

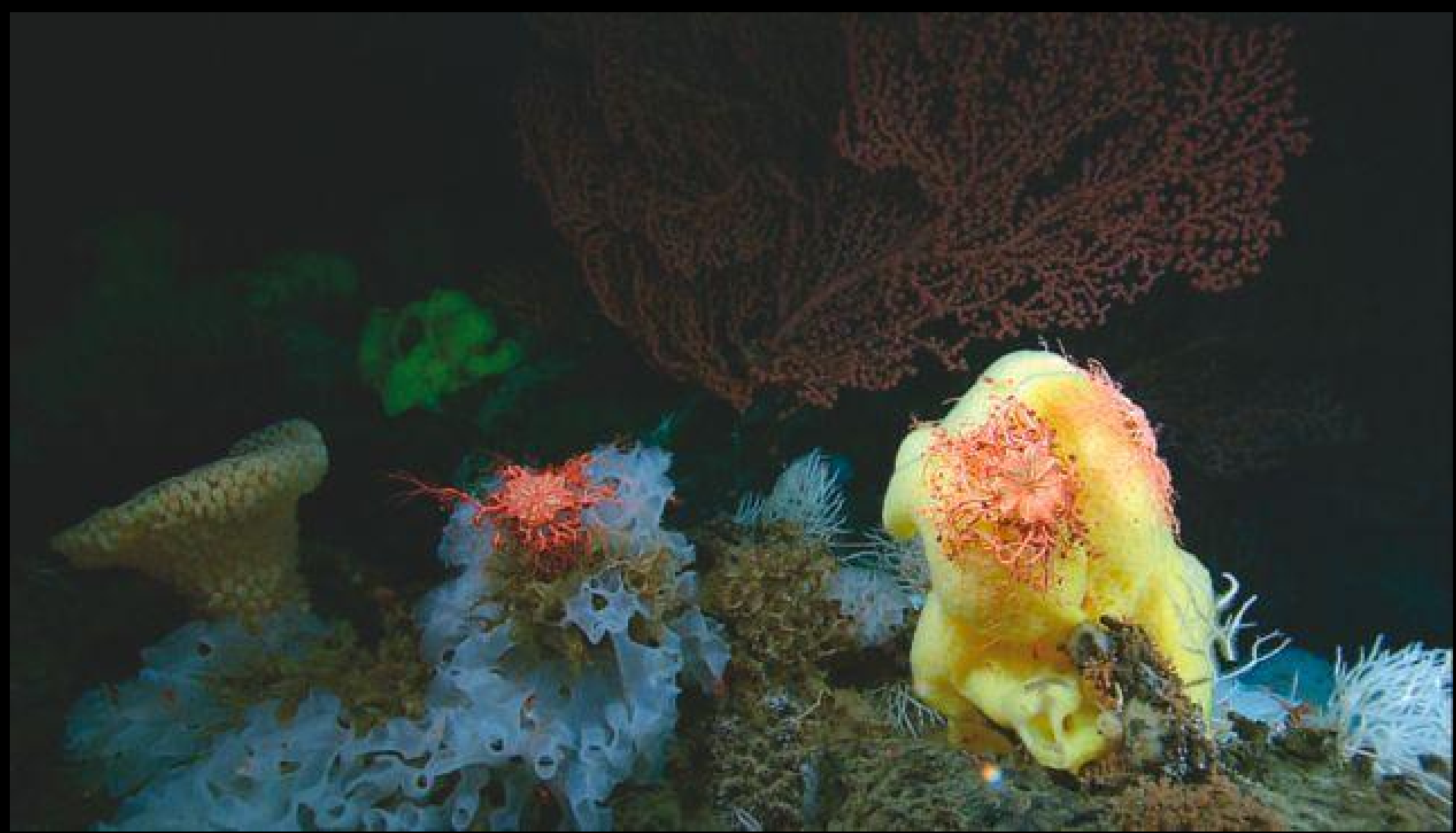


Monterey Bay National Marine Sanctuary

Ecosystem-based Management Initiative

Benthic Habitat

February 16, 2012

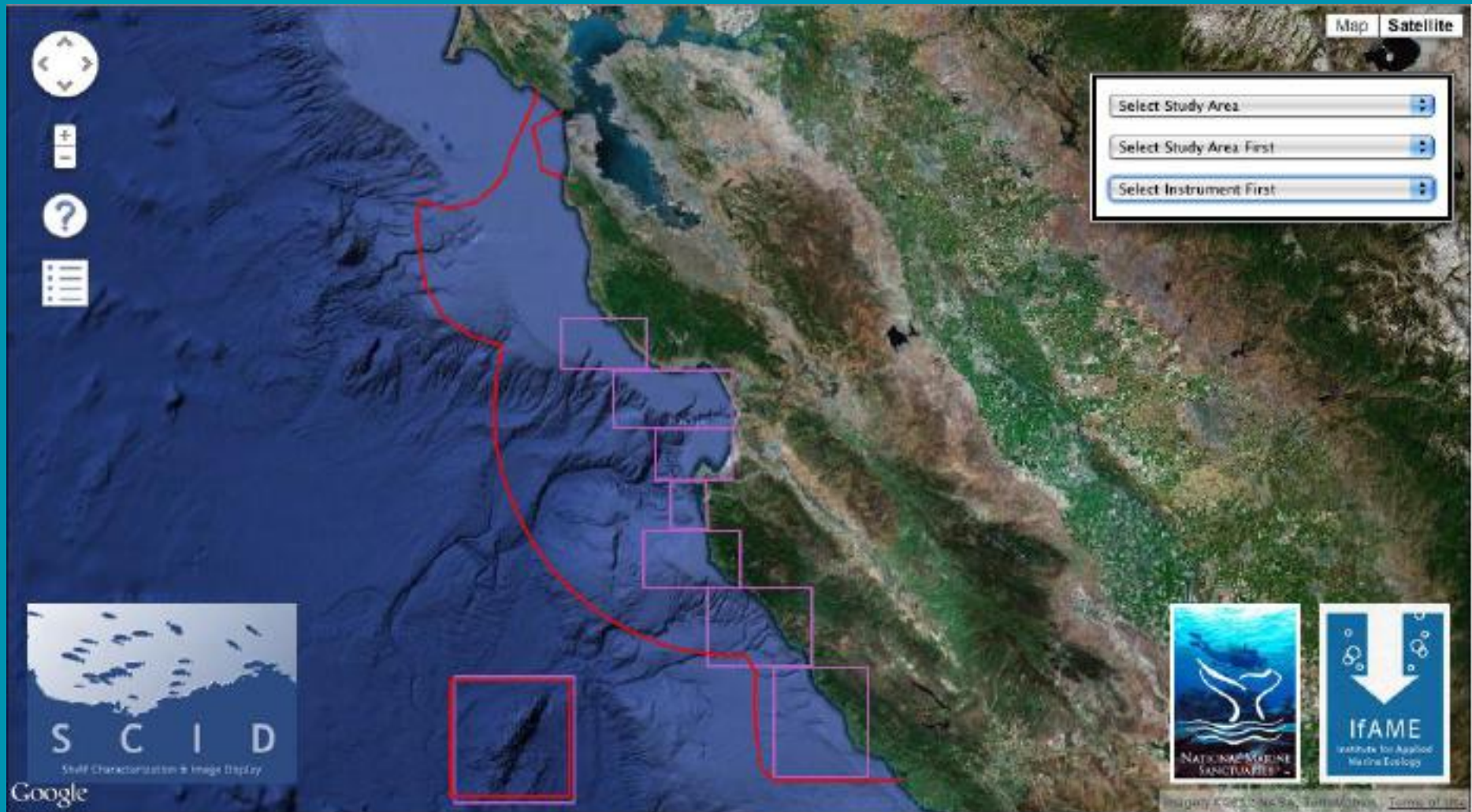






SIMoN: www.sanctuariesimon.org/photos

SCID: www.sanctuariesimon.org/regional_sections/maps



The Central Coast Economy

Tourism, agriculture, recreational fishing, whale watching, kayaking, birding, and the commercial fishing industry

all depend on a healthy ecosystem.



MONTEREY BAY
NATIONAL MARINE SANCTUARY



FINAL MANAGEMENT PLAN

PREPARED AS PART OF THE
JOINT MANAGEMENT PLAN REVIEW (JMPR)
VOLUME III OF IV

OCTOBER 2008

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
OFFICE OF NATIONAL MARINE SANCTUARIES



Benthic Habitat and MP Action Plans:

Ecosystem Protection
Bottom Trawling Effects
on Benthic Habitats
Marine Protected Areas
Davidson Seamount
Education & Research

Many years of
extensive public
and AC input, and
subsequent staff effort



NATIONAL MARINE SANCTUARIES

Home

About Your Sanctuaries

Visiting Your Sanctuaries

Expeditions

Education

Science

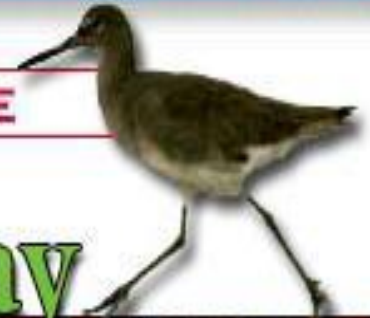
**Biologically
structured benthic
habitat condition:**

fair/poor

Maritime Heritage



SANCTUARY SCIENCE



Monterey Bay 2009 Condition Report



[Click here for larger map](#)



THE NATIONAL ACADEMIES PRESS

Effects of Trawling and Dredging on Seafloor Habitat

2002

Ocean Studies Board

Division on Earth and Life Studies

National Research Council



Ecosystem-based Management

Integrated approach to maintaining an **ecosystem** in a healthy, productive and resilient condition

Integrated approach to **management**, recognizing interdependencies, collaboration, and balance of diverse societal objectives

Shipping:
US Coast Guard

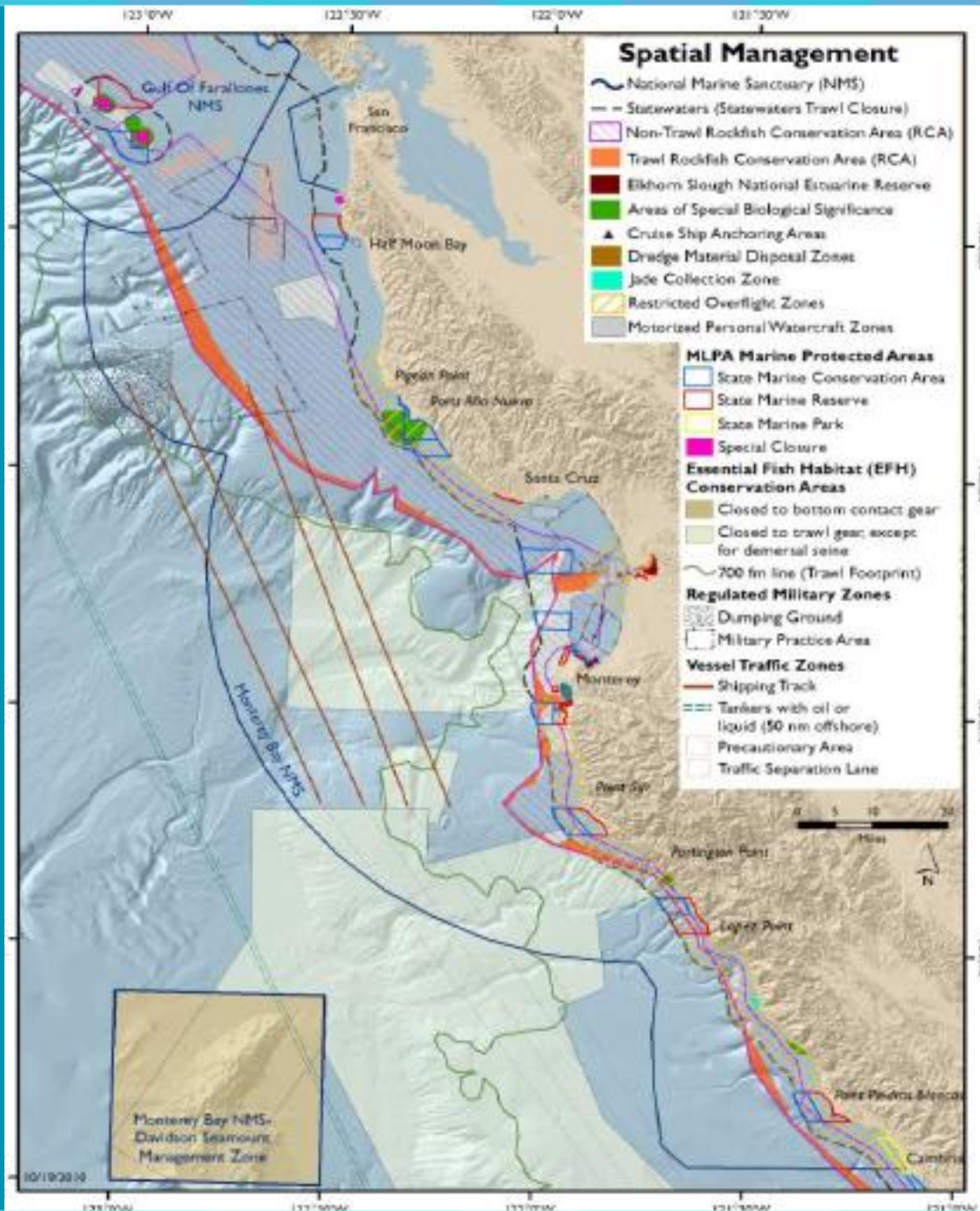
Water Quality:
State and Regional Boards

Coastal Development:
CA Coastal Commission

Fisheries Stocks (State):
CA Dept. of Fish and Game

Fisheries Stocks (Federal):
NMFS and PFMC

*Broader mandate to protect
ecosystem resources:*
MBNMS



Partner Processes to Advance the EBM Initiative

PFMC / NMFS: Essential Fish Habitat Review
Fisheries Ecosystem Plan

CDFG – OPC: Marine Life Protection Act Review

SWRCB: Areas of Special Biological Significance

USCG: Port Access Route Study

Partner Processes to Advance the EBM Initiative

National Marine Fisheries Service (NMFS),
Pacific Fishery Management Council (PFMC), and
California Department of Fish and Game (CDFG)
are leads for fishery management in the sanctuary.

Partner Processes to Advance the EBM Initiative

Examples where MBNMS has looked to fisheries managers when fishing regulations provide enhanced ecosystem protection:

- **EFH designation to protect habitat at the Davidson Seamount**
- **restrictions on kelp harvesting**
- **state action to move gillnets to deeper water**
- **prohibitions on krill harvesting**
- **prohibitions on the attraction of white sharks**

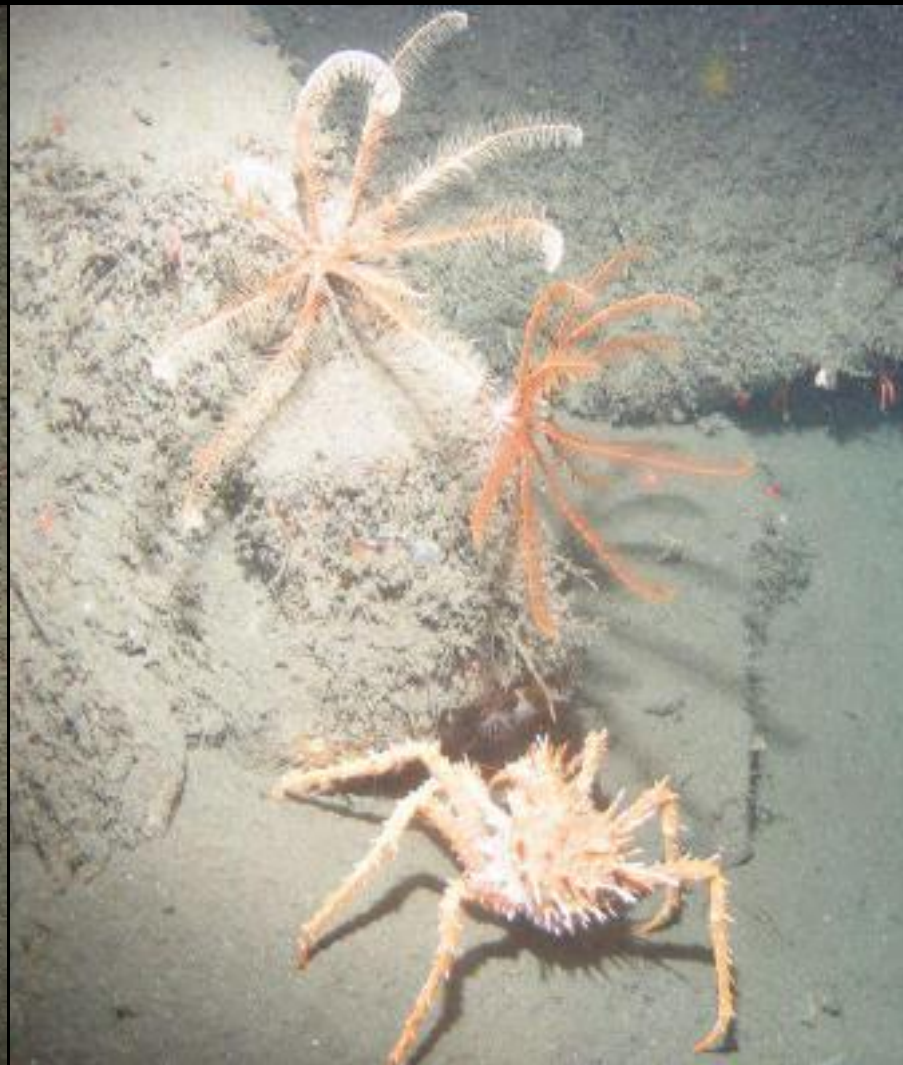
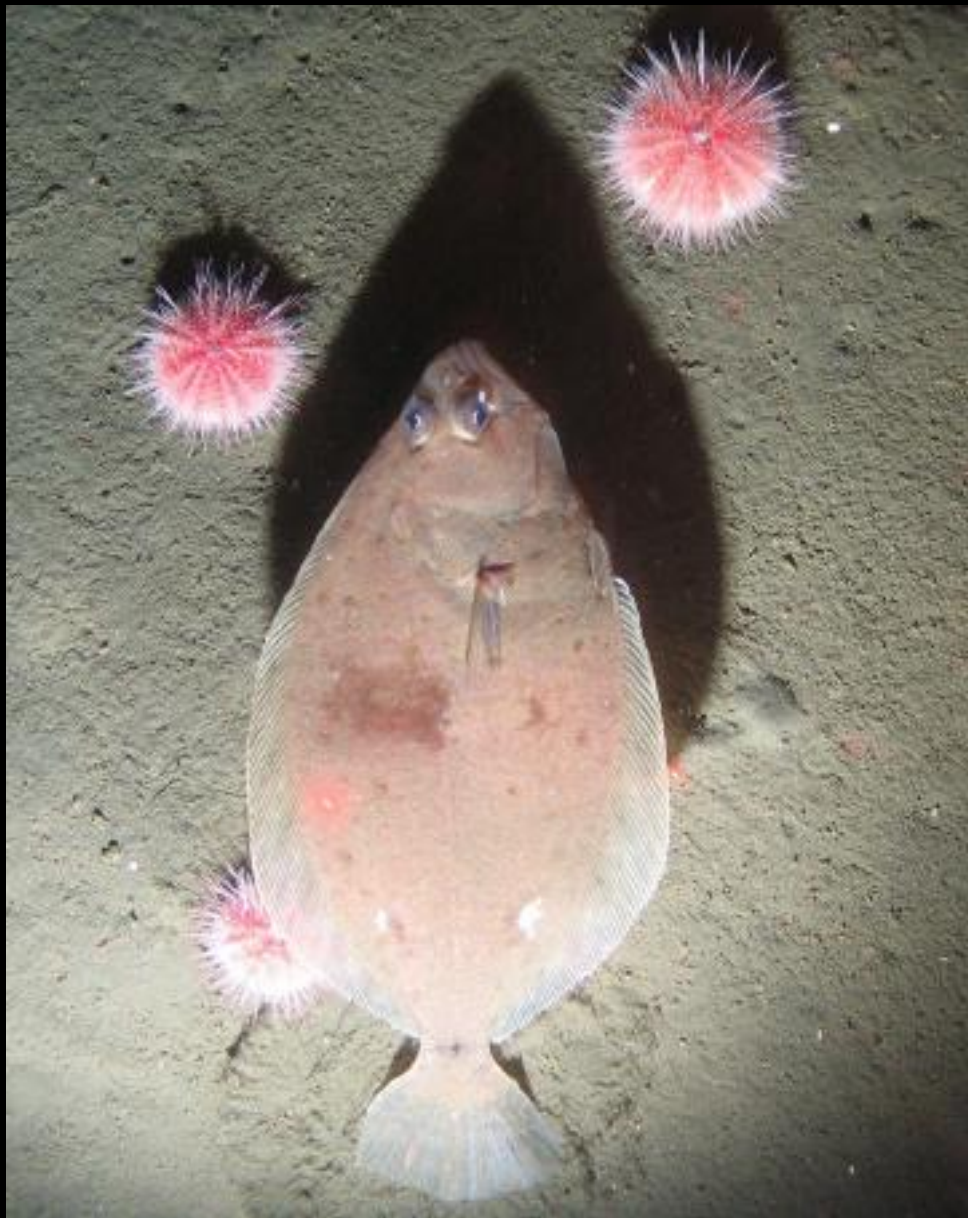


EBM Initiative Goals

- Maintain and/or restore marine ecosystem health, services and function;
- Ensure protection of unique and rare features;
- Facilitate research to differentiate between natural variation and human impacts;
- Facilitate ecologically and economically sustainable uses, including fisheries.

EBM Initiative Goals and EFH

- Focus on qualitative links to ecosystem health, services, structure and function
- Ensure protection of unique and rare features
- Facilitate research to differentiate between natural variation and human impacts
- Encourage EFH designations that facilitate sustainable uses and boost the local economy



EFH Definition

“...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”

Magnuson-Stevens Act

Essential Fish Habitat Review

Sanctuary interests and strategies for benthic habitat

Pacific Fishery Management Council

National Marine Fisheries Service

Magnuson-Stevens Fishery Conservation and
Management Act

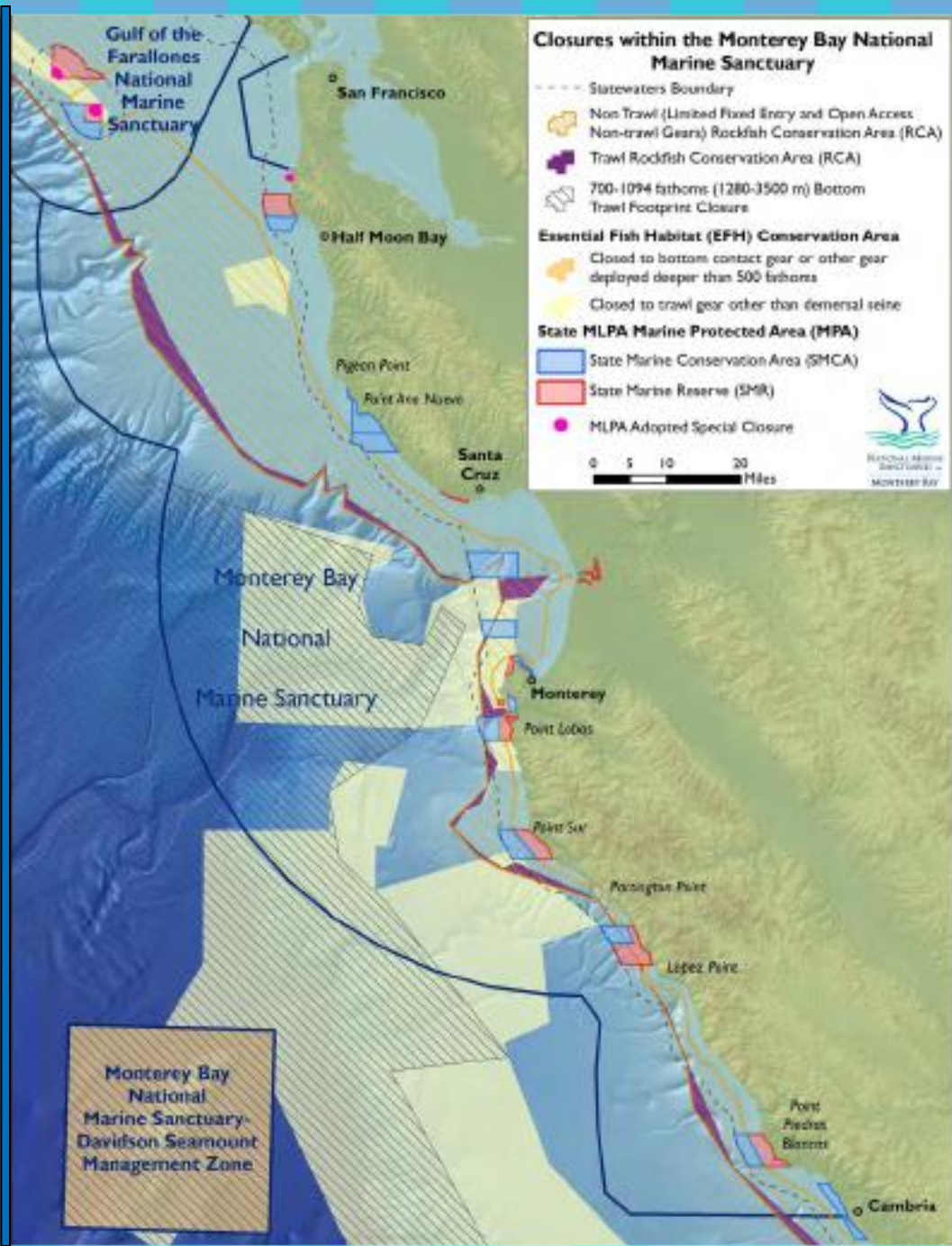
Groundfish Fishery Management Plan



Groundfish EFH 2005

*In 2005, the Pacific Coast Groundfish
Fishery Management Plan was amended to:*

- Describe Essential Fish Habitat
- Designate Habitat Areas of Particular Concern within EFH
- Minimize to the extent practicable adverse impacts of fishing on EFH
- Address research needs
- Identify other actions to encourage conservation and enhancement of EFH







PFMC Groundfish EFH Review Timeline

March 2006
EFH
designated

2011
EFH
Review
Process
begins

Feb 2011
Call for
new data

March 2012
Report of
new
information

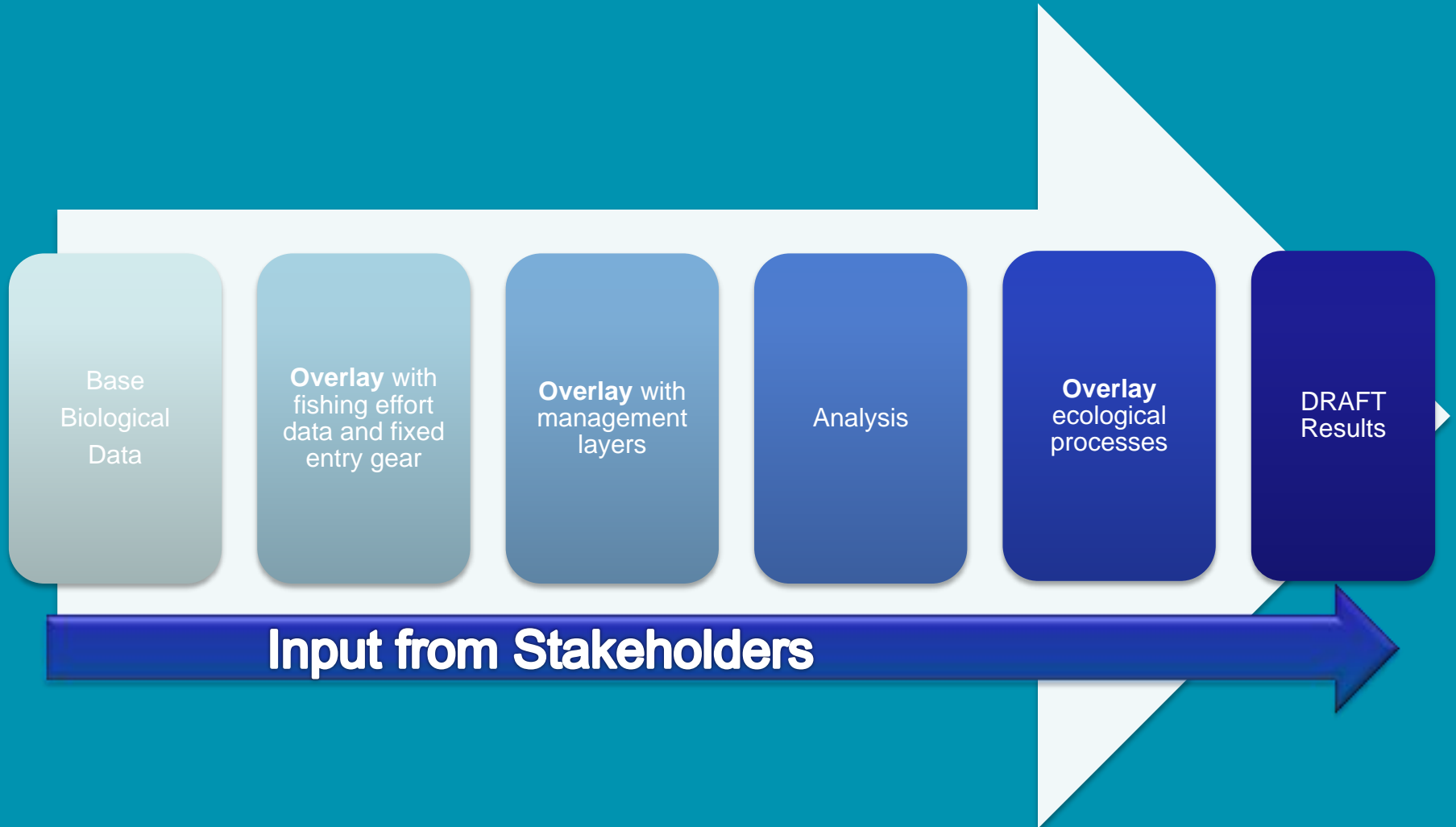
April 2012
PFMC
decides
whether to
consider
proposals

July 2012
Proposals
likely Due

Nov 2012
Decision
on whether
to modify
FMP



Analyzing Spatial Information



Analyzing Spatial Information

- Based on best available science
 - Modeled data
 - Sampled data
- Understand data caveats



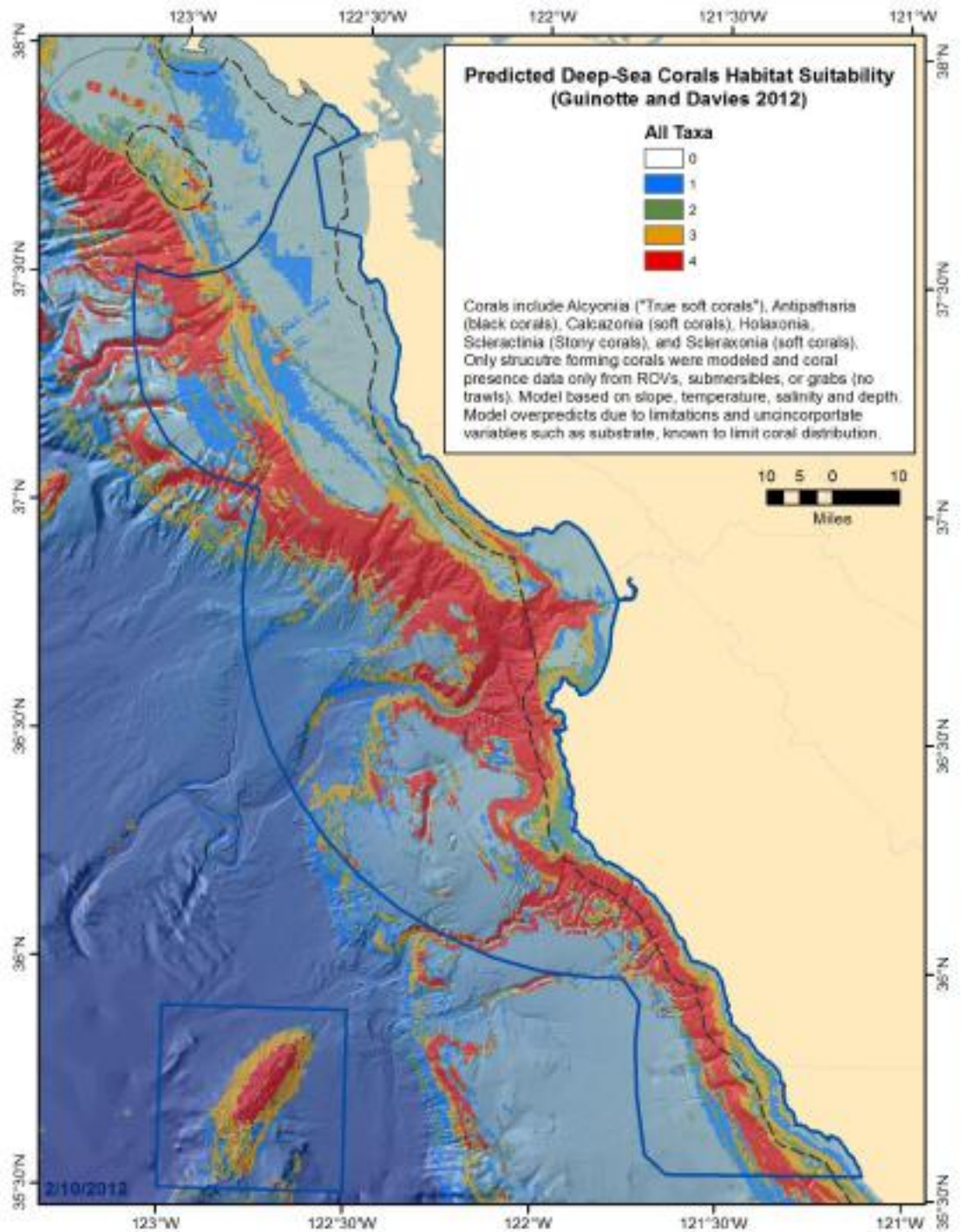


Modeled data: Corals

Predicted
Deep-Sea
Coral
Habitat
Suitability

Sampled
Corals

Hard
Substrate

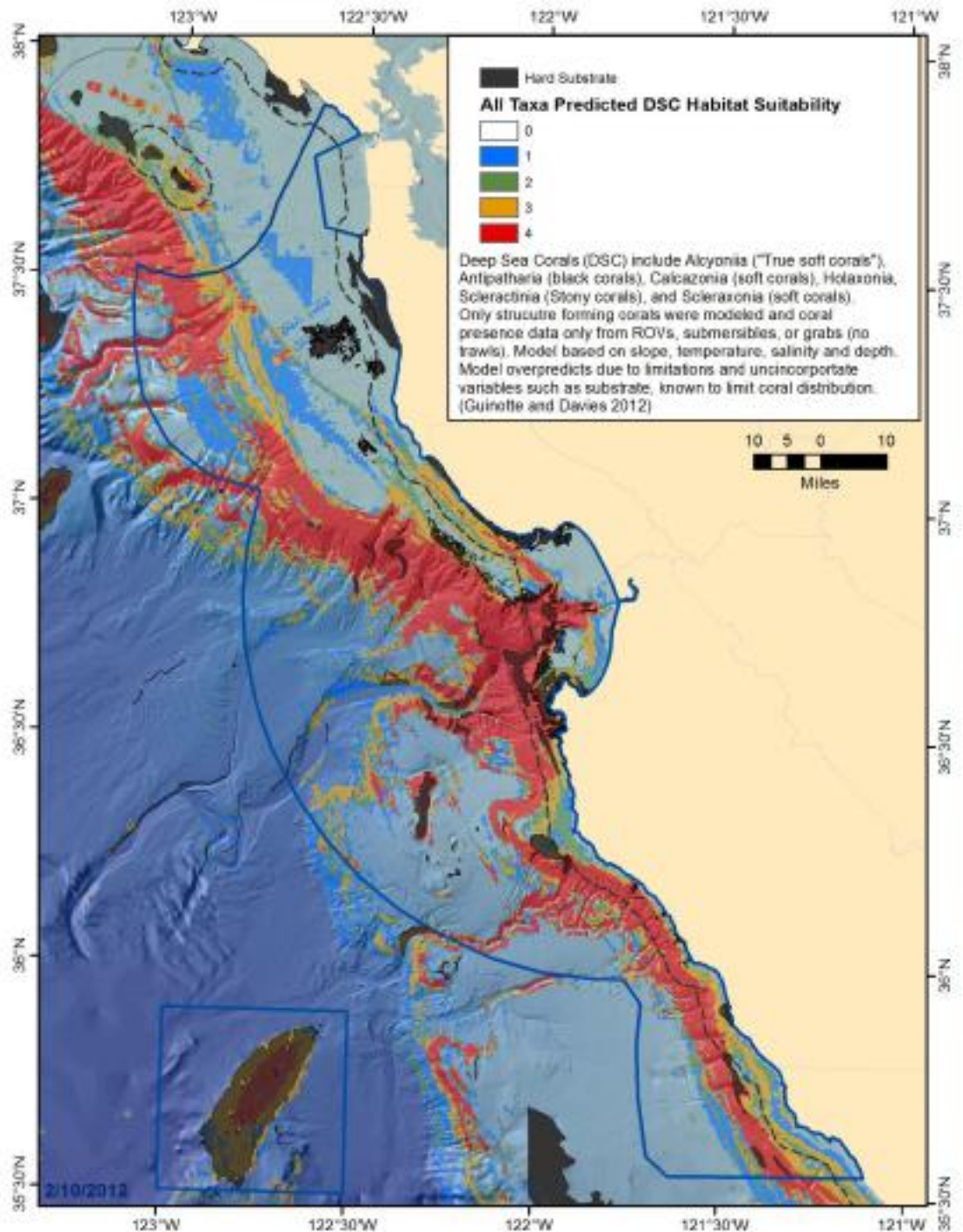


Sampled data: Hard Substrate

Predicted
Deep-Sea
Coral
Habitat
Suitability

Sampled
Corals

Hard
Substrate

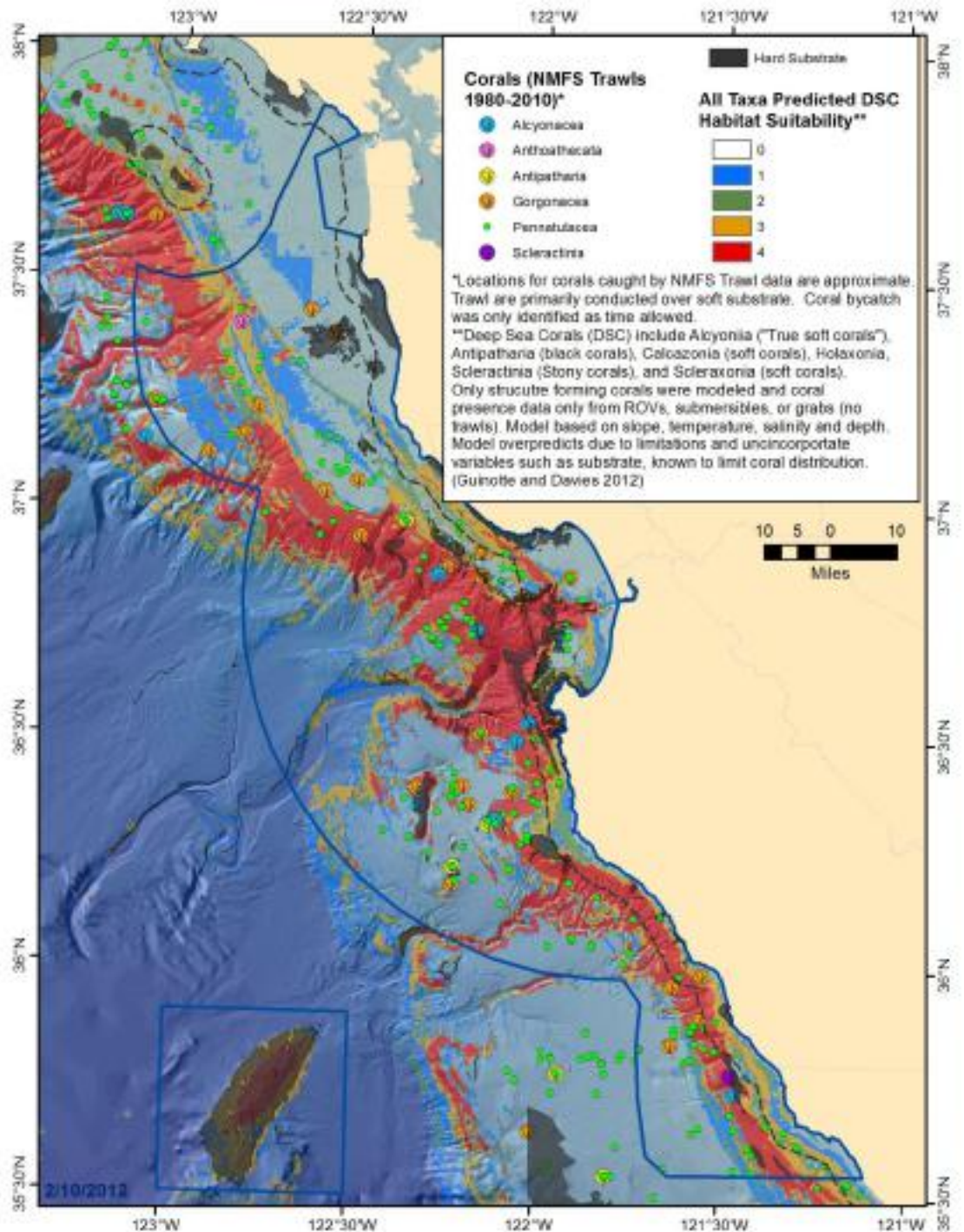


Sampled data: Corals

Predicted
Deep-Sea
Coral
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Suitability

Sampled
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Hard
Substrate

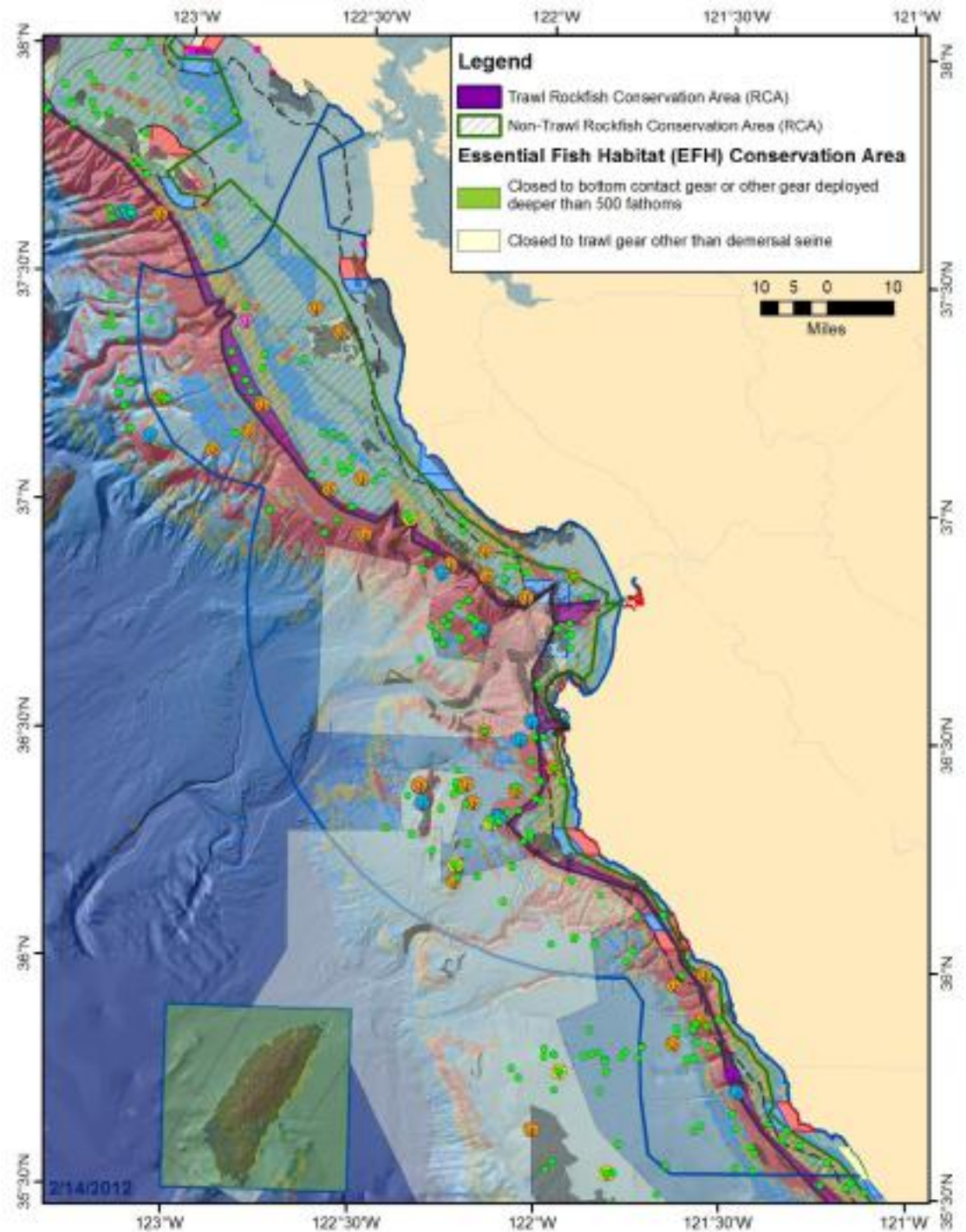


Current EFH Areas

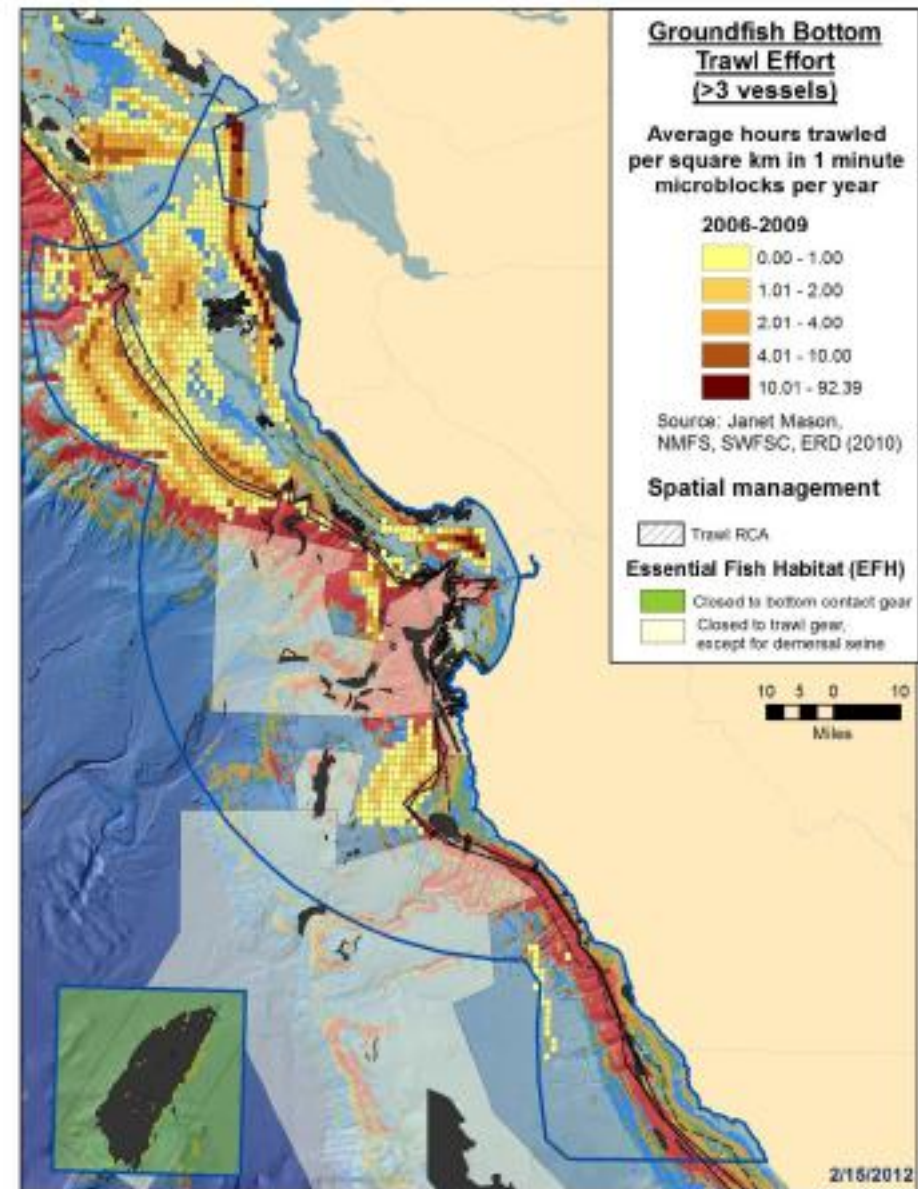
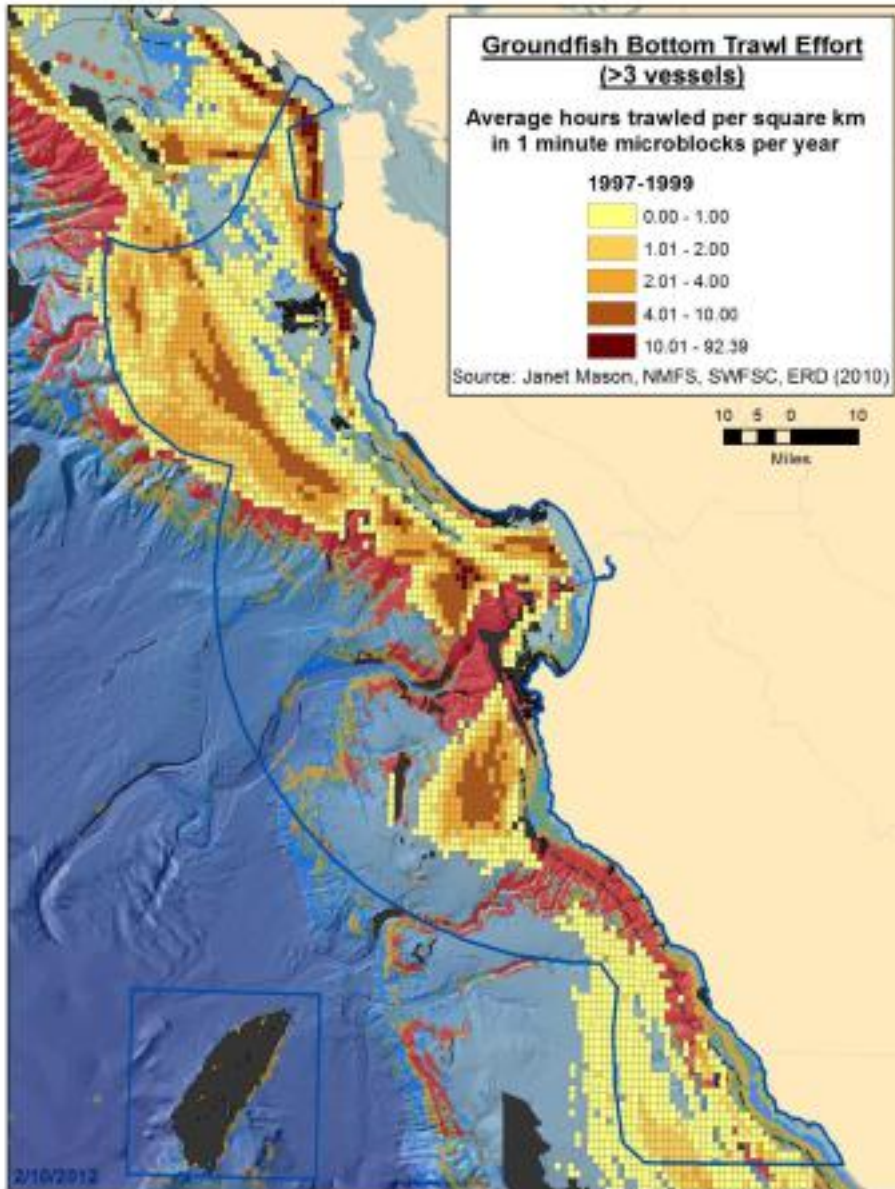
Predicted
Deep-Sea
Coral
Habitat
Suitability

Sampled
Corals

Hard
Substrate



Overlay with fishing effort data





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Your information is essential

- locations of benthic habitat essential to groundfish species
- locations of benthic habitat that are unique, rare, remarkable
- locations of areas that are currently or historically of interest to the trawl fishery, and their relative value
- additional factors (e.g., quotas, natural variation, fuel) that interact with EFH to affect viability of the fishery
- locations necessary for research that may be affected by EFH regulations

Your information is essential

- **Stage 1:** Now through March 22
 - One open house for all stakeholders
 - Limited number of targeted meetings
 - Submittal of written information
- Information gathering closes March 22
- Analysis proceeds to April 19 SAC meeting
- **Stage 2** input on analysis begins after April 19

