

Comments to
U.S. Commission on Ocean Policy

State Management of Coasts and Ocean Panel
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The Florida Marine Research Institute (FMRI) is a major technical arm of the Florida Fish and Wildlife Conservation Commission (FWC). With over 400 staff statewide we provide much of the technical information needed to manage Florida's marine fish and wildlife resources. In addition we fund and collaborate with many research institutions across the state and nation to investigate and monitor our marine resources for their management. The theme of these comments emphasizes the interactions between state and federal policy on ocean and coastal activities.

Issue: Coastal and Estuarine Monitoring

Discussion: Previous testimony by Dr. Fletcher on behalf of the National Association of Marine Laboratories had a focus on the need for Ocean Observing Systems. I would like to focus this discussion with a State perspective. Florida, like only a few states, is blessed with an extensive coastline (about equivalent to the entire eastern seaboard), temperate to tropical waters, and both the Atlantic Ocean and the Gulf of Mexico. Long-term status and trends monitoring of this environment (particularly the coastal and estuarine waters) is absolutely critical to manage the potential impacts to these environs. Long-term monitoring also provides the information that allows for determining whether the desired results of management actions are met or whether they need adjustment. Federal, state and local managers have a stake in long-term monitoring.

In some scientific circles monitoring is perceived to be competing with investigative and process oriented research for funds when in reality these are interdependent. This perception and conflict is waning somewhat but remains a detraction to developing management oriented monitoring programs. Sources of funding within individual agencies are often start up research funds that have no long-term certainties, provide only for false starts in monitoring, and increase the perception that monitoring is competing for "research dollars". NOAA, EPA, and military agencies are key federal agencies that are and should be concerned with monitoring.

Across agencies and within agencies monitoring activities are often not coordinated. The federal government has a plethora of monitoring activities many that have a come and gone due to changing agency priorities and the lack of recognition of the importance of long-term status and trends information to basic

management. At a state level we find it very difficult to establish partnerships in monitoring with such instability and a myriad of potential federal programs dealing with monitoring. The result of all of this is a very poor system of long-term monitoring of our coastal and estuarine environments.

Habitat monitoring and assessment activities are traditionally conducted through state/federal partnerships. For example, longstanding relationships between the State of Florida, EPA, NOAA and National Park Service have resulted in the accumulation of extensive knowledge on the Florida Keys Reef Tract and seagrasses in Florida Bay. The value of these long-term status and trends studies cannot be overstated. Issue-driven field experiments or special studies, which necessarily must be smaller in scope and more focused in application, provide valuable information on the effects of specific stressors on marine habitat. However, without the broader context provided by sustained monitoring initiatives, it is often difficult to determine if the results of special studies apply across the aerial extent of the resource or across seasons. Monitoring programs provide the knowledge base for adaptive management of marine habitat. While special studies will be critical in determining the relative threats posed by stressors such as increased solar radiation, nutrient enrichment and disease, it is important to maintain a scientific infrastructure which recognizes the crucial role habitat monitoring plays in sound decision making. It is also important to realize that the infrastructure associated with long-term monitoring partnerships provides tremendous leverage for conducting issue-driven studies cost-effectively.

Recommendation: Develop a consolidated federal initiative and policy directed at long-term monitoring of our coastal and estuarine waters. The focus should be on integrating federal, state, and local programs into a cohesive effort that recognizes the resolution and types of information needed to evaluate resource management strategies. This should have a clear linkage to process oriented research but monitoring should be considered an operation management tool. Federal programs need to continue and expand long-term monitoring of critical marine and fisheries habitat and continue to support programs with state partners.

Issue: Invasive Species

Discussion: Unclear roles of federal agencies in individual states cause confusion. For example, The regional (Gulf of Mexico Region, Western Region, Great Lakes Region) panels of the Aquatic Nuisance Species Task Force (ANSTF) act as the federal liaison for their umbrella states, The Gulf Region being TX, LA, MS, AL, FL. Recently Florida Sea Grant Program entered the arena with another agenda, somewhat inconsistent with Gulf ANSTF, and a suite of additional programs and requests that are in large part duplicative. This is confounding to state agencies and the task force.

Another significant issue concerning state-federal management of invasive species is within the new National Invasive Species Council's (ISC) Management Plan, "Meeting the Invasive Species Challenge." There is a lack of recognition that the scope, diversity and intensity of the problem varies greatly from state to state. The plan oversimplifies the problem and projects policy that does not suit the issues for individual state needs. This has partly arisen from the broad distribution and management role of the federal government on the zebra mussel problem. It is the exception, not the rule. Florida, California and Hawaii truly have unique problems. The perception is that these are not recognized at the national level.

We believe the fundamental step in development of a management plan (a document to be used directly in state-federal coordination and implementation) is adoption of unambiguous definitions for key terminology. The most appropriate definition of "Invasive Species" is "alien species that cause substantial, negative impacts to the environment, economies and human health." Uniform definitions should also be developed for the terms: nuisance species, intentional introduction, incipient invasions, established, well established, permanently established, and importation. Clarification of key terms will be a critical factor in defining the level and scope of implementation of state and federal initiatives.

The FWC feels, given the wide array of existing legal authorities in Appendix 3 of the National Management Plan, it is unlikely additional federal authority is needed to manage invasive species. For example, the Lacey Act prohibits importation of animal species determined to be "injurious to human beings, to the interests of agriculture, horticulture, forestry, or to wildlife or the wildlife resources of the United States", yet only a few animals (none of which are fish) are listed as injurious

I would like to take this opportunity highlight an issue that is becoming more and more important to coastal states – ballast water and sediment. Before the advent of human navigation of the world oceans, plants and animals evolved in environments where introductions of new species (invasions) occurred through natural transport mechanisms or pathways (currents, winds, vegetative rafts, etc.) Now modern shipping transports hundreds of species of plants and animals around the world in their cargo holds in ballast water. We cannot know how ocean and coastal ecosystems have been effected by the shipping practices regarding ballast water. It is suspected that the sudden appearance of toxic dinoflagellates (red tide) species in areas where they had previously not been recorded is the result of nearshore ballast water discharges.

Ballast water and sediment transfer of pathogenic bacteria and toxic dinoflagellates has occurred in the world oceans and presents public health risks. As examples, *Vibrio cholerae* 01 was found in shellfish and shellfish-eating fish in Mobile Bay. It was not a Gulf of Mexico strain. A toxic dinoflagellate was introduced from Japan to Australia and presented a risk of shellfish becoming

toxic to human consumption. Molecular “fingerprinting” was used to prove that these introductions were new and invasive.

Increased global trade heightens the potential for species to move across oceans and continents. At the state level there is a lack of adequate resources for basic research and monitoring of wildlife and marine invasive species arriving through global pathways. The Chamber of Shipping industry recognizes the extent and seriousness of the problem, and supports measures to restrict the transport of species in ballast water as long as the measures are fair and equitable. Measures imposed regionally or at state levels often make ports in those areas less competitive: therefore an international solution is preferable.

A new order issued by the Coast Guard effective in summer 1999 urges voluntary open-water exchange of ballast water, and requires ships to report whether and how they have discharged ballast water. This order is now being carried out at all U.S. ports, and the Coast Guard is utilizing salinity test kits on ballast tanks of randomly selected ships to assess compliance with the voluntary open-ocean ballast exchange request.

Recommendations: We encourage coordination of more than 20 federal agencies dealing with nonindigenous species issues as proposed by the ISC.

Florida would like to see elimination of redundancy in federal agency initiatives dealing with invasive species. For example there seems to be considerable overlap in duties of the National Invasive Species Council (ISC) and the Aquatic Nuisance Species Task Force (ANSTF) to the point where both have requested separately, state management plans.

We encourage the USFWS to continue its examination of procedures for listing species under the Injurious Wildlife Provisions of the Lacey Act before seeking additional legislative authority. Similarly, the ANSTF, through its executive agencies and Gulf of Mexico panel, currently serves as a platform for our agency’s consideration of marine invasive species problems.

We support federal intent outlined by the ISC to validate the effectiveness of control methods for invasive species through coordination of research among federal agencies.

We encourage developing research initiatives at the state and federal level with states and other stakeholders involved as full partners. It is essential to identify and initiate work on the most serious invasive species problems.

Regarding ballast water and sediment, until international protocols for treatment are developed, the US needs to protect the environmental interests of coastal states by implementing enforceable national requirements for ships entering US ports. Open-water exchange is currently the most cost-effective and reliable

means of preventing introduction of aquatic invasive species since most of the organisms that are carried in ballast water cannot survive in high-salinity environments. Permanently funded programs to study and manage the ecological and socioeconomic consequences of invasive species are desirable. State-federal interagency task forces should be formed as needed to coordinate prevention message, respond to immediate threats, help coordinate enforcement activities, and share information and assessment plans.

Issue: Offshore Oil and Gas Development spill response

Discussion: Florida has a long history working with the Mineral Management Service (MMS) and the oil and gas industry on Outer Continental Shelf oil and gas issues. The State maintains that oil and gas exploration or development in the territorial seas of our coast poses real risks to other Florida coastal interests. The extent of these risks and potential for others cannot be adequately evaluated because of a lack of scientific data on offshore physical conditions and biological communities. In response to these concerns, Florida has challenged lease sales, exploration plans and plans of development as inconsistent with Florida adopted Coastal Management Program. Interior and Commerce agency decisions and judicial findings have resulted in mixed outcomes, but have resulted in lease buy backs, lease sale suspensions for the Straits of Florida and South Atlantic areas, and Gulf of Mexico sales restricted to an area located at least 100 miles off Florida's Gulf Coast. At various times the Department of Commerce, Federal courts and the National Academy of Science have determined that the information was inadequate to demonstrate that critical Florida coastal resources would not be detrimentally impacted. The State continues to work with MMS and the industry to resolve these issues through enhanced communications and joint efforts.

Recommendation: MMS has an extensive Studies Program directed at generating better data by which to assess physical, environmental and socioeconomic impacts of oil and gas activities in the Outer Continental Shelf program. However, Eastern Gulf of Mexico has had far fewer and less comprehensive studies than those for the Central and Western Gulf Planning Areas. An extensive, comprehensive study program needs to be implemented to address the documented lack of information for the Eastern Gulf of Mexico and similar programs initiated well before any lease sales in the Straits of Florida or South Atlantic are again considered. An immediate program to adequately describe the deep-water areas of lease Sale 181 should be implemented to supplement the Environmental Assessments required of industry.

Issue: Aquaculture and Stock Enhancement

Aquaculture

Discussion: It is clear that the harvest of native marine species cannot supply the demand world wide nor in the US. In fact, we are have over fished or are

overfishing many of our marine fishery species. In order to take pressure off of our native species aquaculture or fish farming of marine fish and shellfish in the US is inevitable. Currently, NOAA, USDA, EPA, USFWS, and FDA all have roles in aquaculture. The roles currently played are at time contradictory, confusing and even counterproductive.

The following passage comes directly from NOAA's Aquaculture Policy. "A strong NOAA role in aquaculture will stimulate job creation in the public sector, help to revitalize communities suffering from the collapse of traditional fisheries stocks, utilize advanced technologies and management regimes to resolve natural resource conflicts and ensure that aquaculture is done in an environmentally sound manner, reduce the fisheries trade deficit, and increase domestic production of finfish and shellfish and recreational opportunities. Marine aquaculture can augment restoration efforts of depleted marine stocks and can provide safe, high-quality seafood for consumers."

NOAA defines aquaculture as the propagation and rearing of aquatic organisms in controlled or selected aquatic environments for any commercial, recreational, or public purpose. Potential purposes of aquaculture include bait production, wild stock enhancement, fish culture for zoos and aquaria, rebuilding of populations of threatened and endangered species, and food production for human consumption.

Historically, NMFS, the NOAA agency with primary responsibility for marine aquaculture has focused its efforts on salmon enhancement in the Pacific Northwest. More recently, NMFS has turned more of its attention and Saltonstall-Kennedy (S-K) grant funding to aquaculture opportunities in other parts of the country. From Florida's perspective, NMFS in the Southeast Region, has run hot and cold on aquaculture development. For example, NMFS SE provided S-K funding to the University of Florida for an aquaculture project involving Gulf sturgeon in the early 1990s (S-K award NA27FD0066-01). In the late 1990s, the NMFS SE Office of Protected Resources spent much energy criticizing State of Florida efforts to accomplish the same activity with state funds.

At the same time, we are encouraged by initiatives such as the FY 2001 national competition for innovative research, policy and regulatory analysis and development of marine aquaculture in the US conducted by the Office of Oceanic and Atmospheric Research (OAR). In the southeast, funded projects included black sea bass, redfish, cobia and mutton snapper. The majority of projects were multi-investigator, multi-disciplinary, multi-institutional, and multi-state in nature. OAR recognized that the most successful projects were those that had academic, private industry and governmental partnerships to provide a more holistic approach to the problems that face the US aquaculture industry. The overall goal of the competition was to bring the various research lines conducted by NOAA's National Sea Grant College Program, NMFS, and the National Ocean

Service into coordination and create new industry and commercial opportunities in environmentally responsible technologies.

Recommendation: We encourage NMFS to continue to improve communication within the agency and between its science directors and stakeholders in a manner that will lead to balanced view points and consistency toward national and state interests on capture fisheries, protected species and aquaculture.

More importantly we recommend that a National Policy and Initiative On Aquaculture be initiated and include and direct all agencies in a coordinated and efficient manner. The policy should include a clear position of the federal government on aquaculture, direct all agencies on addressing the environmental issues in the application of aquaculture, and set general guidelines for implementing aquaculture. The aquaculture of marine species should be recognized as woefully inadequate in science and technology and any policy should direct resources towards the many scientific and environmental issues that must be investigated prior to any successful implementation of a national policy. Development of policy should be in close partnership with state agencies.

Stock Enhancement

Discussion: The effectiveness of stocking hatchery-reared organisms to help restore or supplement ocean fisheries is uncertain. After a century of stocking programs for anadromous and marine species, the science needed to evaluate stock-enhancement potential is still largely undeveloped. Recent research suggests that hatcheries can be an effective fishery-management tool, if used in concert with traditional fishery-management tactics. However, important questions remain unanswered about the consequences of ecological and genetic interactions between hatchery and wild stocks. Thus, policy decisions about stocking to augment and restore depleted stocks lack a scientific basis.

Although public backing for stock-enhancement programs is usually strong, risks and benefits are difficult to quantify because of high uncertainty about stocking effects. There are four main ways that a stock-enhancement program can end up doing more harm than good: (1) replacement of wild with hatchery recruitment with no net increase in total stock available for harvest (competition/predation effects); (2) unregulated fishing effort responses to presence of hatchery fish, which can cause over fishing of the wild stock; (3) “overexploitation” of the forage resource base for the stocked species, with attendant ecosystem-scale impacts; and (4) genetic impacts on long-term viability of the wild stock. The benefits of responsible stocking programs may outweigh the risks, though, if appropriate control over stocking effects is developed. Stocking may be a powerful tool for rapidly replenishing recruitment over-fished stocks, once effective regulations are in place. It may be a means for recovering endangered species; it could provide disaster relief from a host of environmental calamities, such as fish kills from red tide, hard winter freezes and various toxins introduced into aquatic environments. By targeting hatchery fish, stocking may afford a way to transfer fishing pressure

away from wild stocks. As an experimental tool, stocking can clearly increase knowledge about wild stocks.

Recommendation: Commit federal resources to research needed to resolve critical uncertainties about stocking effect and potential as a fishery-management tool. Until critical uncertainties are resolved and control over enhancement effect is developed, approach all stock-enhancement programs as an adaptive management experiment, with the explicit assumption that there is a high probability of failure or unacceptable ecological impacts. Conduct all enhancement programs using a responsible approach, as outlined in the American Fisheries Society Symposium 15 publication: (1) involve stakeholders in a process to prioritize and select target species for enhancement; (2) develop a species management plan that identifies harvest opportunity, stock rebuilding goals, and genetic objectives; (3) define quantitative measures of success; (4) use genetic resource management to avoid deleterious genetic effects; (5) use disease and high-health management; (6) consider ecological, biological, and life-history patterns when forming enhancement objectives and tactics; (7) identify released hatchery fish and assess stocking effects; (8) use an empirical process for defining optimum release strategies; (9) identify economic and policy guidelines; and (10) use active adaptive management to improve release contributions to fisheries and increase control over hatchery effects.

Marine enhancement should not be used as a substitute for effective regulation of fisheries in cases where a productive wild stock can be sustained through natural recruitment processes. Stock enhancement could be used as a temporary measure to accelerate rebuilding of wild stocks that have suffered historical over fishing or habitat damage, but only provided the over fishing and habitat problems have been effectively addressed. Stock enhancement could be used to create fisheries where habitat constraints prevent wild recruitment, but only if the enhancement can be demonstrated not to cause deleterious effects on wild fish populations and on the capability of ecosystems to support those populations.

Issue: State-Federal Fisheries Management

Discussion: Coordination between state and federal managers has generally improved under the 1976 Magnuson Fishery Conservation and Management Act (MFCMA) and the 1996 Sustainable Fisheries Act has continued that improvement. Some fishery stocks have benefited. The Department of Commerce, National Marine Fisheries Service (NMFS) is responsible for enforcement of the MFCMA and development of Fishery Management Plans. NMFS and regional council staff members rely heavily on state involvement to accomplish the fishery conservation mission, e.g. the need to designate critical fish habitat mandated under the Sustainable Fisheries Act.

We consider the 1993 Atlantic Coastal Fisheries Cooperative Management Act a great success in moving shared jurisdictional management of coastal stocks

forward. This Act authorized the Secretary of Commerce to provide financial assistance to the Atlantic States Marine Fisheries Commission and to Atlantic coastal States to adopt and implement fishery management plans for coastal fisheries.

In 1995, \$5 million was authorized for these activities and has continued since. NMFS and the United States Fish and Wildlife Service (USFWS) have developed a Memorandum of Understanding to coordinate federal actions required by the Act, developed and implemented a funding strategy for distribution of funds to state and federal agencies, and established procedures for implementing a federally imposed moratorium for states not in compliance with the Atlantic States Marine Fisheries Commission's fishery management plans. Although coastal states find themselves chaffing under the additional burdens imposed by the Act, the overall benefit to the coastal fisheries management has turned it into a model of federal-state-interstate cooperation.

Recommendation: Federal fisheries management interests need to recognize and nurture buy-in and partnerships with the coastal states in all phases associated with the Sustainable Fisheries Act – policy development, regulatory implementation, and enforcement. The recent appointment of Jack Dunnigan, former Executive Director of the Atlantic States Marine Fisheries Commission, to the Director of the NMFS Office of Sustainable Fisheries bodes well for accelerated and significant improvement in state-federal fisheries management.

Issue: Implementation of the Marine Mammal Protection Act of 1972 (MMPA) and the Endangered and Threatened Species Act of 1973 (ESA)

Manatee Protection and Inconsistent USFWS Permit Policy

Discussion: Both the MMPA and the ESA prohibit “taking” of marine mammals and endangered species, and both acts consider “harassment” as “take.” Section 3(18) of the MMPA defines “harassment” as; “Any act of pursuit, torment, or annoyance which:

- a) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A); or
- b) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B).”

Although harassment is not defined in the ESA, Section 17 states that, “no provisions of this Act shall take precedence over any more restrictive conflicting provision of the MMPA.”

These two acts and their resultant implementation have had a deleterious effect on the ability of states to conduct or sponsor the scientific studies needed to actually effect recovery of the species. A result of the Acts is a rather cumbersome permitting process for research and it is compounded by the

application of two protective acts on one species. Currently we have had an amendment to an existing permit in the federal permit process for 9 months. While this type of time delay may be unusual the normal process takes 120 days if absolutely no questions are raised on a scientific permit request. Currently it is just as time consuming, for example, to get a permit to passively listen to manatees using a hydrophone or just photograph a manatee as it is to capture one and draw blood.

Recommendation: While we firmly believe in the need for the scientific research community to obtain permitted exceptions to the laws when appropriate, there needs to be a review of the ESA and MMPA relative to scientific permitting. State agencies with authority to manage these species should be given special partnership status with NOAA and USFWS. In addition, permit requirements and timeframes to obtain permits to work with protected mammals should be more consistent between the two permitting agencies - USFWS and NMFS.

Right Whale Protection

Discussion: The North Atlantic Right whale is critically endangered, numbering around 300 individuals. Ship traffic poses a serious threat to the recovery of the species as ship strikes have caused fatal injuries. This has caused conflict of use between right whales and ships. A group effectively working to resolve these conflicts is the federally appointed inter-agency Southeastern Implementation Team for the Recovery of the North Atlantic Right Whale. This team brings together stakeholders from the shipping industry, port authorities, federal and state scientists and other involved parties to discuss the issues and develop workable solutions. It is a model of state-federal-stakeholder interaction centered on a nationally important resource management issue.

Recommendation: The federal government should continue to encourage and support this multi-disciplinary, multi-stakeholder effort and recognize it as a model approach for other natural resource management and recovery issues.

Issue: Diversity in the management and science personnel involved in ocean policy and science

Discussion: The current academic systems with the US are not graduating minority students in marine and coastal ocean policy and research and certain segments of the minority population are grossly underrepresented in the workforce.

Recommendation: Working with the National Science Foundation, NOAA and EPA should develop a program for recruiting and developing minority students.

Issue: Coastal Zone Management

Discussion: It is evident that at least one component of the Coastal Zone Management Act needs some attention. A component which directs coastal non-point source action is one that should be a model for state federal interaction. However, since the Act creates a situation where NOAA and EPA (through 319

storm water legislation) have duplicative direction which needs to be addressed. It is difficult for two agencies with the same mandates to effectively work together. In addition in many states the water quality agency is not the same as the coastal management agency and thus ineffective application of the programs are a result.

Recommendation: To better facilitate the application of storm water and coastal non-point source programs the Coastal Management Act directing NOAA and the storm water 319 program in EPA need to be reviewed for duplication and a new model for federal and state partnership in the coastal non-point source program needs to be implemented.