

National Marine Sanctuaries
National Oceanic and Atmospheric Administration



NATIONAL MARINE
SANCTUARIES

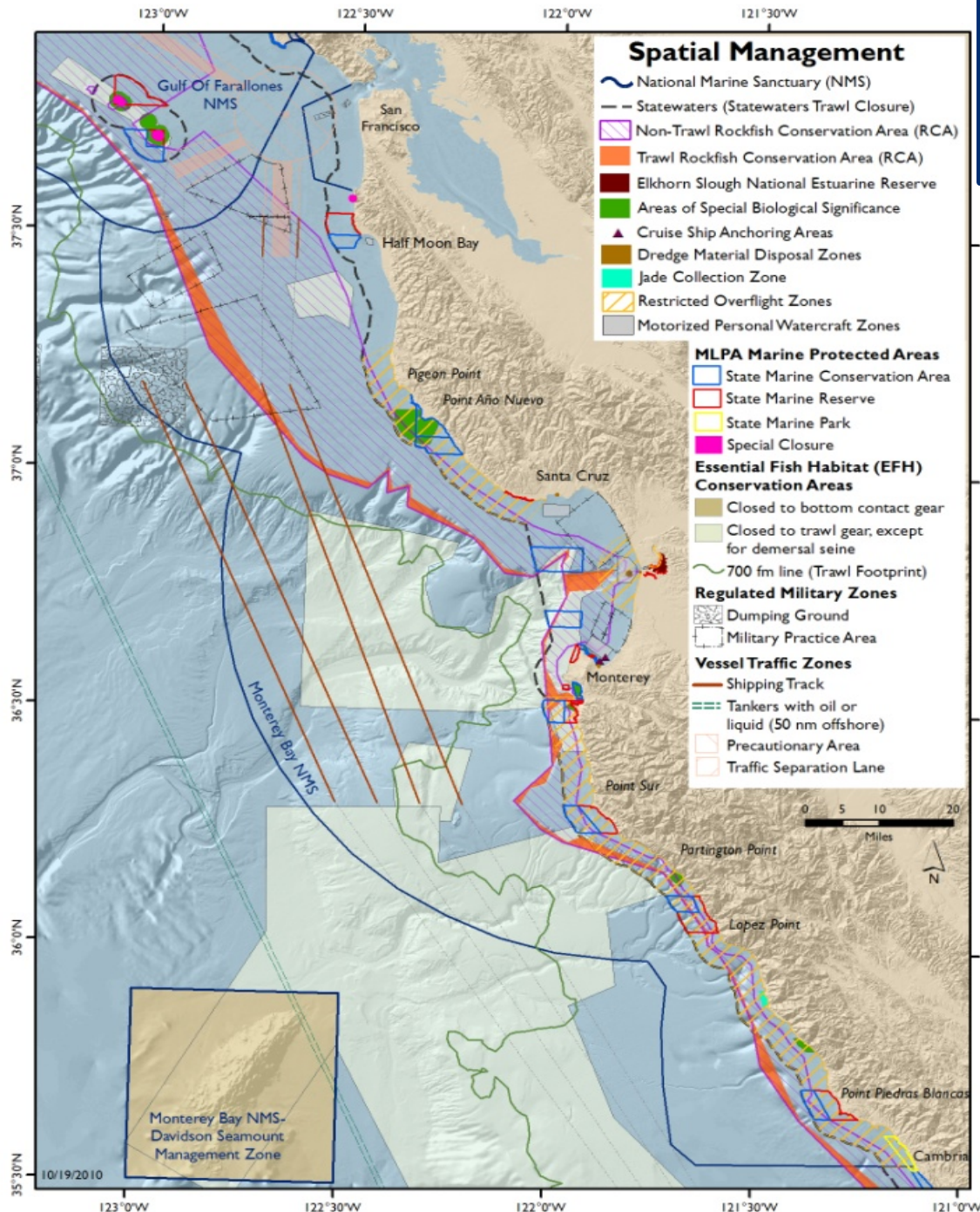
MONTEREY BAY

Monterey Bay National Marine Sanctuary Ecosystem-based Management Initiative

Sanctuary Advisory Committee

Half Moon Bay February 11th, 2011

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.

Outline

- National Coastal & Marine Spatial Planning
- EBM Initiative Overview
 1. Information Gathering
 - Ecosystem health
 - Unique & Rare features
 - Research
 - Sustainable Uses
 2. Propose & implement strategies
 3. Evaluate & adaptive management

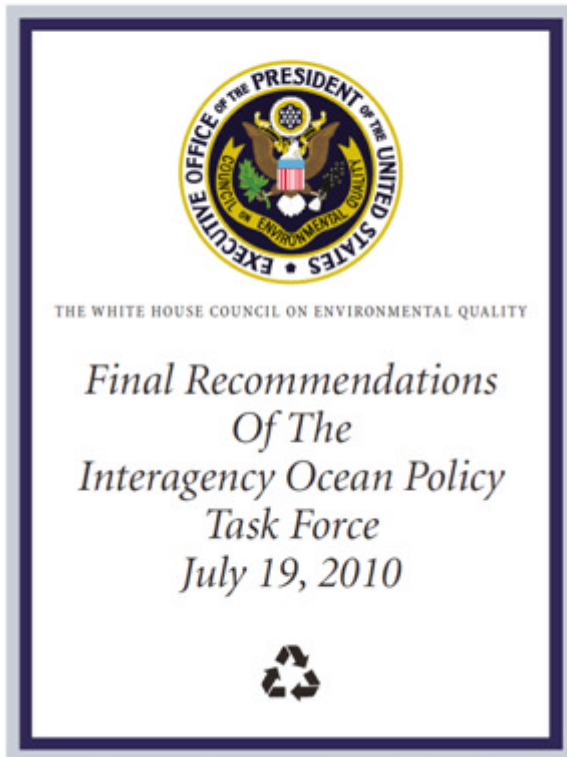


National Coastal & Marine Spatial Planning

National Ocean Policy

Vision: An America whose stewardship ensures that the ocean is healthy, resilient, safe and productive to promote the well-being, prosperity and security of present and future generations

Click to show one page at a time



•Consistent with EBM Initiative

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.

The need for coastal and marine spatial planning

- Uses are regulated on a narrow sector by sector basis
- Concerns for ocean health
- New regulation is not the answer
- Need a NEW approach that recognizes services of healthy ecosystem to communities and identify human activities that impact those ecosystem services

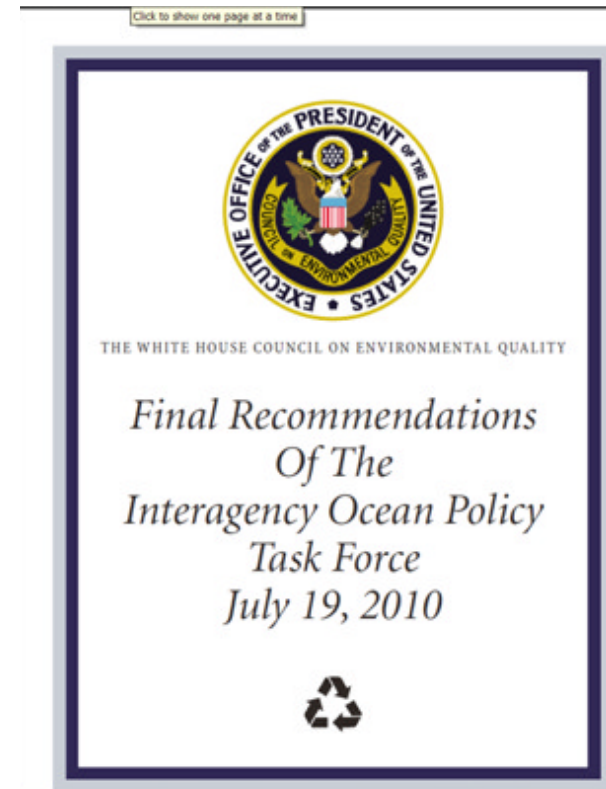


What is marine spatial planning?

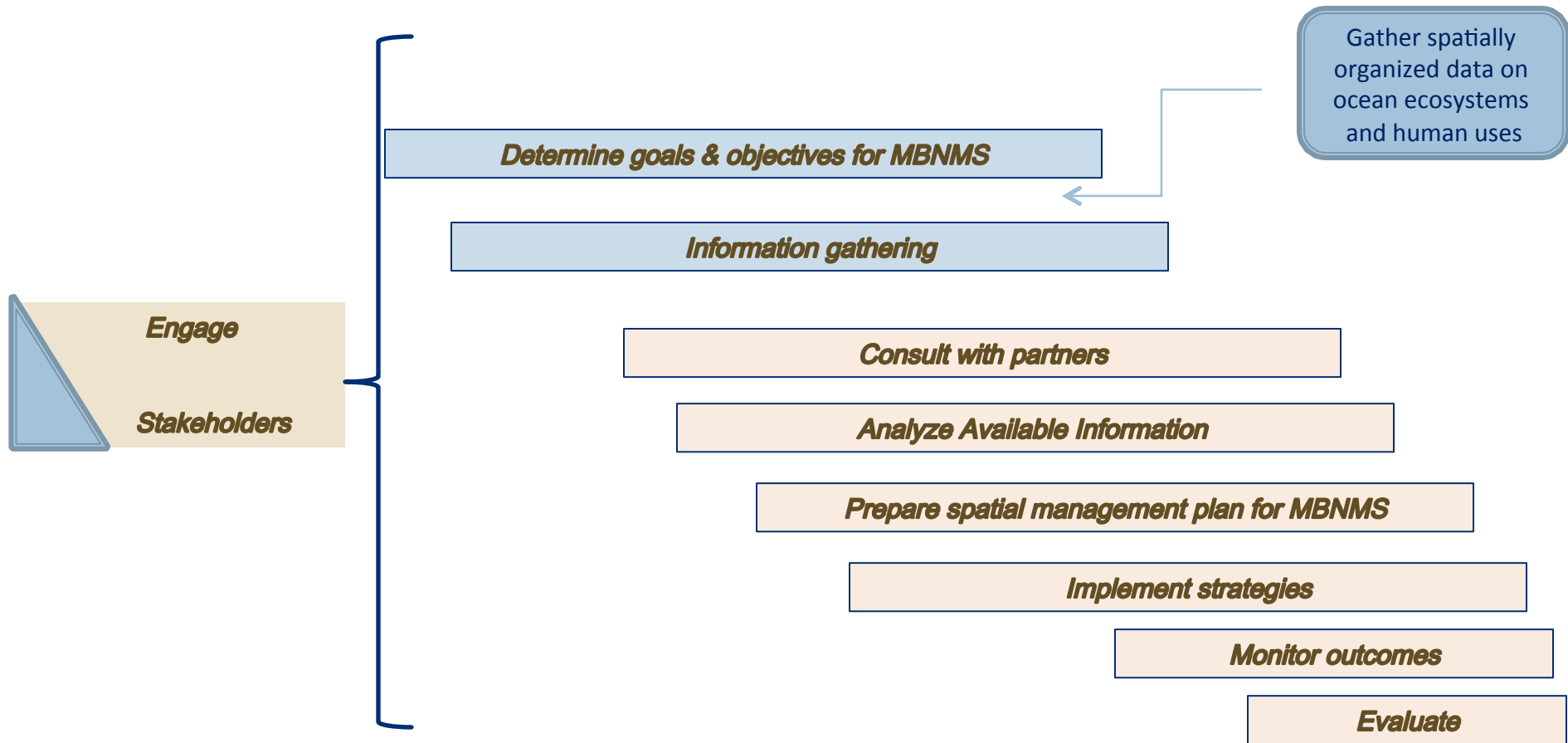
Proactive science-based decision making about:

- 1) Where different human uses should take place
- 2) What standards should apply to those uses

With the overall goal of enhancing ecosystem health.



Process for Coastal & Marine Spatial Planning

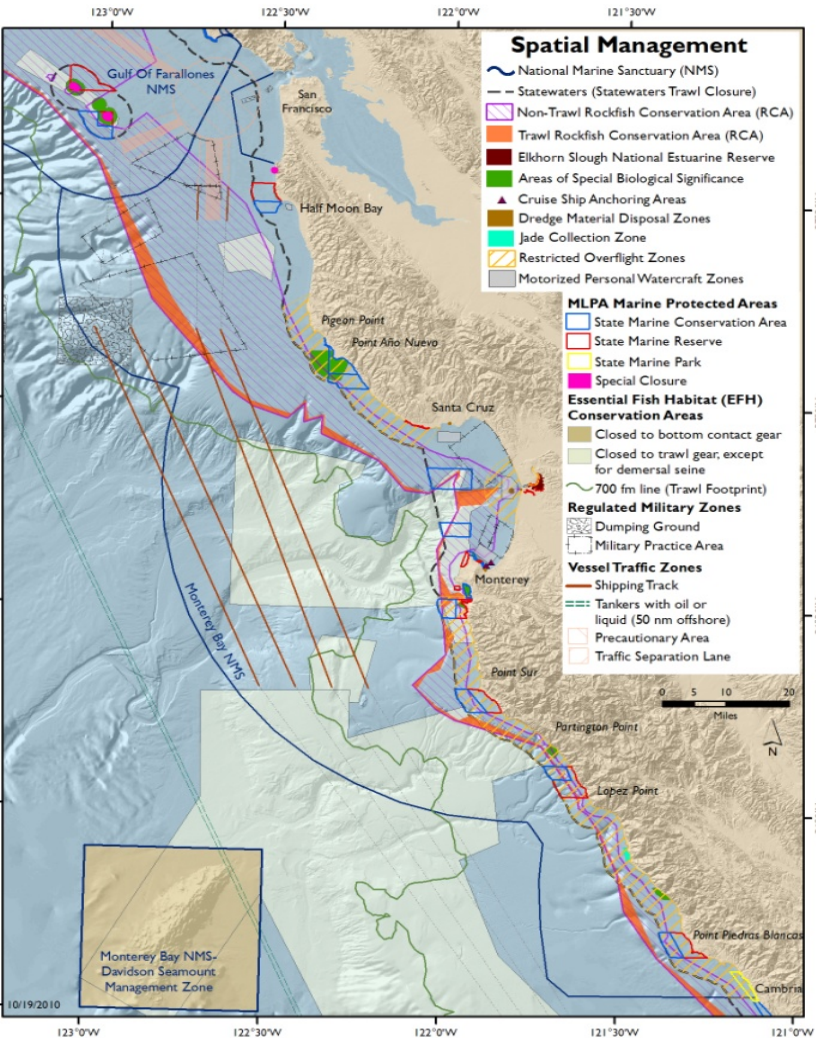


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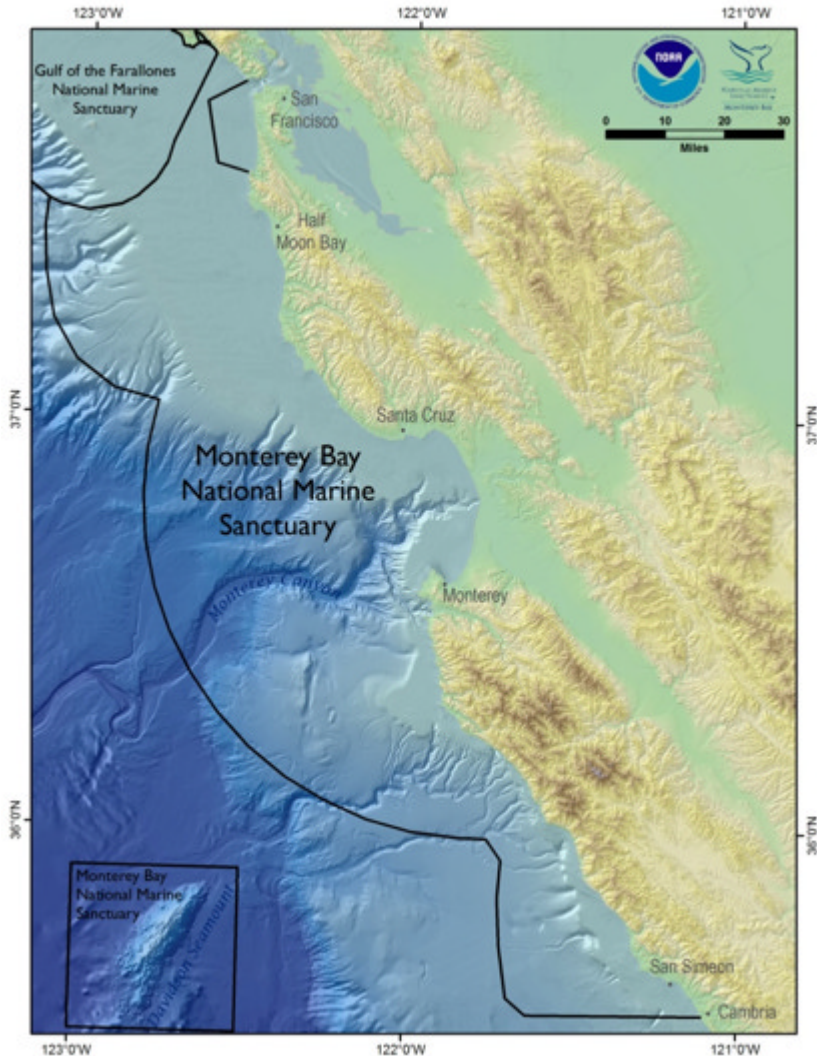
Monterey Bay National Marine Sanctuary EBM Initiative

The need for marine spatial planning in Monterey Bay



- Declines in marine resources
- Concerns about ecosystem health
- Conflicting uses
- Competing demands
- Complex regulatory seascape
- Need to balance human use with protecting ecosystem services that the ocean provides

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

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.
- 
- A photograph of a whale breaching the ocean surface. The whale's dark, textured back is visible as it moves from the water, creating a large splash of white water. The background shows a clear blue sky and the blue surface of the ocean.

Basic Steps of Initiative

1. Information gathering

2. Propose & implement strategies

3. Monitor, adapt, assess

2010

2011

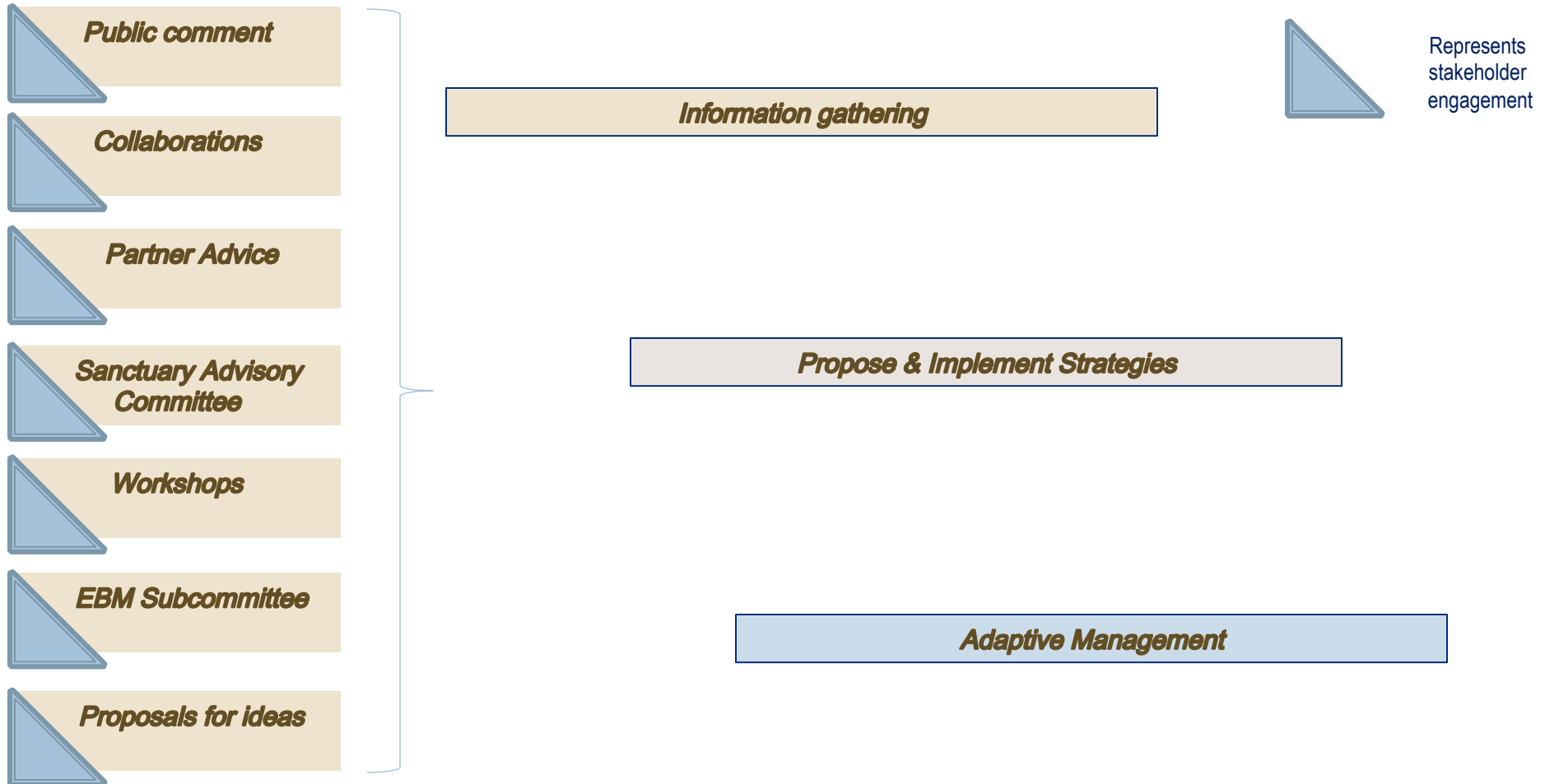
2012

2013

2014

2015

Stakeholder engagement





1. Information Gathering FY 2010-2012

How to collect information on each objective

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

Sources of Foundational Information

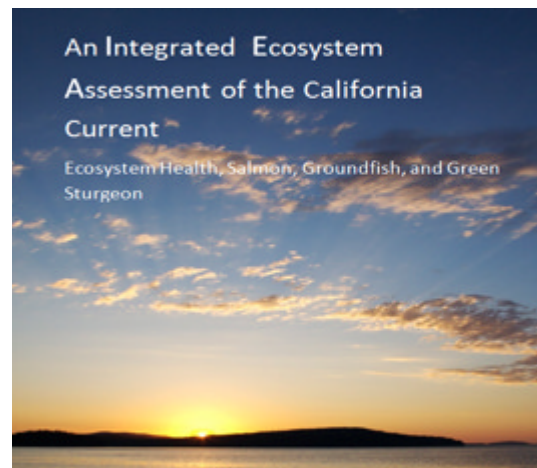
Monterey Bay National Marine Sanctuary | CONDITION REPORT 2009



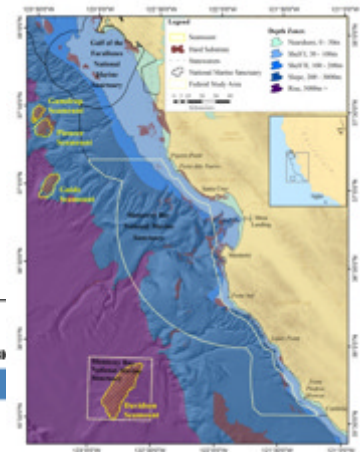
September 2009



DRAFT Integrated Ecosystem Assessment



Natural Resource Assessment



OPEN ACCESS Freely available online

PLOS

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

*1st
Generation
IEA
completed*

*Natural
Resource
Assessment*

*DRAFT IEA
completed*

*Ecosystem
Health
workshop*

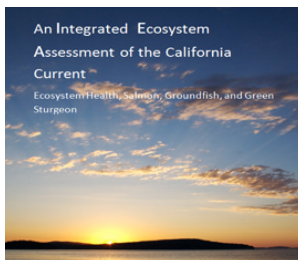
Scoping
Stakeholder engagement

**Oct
2010**

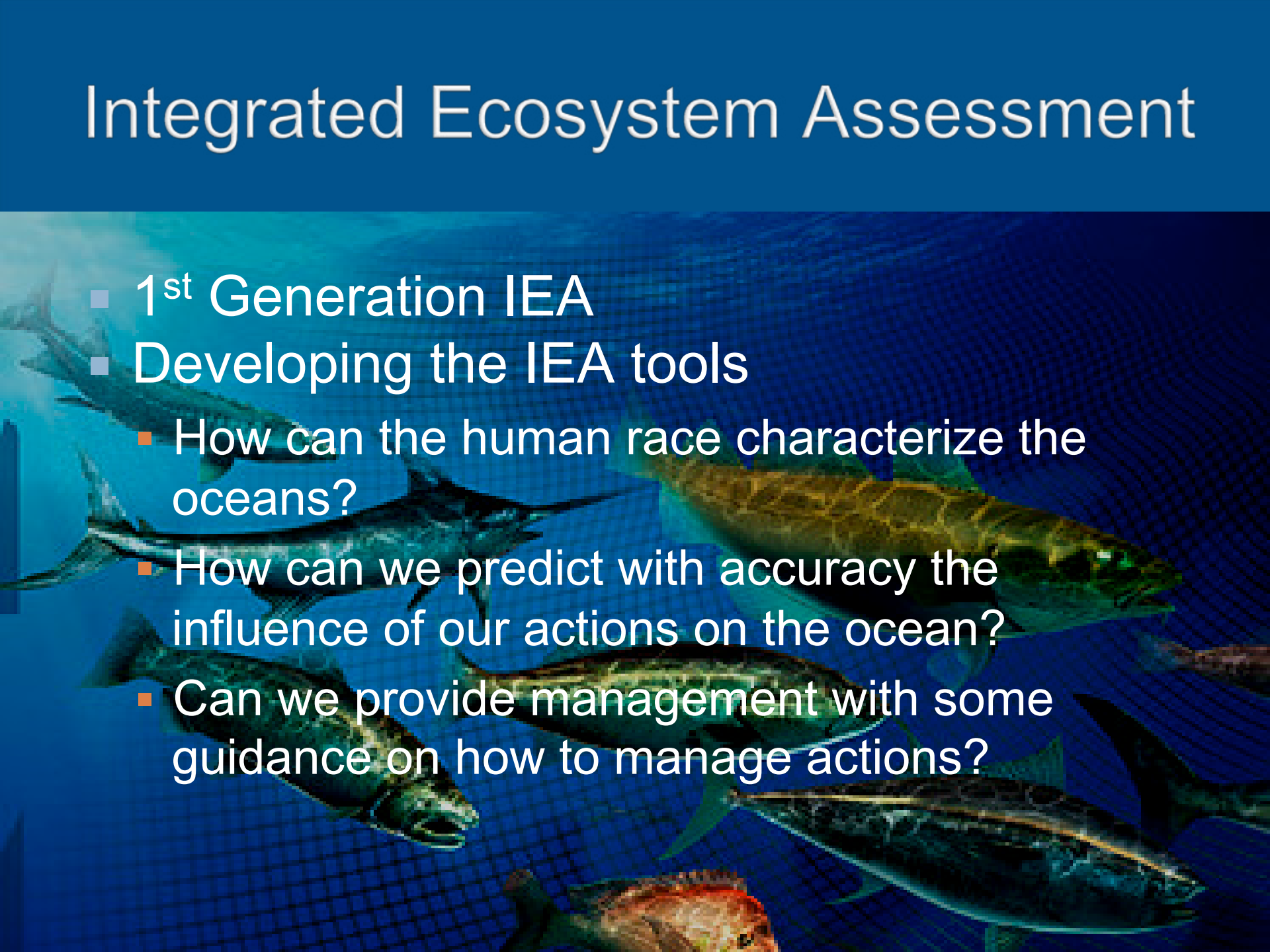
**Mar
2011**

**Oct
2011**

**Nov
2011**



Integrated Ecosystem Assessment

- 1st Generation IEA
 - Developing the IEA tools
 - How can the human race characterize the oceans?
 - How can we predict with accuracy the influence of our actions on the ocean?
 - Can we provide management with some guidance on how to manage actions?
- 
- The background of the slide is a collage of various fish species, including salmon, trout, and other marine fish, swimming in a blue, textured underwater environment. The fish are depicted in various orientations, some swimming towards the left and others towards the right. The overall color palette is dominated by shades of blue and green, with some fish showing silvery scales and others showing more vibrant colors like orange and red.

Objective 2. Protect Unique & Rare

Information gathering

Prepare workshop

Work with partners

Unique/Rare workshop

Local Knowledge

Follow-up

Criteria for Unique Rare identified

Scoping
Stakeholder engagement

**Nov
2010**

**April
2011**

**Sept
2011**

**Dec
2011**

Objective 3. Facilitate Research

Information gathering

*Research
Areas
workshop*

*Workshop
report
completed
& distributed*

*Follow up
Task Force*

*Criteria for
Research
Areas
Developed*

Stakeholder engagement

**Oct
2010**

**Feb
2011**

**Dec
2011**

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, 2010 National Marine Fisheries Service Lab
- **Participants:** Expert scientists with experience in MBNMS. Collaborative partners (e.g. fishermen). EBM Subcommittee.
- Open to the public
- Solicited input from EBM Subcommittee.

Research Areas workshop

Key findings

- Many scientists feel they are also stakeholders
- Current spatial management is very complicated. Each agency focused on own mandates and regulations. CMSP allows more holistic and cooperative perspective.
- Regulations and permitting requirements limit ability to do research.
- Areas are needed where manipulative research is promoted to study both applied and basic research questions.
- Sentinel sites could serve to protect scientific equipment with efficient enforcement, and add value by co-locating compatible individual research studies, sharing equipment, or data.

Objective 4. Promote sustainable uses

Information gathering

*Sustainable
uses
brainstorming*

*Sustainable
Use workshop
#1*

*Sustainable
Use workshop
#2*

Stakeholder engagement

**Oct
2010**

**Aug
2011**

**Dec
2011**

Potential projects by partners and ocean interest users

Individual Transfer Quota Central California Coast
Emerging Issues

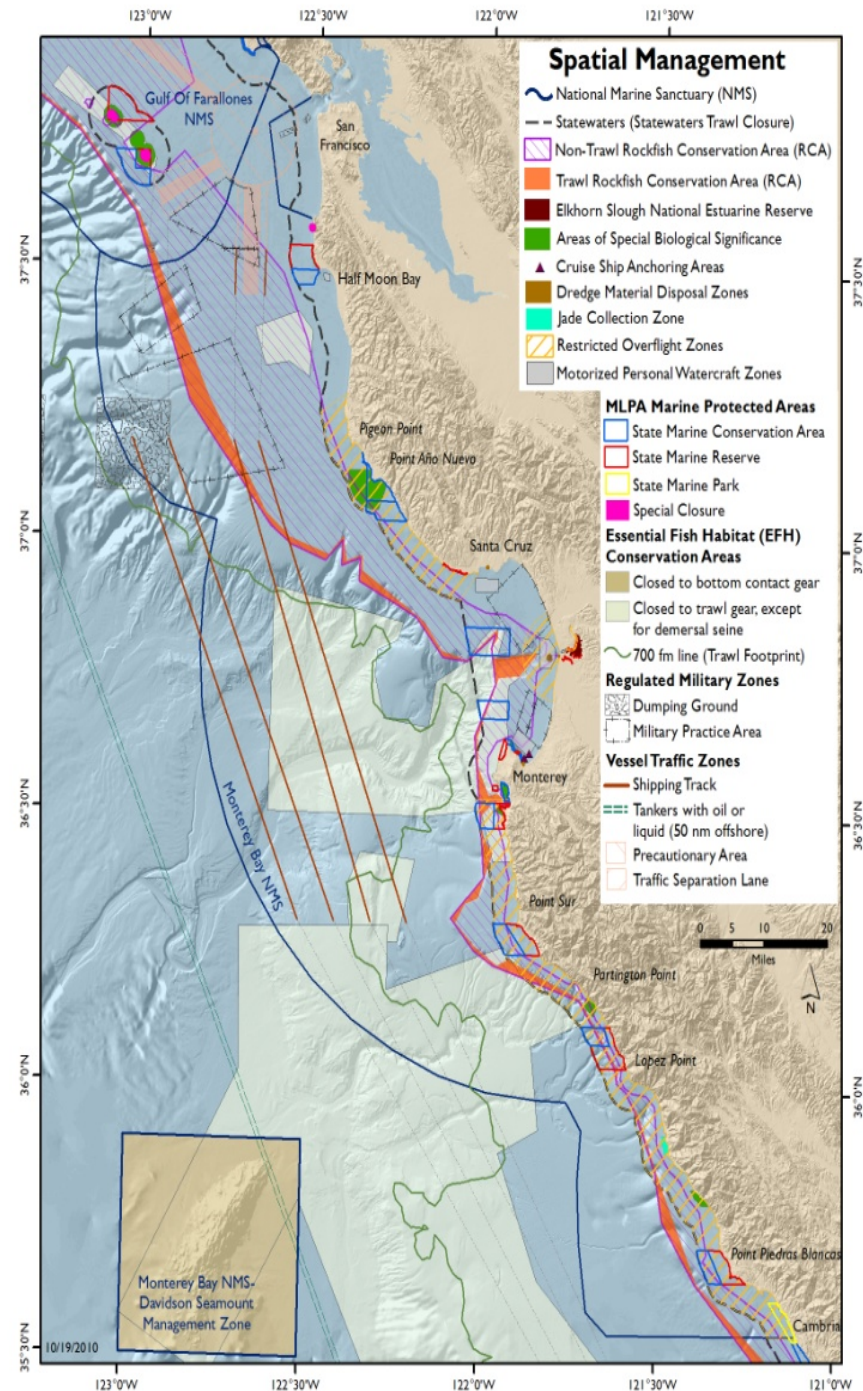
Sustainable Fishing Association



1. Propose & Implement Strategies FY 2011-2013

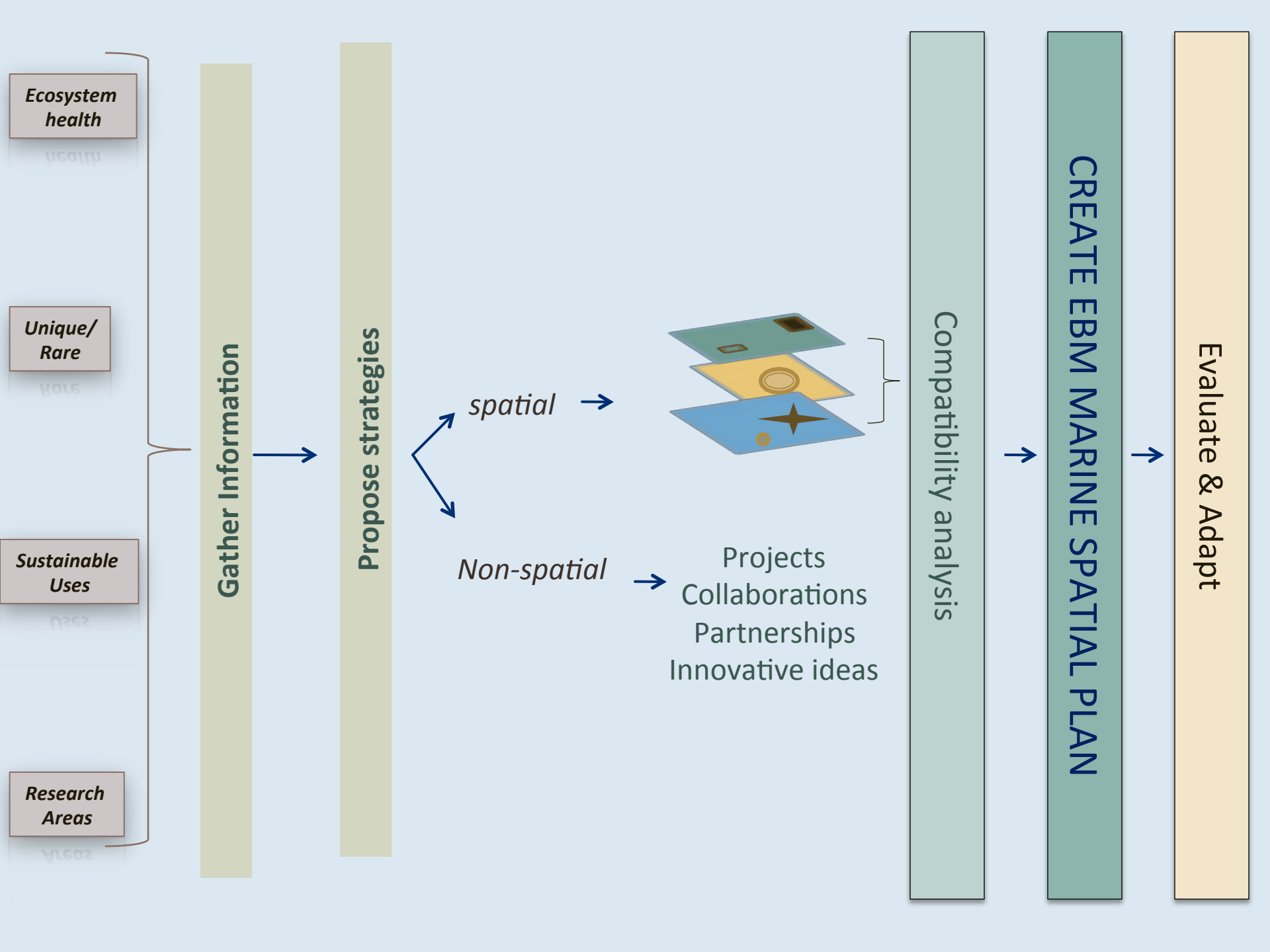
Potential pathways and partnerships

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





1. Evaluate & Adaptive Management FY 2013-.....



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....

