The Gulf Research Program Annual Report 2013-2014

DETAILS

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AUTHORS

Gulf Research Program; National Academies of Sciences, Engineering, and Medicine

GULF RESEARCH PROGRAM
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THE GULF RESEARCH PROGRAM
ANNUAL REPORT 2013-2014

The National Academies of
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Who We Are

The Gulf Research Program is an independent, science-based program founded in 2013. The Program is housed within the National Academies of Sciences, Engineering, and Medicine—a private, nonprofit organization with a 150-year history as an independent advisor to the Nation on issues of science, engineering, and medicine. Through grants, fellowships, and other activities, the Gulf Research Program seeks to enhance oil system safety and the protection of human health and the environment in the Gulf of Mexico and other regions along the U.S. outer continental shelf with offshore oil and gas operations.

The Program's origins can be traced to the 2010 *Deepwater Horizon (DWH)* tragedy and its many human and ecosystem impacts. As part of agreements resolving the criminal charges against BP Exploration and Production Incorporated and Transocean Deepwater Incorporated, the National Academy of Sciences (NAS) is receiving $500 million to develop a new, 30-year program (see funding schedule). The agreements stress the independence of the Program in allocating funds to achieve its priorities. BP Exploration and Production Inc. and Transocean Deepwater Inc. play no role in Program's decision making.

Funding Schedule	BP Exploration and Production Inc.	Transocean Deepwater Inc.	Total Funds Received
2013	$5 million	$2 million	$7 million
2014	$15 million	$7 million	$29 million
2015	$45 million	$21 million	$95 million
2016	$80 million	$60 million	$235 million
2017	$90 million	$60 million	$385 million
2018	$115 million		$500 million

This report highlights the Gulf Research Program's establishment and first activities, covering the time period from mid-2013 to the end of 2014. It highlights some of the Program's accomplishments and demonstrates how what we learned throughout the planning process shaped the Program's foundation—from its strategic vision to the Program's initial funding opportunities. During the Program's 30-year duration, 2013-2043, the Program will build upon this foundation while of course evolving to meet new challenges. Each year, the Program will produce a report to summarize how Program funds were used. These annual reports will review accomplishments, highlight Program activities, and, over time, assess metrics to determine how the Program is progressing in accomplishing its goals.

The Gulf Research Program is one of a number of activities born of the *DWH* disaster, and we interact frequently with many of these programs. Together, we share a commitment to bring significant and lasting benefits to the Gulf region and the Nation.

A Message from the Executive Director

In 2013 the U.S. Department of Justice asked the NAS to accept funds from the settlement of the federal criminal complaints against BP Exploration and Production Inc. and Transocean Deepwater Inc. as a result of the 2010 *DWH* explosion and fire and to establish a new program focused on oil system safety, human health, and environmental resources in the Gulf of Mexico and other regions on the U.S. outer continental shelf.

This opportunity was not undertaken lightly. The *DWH* explosion, fire, and oil spill had significant impacts on the Gulf region and the Nation, and even now, 5 years after the disaster, there remains much to learn about long-term impacts and how to prevent such harm in the future. The Gulf Research Program is an opportunity to enhance the Nation's capabilities to prevent, mitigate, and respond to future oil spills. It is also an opportunity to advance scientific understanding of complex systems such as the Gulf of Mexico and to think broadly about the connections among energy production, the environment, and the people who depend on both. **Given its $500M endowment and 30-year duration, the Gulf Research Program presents an extraordinary opportunity to tackle large, complex issues at a regional scale and over the long term.**

The Gulf Research Program joins a number of other important science-based organizations and programs that are bringing an influx of activity to the Gulf of Mexico region. We will continue to work closely with the National Fish and Wildlife Foundation, the RESTORE Council, the Gulf of Mexico Research Initiative, and the many other federal and state agencies and foundations operating in the region. Our missions, funding amounts and sources, and durations may differ, but our commitment to bringing some benefit out of the *DWH* tragedy is shared. **The Program is not focused solely on the Gulf of Mexico, but aspires to benefit all U.S. offshore oil and gas producing regions and the Nation as we balance the benefits and risks of energy production.**

This first annual report summarizes Program planning, activities, and accomplishments from June 2013 to the end of 2014. In addition to conducting extensive outreach and articulating the Program's founding mission and goals, the Program planned and launched three inaugural 2015 funding opportunities: exploratory grants, fellowships, and data synthesis grants. By September 2015, we will have announced our first award recipients, and the first groups of Early-Career Research and Science Policy Fellows will have begun work. We've set a strong foundation for the challenges that come next: ramping up to a more significant size and moving toward more ambitious undertakings.

The Program has benefited from the extraordinary generosity of many people across the Gulf region and around the Nation. Our sincere thanks to the many people who have contributed to this work, including the Program's initial Advisory Group, the current members of the Program's Advisory Board, and the many people who shared their expertise and ideas with us during the Program's planning phase.

Chris Elfring

Chris Elfring
Executive Director

Learning the Landscape

The Gulf Research Program began operations in June 2013, with the formation of a 25-member Advisory Group (page 16) with relevant expertise and experience. The Advisory Group was appointed for 1 year to lead a planning process and create a foundation for the Program. Their work was informed by extensive outreach within the Gulf region and beyond, and their vision is captured in the Program's strategic plan, *The Gulf Research Program: A Strategic Vision* (2014).

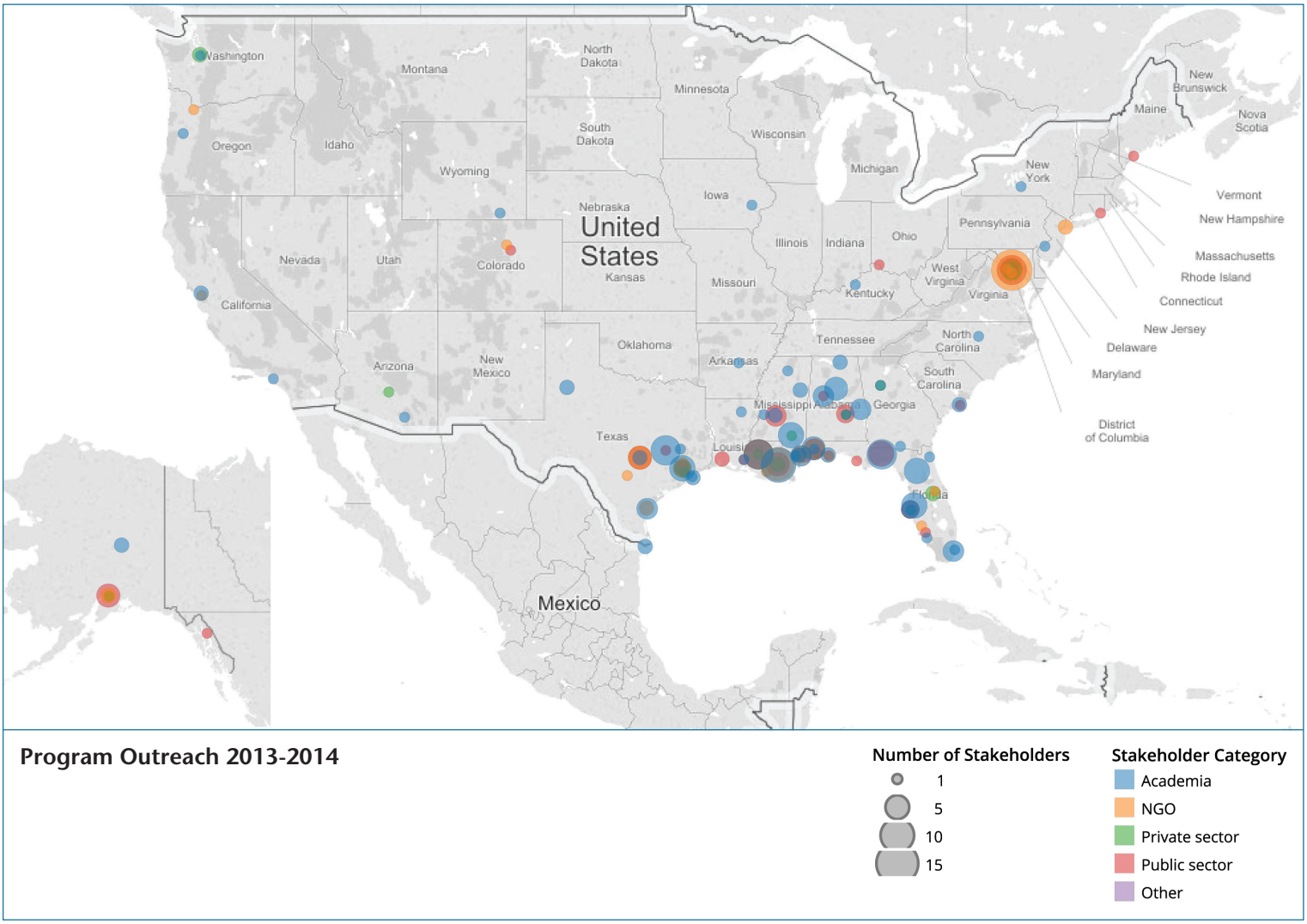
From June 2013 to December 2014, Advisory Group members heard from more than 400 people from the Gulf region and beyond. (See outreach map.) Meeting participants included representatives from state natural resource agencies, local university researchers and administrators, public health experts, oil industry scientists, and representatives from NGOs. As part of our efforts to learn about relevant issues at the local, regional, and national levels, the Program had a role in more than 35 meetings, workshops, and conferences (see timeline, pages 12-13)**.** For example, the Program

- Organized a series of 2-day meetings in each of the Gulf States (AL, FL, LA, MS, TX) to introduce the Program to key stakeholder communities and to begin soliciting advice.

- Sponsored a virtual listening session to begin connecting with potential stakeholders in Alaska to gather perspectives from other regions along the U.S. outer continental shelf where offshore oil and gas production occurs or will occur.

- Hosted four information-gathering meetings in the Gulf and Washington, DC, to interact with representatives from relevant federal agencies, other funding organizations, NGO communities, and from the oil and gas industry.

- Organized three opportunity analysis workshops in the Gulf region (see page 6) to allow for in-depth exploration of specific topics—developing the Gulf region's workforce, monitoring ecosystem restoration and deep water environments, and strengthening community health and resilience. The workshops included more than 150 participants from the Gulf states and across the Nation. Summaries can be downloaded from the Gulf Research Program's website (www.nas.edu/gulf). To date, the summaries have been downloaded more than 1,350 times by people in the Gulf region, across the United States, and other countries.



- Engaged funders of restoration programs in discussions about needs related to monitoring restored sites. As a result, the Gulf Research Program is supporting an independent, expert study on *Effective Approaches for Monitoring and Assessing Gulf Restoration.* (See page 7.)

- Co-sponsored the Gulf of Mexico Research Initiative (GOMRI) Oil Spill and Ecosystem Science conference, which is becoming an annual gathering place for researchers interested in Gulf-related science. At the 2014 GOMRI conference, Gulf Research Program staff co-organized a session focused on "Current and Future Ecosystem-Monitoring Strategies in the Gulf of Mexico," presented in a session entitled "Socio-economic Analysis of Ecosystem Change: from Baselines to Catastrophic Events," and co-led a town hall to brief the scientific community about *DWH*-related funding programs.

HIGHLIGHTS OF THE 2014 OPPORTUNITY ANALYSIS WORKSHOP SERIES

Workforce Education and Training

June 9, 2014, Tampa, FL

The Gulf region's workforce consists of many occupations that require considerable skill but not an advanced degree. For example, the oil and gas industry, public health and safety, and environmental restoration organizations depend heavily on such workers. This workshop gathered stakeholders from educational, employer, and policy-making communities to discuss new approaches to educating and training this workforce, which is expected to grow in the Gulf region and nationally.

Workshop participants focused on opportunities related to the offshore oil and gas industry and health professions. The discussions led to the development of one of the Request For Application topics for the Program's first round of Exploratory Grants.

Monitoring Ecosystem Restoration and Deep Water Environments

September 3-4, 2014, New Orleans, LA

Ecosystem monitoring is a significant challenge as restoration efforts get under way, especially in deep water (i.e., waters deeper than 200 meters and beyond the edge of the outer continental shelf in the Gulf), where much of the new hydrocarbon exploration and development is occurring. This workshop included representatives from the private sector, academia, the NGO community, and federal and Gulf state government agencies.

Workshop participants discussed how understanding of the deep Gulf ecosystem has been stymied in part by its vast scale, its remoteness, and the costs of collecting data in such a challenging environment. One outcome of the workshop was recognition of the importance of data synthesis, which became the focus of one of the Program's 2015 funding opportunities. Another outcome was the decision to fund a study on better ways to monitor restoration activities.

Community Resilience and Health

September 22-23, 2014, New Orleans, LA

Over the Gulf Research Program's 30-year duration, many factors will influence the health, social well-being, and resilience of Gulf communities. From chronic issues—including health disparities, environmental pollution, and the threat of natural disasters—to the impacts of emerging threats such as rising sea levels and ecosystem change, the Gulf region presents a complex set of challenges to community health and resilience. This workshop brought together individuals from academic institutions; federal, state, and local agencies; and community-based organizations to discuss opportunities to prepare for and respond to these challenges.

Workshop participants discussed what might be learned from the region's experiences with disasters in the past decade, including droughts that devastated fishing communities, a series of powerful hurricanes, the 2008 economic recession, and the 2010 *DWH* oil spill. Discussions informed the Program's 2016 funding opportunities.

RESTORATION MONITORING CONSENSUS STUDY

In the wake of the *DWH* oil spill, multiple large restoration efforts have been or will be initiated throughout the Gulf of Mexico region. A wide variety of activities are under way or in planning (e.g., stabilizing and re-establishing marsh habitat to reduce land-loss, creation or reconstruction of oyster beds and reefs, shoreline stabilization, habitat preservation for affected species), and each will have different goals and metrics for success.

During discussions with organizations involved in restoration, including the National Fish and Wildlife Foundation, the RESTORE Council, and the National Oceanographic and Atmospheric Administration's (NOAA) RESTORE Act Science Program office, there was significant interest in an Academies consensus study to develop practical guidance for the restoration practitioners as they design their monitoring efforts and metrics.

The study is being conducted by a committee of 15 volunteer experts charged to inform monitoring and evaluation of restoration activities in the Gulf of Mexico, such as identifying best practices (i.e., existing, proven, cost-effective approaches) for monitoring and evaluating restoration activities to improve the performance of restoration programs and increase the effectiveness and longevity of restoration projects. The study began in 2015, and results are expected in late 2016. The committee will identify:

- Current, effective approaches for developing initial and long-term monitoring goals and methods.
- Approaches for determining essential baseline data needs.
- Essential elements of a long-term monitoring framework (including baseline information).
- Additional novel approaches to augment current best practices that could increase effectiveness, reduce costs, ensure regionwide compatibility of restoration monitoring data, and advance the science and practice of restoration.
- Options to ensure that project, or site-based, monitoring could be used cumulatively and comprehensively to provide regionwide insights and track effectiveness on larger spatial and longer temporal scales.

First Steps

The extensive information-gathering of the first year helped inform the Advisory Group's thinking, both clarifying what the Program could do within the broad boundaries established by the agreement language and identifying areas to avoid, so the Program would not duplicate other efforts. One strong message was that the new Program, in contrast to much existing research, should be forward-looking. Rather than focus solely on the impacts of the *DWH* disaster, the Program will seek to prevent and minimize harms from similar events in the future and ensure that what's been learned is applied to benefit the Gulf region and the Nation.

The Program's strategic vision was released in September 2014. Recognizing that the Program would evolve over time, the Advisory Group developed elements of the strategic vision that could provide guidance over the long term (see page 9):

- The **mission** reflects the broad scope of the Program and areas of focus, which help distinguish it from other *DWH*-related research programs.

- Three **goals** support this mission and describe high-level aspirations, highlighting the desire to work at the intersection between two or more of the Program's three areas of responsibility: oil system safety, human health, and environmental resources.

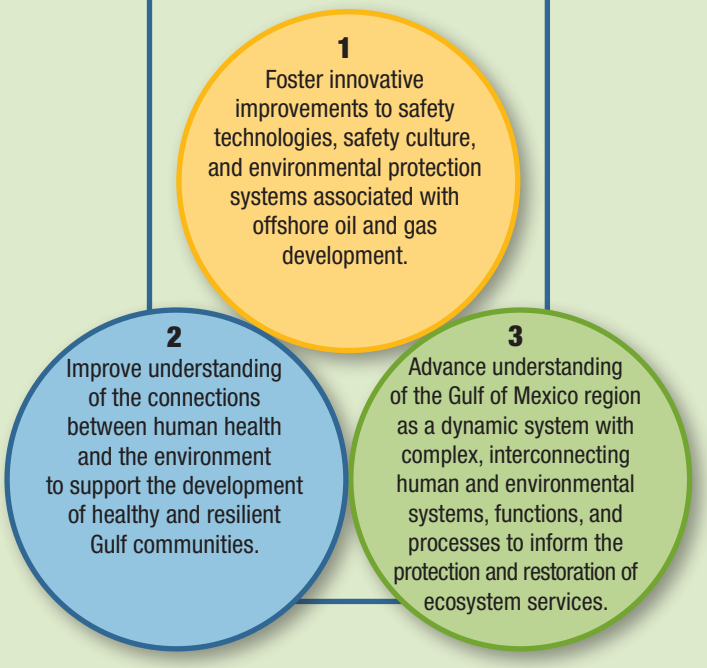
- Six **strategies for lasting benefit** characterize how the Program will achieve its goals over the long term. These strategies seek to ensure that the Program continuously builds on its defining features and strengths, even as the Program evolves and new needs, opportunities, and challenges arise.

As planning proceeded, the Advisory Group determined that the Program also needed to begin operating, and **in mid-2014 the Program began to design and implement a small suite of initial funding opportunities to be awarded in 2015 and 2016.** These initial opportunities were announced in late 2014, with the application and review processes scheduled for 2015. The goal was to turn some of our early discussions, especially at the opportunity workshops, into concrete funding opportunities. This would show the community that the Program was committed to disbursing funds as soon as possible and signal important aspects of the Program's design, such as fostering cross-boundary approaches and supporting leadership development. The 2015 funding opportunities are described on pages 10-11.

MISSION

Over its 30-year duration, the Gulf Research Program will work to enhance oil system safety and the protection of human health and the environment in the Gulf of Mexico and other U.S. outer continental shelf areas by seeking to improve understanding of the region's interconnecting human, environmental, and energy systems and fostering application of these insights to benefit Gulf communities, ecosystems, and the Nation.

GOALS



STRATEGIES FOR LASTING BENEFIT

Long-term, cross-boundary perspective that supports activities that take advantage of the Program's 30-year duration and activities that cross geographic, disciplinary, and sectoral boundaries

Science to advance understanding by bringing the best scientific, health, and engineering expertise to address large, complex issues.

Science to meet community needs. In other words, what are the information needs of the public, resource managers, or community planners? And how can scientific information be better applied to policy decisions?

Encourage **synthesis and integration** of the significant amount of data and information already available in order to produce novel insights and to encourage translation of new understanding into action.

Operate in ways that leverage Program funds – through **coordination and partnerships** with other organizations and funders.

Invest in **leadership and capacity building** to develop people with the skills and abilities needed to solve complex problems and to spark and support innovation.

GULF RESEARCH PROGRAM 2015 FUNDING ACTIVITIES

2015 Award	Announce Date	Open Date	Close Date	Award Date/ Anticipated Release
Exploratory Grants – Award Year 2015	December 1, 2014	December 18, 2014	March 30, 2015	September 2015
Early-Career Research Fellowships	December 1, 2014	December 18, 2014	February 06, 2015	June 2015
Science Policy Fellowships	December 1, 2014	December 18, 2014	February 06, 2015	June 2015
Data Synthesis Grants – Award Year 2015	April 16, 2015	May 4, 2015	July 31, 2015	December 2015
Academies Study on Effective Approaches for Monitoring and Assessing Gulf of Mexico Restoration Activities	March 19, 2015	NA	NA	September 2016

2015 Exploratory Grants: One-year grants intended to catalyze innovative thinking about how to effectively educate and train offshore oil and gas and health professionals, or how to improve understanding of links between human well-being and ecosystem services related to oil and gas production. Awards will be announced in early fall 2015.

2015 Fellowships: As an initial contribution in education and capacity-building, the Program initiated two new fellowship programs and committed to participate in a third existing program of the Academies. The fellowships support individuals from a broad range of disciplines from the social sciences to engineering. The two new fellowships are Gulf-based and designed to encourage cross-boundary approaches to critical issues in the Gulf region that span oil system safety, human health, and environmental resources. See the Gulf Research Program website for the 2015 awardees.

- The **early-career research fellowship:** These 2-year research fellowships recognize pre-tenure professionals for exceptional leadership, research excellence, and potential for future contributions to improving oil system safety, human health, or the environment.

- The **science policy fellowship:** These 1-year fellowships place awardees at a state environmental, natural resources, oil and gas, or public health agency, or the regional office of a relevant federal agency in the Gulf of Mexico to gain science policy experience.

- The **Christine Mirzayan Science and Technology Policy Graduate Fellowship:** Through this existing 12-week program based at the Academies in Washington, DC, the Gulf Research Program will provide a Gulf-oriented fellow with an opportunity to experience the role of science in Washington and to work directly with Program staff. In early 2014, the Program hosted its first fellow, Jocelyn Oshrin, who grew up in Mississippi and earned an MS/MPA degree in Environmental Science (see sidebar, this page).

2015 Data Synthesis Grants: These 2-year awards are designed to encourage activities that synthesize existing data in ways that inform efforts to restore and maintain the Gulf of Mexico's ecosystem services or that enhance understanding of the deep Gulf or its physical and biological connectivity to coastal communities. This opportunity addresses a theme heard often in outreach meetings—that existing monitoring programs generate a great deal of data, yet there is comparatively little synthesis and use of these data. Awards will be announced in early 2016.

The first consensus study funded by the Gulf Research Program and to be carried out by the Academies is designed to provide practical guidance on effective approaches for monitoring and assessing Gulf restoration. The study concept was developed with help from other *DWH*-related funders and agencies, including the National Fish and Wildlife Foundation, the RESTORE Council, NOAA, and a number of other federal and state agencies with restoration responsibilities. The study committee began its work in early 2015 and will deliver its results in 2016. (See page 7.)

2014 Christine Mirzayan Science and Technology Policy Fellow

Jocelyn Oshrin (MS, MPA, Environmental Science, Indiana University School of Public and Environmental Affairs) is originally from Mississippi and was selected to be the first Gulf Research Program Christine Mirzayan Science and Technology Policy Fellow in the winter of 2014.

Working with Program staff in Washington, DC, Jocelyn used her knowledge of the Gulf environment and communities to contribute to the Program's first year through numerous activities, including assisting with the planning of a workshop on education and training opportunities, performing background research on environmental monitoring and public health issues in the Gulf region, and contributing to the drafting of the strategic vision. After completing the fellowship, Jocelyn moved to Richmond, Virginia, to work as an environmental scientist with ECS Mid-Atlantic on a variety of projects including environmental site assessments, groundwater and soil investigation, and wetland services. Here she answers a few questions about her fellowship experience:

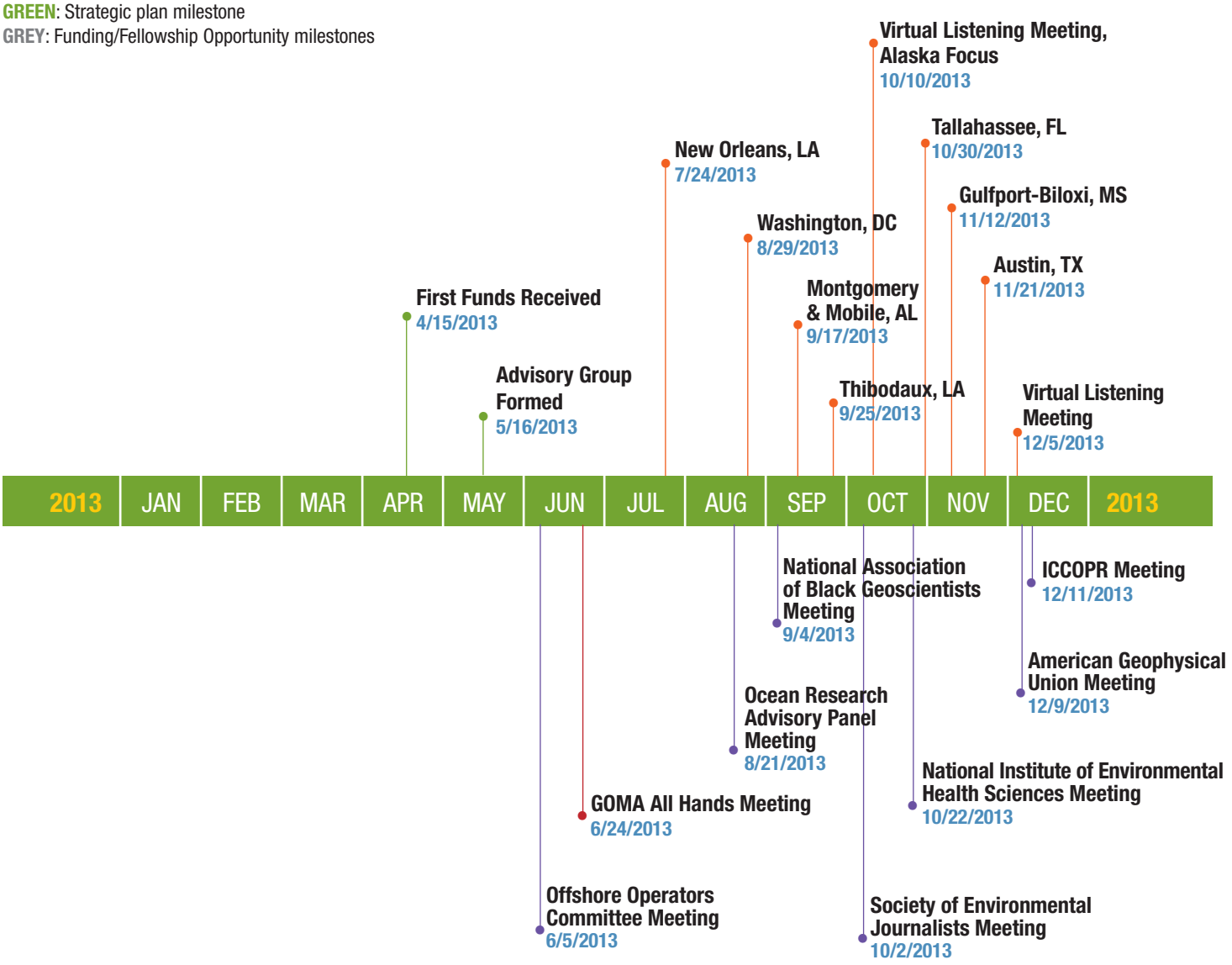
What was the most valuable part of your fellowship experience? The most valuable part of my fellowship experience was the guidance I got from Academies staff, my amazing mentor, the Gulf Research Program's Advisory Group members, my Mirzayan fellowship cohorts, and others in science-policy fields. I value the research, writing, organizational, and critical thinking skills I gained through contributing to the Program's strategic plan, and the career advice and support I received during the fellowship has been invaluable.

Did you learn anything (about the Gulf Research Program, the Academies, DC, yourself) that surprised you? I was surprised to learn the extent of career possibilities for scientists in policy fields. The majority of people I met at the Academies, as well as other organizations in DC, came from research backgrounds and had developed successful careers in policy.

What advice would you give to future fellows? My advice to future fellows would be to take advantage of all of the introductions the fellowship provides. Talk to everyone because everyone has valuable advice (or at least something interesting to say). Conducting informational interviews with organizations that interest you is invaluable, and having a connection to the Academies really helps get meetings with people in high places. Also, take advantage of activities outside of the Keck Center—go to a congressional hearing, tour the capital, visit the museums. The attractions in DC are limitless!

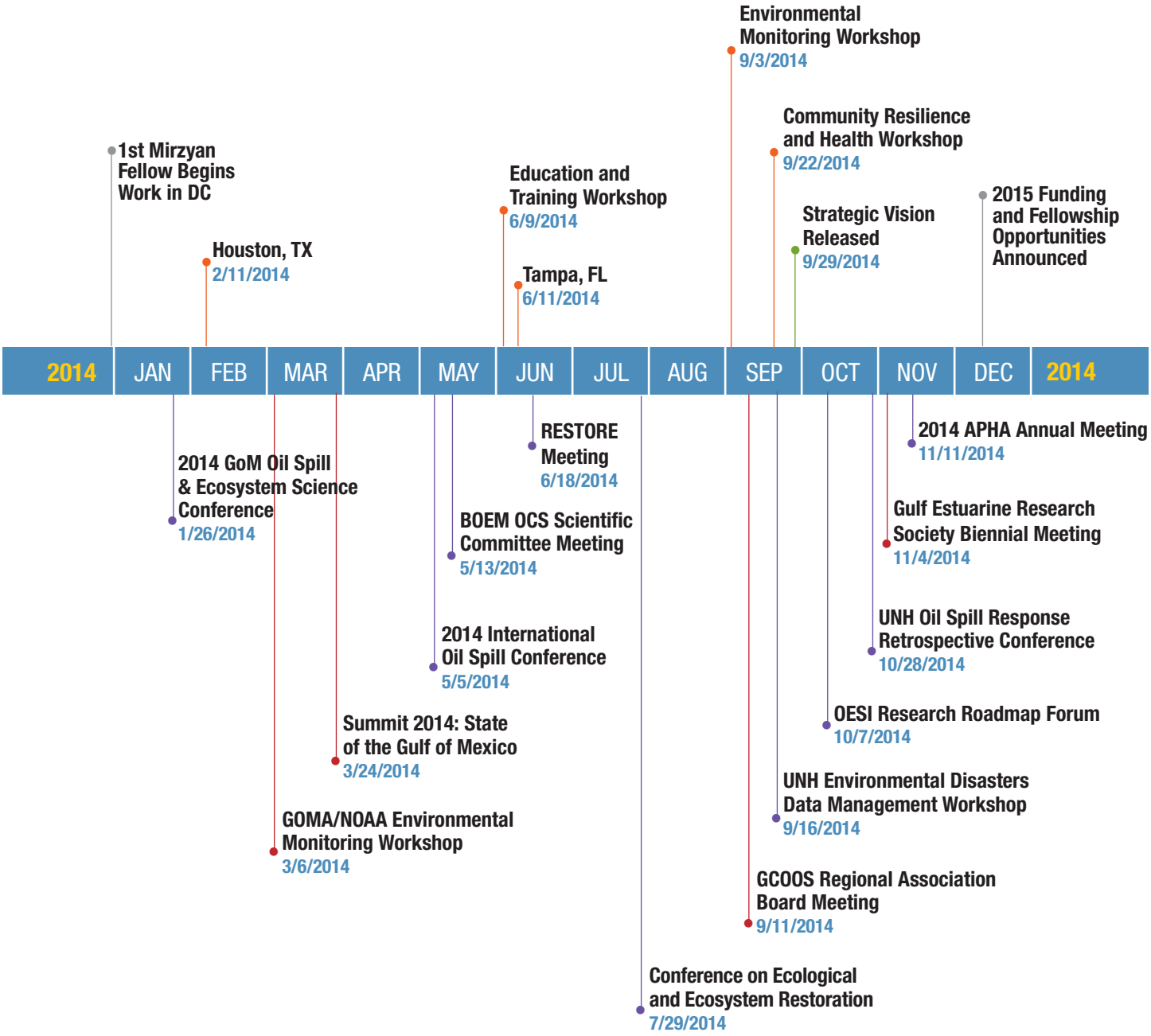
Gulf Research Program organized meetings and milestones

ORANGE: Meetings
GREEN: Strategic plan milestone
GREY: Funding/Fellowship Opportunity milestones



Meetings the Gulf Research Program participated in as speakers/presenters

RED: Gulf region meetings
PURPLE: National meetings



Future Directions

In late 2014, strategic leadership for the Gulf Research Program transitioned from the founding Advisory Group to an Advisory Board (see page 17 for the current roster). The 21-member Advisory Board, whose members have 3-year terms (with one reappointment possible), is charged to provide long-term, strategic leadership as the Program grows and evolves. With their guidance and continued coordination and engagement with other funders and stakeholders, the Program will work to develop a strategic approach to funding, with a balance of short-term, medium-term, and longer-term opportunities and a diversity of work that, over time, accomplishes the mission and goals outlined in the strategic vision.

With the Program's initial planning phase completed in 2014, 2015 is being dedicated to operationalizing the vision. By the end of 2015, we look forward to reporting on the results of our first funding opportunities. We are well on our way to designing 2016 funding opportunities. But perhaps most importantly, we have begun planning larger and more ambitious initiatives.

The creation of the Gulf Research Program is an exciting opportunity for the Academies. **The Program looks forward to working with others in the Gulf region and around the Nation, from the public, private, and academic sectors, to improve understanding of the connections among energy production, the environment, and the people who depend on both.** We seek to enhance the Nation's capabilities to prevent, plan for, mitigate, and respond to future oil spills. We will continue to learn from others with experience developing complex programs, improve the Program's operations and impact, and seek opportunities to partner and leverage program funds for greatest impact.

FINANCIALS

Proceeds from BP Exploration and Production Inc. and Transocean Deepwater Inc.

		BP	Transocean	Total
Proceeds received:	2013:	$ 5,000,000	$ 2,000,000	$ 7,000,000
	2014:	$ 15,000,000	$ 7,000,000	$ 22,000,000
Proceeds received to date:		**$ 20,000,000**	**$ 9,000,000**	**$ 29,000,000**
Proceeds to be received:	2015:	$ 45,000,000	$ 21,000,000	$ 66,000,000
	2016:	$ 80,000,000	$ 60,000,000	$ 140,000,000
	2017:	$ 90,000,000	$ 60,000,000	$ 150,000,000
	2018:	$ 115,000,000	-	$ 115,000,000
Proceeds to be received:		**$ 330,000,000**	**$ 141,000,000**	**$ 471,000,000**
Total Proceeds:		**$ 350,000,000**	**$ 150,000,000**	**$ 500,000,000**

Gulf Research Program Financial Overview

(4/15/2013 - 12/31/2014)

Proceeds Received	$ 29,000,000
Investment Return (includes dividends)	$ 2,391,698
Total Funds Available	**$ 31,391,698**
Program Expenditures through 12/31/2014	$ (4,391,100)
Net Funds Available at 12/31/2014	**$ 27,000,598**
Cash on Hand for Expenditures	$ 32,855
Funds Invested	$ 26,967,743
Net Funds Available at 12/31/2014	**$ 27,000,598**

CURRENT ROSTER – ADVISORY BOARD

2014–2015

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Albuquerque, New Mexico

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Mississippi-Alabama Sea Grant Consortium and Auburn University, Ocean Springs, Mississippi

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Institute for Broadening Participation,
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Maggie Walser, Senior Program Officer

Gulf Research Program Publications

Opportunities for the Gulf Research Program: Community Resilience and Health: Summary of a Workshop (2015)
http://www.nap.edu/catalog/21691/opportunities-for-the-gulf-research-program-community-resilience-and-health

Opportunities for the Gulf Research Program: Monitoring Ecosystem Restoration and Deep Water Environments: Summary of a Workshop (2015)
http://www.nap.edu/catalog/21673/opportunities-for-the-gulf-research-program-monitoring-ecosystem-restoration-and-deep-water-environments

Opportunities for the Gulf Research Program: Middle-Skilled Workforce Needs: Summary of a Workshop (2014)
http://www.nap.edu/catalog/18980/opportunities-for-the-gulf-research-program-middle-skilled-workforce-needs

The Gulf Research Program: A Strategic Vision (2014)
http://www.nas.edu/gulf/vision/index.htm

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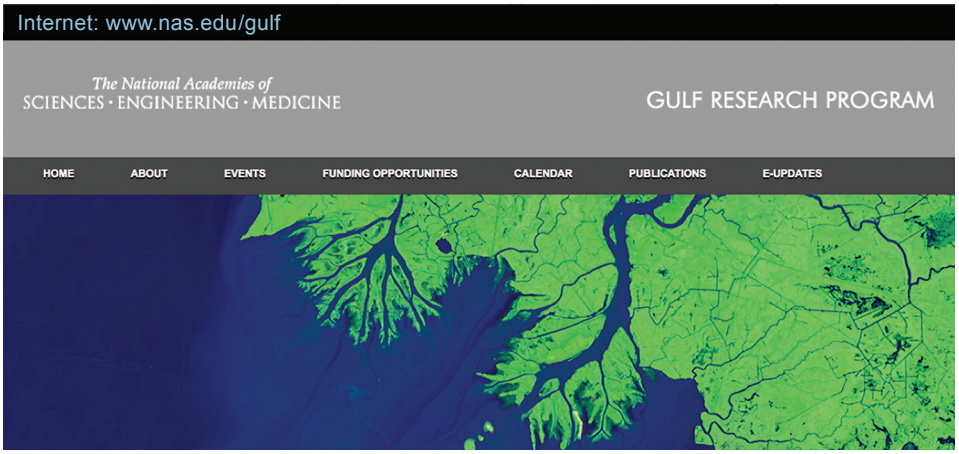

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

The **National Academy of Sciences** was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, nongovernmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research. Dr. Ralph J. Cicerone is president.

The **National Academy of Engineering** was established in 1964 under the charter of the National Academy of Sciences to bring the practices of engineering to advising the nation. Members are elected by their peers for extraordinary contributions to engineering. Dr. C. D. Mote, Jr., is president.

The **National Academy of Medicine** (formerly the Institute of Medicine) was established in 1970 under the charter of the National Academy of Sciences to advise the nation on medical and health issues. Members are elected by their peers for distinguished contributions to medicine and health. Dr. Victor J. Dzau is president.

The three Academies work together as the **National Academies of Sciences, Engineering, and Medicine** to provide independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions. The Academies also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding in matters of science, engineering, and medicine.

Learn more about the National Academies of Sciences, Engineering, and Medicine at **www.national-academies.org.**

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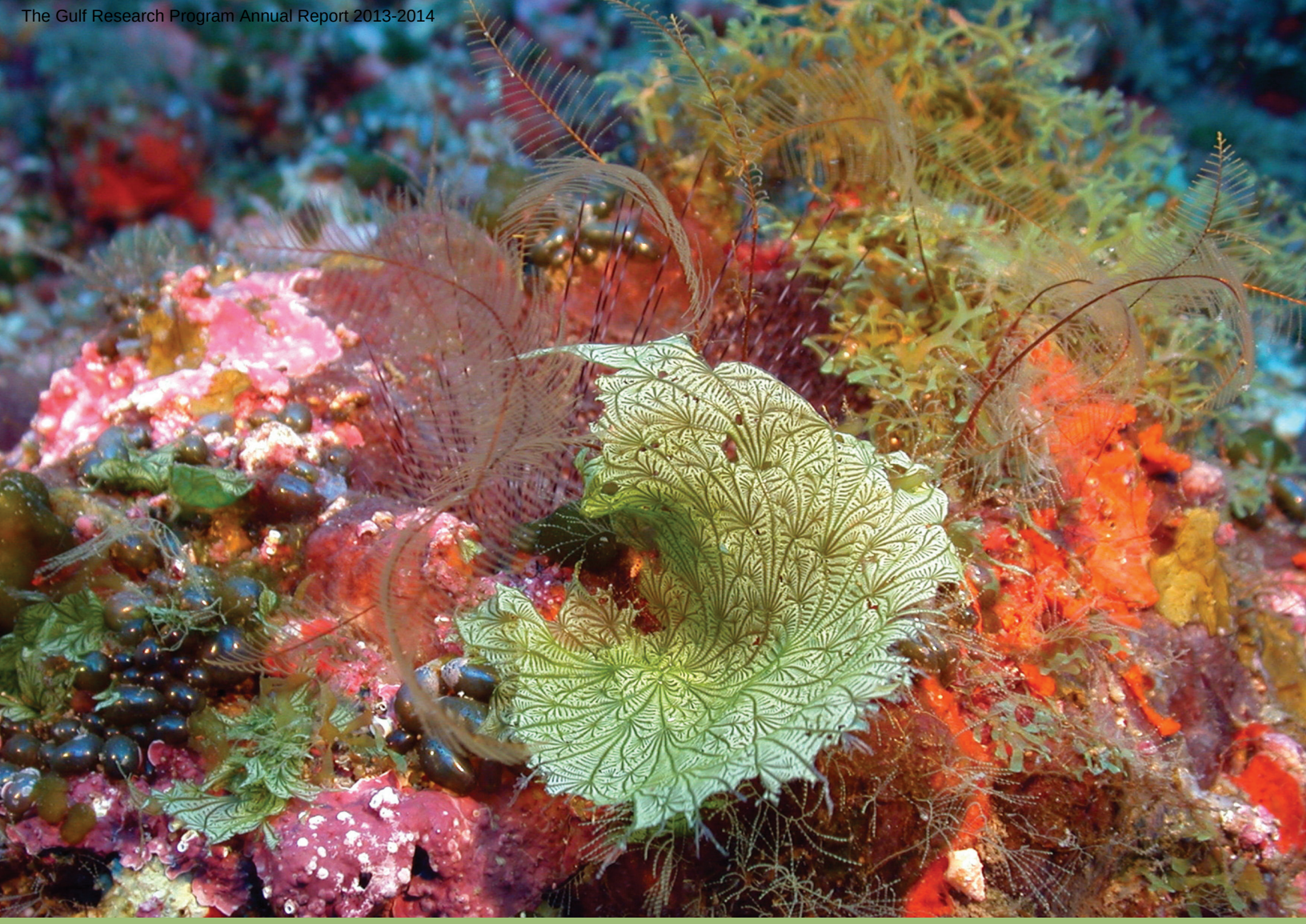

Over its 30-year duration, the Gulf Research Program will work to enhance oil system safety and the protection of human health and the environment in the Gulf of Mexico and other U.S. outer continental shelf areas by seeking to improve understanding of the region's interconnecting human, environmental, and energy systems and fostering application of these insights to benefit Gulf communities, ecosystems, and the Nation.

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