Committee on Resources,

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Witness Statement

Testimony on Reauthorization of the Coastal Zone Management Act
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Fisheries Conservation, Wildlife, and Oceans
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By
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Introduction

Good morning. My name is Mike De Luca and I am the President of the National Estuarine Research Reserve Association. I also serve as Manager of the Jacques Cousteau National Estuarine Research Reserve and as the Senior Associate Director of the Institute of Marine and Coastal Sciences at Rutgers University. I'd like to thank the Chair, Mr. Gilchrest, and members of the committee for the opportunity to provide comments on reauthorization of the Coastal Zone Management Act in general, and on H.R. 897-- the Coastal Community Conservation Act of 2001 introduced by Mr. Saxton.

My testimony today is presented on behalf of the National Estuarine Research Reserve Association or NERRA. NERRA is dedicated to ***science-based*** management of our nation's estuaries and coastal systems, and serves as the primary advocate for the National Estuarine Research Reserve System (NERRS), a network of 25 (soon to be 26) regionally-based programs representing diverse estuarine and coastal ecosystems throughout the U.S. and its territories. Through a state-federal partnership codified in the Coastal Zone Management Act, the reserves play a critical role in national efforts to sustain healthy estuaries and coastal communities.

National Estuarine Research Reserve System (NERRS)

The National Estuarine Research Reserve System (NERRS), established under section 315 of the CZMA, is designed to promote informed coastal decisions through site-based estuarine research, education, and stewardship. This represents a relatively unique collaboration among the scientific, management, and education communities working together on a daily basis on local and regional coastal issues. NERRS sites have been selected on the basis of biogeographic regions that share geophysical and biological characteristics. Coastal states are responsible for management of reserve sites, in cooperation with the National Oceanic and Atmospheric Administration (NOAA).

Since the enactment of the CZMA in 1972, 25 estuaries have been designated as part of the reserve system including Alaska and Puerto Rico, with an additional site (San Francisco) expected to be designated later this year. Reserves serve as regional centers of excellence where coastal communities can access a broad

array of coastal products and services:

training to promote informed environmental decision-making,

a national monitoring program for estuaries is maintained, and

training opportunities for the next generation of coastal researchers, educators, and managers.

With these key elements, the reserve system is in the unique position of serving the national interest while responding to local needs.

Estuaries, dynamic regions where rivers meet the sea, constitute an important interface between land use and coastal resources. Considered to be among the most biologically productive ecosystems on Earth, healthy estuaries are essential to the preservation of robust coastal communities. Estuaries support vital nurseries for economically important fish and shellfish, provide essential habitat for wildlife, create opportunities for ecotourism, and serve as ports for maritime commerce. The NERRS and Coastal Zone Management Programs contribute to the informed use of these estuarine dependent resources through an integrated program of research, education, and stewardship, as well as implementation of state coastal zone management plans. For example, at the Chesapeake Bay-Maryland NERR, the Reserve and Maryland CZM Program partnered to develop a restoration plan for submerged aquatic vegetation. In Massachusetts, the Waquoit Bay NERR partnered with the state CZM Program and other agencies to reduce nitrogen loading to the surrounding watershed through a combination of land acquisition and management strategies. In Rhode Island, the Narragansett Bay NERR partnered with the state CZM Program to provide assistance in response to oil spills and conduct damage assessments. In Maine, the Wells NERR has a specific mandate to provide science support for the state CZM program, a partnership that promotes daily collaboration between the scientific and management communities.

Local and regional land use decisions continue to contribute to degradation of water quality and loss of wetland habitat. Land use in watersheds, ranging from agriculture and development to water resource allocation and flood control, are becoming increasingly important factors coastal and estuarine management. Local elected officials, land use planners, government agencies, and agricultural interests are often asked to make land use decisions without sufficient information regarding the potential consequences to downstream effects.

To meet these challenges, the NERRS have developed several system-wide programs to place reserves in a strong position to detect environmental change, respond to pressing research needs at the local and regional scale, and to provide technical training for the coastal stakeholder community:

The NERRS System-Wide Monitoring Program is designed to provide standardized monitoring and assessment capabilities at each Reserve to detect changes in water quality, biological indicators, and land use change at the watershed scale.

The NERRS Graduate Research Fellowship Program supports two graduate research projects at each Reserve annually on coastal management topics of concern to local and regional stakeholders. Research topics range from stormwater management and restoration ecology to invasive exotic plants and fishery habitat requirements.

The NERRS Coastal Decision-Maker Workshops target individuals involved in local planning and

management. Workshops provide science-based information on topics responsive to local needs such as polluted runoff, watershed management, water supply, and restoration science.

In addition to research, monitoring, education, and technical training, Reserves are developing resource stewardship and coastal restoration programs that address both site-specific and watershed-scale information needs. For example, the Rookery Bay NERR partnered with 70 local researchers and 100 coastal managers and local officials to establish restoration science priorities for one of the largest watersheds in Florida.

Resource stewardship is an essential component of the NERRS mission and ensures that site conditions remain suitable for long-term research and education programs. Stewardship activities include the control of invasive species, restoration of natural hydrologic processes, and the conduct of prescribed burns in fire-dependent plant communities. NERRS staff also has built strong partnerships with local agencies, organizations, and landowners to develop watershed management strategies, and Best Management Practices that mitigate disturbance to water quality and habitat structure.

NERRS Initiatives

Over the past several years, the NERRS conducted a planning process to identify national initiatives in response to an increasing demand from the coastal management community for expanded reserve products and services. With the recent increase in appropriations, two of these initiatives are now advancing toward implementation--a Coastal Training Initiative and expansion of the System-Wide Monitoring Program.

Coastal Training Initiative

One of the most significant challenges in managing the nation's coasts today is the need to link science-based information to local coastal communities. Decisions made by coastal communities can have profound, long-term consequences for estuarine and coastal environments. Elected officials, land use planners, regulatory personnel, coastal managers, and agricultural and fisheries interests are key decision makers who often do not have adequate access to relevant science-based information, training, or available technology to make informed decisions affecting the coast. Building on past success with services for coastal decision-makers (such as workshops on global climate change sponsored by the Chesapeake Bay-Maryland NERR or the transfer of management-oriented research by the North Carolina NERR to coastal decision-makers in many states using an interactive format via the Internet), the National Estuarine Research Reserve System (NERRS) has developed a Coastal Training Initiative to fill this need.

The Coastal Training Initiative (CTI) enhances existing NERRS training delivery systems to provide the best available science-based information, tools, and techniques to individuals and groups that are making important decisions about resources in coastal watersheds, estuaries, and nearshore waters. Programs have taken the form of workshops, seminars, distance learning, technology applications and demonstrations. Opportunities for information exchange and skill training are expanding coastal management networks and collaboration across sectors, and improving local understanding of the environmental, social, and economic consequences of human activity in the coastal zone. These programs also make use of field experiences, relevant research and monitoring, and facilities provided by the site-based reserves.

The CTI was designed to increase the current capacity of Reserves to deliver technical training services to under-served constituent groups. Reserve staff continue to work closely with State coastal programs and others to identify critical issues in the region and key coastal decision-makers that could benefit most from relevant science and training. Participants in CTI have included state and local elected and appointed

officials, agency staff, volunteer boards, members of NGOs, business organizations, and state and regional professional associations whose daily decisions impact coastal resources.

Reserve staff are implementing the CTI in partnership with national and local organizations. At the national level, NOAA's Estuarine Reserves Division provides strategic and budget planning and support in partnership with NOAA's Coastal Management Programs, Sea Grant, and the Coastal Services Center. At the local and regional levels, individual Reserves are developing CTI partnerships with State coastal programs, Sea Grant programs, local universities and researchers, professional organizations, local government agencies, non-profit organizations, and a variety of others with expertise, skills, training sites, and logistical support. For example, at the Waquoit Bay NERR in Massachusetts, the Reserve has partnered with the Sea Grant Program at the Woods Hole Oceanographic Institution and the state CZM Program to advance their Coastal Training Initiative.

Expansion of the System-Wide Monitoring Program

Estuaries are highly variable, complex systems where the variability in water movement, water quality, habitat, and human use vary over a wide variety of spatial and temporal scales. Because of this variability, it is often difficult to separate natural change from those changes influenced by human use of our coasts and estuaries. Two approaches are necessary to address this issue. First, targeted research is needed to determine the cause and effect relationships of human influence on estuarine variability, and second, a long-term monitoring program is needed to characterize the natural variability that governs the structure and function of estuarine systems. The reserve system has begun building the capability to meet this management need.

As noted above, the NERRS is addressing the first need through a graduate research fellowship program where students across the nation compete to work on priority needs of the coastal management community. Almost 50 graduate students per year receive support from this program and present results of their research at national, regional, and local meetings where information is transferred to other researchers, coastal managers, and those individuals responsible for making daily decisions with respect to our coastal and estuarine resources. Student projects address such topics as habitat restoration, invasive species, non-point source pollution and biodiversity. For example, at the Elkhorn Slough-California NERR, a student is exploring how seagrass can be restored by carbon dioxide enrichment; at the Chesapeake Bay-Maryland NERR, a student is linking anthropogenic nutrient inputs to microbially mediated nutrient cycling; and at the Padilla Bay NERR, students are looking at the invasion potential and consequences of a non-indigenous cordgrass.

In addition to the graduate research program, reserve sites are being actively promoted as sites for long-term research by many granting agencies such as the National Science Foundation, Environmental Protection Agency and, of course, NOAA. This promotion directs researchers from throughout the country to conduct long-term studies in estuarine research reserves.

With respect to the second need, that of a long-term, estuarine monitoring capability,

the NERRS operates the *only* national monitoring program for estuaries in the U.S. The system-wide program is designed to identify short-term variability and long-term trends in coastal environmental quality and health at national, regional, and local levels. The program focuses efforts on three critical areas: estuarine water quality, estuarine biodiversity, and estuarine land use change. Environmental data collected at NERRS sites are managed and accessed via a central repository and made available to state and federal agencies, universities and others via the World Wide Web.

Expansion of the SWMP effort is aimed at adding to the current system of environmental observations made at NERR sites. This will be addressed through spatial expansion of the water quality monitoring program, and the addition of new parameters such as nutrients. Periodic syntheses of data are expected to serve as one of the mechanisms by which coastal managers can inform their decision-making responsibilities.

Partnerships

The NERRS enjoy a strong relationship with its federal partner, the National Ocean Service at NOAA. This relationship is being strengthened by senior NOAA leadership, which recently created a Coastal Coordinating Council to foster integration between reserves and many coastal program elements of NOAA including Sea Grant. The state-federal partnership, a hallmark of the NERRS, is strong. Two years ago, NOAA created a separate Estuarine Reserves Division to support NERRS. NOAA also has been increasing its service to the NERRS, especially training, materials, and assistance with site profiles from the Coastal Services Center, GIS capacity building with assistance from the Cooperative Institute for Coastal and Estuarine Environmental Technology and the Coastal Services Center, and by providing opportunities for the Reserves to play a larger role in coastal science programs at the agency.

Reserves also leverage significant resources on behalf of coastal research, education and management through partnerships with government agencies at local, regional, and federal levels, private industry, and academia. For example, the Hudson River NERR received approximately $2 million in funding from the state of New York, Columbia University, and the Hudson River Foundation to characterize the benthic habitat of the Hudson River. The Jacques Cousteau NERR received more than $1 million from federal, state, and private sources to investigate coastal processes at a Long-term Ecosystem Observatory, and to develop science enrichment programs for the precollegiate community based on this field program. At the Elkhorn Slough NERR, a partnership with the Elkhorn Slough Foundation, National Audubon Society and the Monterey County Planning Department is gathering critical resource information for a regional watershed plan. The plan will be used to guide future land use in the watershed surrounding the Reserve. A partnership between the North Carolina NERR and private industry has developed an innovative educational program known as Estuary Live, an interactive, Internet-based field trip for students throughout the country. This program received awards from USA Today and the Governor of North Carolina. The Narragansett Bay NERR partnered with Sea Grant, EPA, the University of Rhode Island and many others to convene a Bay Summit that focused attention on a broad range of coastal issues. The summit was attended by representatives of all but two municipalities and resulted in a formal partnership to protect bay resources.

Reauthorization of the CZMA

Reauthorization of the CZMA provides an opportunity to strengthen the capabilities of coastal communities to address issues of coastal development, protection, and habitat restoration. Of particular importance to the NERRS, is the framework provided by the CZMA to meet the need for informed decision-making at the federal, state, and local levels.

Amendments to the Act should:

> Provide effective mechanisms to assess the technology and information needs of coastal communities at local and regional scales
>
> Strengthen the capacity of the state-federal partnership to support research and monitoring relevant to local and regional needs, and

Improve the access and delivery of science-based information to coastal communities, and evaluate the performance of the state-federal partnership in support of informed coastal decisions.

Specifically, NERRA offers the following recommendations in support of CZMA Reauthorization.

NERRA applauds the effort to recognize the role of Reserves in coastal research, education, and stewardship with the addition of a separate title in H.R. 897 devoted to NERRS. This provides a strong base with which the NERRS can leverage resources through partnerships on behalf of informed coastal management. NERRA recommends that this recognition be extended to include and codify the primary research and education elements of the NERRS. These are the Coastal Training Initiative and the Buildout of the System-Wide Monitoring Program. These elements require a long-term commitment to ensure that reliable, accurate, and timely information supports informed coastal management.

NERRA recommends that the existing match funding requirements remain in place. Only recently has the federal funding for the NERRS begun to increase. This has required the coastal states and Reserves to add significant new match funding to the program. Much needs to be done to support basic operations at each site, as well as to implement the two initiatives now underway (CTI and SWMP Expansion). NERRA certainly agrees that the coastal states need to provide strong support for Reserve programs, but the current cost-share (70% federal-30% state) works well for this unique state-federal partnership and should remain in place at this time.

NERRA recommends that the current name, National Estuarine Research Reserve System, remain in place. Much discussion has been held over the past several years on the name of this system. The challenge had been to come up with a name that represented the research roots of the program, but enabled individuals outside the program to pronounce and understand what an *estuarine* research reserve is or what an estuary is. With the recent growth in the Reserve budget and hence Reserve awareness, this has become less of an issue. Further, funds have been used to construct visitor/interpretive centers at many of the reserves that have resulted in greater public awareness and recognition of the NERRS. Finally, research is one element that distinguishes the NERRS from other parks, reserves, and sanctuaries. NERRA commends the efforts of this committee with the suggestion to rename the program in H.R. 897, but keeping the name and keeping research in the name are well suited to the program.

With respect to authorization levels, NERRA recommends that a stable base for each Reserve site is $500 K to support basic operations plus additional funding to support the two primary initiatives (CTI and SWMP). Thus, NERRA supports a 5-year reauthorization beginning at $17 million and increasing by $1 million per year to accommodate new sites, expansion of products and services, and cost of living increases.

NERRA strongly endorses incorporation of funding for construction and land acquisition into the Reauthorization measure as stated in H.R. 897. The NERRS have established procedures for setting priorities for construction and land acquisition, and recently assembled long-term plans to meet construction and land acquisition needs. Incorporation of funds for these purposes ($15 million per year) into the CZMA will provide a stable, long-term source of funding for the NERRS to maintain facilities in support of research, education, and stewardship programs, as well as to acquire key land and water areas for watershed management.

Closing

I'd like to thank Chairman Gilchrest and members of the Committee for the opportunity to present testimony on behalf the Reauthorization of the Coastal Zone Management Act. I will be pleased to answer any questions the Committee may have at this time.

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