



Nancy Rabalais, President, National Association of
Marine Laboratories

Mike DeLuca, Chairman, Public Policy
Committee, National Association of Marine
Laboratories

NATIONAL ASSOCIATION OF MARINE LABORATORIES

Annual Public Policy Meeting

March 3 and 4, 2014

1201 New York Avenue NW, Suite 400

Washington, D.C. 20005

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**National Association of Marine Laboratories
Winter Meeting
1201 New York Avenue NW
4th floor Ocean Leadership Conference Room
Washington, D.C.
March 3-4, 2014**



Monday, March 3, 2014

- 8:00AM: Coffee; etc.
- 8:30AM: Welcome/Introductions/Meeting Objectives: **Dr. Nancy Rabalais**, President, NAML
- 8:45AM: Public Policy Committee Objectives for the Year: **Mr. Mike DeLuca**, Chairman, NAML Public Policy Committee
- 9:00AM: Update on the Federal Budget and Policy Environment – Impact on Ocean, Coastal and Great Lakes Research and Education Programs: **Joel Widder** and **Meg Thompson**, Partners, The Oldaker Group – Consultants to NAML
- 9:30AM: Discussion of the Membership re NAML Public Policy Agenda for 2015 – **Mike DeLuca**, **Joel Widder** and **Meg Thompson**
- 10:00AM: **Dr. Dahlia Sokolov**, House Science, Space, and Technology Committee's Subcommittee on Research and Technology (accepted invitation)
- 11:00AM: Break
- 11:15AM: **Dr. Roger Wakimoto**, Assistant Director for Geosciences, National Science Foundation (accepted invitation)
- 12:15PM: Lunch – Conference Room
- 12:30PM: Welcoming Remarks/Introduction -- **Dr. Robert Gagosian**, President/CEO, Consortium for Ocean Leadership
- Dr. Holly Bamford**, Associate Administrator, National Ocean Service, National Oceanic and Atmospheric Administration
- 2:00PM: Break
- 2:15PM: **Dr. Bradley Moran**, Acting Director, National Ocean Council; and Assistant Director for Ocean Sciences, Office of Science and Technology Policy (accepted invitation)
- 3:15PM: **Dr. Kathryn Sullivan**, Acting Administrator, NOAA (accepted invitation)
- 4:15PM: Break
- 4:30PM: **Mr. Jeremy Weirich**, Professional Staff -- Majority, Senate Commerce, Justice, and Science Appropriations Subcommittee (accepted invitation) and **Mr. Kolo Rathburn**, Professional Staff – Minority, Senate Commerce, Justice, and Science Appropriations Subcommittee (accepted invitation)
- 5:30PM: Adjourn for Day for Dinner

Tuesday, March 4, 2014

- 9:00AM: NAML Business/Board Meeting
- 10:00AM: Regional Meetings: WAML; SAML; NEAMGLL & report back
- 11:00AM: NAML/OBFS Joint Meeting, Woods Hole, MA; Sept 2014 - **Dr. Ivar Babb**, Past President, NAML and **Dr. William Schuster**, Executive Director, Black Rock Forest Consortium and President, Organization of Biological Field Stations
- 11:30AM: Next Steps for NAML Public Policy Activities - **Mr. Mike DeLuca**, Chairman, NAML Public Policy Committee
- 12:15PM: Closing Remarks - **Dr. Nancy Rabalais**, NAML President
- 12:45PM: Meeting Ends

Biographical Sketches of Speakers
NAML Public Policy Meeting
Washington, D.C.
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Roger Wakimoto – Assistant Director for Geosciences, National Science Foundation – Dr. Wakimoto joined the National Science Foundation in 2012 after serving as the Director of the National Center for Atmospheric Research in Boulder, Colorado. Prior to becoming NCAR Director, he served as associate director for NCAR's Earth Observing Laboratory. Wakimoto is a geophysicist with expertise in tornadoes, thunderstorms and other types of severe weather. Dr. Wakimoto manages the NSF's Geosciences Directorate which is the principal source of federal funding for university-based fundamental research in the geosciences. GEO addresses the nation's need to understand, predict and respond to environmental events and changes to use Earth's resources wisely. Basic research in the geosciences advances scientific knowledge of Earth's environment, including resources such as water, energy, minerals and biological diversity. GEO-supported research also advances our ability to predict natural phenomena of economic and human significance, such as climate change, weather, earthquakes, fish-stock fluctuations, and disruptive events in the solar-terrestrial environment. GEO manages facilities and an academic research fleet, including the newly launched *R/V Sikuliaq* and the NCAR-Wyoming Supercomputing Center.

Dr. Wakimoto was a professor in the Department of Atmospheric Science at UCLA, where he chaired the department. He has written or co-authored more than 100 peer-reviewed papers and served on numerous committees, panels and boards for NSF, the National Academy of Sciences, the American Meteorological Society and other organizations. He has won numerous awards and honors, including a scientific and technical achievement award from the Environmental Protection Agency for observations of air pollution and the Meisinger Award from the American Meteorological Society in recognition of his contributions to understanding mesoscale weather events.

Dahlia Sokolov – Dr. Sokolov is the Democratic Staff Director of the Subcommittee on Research and Science Education of the United States House of Representatives Committee on Science, Space, and Technology in Washington D.C. She has been Democratic Staff Director since January 2009. The Subcommittee on Research and Science Education has oversight responsibility for the National Science Foundation, K-12 science and math education, the Office of Science and Technology Policy, international science and technology cooperation, and major interagency R&D programs such as the National Nanotechnology Initiative. From 2004 to 2008 Dr. Sokolov was a member of the Professional Staff, of the Committee on Science and Technology, U.S. House of Representatives. She was assigned to the Research and Science Education Subcommittee, which deals with science policy and science education programs across the federal government, and oversees the National Science Foundation. Her first two years spent on Energy Subcommittee, covering primarily nuclear energy, but also energy efficiency and renewable energy. From 2002 to 2004 Dr. Sokolov was a Postdoctoral Research Fellow at the National Institutes of Health. She has a PhD degree in bioengineering from the University of

Washington (2002), and a BS degree in Engineering Physics University of California, Berkeley (1996).

Robert Gagosian -- Dr. Gagosian is President/CEO of the Consortium for Ocean Leadership, a Washington, DC-based nonprofit organization that represents the leading public and private ocean research and education institutions, aquaria and industry. As President, Gagosian oversees the management of major research and education programs accounting for roughly \$250 million. He also coordinates the community's advocacy efforts, articulating to policy makers the importance of ocean research and education to the nation. Previously, he served as President Emeritus of the Woods Hole Oceanographic Institution (WHOI). He held the position of Director from 1994 until 2006 and President and Director from 2002 until 2006, following a distinguished career as a marine geochemist that included five years as Chairman of the Chemistry Department, six years as WHOI Director of Research and two as Senior Associate Director. His scientific interests are focused on organic substances produced by marine organisms and their transport and transformation as they disperse through the water column to the seafloor. His research led to the importance of the atmosphere as a transport mechanism for land-derived organic material to the open ocean. He participated in four major field programs, including the Sea-Air Exchange Program, which he served as an Executive Committee member, and 14 oceanographic research voyages, including seven as chief scientist. He is the author or co-author of some 85 scientific papers and several technical reports. Dr. Gagosian mentored five Ph.D. students and nine postdoctoral fellows, who are currently pursuing careers in several American universities and corporations and in other countries ranging from Australia to Switzerland.

Holly Bamford -- Dr. Holly A. Bamford is the Assistant Administrator for NOAA's National Ocean Service (NOS). As Assistant Administrator, Dr. Bamford oversees NOS, which serves as the lead federal agency providing science-based solutions to address evolving economic, environmental, and social pressures on our oceans and coasts. NOS observes, measures, assesses, and manages the nation's coastal, ocean, and Great Lakes areas; provides critical navigation products and services; and conducts response and restoration activities to protect vital coastal resources.

Prior to this appointment, she served as deputy assistant administrator for NOS, where she managed the financial and business operations while strategically improving the agency's performance to meet its vast ocean science and service missions. As the deputy assistant administrator for NOS, Dr. Bamford led a comprehensive review of headquarters functions that identified efficiencies and oversaw implementation of the recommended review strategies that resulted in enhanced operations and programmatic coordination.

Dr. Bamford earned a Ph.D. in the field of organic environmental chemistry, quantifying the physical and chemical processes that control the transport and fate of organic contaminants. Conducting her research out of the University of Maryland's Chesapeake Biological Laboratory, Dr. Bamford spent much of her time in the field and on research vessels gathering data in support of her research. She also spent a year as a guest researcher at the National Institute of Standards and Technology developing analytical methods to detect trace organic contaminants in water and air particles. Dr. Bamford has a number of peer-reviewed publications that have been widely referenced in the field of environmental chemistry and water

quality, including papers in *Environmental Science & Technology*, *Atmospheric Environment*, and *Environmental Toxicology & Chemistry*. In her first position at NOAA, Dr. Bamford served as a senior member of the Office of Oceanic and Atmospheric Research executive scientific support team.

Bradley Moran -- S. Bradley Moran, a professor of oceanography at the University of Rhode Island (URI) Graduate School of Oceanography, is the Assistant Director for ocean sciences in the White House Office of Science and Technology Policy, Executive Office of the President. Dr. Moran focuses on implementing federal ocean science policy and facilitating interagency efforts relating to ocean science and resources. He serves as co-chair of the National Science and Technology Council's Subcommittee on Ocean Science and Technology. Dr. Moran has been on leave from his URI position since January 2012 serving as a program director at the National Science Foundation, where he was responsible for administering approximately \$25 million in research grants as part of the Chemical Oceanography Program in the NSF Division of Ocean Sciences.

At URI, Dr. Moran envisioned and implemented the nation's first Masters of Business Administration-Masters of Oceanography dual degree, dubbed the Blue MBA. He has published over 100 peer-reviewed journal articles and book sections, participated in 67 research cruises, and successfully competed for approximately \$40 million in grant funding from the National Science Foundation, Office of Naval Research, National Oceanic and Atmospheric Administration, and other federal and state agencies.

Dr. Moran was co-chair of the Energy and Environment Collaborative for the Ocean State Consortium of Advanced Resources and co-chair of the Energy Efficiency Working Group of the Green Economy Network for the State Economic Development Council. He also conceived and led the Green the Knowledge District project in the City of Providence.

He received a bachelor of science in chemistry from Concordia University, a doctorate in oceanography from Dalhousie University, and conducted his postdoctoral research at the Woods Hole Oceanographic Institution.

Kathryn Sullivan -- Dr. Kathryn Sullivan assumed the role of Acting Under Secretary of Commerce for Oceans and Atmosphere and Acting NOAA Administrator on February 28, 2013. Prior to that she served as Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator for the National Oceanic and Atmospheric Administration, as well as performing the duties of NOAA's Chief Scientist. She is a distinguished scientist, renowned astronaut and intrepid explorer.

As assistant secretary, Dr. Sullivan played a central role in directing Administration and NOAA priority work in the areas of weather and water services, climate science and services, integrated mapping services and Earth-observing capabilities. She provided agency-wide direction with regard to satellites, space weather, water, and ocean observations and forecasts to best serve American communities and businesses. As Deputy Administrator, she oversaw the smooth operation of the agency.

Dr. Sullivan's expertise spans the frontiers of space and sea. An accomplished oceanographer, she was appointed NOAA's chief scientist in 1993, where she oversaw a research and technology portfolio that included fisheries biology, climate change, satellite instrumentation and marine biodiversity. Dr. Sullivan was the inaugural director of the Battelle Center for Mathematics and Science Education Policy in the John Glenn School of Public Affairs at Ohio State University. Prior to joining Ohio State, she served a decade as President and CEO of the Center of Science and Industry (COSI) in Columbus, Ohio, one of the nation's leading science museums. Dr. Sullivan joined COSI after three years' service as Chief Scientist.

Dr. Sullivan was one of the first six women selected to join the NASA astronaut corps in 1978 and holds the distinction of being the first American woman to walk in space. She flew on three shuttle missions during her 15-year tenure, including the mission that deployed the Hubble Space Telescope. Dr. Sullivan has also served on the National Science Board (2004-2010) and as an oceanographer in the U.S. Navy Reserve (1988-2006).

Dr. Sullivan holds a bachelor's degree in earth sciences from the University of California at Santa Cruz and a doctorate in geology from Dalhousie University in Canada.

Jeremy Weirich -- Jeremy Weirich is a Professional Staff Member - Majority of the U.S. Senate's Committee on Appropriations on the Commerce, Justice and Science subcommittee under the leadership of Senator Barbara A. Mikulski. His account portfolio includes the National Science Foundation, Department of Commerce, and related trade and science agencies including the National Oceanic and Atmospheric Administration (NOAA). Before joining the Senate, he served as an officer in NOAA's Commissioned Officer Corps splitting his career between serving as a deck officer aboard ocean-going research vessels and working on land in administrative positions for several marine research programs.

Kolo Rathburn -- Charles Kolo Rathburn is a Professional Staff Member -- Minority of the U. S. Senate's Committee on Appropriations on the Commerce, Justice and Science subcommittee under the leadership of Senator Barbara A. Mikulski and Ranking Member Senator Richard Shelby. His account portfolio includes the Department of Commerce and related trade and science agencies including the National Oceanic and Atmospheric Administration (NOAA). Prior to serving on the Appropriations Committee, Mr. Rathburn was a Legislative Assistant to Senator Roger Wicker from 2011 to 2013. In 2010, Mr. Rathburn was a Sea Grant Legislative Fellow in Senator Wicker's office. Mr. Rathburn received an M.S. in Marine Biology from the College of Charleston in 2009. When invited to participate in this year's NAML meeting, Mr. Rathburn said, "Absolutely. These are my people."

Joel Widder -- Mr. Widder joined The Oldaker Group in October 2008 and currently represents the University of Chicago, Columbia University, Florida State University, the South Dakota School of Mines and Technology, the University Corporation for Atmospheric Research, the National Ecological Observatory Network, the National Association of Marine Laboratories, plus other research, technology, and education entities. Prior to that, for six years he was with another firm where he represented a significant number of major research universities including the California Institute of Technology, the University of Illinois, the University of Southern California, Georgia Tech, Rutgers University, and Tulane University. As a result, Mr. Widder has extensive

experience in the research and education issues important to major research universities and scientific/engineering associations.

Before becoming a consultant, Mr. Widder worked from 1982 to 2002 for the National Science Foundation (NSF) where he last served as the Deputy Director for the Office of Legislative and Public Affairs. In this senior executive capacity, his responsibilities included working directly with the NSF Director and the members of the National Science Board in their relations with the Office of Management and Budget, the White House Science Advisor's office, the Congress and the external science and engineering community. He was responsible for the development and execution of the Foundation's participation in all phases of the Congressional budget process and the legislative oversight process. Before leaving NSF, Mr. Widder also served as a detailee for two years on the staff of the Senate Appropriations Committee where he had responsibility for issues related to research and education including space and environmental sciences. Mr. Widder is an original member of and serves on NOAA's Environmental Information Services Working Group, which reports to the NOAA Science Advisory Board. He also serves on the Executive Committee of the Board on Oceans, Atmosphere, and Climate within the Association of Public and Land-Grant Universities; and the American Meteorological Society's (AMS) Weather & Climate Enterprise Commission Steering Committee. Mr. Widder received an undergraduate degree from the University of Maryland in 1975 and completed two years of graduate work at the SUNY College of Environmental Science and Forestry (1975–1977).

Meg Thompson -- Ms. Thompson has over 20 years of Capitol Hill experience. Ms. Thompson has been professional staff on both the Senate and House Appropriations Committees for both Republican and Democratic majorities. Prior to joining The Oldaker Group, Ms. Thompson served on the House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies, where she had principle responsibility for all Department of Justice programs. In 2006, Ms. Thompson served on the House Subcommittee on Homeland Security where she had primary responsibility for the Federal Emergency Management Agency (FEMA) and Preparedness Directorate. From 2001-2005, Ms. Thompson served on the House Labor, Health and Human Services, Education, and Related Agencies Subcommittee. Before joining the House Appropriations Committee, Ms. Thompson spent three years as Director of Corporate Communications for the National Fish and Wildlife Foundation, and spent two years as a lobbyist for health and medical research clients. Prior to the private sector, Ms. Thompson served on the Senate Appropriations Committee, Subcommittee on Labor, Health and Human Services, and Education, and Related Agencies from 1992-1997.

Suggested Issues/Questions for NAML Members to Raise with Speakers

Dahlia Sokolov, House Science Committee:

- How can NAML become more involved and more effective as a voice for ocean and coastal research and education? What arguments do you see as important for us to make that will resonate with Members of Congress?
- NAML is a network of some 100 marine labs located all over the country. What advice do you have for us as to how we might use that network to effectively advocate for our ocean, coastal, and Great Lakes issues?
- Discuss the research and education legislative agenda you expect the Committee to pursue over the next 12 months – particularly how you see the FIRST bill progressing? What legislation related to NSF will the Committee likely consider and is there a role for NAML in that process?
- With NSF, NAML is concerned about the balance between support for core research and education activities vs the support for large scale infrastructure and their operating costs. What view does the Committee have regarding this perennial NSF balance issue?
- What do you believe is the future for the NSF mandate to evaluate proposals using the broader impacts review criterion? And what is your view with respect to the future of the overall merit review process – given the discussion that ensued last spring on the draft High Quality Research Act and its implications for the NSF review process? What advice would you have for us about that and related issues?
- STEM education is of particular interests to many lab directors. In recent years, however, we have seen NSF cut back – even terminate its support for ocean science education centers (COSI's), and then last year the Administration proposed a wholesale reorganization of STEM education that had many of us very concerned. What is the committee's view with respect to STEM education at NSF and the mission agencies and do you have any advice as to how we might re-engage with NSF on ocean sciences education activities?
- Last month (February 14) the Administration announced [a major climate initiative](#) including a \$1 billion fund to support climate resiliency activities. According to the fact sheet released by the White House regarding this program the funds would be used to:
 - Invest in research and unlock data and information to better understand the projected impacts of climate change and how we can better prepare our communities and infrastructure.
 - Help communities plan and prepare for the impacts of climate change and encourage local measures to reduce future risk.
 - Fund breakthrough technologies and resilient infrastructure that will make us more resilient in the face of changing climate.

How do you see the Congress reacting to this proposal?

Roger Wakimoto, NSF Geosciences:

- In a [recent article](#) in Sea Technology Magazine, former NSF ocean sciences division director, David Conover, said the following about funding trends,

“...Over the past decade, the percentage of the OCE budget invested in major infrastructure has risen from a long-term average of 40 percent to 50 percent in FY 2012... Combined with sequestration, the result has been a scaling back of base budgets for OCE core science programs ... FY 2013 was the second consecutive year that OCE core science programs saw substantial reductions. Even if future overall budgets remain at current levels, this declining trend in core science budgets will continue unless we manage the rising cost of existing and new infrastructure.”

What can be done to reverse this disturbing trend? Please talk about the challenge of balancing the NSF portfolio – between research and the costs of operating large scale infrastructure activities in the Geosciences? NAML labs are particularly concerned that the balance has shifted towards operational costs and this has come at the expense of both research and education. What can be done to protect the research and education activities from even greater reductions due to increasing operating costs?

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What role do you see marine labs playing in this and how can NAML be helpful towards the implementation of this initiative?

- NSF (as well as NOAA) is one of many agencies that have been involved in updating interagency ocean science and technology priorities. What can you tell us about NSF's own priorities with respect to ocean sciences and education given the Administration's overarching priorities?
- What can you tell us about the future for NSF's cross disciplinary initiatives formally called "One NSF". There is a view that some of these initiatives have added greatly to the squeeze and pressure on support for core disciplinary research activities. Where do you see these initiatives going in the coming year?
- Please give us a sense as to how the Geosciences absorbed the FY 2013 mid-year sequester? What were the overriding principles you and the rest of NSF used in absorbing the sequester?
- Please discuss your views with respect to GEO's continued participation with the BIO directorate in the Field Stations and Marine Laboratories (FSML) program? What impact do you expect the forthcoming NRC report to have in guiding NSF and GEO's decisions with respect to the future for this important initiative?
- Your predecessor decided to terminate NSF's support for the centers for ocean sciences education (COSI) even though an external review panel gave the program and the centers very high marks. What do you see as GEO's role in ocean and other geoscience education activities?

- How can NAML become more involved and more effective as a voice for ocean and coastal research and education? What arguments do you see as important for us to make that will resonate with Members of Congress?
- NAML is a network of some 100 marine labs located all over the country. What advice do you have for us as to how we might use that network to effectively advocate in support for ocean, coastal and Great Lakes research and education and what advice would you have for NAML members to seek opportunities to serve on advisory committees and other similar agency and interagency working groups?

Holly Bamford, Assistant Administrator, National Ocean Service:

- Could you please talk about the interest and willingness of NOS to partner with and support activities at institutions like the laboratories represented around this table. In the past, we have seen NOAA say working with its partners is a high priority only to see major reductions in funding for extramural programs. For example in NOS, we have seen support for extramural R&D drop from a level of \$21.6M in 2005 to \$13.7M in 2011 while intramural support has grown from a level of \$53M in 2005 to a level of \$58M in 2011. This comes from data provided by NOAA to the NOAA SAB for its recent R&D portfolio study. Is there a role NAML can play to help NOS management address this and larger NOS funding issues?
- Last month (February 14) the Administration announced a [major climate initiative](#) including a \$1 billion fund to support climate resiliency activities. According to the fact sheet released by the White House regarding this program the funds would be used to:
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What role do you see marine labs playing in this and how can NAML be helpful towards the implementation of this initiative?

- How can NAML become more involved and more effective as a voice for ocean and coastal research and education? What arguments do you see as important for us to make that will resonate with Members of Congress?
- NAML is a network of some 100 marine labs located all over the country. What advice do you have for us as to how we might use that network to effectively advocate in support for ocean, coastal and Great Lakes research and education and what advice would you have for NAML members to seek opportunities to serve on advisory committees and other similar agency and interagency working groups?
- One of the key issues in NAML's public policy agenda is to look for ways for the mission agencies to consider co-locating personnel and instrumentation at NAML labs in an effort to avoid duplication of efforts or capabilities. Is that something NAML could work with NOS on in the future?

Bradley Moran, Office of Science and Technology Policy:

- Can you describe the role OSTP plays in determining agency roles and responsibilities and funding commitments in areas related to ocean, coastal and Great Lakes research and education activities?
- Last month (February 14) the Administration announced a [major climate initiative](#) including a \$1 billion fund to support climate resiliency activities. According to the fact sheet released by the White House regarding this program the funds would be used to:
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- Can you describe how the Administration is following up on the implementation of its update set of ocean research priorities contained in the February 2013 report entitled, *SCIENCE FOR AN OCEAN NATION: UPDATE OF THE OCEAN RESEARCH PRIORITIES PLAN*.
- Last year the Administration proposed the consolidation of a number of STEM education activities. The impact of that proposal would have been the virtual elimination of NOAA education programming as well as NSF's informal science education program – both programs are vital to support the education mission of NAML labs. Congress rejected the Administration's proposal last year. Can we expect the Administration to renew this proposal again?

Kathryn Sullivan, Acting NOAA Administrator:

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What role do you see marine labs playing in this and how can NAML be helpful towards the implementation of this initiative?

- Could you please talk about the interest and willingness of NOAA to partner with and support activities at institutions like the laboratories represented around this table. In the past, we have seen NOAA talk about working with its partners only to see NOAA back track on its extramural funding. For example in OAR, we have seen support for extramural R&D drop by \$60M since 2005 – from \$171.6M to \$107.1M. And the percentage of OAR's research activities to support extramural programs has dropped

from just over 50% down to 34% of the total. According to data provided to the NOAA SAB for its recent R&D portfolio study, we see a similar trend in NOS. Is there a role NAML can play to help NOS management reverse this decline in extramural support?

- How can NAML become more involved and more effective as a voice for ocean and coastal research and education? What arguments do you see as important for us to make that will resonate with Members of Congress?
- NAML is a network of some 100 marine labs located all over the country. What advice do you have for us as to how we might use that network to effectively advocate in support for ocean, coastal and Great Lakes research and education and what advice would you have for NAML members to seek opportunities to serve on advisory committees and other similar agency and interagency working groups?

Jeremy Weirich/Kolo Rathburn, Senate Commerce, Justice and Science Appropriations Subcommittee:

- At the outset, we would like to express our appreciation for the support the Chair and Ranking Member have provided year in and year out for ocean, coastal, and Great Lakes research and education. We are appreciative of the support you have provided for important programs like Sea Grant, the Prescott program, and ocean education. We are grateful that the committee raised concerns regarding the Administration's plan to consolidate STEM education programs – a proposal that would have decimated ocean-related education programming. With the budget environment remaining constrained under the new agreement, what efforts can and should NAML undertake to effectively make the case to other policy makers about the importance of these programs? In other words, how do we help you so that you can continue to help us?
- One of NAML's public policy objectives is to essentially re-invent ourselves into a virtual network so that we can all take advantage of the data and observations we have all been collecting on our own for many years. With access to sufficient computing resources and innovative networking as a community we are poised to take advantage of the substantial investment made over the years in the research and education infrastructure of marine labs by integrating our activities more closely. There is an NRC report current underdevelopment that will undoubtedly recommend closer collaboration and sharing of resources for both marine labs and field stations. Is this something the Subcommittee is likely to support?
- Last month (February 14) the Administration announced a [major climate initiative](#) including a \$1 billion fund to support climate resiliency activities. According to the fact sheet released by the White House regarding this program the funds would be used to:
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How do you see the Congress and most particularly the appropriations process reacting to this proposal?

Links to Useful Background Information
NAML Public Policy Meeting
Washington, D.C.
March 3 and 4, 2014

[NAML FY15 Public Policy Agenda \(February 2014\)](#)

[OMB/OSTP Science and Technology Priorities for FY 2015](#)

[National Ocean Council](#), Executive Office of the President

[National Ocean Policy, Executive Order](#), Executive Office of the President

[Science for an Ocean Nation: Update on the Ocean Research Priorities Plan](#), Subcommittee on Ocean Science and Technology, National Science and Technology Council, February 2013;

[White House Fact Sheet on Climate Resilience](#), February 2014

FY 2013 Spending Plans -- [NSF](#)

FY 2013 Spending Plans -- [NOAA](#)

[NOAA – Annual Guidance Memorandum, August 2013](#)

[NOAA – Next Generation Strategic Plan](#)

[Final Report of the Research and Development Portfolio Review Task Force](#), NOAA Science Advisory Board, February 2013;

[NOAA 5 Year Research and Development Plan](#), NOAA Research Council, National Oceanic and Atmospheric Administration, 2013

[Field Stations and Marine Laboratories of the Future: A Strategic Vision](#), Final Draft January 31, 2013

**Key Congressional Committees for the Ocean, Coastal and Great Lakes
Research and Education Community**

[House Science, Space and Technology Committee](#)

[House Subcommittee on Research](#) (NSF)

[House Subcommittee on Environment](#) (NOAA, EPA, NASA earth science)

[House Subcommittee on Space](#) (NASA, NASA R&D)

[House Natural Resources Committee](#)

[House Fisheries, Wildlife, Oceans & Insular Affairs](#) (NOAA)

[House Commerce-Justice-Science Appropriations Subcommittee](#) (NASA, NSF, NOAA)

[House Interior, Environment, and Related Agencies Appropriations Subcommittee](#) (EPA)

[Senate Commerce, Science, and Transportation Committee](#) (NASA, NSF, NOAA, NIST)

[Subcommittee on Science and Space](#) (NASA, NSF)

[Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard](#) (NOAA)

[Senate Commerce-Justice-Science Appropriations Subcommittee](#) (NASA, NSF, NOAA)

[Senate Interior, Environment, & Related Agencies Appropriations Subcommittee](#) (EPA)

NATIONAL ASSOCIATION OF MARINE LABORATORIES

FY 2015 PUBLIC POLICY AGENDA

The National Association of Marine Laboratories (NAML) is a nonprofit organization representing the ocean, coastal and Great Lakes interests of member laboratories that employ thousands of scientists, engineers and professionals nationwide. NAML labs conduct high quality research and education in the natural and social sciences and translate that science to improve decision-making on important issues facing our country.

NAML Policy Priorities for Ocean, Coastal and Great Lakes Research, Infrastructure, and Education

- ***Maintain strong support for competitive, merit-based ocean, coastal, and Great Lakes research, infrastructure and education programs at relevant federal agencies.***
- ***Strengthen the infrastructure of marine laboratories to better integrate the environmental data networks into federal information and observing system networks to achieve cost effective science-based decision making to better manage marine, coastal and Great Lakes ecosystems and related resources.***
- ***Implement an innovative and cost-saving national partnership program to co-locate federal scientists and federal research infrastructure initiatives at NAML sites and facilities.***
- ***Preserve a diverse, distributed ocean science education agenda supported by multiple ocean research agencies including mission agencies such as NOAA, NASA and EPA.***

The Role of Marine Laboratories in the Nation's Research and Education Enterprise

Ocean, coastal and Great Lakes marine laboratories are vital, cost-effective, place-based "windows on the sea." They connect communities with cutting edge marine, coastal and social sciences, while also providing students and citizens with meaningful learning experiences. The members of the National Association of Marine Laboratories (NAML) work together to improve the quality and relevance of ocean, coastal and Great Lakes research, education and outreach. In particular, NAML seeks support for the:

- Conduct of basic and applied research of the highest quality making use of the unique capabilities of coastal laboratories;
- Revitalization of research infrastructure through increased cost-effective networking of capabilities;
- Unique role that coastal laboratories play in conducting education, outreach and public service;
- Encouragement of wise use and conservation of marine and coastal habitats and resources using ecosystem-based management approaches;
- Coastal and other observing systems that collect front line data needed to improve predictions of natural and human-caused disasters, the management of marine resources, research, education and for other purposes; and
- Education and training of the future scientific and technical workforce and increased public ocean and Great Lakes literacy to promote greater environmental stewardship.

Oceans, Coasts and Great Lakes are Vital for Economic Growth and the Well-being of the Nation

The ocean, coasts, coastal watersheds, and the Great Lakes play a central role in the well-being of the Nation. Over 8.5 million people reside in the 100 year coastal flood hazard area. More than half of the United States population lives in 673 coastal watershed counties, and these counties generate 58% (\$8.3 trillion) of the Nation's gross domestic product (GDP)—even though they comprise only 25% of the Nation's land area. Every day, the marine environment supplies a multitude of products and services that enhance and support the lives and livelihoods of citizens. In 2011, Americans, on average, ate 15 pounds of fish and shellfish per person – 4.7 billion pounds all together – making the U.S. second in the world in total seafood consumption. Offshore oil production in Federal waters accounts for 24% of total U.S. crude oil production. If American coastal watershed counties were considered an individual country, that country would have a GDP higher than that of China. The United States has jurisdiction over 3.4 million square miles of oceans – an expanse greater than the land area of all 50 states combined. This vast marine area offers many environmental resources and economic opportunities, but also presents threats such as damaging tsunamis and hurricanes, industrial accidents and outbreaks of water borne pathogens. The 2010 Gulf of Mexico *Deepwater Horizon* oil spill, the 2011 Japanese earthquake and tsunami, and the 2012 Superstorm Sandy are vivid reminders that our understanding of our oceans and coastal areas is far from complete. Developing sufficient capabilities to sustain ocean-based economies and protect our coasts and coastal communities from natural and man-made hazards will require a sustained investment in research, infrastructure and education and training.

NAML Priority -- Investing in Research

NAML believes America is driven by innovation — advances in ideas, products and processes that create new industries and jobs, contribute to our nation's health and security, and support a high standard of living. In the past half-century, innovation itself has been increasingly driven by educated people and the knowledge they produce. It is essential that the nation reaffirm and revitalize the unique partnership that has existed between the Federal Government, the states and business and industry with the nation's research and education enterprise. In doing so, we encourage the innovation that leads to high-quality jobs, increased incomes, security, health, and prosperity for the nation. Investing in the nation's research enterprise should be seen as a high priority that has contributed significantly to our long-term prosperity and technological preeminence through interdisciplinary research spanning a landscape of disciplines, from physics to geology, chemistry to biology, engineering to social sciences and modeling to observation.

NAML believes that research and education programs at the major federal science agencies with ocean and coastal responsibilities should be viewed as priority investments in the future health and well-being of the Nation. Much attention has been justifiably focused on the need for our Nation to continue its support of premier basic research programs. It is also important to maintain strong support for mission-oriented ocean, coastal and Great Lakes research, observing and monitoring programs. Programs that enhance agency internal research capabilities and support the extramural community in competitive, merit-based research provide highly cost-effective returns on investment and distribute economic and societal benefits over a broad array of communities. Further, NAML believes that developing exchange programs between federal agencies and marine laboratories will further strengthen the communication and capacity of both for the benefit of the ocean science and management enterprise.

NAML Priority -- Investing in Research Infrastructure

NAML believes that a comprehensive range of ocean and coastal research infrastructure will be needed to meet growing demands for scientific information and to enable the safe, efficient, and environmentally sustainable use of the ocean. Institutional barriers have inhibited collaborative efforts to plan for the deployment, operation and maintenance of high-cost critical infrastructure assets such as ships, satellites, observing systems and cyber-infrastructure for data sharing, networking and collaborative use of available facilities. Marine laboratories often play a critical role in supporting studies that extend across decades. Marine laboratories can provide the infrastructure to collect data throughout a lifetime, and even maintain important data streams that extend well beyond any single researcher. Marine laboratories are often a hotbed of sensor development and testing. With technology changing rapidly, marine laboratories provide the expertise to maintain a level of standardization that ensures such data can be interpreted accurately even as protocols change in response to improving technology. Marine laboratories are playing an increasing important role in supporting networks that extend beyond any single lab. Because environmental processes occur on a wide range of spatial and temporal scales, data streams are standardized and networked to varying degrees to facilitate cross-site and long term analyses. Finally, given the complexity and interconnected nature of many environmental processes, marine laboratories provide important opportunities to weave together the work of many researchers in order to see patterns and understand processes that would not be apparent from any single study or data stream.

NAML Priority – Investing in Science, Technology, Engineering and Mathematics (STEM) Education

NAML's education mission is two-fold: to enhance ocean STEM education to ensure that all citizens recognize the role of the oceans, coasts and Great Lakes in their own lives and the impacts they themselves have on these environments; and to provide formal research and training opportunities at K-12, college, and post-graduate levels to ensure a technically-qualified, and ethnically diverse workforce capable of solving problems and answering questions related to the protection, restoration and management of coastal and ocean resources, climate variability and society's needs. An informed and engaged public is essential to understand complex ocean- and coastal-related issues, balance the use and conservation of marine resources, and maximize future benefits from the ocean. The public should be armed not only with the knowledge and skills needed to make informed choices, but also with a sense of excitement about the marine environment. Public understanding of human impacts on the marine environment should be balanced with recognition of the benefits to be derived from well-managed ocean resources. Inland communities need to be just as involved as seaside communities, because of the connection among the ocean, the atmosphere and the land. Ocean-related education also has the potential to help stem the tide of science illiteracy threatening to undermine the nation's health, safety and security. The scientific literacy of U.S. high school graduates is well below the international average. This progressive loss of literacy weakens the nation's ability to maintain its traditionally strong foundation in science and mathematics. NAML laboratories seek to expand the engagement of individuals from groups that have been historically under-represented in ocean research, education and outreach. This is particularly important in fulfilling the goal of achieving a diversified STEM pipeline to meet future science and ocean workforce needs.

National Science Foundation

NSF funds vital basic research that enhances the public understanding of the Nation's oceans, coasts and Great Lakes. NSF also supports science, engineering and education to inform the societal actions needed for environmental and economic sustainability and sustainable human well-being. A sustainable world is one in which human needs are met equitably and without sacrificing the ability of future generations to meet their needs. Meeting this challenge requires a substantial increase in our understanding of the integrated system of society, the natural world and the alterations humans bring to Earth. Research in this area as well as in other ocean and coastal areas is supported via a highly competitive, merit-based process through a variety of modes of support at NAML laboratories involving individual investigators, small interdisciplinary teams of researchers and students.

Research, education and infrastructure funded by NSF address the central role of the oceans in a changing Earth and as a national strategic resource. NSF supports interdisciplinary research to better understand changing ocean circulation, other physical parameters, biodiversity and the dynamics of marine organisms and ecosystems, and changing ocean chemistry such as ocean acidification. NSF also supports research on the geology of the ocean margins and sub-seafloor to investigate past ocean and climate conditions, stability of methane hydrates, natural hazards associated with earthquakes and volcanic eruptions, and microbial life deep below the seafloor. Ocean education emphasizes undergraduate programs and the interdisciplinary nature of ocean sciences. Since ocean science requires access to the sea, NSF supports research vessels, deep submergence capability including submersibles and autonomous vehicles, and technologically advanced sensors and instrumentation.

Research emphases in NSF are guided by national research priorities in key areas of interaction between society and the ocean. These priorities include improved understanding of marine ecosystems, marine biodiversity, the impact of increased atmospheric carbon dioxide on ocean acidification, the ocean's role in climate change, ocean observing, changing conditions in the Arctic, hazards and extreme events, and the enhancement of infrastructure to support ocean and coastal research. In general, 30 percent of NSF's ocean sciences portfolio is available for new research grants with the remaining 70% used to support continuing grants. Approximately 52 percent of the overall budget supports facilities and infrastructure. This is a substantial change from the historical percentage of 40%. Within the highly constrained budgets, a shift of this magnitude could have adverse effects on the ability of individual investigators – particularly young investigators – to compete successfully for the resources needed for high quality research activities.

NAML is particularly supportive of the creation of new research networks that connect NAML laboratories and terrestrial field stations in ways that would enhance other ecosystem networks supported by NSF. NAML believes that research infrastructure and related networking support is needed to move the research enterprise forward and therefore we continue to support growth in NSF's Field Stations and Marine Laboratories (FSML) program.

NAML maintains a strong interest in the forthcoming National Research Council report on the value and sustainability of Biological Field Stations and Marine Laboratories.

National Oceanic and Atmospheric Administration

The complex interdependence of ecosystems and economies will grow with increasing uses of land, marine and coastal resources, resulting in particularly heavy economic and environmental pressures on the Nation's coastal communities. Continued growth in coastal populations, economic expansion, and global trade will further increase the need for safe and efficient maritime transportation. Similarly, the Nation's need for conventional and alternative energy presents many economic opportunities, but will also result in greater competition for ocean space, challenging our ability to make informed decisions that balance conflicting demands as well as economic and environmental considerations. At the same time, the interdependence of ecosystems and economies makes coastal and Great Lakes communities increasingly vulnerable to chronic— and potentially catastrophic—impacts of natural and human-induced hazards, including climate change, oil spills, harmful algal blooms and pathogen outbreaks, and severe weather hazards.

NAML envisions invigorated coastal communities and economies, with increased resiliency and productivity. Comprehensive planning will help protect coastal communities and resources from the impacts of hazards and land-based pollution to vulnerable ecosystems by addressing competing uses, improving water quality and fostering integrated management for sustainable uses. Geospatial services will support communities, navigation and economic efficiency with accurate, useful characterizations, charts and maps, and assessment tools and methods. Coastal decision makers will have the capacity to adaptively manage coastal communities and ecosystems with the best natural and social science available. Resilient coastal communities and economies cannot be achieved without strong partnerships. NOAA plans to build on existing strategic partnerships in coastal communities with other Federal agencies (such as the U.S. Coast Guard) to help provide services to adapt to coastal hazards and provide safe conditions in the Arctic, the DOI to conserve and manage special marine and coastal places, and the EPA and USDA to improve coastal water quality and encourage smart growth). Comprehensive ocean and coastal planning will require an unprecedented level of engagement and collaboration with state, local and tribal partners, as well as a wide range of stakeholders in the private and academic sectors. NOAA should increase its outreach to and make more extensive use of NAML laboratories – through the National Sea Grant College Program, its observing programs, its research programs, and other activities to help it achieve the various goals in its strategic plan.

NOAA's support for research and education at marine laboratories and universities greatly assists NOAA in the execution of its missions and expands its access to world-class expertise and unique facilities, complementing and expanding the work carried out within NOAA laboratories. NOAA's extramural partnerships contribute invaluable information to our coastal resource managers. These include: the National Sea Grant College Program, navigation programs, the Coastal Services programs; aquaculture initiatives; the Highly Migratory Shark Fishery Research Program; NOAA Cooperative and Joint Institutes; the Integrated Ocean Observing Systems program; NOAA's Center for Sponsored Coastal Ocean Research on harmful algal blooms, hypoxia, and ecological forecasting initiatives; the National Estuarine Research Reserve System (NERRS); the National Marine Sanctuary Program; the research and partnership programs administered by the National Marine Fisheries Service, and NOAA's Office of Education.

NAML strongly supports recommendations made to the NOAA Science Advisory Board (SAB) that calls for priority support for NOAA extramural programs. This recommendation comes on the heels of a significant decline in NOAA extramural research expenditures. For example, according to data provided by NOAA to the SAB's R&D Portfolio Review Task Force, extramural support has declined since 2005 by over \$60M. As a percent of the total NOAA Research budget, extramural support has dropped significantly since 2005. At that time extramural support represented 50.2% of the OAR portfolio. In 2011 the percentage had declined to 34%.

Extramural research enables NOAA to leverage its R&D and operational investments with the resources of the nation's leading university scientists resulting in greater and faster scientific advances at lower costs. A predictable and reliable partnership with the extramural research community is critical to NOAA's long-term success. As available resources become scarcer and major program reorganizations may be considered, NOAA should enhance its partnership with the extramural research community in creative and innovative ways. For example, NOAA should expand its efforts to co-locate agency research staff and infrastructure at non-Federal marine laboratories. Such actions will not only result in significant cost savings, achieve a greater return for its investment, and increase scientific collaborations and productivity. A robust NOAA budget directly coupled with solid support for extramural partnerships is essential for NOAA to serve national needs.

National Aeronautics and Space Administration

Part of NASA's mission is to develop an understanding of the total Earth system and the effects of natural and human-induced changes on the global environment. Oceans play a major role in influencing changes in the world's climate and weather. Long-term ocean data from satellites make it possible to employ modeling techniques for global mapping of seasonal changes in ocean surface topography, currents, waves, winds, phytoplankton content, sea-ice extent, rainfall, sunlight reaching the sea, and sea surface temperature. Studying these patterns at a global scale can help forecast and mitigate the effects of floods and drought. Ocean observing satellite images tell us about the most fundamental climate changes. Satellite data have improved forecasting model capabilities to predict events such as El Niño and other global and regional climate cycles. Expanding NASA extramural support will further develop the ability to better predict ocean phenomena.

Environmental Protection Agency

EPA is an important source of support for marine laboratories, and EPA's own laboratories are a critical part of the marine science community. EPA's Office of Research and Development and Office of Water provide essential resources to marine laboratories nationwide, fund research grants in various environmental science and engineering disciplines, and engage the Nation's best scientists and engineers in targeted research complementary to EPA and other federal research activities. Unfortunately, support for research has declined dramatically over the past several years within EPA, and the EPA's Science Advisory Board has called for renewed investments. Enhanced support for extramural research programs at EPA, such as BEACHES, Science to Achieve Results and the National Estuary Program, are essential in helping to mitigate and adapt to environmental change.

Department of Interior

DOI is an important federal player with respect to the ocean and coastal community through the research and other activities supported and conducted by the Bureau of Ocean Energy Management (BOEM), the U.S. Geological Survey (USGS) via the Coastal and Marine Geology program and the National Biological Service, and the U.S. Fish and Wildlife Service (FWS). Greater partnership with NAML laboratories would provide BOEM, USGS, and FWS with improved access to sound marine science information to support their role in the management of ocean and coastal resources.

FWS' Landscape Conservation Cooperatives (LCCs) are applied conservation science partnerships with two main functions. The first is to provide the science and technical expertise needed to support conservation planning at landscape scales – beyond the reach or resources of any one organization. Through the efforts of in-house staff and science-oriented partners – such as NAML laboratories, LCCs generate the tools, methods and data managers need to design and deliver conservation using the Strategic Habitat Conservation approach. The second function of LCCs is to promote collaboration among their members in defining shared conservation goals. With these goals in mind, partners can identify where and how they will take action, within their own authorities and organizational priorities, to best contribute to the larger conservation effort. LCCs assist partners to see how their activities can merge with those of other partners to achieve a bigger and more lasting impact. NAML encourages the continued engagement of the LCCs with NAML laboratories to help achieve mutual interests.

National Institutes of Health – National Institute of Environmental Health Sciences (NIEHS)

NIEHS Centers for Oceans and Human Health fund research on marine-related health issues, such as developing techniques for more accurate and earlier detection of harmful algal blooms with the goal of preventing or reducing exposure, and studying the health effects of eating seafood that harbors toxins produced by harmful algae. NIEHS grantees examine the health effects of consuming seafood containing pollutants such as PCBs and mercury; identify indicators of recreational water contamination and illness, and exploring compounds from marine organisms that hold promise as therapies for neurodegenerative disorders, cardiovascular and infectious diseases, certain cancers and other conditions. NIEHS is conducting research on the effects of the *Deepwater Horizon* oil spill on coastal communities—social and human health effects. NAML encourages NIH to reinvigorate its support for the Oceans and Human Health research program.

Department of Energy

DOE's Energy Efficiency and Renewable Energy division has initiated significant efforts to understand and develop sources of renewable marine energy from tidal, wave and current sources. Environmental effects and conflicts with existing ocean uses must be evaluated as U.S. coastal energy sources are developed. The Nation's marine laboratories are uniquely distributed and serve as ideal locations for much of the research needed to rationally develop this energy source. Opportunities to partner with DOE in these areas should be strongly encouraged.

Education, Diversity and an Ocean Literate America

The U.S. continues to be at risk with respect to student achievement in science, technology, engineering and math among industrialized nations, as well as, emerging industrializing nations. As reported in the National Science Board's Science and Engineering Indicators 2014, released in February 2014:

- In mathematics, the percentage of U.S. students reaching the proficient level remained well below half in 2011: 40% of fourth graders and 35% of eighth graders performed at or above this level.
- In science, 32% of eighth graders performed at or above the proficient level for their grade in 2011.

In comparison with other nations, the U.S. average score on the 2011 Trends in International Mathematics and Science Study (TIMSS) mathematics assessment was substantially lower than those of seven other countries/jurisdictions at grade 4 and those of six countries/jurisdictions at grade 8. The top performing nations each scored at least 50 points higher than the U.S. at grade 4 and at least 77 points higher than the U.S. at grade 8.

NAML continues to believe it is critically important that we improve ocean literacy and workforce development among all sectors of our nation. Marine laboratories play an important role in formal and informal education and workforce development by providing students with a place to learn. Marine laboratories serve as primary training grounds for experiential ocean education and are committed to enhancing diversity within the field of ocean, coastal and Great Lakes research and education. By fostering relationships with community colleges and minority-serving institutions, marine laboratories provide distinctive learning opportunities for underrepresented groups, allowing students to achieve a greater understanding of oceans and coastal ecosystems and providing them with a sense of stewardship.

NAML laboratories continue to strongly support partnerships with Federal agencies to address the ocean education needs of the Nation. These include the NSF's Louis Stokes Alliance for Minority Participation, Centers for Ocean Science Education Excellence, Research Experiences for Undergraduates and Research on Learning in Formal and Informal Settings programs; NOAA's Expanding Partnerships Program in the NOAA Education Office and Sea Grant's fellowships and K-12 STEM education programs; and EPA's Science to Achieve Results (STAR) Fellowship Program. The importance of marine laboratories in support of coastal states' Environmental Literacy Plans is essential in developing a literate public. Investment is needed today in coastal, ocean and Great Lakes education programs at NAML laboratories that support formal and informal learning at all age levels, by all disciplines and for all Americans.

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Strengthening America's Ocean Economy: The National Ocean Policy



By Dr. S. Bradley Moran

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It may not date all the way back to the Ancient Mariner, but there is an old saying within ocean science circles: “Map once, use the data many times.” This is the kind of simple but wise thinking that underlies the National Ocean Policy, which was created by Executive Order in 2010 and established a framework for 27 federal agencies, departments and offices to work together to advance shared priorities. Without creating any new laws or authorities and without demanding any new funding streams, that framework is now helping federal agencies coordinate their activities, cut red tape and deliver a range of synergistic benefits—spurring economic growth while supporting sustainable ecosystems, strengthening coastal security, and empowering states and communities with stakes in ocean and coastal resources.

Last April, the National Ocean Council (NOC)—composed of representatives from those 27 federal agencies, departments, and offices—issued its Implementation Plan, translating the National Ocean Policy into on-the-ground actions. The Implementation Plan endorsed the concept of voluntary regional marine planning, a transparent, bottom-up approach to coordinating activities that can help regions grow their economies and support their coastal communities while protecting and conserving their ocean and coastal ecosystems.

Regions that want to do marine planning establish regional planning bodies, jointly led by federal, state and tribal members. Stakeholder engagement, public participation, and information from a wide variety of sources, including scientists, technical experts, industry, government agencies and native communities, are vitally important to the process to ensure marine planning is based on a full understanding of the range of interests and activities in the region. The National Ocean Council recognizes that there is a wide variety of ocean users, industries and interests, and that even within any particular group, perspectives may differ greatly. For that reason, when the Council issued a marine planning handbook in August, it made clear that regional planning bodies should operate in an open, science-based and cooperative environment—one in which all stakeholders and the general public are guaranteed the opportunity to inform marine plans by sharing data, information and perspectives.

A common misconception about marine planning is that regional planning bodies wield the power to make decisions about who can use the ocean and where certain activities can occur. In

fact, regional planning bodies do not have this power; their purpose is simply to create a marine plan, which is not a regulatory action. With input from the public, ocean industries and all interested stakeholders, regional planning bodies first define what ocean issues they want to address in their regions and how they want to do so. Federal agencies can then use the resulting marine plan to ensure they fully understand and take into account regional priorities when exercising their existing statutory decision-making authorities.

This coordinated planning process stands in sharp contrast to last-minute, project-by-project choices that so often can run afoul of one another and ultimately waste time and money. A common example of the need for this process comes from Rhode Island waters, where plans for a wind energy facility proceeded for months, and at significant expense, until it was discovered that the site in question was already being used for military training exercises.

When people begin to discuss what activities are already happening and what uses may come in the future, they inevitably start discussing what kind of science and data they need, what the conflicts are and how they can be avoided—a process that can benefit all parties. We are already seeing that simply getting the federal agencies, states and stakeholders together (whether in person or remotely) to discuss marine activities in the region yields benefits. Marine planning will always have constraints, including that our information about ocean resources and ocean uses will never be perfect, but it is an ongoing process that is meant to be flexible as states of knowledge, and even values, change over time.

Because these are inherently bottom-up, democratic processes, interest in a given region is the driving force for creating a regional planning body, and four regions have already established bodies: the Northeast, the Mid-Atlantic, the Caribbean and the Pacific Islands. In other regions, discussions are underway to better understand how marine planning could work for those regions. In regions that choose not to establish a body, federal agencies are committed nonetheless to working cooperatively with each other and with states, tribes and stakeholders as they carry out their missions.

As marine planning moves forward in the regions, and as federal agencies work on accomplishing the tasks outlined in the Implementation Plan, I hope you will participate by adding your perspectives. The NOC is creating communication products that will keep you updated and invites you to join the distribution list by emailing NOC@ostp.eop.gov or by visiting www.whitehouse.gov/oceans. The National Ocean Council is dedicated to delivering a more efficient, collaborative network of government services and resources so that together we can grow the ocean economy, keep our ocean healthy, and enjoy the myriad offerings and opportunities provided by our ocean environments for decades to come.

New Paradigm Needed For Federal Research Funding



By Robert B. Gagosian

President and CEO, The Consortium for Ocean Leadership

What can you say about the nation's capital when Congress has the lowest approval ratings recorded in Gallup polling history and the president's approval rating has sunk to the lowest of his presidency? We appear to be in a perpetual stalemate with fiscal brinksmanship becoming the new normal. The government recently shut down for the first time in 17 years, and you have to ask: what did we get for paying hundreds of thousands of federal workers to stay home? Only the promise of more fiscal showdowns on the horizon—first in January when another budget sequester is scheduled to go into effect and then in February when the debt limit needs to be extended again, putting in jeopardy the full faith and credit of the United States government. These kinds of activities are having a continuing deleterious effect on the budgets for scientific research as they continue to get tighter and tighter.

Budget Crisis

The Consortium for Ocean Leadership is a leading voice for the ocean science community with the mission to advance research, education and sound ocean policy. While disasters named Sandy, Katrina, Haiyan, Deepwater Horizon and Fukushima have made the need for observing, understanding and forecasting ocean processes and conditions more imperative, the political morass in Washington is making our job more difficult than ever.

As an eternal optimist, I must admit that even I am beginning to have my doubts on whether our nation can remain the world leader in innovation if we continue attempting to balance the budget on the back of discretionary programs, including science. The Department of Defense is scheduled to take the brunt of the next budget sequester in January, and I suspect that research and development programs will share the pain. We have partnered with the University Corp. for Atmospheric Research to reach out to the members of the Congressional budget conference, encouraging them to find a compromise to replace the sequester and restore funding for research programs and science agencies critical to the economy.

If cooler minds do not prevail, then I suspect we will continue to see erosion in federal science programs, in critical infrastructure and eventually human capital. How can we expect to recruit and sustain the next generation of scientists if they have a less than one in 10 chance of having their grants funded? Why would the best minds that come to America to be trained want to stay here and contribute to our nation during such a dire fiscal environment? I am concerned that this could lead to our best and brightest looking for opportunities in other countries.

Long-Term View for Research

It was not only the budget crisis that was noteworthy in 2013. There were also the expanding expectations of politicians who demanded more scientific results with societal implications as quickly as possible, while calling for funding cuts to basic research. For instance, the Chairman of the House Science Committee, Lamar Smith (R-Texas), began questioning the peer-review process that has been the foundation for the U.S. to be the world leader in innovation. While every scientist I know has had a “great” proposal declined by a federal agency and probably questioned how the panel could reject it, on the whole, I believe they would all state that the U.S. has the best research proposal review system in the world. And, although we should always strive for improvement, I fear questioning the peer-review process while cutting research funds is based on a fundamental misunderstanding. The desire to have a clear and definable return on investment for basic research is understandable for political purposes, but can be quite harmful for scientific ones.

These issues are creeping into otherwise popular legislation such as the Sound Science Act, which was attached to the House Farm Bill as a section titled “Ensuring High Standards for Agency Use of Scientific Information,” and the FIRST Act, which deals with coordination and priorities for federal STEM programs, is an evolution of the previously floated High-Quality Research Act and is attached to the reauthorization of the America COMPETES Act. The result encourages, at minimum, an overpromising of the research conclusions from a grant, which hurts the integrity of the researcher and the system, or, more problematically, a fundamental shift away from understanding the central premise of basic research.

I fear that in the long-term this shift may undermine our ability to have the basic knowledge needed to apply to the next generation’s challenges for the future success of our society.

Fortunately, the gridlock in Congress means that efforts in the House to alter the merit-review system or undermine the peer-review process will likely not become law. But, if we do not educate our elected officials, including the proponents of these policies, on the harmful impacts these could have on the scientific endeavor, then a future political shift in Washington could see these policies become law.

Taking Action

So while Congress may be accomplishing less than ever, that does not mean we should stand by and do nothing. We need to be vigilant in reaching out to Congress and explaining why oceanography is important for the nation.

Sandy, Katrina, Haiyan, Deepwater Horizon and Fukushima are all excellent examples of its importance, notably because they have unfortunately touched millions of lives and cost billions of dollars to economies. The best science is essential if we are to understand the processes responsible for these events and to obtain cutting-edge predictive capability.

Meanwhile, we also need to be reaching out to industry and local communities to find new partnerships and ways of doing business. We need to be innovative in how we conduct research, the facilities we use and the data we share. Much in the same way that oceanography changed at the end of the Cold War, we are facing the need for a new paradigm.

Ocean Leadership represents 90 of the nation's leading oceanographic research and education institutions, and also manages several large ocean research and education programs. As such, we will continue to advocate strongly for science funding and the integrity of the peer-review process. It is essential that you continue to do the same. There are many challenges ahead, but I firmly believe if we work together, we will succeed in strengthening our ocean scientific enterprise, so crucial for the future of this country.

Robust Ocean Science Programs And the Facilities that Support Them

By Roxanne Nikolaus,

Policy Advisor

and

David Conover,

Former Director,

Division of Ocean Sciences, National Science Foundation

The National Science Foundation (NSF) employs a bottom-up approach to achieve its mission of supporting fundamental science, engineering and education. This means tracking science around the world and engaging the research community to identify and fund scientific and technological advancement in the most needed and promising areas of inquiry and discovery. Through the Division of Ocean Sciences (OCE), this approach provides information to understand complex ocean ecosystems and address issues impacting them in the context of a changing world.

Facilitating Progress

The past decade has seen scientific breakthroughs and discoveries that have fundamentally altered our basic understanding of the ocean and its relationship to human populations. Innovative technologies and facilities have supported our growing knowledge of the ocean and enabled new frontiers to be explored. Over the past year, there has been much progress in the development of new and upgraded NSF-supported oceanographic vessels, vehicles and systems.

RV Sikuliaq. The RV Sikuliaq—the newest member of the University-National Oceanographic Laboratory System fleet—will be delivered to the University of Alaska Fairbanks in February 2014. Science trials will span the first half of 2014, and science operations are expected to begin in September.

Regional-Class Research Vessels. In early 2013, NSF made an award to Oregon State University for the design of the new regional-class research vessels. Anticipated to be up to a three-ship construction effort, a preliminary design review this summer will establish the project baseline, including number of vessels based on funding and projected science utilization. The current schedule anticipates sea trials on the first vessel in 2020.

Alvin Submersible. The first stage of NSF-funded upgrades to the human-occupied submersible Alvin is wrapping up this year.

With successful completion of sea trials in November 2013, Alvin is anticipating operational certification to support all currently funded projects. Six NSF-funded cruises are scheduled for 2014 in the Gulf of Mexico and along the East Pacific Rise.

Ocean Observatories Initiative. In 2013, the Ocean Observatories Initiative (OOI) Project deployed the first global array at Station Papa in the Gulf of Alaska. This array constitutes part of a network of instrumented moorings and gliders at important but undersampled high-latitude locations. Work also continues for the 2014 deployments of coastal moorings, gliders, AUVs and cabled array instrumentation. All data from OOI will be accessible via the Internet. OOI is

expected to be fully commissioned in March 2015.

Budget Reality

The ocean community relies on continual advancements in technology and infrastructure to push the boundary of the scientific frontier. But the operational cost of new ocean infrastructure and the rising cost of existing facilities have created budget challenges. In recent years, the portion of the NSF budget devoted to ocean infrastructure has been increasing while total funds have flattened. These challenges—coupled with the impacts of sequestration—were highlighted in OCE’s fiscal year (FY) 2013 budget.

Over the past decade, the percentage of the OCE budget invested in major infrastructure has risen from a long-term average of 40 percent to 50 percent in FY 2012. It remained at 50 percent in the FY 2013 operating plan. Combined with sequestration, the result has been a scaling back of base budgets for OCE core science programs (Biological, Physical and Chemical Oceanography, and Marine Geology and Geophysics). FY 2013 was the second consecutive year that OCE core science programs saw substantial reductions. Even if future overall budgets remain at current levels, this declining trend in core science budgets will continue unless we manage the rising cost of existing and new infrastructure.

Decadal Survey of Ocean Sciences

The goal for NSF and OCE is to implement a balanced funding approach that continues needed investments in facilities, while sustaining robust programs in science and education. In doing so, NSF would benefit from guidance from the ocean community on research and facilities priorities—within the limits of existing resources—for the coming decade. To achieve this community-wide insight, NSF is supporting a decadal survey of ocean sciences. This decadal survey is intended to be a first step toward a regularly recurring, community approach to setting NSF-funded ocean research priorities grounded in budget reality.

The study will encompass all areas of NSF-funded research and infrastructure related to the ocean, its interaction with human populations and its role in Earth system dynamics. As detailed in the statement of task, available at <http://bit.ly/1e8LcEX>, the resulting report will include: review of the current state of knowledge that highlights findings and technologies that have advanced basic understanding of the oceans, driven new discoveries and paradigms, or established new societal imperatives; high-level scientific questions that will be central to the ocean sciences over the coming decade and could transform scientific knowledge of the ocean; analysis of research infrastructure needed to address priority research topics or questions; analysis of the current portfolio of investments in NSF ocean science programs, with recommendations for changes to align resources as necessary to achieve priorities; and identification of opportunities for NSF to complement the capabilities, expertise and strategic plans of other federal agencies.

Within the context of current funding levels, the final report—expected in spring 2015—will recommend a strategy to “advance knowledge in the most critical and/or opportune areas of investigation while also continuing to support core disciplinary science and infrastructure.” It will address trade-offs, identify potential cost savings, assess the impact of new activities and modifications to programs, and identify opportunities for collaboration among federal agencies.

Broad community input is critical to the value and utility of the final report. The study committee's work plan specifies continuing and regular community input and engagement. We encourage you to visit the study website for future meeting dates and opportunities to be involved.

With the budget challenges OCE faces in the coming years, it is more important than ever to have a mechanism like the decadal survey to gather input from across the ocean community on the long-range priorities for ocean sciences.

David Conover is now the interim vice president for research at Stony Brook University.

Time to Chart a New Course For the Health of Our Oceans



By Norman Y. Mineta

Co-Chair, Joint Ocean Commission Initiative;

Former Secretary of Commerce, Transportation

We are an ocean nation, and it is our responsibility to ensure proper management of our ocean resources. The health of our oceans and coasts is inextricably linked to the health of our economy—whether through tourism, fishing, energy development, storm protection or transportation—as well as the quality of life for millions of coastal residents. However, expanding uses of our oceans and along our coasts, coupled with changing conditions of our climate, are putting more pressure on the oceans than ever before. Unfortunately, these pressures jeopardize the ability of our oceans and coasts to continue to provide the goods and services Americans need and enjoy.

Addressing the Problems

In early 2013 the Joint Ocean Commission Initiative, a bipartisan group of senior leaders representing diverse interests in our oceans, convened a group of more than 100 leaders representing ocean- and coastal-related industries, environmental advocacy organizations, science and educational groups, and state and federal government representatives to address concerns about these growing pressures. Informed by input from that meeting, the Joint Initiative developed and released its latest report, “Charting the Course: Securing the Future of America’s Ocean,” available at <http://t.co/8fMxoHYevQ>. The report identifies realistic and actionable recommendations for the presidential administration and Congress to implement in the next two to four years. The recommendations focus on four priority actions.

Action one is to enhance coastal communities’ and ocean ecosystems’ resiliency to dramatic changes underway in our oceans and on our coasts. The human, economic and environmental tolls of Superstorm Sandy, Hurricane Katrina and other severe weather events have been devastating. In addition to these disasters, our coastal communities and ocean-related industries are hurt by chronic changes, including sea level rise, ocean acidification and the loss of critical habitat. To address the impacts of these changing conditions, the administration and Congress must provide solutions to enhance the resiliency of our coastal communities and ecosystems. This includes supporting research to better understand and assess these changes, restoring important natural features, such as sand dunes and wetlands, and upgrading critical man-made coastal infrastructure, such as ports, roads and bridges, and wastewater treatment facilities. In addition, the Joint Initiative recommends increased support for the construction and operation of ships, buoys, cabled observatories, planes, underwater observing and monitoring hardware, and other necessary infrastructure so that we can better understand the changes underway in our oceans and protect the resources on which coastal and ocean industries rely.

Action two is to promote ocean renewable energy development and reinvest in our oceans. With

two successful offshore wind lease sales this past summer and more to come, the U.S. has an opportunity to be a leader in promoting ocean renewable energy development as a safe, environmentally responsible and economical energy source. In order to accelerate the development of offshore wind energy and other renewable energy sources, the Joint Initiative calls on the administration and Congress to provide adequate financial and tax incentives for companies working to develop these technologies. The Joint Initiative also supports the establishment of a dedicated ocean investment fund that would use a portion of the revenues from offshore commercial energy projects—including oil and gas, and wind energy—to support ocean and coastal science, management and ecosystem restoration efforts to help managers and commercial interests make the best possible decisions up and down the coasts.

Action three is to support state and regional ocean and coastal priorities. Because ocean ecosystems span jurisdictional lines, it is imperative that federal, state and tribal governments work collaboratively at a multistate or regional scale to ensure more effective ocean management. One way to increase that kind of collaboration is through regional ocean planning, which enables more effective coordination of data across jurisdictions, greater engagement of ocean and coastal stakeholders, and improved decision making about ocean and coastal resources and priority economic drivers. Private sector engagement is critical to the success of these efforts and can lead to new partnerships and opportunities, resulting in less conflict among competing uses. The Joint Initiative calls on the administration and Congress to provide additional financial and technical assistance to support the continued success of these regional efforts.

Action four is to improve Arctic research and management. The changing conditions in the Arctic will mean increased commercial activities and exploration that will impact that unique and fragile ecosystem. While this provides new economic opportunities to the region, we must ensure that such activities are carried out in a safe and responsible manner. To address this need, the Joint Initiative believes we need to make critical improvements to Arctic observing systems and infrastructure. In addition, the administration and Congress should increase funding for federal agencies such as the Coast Guard, Department of the Interior and NOAA so that commercial entities can operate safely in the region and ensure effective disaster response. While the U.S. continues exploring economic opportunities in the region, so, too, are other Arctic countries. The Joint Initiative believes that the U.S. can be an international leader in the Arctic when it assumes the chairmanship of the Arctic Council in 2015 and by acceding to the Law of the Sea Convention.

Moving Forward

From providing food for millions of Americans, to transporting goods, to being a source of clean energy, our oceans and coasts will always be integral to our country's economic stability and growth, as well as to the ecological health of the planet. If we are to ensure the long-term sustainable use of our oceans, we must manage them carefully through strong science and sound policies.

The continued health and productivity of our oceans is important to everyone. We encourage you to become engaged at the national, regional and state levels to be part of ensuring that our oceans continue to be productive and beneficial to all.

Implementing National Ocean Policy, Cleaning Up and Monitoring the Ocean



By Rep. Sam Farr (D-Calif.)

If 2012 was a tropical storm in terms of ocean funding, 2013 was a hurricane. Republicans in Congress continued to push back against the implementation of President Barack Obama's National Ocean Policy, looking at ways to defund or delay it. Additionally, the sequestration forced many ocean-related agencies to further cut their budgets. The government shutdown in October forced NOAA to temporarily close many of its programs, interrupting vital research and disrupting many local economies.

Yet, despite these obstacles, we still saw many ocean policy successes in the past year.

National Ocean Policy

The biggest ocean news of 2013 in Washington was the April release of the White House's Final Implementation Plan of the National Ocean Policy. This plan demonstrates the president's commitment to promoting the economic strength of our ocean economy while simultaneously ensuring we promote the long-term health of our greatest natural resource.

The plan does not create new regulations; instead it focuses on improving coordination between the various ocean-related government agencies at the local, state and national levels. Grounded in science, the plan takes an ecosystem-based approach to effectively manage the ocean. This science-based approach will improve our ability to plan smartly to grow our ocean economy, promote ocean health and ensure widespread access to the benefits our ocean resources have to offer. The plan also promotes the importance of coastal and ocean data collection systems to make sure that science is accurate.

Marine Debris

At the very end of 2012, President Obama signed the Marine Debris Act, legislation I offered to permanently fund NOAA's Marine Debris Program. This legislation provides the Marine Debris Program with the ongoing funding it needs to combat the 14 billion pounds of trash that end up in our ocean each year.

Additionally, the legislation redefined marine debris as any trash that ends up in our oceans, not just debris that originates from a boat. This new definition will allow NOAA to better develop strategies to reduce the amount of trash in our oceans.

With permanent funding now in place, NOAA was able to spend 2013 combating the growing threat of marine debris. The problem has had a detrimental effect on aquatic ecosystems, impacting 267 species and killing more than 100,000 marine mammals each year. Marine debris damages local economies dependent upon healthy beaches for tourism, damages marine vessels and creates numerous obstacles for the fishing industry. The problem only grew worse with

recent natural disasters including the tsunami that hit Japan and Hurricane Sandy that affected the U.S. northeast.

Ocean Acidification

This year, the increasing levels of ocean acidification have forced Congress to look for new solutions to solve the issue. Ocean acidification is the result of increased carbon emissions and land-based runoff absorbed by the ocean. The problem was not on anyone's radar 5 to 10 years ago, but thanks to a better scientific understanding, we now know it is one of the biggest threats facing our oceans. Ocean acidification is not a problem in the distant future; it is right here, right now.

Ocean acidification has already had an impact on our economy. Due to weaker shells, the \$270 million West Coast shellfish industry experienced significant production failures and near collapse. On the East Coast, the industry is reporting weaker shells as well, prompting Maine to pass a resolution that recognizes the growing problem.

I am working with other members of Congress to update the Federal Ocean Acidification Research and Monitoring Act to better deal with ocean acidification. In the meantime, we have increased funding in fiscal year 2013 to tackle the issue and plan even more funding for fiscal year 2014.

What Lies Ahead

With rising levels of ocean acidification, growing amounts of marine debris and numerous other threats facing our oceans, 2014 will be a crucial year in the effort to better manage our marine environments. The best tool we have to fight these threats is through Obama's National Ocean Policy.

For too long, the management of our oceans was handled by a confusing and often competing mix of federal agencies. This plan finally gets all of the relevant federal agencies on the same page, allowing them to coordinate their missions and provide for more efficient stewardship of our oceans. It also opens the lines of communications between the federal government and the states and local communities that are directly impacted.

This is where the real strengths of the National Ocean Policy lie. As we move the discussion away from the politically charged atmosphere of Washington to the regions where true implementation can occur, our country will begin to feel the real effects of the new policy.

By working together and taking a holistic, science-based approach to the management of our marine ecosystems, we will not only build a stronger economy now but will ensure the oceans' long-term sustainability to benefit future generations.

I look forward to continue working to implement President Obama's plan in 2014 and beyond.

The Year of the Government Shutdown And Beyond



By Randall Luthi

President, National Ocean Industries Association

In October, all eyes were focused on Washington as the drama over the government shutdown, defunding of the Affordable Care Act and raising the debt limit played out. With approximately 800,000 federal workers, the two-week government shutdown was a big deal in Washington, but not so big offshore.

While a prolonged government shutdown could have had serious consequences for the offshore oil and gas industry, the two-week shutdown appeared to have little impact. Offshore permitting was apparently minimally affected, and overall exploration for oil and gas continued pretty much unabated.

Regulations

However, there are regulations in the works that have been delayed by the government shutdown, including new requirements for blowout preventers, and new standards for oil and gas activity in U.S. Arctic waters, which the Bureau of Safety and Environmental Enforcement's (BSEE) now says will not be unveiled until early 2014. Of course, from industry's perspective, delayed regulations are not always a bad thing; indeed, industry trade groups, including the National Ocean Industries Association (NOIA), successfully petitioned BSEE for an extension of the initial comment period on the proposed offshore production safety systems rule.

Likewise, industry was successful in obtaining more time to comment on the U.S. Coast Guard's advanced notice of proposed rulemaking on Safety and Environmental Systems (SEMS) regulations for vessels. BSEE's own SEMS regulations, which extend beyond operating companies to offshore contractors as well, are already being strictly enforced. In November 2012, a dozen producers were cited for not complying with the regulations—five of those were ordered to shut down operations until compliance could be verified.

National Ocean Policy, MSP

In summer 2013, the Barack Obama administration released a "Guide to Regional Marine Planning." A key National Ocean Policy (NOP) tool in the marine planning handbook is coastal marine spatial planning (CMSP). The stated aim is for ocean users and federal regulators to spend less time contemplating the where and focus instead on the when. In principle, it sounds good. However, the reality is more complex.

Technically, almost all of the Outer Continental Shelf (OCS) has been available for energy exploration and development since 2008, when moratoria were allowed to lapse. However, exploration and development cannot occur without federal approval, which is generally granted

through five-year OCS oil and gas leasing under the Outer Continental Shelf Lands Act. The last five-year plan covered 2007 to 2012 and was developed before the entire OCS was technically open. In 2012, the administration had the opportunity to include much more of the OCS in the 2012 to 2017 leasing plan, yet decided to leave more than 85 percent of the OCS closed to oil and gas exploration and development. The entire Atlantic, Pacific and eastern Gulf of Mexico remain locked down tight.

There is legitimate concern that CMSP is biased against oil and natural gas as resources for much of the oceans. This concern is compounded since there is not a good understanding of the potential location or extent of oil and natural gas reserves throughout much of the OCS. There has not been any geological and geophysical work, including seismic surveys, done in more than 85 percent of the OCS for more than 20 years. Since that time, technological advancements have rendered previous findings of limited use. Yet, despite that lack of knowledge, regional councils under the NOP can zone off entire areas. Thus, industry should be concerned that, if misused, CMSP could serve as a political tool to hinder commercial development of ocean resources, including offshore energy.

Seismic Surveys

The Department of the Interior (DOI) is completing an environmental impact statement (EIS) on Atlantic seismic activities. Originally scheduled for the fall of 2012, the decision has been delayed until 2014. A decision is critical because DOI is expected to begin work on the 2017 to 2021 leasing plan in 2014. Interior Secretary Sally Jewell has said that the decision to include new areas in the plan will depend on what is known about the resource potential. This creates a Catch-22 situation. Continued delays of the EIS could result in the Atlantic being left out of the planning process.

Some environmental groups have targeted seismic operations, with the goal of stopping all oil and gas development. Oceana has a campaign in place to stop seismic surveys in the Atlantic. Frankly, the science does not support its position. History shows that seismic surveys can be done safely with great deference to ocean ecosystems. Industry has been performing seismic surveys around the world for decades, and there has never been a documented case where sound from a seismic survey has caused the death of an animal.

A report by the National Academy of Sciences' National Research Council stated that: "No scientific studies have conclusively demonstrated a link between exposure to sound and adverse effects on a marine mammal population."

Hydraulic Fracturing

A new and similar attack is underway regarding the use of hydraulic fracturing offshore California. Hydraulic fracturing has been used safely for decades by oil and natural gas companies to increase and enhance production of oil and natural gas both onshore and offshore. This is not a new technology. On the contrary, it is well-understood by industry and is carefully monitored and regulated by the U.S. government—namely, BSEE, the Bureau of Ocean Energy Management and the Environmental Protection Agency.

Ironically, one of the reasons hydraulic fracturing is being used offshore is because new

exploration is prohibited, and everything is being done to squeeze the last drops out of existing wells. There is no new exploration taking place anywhere in federal waters off the Pacific Coast of the United States, and there has not been for more than 30 years.

Offshore Access

The good news is that there was movement in 2013 on offshore access. Both the U.S. Senate and the House passed similar versions of the U.S.-Mexico Transboundary Agreement, and it seems possible that partisanship may be pushed aside to continue our economic relationship with Mexico and open more than 1.5 million U.S. acres. There are ongoing negotiations to hopefully resolve the Dodd-Frank provision regarding payments to federal governments.

The House also passed a bill providing sales in the Atlantic, Eastern Gulf of Mexico, Pacific and offshore Alaska. While this is not new, what is new is that the state delegations from Virginia and South Carolina also have bills providing for sales off their coasts. The Senate has not been cooperative to date, but there is hope in that chamber. Sens. Mary Landrieu (D-La.) and Lisa Murkowski (R-Alaska) introduced a revenue sharing bill, which would increase the amount of revenues to be received by coastal states. This bill holds the possibility of being amended to open up more areas offshore in order to increase revenues.

Conclusion

America's energy revolution has created an economic boon for families and business all across America. We stand on the brink of being a world leader in oil and natural gas production. Our offshore resources can make that potential a reality. The federal government should recognize the extraordinary potential that lies off our shores. With the right energy strategy that opens up our vast energy resources in the OCS, we can achieve energy security and create good jobs, all while addressing our national deficit in the process.

Speaking of the national deficit, we will soon have another opportunity to watch Congress duke it out over the debt-limit ceiling and another possible government shutdown. The government is funded through January 15, and we will hit the debt-limit ceiling again around February 5. At the very least, it will be interesting to watch.