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STATE OF CALIFORNIA  
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## Fish and Game Commission



*Celebrating 150 Years of  
Wildlife Heritage and Conservation!*

**Melissa Miller-Henson**  
**Executive Director**  
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### MARINE RESOURCES COMMITTEE

#### Meeting Presentations

**March 16, 2021**

1. **Approve agenda and order of items**
2. **General public comment for items not on agenda**  
The Committee may not discuss or take action on any matter raised during this item, except to consider whether to recommend that the matter be added to the agenda of a future meeting [Sections 11125, 11125.7(a), Government Code].
3. **Kelp restoration and recovery**  
Receive and discuss an update on collaborative kelp restoration and recovery efforts, including an interim kelp action plan prepared by the California Ocean Protection Council.  
[Department Presentation \(PDF\)](#)
4. **Marine aquaculture in California**  
Receive an update on marine aquaculture planning and discuss near-term priorities and a potential committee recommendation.
  - (A) Receive an update from the California Ocean Protection Council on developing aquaculture principles and a state aquaculture action plan.
  - (B) Discuss and consider a potential committee recommendation regarding the current hiatus on receiving new applications for state water bottom leases for the purpose of aquaculture (excepting previously received applications currently under consideration).
5. **Coastal Fishing Communities Project**  
Receive an update on staff analyses and discuss a potential committee recommendation for next steps in exploring options to support California's coastal fishing communities.  
[Commission Staff Presentation \(PDF\)](#)

6. **Staff and agency updates requested by the Committee**

Receive updates from staff and other agencies, including current topics on the work plan for which the Committee has requested an update.

*Note: To enhance meeting efficiency in the webinar/teleconference format, the Committee intends to receive updates primarily in writing. The public will be given an opportunity to provide comments, although the level of in-meeting discussion will be at the discretion of the Committee.*

(A) California Ocean Protection Council

(B) Department

I. Law Enforcement Division

II. Marine Region

a. Recreational red abalone fishery management plan development

b. Marine Life Management Act master plan for fisheries implementation

i. Updated implementation work plan

ii. California halibut status and fishery management review

iii. Commercial pink shrimp trawl fishery management plan development

c. Planning and scientific guidance for the first decadal review of California's marine protected area network in 2022

[Department Presentation \(PDF\)](#)

d. Commercial kelp and algae harvest regulations development and stakeholder engagement

(C) Commission staff

7. **Future agenda items**

(A) Review work plan agenda topics, priorities, and timeline

(B) Potential new agenda topics for Commission consideration

Adjourn

## California Fish and Game Commission 2021 Meeting Schedule

**Note:** As meeting dates and locations can change, please visit [www.fgc.ca.gov](http://www.fgc.ca.gov) for the most current list of meeting dates and locations.

Meeting Date	Commission Meeting	Committee Meeting
April 13, 2021		<b>Tribal</b> Webinar/teleconference
April 14-15, 2021	Webinar/teleconference	
May 11, 2021		<b>Wildlife Resources</b> Webinar/teleconference
May 11, 2021	Webinar/teleconference	
June 16-17, 2021	Webinar/teleconference	
July 20, 2021		<b>Marine Resources</b> Sacramento
August 17, 2021		<b>Tribal</b> Sacramento
August 18-19, 2021	Sacramento	
September 16, 2021		<b>Wildlife Resources</b> Sacramento
October 13-14, 2021	Sacramento	
November 9, 2021		<b>Marine Resources</b> Sacramento
December 14, 2021		<b>Tribal</b> Sacramento
December 15-16, 2021	Sacramento	

## **Other Meetings of Interest**

### **Association of Fish and Wildlife Agencies**

- September 12-15, 2021, Providence, RI

### **Pacific Fishery Management Council**

- April 6-13, 2021, webinar
- June 22-29, 2021, Vancouver, WA
- September 8-15, 2021, Spokane, WA
- November 15-22, 2021, Costa Mesa, CA

### **Pacific Flyway Council**

- August or September 2021, TBD

### **Western Association of Fish and Wildlife Agencies**

- July 18-23, 2021 Santa Fe, NM

### **Wildlife Conservation Board**

- May 27, 2021, videoconference or teleconference
- August 26, 2021, videoconference or teleconference
- November 18, 2021, videoconference or teleconference

## IMPORTANT COMMITTEE MEETING PROCEDURES INFORMATION

Welcome to a meeting of the California Fish and Game Commission's Marine Resources Committee. The Committee is composed of and chaired by up to two Commissioners; these assignments are made by the Commission each year.

The goal of the Committee is to allow greater time to investigate issues before the Commission than would otherwise be possible. Committee meetings are less formal in nature and provide for additional access to the Commission. The Committee follows the noticing requirements of the Bagley-Keene Open Meeting Act. It is important to note that the Committee chairs cannot take action independent of the full Commission; instead, the chairs make recommendations to the full Commission at regularly scheduled meetings.

The Commission's goal is preserving our outdoor heritage and conserving our natural resources through informed decision-making; Committee meetings are vital in developing recommendations to help the Commission achieve that goal. In that spirit, we provide the following information to be as effective and efficient toward that end. Welcome, and please let us know if you have any questions.

### PERSONS WITH DISABILITIES

Persons with disabilities needing reasonable accommodation to participate in public meetings or other Commission activities are invited to contact the Department's Equal Employment Opportunity (EEO) Office at (916) 653-9089 or [EEO@wildlife.ca.gov](mailto:EEO@wildlife.ca.gov). Accommodation requests for facility and/or meeting accessibility and requests for American Sign Language (ASL) Interpreters should be submitted at least two weeks prior to the event. Requests for Real-Time Captioners should be submitted at least four weeks prior to the event. These timeframes are to help ensure that the requested accommodation is met. If a request for an accommodation has been submitted but is no longer needed, please contact the EEO Office immediately.

### SUBMITTING WRITTEN MATERIALS

The public is encouraged to attend Committee meetings and engage in the discussion about items on the agenda; the public is also welcome to comment on agenda items in writing. You may submit your written comments by one of the following methods (only one is necessary): **Email** to [fgc@fgc.ca.gov](mailto:fgc@fgc.ca.gov); **mail** to California Fish and Game Commission, P.O. Box 944209, Sacramento, CA 94244-2090; or **deliver** to California Fish and Game Commission, 1416 Ninth Street, Room 1320, Sacramento, CA 95814.

### COMMENT DEADLINES

The **Written Comment Deadline** for this meeting is **5:00 p.m. on Wednesday, March 3, 2021**. Written comments received at the Commission office by this deadline will be made available to Commissioners prior to the meeting.

The **Supplemental Comment Deadline** for this meeting is **noon on Thursday, March 11, 2021**. Comments received by this deadline will be made available to Commissioners at the meeting.

*The Committee **will not** consider comments regarding proposed changes to regulations that have been noticed by the Commission. If you wish to provide comment on a noticed item, please provide your comments during Commission business meetings, via email, or deliver to the Commission office.*

**Note:** Materials provided to the Committee may be made available to the general public.

## **REGULATION CHANGE PETITIONS**

As a general rule, requests for regulatory change must be redirected to the full Commission and submitted on the required petition form, FGC 1, *Petition to the California Fish and Game Commission for Regulation Change* (Section 662, Title 14, California Code of Regulations). However, at the Committee's discretion, the Committee may request that staff follow up on items of potential interest to the Committee and possible recommendation to the Commission.

## **SPEAKING AT THE MEETING**

Committee meetings operate informally and provide opportunity for everyone to comment on agenda items. If you wish to speak on an agenda item, please follow these guidelines:

1. You will be given instructions during the meeting for how to be recognized by the Committee co-chair(s) to speak.
2. Once recognized, please begin by giving your name and affiliation (if any) and the number of people you represent.
3. Time is limited; please keep your comments concise so that everyone has an opportunity to speak.
4. If there are several speakers with the same concerns, please try to appoint a spokesperson and avoid repetitive comments.
5. If speaking during public comment for items not on the agenda (Agenda Item 2), the subject matter you present should not be related to any item on the current agenda (public comment on agenda items will be taken at the time the Committee members discuss that item). As a general rule, public comment is an opportunity to bring matters to the attention of the Committee, but you may also do so via email or standard mail. At the discretion of the Committee, staff may be requested to follow up on the subject you raise.

## **VISUAL PRESENTATIONS/MATERIALS**

All electronic presentations must be submitted by the **Supplemental Comment Deadline** and approved by the Commission executive director before the meeting.

1. Electronic presentations must be provided by email to [fgc@fgc.ca.gov](mailto:fgc@fgc.ca.gov) or delivered to the Commission on a USB flash drive by the deadline.
2. All electronic formats must be Windows PC compatible.



# Kelp Restoration Update



Marine Resources Committee Meeting  
March 16, 2021

James Ray

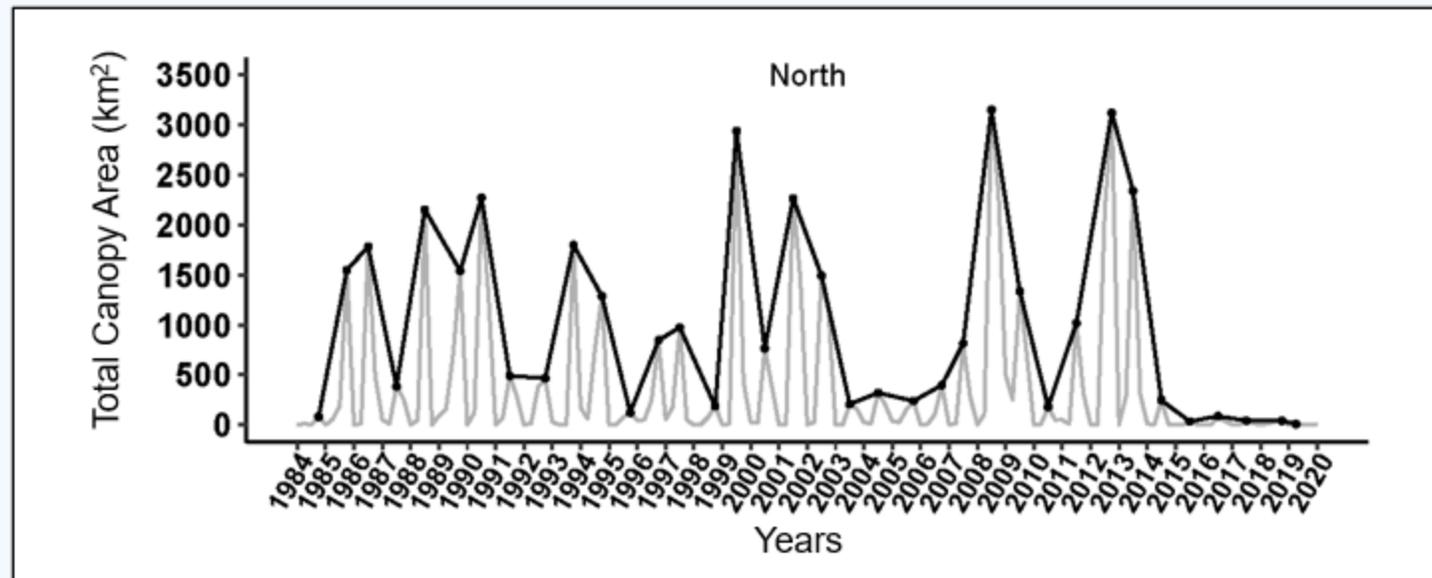
CDFW Kelp Restoration Coordinator

*Photo: Tristen McHugh*



# Kelp Ecosystem Decline

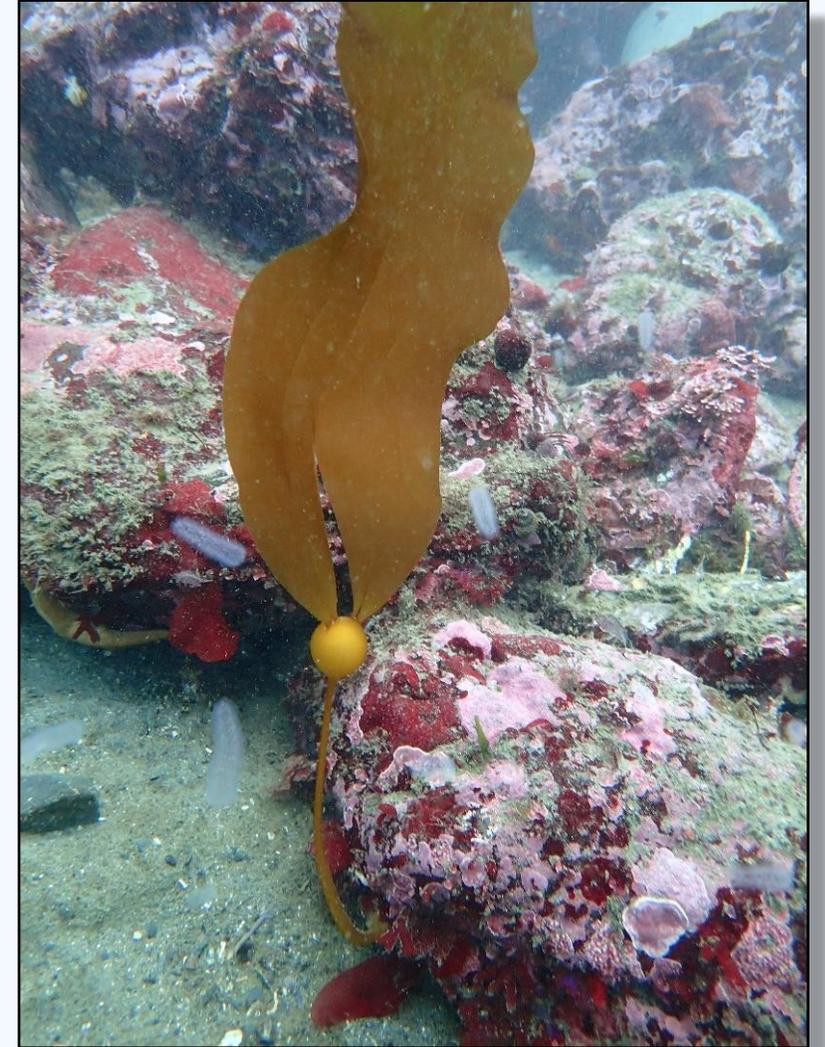
- Kelp forest ecosystems are ecologically and economically important
- Statewide kelp forests are increasingly threatened by multiple stressors
- >90% loss of Bull Kelp forest canopy on the North Coast





# Statewide Kelp Restoration Toolkit

- Suite of science-based kelp restoration methods and guidance for implementing restoration
- Evaluate different restoration methods on the ground
- Identify important ecological and restoration knowledge gaps
- Toolkit will be incorporated into statewide Kelp Restoration and Management Plan



*Photo: Tristen McHugh*



# Partnership-based Pilot Restoration Efforts

## Urchin Control - Commercial Divers

Evaluate the efficacy of controlling urchins with commercial urchin divers to promote natural bull kelp recruitment and potentially support kelp outplanting

Partners: commercial divers, CDFW, Reef Check, OPC, Watermen's Alliance, Noyo Center for Marine Science

### Noyo Harbor:

- Dive operations August 8 – Nov. 1
- 13 divers removed over 26,000lbs purple urchin
- ~10 acres cleared to purple urchin target density of less than 2/m<sup>2</sup>
- Little encroachment over winter
- Maintain low urchin levels into spring, monitor kelp response
- Initiate kelp outplanting experiments on portions of the site this spring

Albion Cove: starting spring 2021



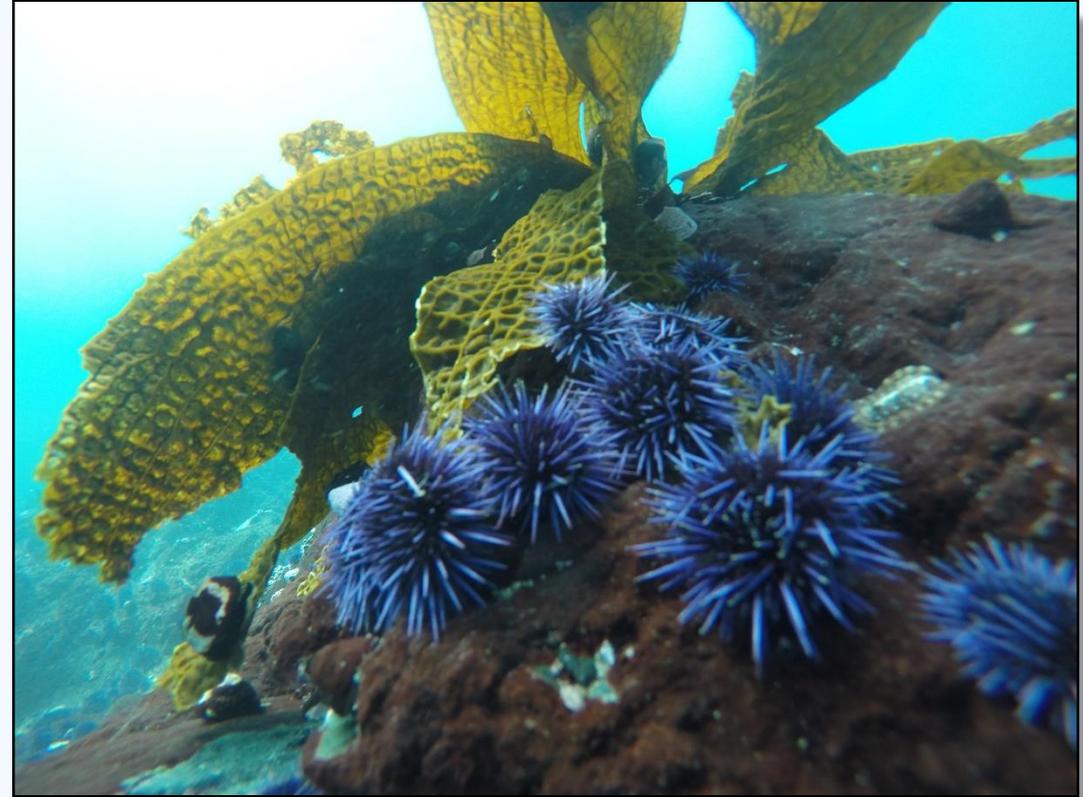


# Partnership-based Pilot Restoration Efforts

## Urchin Control - Recreational Divers

Recreational urchin harvest rulemakings:

- Purple urchin bag limit increased to 40 gallons/person in Mendocino, Sonoma, Humboldt Counties – 2018/19
- Unlimited take of purple urchin Caspar Cove (Mendocino Co.) and unlimited take of purple and red urchin at Tanker Reef (Monterey Co.) – 2020





# Partnership-based Pilot Restoration Efforts

## Urchin Control - Recreational Divers

Evaluate if in-situ culling of urchins by volunteer recreational divers can be an effective management tool to promote kelp regrowth at specific locations.

### Caspar Cove:

- Partners: Dive community, Watermen’s Alliance, Reef Check, CDFW, OPC, Sea Grant
- Volunteer operations July – October
- 29 dives, 37 dive hours, estimated 18,134 urchin culled
- ~ 10m radius area cleared – some early algal colonizers

### Tanker Reef:

- Partners: Dive community, Reef Check, CDFW, OPC, Monterey Bay National Marine Sanctuary
- 2.5 acre area targeted - potential for significant expansion
- Draft monitoring plan in final stages of development
- Anticipated start ~April 1, 2021



*Photo: Patrick Webster*



*Photo: Kate Vylet*



# Kelp Recovery Research Program

1. **Dr. Jennifer Caselle (UCSB)** – Developing guidance for kelp restoration strategy in California using spatio-temporal models of kelp dynamics.
2. **Dr. Michael Graham (Moss Landing Marine Laboratories)** - Testing methods of culturing bull kelp in the lab and evaluating different bull kelp outplanting techniques in northern California.
3. **Dr. Joleah Lamb (UC Irvine)** - Testing methods of culturing giant kelp in the lab and evaluating a giant kelp outplanting technique in southern California, including testing heat acclimatized giant kelp.
4. **Dr. Brian Gaylord (UC Davis)** - 1) test culture and outplanting of heat-tolerant strains of bull kelp; 2) model bull kelp spore dispersal to inform bull kelp “refugia network” creation; 3) assess the reproductive viability of purple sea urchin barrens; 4) quantify the predation rate of juvenile sunflower sea stars on juvenile purple urchin; and 5) develop a dynamic model of the kelp-urchin-sea star system.
5. **Dr. Alison Haupt (CSU Monterey Bay)** - understanding the dynamics of urchin recruitment, reproduction and density in central and northern California.
6. **Dr. Filipe Alberto (University of Wisconsin)** – Conservation genomics and gametophyte banking of bull kelp in California to preserve genetic diversity and evaluate adaptive population genetic structure.



# Management and Policy Development

1. Enhanced Status Report for giant kelp and bull kelp – spring 2021
2. OPC Interim Kelp Action Plan - Feb. 2022
3. Next Step....  
Initiate development of a statewide adaptive ecosystem-based Kelp Restoration and Management Plan

## Giant Kelp, *Macrocystis pyrifera*, and Bull Kelp, *Nereocystis luetkeana* Enhanced Status Report



Surface canopies of giant kelp, *Macrocystis pyrifera* (left) and bull kelp, *Nereocystis luetkeana* (Photo Credit: Rebecca Flores Miller, CDFW and Tristin McHugh, Reef Check California).

California Department of Fish and Wildlife  
Marine Region

April 2021



Citation: California Department of Fish and Wildlife. 2021. Giant Kelp, *Macrocystis pyrifera*, and Bull Kelp, *Nereocystis luetkeana*. Enhanced Status Report.

Contributors: Gina Contolini, Rebecca Flores Miller, and James Ray (2021)



# Thank You Questions?



James Ray  
Marine Region  
[James.Ray@wildlife.ca.gov](mailto:James.Ray@wildlife.ca.gov)

*Photo: Derek Stein*



# California's Coastal Fishing Communities Project Update



**Presented at FGC's Marine Resources  
Committee Meeting**

**Rose Dodgen, Sea Grant State Fellow**

**March 16, 2021**

# Project Overview

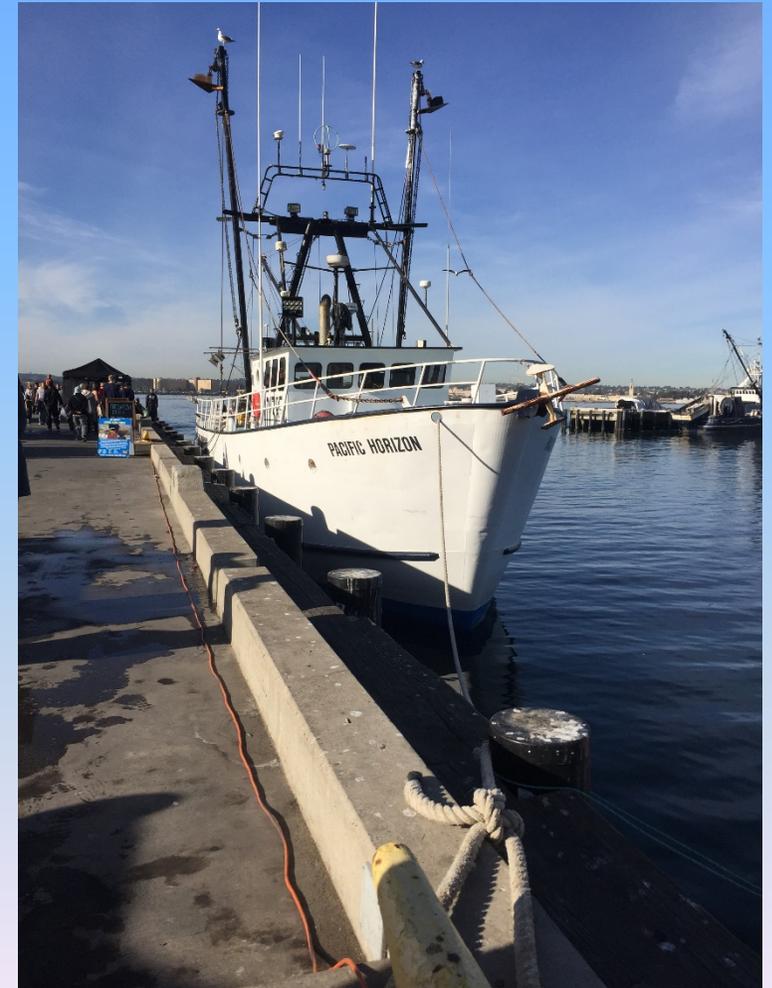


- Identify coastal fishing community resilience priorities and uncover potential opportunities to support
- 2019 staff synthesis report with ten staff recommendations (SRs) for exploration
- MRC requested staff further analyze recommendations to assist in future discussion or action

# Recent Work



- July 2020 MRC: First update on efforts-to-date (SR1), draft analysis framework
- November 2020 MRC: Updates on efforts to date for all SRs (1-10), first SR analysis (SR1)
  - Staff recommended re-engaging stakeholders to explore SR1 (policy) concurrent with analysis work



# Today's Updates



- Completed draft analyses for five SRs:
  - SR 1: Develop policy and definition (revised draft)
  - SR 3: Approve small-scale projects to test new approaches
  - SR 4: Engage legislative staff to support fishing community adaptability through statute
  - SR 5: Increase engagement and coordination with sister agencies on relevant decisions
  - SR 8: Survey coastal fishing communities about their priorities for Commission focus.



# Re-engagement on Potential Policy

- SR 1: *Develop a policy and definition for coastal fishing communities*
- Preliminary work completed in 2019 (working definition)
- In Jan/Feb 2021, staff outreach to individual community members on project status and potential for policy

# Findings From Recent Outreach



- Stakeholders were interested in written materials developed by staff in 2020
- Stakeholders believe that developing a policy would be valuable, if efforts are sustained
- Stakeholders emphasized that messaging surrounding any future outreach needs to be clear
  - Concerns about repeating 2016-2018 meeting efforts
  - Interest in potential Commissioner participation in future stakeholder meetings

# Recommendations



- Direct staff to continue analysis of remaining recommendations (SRs 2, 6, 7, and 9), prioritize based on complexity
- Recommend staff initiate stakeholder outreach to inform development of potential policy (SR 1)



# Potential Process and Timeline



- Begin with regional roundtables (target: July 2021 MRC)
- Broaden discussion to workshops (target: November 2021 MRC)
- Potential draft policy for discussion in early 2022



# Thank You



Rose Dodgen, Sea Grant State Fellow (to March 17)

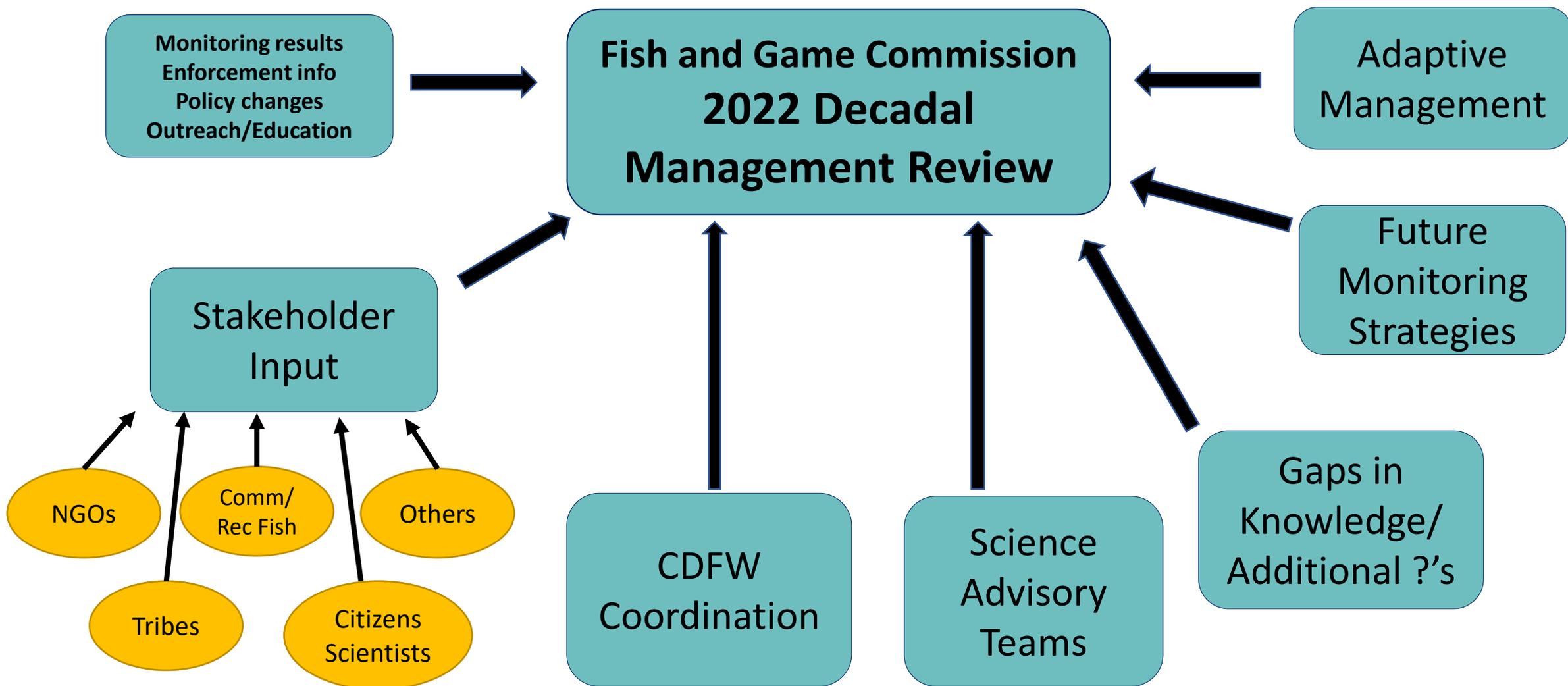
Corinna Hong, Sea Grant State Fellow

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# Decadal Management Review: 2022





# Decadal Management Review: 2022

