RESTORE Act Science Program
Virtual Engagement Sessions - August and September 2013
Summary Report

During the months of August and September 2013, the NOAA RESTORE Act Science Program held a series of 16 virtual engagement sessions to inform interested parties about the program and hear their input on various aspects of plans for the program, including research priorities and knowledge gaps. The sessions were announced through the program's email contact list and from there through other organizations, including the Gulf of Mexico Alliance. We estimate the announcement reached approximately 3,000 people. During the 16 sessions, 149 people participated, with 128 of those actively providing feedback. Participation in the sessions was voluntary and providing feedback was optional. Responses from the numeric/multiple choice/quantitative questions and the free text/qualitative response questions are summarized in this document.

Quantitative Analysis

Several multiple choice questions were asked with the answer choices on a Likert scale (1 = not important, 2 = less important, 3 = important 4 = very important). The answers to each of these questions have been averaged and the data are presented below.

Questions and Summary:

- "Short Term: Synthesis"-
    - How important of a short-term (six month to one year) priority is 'the synthesis of current scientific understanding and management needs'?
- "Short Term: Models"-
    - How important of a short-term (six month to one year) priority is developing 'conceptual models of the Gulf of Mexico ecosystem showing linkages among the system components'?
- "Short Term: Needs Assessment"-
    - How important a short-term (six month to one year) priority is 'an initial needs assessment for a robust Gulf of Mexico observing system which builds upon currently available observing assets and requirements in the Gulf'?
- "Link to Management Needs"-
    - How important is it for the research, monitoring, observing and technology development activities supported by this Program to be closely linked to short-term (six month to one year) resource management needs?
- "Humans in Ecosystem"-
    - How important is it to include humans when we manage/consider how the Gulf of Mexico ecosystems functions?

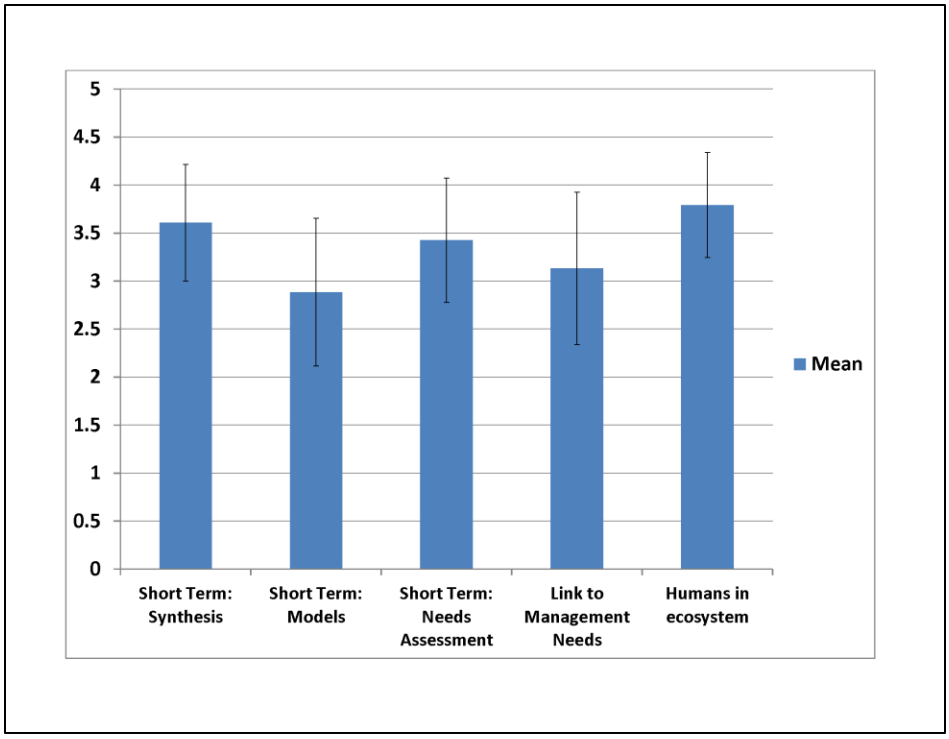

Figure 1: Mean scores with standard deviations for Likert-scaled questions (scale: 1 = not important, 2 = less important, 3 = important 4 = very important).

Given the high overall scores, stakeholders find the short-term priorities generally appropriate. Likewise, stakeholders consider it important that activities supported by the program are linked to short-term management needs and that humans are included when considering how the Gulf of Mexico ecosystem functions.

Qualitative Analysis

The remaining questions had qualitative replies. These responses were analyzed for common themes and topics. **Summaries for each question are listed below.**

The basic methodology used to arrive at the information presented in the question summaries is listed at the end of this document.

There were several types of responses that cut across multiple questions. These categories may not always have had enough responses to appear in each individual question summary, but are worth pointing out. The categories that cut across questions and the total number of responses for each are:

- Coordinate across existing efforts and partnerships/eliminate redundancies - 50+
- Engage broadly with the scientific community, partners, and stakeholders - 38+
- Communicating science and results - 29+
- Understand and integrate climate change impacts (e.g. sea level rise) - 17

- Use a watershed approach - 17
- Shared data/information framework - 15
- Monitoring/long-term monitoring - 11
- Increased social science data and understanding of socioeconomic systems - 10
- Incorporate hydrology/hydrodynamic models - 8

Summary of Individual Questions

Question: Based on what you just heard about the program, what is one thing the program has to do to be successful?

Summary: 112 Respondents

Answers with most responses:

- Coordinate across existing efforts and partnerships/eliminate redundancy - 38
- Broad community engagement - 27
- Communicate results - 21
- Establish clear and specific objectives and outcomes - 7
- Open and transparent process - 6
- Base efforts on science - not politics - 5
- Relate science to management outcomes - 4

Question: Is there an important Gulf issue that is not encompassed by this proposed goal? If so, what is it?

Summary: 82 respondents

Answers with most responses:

- Watershed approach - 8
- Community engagement - 6
- Social science/socio-economic systems - 6
- Shared data/information framework - 4
- Support and connect to education - 4
- Communicating science and results - 3
- Focus on key sites - 3
- Monitoring - 3

In addition many respondents offered general comments on the mission and goals of the program. Those responses are displayed below.

- Goals too broad - 5
- No additional goals needed - 23

Question: What other short-term (six months to one year) priorities should the program be considering?

Summary: 60 respondents

A few highlighted needs here are:

- Use existing information
- Encourage coordination
- Educate and outreach - internet based
- Update sampling technologies
- Maximize cost / benefit
- Define success and progress measurements

Question: What is the most pressing management need in the region and what science is needed to address it?

Summary: 98 respondents

This question posed two separate questions and answers to these questions are presented separately below.

Answers with the most responses: First part – what are the most pressing needs?

- Water quality impacts - 7
- Evaluating restoration activities - 5
- Habitat loss/mapping - 5
- Managing fisheries stocks - 5
- Watershed approach - 5
- Evaluation and performance measures - 4
- Sea level rise impacts - 4
- Hydrology impacts and connections - 4
- Climate change impacts - 3
- Communicating science and results - 3
- Coordination - 3
- Ecosystem health – 3
- Monitoring - 3

Answers with the most responses: Second part - what science is needed?

- Various restoration evaluations - 6
- Fisheries population/trend assessments - 4
- Data collection and data/information sharing: 3
- Habitat maps - 3
- Links to hydrologic impacts - 3

Question: To increase our capacity to assess fish stocks in the Gulf of Mexico, what is needed?

Summary: 68 respondents

Answers with most responses:

- Engage with fishermen - 5
- Improve data collection - 4
- Improve technology - 3
- Increased observer coverage - 3
- Shared data/information framework - 3

Question: Ecosystem function can be considered the interaction between organisms and the physical environment. What is the largest gap in our understanding of ecosystem function in the Gulf of Mexico and what is needed to address that gap?

Summary: 73 respondents

Answers with most responses:

- Integrating climate change/land use changes - 6
- Ecosystem baseline data - 5
- Understanding long-term effects of stressors and impacts (e.g. oil dispersal) - 5
- Watershed approach - 4
- Narrow scale of efforts (don't assess entire Gulf of Mexico) - then scale up - 4
- Comprehensive ecosystem models - 4
- Understanding change over time - 3
- Cumulative effects - 3
- Effects of artificial structures on communities - 3
- Hydrodynamic models - 3
- Socioeconomic data/impacts – 3
- Monitoring/long-term monitoring - 3

Question: Are current observing and monitoring systems in the Gulf of Mexico adequate? If no, what are the major gaps and what is needed to address them?

Summary: 115 respondents

This question posed two separate questions and answers to these questions are presented separately below.

Answers with the most responses: First part – are observing and monitoring systems adequate?

Yes (systems are adequate): 0 responses

No (systems not adequate): 81 (70%)

Don't know: 34 (30%)

Answers with the most responses: Second part – if no, what are major gaps and what is needed to address them?

The answers to this question were varied and rich. Thus, they do not lend themselves to a summary approach as used in the other questions. The program will consider these answers individually when addressing monitoring and observing needs in the program's science plan.

Question: Is there anything else you would like to share with us?

Summary: 59 respondents (excluding the more simple versions of "no" and "thank-you", total is 51 respondents)

As this question is more open to a variety of types of replies than the other questions, it is less amenable to structured analysis. However, key themes did emerge in the responses.

Many of the comments (18) touched on the themes of *coordination, communication, and outreach* which align with the results found in other questions. These often focused on connection and integration with the activities of other groups inside and outside of NOAA, avoiding redundancy, addressing gaps, and delineating the roles of different research efforts. This also included sharing the results of projects, promoting transparency, and integrating science, restoration, and management – these connect with the overall theme of *communicating science and results*. Several comments touched on the overall summary themes of *shared data/information framework* and *monitoring/long-term monitoring*, one comment including international data management. Six comments encouraged *continued stakeholder/partner outreach* on the lines of these meetings or through other opportunities, and two requested sharing information from these sessions. One comment noted the need for an overall goal in the Program and the broader community itself to provide a purpose for meaningful research. Additional ideas for integrated efforts included invasive species work, marine planning, shipping and marine activities, archaeology, and expanded observing capacity. Comments

recommended use of ecological classification systems, funding models, and including education components. Philosophical questions raised included how to avoid fragmentation of the program into "pet projects" and the definition of what "coastal habitats" should really mean.

****

Basic Method for Qualitative Analysis: For each question the answers were reviewed and "coded" or categorized into similar themes or activities. This allows for a more objective analysis. For instance, the following sample responses were all coded similarly under "Communicating science and results":

- "Communicate the information to decision makers and the public",
- "Future changes in resource availability and landscape distribution to inform stakeholder decision-making on actions",
- "Communities should be educated on the importance of ecosystems/eco functions and their impact to ecosystems, and on the important role the science (supported by this Science Program) will play in restoring and improving these ecosystems".

Further, if the response addressed multiple topics, up to three different codes were allowed. This results in more coded answers than respondents. For instance the following response received three codes, 1) international connections, 2) cross boundary pollutants, and 3) pelagic species/systems.

> "Be sure that such includes points that relate to issues external to USA, such as international pollutant sources, movement of pelagic species, etc."

Any categories with 3 or more responses were listed in the summaries for each question.