Committee Staff Summary for November 12, 2026 MRC

5. California Halibut Trawl Bycatch Assessment

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

Receive and discuss a Department update on its statewide assessment of California halibut trawl bycatch in the fishery being conducted in support of the broader California halibut fishery management review.

Summary of Previous/Future Actions

• Commission referred California halibut management review to the Marine Resources Committee (MRC)	2020
• Commission referred California halibut bycatch evaluation to MRC	2021
• MRC received Department bycatch analysis and report for set gill net and trawl halibut fisheries	2022; MRC
• MRC recommended conducting bycatch acceptability evaluations, beginning with the set gill net fishery followed by the trawl fishery (approved by Commission)	2022
• Following completion of the set gill net bycatch evaluation and rulemaking, MRC recommended initiating the California halibut trawl fishery bycatch evaluation (approved by Commission)	March 2024; MRC
• MRC received information on lessons learned from the set gill net evaluation and their application to the trawl fishery bycatch evaluation	July 2024; MRC
• MRC received Department updates on the California halibut trawl fishery bycatch evaluation	July 16-17 and November 6, 2025; and March 12, 2026; MRC
• **Today, receive Department update on the California halibut trawl fishery bycatch evaluation**	**November 12, 2026; MRC**

Background

Management review of the California halibut fishery began in late 2020, consistent with the Marine Life Management Act (MLMA) and guided by the *2018 Master Plan for Fisheries, A Guide for Implementation of the Marine Life Management Act* (Master Plan). As part of the review, the Department is evaluating bycatch in the California halibut trawl fishery using the Master Plan's four-step bycatch evaluation framework based on the core MLMA criteria related to bycatch: (1) legality, (2) sustainability, (3) target-fishery impacts, and (4) ecosystem impacts. Additional background regarding the bycatch evaluation process, previous MRC discussions, and the foundational bycatch standards in Chapter 6 of the Master Plan is provided in Exhibit 1.

At its March 2026 meeting, MRC received an update on the Department's progress evaluating California halibut trawl bycatch, including methods for distinguishing target, incidental, and

bycatch species; application of a rapid risk assessment tool; identification of biological and habitat groups; and development of a prioritized species list for further review. The update also included summarized statewide landed and bycatch species and categories from West Coast Groundfish Observer Program trawl data.

Update

Since the March 2026 meeting, the Department has continued refining its bycatch evaluation methods and analytical framework. Building upon lessons learned from the California halibut set gill net bycatch evaluation, the Department has developed approaches tailored to the California halibut trawl fishery and available data sources. The Department has also conducted two stakeholder workshops to present and discuss proposed methodologies and receive stakeholder input.

Today, the Department will present methodologies being developed to evaluate bycatch acceptability in the California halibut trawl fishery under the MLMA, including approaches for evaluating legality, sustainability, fishery impacts, and ecosystem impacts (Exhibit 2). The Department will also discuss development of a cumulative impacts analysis, as previously requested by MRC, to evaluate effects across functional groups and the broader ecosystem in addition to species-specific impacts.

The presentation will provide an update on information being incorporated into the assessment, progress toward completing the bycatch acceptability analysis, and anticipated next steps, including presentation of preliminary results to MRC in 2027.

At today's meeting, MRC will receive public input, discuss the Department's proposed approach, and provide guidance regarding next steps.

Significant Public Comments (N/A)

Recommendation

***Commission Staff*:** Receive the Department update and discuss the proposed analytical framework for evaluating bycatch acceptability in the California halibut trawl fishery, including any feedback or guidance on the ongoing evaluation.

Exhibits

1. Staff summary and exhibits for Agenda Item 5, November 6, 2025 MRC meeting (*for background purposes only*)
2. Department presentation

Committee Direction/Recommendation (N/A)

Committee Staff Summary for November 6, 2025 MRC
(*…For Background Purposes Only…)*

5. Evaluation of Bycatch in the California Halibut Trawl Fishery

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

Receive and discuss Department update on its evaluation of fisheries bycatch in the California halibut trawl fishery being conducted in support of fishery management review, including recent public engagement.

Summary of Previous/Future Actions

• Commission referred California halibut management review to the Marine Resources Committee (MRC)	August 2020
• Commission referred bycatch evaluation for California halibut management review to MRC	December 2021
• Received updates on bycatch evaluation for set gillnet and trawl halibut fisheries	March and July 2022; MRC
• Received Department bycatch analysis and report; MRC recommendation to conduct bycatch acceptability evaluations first for set gill nets and then trawl fisheries (approved by Commission in December 2022)	November 2022; MRC
• After completion of set gill net bycatch evaluation and Commission approval for rulemaking, MRC recommended to begin evaluating bycatch for California halibut trawl fishery (Commission approved in April 2024)	March 19, 2024; MRC
• Received Department update on evaluating bycatch in the California halibut trawl fishery	July 16-17, 2025; MRC
• **Today receive and discuss Department update on evaluation of fisheries bycatch in the California halibut trawl fishery**	**November 6, 2025; MRC**

Background

Management review of the California halibut fishery began in late 2020, consistent with the Marine Life Management Act (MLMA) and guided by the *2018 Master Plan for Fisheries, A Guide for Implementation of the Marine Life Management Act* (Master Plan). A key MLMA requirement is to evaluate and address unacceptable bycatch, limiting it to acceptable types and amounts. Chapter 6 of the Master Plan (Exhibit 1) outlines a four-step framework for evaluating bycatch:

1. Collect information on the type and amount of catch.
2. Distinguish among target, incidental, and bycatch species.
3. Determine "acceptable" types and amounts of bycatch.
4. Address unacceptable bycatch.

The California halibut fisheries bycatch review marks the first application of the Master Plan's bycatch evaluation framework. In November 2022, the Department completed steps 1 and 2 for both the commercial trawl and set gillnet California halibut fisheries (see Exhibit 2 for background context). Due to the complexity of each gear type, MRC recommended — and the Commission approved — separating the evaluations for steps 3 and 4 of set gill net and trawl gears. The set gillnet bycatch evaluation was completed in 2023, with a Commission-approved MRC recommendation and subsequent 2024 rulemaking.

In March 2024, MRC recommended — and the Commission subsequently approved — that the Department begin evaluating bycatch in the California halibut trawl fishery. The work has been informed by lessons learned from the set gillnet evaluation process, reviewed by MRC in July 2024 (Exhibit 3).

The Department's most recent update was received at the July 2025 MRC meeting, highlighting California halibut management priorities and progress, and recent steps to conduct an evaluation of bycatch in the trawl fishery.

Update

Since July 2025, the Department has continued advancing management priorities, including reviewing updated bycatch data sources and hosting a public data workshop to support transparency. Today, the Department will present updates on its evaluation of bycatch in the California halibut trawl fishery, including outcomes from the public data workshop and next steps (Exhibit 4).

Significant Public Comments (N/A)

Recommendation (N/A)

Exhibits

1. Chapter 6 - "Ecosystem-Based Objectives: Limiting Bycatch to Acceptable Types and Amounts" extracted from the *2018 Master Plan for Fisheries, A Guide for Implementation of the Marine Life Management Ac*t, dated June 2018
2. Staff summary for Agenda Item 5, November 17, 2022 MRC meeting (*for background purposes only*)
3. Staff summary for Agenda Item 4, July 18, 2024 MRC meeting (*for background purposes only*)
4. Department presentation

Committee Direction/Recommendation (N/A)

Statewide California Halibut Trawl Bycatch Assessment





Nov 12, 2026

Presented to:

Marine Resources Committee

California Fish and Game Commission

Presented by:

Cyndi Dawson

Senior Environmental Scientist

Marine Region

Timeline

Winter/ Spring 25/26

- Data/information compilation & initial analyses
- Finalized bycatch species priority list for further analyses

Spring/ Summer 2026

- Finalized expansion numbers
- Completed PSA Method and Initial Scoring
- Began Core Criteria Evaluation Method

Winter/ Spring 26/27

- Finalize PSA
- Complete Core Criteria Evaluation
- Present preliminary acceptability results at March 2027 MRC

Summer/ Fall 2027

- Peer Review
- Present Final Results to FGC
- Begin iterative process to address unacceptable bycatch (if found)

Ongoing Tribal and stakeholder engagement and opportunities for input

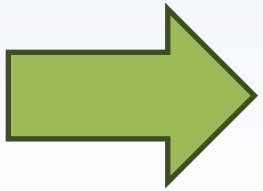
Marine Life Management Act (MLMA)



Step 1. Collection of information on the amount and type of catch



Step 2. Distinguish target, incidental, and bycatch species

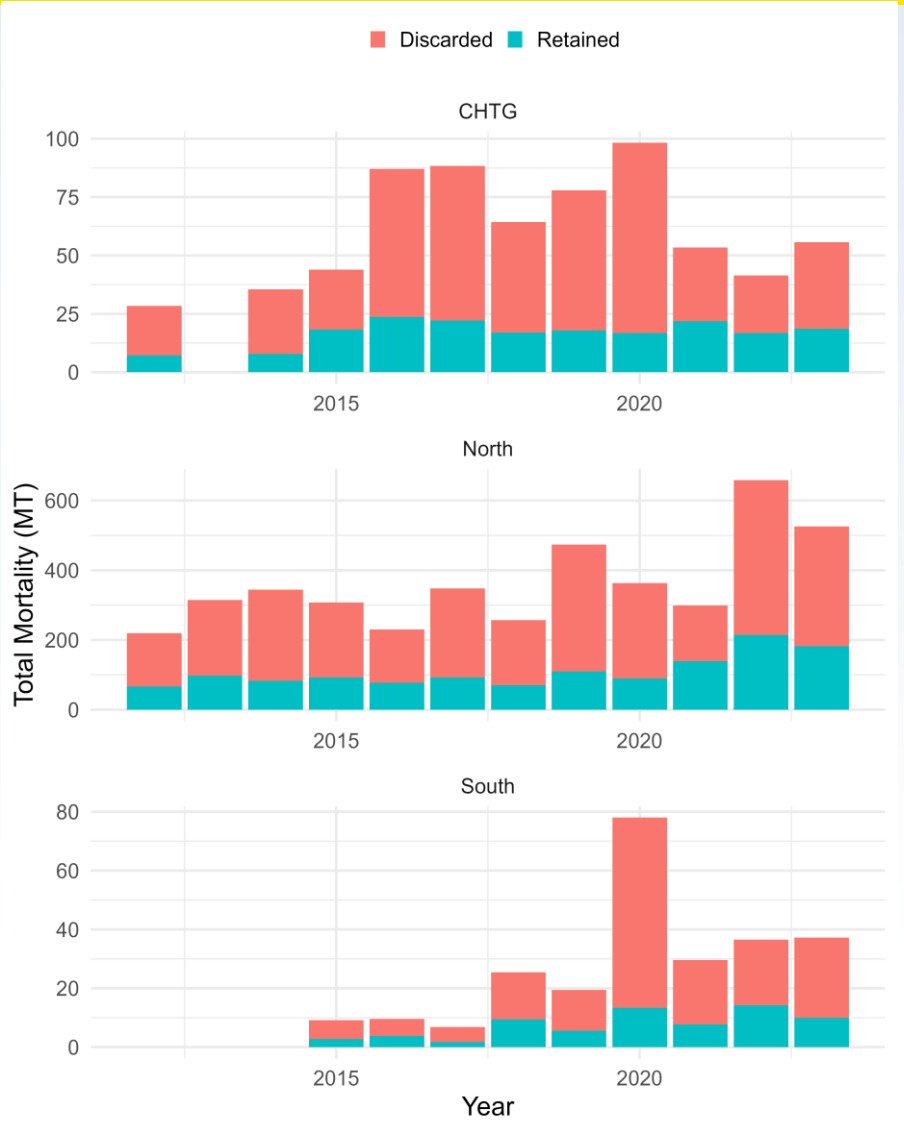


Step 3. Determine acceptability – Core Criteria

Step 4. Address unacceptable bycatch (if found)

Total Amount of Catch by Region Expansions

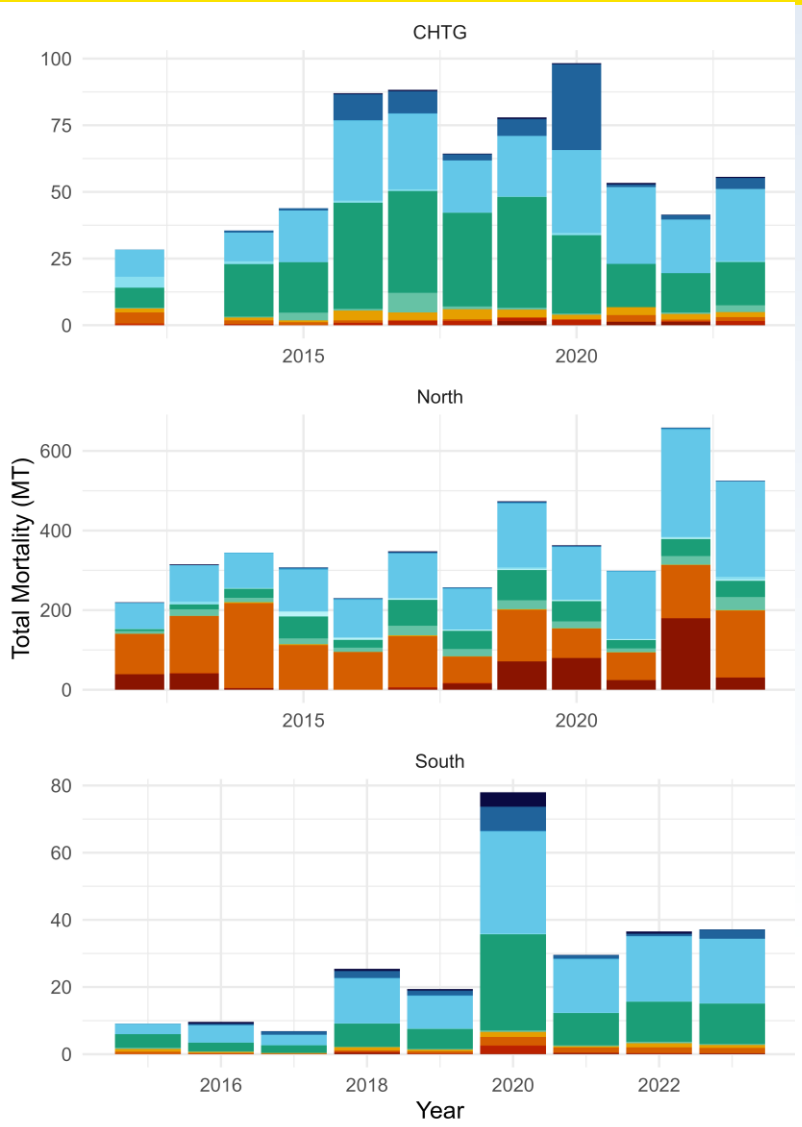
- Data sources:
  - WCGOP Data 2012 – 2023
  - Marine Landings Data System 2012-2023
- Discard mortality accounting
  - Product of species-specific discard ratio and total halibut landings
  - Four species mortalities estimated at 50%
  - Stratified by year and region
- Retained mortality accounting
  - Species-specific landings attributed to likely CHLB fish tickets
  - Stratified by year and region



Total Amount of Catch by Species Group

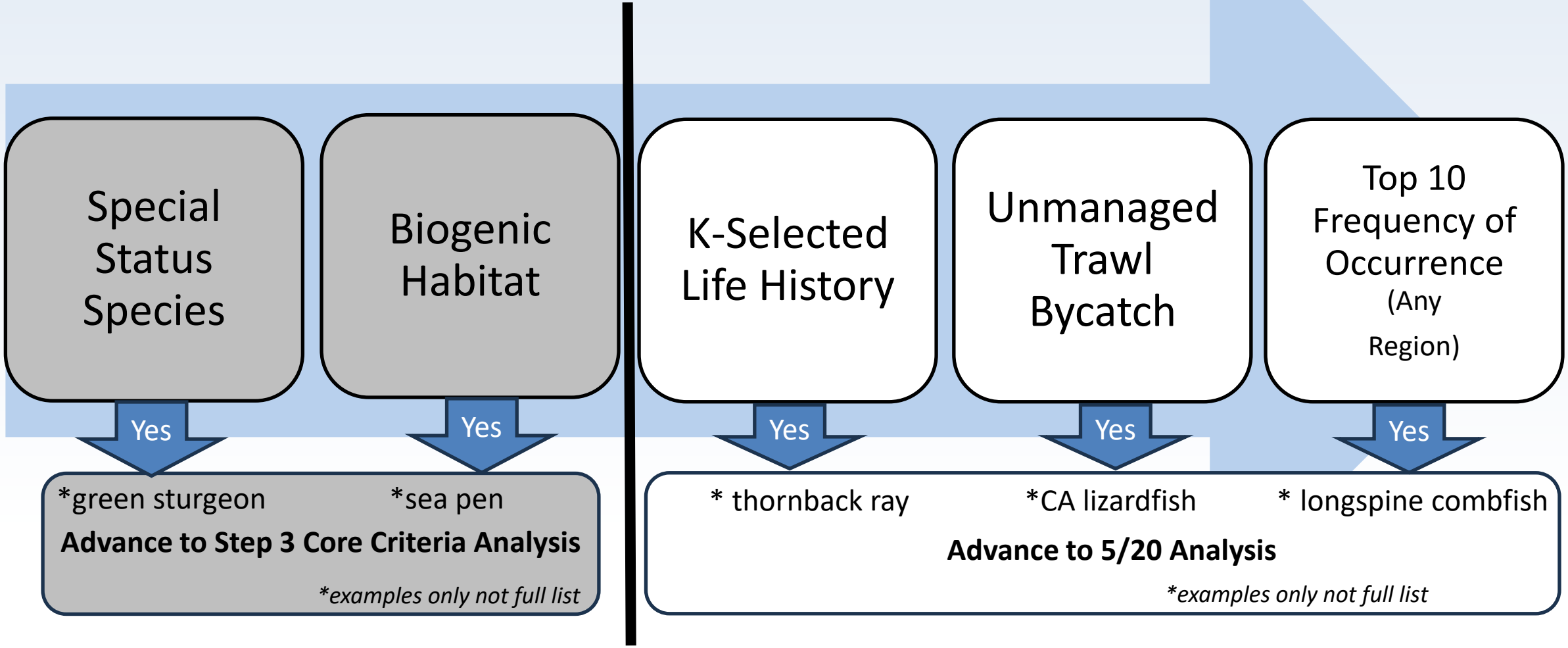
Group

- Shallow Reef Finfish
- Deep Reef Finfish
- Shallow Soft-Bottom Finfish
- Deep Soft-Bottom Finfish
- Pelagic Finfish
- Shallow Flatfish
- Deep Flatfish
- Anadromous
- Shallow Benthic Elasmobranch
- Deep Benthic Elasmobranch
- Pelagic Elasmobranch
- Shallow Crabs
- Deep Crabs
- Biogenic
- Mobile Benthic Invertebrate
- Sessile Benthic Invertebrate
- Pelagic Invertebrate



Amount of Catch

Rapid Risk Assessment Tool



Species List Prioritization 5/20 Analysis

Was the species observed in **>5% of trawls** per region?

Northern Region (>36°N)
>123 of 2,452 total trawls (2012-2023)

Southern Region
>55 of 1,106 total trawls (2012-2023)

California Halibut Trawl Grounds
>47 of 934 total trawls (2012-2023)

Has the species been observed by West Coast Groundfish Observer Program (WCGOP) in California halibut trawls **since 2016**?

Did the species exhibit **±20% change** (mean annualized weight) from baseline to recent years (post-COVID)?

baseline: 2016-2021, recent: 2022-2023

Prioritized Species List - Fishes

Group	Species
Anadromous **N = 6**	**Chinook (king) salmon**
	coho (silver) salmon
	green sturgeon
	longfin smelt
	striped bass
	white sturgeon
Deep Benthic Elasmobranch **N = 3**	big skate
	longnose skate
	spiny dogfish shark
Deep Flatfish **N = 2**	longfin sanddab
	Pacific sanddab
Deep Reef Finfish **N = 3**	bronzespotted rockfish
	quillback rockfish (California)
	vermilion rockfish
Pelagic Finfish **N = 2**	Pacific butterfish
	white sea bass

Group	Species
Shallow Benthic Elasmobranch **N = 12**	bat ray
	brown smoothhound shark
	California skate
	horn shark
	leopard shark
	Pacific angel shark
	Pacific electric ray
	shovelnose guitarfish
	soupfin shark
	starry skate
	swell shark
	thornback
Shallow Reef Finfish **N = 3**	copper rockfish
	giant sea bass
	Pacific staghorn sculpin

Group	Species
Shallow Flatfish **N = 9**	bigmouth sole
	California halibut discard
	California tonguefish
	curlfin sole
	diamond turbot
	English sole
	fantail sole
	hornyhead turbot
	starry flounder
Shallow Soft-Bottom Finfish **N = 8**	barred sand bass
	California lizardfish
	longspine combfish
	pink surfperch
	plainfin midshipman
	queenfish
	specklefin midshipman
	white croaker

Fishes N = 48

Prioritized Species List - Other

Invertebrates N = 12 + Biogenic

Group	*Species*
Deep Crabs **N = 3**	armed box crab
	Dungeness crab
	graceful crab
Mobile Benthic Invertebrate **N = 4**	California sea cucumber
	California spiny lobster
	mantis shrimp
	ridgeback prawn
Shallow Crabs **N = 5**	Pacific rock crab
	purple globe crab
	red rock crab
	sheep crab
	Xantus' swimming crab

Group	*Species*
Biogenic N = 10	sand dollar unid
	brittle/basket star unid
	sponge unid
	ectoprocta unid
	horny gorgonian
	sea whip
	sea pen
	tunicate unid
	sea pansy
	soft coral

Mammals N = 5

Species
California sea lion
northern elephant seal
harbor seal
Stellar sea lion
harbor porpoise

Seabirds N = 5

Species
brown pelican
western grebe
western gull
Brandt's cormorant
common murre

Species Specific Acceptability

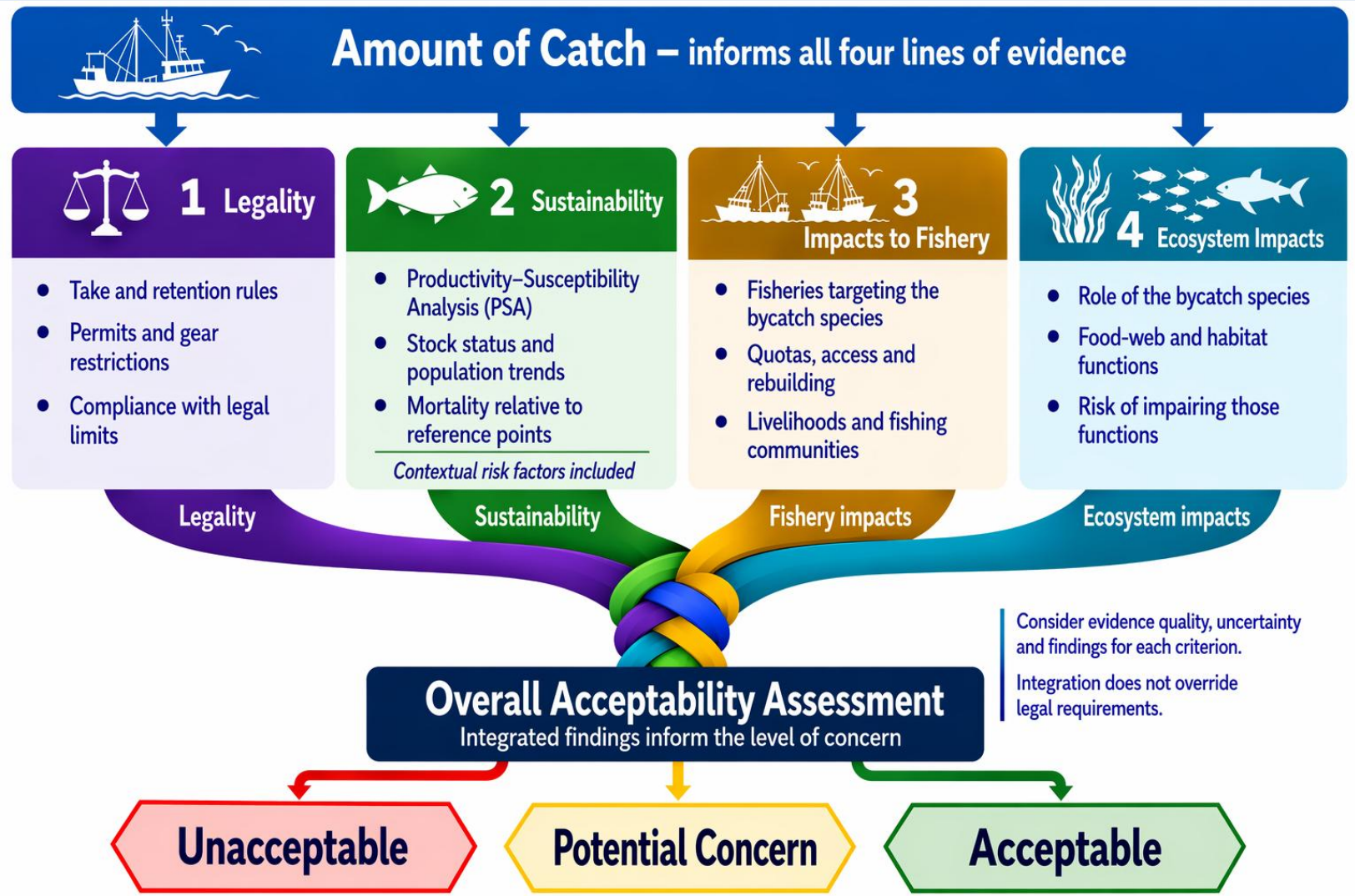
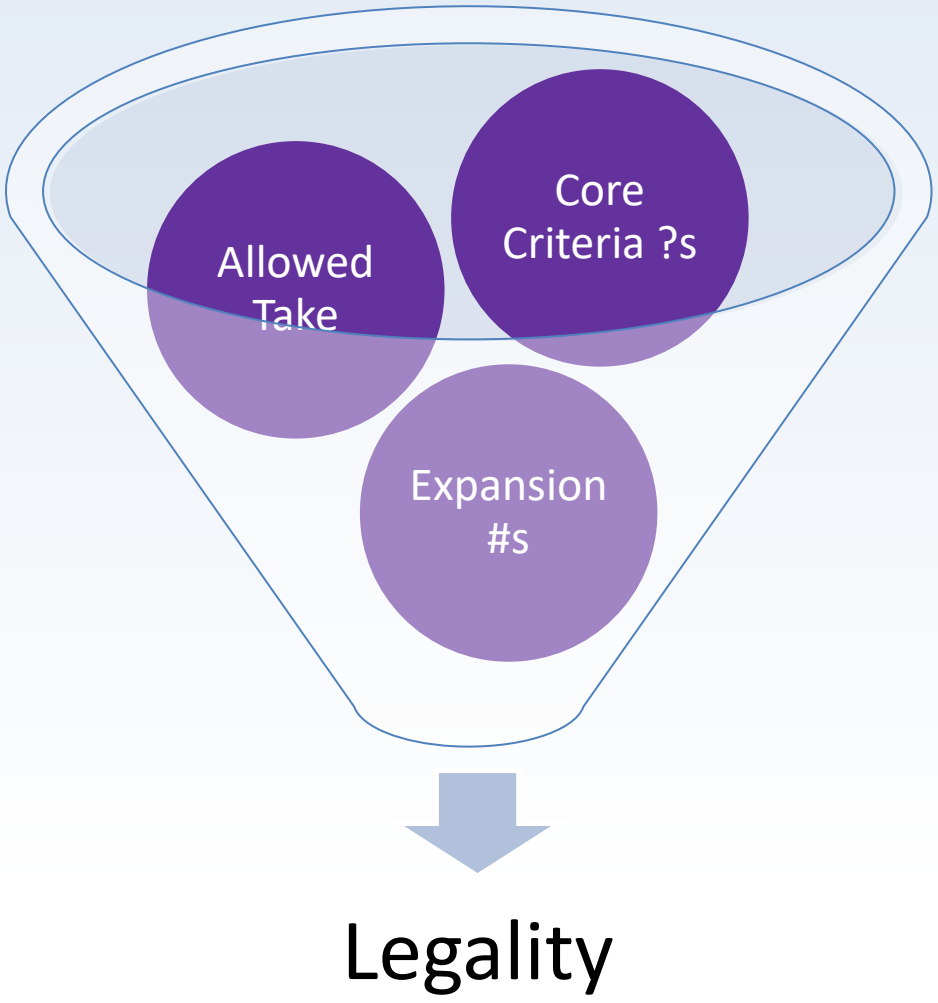


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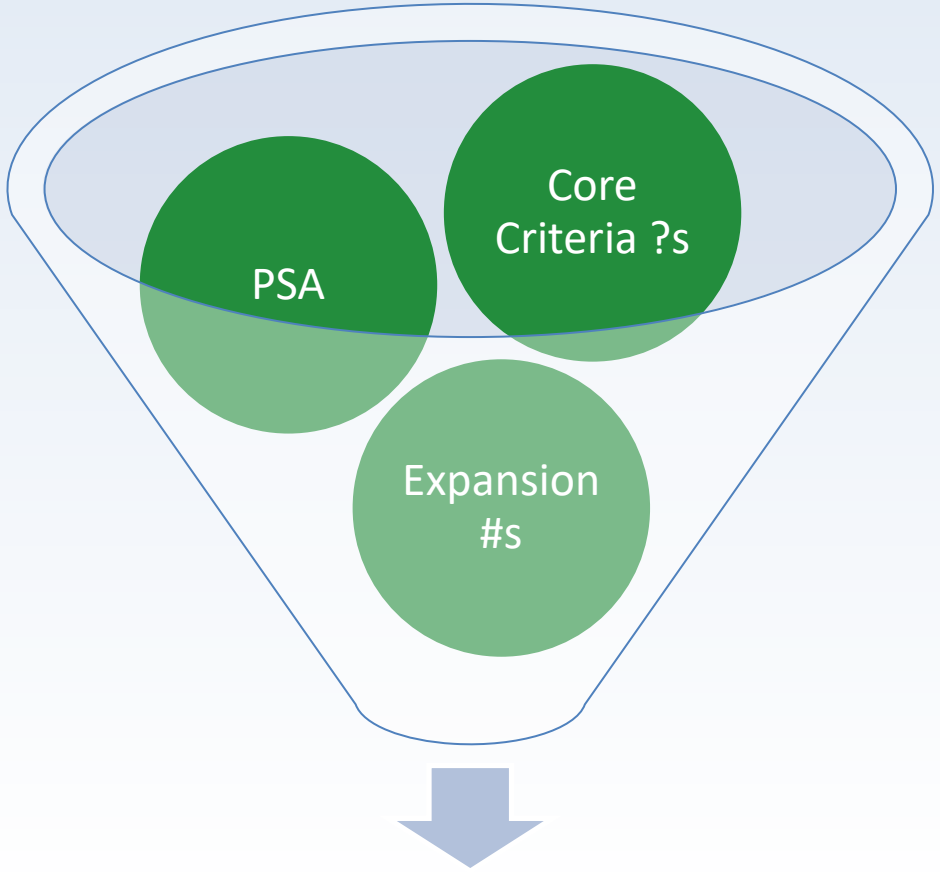
Core Criteria 1 - Legality Analysis Process



- Bycatch species list (n = 197) plus seabirds (n = 5), marine mammals (n = 5), special status (n = 5) and management concern (n = 5)

- Results = “Legal” or “Illegal”
  - ❖ Legal → Core Criteria 2 Analysis
  - ❖ Illegal → May be considered unacceptable and management action may be necessary

Core Criteria 2 - Sustainability Analysis Process



- Prioritized bycatch species list (n = 50)
- Refinements in process
- Results = High, moderate or low concern level
- All categories of results move to Core Criteria 3 Analysis

Core Criteria 2 -Productivity & Susceptibility Analysis (PSA)

Data Sources

- Prioritized species list (n=50)
- Published/Grey Literature
- Stock assessment and other reports

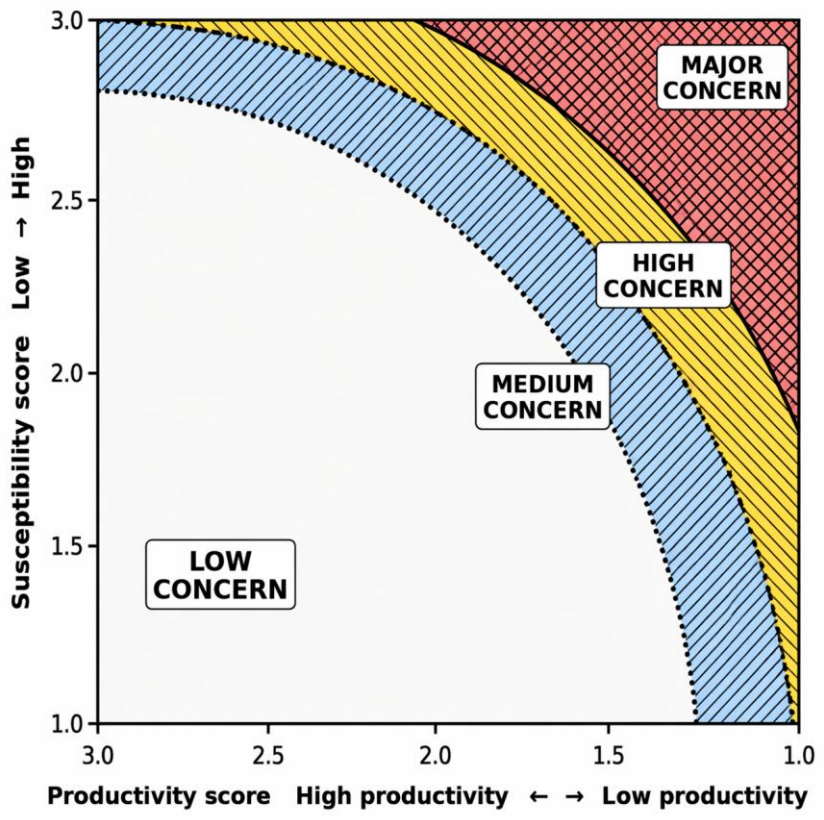
PSA Assessment

- Productivity – Life history/biology
- Susceptibility – fishery interaction/ecology

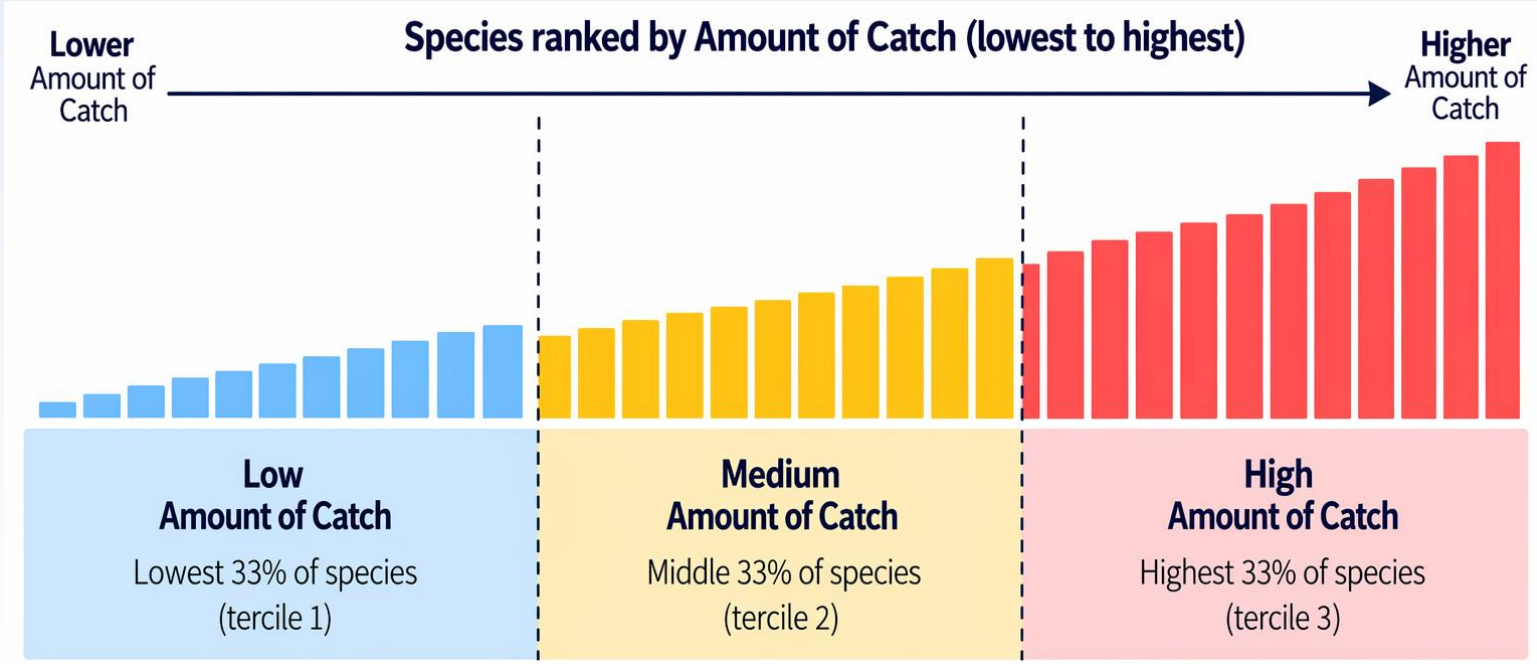
Refinements (in progress)

- Interscorer alignment
- Sensitivity testing of attributes

Core Criteria 2 - Combining PSA and Amounts



+



Vulnerability thresholds from Cope et al. (2011)

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Core Criteria 2 – Calculated Sustainable Risk Level

PSA Vulnerability	Relative Amount of Catch: Low	Relative Amount of Catch: Moderate	Relative Amount of Catch: High
Low (< 1.6)	Low	Low – Moderate	Moderate
Moderate (1.6 – 2.2)	Low – Moderate	Moderate	High
High (> 2.2 – 2.8)	Moderate	High	Very High
Very High (> 2.8)	High	Very High	Very High

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Core Criteria 2 - Sustainability Method Summary

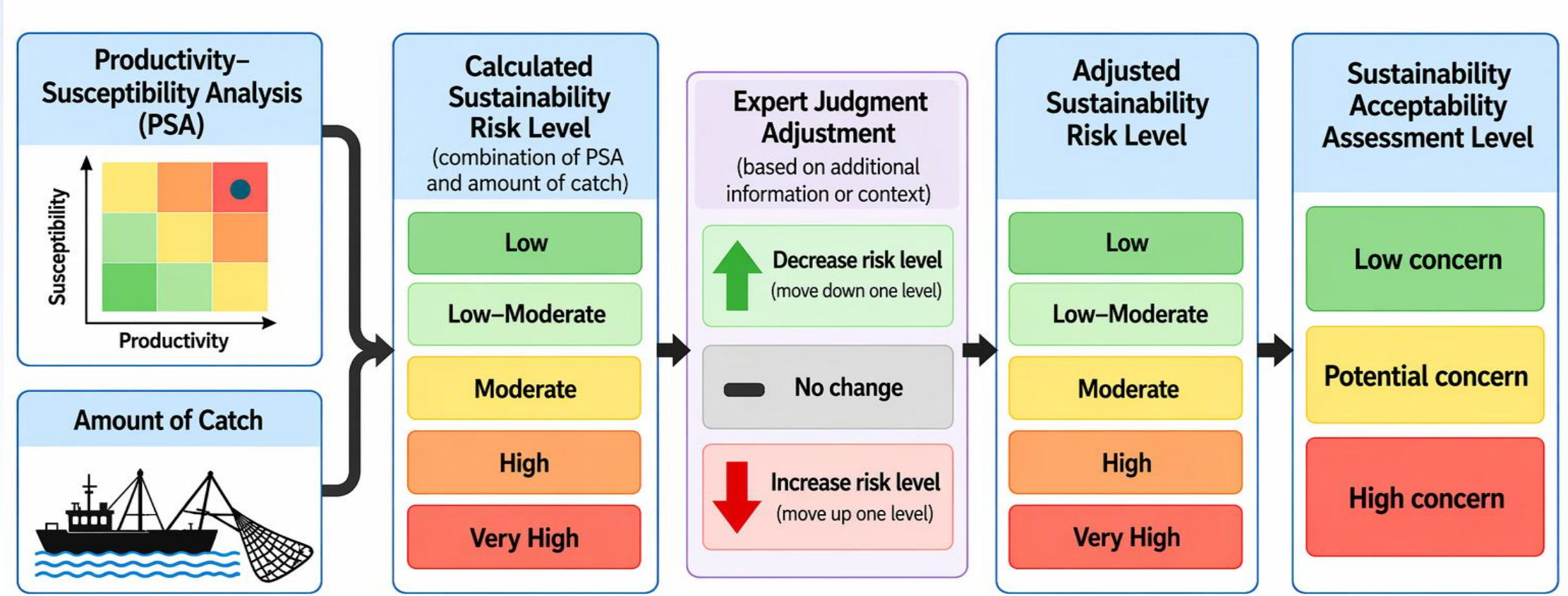
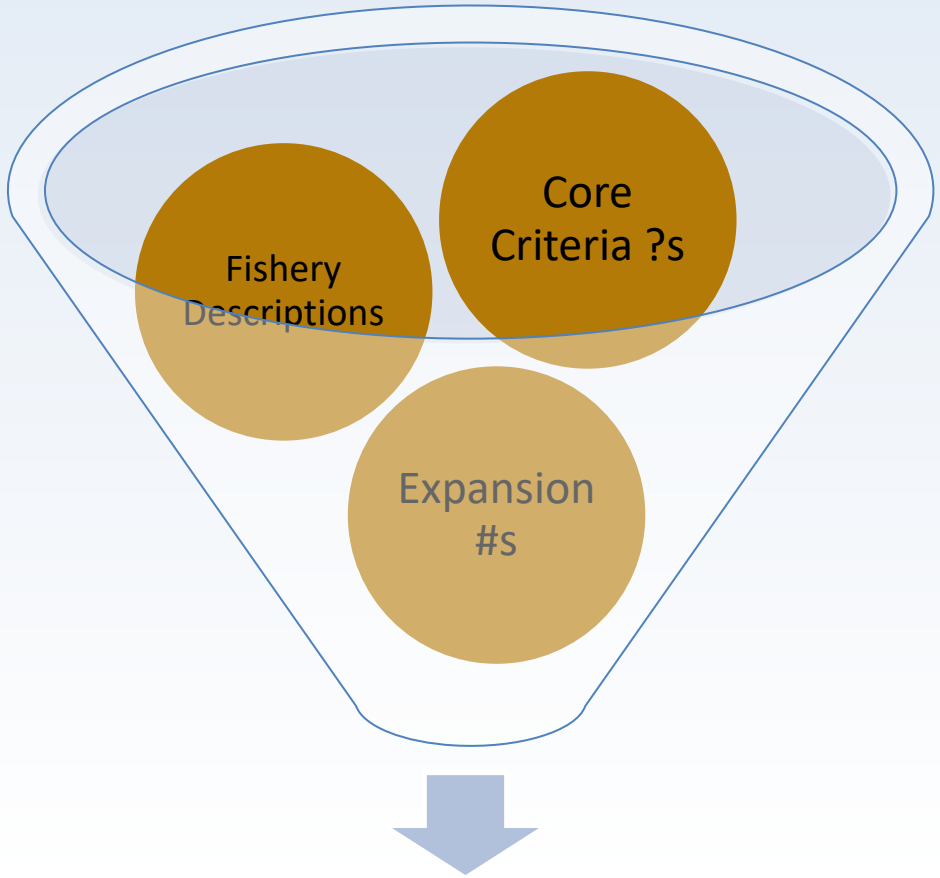


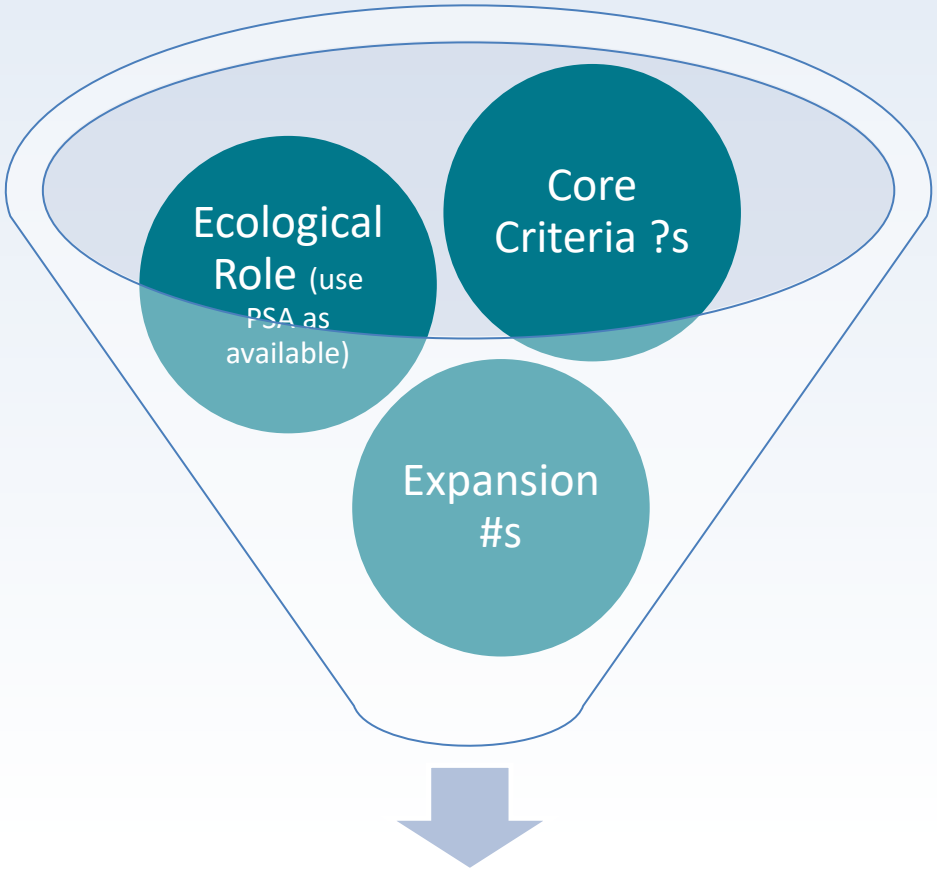
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Core Criteria 3 - Impacts on fisheries



- All bycatch species that have directed fisheries (n = 18)
- Results = Narrative description of fishery, participants, and priority research gaps in socioeconomics
- All species move to Core Criteria 4

Core Criteria 4 -Ecosystem Impacts



- Prioritized bycatch species list (n = 50)
- Score Ecological Role
- Results = No evidence; Low, Potential or High Concern
- **+ Spatial Analysis for Biogenic Habitat**

Core Criteria 4 -Ecosystem Impacts Method

Ecosystem Impact Risk Level

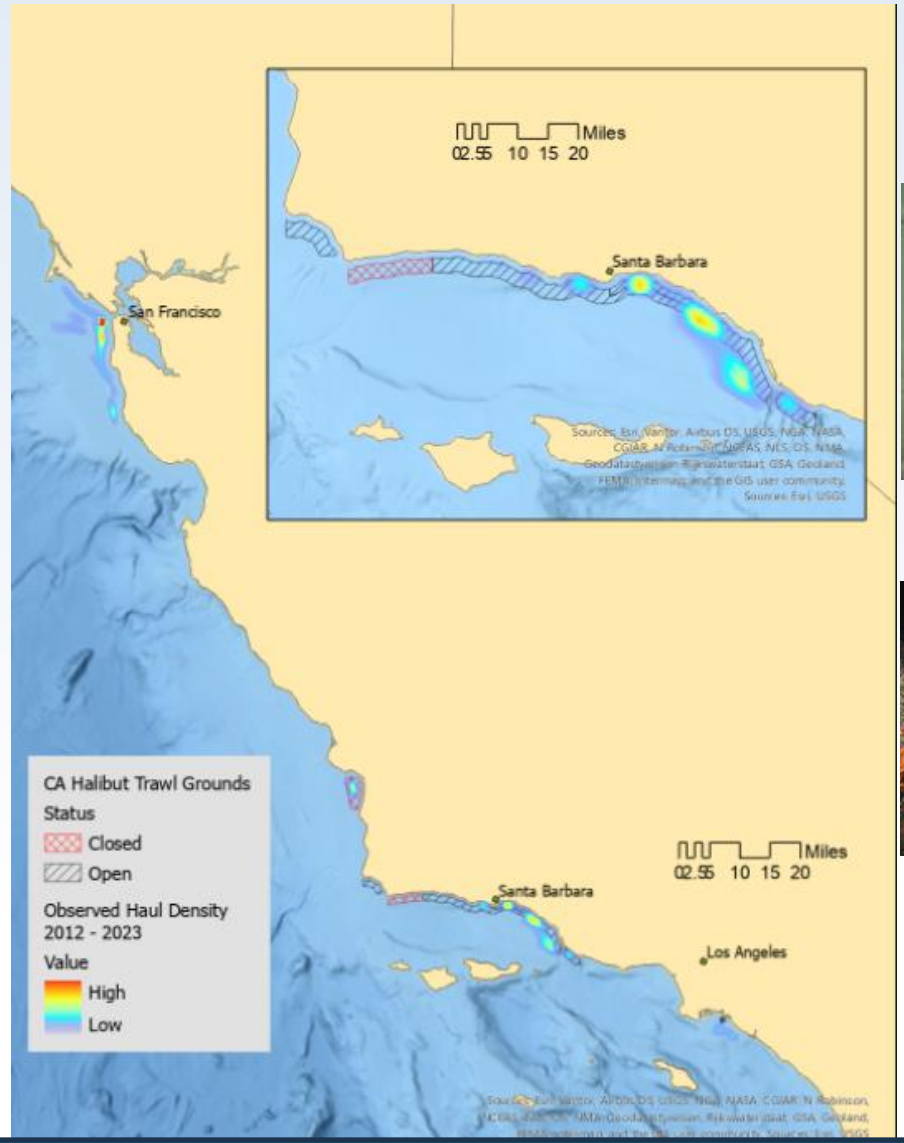
Ecological Importance	Adjusted Sustainability Risk Level				
	Low	Low – Moderate	Moderate	High	Very High
1 – Low functional importance / high redundancy	Low	Low	Low – Moderate	Low – Moderate	Moderate
2 – Moderate functional importance / high redundancy	Low	Low – Moderate	Moderate	Moderate	High
3 – Moderate functional importance / low redundancy	Low – Moderate	Moderate	High	High	Very High
4 – High functional importance / low redundancy	Moderate	High	High	Very High	Very High

Ecosystem Impact Acceptability Assessment Level

- No Evidence
- Low concern
- Potential concern
- High concern

Biogenic Habitat Spatial Overlap Analysis

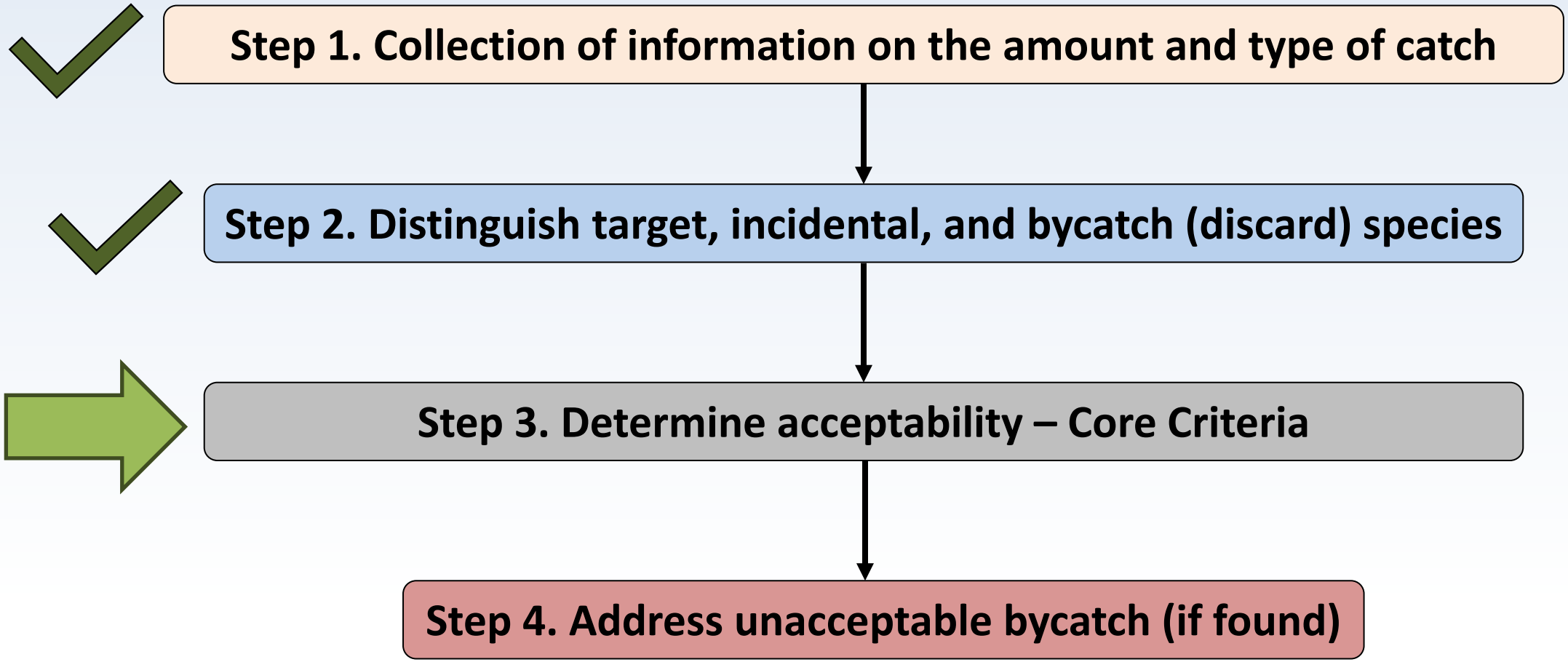
- Tow start and stop data
- NOAA Deep Sea Coral and Sponge Map
- NCCOS Habitat Suitability Benthic Macrofauna Models
- EXPRESS Benthic Mapping





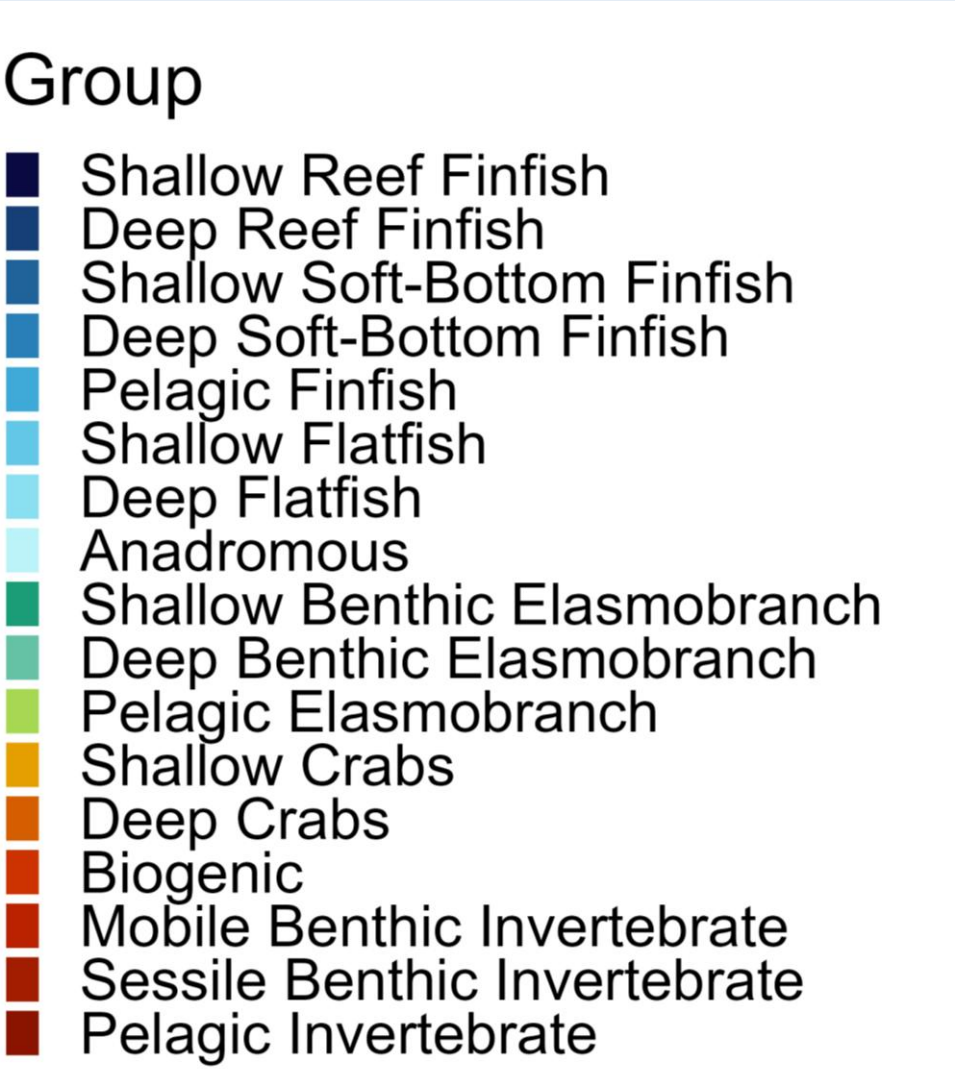


MLMA Four-step Bycatch Evaluation Process



Cumulative Impacts

- **Evaluate impact on whole ecosystem**
- Determine risk levels for all functional groups
  - Average species-specific PSA thresholds for prioritized species in group
  - Relative catch exposure by functional group
- Translate group risk into acceptability assessment with modifiers
  - Proportion of high-risk species per group
  - Functional redundancy within group
  - Expert judgement
- Qualitative assessment of whole-ecosystem risk based on functional group determinations



Progress

- Customized MLMA Bycatch Analysis Framework for the CA Halibut Trawl Fishery
- Used existing data to calculate total catch estimates
- Continue to advance MLMA-required Core Criteria Analyses
  - Legality
  - Sustainability
  - Fishery Impacts
  - Ecosystem Impacts

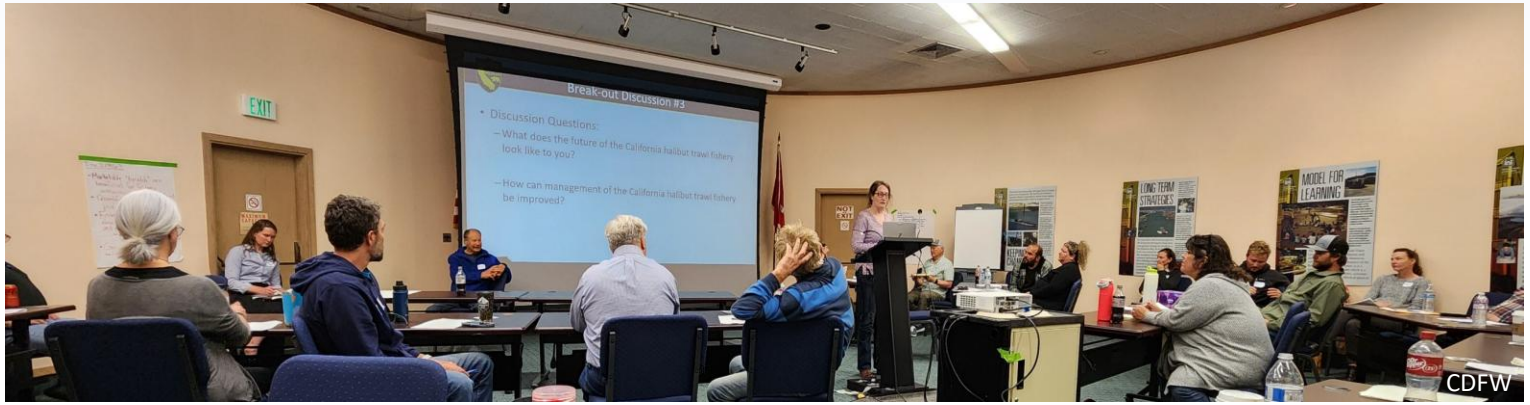
Next steps

- Complete Core Criteria Analyses
- Receive feedback on initial results
- Continue development of MRC requested cumulative analysis

Outreach

- Highlights
  - March 2026 – MRC update
  - February 2026 – Outreach to Tribes, fleet, NGOs
  - December 2025 – Calls to fleet
  - November 2025 – MRC update
  - October 2025 – Stakeholder update webinar
  - June 2025 – Stakeholder update webinar
  - April 2025 – Kickoff in-person workshop
  - November 2026 – Stakeholder update webinar
  - November 2026 – MRC update

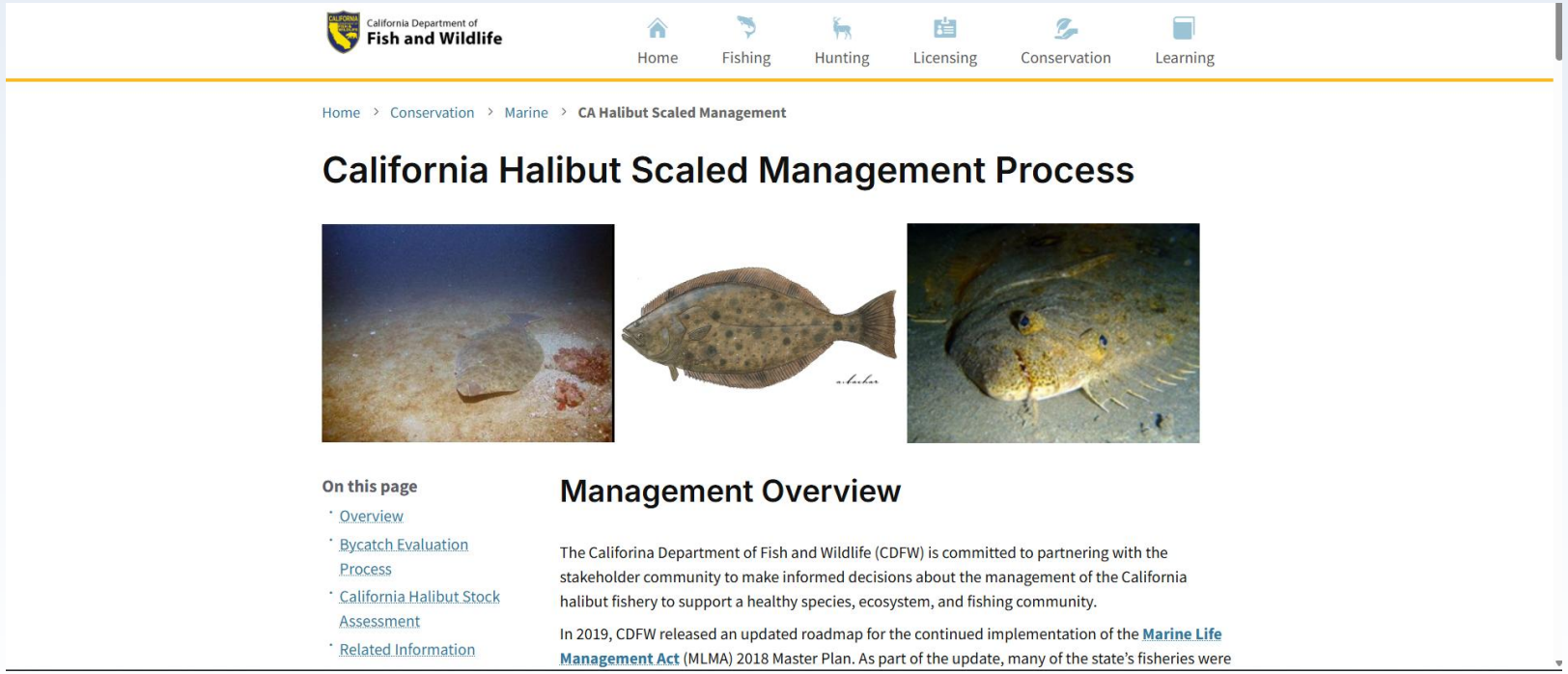
- Upcoming/Ongoing
  - Workshop, surveys and updates as needed
  - March 2027 MRC update – present results



CDFW

Thank you!

Email: MLMAFisheriesMgmt@wildlife.ca.gov



https://wildlife.ca.gov/Conservation/Marine/CA-Halibut-Scaled-Management

Team members: Kirsten Ramey-Burbank, Carlos Mireles, Helen Killeen, Cyndi Dawson, Ken Oda, Travis Tanaka, and Kim Walker