

Stakeholder Forum

October 20, 2015

NE Ocean Plan Chapter 4. Ocean Plan Implementation: 4.3 Monitoring and Evaluation

*Note the following ideas about monitoring and evaluation are being provided as examples to elicit ideas and feedback

Background & Assumptions

- Plan framework includes an objective to “Periodically assess progress toward achieving regional ocean planning goals”
- Support adaptive management approach, which includes two components:
 - Plan performance
 - Ocean and ecosystem health
- Development and application of related indicators can be difficult:
 - Identify “cause-and-effect” type of relationships?
 - Identify quantifiable metrics (e.g. indicators that can be supported by hard numbers)
- Much literature on this topic; NOP calls for adaptive approach

General Approach

- For each component, provide information for the following questions:
 - What do we want to achieve (what are the goals)?
 - How we will measure progress toward what we want to achieve? (Indicators)
 - Stories/anecdotes/qualitative data can be helpful but are qualitative
 - Quantitative data can be helpful but difficult to obtain
 - Want as direct a correlation as possible between outcome and goal
- Analysis of indicator results supports future “what do we need to change” discussion

Monitoring Ocean and Ecosystem Health: potential approaches

- Integrated Sentinel Monitoring Network (ISNM)
 - Provides long-term strategy for monitoring benthic, pelagic, and coastal components of the ecosystem that are management priorities
 - Does not directly include human uses/socio-economic considerations
- Ocean Health Index (OHI)
 - Provides strategy for combining ecological, socio-economic, and cultural considerations to provide context for ocean management
 - Quantitative, repeatable, comprehensive tool to inform decision making by measuring multiple metrics of ecosystem condition building on existing data and information

Monitoring Ocean and Ecosystem Health: ISMN

- ISMN Science and Implementation Plan is a joint NROC and NERACOOS effort
- Input from over 60 scientists and managers from 45 state and federal agencies, universities, NGOs, and Canada DFO
- Long Island Sound to the Canadian border
- Inventories present monitoring activities

Integrated Sentinel Monitoring Network for Change in Northeast U.S. Ocean and Coastal Ecosystems

Draft Science and Implementation Plan – August 6, 2015

A project of the Joint Northeast Regional Ocean Council and Northeastern Regional Association of Coastal and Ocean Observing Systems Ocean and Coastal Ecosystem Health Committee



ABSTRACT

The Northeast U.S. region spans a range of ocean and coastal environments from Long Island Sound to the Canadian border in the eastern Gulf of Maine, and includes ecologically and economically rich ecosystems. Climate change, living resource harvesting, and increasing human populations are altering the structure and function of these ecosystems. Ecosystem changes are not only threatening the sustainability of marine and human communities, but also challenging managers to make decisions about marine resources under novel conditions with high degrees of uncertainty. In response to these changes and challenges, this document describes a plan to sustain an adaptive sentinel monitoring program that watches for key changes, informs researchers, managers, and the public about ecosystem status and vulnerabilities; and supports an integrated, ecosystem-based management framework for adaptive responses to changes in ecosystem states.

Monitoring Ocean and Ecosystem Health: ISMN

- Recommends benthic, pelagic and coastal/estuarine sentinel indicators of ecosystem change (many that coincide with key marine life and habitat data components in Section 3 of the plan)
- Recommends enhancements to present observing activities
- Considers implementation of the ISMN, including new infrastructure needs
- Identifies needs, challenges and recommendation for data product management and dissemination

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Monitoring Ocean and Ecosystem Health: OHI

- Recognizes humans and human activities as part of the ecosystem
- Establishes ten human goals to be tracked – these could be closely tied to ocean planning goals and objectives
- Establishes reference points for each goal, allowing it to be tracked over time or to evaluate potential consequences of actions
- Can use best available regional data and indicators established through the NE Ocean Plan, NE Ocean Data Portal, and other regional efforts (ISMN?)

Plan Performance: Examples for Healthy Coasts and Ocean Ecosystem Goal

Objectives:

- I. Characterize the ecosystem, economy and cultural resources
- II. Support existing restoration and conservation programs
- III. Develop regional ocean science plan

Plan Performance: Examples for Healthy Coasts and Ocean Ecosystem Goal

- Does the plan identify and support non-regulatory opportunities to work toward conserving, restoring, and maintaining healthy ecosystems?
 - *Are existing restoration programs identified and supported? If yes, how?*
- Does the plan contain a science plan to prioritize ocean science and data needs?
 - *What's missing? What's being implemented/addressed? Are there emerging needs?*

Plan Performance: Examples for Effective Decision-Making Goal

Objectives:

- I. Enhance inter-agency coordination
- II. Implement specific actions to enhance public participation
- III. Incorporate products into existing decision-making
- IV. Improve respect for tribal customs and traditions in decision-making
- V. Improve coordination with local communities in decision-making

Plan Performance: Examples for Effective Decision-Making Goal

- Are existing government management and regulatory decisions coordinated?
 - *If so, how have pre-existing practices been altered? Are best practices for agency coordination being used? Can anything be said about the pace of regulatory decisions start to finish? Are there other opportunities to enhance existing practices?*
- Has public input in existing practices been enhanced?
 - *If so, how? Are there examples of implementing best practices to build on? If not, what are other opportunities?*
- Have ocean plan products and data been incorporated into agency decision-making?
 - *If yes, what are examples/be specific. How have these products affected decision-making? Can track metrics such as numbers of users of the data portal, but difficult to assign any significance to that. Agencies can track use of data portal in project applications and public comment, or used in permit applications and public comment.*

Plan Performance: Examples for **Compatibility Among Uses Goal**

Objectives:

- I. Increase understanding of compatibility between past, current, and future interactions and the ocean ecosystem

- II. Ensure regional issues addressed on ongoing efforts to assess new human activities

Plan Performance: Examples for **Compatibility Among Uses Goal**

- Does the plan increase understanding of past, current, and future interactions among ocean uses and the ocean and coastal ecosystem?
 - *If so, how? How has such understanding translated into effective decision-making?*