National Marine Sanctuaries
National Oceanic and Atmospheric Administration

NATIONAL MARINE SANCTUARIES

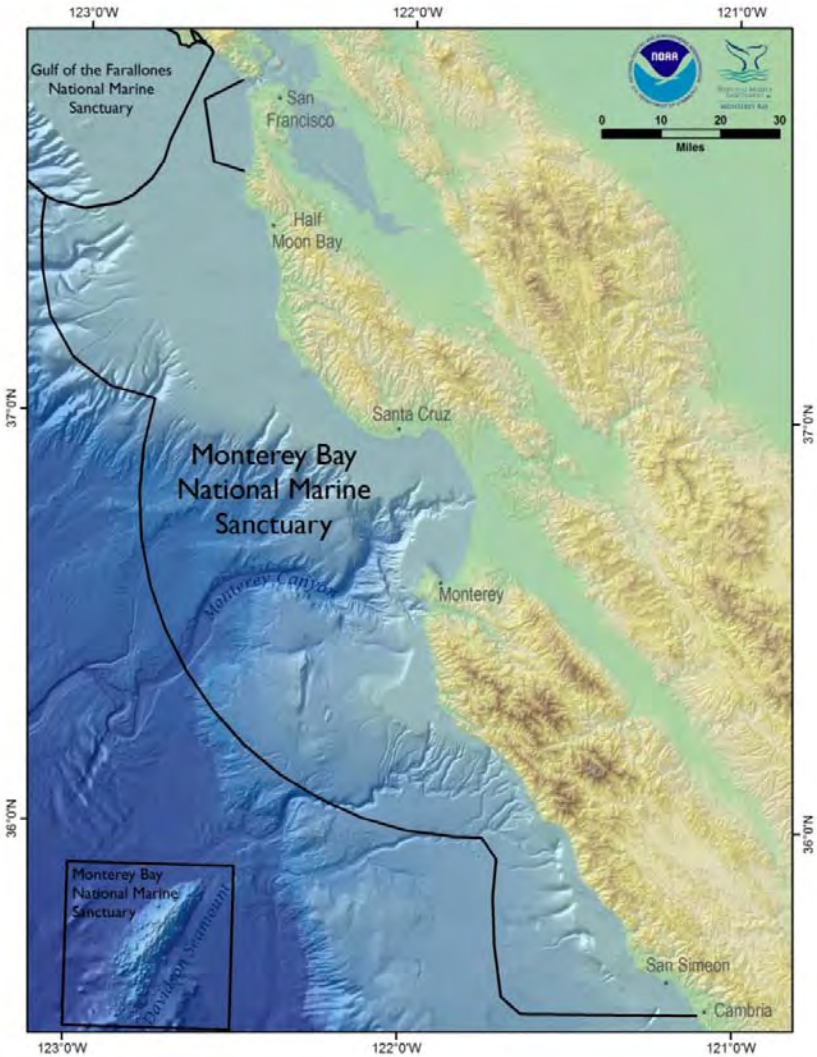
MONTEREY BAY

Monterey Bay National Marine Sanctuary

Ecosystem-based Management Initiative

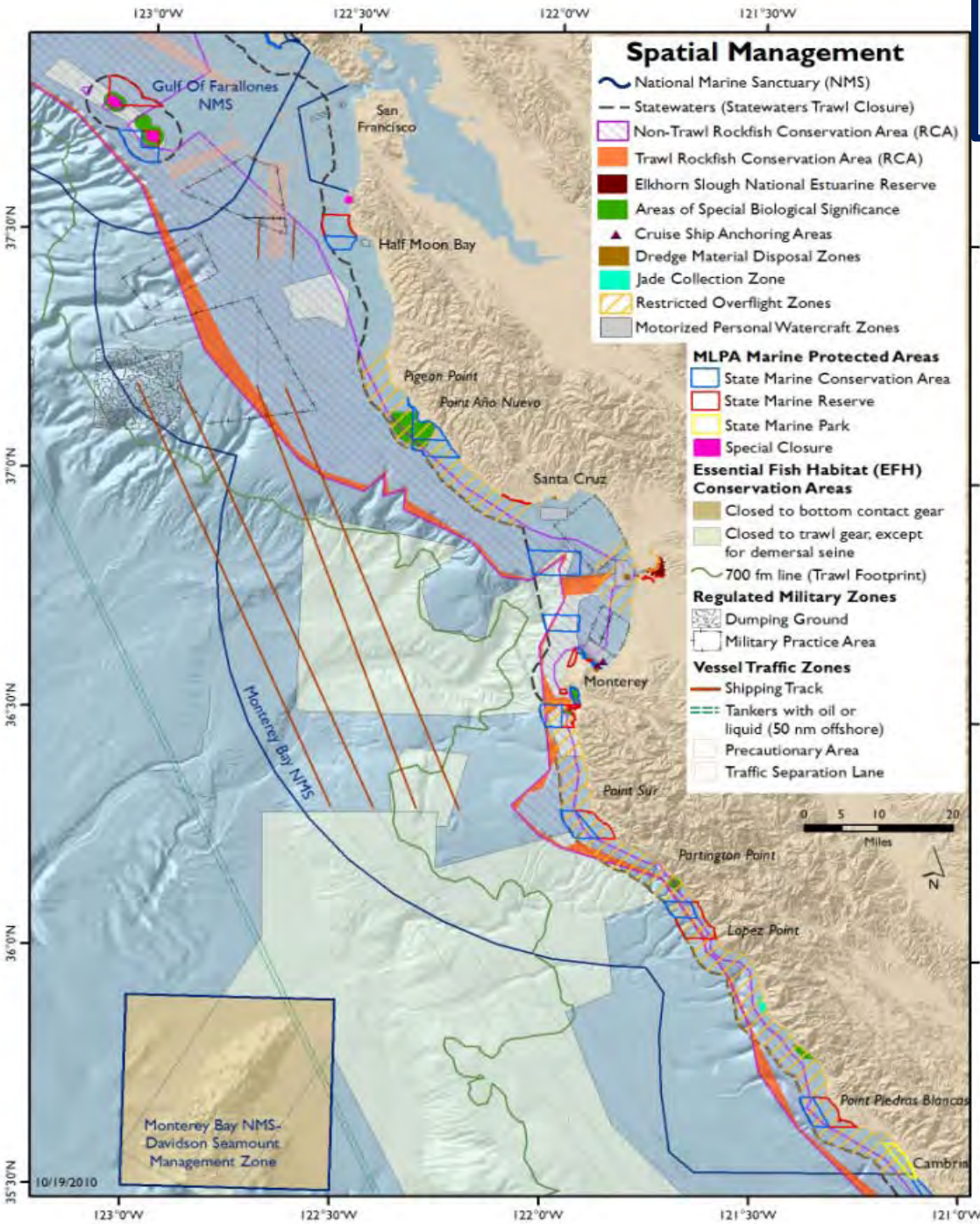
SAC Meeting December 9th

EBM Initiative Goal



Enhance ecosystem-based management & marine spatial planning in MBNMS by applying the best available science and integrating and coordinating with partner agencies

Current MBNMS seascape



- zones created in isolation
- overlapping jurisdictions
- Sector by sector management

EBM Initiative proposes to work collaboratively with various zoning agencies to create a plan that incorporates EBM goals with goals of other organizations.

EBM Initiative Objectives

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

Basic steps of Initiative

1. Information gathering

2. Propose & implement strategies

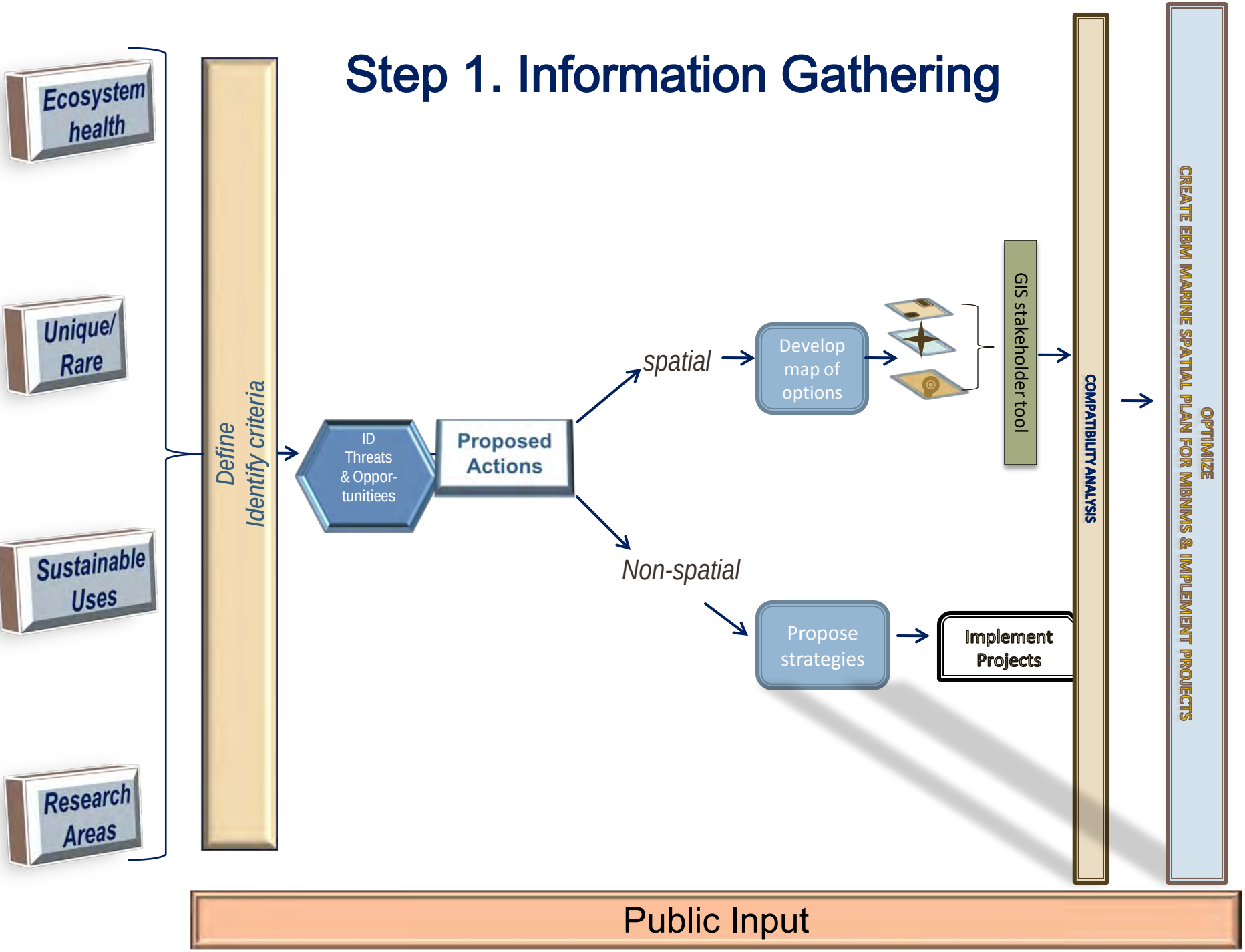
3. Monitor, adapt, assess

now | *2010* | *2011* | *2012* | *2013* | *2014* | *2015*

Step 1: Information gathering

EBM Objectives	Primary tool	Lead	Schedule
Ecosystem Health	Integrated Ecosystem Assessment/ workshop	NOAA Fisheries	*2010-2012*
Unique /Rare	Workshop	MBNMS	*2011*
Research Areas	Workshop	MBNMS	*2010*
Sustainable Uses	Collaboration/ Workshops	Partnerships	*2010-2012*

Step 1. Information Gathering



Step 1. Information gathering FY 2011

Follow-up Research Areas

Unique rare workshop

Recreational uses workshop

Sustainable Uses workshop

Integrated Ecosystem Assessment Complete

Ecosystem Health workshop

Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

Interagency Consultation

Essential Fish Habitat Review (NOAA Fisheries)

Central Coast Ground Fish Project

Halibut Trawl Fishing proposal (Monterey)

Example projects

Stakeholder engagement

- *Public comment*
- *Collaborations*
- *Partner Advice*
- *Sanctuary Advisory Committee*
- *Workshops*
- *EBM Subcommittee*
- *Proposals for ideas*

Information gathering

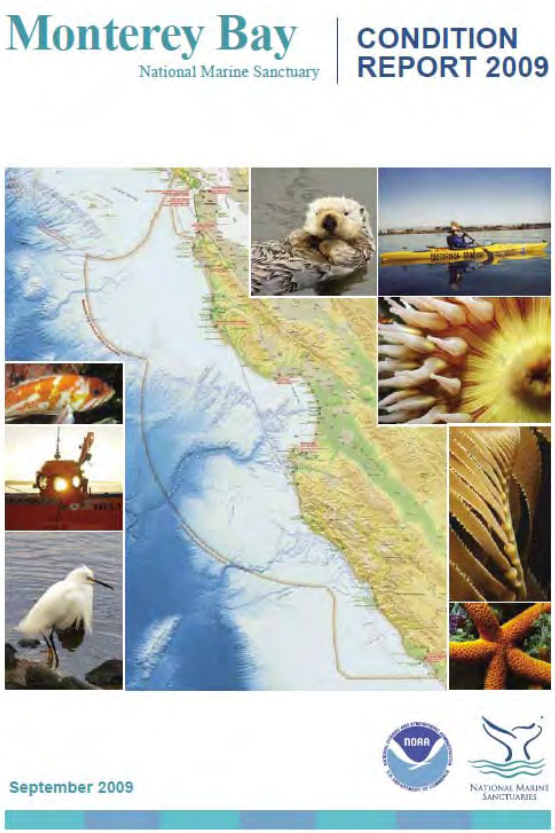
Propose & Implement Strategies

Adaptive Management

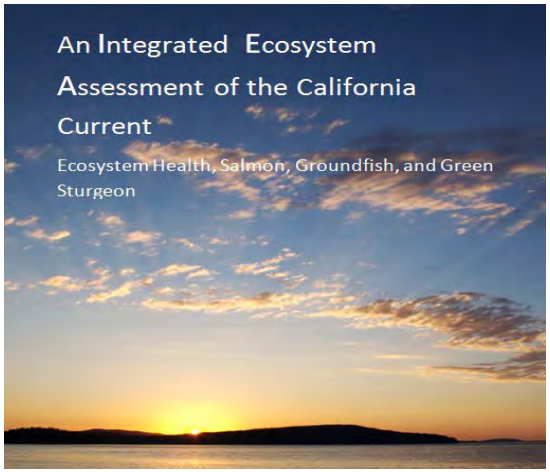
Represents stakeholder engagement

Step 1. Information gathering

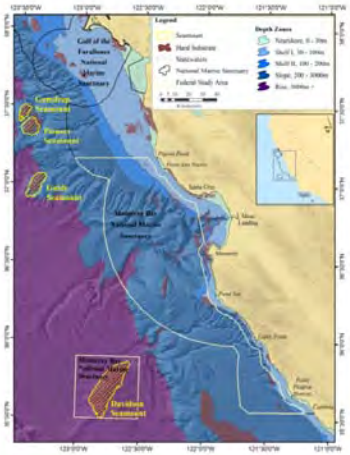
Sources of Foundational Information



DRAFT Integrated Ecosystem Assessment



Natural Resource Assessment



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Perspective

Integrated Ecosystem Assessments: Developing the Scientific Basis for Ecosystem-Based Management of the Ocean

Phillip S. Levin*, Michael J. Fogarty, Steven A. Murawski, David Fluharty

A series of prominent and controversial papers about the state of marine ecosystems has occupied the pages of high-profile journals over the last decade [1–7]. While some might quarrel with the point where large-scale, comprehensive EBM is broadly accepted as crucial for effective marine conservation and resource management [15].

While some policy makers clearly grasp the utility of an EBM approach, attaining the goals of EBM, IEAs, as we envision them, do not necessarily supplant single-sector management: instead, they inform the management of diverse, potentially conflicting ocean-use sectors. As such, we view IEAs as a

Objective 1. Ecosystem Health

Information gathering

DRAFT IEA completed

Natural Resource Assessment

DRAFT II. IEA completed

Ecosystem Health workshop

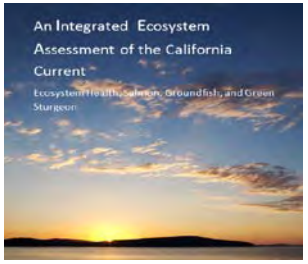
Scoping
Stakeholder engagement

Oct 2010

Mar 2011

Oct 2011

Nov 2011



Integrated Ecosystem Assessment

2010

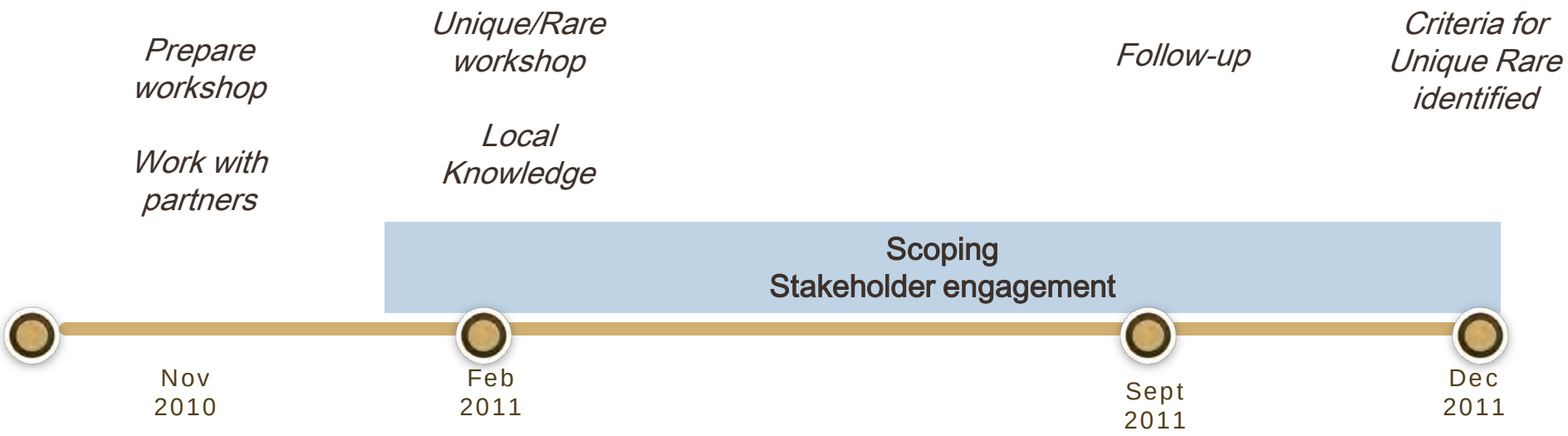
- Ecosystem health
- Ground fish
- Salmon
- Sturgeon

2011

- Ecosystem health
- Ground fish
- Salmon
- Sturgeon
- Pelagic species
- Water quality
- Forage Fish

Objective 2. Unique & Rare

Information gathering



Objective 3. Facilitate Research

Information gathering

Research Areas workshop

Workshop report completed & distributed

Follow up

Criteria for Research Areas Developed

Stakeholder engagement

Oct 2010

Dec 2010

Jan 2010

Nov 2011

Step 1. Information gathering

Objective 3. Research Areas workshop

Workshop Objective

To review existing spatial management, determine how it affects marine science, and discuss what kinds of strategies, if any, could facilitate science that supports ecosystem-based management of MBNMS

- October 26th, National Marine Fisheries Service Santa Cruz Lab
- **Participants:** Expert scientists with experience in MBNMS. Collaborative partners (e.g. fishermen). EBM Subcommittee.
- Open to the public
- Solicited input from EBM Subcommittee for attendees.

Objective 4. Promote sustainable uses

Information gathering

Sustainable uses brainstorming

Sustainable Use workshop #1

Sustainable Use workshop #2

Stakeholder engagement

Oct 2010

Apr 2011

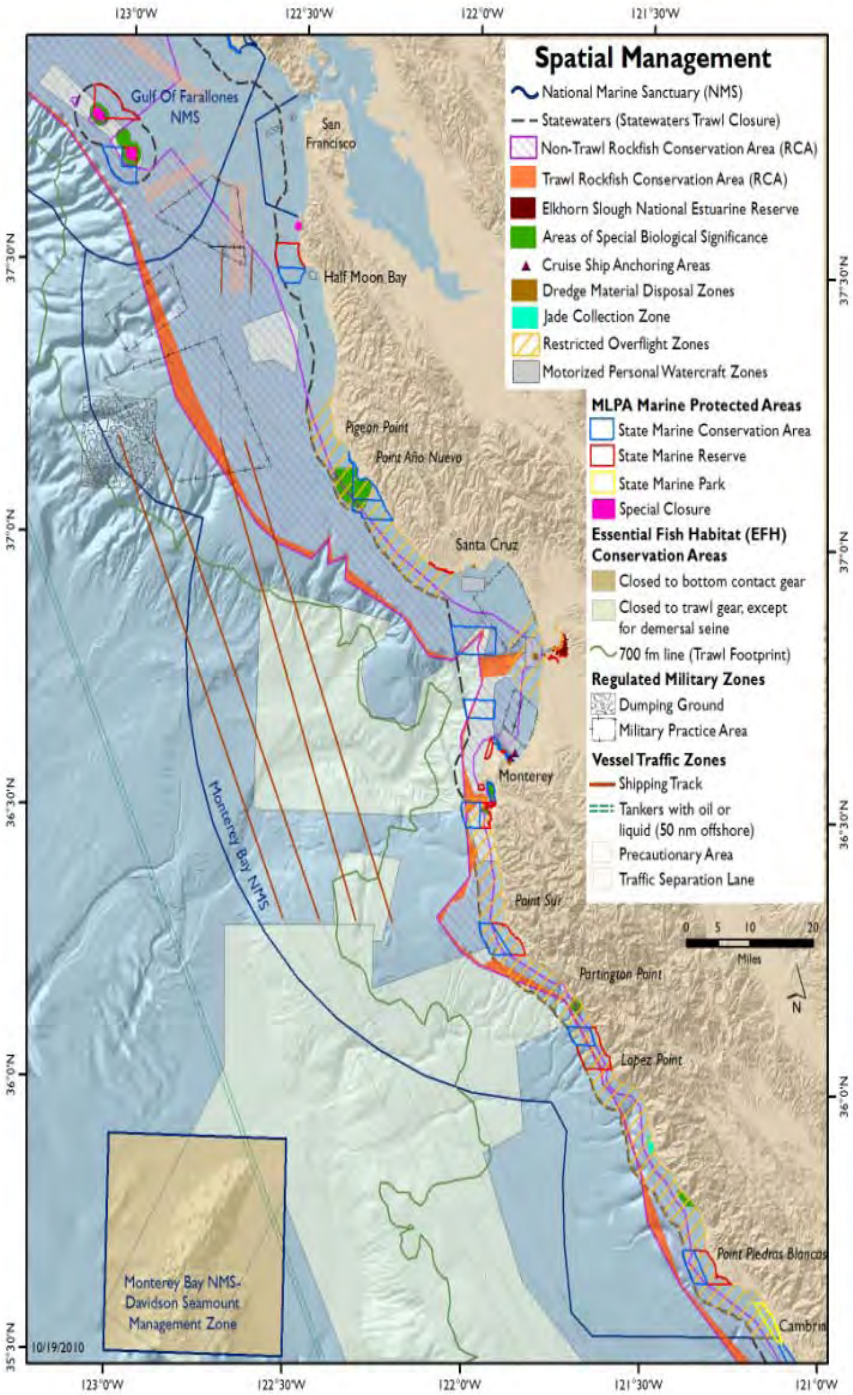
Oct 2011

Potential projects by partners and ocean interest users

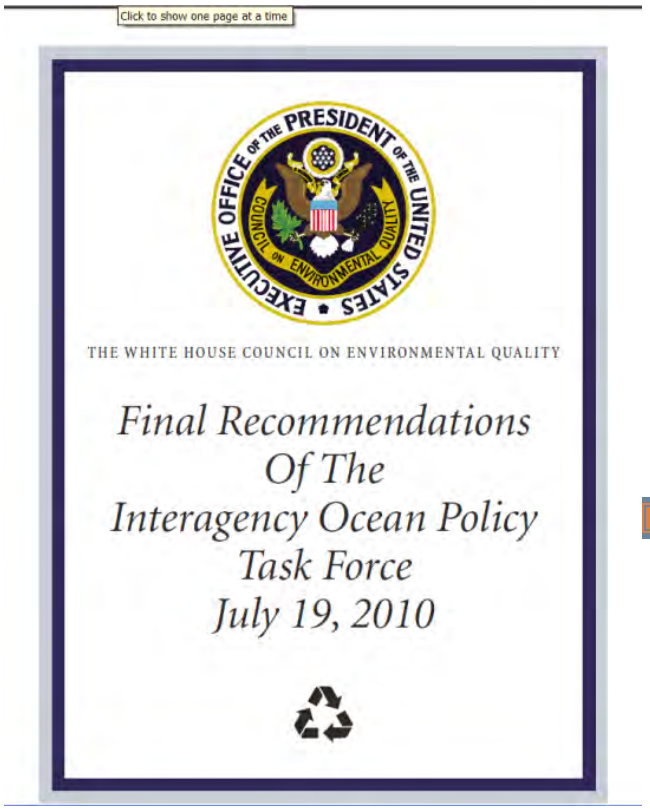
Individual Transfer Quota Central California Coast
Emerging Issues

Step 2. Propose and implement strategies
Pathways (existing & emerging)

- Sustainable fishing projects
- Essential Fish Habitat
- MSA/NMSA
- ITQ Ground fish project
- Sustainable seafood market
- Coastal & Marine Spatial Planning
- Ecosystem Fishery Manager Plan



National Ocean Policy



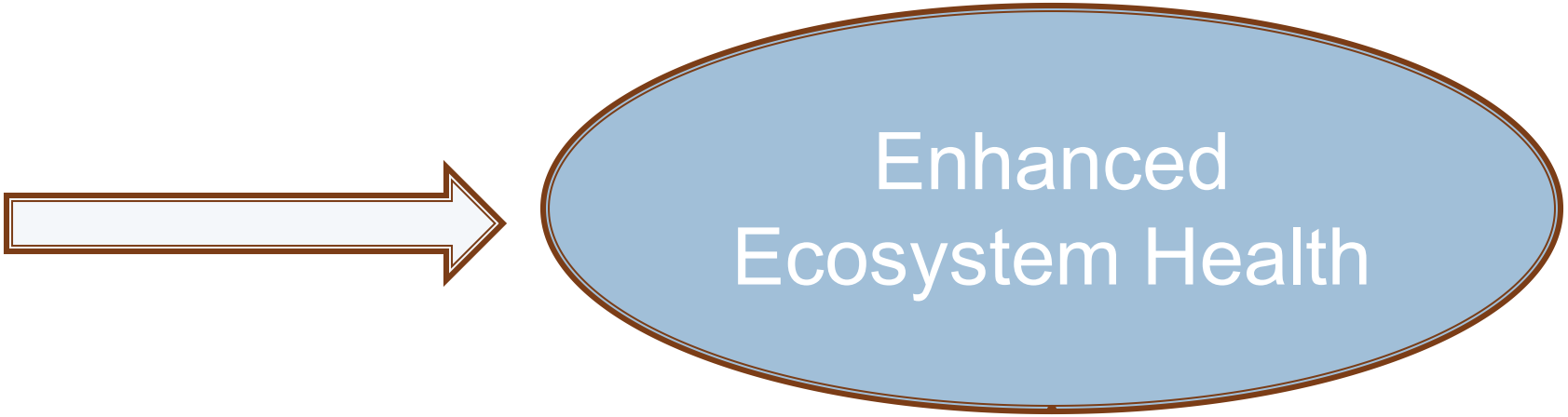
National Priority Objectives

1. **Ecosystem-Based Management:** Adopt ecosystem-based management as a foundational principle for the comprehensive management of the ocean, our coasts, and the Great Lakes.
2. **Coastal and Marine Spatial Planning:** Implement comprehensive, integrated, ecosystem-based coastal and marine spatial planning and management in the United States.
3. **Inform Decisions and Improve Understanding:** Increase knowledge to continually inform and improve management and policy decisions and the capacity to respond to change and challenges. Better educate the public through formal and informal programs about the ocean, our coasts, and the Great Lakes.
4. **Coordinate and Support:** Better coordinate and support Federal, State, tribal, local, and regional management of the ocean, our coasts, and the Great Lakes. Improve coordination and integration across the Federal Government, and as appropriate, engage with the international community.
5. **Resiliency and Adaptation to Climate Change and Ocean Acidification:** Strengthen resiliency of coastal communities and marine and Great Lakes environments and their abilities to adapt to climate change impacts and ocean acidification.
6. **Regional Ecosystem Protection and Restoration:** Establish and implement an integrated ecosystem protection and restoration strategy that is science-based and aligns conservation and restoration goals at the Federal, State, tribal, local, and regional levels.
7. **Water Quality and Sustainable Practices on Land:** Enhance water quality in the ocean, along our coasts, and in the Great Lakes by promoting and implementing sustainable practices on land.
8. **Changing Conditions in the Arctic:** Address environmental stewardship needs in the Arctic Ocean and adjacent coastal areas in the face of climate-induced and other environmental changes.
9. **Ocean, Coastal, and Great Lakes Observations, Mapping, and Infrastructure:** Strengthen and integrate Federal and non-Federal ocean observing systems, sensors, data collection platforms, data management, and mapping capabilities into a national system, and integrate that system into international observation efforts.

- Consistent with EBM Initiative

What are we working toward?

Through collaborative participatory process:

- A comprehensive spatial, integrated EBM plan for MBNMS that optimizes resource protection with sustainable uses
- This plan will be developed by considering other agency policy decisions (i.e. EFH Review, Ecosystem FMP)
- Modifications in spatial & non-spatial management may be proposed
- Modifications in management may be achieved thru regulatory & non-regulatory means

Moving toward….