

**COMMENTS SUBMITTED TO THE NATIONAL OCEAN COUNCIL
ON STRATEGIES FOR IMPLEMENTING THE PRIORITY OBJECTIVES
OF THE NATIONAL OCEAN POLICY
April 29, 2011**

Dear Council Members:

The undersigned include fishermen, representatives of coastal fishing communities, scientists, environmental organizations, farmers, farming community organizations, seafood distributors, and food sovereignty organizations. We appreciate the opportunity to make recommendations regarding some of the nine priority objectives of the National Ocean Policy in addressing some of the most pressing challenges facing the ocean, our coasts, the Great Lakes and the food we get from these waters.

Objectives 1 & 2 & 6

Ecosystem-Based Management (EBM): *Adopt ecosystem-based management as a foundational principle for the comprehensive management of the ocean, our coasts, and the Great Lakes.*

Coastal and Marine Spatial Planning (CMSP): *Implement comprehensive, integrated, ecosystem-based coastal and marine spatial planning and management in the United States.*

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.*

Ecosystem Based Management and Coastal and Marine Spatial Planning are fundamentally linked and should not be considered separately from each other. Similarly, ecosystem protection and restoration are not separate decisions but fully integrated with EBM and CMSP. That different governmental bodies are responsible for their implementation should not prevent or impede the planning, restoration and management plans from being integrated.

RECOMMENDED ACTIONS

Near-term:

- EBM that includes humans as an integral part of ecosystems should be adopted in principal by all federal agencies whose activities affect marine, estuarine, and Great Lakes environments including management agencies and programs, e.g. among others: National Marine Fisheries Service (NMFS), NOAA Office of Ocean and Coastal Resources Management and the Coastal Zone Management program it administers through states, National Marine Sanctuary programs, Bureau of Ocean Energy Management, Regulations, and Enforcement (BOEMRE), Department of Agriculture, and Environmental Protection Agency, Army Corps of Engineers and Forest Service.
- Relative to CMSP, regional oversight structures and operational menus for more local implementation should be developed. The structure should incorporate governmental, tribal, community, and non-governmental

participants concerned with public welfare, including all those along the seafood production food chain from fishermen to processors to consumers, and those representing environmental, human health and sociological interests that function at a variety of scales.

- Guidelines and structures should be developed for establishing truly collaborative decision-making and adaptive management that gives weight to: restoring and maintaining diverse and resilient ecosystems; sustaining healthy living resources; and revitalizing coastal communities closely linked to those marine and Great Lakes resources and ecosystem services through such activities as fishing).
- The National Ocean Council should review existing legislation governing the management of marine and Great Lakes ecosystems and resources and alert Congress if changes are needed to accommodate full implementation of collaborative and adaptive EBM and CMSP at various ecosystem scales.
- The importance of living marine and aquatic resources to local, regional, and national food sovereignty should be recognized and given weight in the CMSP and EBM decision-making processes.
- The roles and responsibilities of the existing regional bodies important to implementing EBM, such as Fisheries Management Councils (which has management powers) and the International Joint Commission (US and Canada Great Lakes advisory body), should be integrated into NOP strategies.

Long-term:

- EBM, including Ecosystem Based Fisheries Management, should be fully implemented in management plans that are integrated on multiple scales consistent with ecosystem processes and integrate local participatory governance with regional oversight.
- EBM must be scientifically based and promote the long-term health and diversity of ecosystems, living resources, and ecosystem services. As a subset of this, Ecosystem Based Fisheries Management, must include fishermen as part of the ecosystem.
- EBM should be spatially based and coordinated with CMSP based on collaborative bottom-up decision-making and adaptive management that integrates ecological, sociological, and economic objectives.
- CMSP should begin with collaborative visioning processes with outcomes incorporating socio-economic elements on spatial scales that are well matched to the ecosystem, consistent with the goals of EBM. The outcomes of visioning should guide future decision-making and establish measuring posts for assessing progress.
- Food sovereignty should be incorporated into the vision guiding CMSP, so that in planning for activities in the marine and Great Lakes environment, fisheries and local and regional markets and food systems are supported and protected.
- Restoration of critical habitats and ecosystem diversity, including fisheries diversity, should be integral to CMSP.
- Monitoring should be keyed to vision milestones and spatial planning should

- be adaptive to the results of monitoring, to unexpected changes, and to the evaluation of progress toward the guiding vision.
- The incorporation of local knowledge into CMSP is critical and should be part of planning and woven into the monitoring programs. Collaboration among scientists, users, local communities, and managers is critical to doing this effectively.

IDENTIFYING CHALLENGES

Obstacles and Opportunities:

Adaptive management. None of this is easy and it requires repeated exchange of information and discussion of adaptive measures. Ecosystems are complex so management that truly addresses the ecosystem is also complex. That is why the adaptive aspect is so important and should be addressed more seriously in the National Ocean Policy. Many monitoring and research programs would have to be revamped and augmented to enable adaptive management. Data for different types of management (e.g. fisheries, water quality, aquaculture, energy exploitation) would have to be detailed and coordinated at multiple scales. Monitoring must at the same time be individualized to capture critical scales of ecosystem variables and be common enough to be used in combination with other monitoring programs. This difficult coordination of data collection could be aided by effective and well funded regional plans.

Existing models. Agencies such as National Marine Fisheries Service (NMFS), have been actively discussing and developing scientific protocols for ecosystem-based fisheries management and EBM in general. While the need to include fishermen in these EBFM management plans persist, there is still not a good model for how this can be most effectively done. Recommendations from fishing communities for area-based management are promising but have yet to be accepted by regional management. In other EBM efforts on land, some agencies have model collaborative processes that include community participation in planning and have had some notable successes on local scales. We believe these processes can be translated for the ocean and Great Lakes.

Relevant programs. Existing collaborative research programs take advantage of smaller vessels and their operators, both scientists and fishermen who are knowledgeable about marine ecosystems. These could be improved with more participation and compensation, better coordination, and better use of the information in management decisions and adaptive management. This smaller scale research has been undervalued in the past. Ironically it is generally far less expensive to acquire abundant information this way and it reveals important ecosystem patchiness. It also offers more rapid assessment of data to enable adaptive management in real time.

Multi-scale management. Long-term management decisions should meld fine scale with regional scale information; and management structures should reflect multiple scales of ecosystems. This presents challenges to simplified management that

averages over large areas and considers species separately from each other.

Transformations:

The issue of scale in fisheries. We strongly recommend a major transformation in scales of monitoring and management, particularly in fisheries management:

- *From* top-down, broad brush management that encourages fishermen to pursue fish over distances that require larger boats; *to* bottom-up, spatial and community-based management that encourages cooperation and stewardship among groups of fishermen
- *From* scale blind management of fishing operations; *to* scale sensitive management consistent with ecosystem processes and distributions. At a minimum this would divide management of inshore fleets from management of offshore, larger boat fleets, and would match fishing scales and diversity to scales and diversity in ecosystems.

The issue of scale in general. For all uses of marine and Great Lakes environments, it is important that scales of monitoring and management as well as scales of activities themselves match ecosystems and ecosystem processes.

Bottom-up decision making. We recommend transforming decision-making processes from strictly top down regulation and management in which stakeholder comments and advice are heard but rarely incorporated; to bottom-up collaborative processes in which agreement, consistent with regulatory requirements, is reached by all participants from individual stakeholders to government officials. By nature the bottom up processes tend to be more local and thus more diverse but better adapted to specific ecosystem traits. Polarized controversy is often avoided.

Application of the Public Trust Doctrine. All private industry operating in marine and Great Lakes waters, which are public, must be open to scrutiny by the public and allowed to operate only if and under conditions agreed through collaboration with the public.

We encourage the recognition and incorporation of fisheries diversity and food sovereignty objectives into CMSP. The provision of healthful and diverse local seafoods from healthy ecosystems is critical to the welfare of coastal communities and regions depending on them. We believe:

- Fisheries should maintain diversity in the fleet and in the ecosystem.
- Ecosystems should be protected from degradation by all causes so they may continue to support diverse fisheries.
- Fisheries should be executed by coastal communities and operated according to strict codes of stewardship.
- Seafood markets should prioritize local consumption of seafood and minimize exports.
- Fair and equitable distribution of fishing rights and fair compensation for fishermen should be objectives.

- The farming of seafood should be consistent with ecosystem objectives, maintenance of wild species and populations, diverse food production, aversion to non-native species, and prohibition of manufactured species (i.e. genetically engineered).

IMPORTANT PERFORMANCE MEASURES

It is essential that monitoring be directly relevant to the goals and objectives of management and policy decisions and tied to visioning processes.

- There must be a way of gauging management effectiveness and trade-offs between uses and ecosystem services so that adaptive management can be implemented. Outcomes of initial visioning will give end-points toward which progress can be measured by monitoring key indicators.
- Performance measures should be determined at the beginning when management decisions are first implemented.
- The US needs integrated, ecological-economic visualization, analysis, and forecasting in the coastal zone.

Objectives 5 & 7

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.

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.

Both these objectives address impacts on marine and Great Lakes ecosystems from land-based activities – impacts that can fundamentally alter ecosystems, including their diversity of species, their resiliency, and their ability to provide ecosystem services. Climate Change and Ocean Acidification are caused on global scales but they affect ecosystems on all scales. Land based source of water pollution are caused by direct emissions or runoff and have impacts in local marine and Great Lakes ecosystems or may be carried by air and water currents to create impacts in remote locations. We recommend:

- Any national level planning should include measures to minimize and prevent land-based sources of negative impacts on marine and Great Lakes ecosystems; and they should coordinate with local plans to do the same.
- Synergistic and cumulative impacts of these effects from land plus those of at-sea activities must be taken into account and monitored in conjunction with CMS Planning.
- Strong, swift and effective regulations and measures to continuously reduce US generated causes of climate change and ocean acidification are essential.
- Similarly, improved enforcement of water and air quality laws and standards is needed.
- The objectives of coastal and port community plans to mitigate land-based sources of impacts to marine and Great Lakes ecosystems should be supported by national actions and monetary and technical support.

Objectives 3 & 9

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.

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.

Some monitoring and research needs have already been mentioned in conjunction with regional and smaller scale management. We support as well the development and improvement of national research and monitoring systems that would provide a basis for overlaying and integrating finer scale research and monitoring significant to local and regional decisions but comparable across large marine and Great Lakes ecosystems for the purpose of national coordination.

We encourage basic research on ecosystem functions, interactions among species, effects of changing marine and Great Lakes environments, the human role in ecosystems, important scales of ecological processes, and other areas where more knowledge would enhance the effectiveness of ecosystem based management. It would enable identification of key indicators for measuring progress in achieving goals.

We encourage the incorporation of sociological research that sheds light on and enables measurement of the social and economic impacts caused by management actions as well as such impacts caused by human-induced changes in ecosystems. The relatively new science of ecological-economic visualization, analysis, and forecasting in the coastal zone is not widely known or acknowledged. We encourage the recognition and funding of this important line of research.

Sharing information with the public is critical to successful collaborative management. The development of user-friendly templates should be a priority for regional ocean councils. It is critical that the public be informed at the initial stages of producing management plans (both EBM and CMSP), and that they receive information and data used throughout the adaptive management process.

Summary

We offer the following summary of key strategies we have recommended and explained above:

- Collaborative management at local scales;
- Adaptive management and monitoring;
- Visioning processes at various levels of management;

- Accounting for humans as part of the ecosystem;
- Monitoring to measure achievement of objectives;
- Scale-sensitive matching of activities with ecosystem processes in ocean, coastal, and Great Lakes environments;
- Multi-scale spatially based management;
- Protection of food sovereignty and marine-based food systems;
- Bottom up decision-making;
- Management for the public good and with public oversight;
- Protection of food sovereignty in context of CMSP;
- Pollution prevention;
- Ecological-economic visualization, analysis, and forecasting;
- Integration of local knowledge with sound science; and
- Sharing of knowledge and data effectively with public in a timely manner.

Yours truly,

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