GOMURC GULF RESTORATION PRIORITIES

Five years Since the Deepwater Horizon Oil Spill

In April 2015, a hearing by the House Committee on Natural Resources, Sub-Committee on Investigative Oversight, entitled "*Innovations in Safety Since the 2010 Macondo Incident*"[1] focused on actions taken to promote safer drilling on the OCS. One panelist[2], however, focused on status of ecosystem recovery, the need for continued work and vigilance, and need for better coordination among the many programs funded by related penalties. Major conclusions in BP's 2015 report, Gulf of Mexico Recovery and Restoration, are contradicted by opinions of Natural Resource Damage Assessment trustees and other stakeholder organizations regarding the status of recovery and future needs.

The Gulf of Mexico University Research Collaborative (GOMURC) is a regional alliance of university consortia (currently 80 institutions) formed to coordinate initiatives that: contribute to a Gulf-wide regional coastal and ocean research agenda; inform science-based policies to restore, protect and sustain natural resources; and build regional science and technology capacity. The DWH disaster response and restoration is an unprecedented ecosystem stressor in terms of size and complexity. GOMURC continuing priorities and recommended actions for 2015-2016 for promoting successful ecosystem recovery efforts include:

- Support Relevant, Meritorious Science and Technology Development: ecosystem restoration must be based on the "best available science"; all restoration programs use independent, expert peer review and science-based requirements to select projects, and treat ecosystem restoration projects as science experiments with appropriate monitoring and research.
- Support Ecosystem Research, Observing, and Monitoring Capabilities: Environmental monitoring at the project- and ecosystem-scale is required to evaluate restoration efforts, for baselines needed to assess long-term impacts, and to prepare for future events; over 80% of projects funded to date do not support any environmental monitoring. All restoration funding programs need to leverage plans and capabilities to support the required system.
- Coordinate Restoration Science Programs: Gulf restoration will involve dozens of programs and thousands of projects, many with overlapping objectives. Coordination among programs is currently mostly informal. Best practices include: conceptual model to identify gaps and fund priorities, recovery community of practice to promote engagement, and unified data and information management system.
- Support Syntheses and Assimilation: Damage assessments need to include non-market ecosystem services, such as protection of life and property afforded by green infrastructure; values are required to explain the true worth of Gulf natural capital, for NRDA, and to credit responsible parties for related restoration costs. Restoration project findings need to be assimilated in a Gulf-wide status report of ecosystem recovery, prepared and vetted by experts and adapted to new results. A regional capacity should be established to support this outcome, again cost-shared by all restoration program partners.
- Promote Economic and Work Force Development: Science-Technology-Engineering-Mathematics (STEM) education programs are required to teach secondary school educators and students, and to train and prepare the skilled workforce required to support ecosystem restoration and long-term sustainability. All restoration programs dedicate support for secondary school and university level activities, including infrastructure, experiential learning opportunities, curriculum development and access, internships, fellowships, graduate and post-doctoral programs.

First responders live near the disaster and are the most critical element in mitigating damages. Immediate response has to be urgent, while accounting for factors that dictate caution, such as public safety and not causing more harm than good. In the case of the Deepwater Horizon disaster, initial response was from academic institutions, which immediately shared their results and data in open and unprecedented ways. The latest OCS oil and gas lease blocks sold in the eastern Gulf are tens of miles from the Deepwater Horizon well site. We rely on and need to maintain the research capacity of Gulf academic institutions, and education of the next generation of scientists and engineers required to support Gulf recovery and response to future events.

[1] http://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=398305

[2] http://naturalresources.house.gov/UploadedFiles/Murawskitestimony.pdf