Monterey Bay National Marine Sanctuary
Ecosystem-based Management Initiative
Sanctuary Advisory Committee
Half Moon Bay February 11th, 2011
- 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.

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.
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
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.
Gather spatially organized data on ocean ecosystems and human uses.

**Process for Coastal & Marine Spatial Planning**

- **Engage Stakeholders**
  - **Determine goals & objectives for MBNMS**
  - **Information gathering**
  - **Consult with partners**
  - **Analyze Available Information**
  - **Prepare spatial management plan for MBNMS**
  - **Implement strategies**
  - **Monitor outcomes**
  - **Evaluate**
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.
Basic Steps of Initiative

1. Information gathering
2. Propose & implement strategies
3. Monitor, adapt, assess
Stakeholder engagement

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

Information gathering

Propose & Implement Strategies

Adaptive Management
1. Information Gathering
FY 2010-2012
How to collect information on each objective

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Sources of Foundational Information

Monterey Bay National Marine Sanctuary

Condition Report 2009

DRAFT Integrated Ecosystem Assessment

Natural Resource Assessment

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, IEs, as we envision them, do not necessarily supplant single-sector management; instead, they inform the management of diverse, potentially conflicting oceanic sectors. As such, we view IEs as a
Objective 1. Ecosystem Health

Information gathering

1st Generation IEA completed

Natural Resource Assessment

DRAFT IEA completed

Ecosystem Health workshop

Scoping Stakeholder engagement

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?
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

Oct 2010

Aug 2011

Dec 2011

Stakeholder engagement

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-.........
Gather Information → Propose strategies

Ecosystem health

Unique/Rare

Sustainable Uses

Research Areas

spatial

Non-spatial

Projects, Collaborations, Partnerships, Innovative ideas

Compatibility analysis

CREATE EBM MARINE SPATIAL PLAN

Evaluate & Adapt
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....

Enhanced Ecosystem Health