Ecosystem-based Management Initiative

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NATIONAL MARINE SANCTUARIES

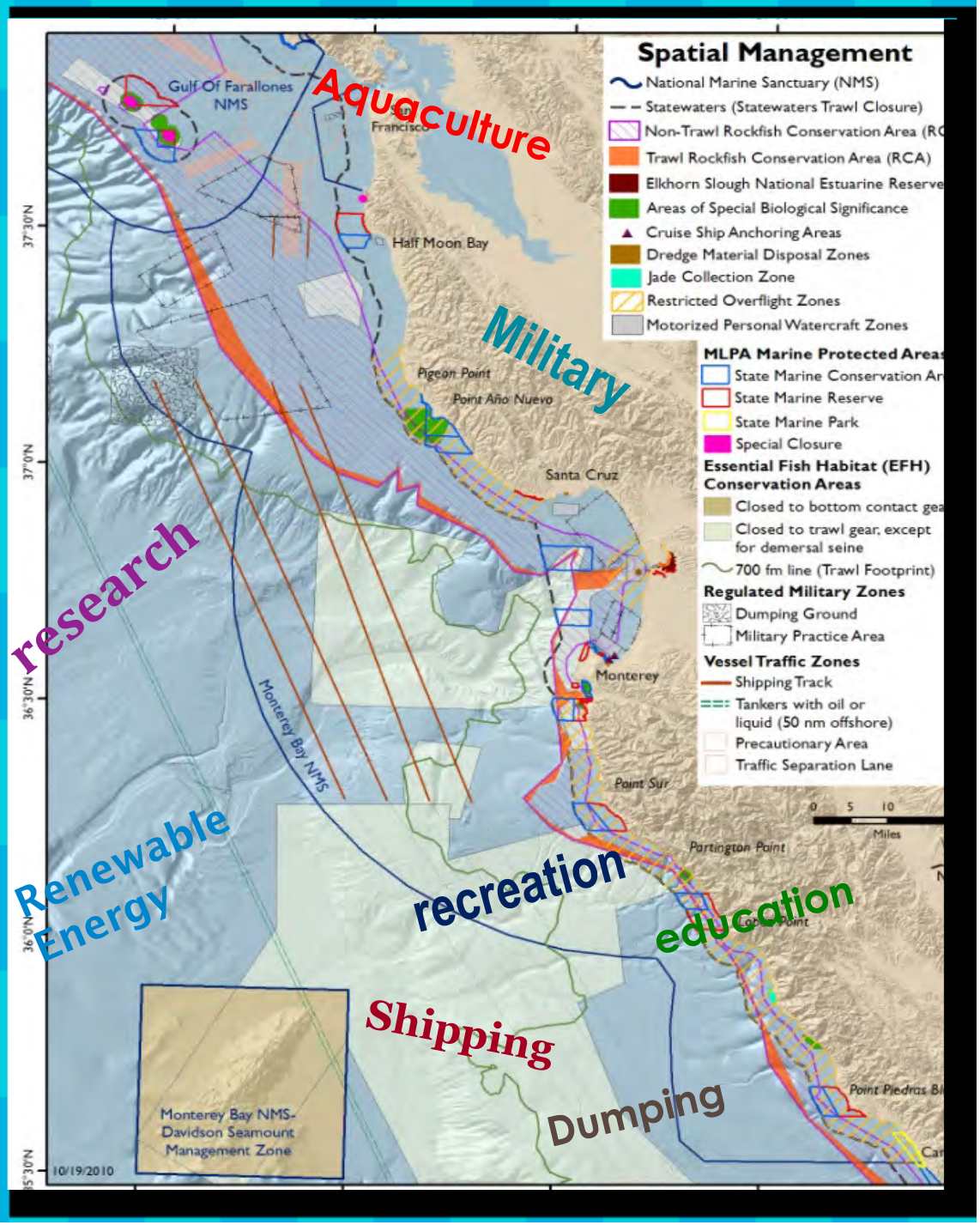
MONTEREY BAY

MBNMS *Today*

- >25 agencies & authorities
- Zones created in isolation:

  Shipping lanes
  Essential Fish Habitat
  Dredge Disposal areas
  Military zones
  Areas of Biol Significance

- Overlapping jurisdictions
- Sector by sector
- Emerging demands
- Global threats



EBM Initiative

GOAL:
To enhance ecosystem-based management by applying the best available science and integrating and coordinating with partner agencies

EBM Initiative Objectives

1) Maintain/restore marine ecosystem health and function;

2) Ensure protection of unique and rare features;

3) Facilitate research to differentiate between natural variation versus human impacts;

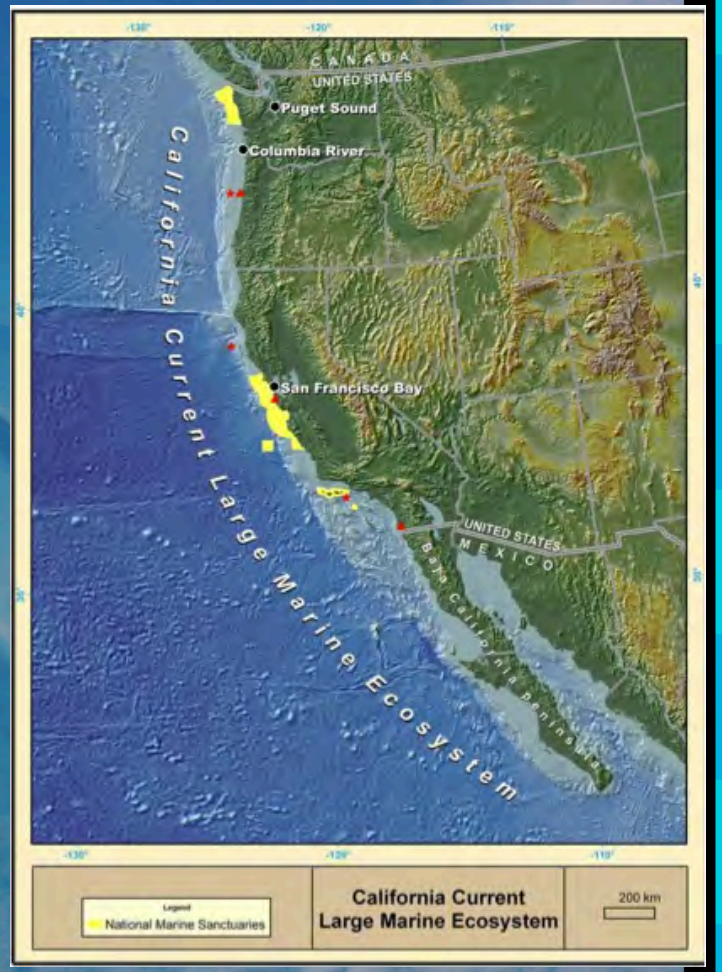
4) Facilitate ecologically and economically sustainable uses, including fisheries.

Information Gathering

Objective	Primary Tool	Timeline	Lead
Ecosystem Health	Integrated Ecosystem Assessment/ workshop	2011-2012	NOAA Fisheries
Unique/Rare Features	Workshop & RAP follow-up	May-Oct 2011	MBNMS
Facilitating Research	Workshop & Conservation Series Report	Oct 2010-2012	MBNMS
Sustainable Uses	Collaboration /Workshops	2011-2012	Partners/ Collaborations

Objective 1. Maintain and restore ecosystem health.. Progress to date

1. Integrated ecosystem assessment
2. Scoping
3. Risk assessment
4. Management strategy evaluation

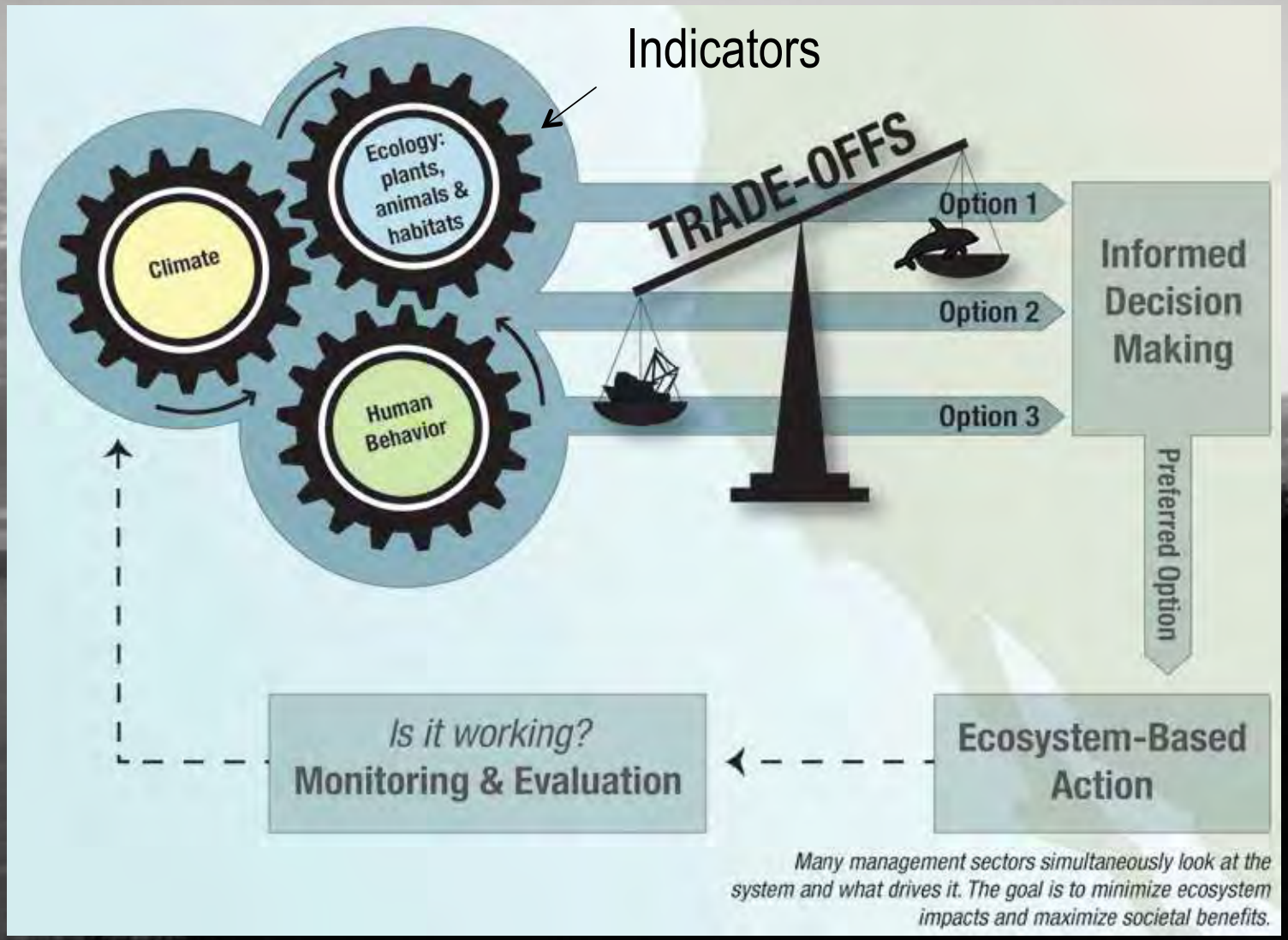


Integrated Ecosystem Assessment

The Science Needed for a Healthy California Current

http://www.nwfsc.noaa.gov/publications/

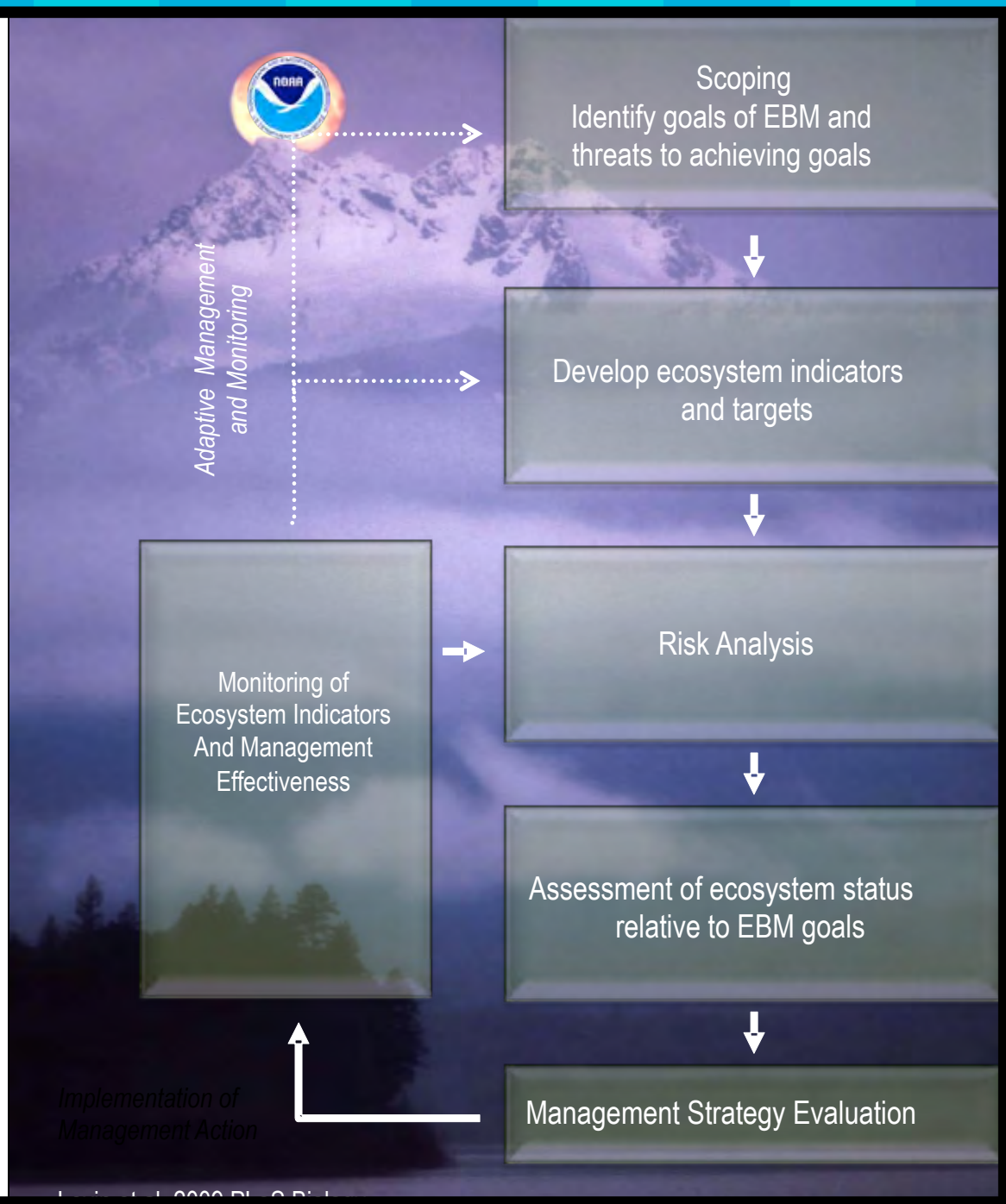
Integrated ecosystem assessment

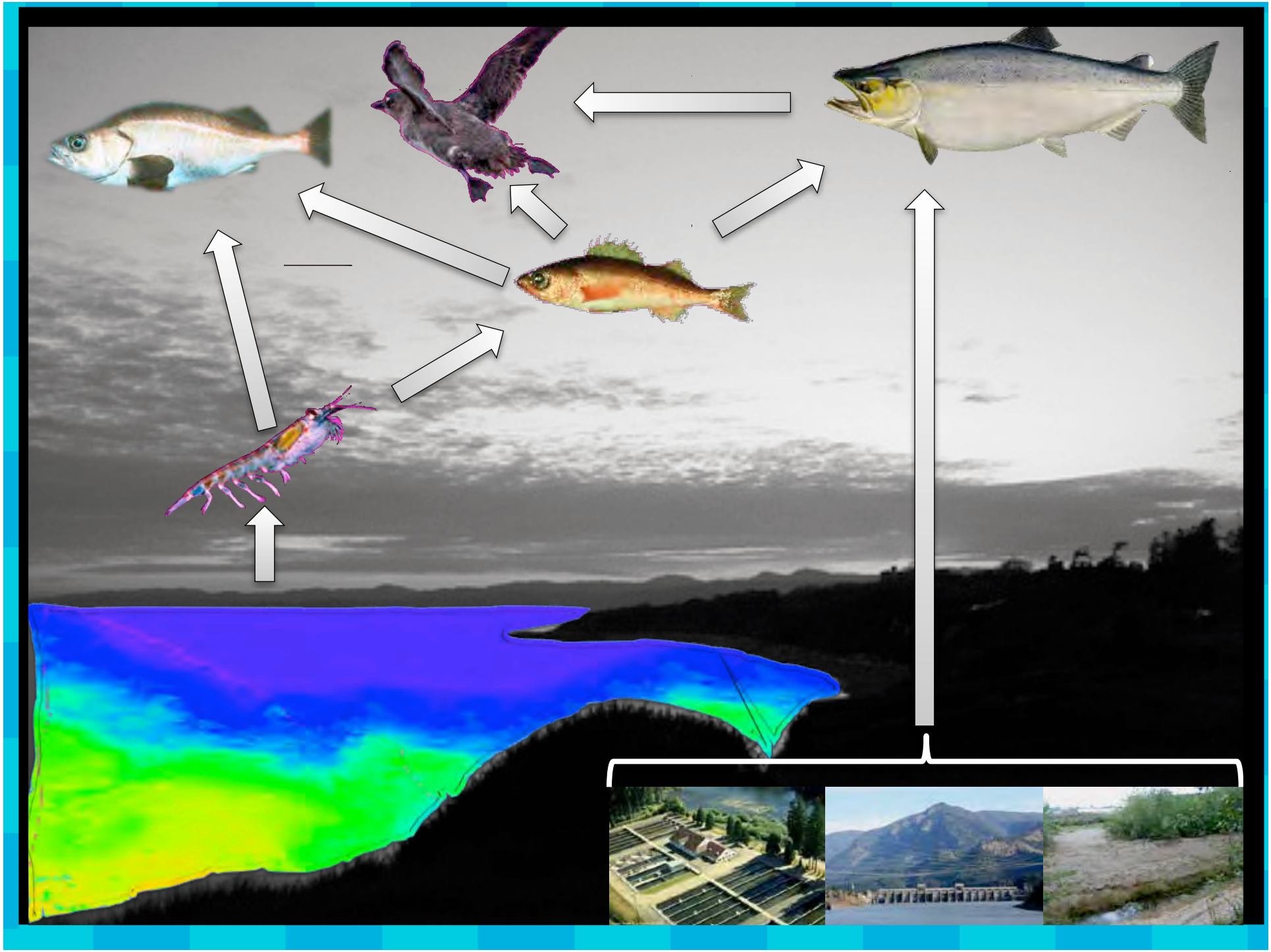


Many management sectors simultaneously look at the system and what drives it. The goal is to minimize ecosystem impacts and maximize societal benefits.

Integrated Ecosystem Assessment

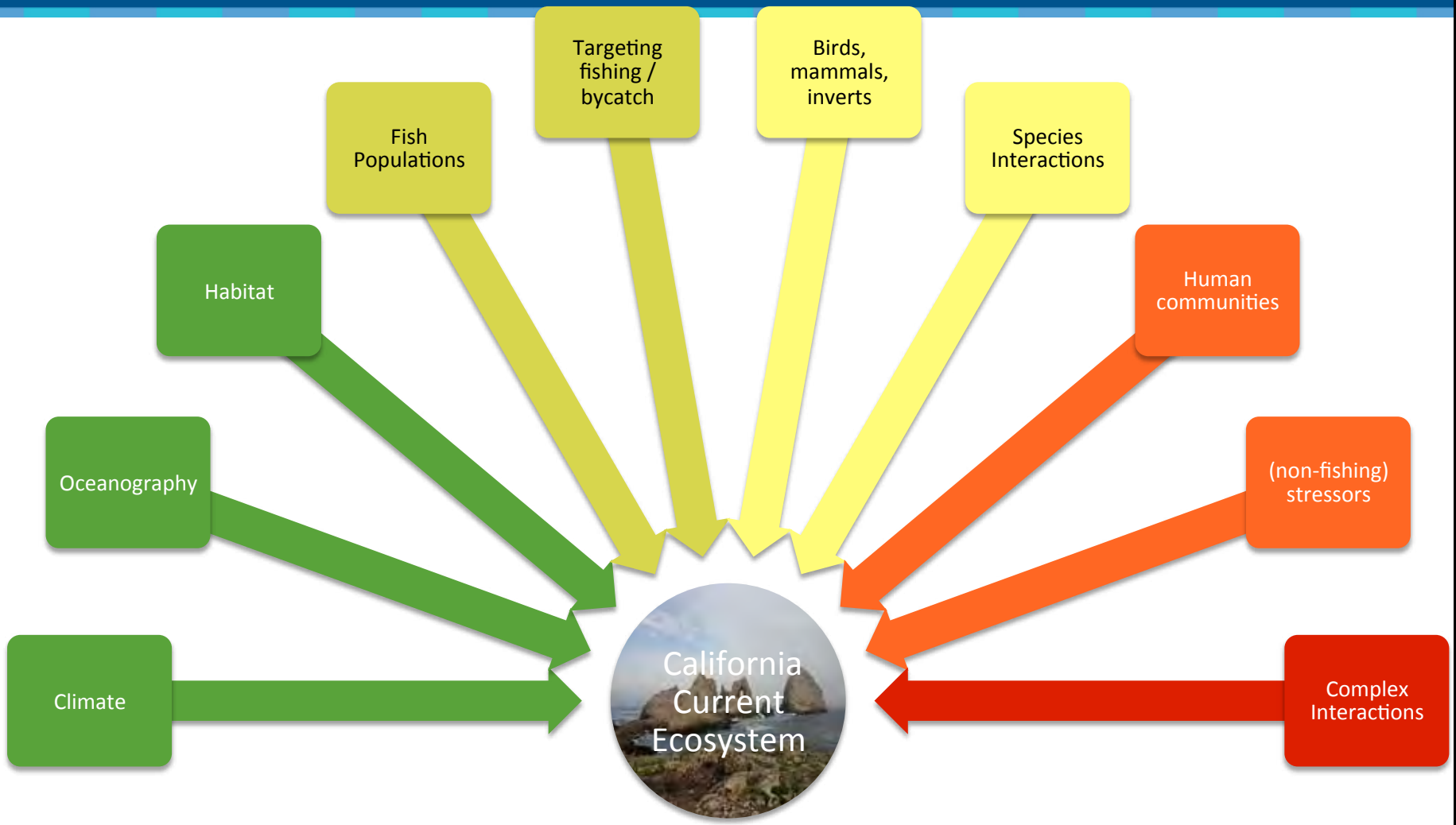
5 major steps





Resilient and Economically Viable
Coastal Communities
Healthy Ecosystems

Integrated Ecosystem Asssment: Pulling together the best information available for the California Current and the Monterey Bay



IEA Time line

- Year 1
  - Ecosystem health
  - Fisheries
    - Groundfish
    - Salmon
  - Protected Species
    - Salmon
    - Green sturgeon

- Year 2
  - Ecosystem health
  - Fisheries
    - Groundfish
    - Salmon
    - **Coastal Pelagic Species**
  - Protected Species
    - Salmon
    - Green sturgeon
    - **Marine mammals, birds**
  - **Coastal Communities**

- Year 3
  - Ecosystem health
  - Fisheries
    - Groundfish
    - Salmon
    - Coastal Pelagic Species
  - Protected Species
    - Salmon
    - Green sturgeon
    - Marine mammals, birds
  - Coastal Communities
  - Habitat
    - Biogenic
    - Physical
    - Water quality
  - Seafood

Objective 1. Maintain/restore ecosystem health
Progress to date…
SCOPING

- Monterey Bay pilot
- Spring 2012
- Collaborative effort
- Stakeholder involvement: *a defining feature of scoping*

  Asks:

  1) What are your management priorities?
  2) What are your objectives for ocean management ?
  3) What indicators are understandable and meaningful?
  4) What are your targets for ecosystem condition?
  5) What are your thresholds for specific indicators?
  6) What management alternatives should be modeled?

Objective 1. Maintain/restore ecosystem health
Progress to date…
SCOPING

Educational materials

Web site being built

Video in development

NOAA FISHERIES:
Office of Science & Technology

Directorate | Fisheries Statistics | Assessment & Monitoring | Economics & Social Analysis | Science Information | Marine EcoSystems

NOAA's Integrated Ecosystem Assessment Program

IEA Quick Links

- Home
- California Current Regional Ecosystem
- Gulf of Mexico Regional Ecosystem
- Northeast Shelf Regional Ecosystem
- Pacific Island Regional Ecosystem
- Alaska Complex Regional Ecosystem
- Partners
- FAQ
- Contact Us

Select Publications

The many faces of ecosystem-based management: Making the

California Current

The California Current (CC) is known for strong seasonal upwelling that yields local areas of high productivity capable of supporting a wide variety of important commercially harvested shellfish and fish as well as sea birds and large marine mammals. Interannual variability in this system is influenced by two main climate drivers, the El Nino Southern Oscillation and the Pacific Decadal Oscillation. Health and productivity of this system is affected by commercial and recreational fishing, pollution, habitat degradation, shoreline alteration, logging, agriculture, urbanization, grazing, and energy production. The California Current Ecosystem (CCE) is the first in eight of the USA's Large Marine Ecosystems (LMEs) to implement NOAA's Integrated Ecosystem Assessment (IEA)

Objective 1. Maintain/restore ecosystem health
Progress to date…
Scoping for indicators…

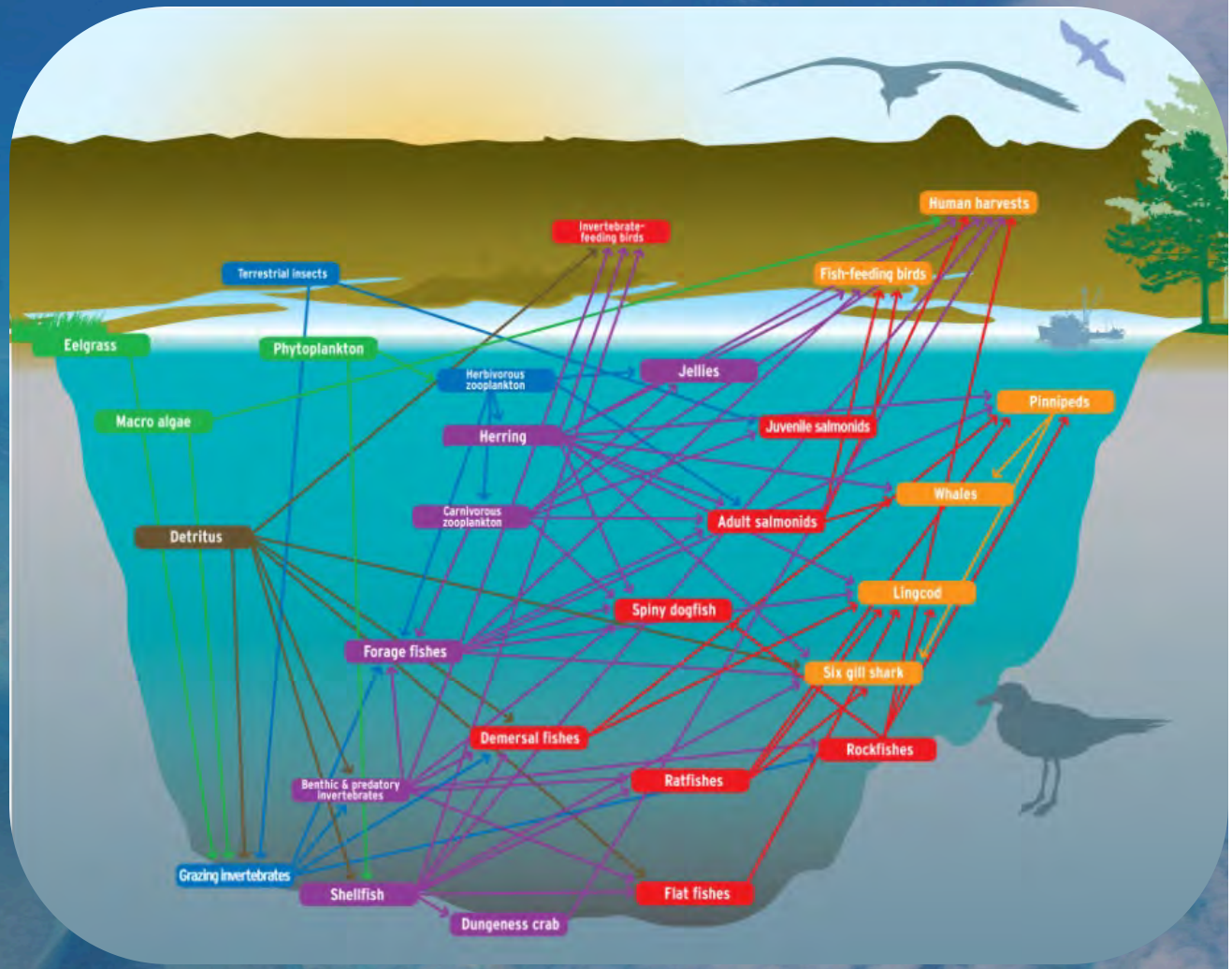
Objective 1. Maintain/restore ecosystem health
Progress to date…
Risk Assessment

- Quantify the risk of a particular ecosystem component to due to different human activities.

- What is the risk of reaching or remaining in an undesirable state?

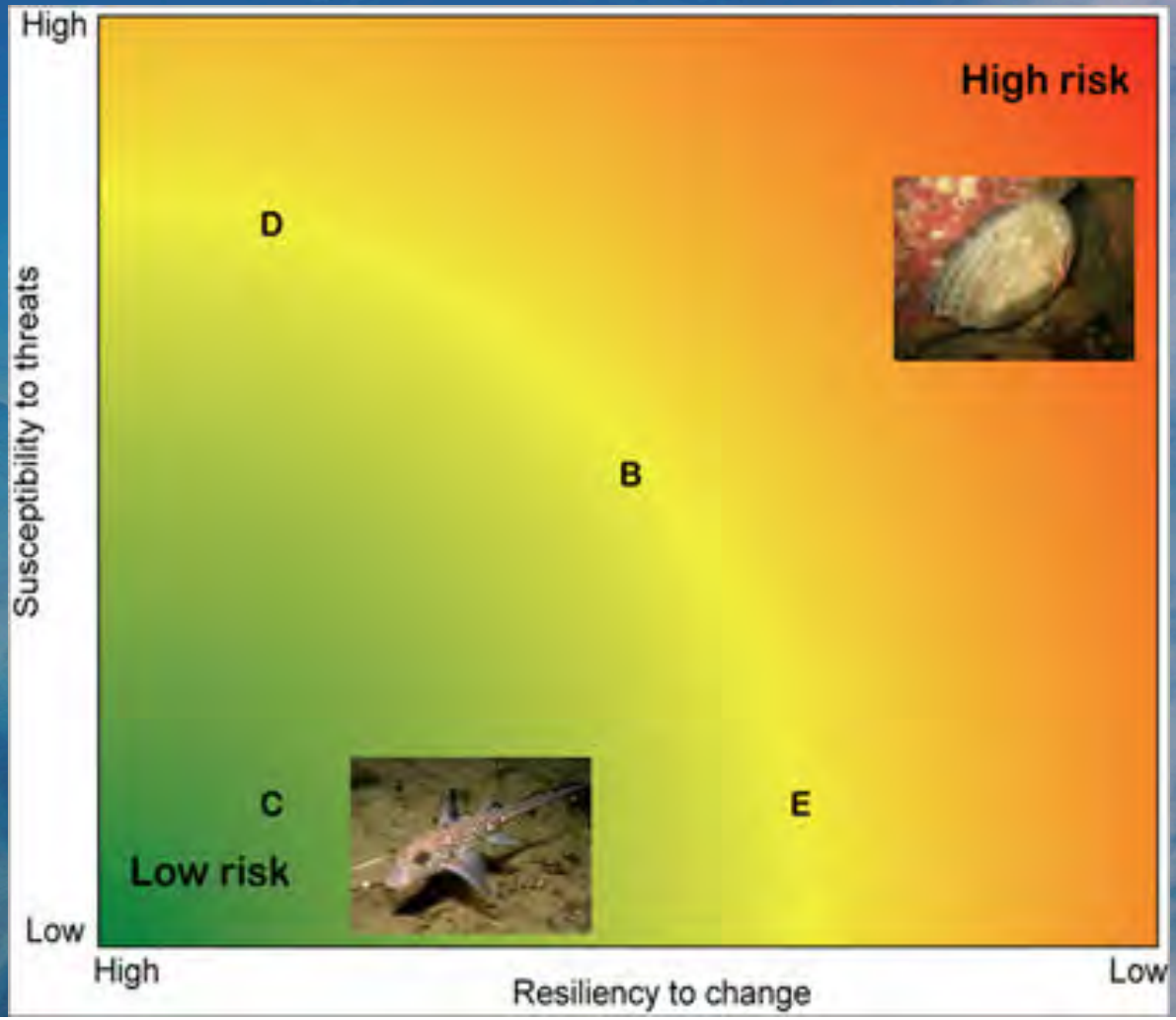
- *Exposure- of different components to stressors*

- *Sensitivity of each component to*



Objective 1. Maintain/restore ecosystem health
Progress to date…
Risk Assessment

1. Planning process
2. Data gathering
3. Expert working groups will be developed



Objective 1. Maintain/restore ecosystem health
Progress to date…
Management strategy evaluation

Socio-Economic modeling

How might people respond to the economic and regulatory situation?

Ecosystem Modeling

What is the effect of management on the ecosystem?

Regional Economic Impact Analysis

What is the economic consequences of alternative management strategies

Fisheries outcomes

Conservation outcomes

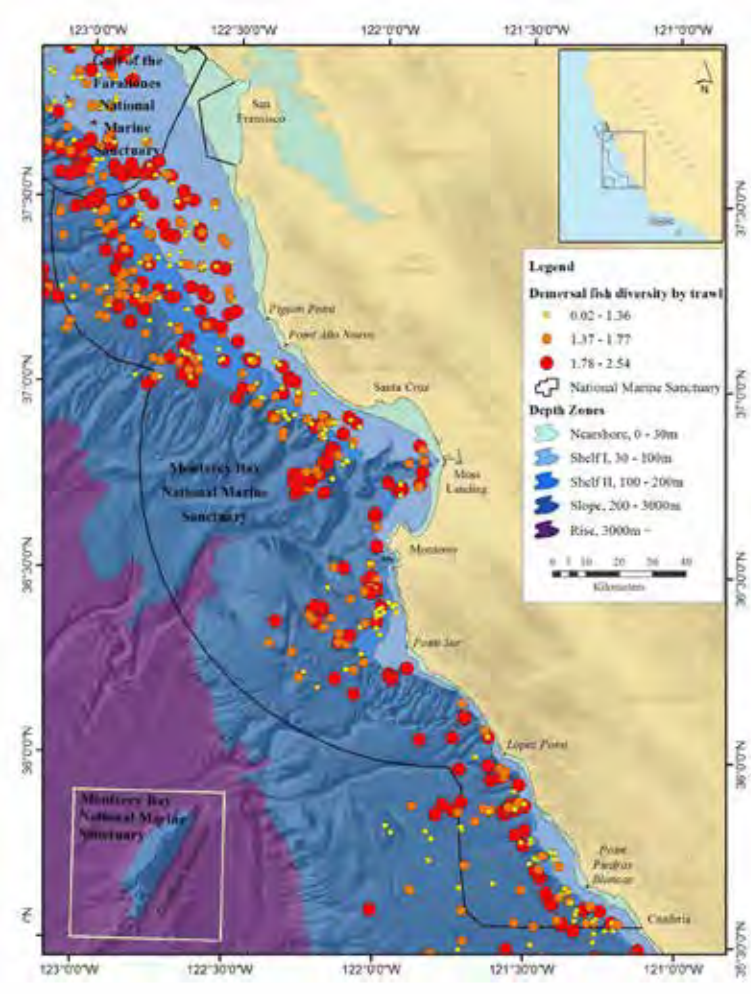
Economic outcomes

Objective 1. Maintain/restore ecosystem health
Progress to date…
Socio-economic profile

1. What is the economic value of different human uses around Monterey Bay?
2. What has happened to recreational and commercial fishing landings over time?
3. How are the different fisheries/fleets doing?

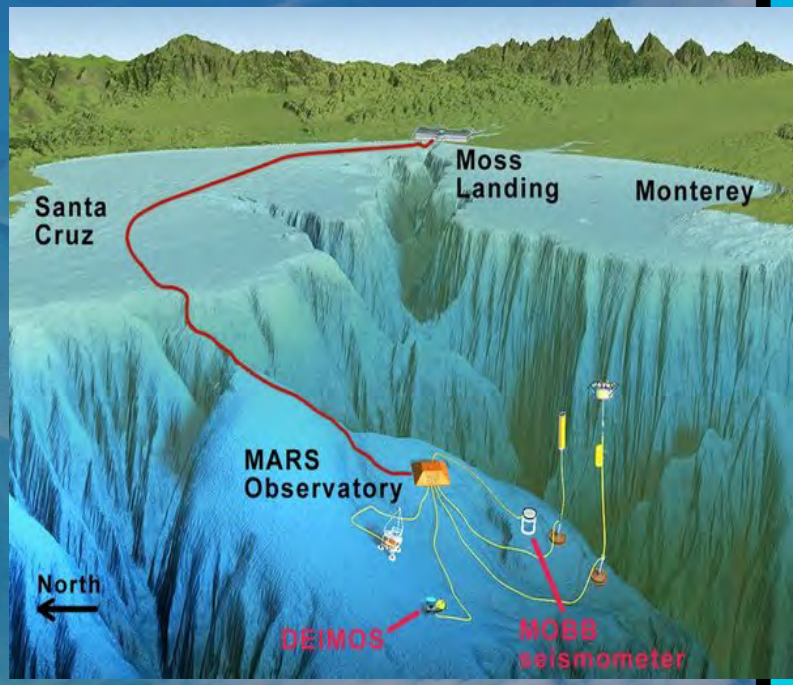
Objective 2. Protect unique and/or rare features.. Progress to date

1. Expert workshop May 2011
2. Summary of workshop underway
3. Follow up data collection on unique/rare features



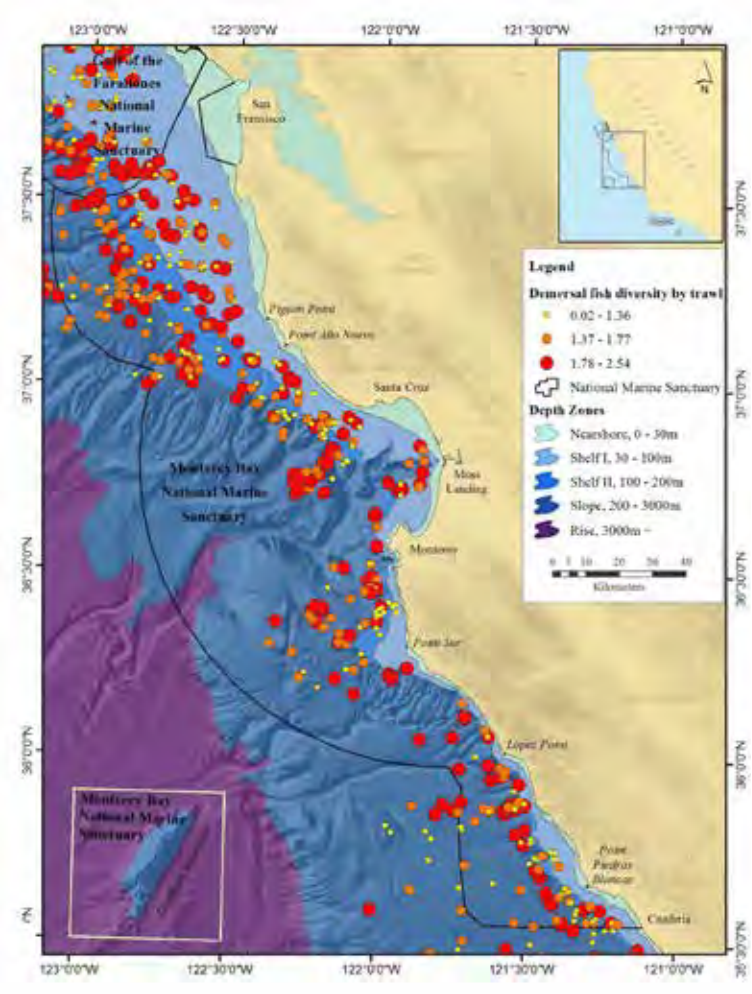
Objective 3. Facilitate research ...
Progress to date

1. Expert workshop October 2010
2. Proceedings submitted to National Marine Sanctuary Conservation Series
3. Revising based on reviews
4. Research Activities Panel working group



Objective 3. Facilitate research ...
Next Steps

1. Expert working group meetings
2. Investigate permitting options
3. Sentinel Site evaluation
4. PFMC meeting September
5. Explore collaborative opportunities to meet research needs



Objective 4. Facilitate sustainable uses...
Progress to date

1. National Geographic Speaker Series – 3 events with yacht clubs
2. Dinner round table discussions planned- fall 2011
3. Local Catch – community supported fishery
4. Halibut research design study
5. Hook and line (halibut) study

Objective 4. Facilitate sustainable uses...
Progress to date: Speaker Series

1. **Santa Cruz Yacht Club, Elkhorn Yacht Club, Monterey Yacht Club**
2. **Hosted over 175 people**
3. Collaboration with Save our Shores
4. Questions about dredging permits, climate change, toxic paint substitutes, recreational fishing regulations, and concern over nets taking bait fish

Objective 4. Facilitate sustainable uses…
Progress to date: Local Catch Monterey

HOME | Why Should I Join? | How Does the CSF Work? | Sustainability | For Fishermen | NEWS | SIGN UP / Contact Us

LOCAL CATCH MONTEREY

Fresh, Healthy, Local Seafood

HOME

Comments Off

24 March 2011

Local Catch Monterey is a CSF (Community Supported Fishery).

We offer CSA-style weekly shares of fresh local fish to our members.

Video on Local Catch KION News

Objective 4. Facilitate sustainable uses...
Progress to date: Halibut Research Design

1. Initiated 2010, Bill Monning supported
2. GOAL: Evaluate the potential socio-economic and marine ecosystem impacts of trawling and hook-line based fishing for halibut in MB
3. How? By organizing studies that evaluate the economic and ecological sustainability of different gear types
4. Proposal developed, needs funding
5. Socio-economic study underway

Chronicle / Craig Lee

Objective 4. Facilitate sustainable uses...
Progress to date: Halibut Research Design

Organizations Involved

- Commercial fishermen (SF to SB)
- Sport Fishing Conservancy
- National Marine Fisheries Service
- Department of Fish and Game
- Monterey Bay National Marine Sanctuary
- City of Monterey
- Oceana
- Ocean Protection Council
- California Sea Grant
- Monterey Bay Aquarium
- California State University Monterey Bay
- University of California Santa Barbara
- The Nature Conservancy
- Assemblyman Monning's office
- People United for American Commercial Fisheries

Attention Fishermen, WE NEED YOUR HELP!

The Halibut Research Design Project (HRDP) is a group convened by Assemblyman Bill Monning in 2010. Participants have included commercial and recreational fishermen, scientists and representatives from local government, fisheries management and non-governmental organizations. The goal of the HRDP is to:

Evaluate the potential socio-economic and marine ecosystem impacts of trawling and hook-and-line based fishing for halibut in Monterey Bay to inform stakeholder group discussions and decision makers

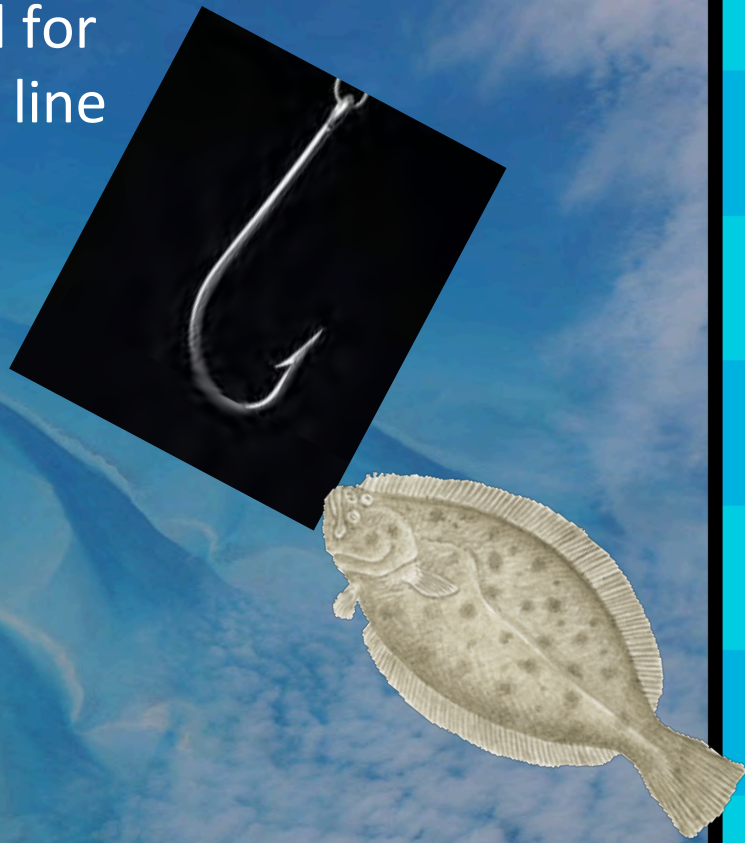
The strategy of the HRDP is to organize studies that evaluate the economic and ecological sustainability of these different gear types.

Targeting Halibut with Hook and Line Gear
The first HRDP study aims to assess hook and line fishing for halibut. Our objective is to learn more about the potential for increased landings of halibut using hook and line methods in Monterey Bay. We hope to conduct a small experimental fishing project this summer to look at catch rates and by-catch in the hook and line fishery at various times throughout the season. Data will be collected by observers.

We Want to Learn from Your Experience
To properly design our hook and line study, we need to understand the nature of the halibut hook and line fishery in Monterey Bay at this time. We need your help in filling out a quick questionnaire that will provide this baseline information. Your assistance will enable us to learn more about how we can increase landings in this fishery. If you have questions or would like additional copies of the questionnaire, please contact Oren Frey, California Sea Grant State Fellow, at 831-647-4228.

Objective 4. Facilitate sustainable uses...
Progress to date: Hook & Line Study

Objective: To learn more about the potential for increased landings of halibut using hook and line methods in Monterey Bay



Approach:

- Small experimental project to look at catch rates and by-catch in hook and line fishery
- Data collection by observers
- Underway at present

Basic steps of EBM Initiative

1. Information gathering

2. Propose & implement strategies

3. Monitor, adapt, assess

2011 *2012* *2013* *2014* *2015*

External processes that influence our EBM Initiative

2011

Gathering information

Facilitating Research | Unique Rare | Sustainable use | Ecosystem health

2012

EFH REVIEW

MLPA REVIEW

Areas of Biological Significance – Regional Water Control Boards

2013

Port Access Route Study

ECOSYSTEM Fisheries Management Plan

What are we working toward?

Enhanced ecosystem protection

Thank you for your time.

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