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HEARING OF THE HOUSE COMMITTEE ON RESOURCES
SUBCOMMITTEE ON FISHERIES AND OCEANS ON
H.R. 50, THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ACT

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Good morning, Mr. Chairman and members of the Committee. I am Dr. Arthur Nowell, Dean of the College of Ocean and Fishery Sciences at the University of Washington. I am here today as the Vice Chair of the Board of Governors of the Consortium for Oceanographic Research and Education (CORE). On behalf of CORE's 83 member institutions, who work together to develop and promote a common vision and goals for the ocean science community, I would like to thank you for the opportunity to discuss H.R. 50, the National Oceanic and Atmospheric Administration Act.

CORE was established eleven years ago to promote and advance the ocean sciences. As an organization, CORE fosters membership of institutions actively involved in marine research and education; seeks support for the development of oceanographic partnerships; builds critical links among government agencies, academia and marine industries; and actively works with policy and decision makers on ocean issues. Our membership includes the leadership of this nation's premier ocean science institutions.

With the completion of the work of the U.S. Commission on Ocean Policy, those of us who care about the oceans are entering a period of extraordinary opportunity and challenge . On one hand, we look forward to the implementation of the first comprehensive report on national ocean policy in more than 35 years – one that identifies both serious problems and exciting new prospects. On the other hand, we recognize that continuing international unrest compels difficult fiscal decisions to meet tight budget constraints. In response, the ocean sciences community is pursuing a two-pronged strategy: The first is to make sure that Americans understand the critical role of the oceans in our environmental, economic and national security. The second is to build the case for strengthening policies and resource investments commensurate with the importance of the oceans in our lives.

As we pursue these strategies and work to implement the Commission recommendations, CORE members thank the members and staff of the Resources Committee for their leadership and continued attention to ocean issues. In particular, we appreciate Congressman Gilchrest's willingness to move forward quickly on the Commission's findings. NOAA organic legislation is one of a number of Commission recommendations that must be implemented to achieve a comprehensive national ocean policy and is, in fact, a central requirement to meet that goal. This is a very timely and important hearing given the nature and scope of the issue.

Ocean Commission Recommendations and NOAA

In 1969, the report of the Commission on Marine Science, Engineering, and Resources (Stratton Commission) recommended "the creation of a major new civilian agency, which might be called the National Oceanic and Atmospheric Agency, to be the principal instrumentality within the Federal Government for administration of the Nation's civil marine and atmospheric programs." The report also suggested that the primary mission of the new agency be "to ensure the full and wise use of the marine environment in the best interests of the United States." It proposed 18 functions, ranging from advancing the marine and atmospheric sciences to assuring the availability of an educated and trained workforce. Less than a year later, the President's Reorganization Plan No. 4 of 1970 created NOAA, consolidating many of the civilian oceanic and atmospheric programs that were scattered throughout the federal government.

Unfortunately, NOAA still exists today as an amalgamation of research, operational, and regulatory entities that do not operate under a common and well-integrated corporate culture. The current fragmented structure stems in large part from the way in which NOAA was assembled from existing federal marine, weather and atmospheric entities and placed within the Department of Commerce. Through the 1970 reorganization plan, NOAA became the uneasy sum of several competent, yet independent-minded organizations that still have not melded into a single cohesive agency.

Thirty-five years have passed since the Stratton Commission finished its work and now the Watkins Commission report is before us. One of the primary recommendations of today's Commission builds on that of its predecessor. It states, "Congress should pass an organic act that codifies the establishment and missions of the National Oceanic and Atmospheric Administration. The act should ensure that NOAA's structure is consistent with the principles of ecosystem-based management and with its primary functions of assessment, prediction, and operations; management; and research

and education."

Of course, the Commission recommendations related to NOAA are not limited to the call for organic legislation. It is essential to consider NOAA organic legislation in the context of the Commission's overarching goals of providing a coherent national ocean policy framework, ensuring the availability of sound science and information for wise decisions, strengthening education as a foundation for the future, and developing ecosystem-based approaches to ocean management. Of the Commission's almost 200 recommendations, nearly a quarter are directed toward NOAA. Among those of significance for today's discussion are the following, with report recommendation numbers provided in parentheses:

- Strengthening support for both formal and informal ocean-related education at NOAA and other agencies, including support for a national ocean workforce database, participation of traditionally underrepresented groups and a traineeship program patterned after the National Institutes of Health (NIH). (8-3,12,13)
- Creating a NOAA organization to support transition of research technologies into operations and increasing investment in research programs to assess and develop effective technologies for dealing with issues like vessel pollution, protected species interactions, aquaculture, and ocean observations. (16-13, 20-8, 22-3, 26-7, 27-2)
- Doubling the federal ocean and coastal research budget over the next five years, from the 2004 level of approximately $650 million to $1.3 billion per year, including enlargement of the National Sea Grant College Program, and support for other research identified as high priorities. (25-1, 4)
- Serving as the lead federal agency for funding, implementing and operating the Integrated Ocean Observing System (IOOS), working with other federal and nonfederal partners to ensure the usefulness of IOOS information products. (26-2,10)
- Expanding research and development efforts, including competitively awarded grants and support of federally designated centers, by NOAA and other agencies for multidisciplinary studies of the relationship of the oceans to human health. (23-1,2,3)
- Expanding the national ocean exploration program under NOAA and the National Science Foundation (NSF) and with involvement of other federal ocean agencies. (25-6)

While these recommendations may not be specifically addressed in an organic act, it is important to evaluate the legislation to ensure that the organizational framework it establishes encourages the full and effective implementation of the actions called for by the Ocean Commission.

NOAA Organic Legislation

The ocean science community supports efforts to enact NOAA organic legislation and is optimistic that it will provide NOAA with tools needed to define a common, agency-wide vision. The legislation offers a unique opportunity to codify NOAA's structure and function and set the direction for creating a unified and integrated organization. In the 108 th Congress, CORE, the Sea Grant Association, and the National Association of State Universities and Land Grant Colleges jointly endorsed legislation very similar to H.R. 50, the bill before the Committee today. CORE also submitted comments on the legislation that have, for the most part, been addressed in H.R. 50. The primary issue that remains to be addressed in the legislation as it is currently drafted is how to address marine and coastal management responsibilities. In considering that issue, I would like to highlight three priorities:

1. Meeting ocean workforce needs. The future quality of NOAA's ocean science and our nation's capability to understand and manage marine issues related to environmental quality, economic well-being, and national security depend upon maintaining graduate educational programs of high caliber. All ocean agencies depend upon a well-educated and well-trained workforce and NOAA needs to play an active role in building a workforce that meets both its own needs as well as national requirements.

Research assistantships are appropriate for funding field-based graduate student research and are the most common support mechanism in the ocean disciplines. However, traineeships allow the best students to support themselves in non-traditional educational programs that are often interdisciplinary. Traineeships are also well suited to producing masters and doctoral graduates with the knowledge of science, management and communications that is so desperately needed in our ocean-related workforce. NIH supports more than 50% of all federally funded traineeships and provides a good potential model. Furthermore, the creation of large-scale integrated ocean research and observation programs offers new opportunities to support more fellowships and traineeships that allow the development of multi- or interdisciplinary educational experiences. Last year legislation was enacted to establish a traineeship program under NOAA's Ocean and Health Initiative. CORE supported this legislation and recommends that as part of any reorganization, the agency create similar programs to support graduate students in a range of marine fields to ensure we have well-educated professionals for the coming decades.

As the Ocean Commission states, the National Sea Grant College Program has been one of NOAA's major education outlets and should play a key role in strengthening the agency's capacity in both the physical and social sciences. For more than

25 years, Knauss Sea Grant Fellowships have provided an introduction and hands-on training for marine graduates to ocean policy. More recently, Sea Grant has teamed with NOAA Fisheries and with marine industries to support graduate fellowships in such areas as economics.

2. Building a marine science program to support ecosystem-based management. The central message, organizing principle, and call to action of the report of the Ocean Commission are that our nation must practice ecosystem-based management of its ocean and coastal resources. The Commission's report directly links declining ocean health to our failure to acquire fundamental knowledge for coherently managing multiple uses and activities in a sustainable way and makes a compelling case for national investment in a coordinated and integrated marine ecosystem science program. Several NOAA programs conduct activities that together could provide the basis for a coherent science initiative to support ecosystem-based management. However, the current uncoordinated patchwork of activities makes it almost impossible to identify gaps or duplicative efforts and, without a coherent agency-wide structure or vision, individual programs often are vulnerable to budgetary attack. For example, recent NOAA budgets propose to slash funding for research that addresses growing ecosystem concerns like toxic red tides, marine "dead zones", and climate impacts on fisheries. Although funds have been restored in the appropriations process, the situation highlights the critical need to strengthen NOAA's scientific organization and leadership.

3. Strengthening the scientific basis for ocean management. NOAA typically has focused its management-related scientific effort on science that is very close to the decision at hand. From counting fish to understanding the life cycle of salmon, avenues of investigation have been relatively narrow. Unfortunately, standing too close to a problem may obstruct managers' abilities to detect larger trends such as the climate shifts that led to lower growth rates in Pacific groundfish populations, contributing to unsustainable harvest levels and the crash of stocks that will take decades to recover. In addition, sustained observations and monitoring are essential to assess the effectiveness of management actions, particularly in such areas as habitat conservation and restoration. For example, 95% of the Aleutian Islands' exclusive economic zone is now closed to fishing to protect essential fish habitat, however, there currently is no process for assessing the measure's conservation value.

On the other hand, partnerships among scientists and managers can yield benefits to all those involved. For example, the Olympic Region Harmful Algal Bloom (ORHAB) partnership, is building on research funded by NOAA and NSF and developing regional capacity to reduce the devastating impacts of marine toxin outbreaks on coastal communities of the Olympic Peninsula. ORHAB has successfully transferred knowledge gained from current ecological and oceanographic HAB research to Washington State and tribal shellfish managers. Using data and techniques developed by the program, state managers recently were able to proceed with a three-day recreational razor clam dig involving tens of thousands of people and generating more than $1 million in local benefits. Recognizing the usefulness of this information, a new state surcharge on shellfish license sales was recently dedicated to maintain the successful ORHAB collaboration and support long-term HAB monitoring. Strengthening integrated NOAA leadership and organizational structure will promote more of the internal and external collaboration evident in this effective partnership.

Specific Comments on H.R. 50, the National Oceanic and Atmospheric Administration Act

NOAA's "wet" management authorities must be incorporated into the bill and the relationship of such authorities defined in relation to the programs already contained in the bill – weather service, operations and services, and research and education. Although it does not explicitly change the existing NOAA line office structure, H.R. 50 does make possible restructuring the agency from subject-defined line offices to function-defined entities, as recommended by the Commission. The current line office structure is widely viewed as inhibiting NOAA's capability to function effectively as an integrated organization and it is unclear whether NOAA can make major progress towards a more unified operation without such changes. This is a particular concern in dealing with the Commission recommendation to implement ecosystem-based management.

One key provision is the creation of a new career position, a Deputy Assistant Secretary for Science, Technology, Education, and Outreach. CORE strongly supports the new position and its responsibility for coordinating and managing research activities across the agency. Establishing this position provides clear recognition of NOAA as a science-based agency that has a corporate view of their research program. In addition, CORE supports the bill's designation of education as a specific part of the portfolio of the science deputy and suggests that the functions of the position be reviewed to ensure that they fully reflect this designation. It would also be useful to clarify the relationship of the science deputy to the NOAA Science Advisory Board. CORE strongly supports the bill's authorization for the Science Advisory Board and the requirement for NOAA to develop strategic plans for scientific research and for data management, archival and distribution.

With respect to research, CORE's principal interest is that NOAA develop balanced research and education programs that are peer-reviewed and competitively awarded, rely on effective partnerships and outreach, support the full breadth of

the agency's mission and demonstrate its commitment to scientific excellence. NOAA would greatly benefit from a plan that emphasizes the importance of peer-reviewed and competitive awards, improves the process of managing grants and contracts, integrates research and outreach, cuts across agency divisions, clearly defines priorities based on operational requirements, facilitates partnerships among federal and nonfederal scientists, and reflects the needs and recommendations of constituent groups at the national, regional, state and local levels. It would be difficult to overstate the importance of longer term, basic research to NOAA's mission and viability.

Community support through interaction and regular contact with external constituencies is essential to the effectiveness of the agency. Numerous studies have recognized the NOAA-university partnership as a principal means to forge that connection. For this reason, it is essential that the bill include a mechanism for academic, public and other community input into the development and implementation of the NOAA-wide strategic plans for scientific research and data. NOAA should regularly apply the planning models used by the NSF and other research agencies, including workshops and other forums to generate NOAA priorities for research, education and outreach. Such community involvement should not be limited to planning stages, but rather be extended to all agency activities.

The NOAA research enterprise must become fully engaged with the extramural community from academia, the private sector and other agencies. This means more than just an advisory board, but a true change in how NOAA manages extramural funding, develops and maintains cooperative institutes and programs, and contributes to broader research efforts nationally and internationally. Extramural researchers have enormous contributions to make to NOAA's mission and NOAA can similarly have a major impact on external research programs. NOAA must become a "best partner" for the external science and research community.

Effective education and outreach are critical to NOAA missions and CORE applauds H.R. 50 for explicitly identifying them as NOAA functions. However, we recommend that you define specific NOAA education and outreach functions in the section on research and education. In addition, we suggest that there be a requirement for NOAA to develop a strategic plan for education, either independently or as part of the strategic plan for research.

The relationship between research and operational programs and services, including information management, must be considered carefully and work hand-in-hand. NOAA observing activities must be tasked with providing quality data sets that can support fundamental research, which in turn will be used to support new forecasting and prediction services as well as evolution of the observing and information system. We tend to think of science in the service of operations, but in many areas such as climate forecasts and ecosystem-based management, it is a two-way street. It is not a simple matter of a one-way flow of knowledge from science to operations, but rather operations and management programs must be in full partnership with research and technology development. Within NOAA, the operational side must see its success as depending, in part, on its ability to support basic, curiosity-driven research, which will elucidate new concepts and new questions to improve operations and support new management policies. One way to prevent operations and service from being "stove-piped" from research and education is to link them through modeling and analysis conducted jointly.

Conclusion

Following the unambiguous wake-up call issued by the Watkins Commission, this nation must recognize that the time has come for constructive action to explore and protect our oceans. We applaud the Committee's efforts to provide NOAA, our nation's ocean agency, with a clear, forward-looking and attainable mission and organization. With adequate funding to support NOAA's important work and community buy-in for its mission, the bill lays the foundation for a reinvigorated NOAA that can protect, understand, and make wise use of the nation's ocean resources. Mr. Chairman, Members of the Committee, on behalf of all the CORE member institutions, I thank you for the opportunity to come before this Committee to present our views.