

Report to the U.S. Congress on the
National Oceanographic Partnership Program
Fiscal Year 2012



Contents

| | |
|--|----|
| I. Executive Summary | 1 |
| II. Introduction..... | 2 |
| III. Partnership Case Study: The NOPP <i>Excellence in Partnering</i> Award..... | 3 |
| IV. NOPP Investment Profile..... | 4 |
| V. Fiscal Year 2012 Activities | 5 |
| VI. Planned Fiscal Year 2013 Activities | 9 |
| VII. Fiscal Year 2014 Plans | 11 |
| VIII. Summary | 11 |
| Appendix I. NOPP History..... | 12 |
| Appendix II. Development and Process for NOPP-Funded Research | 13 |
| Appendix III. Spotlight on Partnerships: Cornell Bioacoustics Research Program | 14 |
| Appendix IV. Acronyms and Abbreviations | 15 |

I. Executive Summary

The National Oceanographic Partnership Program (NOPP) marked its 15th year in Fiscal Year (FY) 2012. NOPP continues to forge interagency and multi-sector cooperation through cross-cutting research and education projects supported by the Federal government and non-Federal funders alike. In accordance with its enabling legislation (PL 104-201) and codification (10 USC 7901-7903), NOPP promotes the national goals of assuring national security, advancing economic development, protecting quality of life, and strengthening science education and communication through improved knowledge of the ocean. NOPP also serves as a forum for the development and advancement of interagency initiatives and priorities that cut across agency missions and multiple disciplines.

The NOPP Office, sponsored through a contract from the Office of Naval Research to the Consortium for Ocean Leadership, supports a variety of interagency activities: all meetings and intercessional activities of the Interagency Working Group on Ocean Partnerships (IWG-OP), the IWG-OP's Biodiversity Ad Hoc Group, the IWG-OP's Federal Renewable Ocean Energy Working Group, the Interagency Working Group on Facilities and Infrastructure (IWG-FI), the IWG-FI's Subcommittee on Unmanned Systems, and the Ocean Research

Advisory Panel (ORAP). ORAP, the Nation's only Federal Advisory Committee Act committee whose scope covers the full spectrum of ocean science, education, and resource management topics, continues to provide advice and guidance to the National Ocean Council. The latest five year contract for the NOPP Office ended in spring 2013, and the competitive process for awarding the next contract is in progress. In FY 2012, NOPP-Managed activities totaled \$2.42M.

In FY 2012, partner agencies continued to support the National Ocean Sciences Bowl (NOSB), created through NOPP in 1998 in honor of the International Year of the Ocean. Over 25 regional competition sites, over 400 schools, and more than 2,000 student competitors nationwide make up the competition. The NOSB has shown through a longitudinal study that the majority of students who compete in the program enter a college program or career in a Science, Technology, Engineering and Mathematics (STEM) field—a benefit to all NOPP agencies and the Nation. The current five year contract for the NOSB ended December 31, 2012; moving forward NOSB will be funded by yearly grants.

At its core, the NOPP serves to foster both interagency partnerships and partnerships across sectors, including government, academia, and industry. NOPP activities continue to complement and support national ocean research objectives, including implementation of the National Ocean Policy. Additionally, the program maintains its pursuit of exciting and novel areas of ocean research, through its emphasis on partnerships.

II. Introduction

During Fiscal Year (FY) 2012, the National Oceanographic Partnership Program (NOPP) focused on forging new partnerships and strengthening existing partnerships to build upon its foundation of coordinated, extramural scientific research.

Many NOPP Office-supported interagency working groups contribute toward implementation of the National Ocean Policy, by providing forums for coordination and partnership across agencies. Notably, a number of agencies have recently engaged in NOPP activities for the first time, enabling broader coordination and partnerships in the important domain of ocean research and education.

The NOPP Office also continues to participate in scientific conferences and project review meetings. In FY 2012, NOPP Office staff attended the 2012 Ocean Sciences Meeting in Salt Lake City, UT, where a presentation about the NOPP program was included in a session on the critical importance of community building in the ocean sciences. An exhibit booth was maintained by NOPP personnel

during the conference as a means of advertising the program within the ocean science community. Not only is building new relationships important to the oceanographic community and to NOPP, but so is maintaining existing ones. Approximately 30 NOPP-funded scientists presented papers at the 2012 Ocean Sciences Meeting, providing an excellent venue to be reacquainted with these existing partners and showcase NOPP-funded research.

In recognition of strong partnerships within the oceanographic research community, NOPP presented the *Excellence in Partnering Award* to the research team of the *Exploration and Research of Northern Gulf of Mexico Deepwater Natural and Artificial Hard Bottom Habitats with Emphasis on Coral Communities: Reefs, Rigs, and Wrecks* (also known as *Lophelia II*) project. The annual award is given to the research team of an ongoing or recently completed NOPP project that best demonstrates the partnership objectives of NOPP and recognizes the project's commitment to partnering, the success of its partnership effort, and the impact of the established partnership on oceanography.

This *FY 2012 Report to Congress* documents the central role of the NOPP in building partnerships and implementing interagency ocean research activities, summarizes the NOPP Office-supported committees' activities and investments for FY 2012, and presents NOPP activities planned for FY 2013.

III. Partnership Case Study: The NOPP *Excellence in Partnering* Award

The research team of the NOPP-funded project *Exploration and Research of Northern Gulf of Mexico Deepwater Natural and Artificial Hard Bottom Habitats with Emphasis on Coral Communities: Reefs, Rigs, and Wrecks*¹ (also known as *Lophelia II*) was the recipient of the 2011 NOPP *Excellence in Partnering* Award. The project was nominated for the NOPP *Excellence in Partnering* Award by the Bureau of Ocean Energy Management (BOEM) for its exceptionally diverse partnerships between scientists, graduate students, technicians, public outreach professionals, and industry professionals from three federal agencies, 11 private companies, and five universities. In addition to the partnerships at the research project level, two contributing NOPP agencies partnered with BOEM to support the *Lophelia II* project:² the National Oceanic and Atmospheric Administration (NOAA), and the U.S. Geological Survey.

The four-year project, led by Dr. Charles Fisher from Pennsylvania State University and Dr. James Brooks from TDI Brooks International, Inc., was the first scientific study dedicated to researching deep-sea corals specifically near sites of actively producing oil and gas platforms in the Gulf of Mexico. In July 2012, during the last cruise for the project, the



Agency sponsors and awardees of the NOPP Excellence in Partnering Award, from left to right: Tim Arcano, NOAA; Walter Johnson, BOEM; Craig McLean, NOAA; Chuck Fisher, Pennsylvania State University (Awardee); Jim Brooks, TDI-Brooks, Inc. (Awardee); and Greg Boland, BOEM.

research team discovered *Lophelia* coral growing deeper than previously seen anywhere in the Gulf of Mexico. This new knowledge will provide critical management data for their protection in the future.

Additionally, because of the success of this partnership, the research team was able to leverage additional funding and receive a National Science Foundation RAPID grant, to quickly respond to the Deepwater Horizon Oil Spill in the Gulf of Mexico. The team researched the effects of the oil spill on the deep-sea corals and was able to compare it to their long term dataset.

“It has been a pleasure and an honor to be part of this multidisciplinary project that is using great basic science to significantly increase our understanding of the deep Gulf in fundamental ways,” said Charles Fisher, *Lophelia II* Co-Principal Investigator and Professor of Biology at Pennsylvania State University. “The research will help resource managers to protect these ecosystems and the biodiversity they harbor for future generations.”

¹ For more information, visit: <http://www.nopp.org/funded-projects/fy2008-projects-funded-under-nopp/rfp-reefs-rigs-and-wrecks/#james-brooks>.

² Articles corresponding to this research can be found at: <http://www.oceanleadership.org/2012/joint-boem-noaa-usgs-mission-discovers-record-depth-for-lophelia-coral-on-gulf-of-mexico-energy-platforms/> and <http://oceanexplorer.noaa.gov/explorations/12lophelia/welcome.html>.

IV. NOPP Investment Profile

Overall fiscal investment in NOPP has increased since its inception in 1997 and can best be described in terms of NOPP-Funded Activities and NOPP-Related Activities. NOPP-Funded Activities are those that are either solicited or managed by NOPP and involve support *from two or more agencies*. NOPP-Related Activities are those that are funded primarily *by a single agency* in response to activities conducted by NOPP entities.

NOPP-SOLICITED ACTIVITIES

The amount of dollars spent in each fiscal year for NOPP-Funded Activities from FY 1997-2012 is shown in Figure 1 and includes the subcategories of Solicited Projects and Managed Activities (dollar amounts in Millions). No new solicited NOPP funding opportunities took place in FY 2012. Prior to FY 2012, the cumulative investment over the life of NOPP reached \$549M.³

NOPP-MANAGED ACTIVITIES

FY 2012 NOPP-Managed Activities include single agency expenditures to support the NOPP Office and the National Ocean Sciences Bowl. Funding for managed activities has grown from \$0.6M in FY 1997 to \$2.42M in FY 2012 (Figure 1). The cumulative expenditure for these activities is \$39.6M over the history of the program.

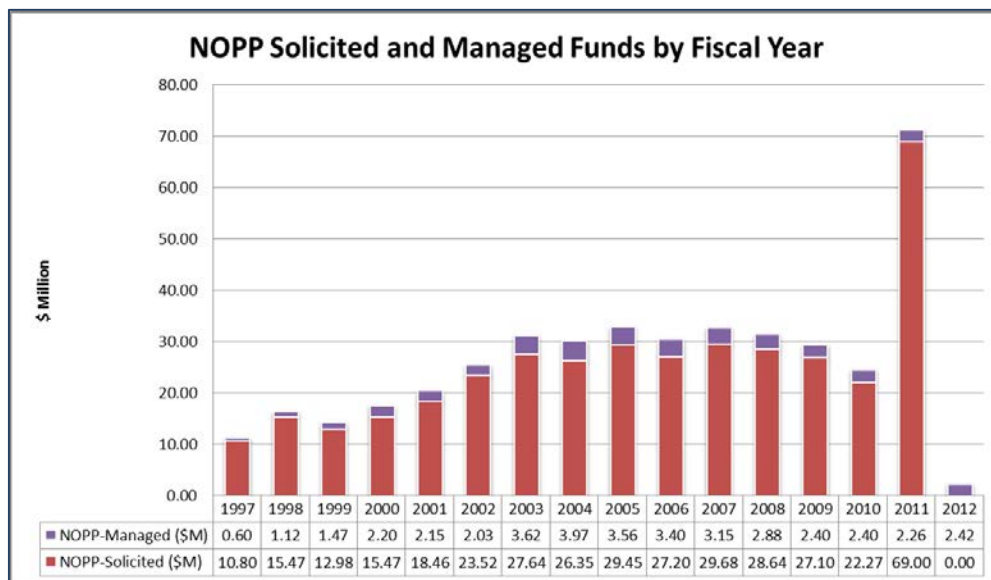


Figure 1. FY 1997-2012 investment in NOPP-Funded Activities, including both NOPP-Solicited Projects and NOPP-Managed Activities. Note that the dollar amounts shown are those budgeted annually; out-year commitments are not shown. The increase in FY 2011 solicited funds was due to a new partnership with the Integrated Ocean Observing Program.

³ FY 2012 Annual Reports from ongoing NOPP-funded research projects can be found here: <http://www.nopp.org/wp-content/uploads/project-reports-cdrom/program/byFY.htm>.

V. Fiscal Year 2012 Activities

NOPP-MANAGED ACTIVITIES

National Ocean Sciences Bowl (NOSB®)

In FY 2012, the NOPP agencies, committed to increasing ocean literacy, continue to sponsor the NOSB program. Since its inception, the program has grown to include 25 regional competition sites with more than 400 schools and over 2,000 student competitors participating annually. The 2012 Finals competition was held from 19-22 April in Baltimore, MD. The theme of the 2012 competition was *A Sea of Change: Development and Evolution*. Scientists from around the country contributed to the theme by guest speaking, presenting in a virtual seminar, and writing questions for the competition. Students participated in a variety of field trips, including a behind the scenes tour of the National Aquarium in Baltimore.

| 2012 NOSB Finals Competition Winners | |
|--------------------------------------|---|
| 1st Place | Marshfield High School – Marshfield, WI |
| 2nd Place | Raleigh Charter High School – Raleigh, NC |
| 3rd Place | Eastside High School – Gainesville, FL |
| 4th Place | Lexington High School – Lexington, MA |
| 5th Place | Santa Monica High School – Santa Monica, CA |
| 6th Place | Maui High School – Maui, HI |
| 7th Place | Albany High School – Albany, CA |
| 8th Place | Loveland High School – Loveland, CO |

The team from Ledyard High School of Ledyard, Connecticut was awarded the James D. Watkins Sportsmanship Award for demonstrating outstanding sportsmanship throughout the competition.

For the second year, the Finals competition featured the *Scientific Expert Briefing* (formerly called *Policy Briefing*), and the topic was Marine Renewable/Alternative Energy. Teams were required to submit a written report to the NOSB National Office in advance and during the competition the teams presented their report orally to a panel of judges. Each team presented their team consensus recommendations to “Congress,”

representing a specific scientist or professional at each of five stakeholder institutions. The total *Scientific Expert Briefing* score included assessment of the written report, verbal testimony, and responses to the judges’ questions and was combined with each team’s overall Round Robin score to determine which teams advanced to Double Elimination. The top scoring *Scientific Expert Briefing* team (Lexington High School from Massachusetts) received a special trophy in recognition of their efforts.

As 2012 was the 15th year of NOSB, a special appreciation went out to the community of Regional Coordinators, supporters, and volunteers, and highlighted individuals who have participated in the program for ten or more years. Many of these long-time contributors were or are currently employees of NOPP agencies.



Marshfield High School winners, with coach Paul Herder (far left) and Consortium for Ocean Leadership President and CEO Bob Gagorian (far right). Agency sponsors and awardees of the NOPP Excellence in Partnering Award, from left to right:

In 2012, NOSB launched the Ocean Sciences Quiz,⁴ an online game that simulates the NOSB competition. Individuals can compete against the clock or against each other if using the same computer. A future phase will allow players on different computers to compete against other players. This exciting new tool allows NOSB to reach a broader audience regardless of age or geographic location.

NOSB completed its fourth *Living on the Ocean Planet* video contest this year in partnership with the National Marine Educators Association (NMEA). NMEA selected and awarded prizes to regional winners, from which the top three national winners were selected. A team of students from Thomas Jefferson High School for Science and Technology in Virginia was the winners with a video entitled *From Cells to Saviors*. The 2nd and 3rd place teams were from Marine Academy of Science and Technology (NJ) and Marine Academy of Technology and Environmental Science (NJ), respectively. The winning video will be posted on the Smithsonian's Ocean Today Kiosks and all submissions are posted on the NOSB's YouTube Channel.⁵

NOSB continued to implement a longitudinal study to better track NOSB alumni that are now in college or have begun a career in the ocean sciences. In addition to tracking students' majors and how NOSB influenced their college or academic choices, the annual survey also includes questions that address current career paths, given many NOSB alumni have graduated and entered the workforce. Separate studies have been conducted on the impact of the NOSB program on coaches and how the program reaches beyond the teams competing and into the classrooms. In 2012, a five-year cumulative report was released and can be found, along with past study reports, on the NOSB website.⁶

The NOSB bi-annual newsletter, *The Ocean Gyre: Keeping Current with the National Ocean Sciences*

⁴ To play the Ocean Sciences Quiz, visit: <http://osq.mit.edu/>.

⁵ NOSB's YouTube channel is: (<http://www.youtube.com/user/theNOSB>).

⁶ NOSB's main website is www.nosb.org.

*Bowl*⁷ allows the NOSB program to stay better connected with alumni and NOSB's national network of volunteers.

In preparation for the 2013 NOSB competitions, the annual Regional Coordinators meeting was held in Milwaukee, WI, in September 2012.

NOPP Office

The NOPP Office, sponsored through a contract from the Office of Naval Research (ONR) to the Consortium for Ocean Leadership, supported many interagency activities during FY 2012. All meetings and intercessional activities of the Interagency Working Group on Ocean Partnerships (IWG-OP), the IWG-OP's Biodiversity Ad Hoc Group and the Federal Renewable Ocean Energy Working Group (FROEWG), the Interagency Working Group on Facilities and Infrastructure (IWG-FI), the IWG-FI's Subcommittee on Unmanned Systems (SUS), and the Ocean Research Advisory Panel (ORAP) were supported by NOPP Office staff. Additionally, the NOPP Office staff members served as liaisons to other interagency groups and committees within the ocean governance structure.

Outreach efforts undertaken in FY 2012 include representing NOPP at 2012 Ocean Sciences Meeting in Salt Lake City, UT and at the Global Marine Renewable Energy Conference in Washington, DC. At the Ocean Sciences Meeting, the NOPP Program Specialist gave a presentation about how NOPP builds a community through collaboration with federal agencies, academia, and industry, in an effort to educate the audience about the program.

To engage better with NOPP-funded scientists, the NOPP Program Specialist attended the annual meeting of the principal investigators researching the NOPP-funded topic: *Improving Tropical Cyclone Intensity Forecasting with Theoretically-Based Statistical Models*. The meeting took place at the University of Miami's Rosenstiel School of Marine and Atmospheric Science. All of the presentations

⁷ The latest issue is available online: <http://www.nosb.org/2012/ocean-gyre-issue2-june2012/>

from this meeting are highlighted on the NOPP website.⁸

Another method of engaging with NOPP-funded scientists is to highlight their research on the NOPP website, which is continuously maintained with current news, publications, and information (www.nopp.org). A Spotlight on Partnerships featured an interview conducted with the Cornell Bioacoustics Research Program that highlighted how the Cornell team learned about NOPP and their continued participation in the program.⁹ The NOPP Office also worked to reach a wider public audience through the use of social media platforms, such as Twitter and Facebook.

NOPP Interagency Interactions

Interagency partnerships are a central tenet of NOPP. Participation varies based on individual agency mandates, missions, and interests. This year many interagency working groups saw increased participation and a renewed interest in the topics on which they focus their efforts. For example, the IWG-OP hosted two meetings at federal offices to better engage with the federal community. The following section is a summary of activities of the NOPP Office-supported working groups.

Interagency Working Group on Ocean Partnerships

The IWG-OP forum allows agencies to explore innovative areas of ocean research and develop new partnership opportunities. The IWG-OP's partnerships and collaborations across the federal ocean community advanced ocean science and resource management missions of the member agencies. In efforts to increase participation among ocean-mandated agencies, the IWG-OP hosted two meetings at federal offices. The first meeting was held at the NOAA offices in Silver Spring, MD.

⁸ Presentations from the Tropical Cyclone annual meeting can be found at: <http://www.nopp.org/2012/national-oceanographic-partnership-program-nopp-tropical-cyclone-principal-investigators-meeting-at-the-university-of-miami-1-2-march-2012/>.

⁹ The full interview can be found in Appendix III of this report and online: <http://www.nopp.org/2012/spotlight-on-partnerships-cornell-bioacoustics-research-program/>.

Representatives from various program offices within NOAA – Office of Exploration and Research, the U.S. Integrated Ocean Observing System, Unmanned Aircraft Systems, National Weather Service, National Environmental Satellite, Data, and Information Service, the Ocean Acidification Program, and the National Ocean Service participated in the meeting to discuss how IWG-OP can better engage with NOAA. In spring of 2012, the IWG-OP met at the Department of the Interior (DOI) to discuss partnership opportunities with various DOI Bureaus. Attendees included staff members of the BOEM, Bureau of Safety and Environmental Enforcement, National Park Service, Bureau of Land Management, U.S. Department of Interior Oceans, Coasts, and Great Lakes Activities Office, and U.S. Fish and Wildlife Service. Both of these meetings resulted in new partnerships and an increase in IWG-OP participation.

The IWG-OP Biodiversity Ad Hoc Group continued to share various biodiversity related interagency activities in FY 2012. A continuing focus of the group was increasing the effectiveness of Federal biodiversity data management to enable better tracking of biodiversity status and trends.

The FROEWG met bi-monthly and continued to facilitate interagency collaboration, identify information needs, and jointly support research necessary to enhance the regulatory process for siting and deploying renewable ocean energy technologies. These meetings have provided valuable opportunities to obtain feedback from participating agencies regarding specific research projects and served as a platform to discuss policy issues and the potential for future joint research funding opportunities to support ocean renewable energy. The group met to exchange information, coordinate meetings and workshops, review supported research, and identify new research needs, opportunities, and other relevant projects to assure that work was complementary across agencies.

In early FY 2012, the Department of Energy (DOE) continued to produce the publically-broadcasted Marine and Hydrokinetic environmental webinar

series that was initiated and informed by the FROEWG in FY 2011.¹⁰

Interagency Working Group on Facilities and Infrastructure

In FY 2012, the IWG-FI's Task Force on Unmanned Systems was transitioned to a standing subcommittee at the beginning of 2012. The Subcommittee on Unmanned Systems (SUS) has been focused on completing a Federal Unmanned Systems Status, Issues, and Recommendations document. The document provides recommendations focused on maximizing coordination and promoting efficiencies within the Federal unmanned systems community. Upon completion and approval of the document, the group plans to begin drafting an accompanying implementation plan detailing how to carry out the recommendations. At each of their meetings, the group heard briefs about related activities from various agencies working on unmanned systems, including the Interagency Committee for Aviation Policy from the General Services Administration, the Navy's Unmanned Undersea Vehicles program, and the Federal Aviation Administration's Unmanned Aircraft Systems program. The purpose of these briefs is to engage the broader unmanned systems community in the activities of the SUS and to encourage their participation.

The Federal Oceanographic Fleet Working Group was established to update the Federal Oceanographic Fleet Status Report¹¹, which was last produced in FY 2007. The updated report was released in May 2013, and is described under Fiscal Year 2013 activities.

The IWG-FI also created the Fleet Schedule Portal Working Group to establish a federal fleet schedule portal. The purpose of the Fleet Schedule Portal is

to provide access to the Federal oceanographic fleet schedules in a single location with information about each vessel's locations, mission capabilities, and principal investigator contact information. The goal is to maximize fleet utilization and improve efficiency by providing potential users with the information they need to share ship time when possible. A Phase 1 implementation of the Fleet Schedule Portal was launched in June 2012. A more detailed Phase 2 implementation includes the University-National Oceanographic Laboratory System creating a website that will make visible the ship schedules of the federal agencies, including a map displaying ship locations, dates, and points of contact. The project start date is August 2013, and the expected completion date is February 2014.

Ocean Research Advisory Panel

ORAP, the nation's only Federal Advisory Committee Act committee whose scope covers the full spectrum of ocean science, education, and resource management topics, continued to provide advice and guidance to the NOC. ORAP met once in FY 2012, 15-16 August 2012 in Washington D.C.

Prior to the August meeting, ORAP received specific agenda topics and requests for advice and guidance from the NOC through the Department of Defense (DOD). The three key issues currently under ORAP consideration are *Implementing Ecosystem Based Management*, *Balancing Ocean Infrastructure with Ocean Research*, and *Leveraging Ocean Education Opportunities*. A report will be completed by ORAP for each of these topics; to prepare for these deliverables, ORAP heard briefings on all three topics during the August 2012 meeting. During the August meeting, ORAP also approved the report of the 2011 Ocean Renewable Energy Workshop entitled *Offshore Renewable Energy: Accelerating the Decision Making Process*. This report was subsequently transmitted to the NOC.¹²

¹⁰ Video recordings and presentations from those webinars, as well as those that aired in FY 2011, are hosted on DOE's Pacific Northwest National Lab environmental database (http://mhk.pnnl.gov/wiki/index.php/DOE_MHK_Webinar_Series).

¹¹ The FY 2007 Fleet Status Report is posted online at: <http://www.nopp.org/wp-content/uploads/2010/03/IWG-F-Fleet-Status-Report-Final.pdf>.

¹² The full report can be found online: http://www.nopp.org/wp-content/uploads/2010/03/ORE_Report_FINAL882012.pdf.

VI. Planned Fiscal Year 2013 Activities

NOPP agencies and working groups are continuing to contributing toward extramural funding opportunities, implementation of the National Ocean Policy, and other activities to foster interagency partnerships and coordination.

NOPP-FUNDED ACTIVITIES

Planning for NOPP-funded activities for FY 2013 is underway and discussed further in the following section.

NOPP-Solicited Projects

Agencies have been and continue to collaborate to formulate funding announcements. Table 1 shows anticipated agency commitments from five NOPP member agencies to new NOPP-Solicited activities in FY 2013.

| Agency | New FY 2013 funding |
|--------|---------------------|
| ONR | \$3.0 Million |
| BOEM | \$1.3 Million |
| NOAA | \$2.3 Million |
| NSF | \$0.2 Million |
| DOE | \$2.0 Million |

Table 1: FY 2013 anticipated agency commitments to new FY 2013 NOPP-Funded activities. All dollar amounts are in millions. Amounts are as requested in the President's FY 2013 Budget and are subject to final FY 2013 appropriations.

NOPP-Managed Activities

National Ocean Sciences Bowl

The 2013 NOSB National Finals Competition was held in Milwaukee, WI, from April 18-21, with the theme *The Great Lakes: A Window into Freshwater Science*. This allowed students to explore not only ocean processes but also the connections with and impacts of freshwater to the ocean. As in the past, the theme played a significant role in the competition questions, prizes, field trip

destinations, and keynote speakers. NOSB Finals continued to include the *Scientific Expert Briefing*.

Other plans for the academic year include the *Living on the Ocean Planet* video contest, in partnership with NMEA, upgrades to the online Ocean Sciences Quiz, and the development of an ocean science opportunities booklet. The booklet will highlight the internship, education, and career opportunities that NOSB sponsor institutions and organizations offer to high school, college, and graduate students.

The current five year NOSB contract ended December 31, 2012, after which NOSB funding will be on an annual basis.

NOPP Office

For the first half of FY 2013, the NOPP Office supported interagency committees, including the IWG-OP, the IWG-OP Biodiversity Ad Hoc Group and FROEWG, the IWG-FI, the IWG-FI SUS, and will also continue to support ORAP.

As noted previously, the latest five year NOPP Office contract expired in spring 2013. The competitive process for awarding the next contract is in progress.

NOPP Interagency Interactions

In FY 2013, NOPP continues to work with the appropriate ocean governance structures, including the NOC. FY 2013 activities are described below.

Interagency Working Group on Ocean Partnerships

The IWG-OP continues to meet monthly. The December 2012 meeting was a special celebration of the Argo Program's collection of its one-millionth profile of Temperature and Salinity below 1,000 meters.¹³ Beginning in 1998, for its first twelve years, Argo was a NOPP Program. The Argo Program was initiated to provide global ocean observations for a better understanding and prediction of climate variability. Profiling floats drift the world's ocean collecting continuous profiles of the ocean.

¹³ To visit Argo's website and see the location of all profiling floats, go to: <http://floats.pmel.noaa.gov/>.

Efforts are also continuing along the IWG-OP's strategic planning and implementation process, including in support of the National Ocean Policy. The IWG-OP is currently developing solicitations for FY 2013 and beyond, with potential research topics including: environmental effects of marine and hydrokinetic devices, monitoring the marine Arctic ecosystem using gliders and models, and improving air-ocean-land-ice global coupled prediction models. Additionally, the Task Force on Ocean Exploration and Undersea Research Technology and Infrastructure has been established to fulfill the directives of PL 111-11, Title XII-Oceans, Subtitle A-Ocean Exploration, Part I- Exploration, Section 12004 (33 USC 3405).

The IWG-OP Biodiversity Ad Hoc Group meets quarterly. Discussions are taking place to draft and develop a future funding opportunity on establishing a Marine Biodiversity Operational Network that may be released in FY 2014. The group will continue to inform participating agencies on biodiversity related topics.

The FROEWG meets bimonthly to support National Ocean Policy implementation and develop additional funding announcements that could be initiated in FY 2013 and/or FY 2014.

Interagency Working Group on Facilities and Infrastructure

The IWG-FI continues to meet regularly. In May 2013, the IWG-FI's update of the Fleet Status Report was released, providing information on the current status of the Federal oceanographic research fleet, addressing challenges to maximizing fleet utilization, and providing suggestions on how to effectively plan for a right-sized fleet in the future in order to meet national oceanographic research needs. The report is posted at <http://www.whitehouse.gov/blog/2013/05/28/snaphot-our-nation-s-scientific-ocean-vessels>. In FY 2013, Phase 2 of the Fleet Schedule Portal will begin, contributing toward implementation of the National Ocean Policy actions. The IWG-FI also plans to begin work on a companion implementation plan for the SUS' Status, Issues, and Recommendations document.

In FY 2013, the SUS plans to continue scheduling updates from agencies with an unmanned systems tasking and hear mission updates to help keep the community engaged and help guide the development of the SUS implementation plan.

Ocean Research Advisory Panel

ORAP will continue to provide independent advice and guidance to the NOC via reports on *Implementing Ecosystem Based Management*, *Balancing Ocean Infrastructure with Ocean Research*, and *Leveraging Ocean Education Opportunities*, as requested by the NOC and DOD. These topics were the focus of a meeting that took place on 14 and 16 January 2013 in Washington, D.C. ORAP met on 21, 22 May 2013 in Arlington, VA and plans to meet on 21, 22 August 2013 in the Washington, D.C. region.

VII. Fiscal Year 2014 Plans

Funding levels and associated programmatic issues for FY 2014 are not yet firmly established. The IWG-OP agencies anticipate NOPP contributions to be comparable to those expected in FY 2013 and anticipate supporting interagency collaborations and extramural research partnerships, including implementing the National Ocean Policy.

VIII. Summary

In its 15th year, NOPP continues to serve as an efficient mechanism for implementing productive ocean partnerships among Federal agencies, industry, and academia, supporting interagency working groups focused on key ocean research and education issues, and supporting implementation of the National Ocean Policy. The IWG-OP, through NOPP, will continue to be a forum for identifying areas of ocean science research and education that are important to a diverse group of partners and that would benefit from a collaborative research approach.

Appendix I. NOPP History

In accordance with its enabling legislation (PL 104-201)¹⁴, the National Oceanographic Partnership Program (NOPP) promotes the national goals of assuring national security, advancing economic development, protecting quality of life, and strengthening science education and communication through improved knowledge of the ocean. NOPP is an effective forum for the development of new interagency initiatives and priorities that transcend single agency agendas.

The ocean governance structure within which the NOPP operates has evolved over time. During FY 2010, the National Ocean Council (NOC) was established and, for efficiency of government functions, assumed the duties of the National Ocean Research Leadership Council. At that time, the National Science and Technology Council's existing Subcommittee on Ocean Science and Technology (SOST) began a dual role, also serving as the Ocean Science and Technology Interagency Policy Committee of the NOC. NOPP has transitioned into this new ocean governance structure, as the NOC is serving the role of the NOPP governing body.

In support of the NOPP legislation, an interagency working group was formed in FY 1998 to identify partnerships and foster the program. This group has also evolved through several administrations and ocean governance structures and is now known as the Interagency Working Group on Ocean

Partnerships (IWG-OP) under the SOST. The objective of the IWG-OP is to achieve improved efficiency in the planning, programming, and execution of projects resulting from ocean agency partnerships that address topics of mutual and emerging interest. The IWG-OP assists in planning for future ocean science and technology, administratively and fiscally. Under the guidance of the IWG-OP, NOPP continues to make progress on these four strategic goals:

1. Continue and expand ocean partnership dialogues;
2. Sponsor ocean partnership activities;
3. Identify and remove obstacles and disincentives to ocean partnerships; and
4. Facilitate opportunities for dialogue with the nation's leadership.

The National Ocean Sciences Bowl (NOSB) was created through NOPP in 1998 in honor of the International Year of the Ocean. NOPP partner agencies continue to support the program today, which has grown to over 25 regional competition sites, with over 400 schools and over 2,000 student competitors participating each year. The NOSB has shown, through a longitudinal study that the majority of students who compete in the program enter a college program or career in a STEM field that is of interest to all NOPP agencies.

The NOPP Office provides administrative and meeting support to the IWG-OP. Today the IWG-OP contains two subgroups, which the NOPP Office also supports: the Federal Renewable Ocean Energy Working Group and the Biodiversity Ad Hoc Group. Additionally, the NOPP Office provides administrative and meeting support to the SOST's Interagency Working Group on Facilities and Infrastructure and its subgroup, the Subcommittee on Unmanned Systems.

¹⁴ NOPP began through the 1997 Defense Authorization Act (Public Law 104-201), which directed the Secretary of the Navy to establish the NOPP. Supplemental legislation for appointments to the NOPP oversight body, the NORLC, and to the ORAP, is contained in P.L. 105-85, the FY 1998 Defense Authorization Act.

Appendix II. Development and Process for NOPP-Funded Research

Two or more agencies typically collaborate on funding NOPP research. Funded NOPP projects require multi-sector partnerships between academia, industry (including non-government organizations), and government (including state and local).

Research topics funded through NOPP are initiated via interactions among agency program managers, often at Interagency Working Group on Ocean Partnerships (IWG-OP) meetings. The partner agencies then informally propose the research topic to the IWG-OP for approval to proceed. At this point, interagency partnerships are formed, tentative levels of support are pledged on an as-available basis, and draft solicitation language is developed. The IWG-OP then approves the funding announcement language that is then announced by a lead agency as a Broad Agency Announcement or Request for Proposals on behalf of NOPP.

Once a funding opportunity is announced, all submitted proposals undergo a peer review process similar to that of the National Science Foundation. Proposals are reviewed based on:

- Relevance of the proposed research to NOPP objectives;
- Overall scientific and technical merits of the proposal;
- Level of support of critical research objectives or operational goals;
- Quality of proposed partnerships;
- The offeror's capabilities, related experience, and facilities that are critical to the proposal objectives;
- The long-commitment of the partners to the proposed objectives;
- The qualifications and experience of the proposed PI and key personnel; and
- Reasonableness of cost.

The rankings of the peer review panel are made available to and reviewed by the agency program managers, who make a recommendation for funding to the IWG-OP. After receiving IWG-OP approval, the funded research projects are announced.

To learn more about the NOPP Process and what makes a successful funding solicitation, please see our NOPP Best Practices and Guidelines document: http://www.nopp.org/wp-content/uploads/2011/03/NOPP-Funding-Best-Practices_FINAL.pdf

Appendix III. Spotlight on Partnerships: Cornell Bioacoustics Research Program

Over the years, the Cornell Bioacoustics Research Program has applied for and been awarded several grants through NOPP funding announcements. In this informal Q&A, the NOPP Office asks the group some questions to find out how they learned about NOPP and why they keep participating in the program. It has been edited for length and clarity.

NOPP Office: How/when did your program first learn about NOPP? *Cornell was first involved with NOPP in 2004 developing multimedia education and digital libraries using marine mammal sounds. In 2007, Cornell teamed with the Northeast Fisheries Science Center at NOAA and Marine Acoustics, Inc. to study whales and potential acoustic disturbances in Stellwagen Bank Marine Sanctuary, and followed up with other projects and proposals in 2010 and 2011 as both a lead and as a partner with other collaborators.*

NOPP: What makes the NOPP funding attractive to you? *At the Cornell Bioacoustics Research Program, we're drawn to new opportunities for research and also to building collaborations outside the academic sphere. The grant size is also attractive as the multiple funders provide resources for research that aren't commonly found through traditional academic funding sources. NOPP has also provided a consistent mechanism to improve efficiencies for long-term technical development by building on prior research efforts.*

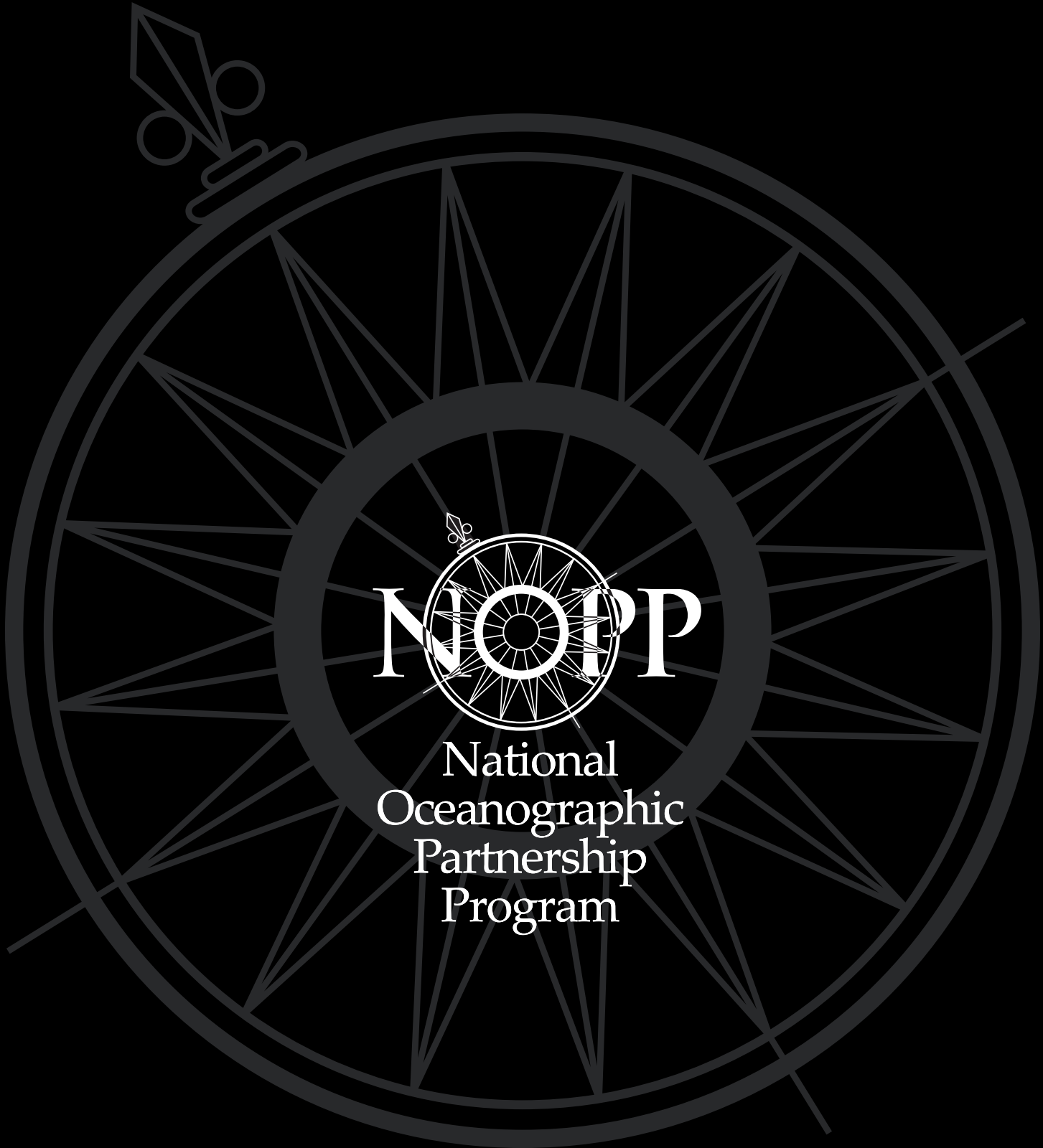
NOPP: How has working through NOPP changed how your group performs its research, and how has it helped you build partnerships? *With NOPP, we're encouraged towards applied science rather than hypothesis driven research while allowing for cutting edge development. In some cases there's no way to have access to cutting edge tools that reside with companies and are inaccessible to us at a research level. It is also worth noting that commercial organizations are aware of the program and we have been approached directly by several companies looking to build collaboration through the NOPP process. We've teamed with many partners in both the federal, commercial, and academic realms and often develop mutually beneficial relationships extending beyond the initial award. Over the years NOPP has helped Cornell build great partnerships with organizations such as: NOAA, SAIC, Pacific Northwest National Labs, NYU, Lockheed Martin, Marine Acoustics, Inc., and ESS, Inc.*

NOPP: What recommendations do you have for researchers or institutions interested in proposing to a NOPP funding announcement? *We'd recommend active participation at conferences and workshops, including industry-oriented shows. These are great opportunities to engage with potential collaborators and meet other scientists in different sectors or with different complementary scientific backgrounds. This often helps generate novel approaches to the project and creative applications for the research.*

The NOPP Office thanks **Christopher W. Clark, Ph.D., Harold Cheyne, Ph.D., Peter Dugan, Ph.D., and Aaron Rice, Ph.D.** for taking the time to answer our questions and **Stan DeForest** for facilitating. For more information on the Cornell Bioacoustics Research Program, please visit: <http://www.birds.cornell.edu/brp>.

Appendix IV. Acronyms and Abbreviations

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| BOEM | Bureau of Ocean Energy Management |
| DOD | Department of Defense |
| DOE | Department of Energy |
| DOI | Department of Interior |
| FROEWG | Federal Renewable Ocean Energy Working Group |
| FY | Fiscal Year |
| IWG-FI | Interagency Working Group on Facilities and Infrastructure |
| IWG-OP | Interagency Working Group on Ocean Partnerships |
| M | Million |
| NMEA | National Marine Educators Association |
| NOAA | National Oceanic and Atmospheric Administration |
| NOC | National Ocean Council |
| NOPP | National Oceanographic Partnership Program |
| NOSB | National Ocean Sciences Bowl |
| NSF | National Science Foundation |
| ONR | Office of Naval Research |
| ORAP | Ocean Research Advisory Panel |
| PL | Public Law |
| SOST | Subcommittee on Ocean Science and Technology |
| SUS | Subcommittee on Unmanned Systems |



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