

**Testimony before
U. S. Commission on Ocean Policy
Northeast Regional Meeting
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**Submitted by
Evan D. Richert, AICP
Director, Maine State Planning Office
on behalf of
Gov. Angus S. King**

Admiral Watkins and members of the Commission, thank you for your invitation to speak on behalf of Governor King. We in Maine do not wake up in the morning or go to bed at night without having felt the effects, blessings, and worries of the oceans, and especially of the magnificent “sea within a sea” – the Gulf of Maine – that lies along our 3,500-mile doorstep. And so there is no state in the nation that more greatly respects the task before you, or more urgently wishes you success.

Given the array of everyday marine and coastal issues that confront us, but with only a few minutes to discuss them with you, we have narrowed down our comments to a few recommendations that will best leverage improvements in how we manage ocean resources and sustain life and livelihood in the Gulf of Maine. These fall into 3 categories:

- Fisheries
- Ocean observations
- Coastal zone management

Our more detailed written testimony has been submitted with these comments.

I. FISHERIES

One era of ocean management, unable to predict or manage change, has reached the end of its useful life. Another era must soon replace it. Internationally, as well as within our own resource agencies, there is recognition that the new era should be based on ecosystems: the relationship of living things to their physical environment and to each other. But neither the United States nor the rest of the world is yet armed with the knowledge needed to implement this integrated approach.

We must get there. Until there is a systematic understanding of life in the ocean, and of the connection of life to a changing physical environment, the future of the oceans will be one of looming crisis. Members of the Commission are well aware that, 25 years after passage of the original Magnuson Act, the groundfish industry in New England

finds itself in constant crisis. Years of sacrifices have been rewarded by the threat of lawsuits and further restrictions. The only way out is to invest in the science that will give us the predictive power of an ecosystem approach; and in the institutional arrangements that will drive it.

Therefore, our first overarching recommendation is:

Recommendation no. 1: Commit to achieving by 2010, in the Gulf of Maine and elsewhere, a fully operational ecosystem approach to the management of ocean resources.

The Gulf of Maine, and undoubtedly other coastal regions around the U.S., is poised to take on this challenge. In the Gulf of Maine, federal marine fisheries agencies in both the U.S. and Canada are keen to move in this direction. Two large research programs¹ now in their final stages have introduced new understandings of physical-biological interactions in the pelagic zone. And two new initiatives in the Gulf of Maine, if they succeed, will provide tools to help develop an integrated approach to management. One is the Gulf of Maine Ocean Observing System (GoMOOS), about which you will hear more later today. The other is a Gulf of Maine pilot of the Census of Marine Life. The purpose of this pilot is to demonstrate *how* to assess the abundance, diversity, and distribution of life across a large regional ecosystem, and the connections of that life to habitat. This is the very basis of an ecosystem approach to management.

We are aware and pleased that the Magnuson-Stevens reauthorization bills that have been introduced in the 107th Congress indicate enthusiasm for ecosystem-based management. However, this support must be accompanied by realistic funding. Last year, the Assistant Administrator of the National Marine Fisheries Service² estimated it would take NMFS five years or more and ~\$339 million to acquire the capabilities to put ecosystem-based management into operation. This includes \$91 million for improvements to stock assessments. For reference, the House Appropriations subcommittee with jurisdiction over the NOAA budget recommended \$2 million in FY2002 for improving stock assessments. So there is a tremendous gap between intentions and resources. To begin to close this gap, our detailed testimony offers a number of steps, including:

Recommendation no. 1(a): Create comprehensive fishery monitoring programs that will improve both the quality and the timeliness of data for fisheries stock assessments and management decisions. We can do so by, among other things:

- **Training and outfitting hundreds of fishermen** with state-of-the-art electronic data-gathering technology to collect and report real-time data on

¹ Global Ocean Ecosystem Dynamics (GLOBEC) and Global Ecology and Oceanography Harmful Algal Blooms (GEOHAB)

² Dr. Hogarth, in testimony before the House Resources subcommittee on Fisheries Conservation, Wildlife and Oceans in June 2001

species caught, species discarded, effort, location, and physical and environmental conditions for each fishing trip.

- **Committing to long-term collaborative research.** As a result of the crisis in the groundfish industry, Congress has appropriated emergency funds through the Northeast Consortium and the National Marine Fisheries Service to conduct collaborative research with the fishing industry. These efforts should be institutionalized for the long term.
- **Preparing accurate bottom maps or characterizations of the sea floor.**
- **Funding the necessary basic and applied science** to assess life in the oceans, including biological links to physical habitat and the processes that govern marine life, and formulate predictive models.

Recommendation no.1(b): Provide a mechanism, through the Sustainable Fisheries Act re-authorization, to develop new models for fishery management decision-making. The effort to implement ecosystem management should be carried out at the local level, with national oversight and attention to socio-economic impacts. There has been some interest in a relatively new approach to management known as co-management, which may present a viable alternative for some fisheries. An example is the Maine Lobster Zone Council process, which is described in our detailed comments.

II. OCEAN OBSERVATIONS

The cost of insufficient information is high – whether in search and rescue, in preventing and tracking oil spills, in managing fisheries, in monitoring the impact of waste water discharges, in reacting to red tide, in bringing freighters into crowded and complex harbors, or in tracking long-term events such as climate change. In the Gulf of Maine, a recent study sponsored by NOAA³ found that a system of real-time coastal ocean observations would translate into savings to several industrial and governmental sectors of more than \$33 million per year. That’s a 5-to-1 return on investment.

The Gulf of Maine now has such a system in its start-up stage. It is the Gulf of Maine Ocean Observing System, or GoMOOS, and you will be hearing more about it from its CEO, Dr. Philip Bogden, this afternoon. And you can visit us any time at www.gomoos.org.

Suffice it to say here that GoMOOS is one working prototype that is designed, not as a research program, but as a user-run utility. It is dedicated to the acquisition and delivery, on a free and open basis, of real-time ocean observations needed by many who rely on the Gulf of Maine for livelihood and well being. The Maine State Planning Office and our Department of Marine Resources have joined nearly 30 agencies and organizations, public and private, from Massachusetts to Nova Scotia, to form GoMOOS.

³ Kite-Powell and Colgan, 2001. “The Potential Economic Benefits of Coastal Ocean Observing Systems: the Gulf of Maine as an Example. NOAA.

Our vision is to join with similar systems around the coastal United States in a federation that will observe and forecast conditions in the coastal oceans in a way analogous to the National Weather Service's observations and forecasts of conditions in the atmosphere.

GoMOOS has completed two years of successful design and deployment and plans to be 24/7 by July 2003. But our survival beyond then is uncertain. The U.S. has no mechanism to support ongoing and continuous ocean observations. Thanks to Congress, the Office of Naval Research, and member contributions, we have received the funding we need to get through the start-up stage. But living on plus-ups will be no way to run a 24/7 operating observing system. Imagine if the National Weather Service had to operate year-to-year on what amounts to research grants. There would be no National Weather Service. Further, nationwide a potpourri of nascent systems is beginning to pop up, most of which will end up as stranded and fragmented investments unless a national system is created to give them structure and uniformity of standards, protocols, and access to a national data management regime.

Therefore, our second overarching recommendation is:

Recommendation no. 2: Establish a National Coastal Ocean Observing System, coordinated by the federal government and implemented at the regional level by a federation of regional coastal ocean observing systems. Part III of the pending Energy Policy Act of 2002 includes authorization for such a national system, as do draft amendments to the National Ocean Partnership Program. It is important for authorization to be passed in FFY 03 and for funding to begin in FFY 04.

III. COASTAL ZONE MANAGEMENT

Maine enjoys a reputation as a national leader for our approach to protection of coastal natural resources⁴. We have progressive laws and streamlined methods for assuring that *individual projects* meet the standards contained in them. But the truth is we are a long way from long-term coastal protection. The individual projects add up to a wasteful pattern of development that has fiscal, environmental and social consequences. Chief among these are cutting up of coastal habitats to below critical mass, nonpoint source pollution to water and air, and migration of development from once-vibrant coastal hubs to the far reaches of coastal watersheds.

Ironically, the single-purpose focus of state and federal environmental laws on individual projects helps to drive this pattern of development. Maine and other coastal states have recognized this and begun to reform state laws accordingly. The Federal government can help by following suit with its laws, and especially by helping states and communities build capacity to tackle regional patterns of development. We need to create the incentives, build the infrastructure, and enact the regulations that will direct development to suitable nodes in coastal watersheds, and that will preserve critical masses of habitat, coastlines, and rural areas.

⁴ Our mandatory shoreland zoning, sand dune rules, coastal wetlands law and state review of projects of regional significance were each adopted in the 1970's.

Therefore, our third overarching recommendation is:

Recommendation no. 3: Reauthorize and strengthen the Coastal Zone Management Act to make it fully consistent with and build capacity for state and local initiatives for “smart growth.” Among strategies to implement this recommendation are:

- **Creating a new coastal communities program** to help states work directly with local governments, individually and regionally, to adopt new coastal management approaches. This program is included in Senator Olympia Snowe’s CZMA reauthorization bill, S 328.⁵
- **Directing EPA and other agencies to reform single purpose federal environmental regulations and policies**, such as in stormwater management, that inadvertently promote an inefficient pattern of coastal land development.⁶
- **Urging Congress to formalize a Coastal and Estuarine Conservation program within a reauthorized CZMA.** This would provide matching funds for state land conservation programs, which are proving hugely important in protecting critical habitat.
- **Investing in those coastal environmental problems that are of the great significance and the most easily solved.** Polluted runoff, or nonpoint source pollution, is the largest threat to coastal water quality. Cost sharing programs, new development practices, stormwater management and public education are all proven tools that mitigate and prevent NPS. Yet according to the Coastal States Organization, of the total amount of federal funds available for controlling nonpoint source pollution, only about four-hundredths of one percent to the *coastal* nonpoint program. If the federal government is not able or willing to support the states in meeting coastal pollution goals, the CZMA should be amended to eliminate the program along with current penalties for noncompliance.

⁵ In Maine, we envision that a Coastal Communities Program would help us work more effectively with our 139 coastal municipalities and unorganized territories to: design regulatory responses based on sound science; evaluate the effectiveness of regulations and make changes accordingly; achieve stated environmental protection goals more quickly; implement management approaches that consider natural systems such as watersheds and bio-regions; increase the use of technology by coastal decision makers, create fiscal incentives as an alternative to regulatory controls; improve decaying marine infrastructure and improve access to the coast; invest in new economic development strategies that are complementary to traditional marine resource-based local economies. linkage of conservation lands, aggressive habitat restoration initiatives

⁶ The US Environmental Protection Agency and its partners in the Smart Growth Network have researched and analyzed many of these unintended consequences. An analysis of the implications of the Clean Water Act on land use patterns suggested changes to the Clean Water Act that would improve water quality while also supporting redevelopment and higher density development in our coastal urban centers (see McElfish and Casey-Lefkowitz, 2001. “Smart Growth and the Clean Water Act.” Northeast-Midwest Institute).

This completes my remarks. Again, more detailed written testimony on these points has been submitted. And I would be pleased to answer any questions.

**APPENDIX A
TO REMARKS OF EVAN D. RICHERT
U.S COMMISSION ON OCEAN POLICY
JULY 23, 2002**

FULL REMARKS ON FISHERIES

Members of the Commission are well aware of the significance of the fishing industry to New England. You are also aware of the struggle to rebuild groundfish stocks, while at the same time preserving our fishing industry. Over twenty-five years after the passage of the original Magnuson Act, fisheries stakeholders are frustrated to continue to find themselves in constant crisis. Years of sacrifices have been rewarded only by the threat of lawsuits and further restrictions. It is our hope that Congress will seize the opportunity presented by the reauthorization of the Magnuson Act to provide mechanisms that allow for improvements to fisheries science and new approaches to fisheries management. My testimony will address some recommendations on these topics from Maine's perspective.

Fisheries Science

Insufficient scientific information results in unacceptable levels of uncertainty around the population assessments of marine species and creates the need to adopt risk-adverse management strategies. The lack of data leads to unfruitful debates about biological reference points and stock status, which in turn, delay needed management actions. The result is "too little, too late" and the need for more draconian restrictions that might have been avoided had appropriate action been taken when needed. Too many times we've used a Ouija Board to make management decisions. This cannot continue.

*Recommendations: Create comprehensive fishery monitoring programs that will improve both the **quality** and the **timeliness** of data for fisheries stock assessments and management decisions. The Interjurisdictional Fisheries Act or the Atlantic Coastal Act may provide models for a funding mechanism. Specific recommendations include the following:*

- Hundreds of first-hand observers of the marine environment exist – the fishermen. These observers should be trained and outfitted with state-of-the-art electronic data-gathering technology to collect and report real-time data on species caught, species discarded, effort, location, and physical and environmental conditions for each fishing trip. The recent scallop fishery monitoring in the Georges Bank closed area is an example of how this can be done.
- Institutionalize collaborative research. As a result of the crisis in the groundfish industry, Congress has appropriated emergency funds through the Northeast Consortium and the National Marine Fisheries Service to conduct collaborative research with the fishing industry. Fisheries monitoring and research must be ongoing and long-term to be of real value. Unless there is some assurance that collaborative research is a stable, ongoing activity, there will be little incentive for

fishermen to participate. Institutionalizing such research will enable researchers and fishermen to begin to speak the same “language” and develop a process that is more likely to result in support for needed regulations. An added benefit would be a reduction in fishing effort by vessels participating in research projects. A commitment to collaborative research will require long-term funding commitments to resource agencies (for example, through increases of Interjurisdictional Fisheries Act monies) to provide sufficient staffing to participate in collaborative research. University researchers should also be encouraged to participate in collaborative fisheries research. Last, disincentives to collaborative research must be eliminated. In the New England Groundfish Fishery, fishermen have been told that they must use days-at-sea (which allow them to fish) in order to participate in cooperative research projects. This should be changed so that the incentive is to participate in the research.

- A cooperative effort on the Atlantic coast by state and federal agencies, the Atlantic States Marine Fisheries Commission, and the regional fishery management councils has resulted in the development of the Atlantic Coastal Cooperative Statistics Program. The purpose of this program is to collect and make available detailed, standardized, and mandatory fishery statistics on a coastwide basis. Funding should be made available through the Atlantic Coastal Act to implement the program and expand it coastwide.
- Independent surveys of marine resources at appropriate spatial and temporal scales are needed to provide information on the distribution and abundance of a range of life history stages, including juveniles. This will support localized management of fishery resources, provide robust estimates of juvenile recruitment, and inform the decision-making process for Marine Protected Areas.
- Ocean observing systems such as the Gulf of Maine Ocean Observing System (GoMOOS) provide real-time monitoring of the physical environment and primary productivity that supports marine resources. Efforts need to be focused on expanding data collection to higher trophic levels and developing models to understand the linkages between primary production and abundance of fish stocks. Support for regional coastal ocean observing systems, with linkages to efforts such as the Census of Marine Life, would help accomplish this.
- Accurate bottom maps or characterizations of the sea floor are needed to identify critical habitat, consider marine protected areas, and make ocean management decisions with the right spatial resolution. While coral reefs are readily identifiable, many other types of habitats are not so readily delineated. We need to develop remote sensing technology, or identify technology that has been developed for other purposes, to quickly and efficiently map marine resources and their habitats. The Census of Marine Life’s pilot program in the Gulf of Maine would be a ready-made vehicle for such mapping.

- Most fishery management decisions are based on assessments of the status of stocks of fish. Estimates of fishing mortality and stock size are based on best available data collected from the fisheries and from fishery surveys. The results are frequently debated as a result of uncertainty of the quality of the data and the models used in the assessment. Recommendations to improve stock assessments include: 1) improved data collection at finer spatial and temporal resolution; 2) development of new models that incorporate a broader range of data; 3) the ability to run models in a real-time mode to provide timely updates of stock status; 4) more scientists, particularly in state agencies, trained in stock assessment methodology; and 5) user-friendly models that fishermen can understand and operate. Each coastal state should have at least one fisheries science program at a university with an already existing marine science program. Work should continue on the development of multi-species models such as the effort on menhaden and striped bass in the Chesapeake Bay.
- We must concentrate more effort on gear technology to reduce bycatch, fish more efficiently, and work on habitat issues. There are currently only a handful of gear development experts on the East coast of the U.S., yet there are repeated calls for development of "habitat-friendly" gear and gear that minimizes discards and bycatch. There are no institutional programs in the U. S. that provide training to scientists in gear development as there are in other countries such as Canada and Scotland. A training program should be developed and funded to train both scientists and fishermen in gear development. Fishery management plans should provide incentives for use of innovative fishing gear and methods.

Fisheries Management

There are very few examples of well-managed fishery stocks around the world. Many have pointed to the regional fishery management council process as the reason so many stocks are overfished in the U.S. It's not clear if the current process can be fixed or improved upon. There has been some interest in a relatively new approach to management known as co-management, which may present a viable alternative for some fisheries (see Appendix on Maine's experiences with co-management through the lobster zone councils).

Recommendations: Provide a mechanism, through the Sustainable Fisheries Act re-authorization, to develop new models for fishery management decision making, to provide timely and meaningful results. Specific recommendations include the following:

- Both perceived and real failures in fisheries management have led to the assertion that current single-species methods are not working and that a change to an ecosystem management approach is needed. A clear picture of ecosystem management has not yet been developed; however, it will require a better understanding of species and fishery interactions, environmental effects, and trophic dynamics. While the current status of knowledge to support ecosystem management is not complete, effort should be made to develop and implement

ecosystem approaches to fishery management, through a series of logical steps and a time frame that is reasonable and achievable. This should be done at the local level with national oversight. The first step will be to identify the ecosystems - the Gulf of Maine, for example. Second, working groups of stakeholders (state, federal, and academic scientists, fishermen, and environmental representatives) should be established to contribute to the drafting of the ecosystem management plans. Third, Congress and Federal agencies should provide formal support to the recently launched Census of Marine Life. The Gulf of Maine is a pilot for this Census, with the specific task of demonstrating how the Census can lay the basis for integrated ocean management in a large marine ecosystem.

The MSFCMA reauthorization bills that have been introduced in the 107th Congress seem to indicate that there is interest and enthusiasm for ecosystem based management. However, it is critical that this support for an ecosystem based approach to management is accompanied by a realistic understanding of the costs associated with such a shift. In testimony before the House Resources subcommittee on Fisheries Conservation, Wildlife and Oceans in June 2001, Dr. Hogarth, Assistant Administrator of the National Marine Fisheries Service provided an estimate of the implementation costs. According to their best calculations, it would take NMFS 5 years or more, and ~\$339 million to acquire the capabilities to put ecosystem-based management into operation. This includes \$91 million for improvements to stock assessments. For reference, the House Appropriations subcommittee with jurisdiction over the NOAA budget recommended \$2 million in FY2002 for improving stock assessments. Clearly there is a tremendous gap between the proposed mandates in law, and the resources that are provided to fulfill those mandates.

- Fisheries management should be applied at the most localized level possible for a species or species complex. The Maine Lobster Zone Council process should be examined as a model for co-management (See Appendix A-1 for information on co-management, and Maine's experiences with the Lobster Zone Councils).
- Address the issue of excess capacity through incentives and means other than permit buy-backs. Incentives could be offered to use less efficient gear, such as access to restricted areas, quota set-asides, or additional days at sea. Innovative programs such as delegating unused permits and fishing effort to local communities or localized management zones should be considered. Alternatives to fishing should be developed such as participation in research and/or community-based aquaculture and enhancement projects.
- The assessment of socio-economic aspects of fishery needs as much attention as biological information. We know that fishery management decisions impact fishermen and coastal communities, but we've not concentrated on quantifying these impacts. This is critical to making fair, balanced management decisions. For example, a recent NMFS analysis stated that the impact of the recent court

existing rules included substantial improvements to clarify policies and processes to resolve uncertainties and disputes, and to expedite state reviews and appeals.

The State of Maine has received praise from the regulated community for its review process for energy facilities siting and federal consistency. Interagency cooperation on the part of Maine state agencies (under the leadership of the State Planning Office – the lead CZM agency and federal consistency point of contact) expedited the approval process for Maritimes and Northeast Inc.'s construction of a gas pipeline running hundreds of miles along the length of Maine's coastal zone. Representatives from Maritimes and Northeast presented testimony to the Maine State Legislature in 2001 concerning the efficiency of the state's streamlined process and the resultant positive outcome for the company's timetable and budget.⁷

3. Efficiencies in state coastal management programs can be achieved by working with specialized staff at the federal level. Federal agency support for their state liaison staff is crucial to achieving a highly productive federal/state partnership.
 - Elevate the placement of the office of Ocean and Coastal Resource Management within NOAA. In recent years, the ability of OCRM to provide quality technical assistance to coastal states has been compromised due to budget cutbacks and diversion of resource to other NOAA programs. State program specialists at OCRM no longer visit states on annual basis, staff is limited in their opportunity to develop special expertise in topics of concern to states, federal staff is unable to proactively address state needs, and there is no longer an effort to bring states within a region together on an annual basis. Elevation of the Office to a higher administrative level within NOAA would validate the importance of providing quality service to participating states.

4. The funding caps and formula for distribution of federal support under CZM is outdated.
 - Invest in a nationwide coastal management program that enables states to meet present day challenges. Urge appropriators to lift the funding caps for base funding of CZM programs. The funding formula for federal support of CZM programs is based on shoreline miles and population, and appropriators have capped funding at a maximum of 2 million dollars per year for support of base program activities. This formula and cap system works has negatively affected states like Maine, California, Florida and other large states who maximized their funding opportunities during the

⁷ Fall 2001, State and Local Government Committee of the Maine Legislature. Public hearing concerning the evaluation of the State Planning Office under the Government Evaluation Act.

mid 90's. Many of the smaller coastal states (those with fewer shoreline miles) are now approaching maximum funding as well.

This system made sense as new CZM programs were coming on line and assurances were needed that new programs needed to grow at a rate comparable with other programs. This is now an inequitable system that provides equal funding to states regardless of the components of their coastal management programs, the number of participating local governments in the state, and the geographic area to be served. This funding system fails to provide the support necessary to keep pace with the increasing complexities of coastal management issues and fails to reward states for exemplary coastal management.

As an alternative allocation system, we suggest retaining the base funding level formula that considers shoreline miles and population, with additional funding opportunities based on a rating system that reflects program components and complexities, shoreline development pressures, importance of current coastal issues and other features, i.e. states with strong coastal wetlands protection programs receive more funding than those that don't.