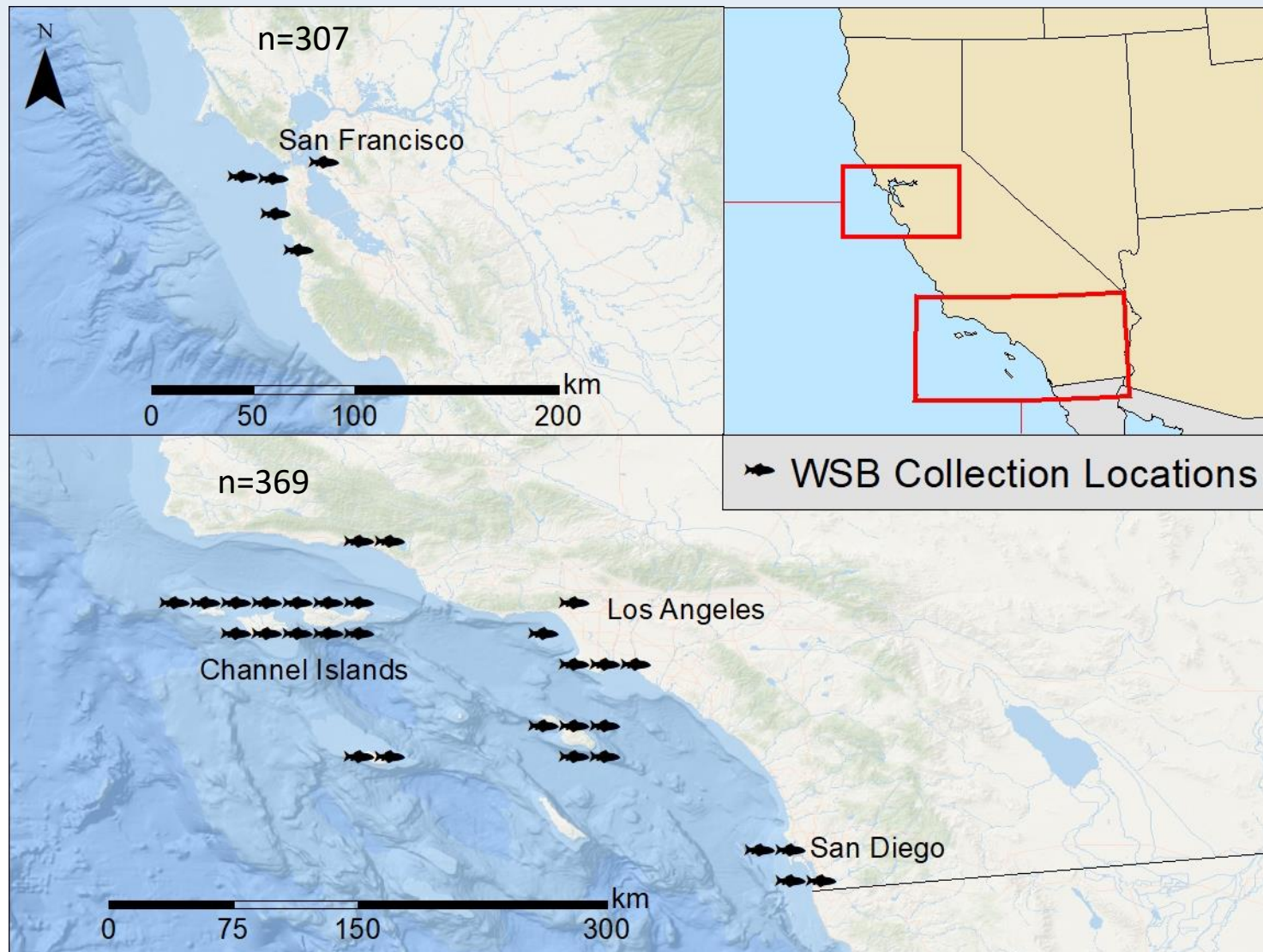
- Current 28-inch size limit based on 1930s study (Clark 1930)
 - 33 females
 - Macroscopic analysis only
- Collaboration between PIER and CDFW to reassess size at maturity
 - Increase sample size
 - Macroscopic and histological analysis





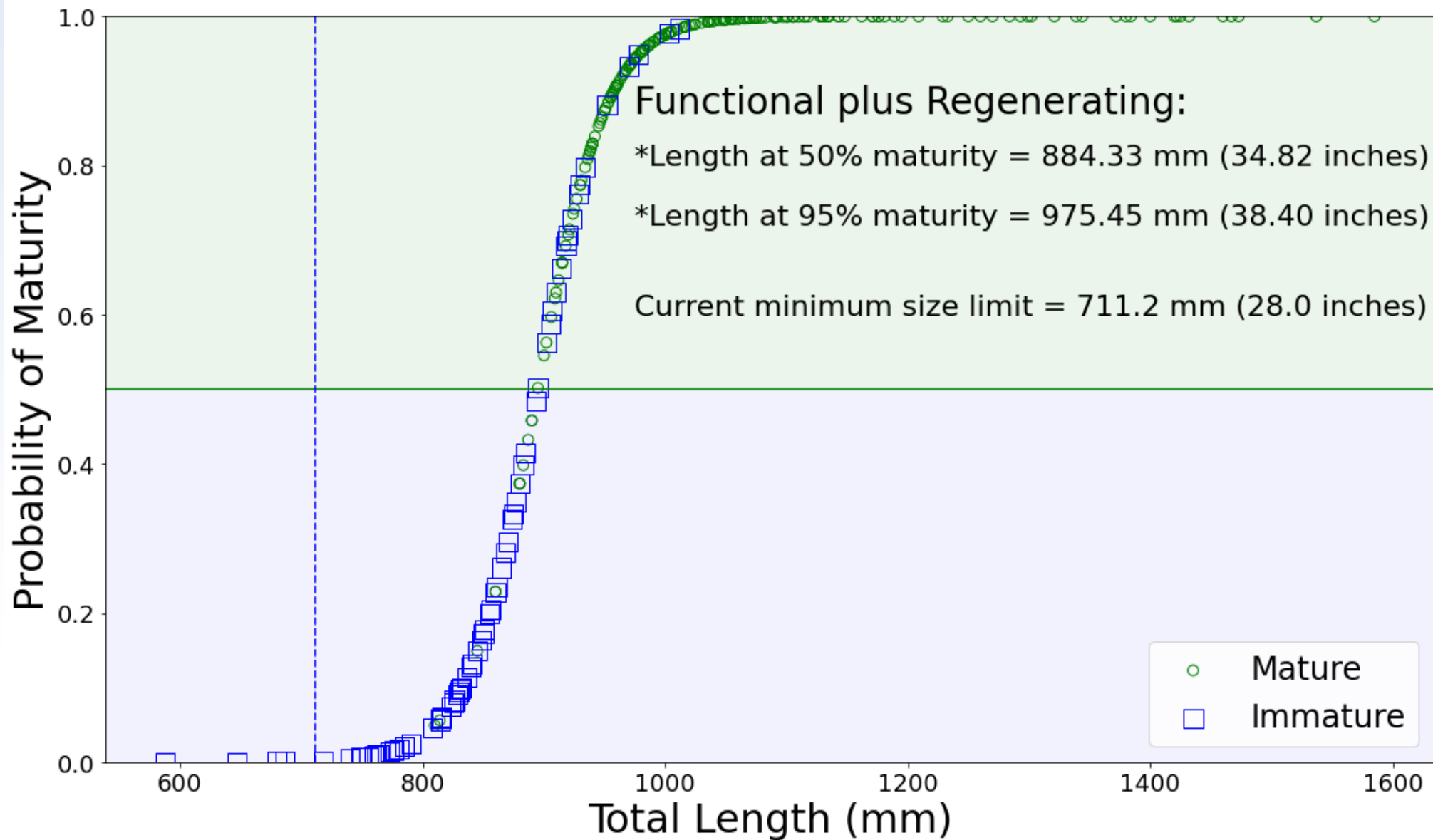
White Seabass Size at Maturity Collections

- 676 WSB collected from 2016-2023
- Primarily during spawning season (March – September)
- Size range: 12-62 inches
 - 393 females
 - 283 males





Size at Maturity Results





Size at Maturity Conclusions

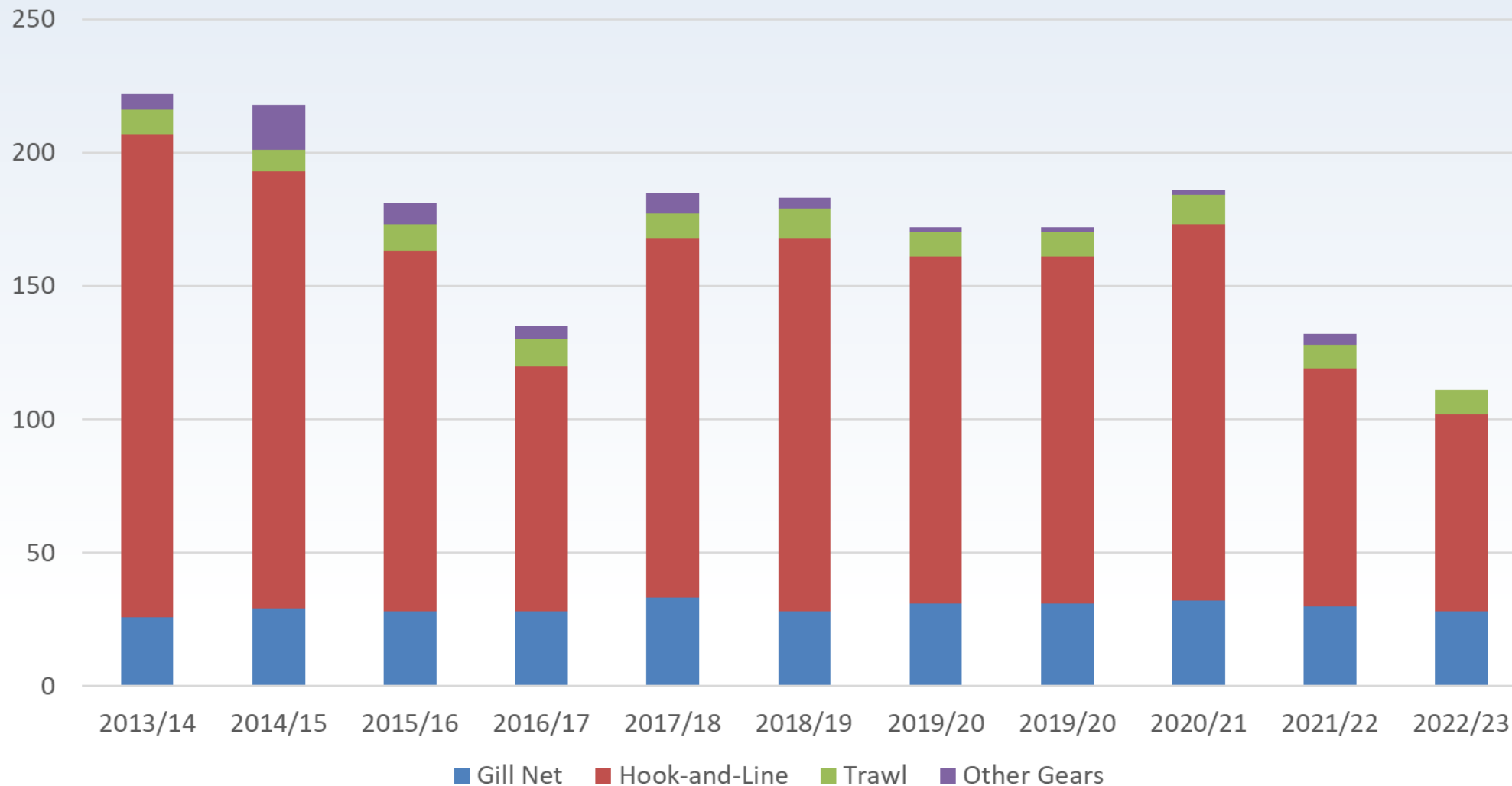
- Current 28-inch minimum size limit does not allow 50% of females an opportunity to reproduce before entering the fishery
 - Aligns with 2016 stock assessment and Clark 1930 recommendations





Socioeconomic Information - Participation

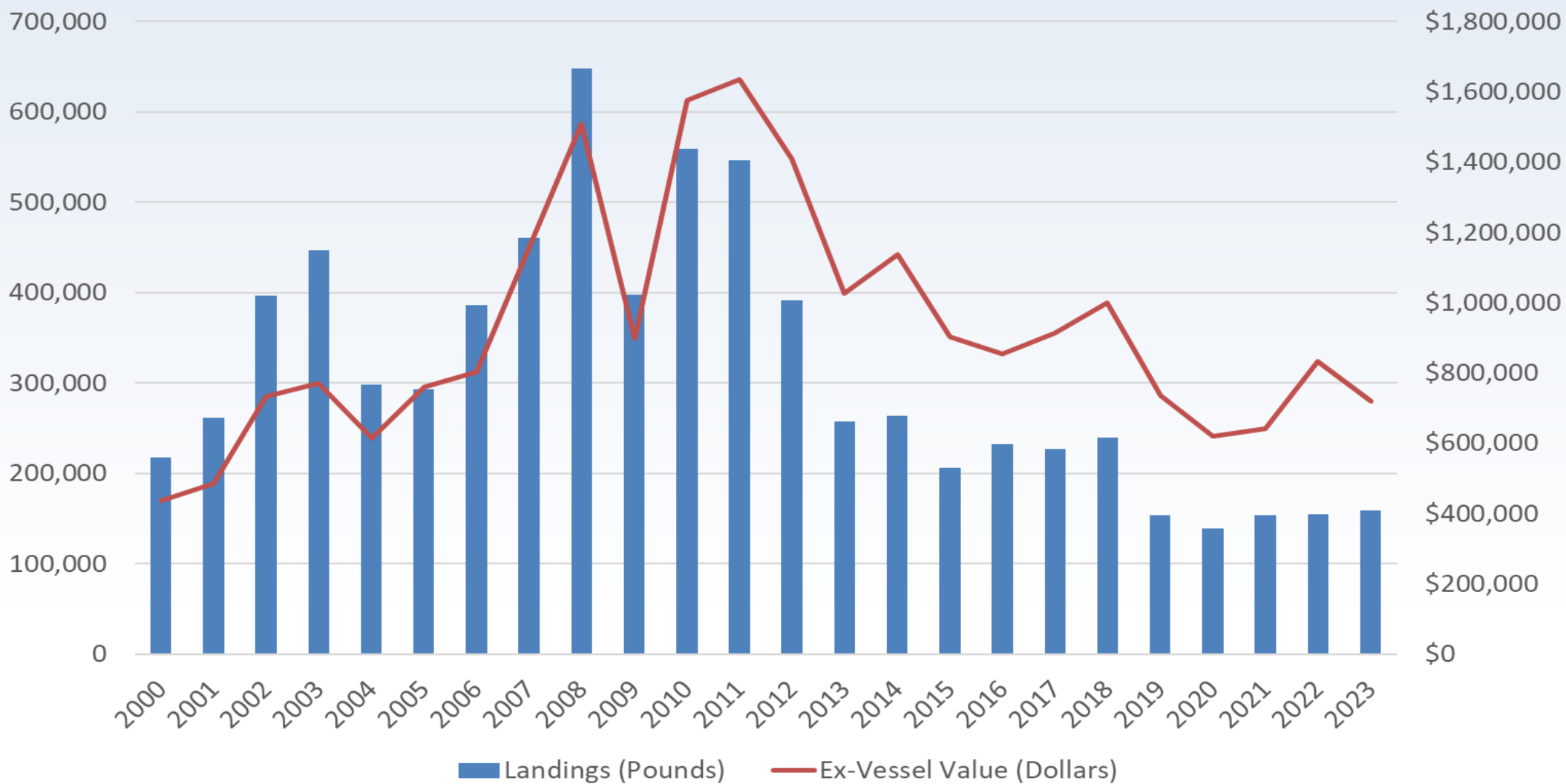
Participation by Gear Type





Socioeconomic Information – Landings and Value

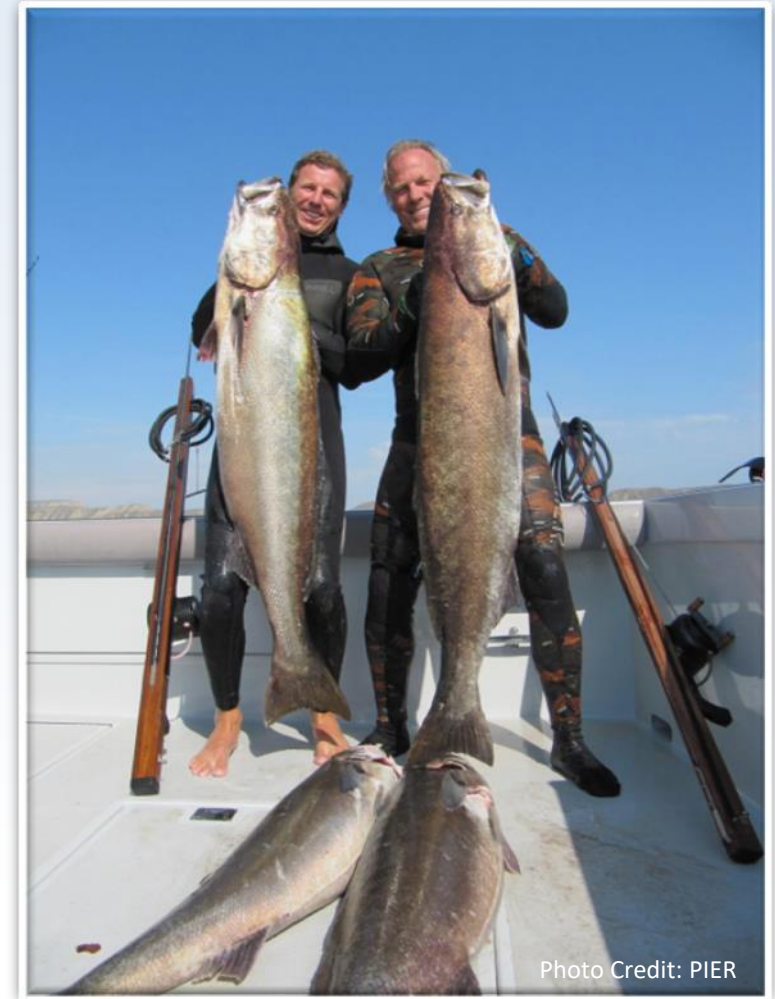
Landing (all gears combined) by ex-vessel value





White Seabass Catch in Mexico

- CA Commercial – prohibited
- Recreational – allowed with Mexican sport fishing license
 - CPFV Logs:
 - 2021-22: 81 reported
 - 2022-23: 55 reported





Next Steps

- Evaluate management framework and size limit
- New tools and additional data since FMP developed
 - Results of the maturity study – minimum size limit
 - Stock assessment
 - Maximum sustainable yield
 - Optimum yield
 - Trigger mechanisms



Photo Credit: CDFW

Thank You

mlmafsheriesmgmt@wildlife.ca.gov

[https://marinespecies.wildlife.ca.gov/
white-seabasstrue/](https://marinespecies.wildlife.ca.gov/white-seabasstrue/)



FGC meeting presentation

From Aubrie Fowler <aubrie@mpacollaborative.org>

Date Mon 12/02/2024 04:08 PM

To Ashcraft, Susan <[REDACTED]>; FGC <FGC@fgc.ca.gov>

Cc Calla Allison <calla@mpacollaborative.org>; Claire Arre <claire@mpacollaborative.org>; Jamie Blatter <jamie@mpacollaborative.org>; Krystle Ramos <krystle@mpacollaborative.org>

Hi Susan,

Please see the MPA Collaborative Network's [Google Slides here](#) for the upcoming Fish and Game Commission meeting on December 11th. We would like to please present for **4 minutes** (if Calla may cede her time to me for this agenda item specifically) for **agenda item 11C**. We hope these slides can be added to the FGC meeting binder as well; I also attached a PDF for your convenience.

Please let me know that you have received our presentation, that shared access to the slideshow works, and all looks ok (regarding formatting) on your end.

Thank you in advance!

Best,
Aubrie

Aubrie Fowler (she/her)

South Coast Specialist

[MPA Collaborative Network](#)

cell: 858.525.1254



From: Aubrie Fowler

Sent: Friday, November 22, 2024 5:11 PM

To: Ashcraft, Susan@FGC <[REDACTED]>; California Fish and Game Commission <fgc@fgc.ca.gov>

Cc: Calla Allison <calla@mpacollaborative.org>

Subject: FGC meeting presentation?

Hi Susan,

I hope my message finds you well (and that you are on your way to start a restful weekend!!).

I wanted to see when the latest deadline is for the MPA slides (provided by the MPA Collaborative Network) might be for the FGC meeting on Dec 11th. I just saw the comment deadline of Dec 2nd but wanted to confirm that applied to brief presentations (we are aiming for 4 minutes) as well. Please let us know.

All my best,
Aubrie

Aubrie Fowler (she/her)
South Coast Specialist
[MPA Collaborative Network](#)
cell: 858.525.1254





COLLABORATIVE NETWORK

The future of ocean management



Fish & Game Commission

December 11, 2024

Tribal engagement in all 14 collaboratives

Tribal-focused projects include:

- Videos
- Brochures
- Standing Photo displays
- Interpretive signs
- Ancestral Waters coloring book
- Enforcement guides
- Best practices for tribal engagement

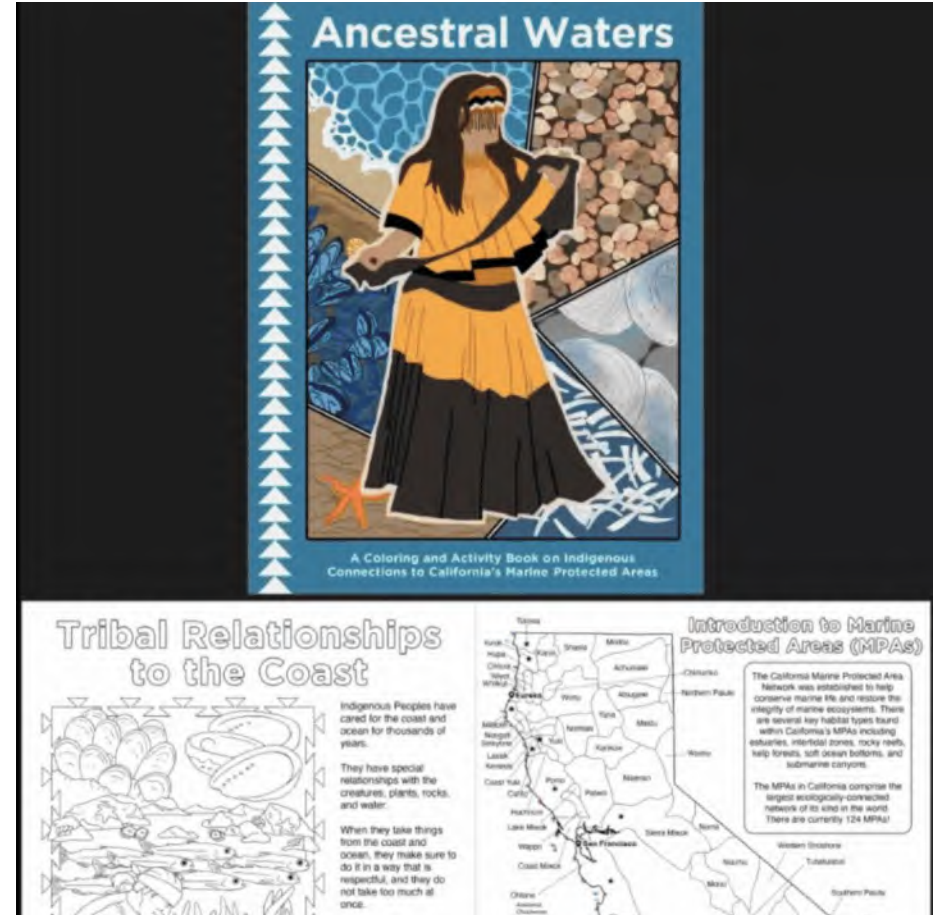


Outreach:

102 Tribes contacted to for signage project
500+ hours of tribal-focused staff time so far in 2024

Reciprocity

- **Over 100** honorariums accepted
- **Over \$26k** distributed



Outreach and education efforts are shared statewide



Local input and installation of statewide signage



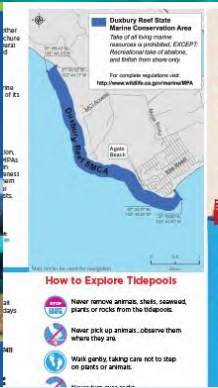
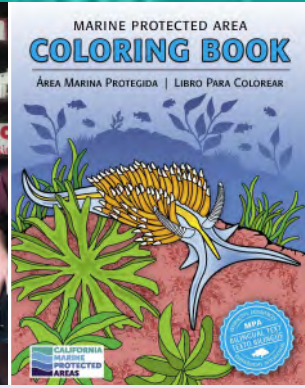
MPA toolkits/resources for tabling at events/programs (e.g., tidepool education)



MPA videos produced for shared use



MPA lesson plans and teaching tools, including coloring books



County specific MPA brochures developed





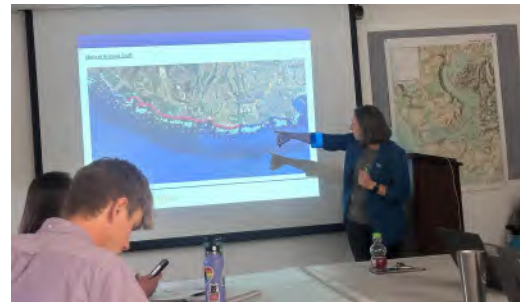
MPA Collaborative Meetings Focused on Petition Discussions

FGC and OPC repeatedly referenced the CN as a place for local review and discussion of MPA petitions

Community agreements were included at the beginning of every meeting to set the ground rules


ED attended all meetings, acting as a facilitator when needed

Petitioners attended almost every collaborative meeting of the counties their petition would affect, sharing about their petition and getting feedback from community members



650+ participants in CN Climate and MPAs Initiative

- 1 statewide survey
- 14 collaborative-based forums
- 1 presentation to California State Parks
- 15 reports for decision-makers
- 2 webinars
- 1 climate + MPAs 2-pager
- 3 microgrants

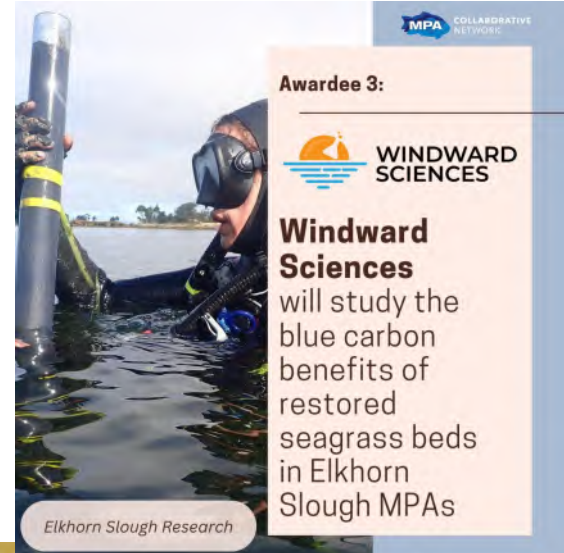


Awardee 1:

Sea & Shore SOLUTIONS

Sea & Shore Solutions will conduct climate change vulnerability assessments for two San Mateo MPAs

Sea & Shore Solutions team

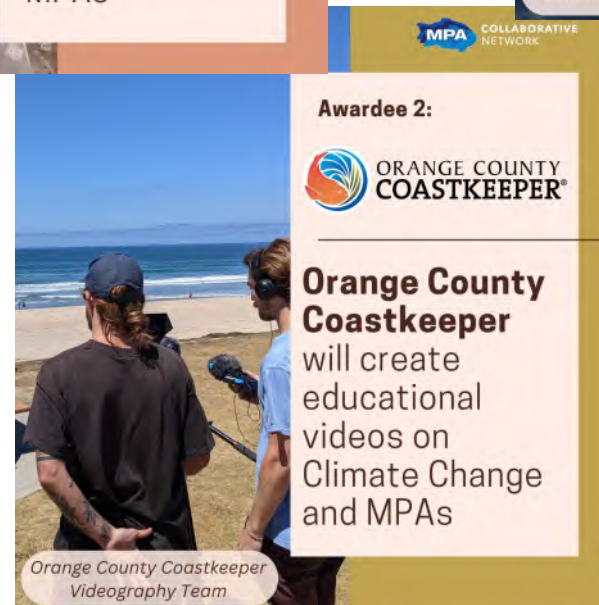


Awardee 3:

WINDWARD SCIENCES

Windward Sciences will study the blue carbon benefits of restored seagrass beds in Elkhorn Slough MPAs

Elkhorn Slough Research




Awardee 2:

ORANGE COUNTY COASTKEEPER®

Orange County Coastkeeper will create educational videos on Climate Change and MPAs

Orange County Coastkeeper Videography Team



CLIMATE AND THE COAST STATEWIDE

MPA COLLABORATIVE NETWORK

Perspectives on climate change, the coast, and California's Marine Protected Area Network
A summary of the greatest concerns, needs, and priorities from a survey and focus groups of California residents on climate change, the coast, and marine protected areas (MPAs).

www.mpacollaborative.org

Reading Rock State Marine Conservation Area

Q&A Panel



Dom Kone (he/him)
Senior Science Officer
Ocean Science Trust

Chris Free (he/him)
Research Faculty
UC Santa Barbara

Timothy Frawley (he/him)
Postdoctoral Researcher
UC Santa Cruz

Katie Cieri (she/her)
CA Sea Grant State Fellow
Biodiversity Program
Ocean Protection Council

Stephen Wertz (he/him)
Senior Environmental Scientist
MPA Management Project
Department of Fish and Wildlife





**COLLABORATIVE
NETWORK**

MPA Compliance Initiative



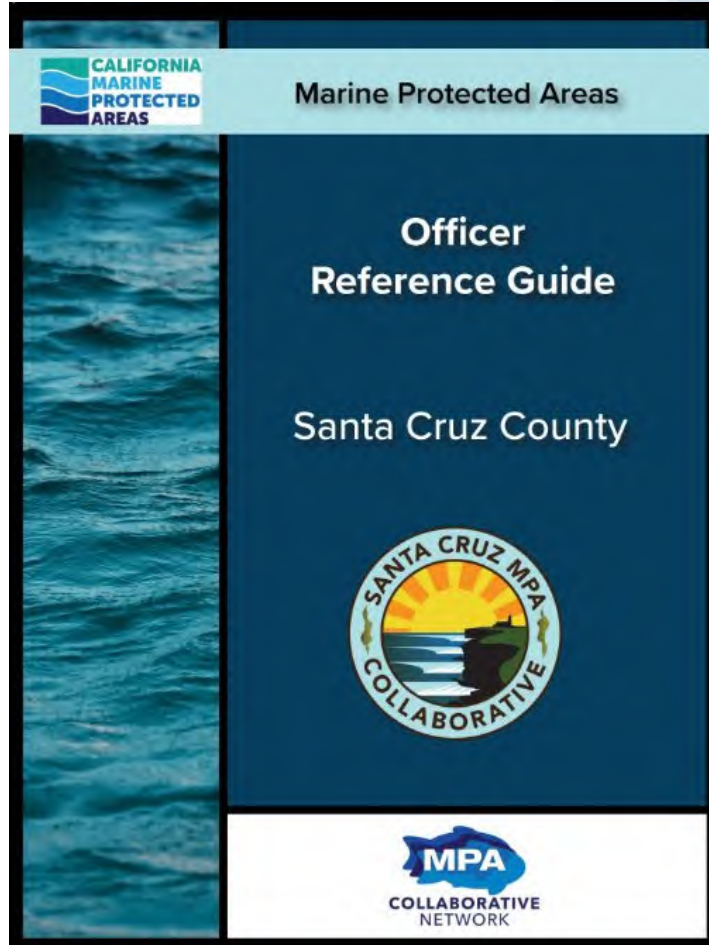
2023-25 includes:

1. 4 Central Coast MPA Enforcement Trainings
2. MPA Trainings and Reference Guides for officers
3. District Attorney Task Force & Online Violator Training
4. Mapping MPA patrol presence





MPA Officer Reference & Interpreter Guides





Mapping MPA Management



MARINE PROTECTED AREA

Matlahuayl State Marine Reserve (SMR)

NO FISHING OR COLLECTING

Regulations
Matlahuayl State Marine Reserve (SMR)
 It is unlawful to injure, damage take, or possess any living, geological, or cultural marine resource.

San Diego-Scripps State Marine Conservation Area (SMCA)
 It is unlawful to injure, damage take, or possess any living, geological, or cultural marine resource. It is unlawful to take, possess, or transport any coastal pelagic species except market squid (northern anchovy, Pacific sardine, mackerel, and jack mackerel), by hook-and-line only is allowed.

Definitions
Take (FCCAL, CCR 114.180)
 "Take" means hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, capture, or kill.
Coastal Pelagic Species (CCR 114.139)
 "Coastal pelagic species" (as defined for purposes of MPA regulations, include the following: northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), myxetone (Scomber japonicus), jack mackerel (*Trachurus symmetricus*), and market squid (*Doryteuthis (Loligo) opalescens*)).

MPA information
 For detailed information on regulations, boundaries, coordinates, and definitions, visit wildlife.ca.gov/MPAs.

Reporting violations
 1-888-334-CUTIP (2256)

People of the Kumeyaay Nation lived around the world's important water sources for millennia. They are a people whose traditional history intertwine with a worldview of earth and sky in a community of living beings. Matlahuayl is a Kumeyaay word meaning "land of oysters" for which the area was traditionally called. This land is part of a relationship that has nourished, healed, protected and embraced the Kumeyaay people to the present day.

Legend

MPA_Signs_Request_View

Sign Priority

- High
- Med
- Low
- Other

MPA Signs Inventory

- G Good Tide-Pooler Rules
- H Harbor
- I Interpretive
- R Regulatory
- Y You are here
- O Other

California_County_Boundaries - cnty19_1

- Alameda County
- Santa Barbara County
- Ventura County
- Los Angeles County
- Del Norte County
- Humboldt County
- Marin County



Number of Education & Outreach Programs in California's MPAs



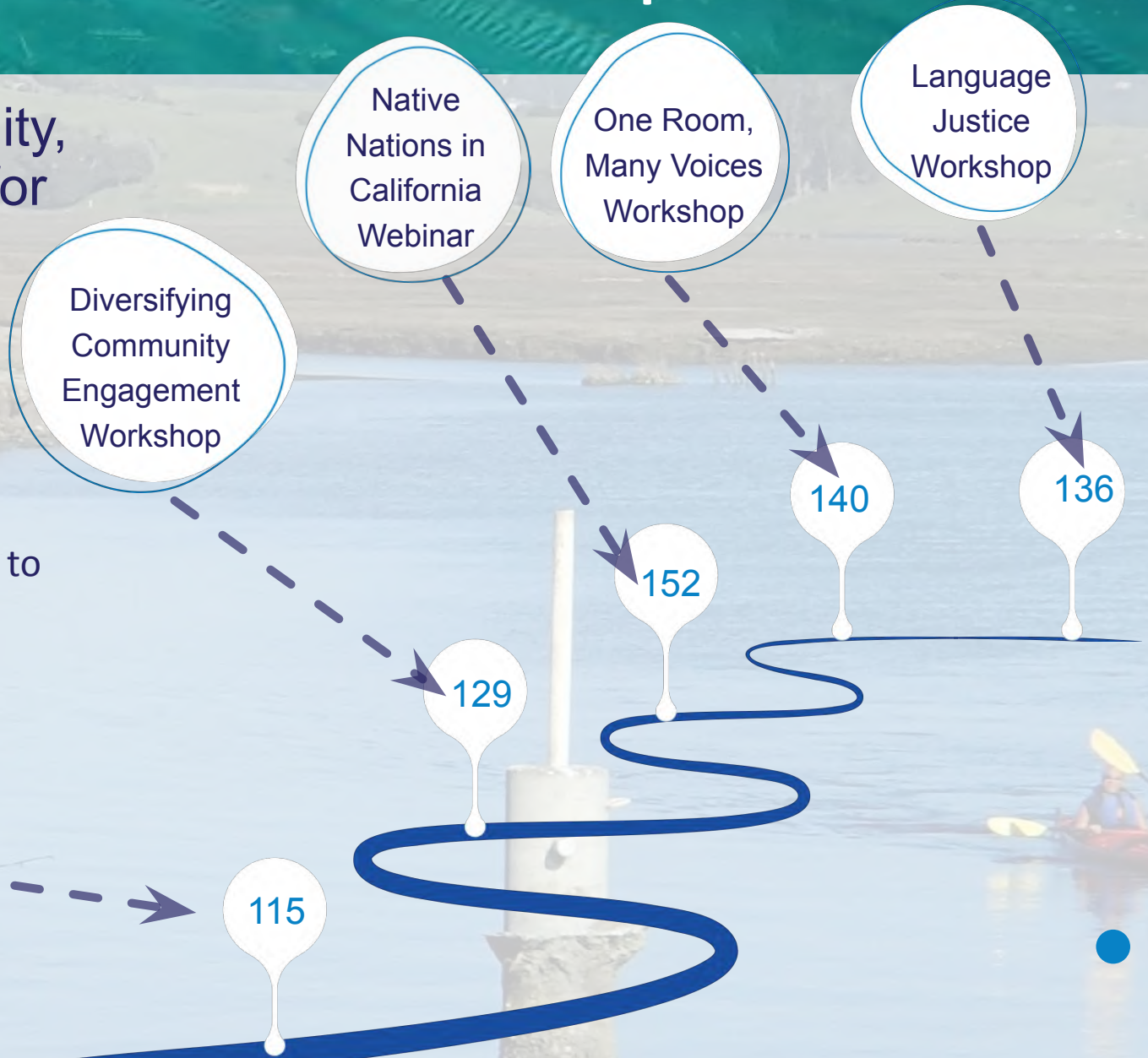


Elevate JEDIA Principles: Pathways

Building Pathways to Justice, Equity, Diversity, and Inclusion (JEDIA) for California's Coast & Ocean

- Hired local language justice CBO
- 5 workshops
- 14+ hours of programming
- 106 organizations & agencies participated
- 672 registrants
- “Integrating Key Takeaways from the Pathways to Justice, Equity, Diversity, and Inclusion for California’s Coast and Ocean Workshop Series”

Common Language Webinar





Pathways Community Groups

Meet the *Pathways Community Coordinators!*

AAPI Pathways Coordinator
Michelle Chuang
mpacnaapi(at)gmail.com



Black Pathways Coordinator
Cianna Carrillo Walker-Flom
cianna(at)theavarnagroup.com



Latine Pathways Coordinator
Kayleigh Wade
mpacnlatine(at)gmail.com



AAPI COMMUNITY GROUP

- 15 COMMUNITY MEMBERS
- 10 COMMUNITY MEETINGS
- LUNAR NEW YEAR CAMPAIGN
- AAPI HERITAGE MONTH
- PATHWAYS LESSONS LEARNED
- INTERNSHIPS

BLACK COMMUNITY GROUP

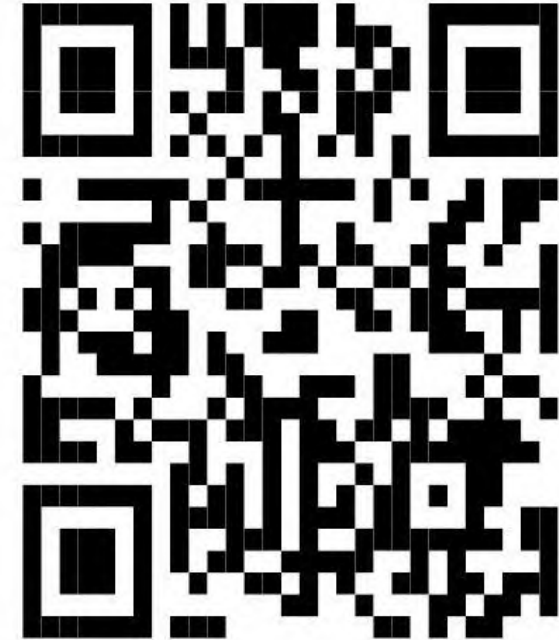
- 13 COMMUNITY MEMBERS
- 3 COMMUNITY MEETINGS
- CULTURAL DISCUSSIONS
- MPA CN 101

LATINX COMMUNITY GROUP

- 20 COMMUNITY MEMBERS
- 3 COMMUNITY MEETINGS
- CULTURAL DISCUSSIONS
- MPA CN 101
- ACCESS TO THE COAST



Everyone is welcome to join!



[MPACOLLABORATIVE.ORG](https://mpacollaborative.org)