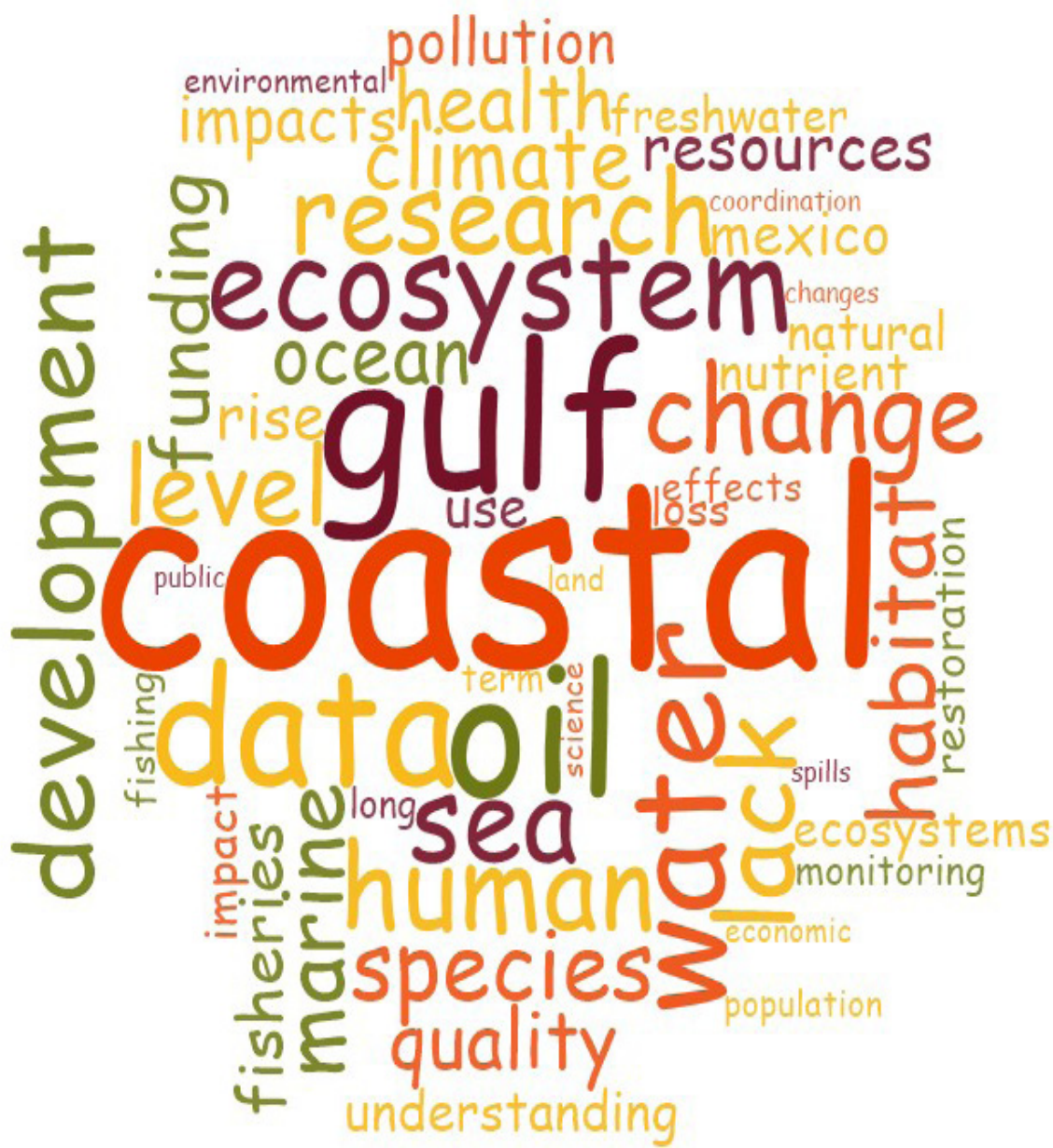# Initial Results
from the 2013 Gulf of Mexico Research Plan Survey

A customized report prepared for the:

Gulf of Mexico Alliance
Environmental Education Priority Issue Team

By Stephen H. Sempier

Introduction

The four Sea Grant College Programs in the Gulf of Mexico region released surveys in 2007, 2010 and 2013 that asked about regional research and related needs. This was part of an effort to develop and update the Gulf of Mexico Research Plan (GMRP). For the 2013 GMRP survey, **1,668 people** answered at least a portion of the survey. Hundreds of people from each of the Gulf of Mexico states and beyond completed the survey, and they represented a broad cross section of people from government, universities, business/industry, NGOs and other groups. Charts that illustrate demographic information about the people who completed the survey are included in the Appendix. This is one of six separate reports created for each of the GOMA Priority Issue Teams (PITs).

The report

This report contains two sections that were developed based on the open-ended questions from the 2013 GMRP survey. The questions asked respondents to describe Gulf of Mexico research priorities, stressors and barriers to implementing a regional research plan.

Section I: Word Trees

The first section contains word trees that were developed using keywords related to each PIT. Word trees provide a quick way to provide some context on the keywords people used answering the questions. Most of the word trees only contain the first four or five words before and after the keyword in order to be readable in this document.

Section II: Research Priorities by subcategory

The second section is an analysis of open-ended research priorities through the lens of the PIT. The 2013 GMRP survey presented a standardized list of research priorities. It also asked people to identify up to three additional research priorities in open-ended text boxes. There were a total of **1,003 research priorities described**. These research priorities were linked to PITs. In some cases the same research priority could connect to a topic that is covered by more than one PIT. In addition, subcategories were created to better organize similar or related research priorities within a PIT and in many cases subcategories were based on PIT focus areas. The priorities were alphabetized within each subcategory. Table 1 in the Appendix summarizes the number of research priorities linked to each PIT and subcategory.

The research priorities are listed as bullets that are organized by PIT and subcategory. In many cases people's response to the question was not a true research priority. However, these bullets were retained so that readers can see the scope and breadth of input that was provided. Finally, the bullets are **unedited, actual responses** that survey respondents provided.

Next steps

Significant survey analysis and reporting still needs to be completed for the 2013 GMRP survey, which closed in November 2013. Additional details will be shared in the coming months along with a comparison between responses in the 2007, 2010 and 2013 GMRP surveys. For more information, please contact Steve Sempier, Mississippi-Alabama Sea Grant, at stephen.sempier@usm.edu.

Cover: The 50 most frequently used words by people who completed the 2013 GMRP survey. Word size reflects the frequency the word was used with larger words being used more frequently.

Section I: Word Trees

Word trees were created for several keywords related to the **GOMA Environmental Education Priority Issue Team**. The keywords used in the diagrams below are:

- Education
- Ecosystem service

education

- Perception of lack of value of science based decision making
- / knowledge
- about
  - coastal and ocean habitats and inhabitants / diversity in the
  - lack and loss of coastal critical habitats
  - jobs that Gulf peoples get as opposed to people
  - learning programs that utilize the knowledge gained from research
    - . My experience is that this area is not
    - about the ocean and it's delicate ecosystems and
    - as a priority . and funding it appropriately .
    - events to transition into positive behavior changes .
    - is essential to ensure this research is used
    - which is now being considered under Stewardship
- and outreach
  - Public Participation
  - their understanding of Gulf issues .
- attainment among people of the region
- changes attitudes and behaviors .
- income
- compared to
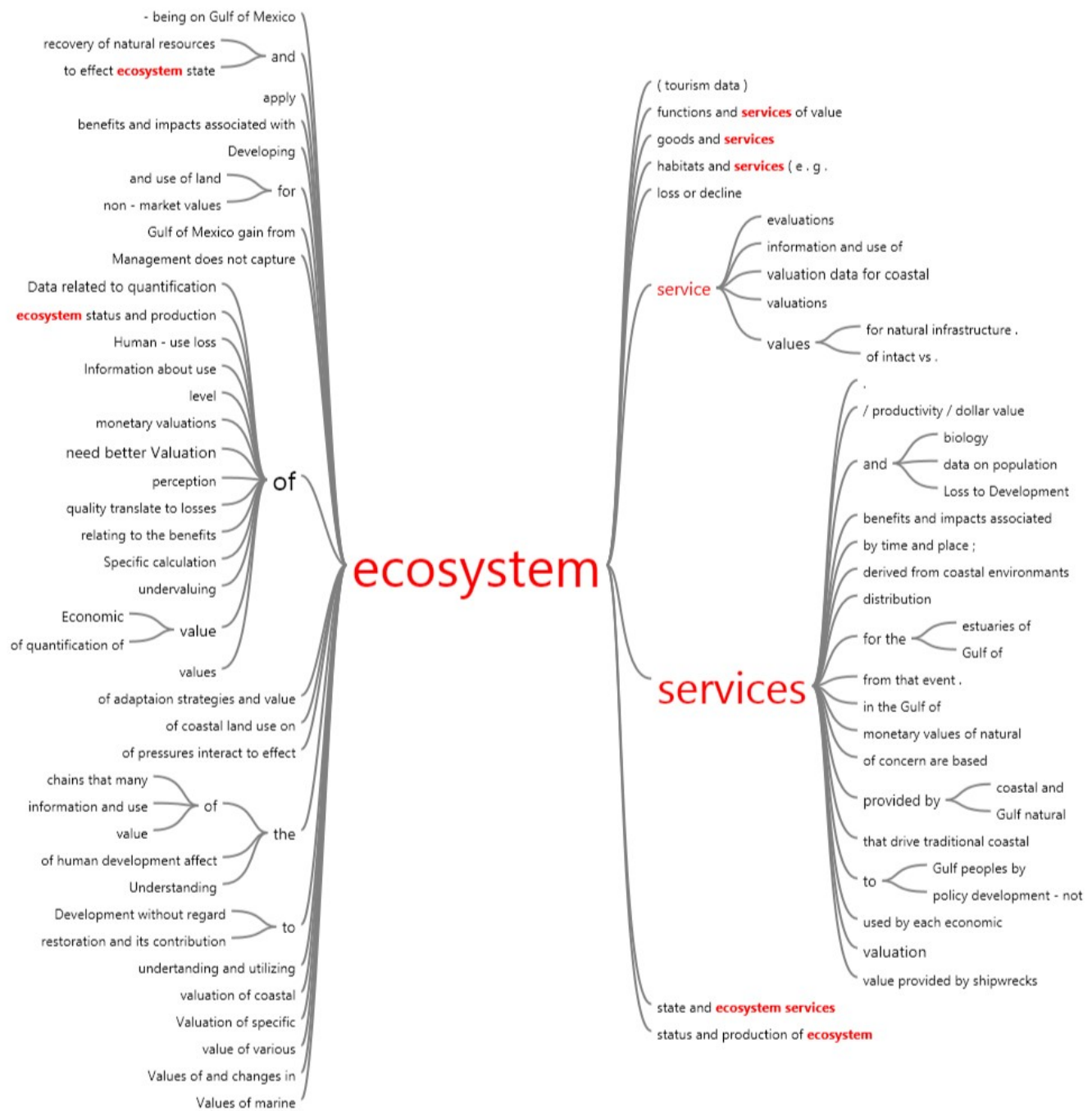 - the other coasts and assess the the impact
  - environmental stewardship
- for
  - public about Gulf Science
  - the public including in K - 16 .
- industry'
- level to perceptions of coastal restoration efforts
- of
  - coastal issues
  - public and students of the importance of preserving diverse
- on importance of marine ecosystems
- outreach to wnage public in sea level rise awareness .
- relating to the benefits of ecosystem services
- to those being asked to put dollar values on priceless

- because too few funds are committed to synthesis , visualization
- and
  - Disparity of economic wealth
  - of the Gulf of Mexico - including the marine research
  - available to scientists across the GOM . Research is important but
- Create
- Environmental
- amount of funds spent annually on the Gulf for
- It is imperative to research the way
- funding for funding in all research priority areas , to include
- economic stress and quality
- Lack
- of
  - Median level
  - shortage
  - the relationship
- path and needs to proceed with great caution and extensive
- be nice to see an applied outreach component on
- public
  - Lack of
- The mindset of too many funding agencies in not valuing
- The relationship between
- through
  - data visualization , and the conversion of research to knowledge
- Sustained Funding " Over Time " to allow these stewardship enhancements

ecosystem

Left branch — "and"
- being on Gulf of Mexico
- recovery of natural resources
- to effect **ecosystem** state

Left branch — "of"
- apply
- benefits and impacts associated with
- Developing
  - and use of land — **for**
  - non - market values — **for**
- Gulf of Mexico gain from
- Management does not capture
- Data related to quantification
- **ecosystem** status and production
- Human - use loss
- Information about use
- level
- monetary valuations
- need better Valuation
- perception
- quality translate to losses
- relating to the benefits
- Specific calculation
- undervaluing
- Economic — **value**
- of quantification of — **value**
- values
- of adaptaion strategies and value
- of coastal land use on
- of pressures interact to effect

Left branch — "the"
- chains that many — **of**
- information and use — **of**
- value — **of**
- of human development affect
- Understanding

Left branch — "to"
- Development without regard
- restoration and its contribution
- undertanding and utilizing
- valuation of coastal
- Valuation of specific
- value of various
- Values of and changes in
- Values of marine

Right branch — "service"
- (tourism data)
- functions and **services** of value
- goods and **services**
- habitats and **services** (e . g .
- loss or decline
- evaluations
- information and use of
- valuation data for coastal
- valuations
- values
  - for natural infrastructure .
  - of intact vs .

Right branch — "services"
- .
- / productivity / dollar value
- and
  - biology
  - data on population
  - Loss to Development
- benefits and impacts associated
- by time and place ;
- derived from coastal environmants
- distribution
- for the
  - estuaries of
  - Gulf of
- from that event .
- in the Gulf of
- monetary values of natural
- of concern are based
- provided by
  - coastal and
  - Gulf natural
- that drive traditional coastal
- to
  - Gulf peoples by
  - policy development - not
- used by each economic
- valuation
- value provided by shipwrecks

Right branch (lower)
- state and **ecosystem services**
- status and production of **ecosystem**

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Section II: Research Priorities by subcategory

The bullets below are **unedited responses** to the 2013 GMRP Survey questions that asked people to identify their top three research priorities for the Gulf of Mexico over the next 5-15 years.

- Environmental Education and Public Participation
- public education about lack and loss of coastal critical habitats
- Research on how to engage the public (and voters) on the above two priorities.
- It is important to know the amount of funds spent annually on the Gulf for environmental education compared to the other coasts and assess the the impact of these funds on environmental quality and decision making.
- It is imperative to research the way environmental education changes attitudes and behaviors.
- create participatory tools that enable the public to learn through scenario planning
- Marketing - intentional re-linking of public to the importance / neccessity of nature
- configuring ways to enact behavior changes Gulf wide to address human impacts including oil spills, climate change, development, and watershed effects
- Applying what is known about behavior change to environmental decisionmaking
- Sustained Funding "Over Time" to allow these stewardship enhancements through education and outreach events to transition into positive behavior changes.
- Evaluation/Performance Metrics "Over Time" to document an increased awareness and understanding of the Gulf of Mexico as an International Treasure to all residents residing in this geographic area.
- Education and Outreach which is now being considered under Stewardship
- Define resiliency and economic services in a manner that those individuals/culture groups affected by these "terms" can clearly understand their meanings, since they are the once being affected by these decision "tools."
- Integrating outreach into all efforts to bridge gap between research and communities.
- Education outreach to wnage public in sea level rise awareness.
- Education of public and students of the importance of preserving diverse ecosystems, developing sustainable harvesting of fishes, marine and freshwater resources.
- education for the public including in K-16.
- How we can protect wildlife by educating stakeholders, while shrinking government control
- The general public's understanding and use scientific information related to coastal managment issues.
- Educate the public about whole system ecosystems; how people remote to the coastal area affect the coastal area.
- Education and Outreach about the ocean and it's delicate ecosystems and how human impact is very detrimental to its health. Also, enabling the public on how we can reverse the damage.
- Investigate the effects of "social media" on human perceptions of coastal and ocean impacts
- Develop a way to educate those in Alabama that just don't understand science (global warming) and the interaction with the marine environment.
- Explore humanistic knowledge that amplifies and reinforces scientific conclusions.
- Create education and learning programs that utilize the knowledge gained from research programs to inform stakeholders/communities/residents on the status of the gulf, their place in the ecosystems that converge there, and the natural and anthropogenic drivers affecting system productivity

Appendix—Demographic Statistics from the 2013 Gulf of Mexico Research Plan Survey
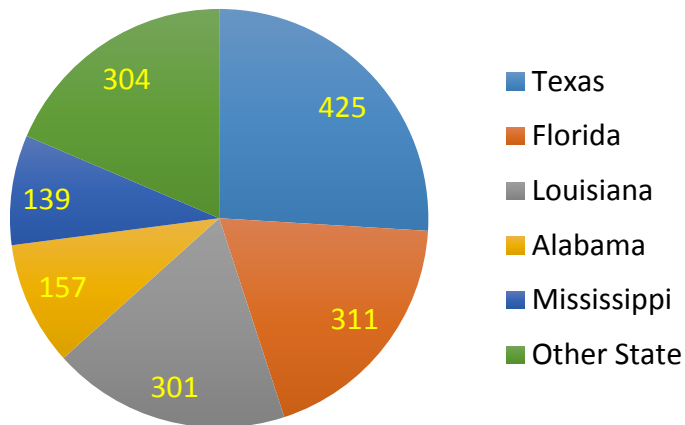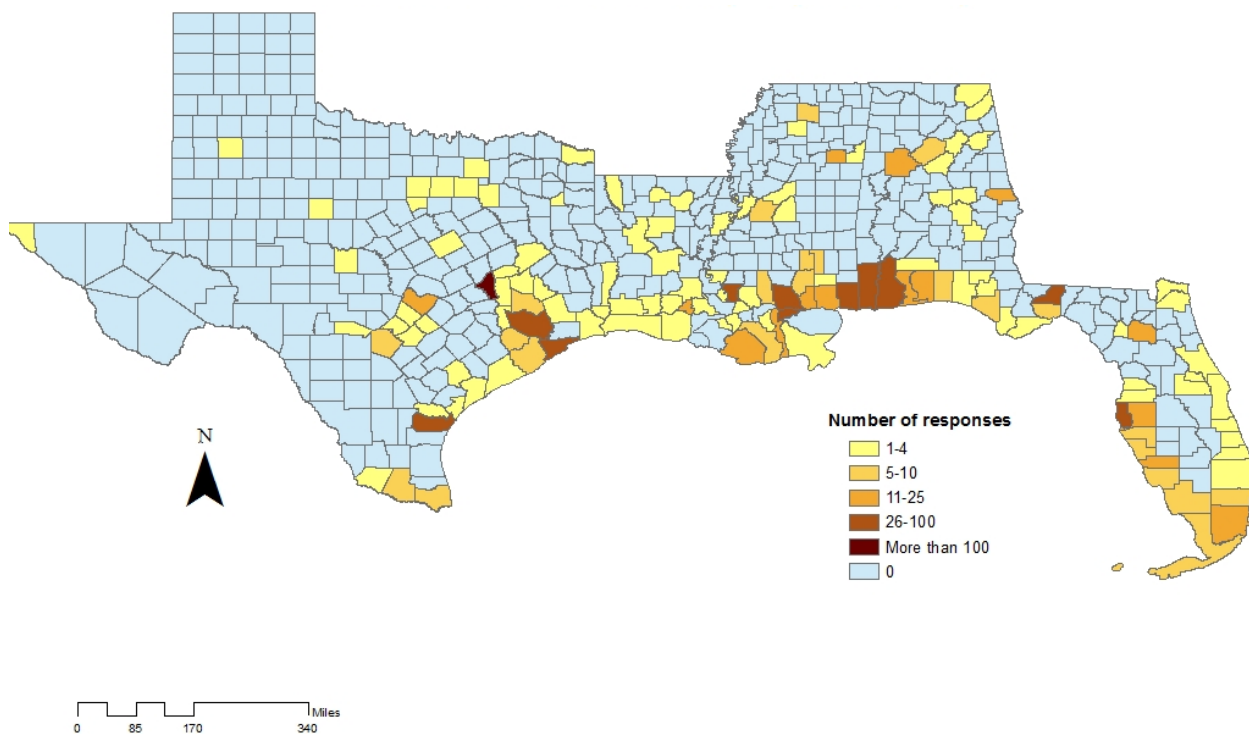

Figure 1. Number of respondents to the 2013 GMRP survey by state (N=1,637).

Generated in ArcGIS 10.1 by Steve Sempier

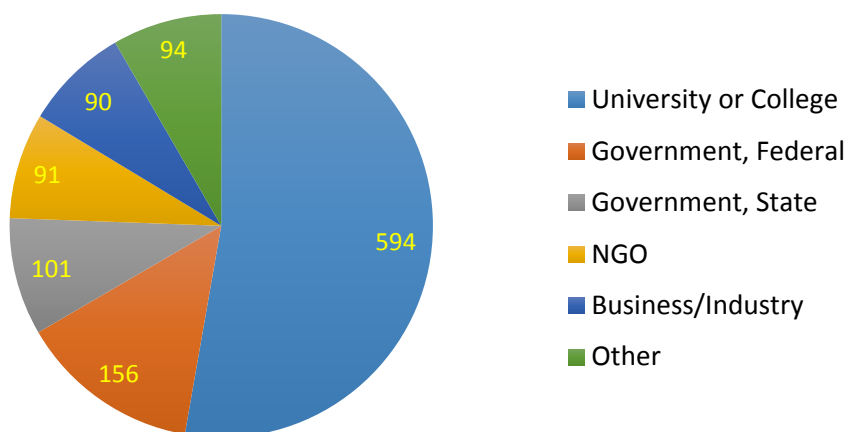Figure 2. Number of responses to the 2013 GMRP survey by county for U.S. Gulf of Mexico states (N=1,315).

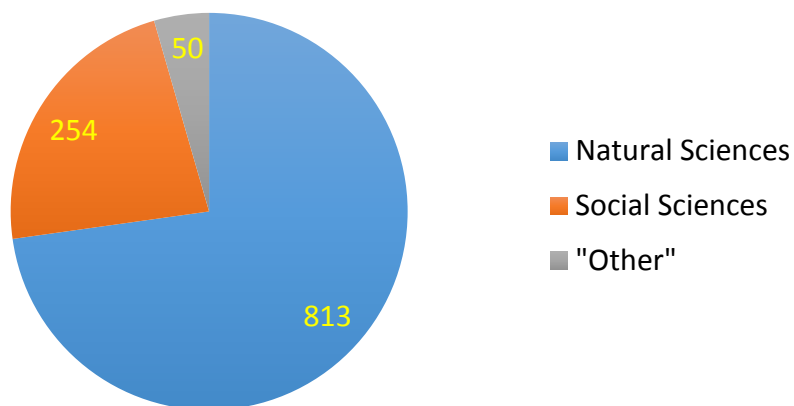Figure 3. Number of 2013 GMRP survey respondents by affiliation (N=1,126).

Figure 4. Number of 2013 GMRP survey respondents by area of expertise aggregated into "natural sciences," "social sciences" and "other" (N=1,117).
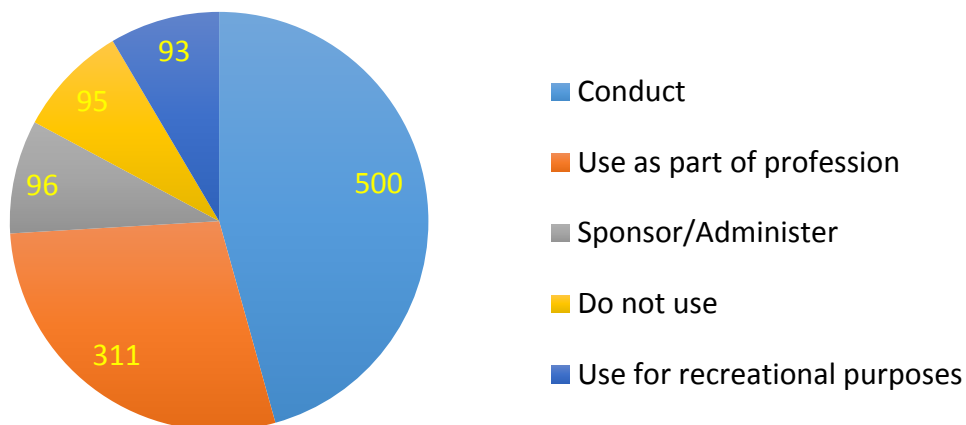

Figure 5. Number of 2013 GMRP survey respondents categorized by their primary relationship to Gulf of Mexico research (N=1,095).

Appendix—2013 GMRP Survey Demographic Statistics

Table 1. Number of research priorities identified in open-ended responses to the 2013 GMRP survey that related to GOMA PITs and subcategories. Note that the same research priority may have linked to multiple PITs and/or subcategories.

Priority Issue Team and Subcategories	Number of Research Priority References
Ecosystem Integration and Assessment	**55**
Ecosystem health	19
Ecosystem service valuation	15
Ecosystem connectivity	9
Ecosystem change over time	4
"Other" EIA	9
Education	**25**
Habitat Conservation and Restoration	**233**
Monitoring changes in habitat	68
Ecosystem services	32
Technological development	19
Regional sediment plan	17
Policy change	14
Expand partnerships	4
"Other" Habitat Conservation and Restoration	102
Nutrients	**48**
Hypoxia	13
Nutrient reduction	13
Nutrient characterization and criteria	11
"Other" Nutrients	12
Resilience	**144**
Climate or sea level-specific	52
Management	29
Assessment	26
Tropical Storm-specific	14
Communication	4
"Other" Resilience	37
Water Quality	**88**
Monitoring	13
Pathogens	5
Mercury	4
Harmful Algal Blooms	1
"Other" Water Quality	67
Other Topics	**583**