



OIL SPILL SCIENCE

SEA GRANT PROGRAMS OF THE GULF OF MEXICO

PREPARING FOR OIL SPILLS IN THE EASTERN GULF: A REGIONAL WORKSHOP REPORT FROM THE NATIONAL ACADEMIES AND SEA GRANT COLLABORATIVE WORKSHOP SERIES



May 6-7, 2019, Riverview Plaza Hotel, Mobile, Alabama
May 7, 2019, Bayou La Batre Community Center, Bayou La Batre, Alabama

Contents

Acknowledgements	ii
Executive Summary	iii
Introduction	1
Methods	3
Mobile, Alabama	4
Bayou La Batre, Alabama	6
Results	7
Participants	7
Mobile Workshop Participant Feedback.....	7
Suggested protocols	8
Pilot project ideas.....	9
Research and outreach priorities.....	10
Resources	12
Bayou La Batre Workshop Participant Feedback	14
Pilot project ideas.....	14
Research and outreach priorities.....	15
Resources	15
Conclusion	15
References.....	16
Appendices	17
Appendix A: Workshop Agendas.....	17
Appendix B: Detailed Responses from Mobile Workshop Participants	20
Appendix B1. Suggested protocols	20
Appendix B2. Suggested pilot projects.....	26
Appendix B3. Research priorities	30
Appendix B4. Outreach priorities	32
Appendix B5. Resources currently available	35
Appendix B6. Resources needed	38
Appendix C: Detailed Responses from Bayou La Batre Workshop Participants.....	41
Appendix C1. Suggested pilot projects	41
Appendix C2. Research and outreach priorities	41
Appendix C3. Available and needed resources	42
Appendix D: Workshop Evaluation Form.....	43
Appendix E: Workshop Evaluations for Mobile Event	45
Appendix F: Workshop Evaluations for Bayou La Batre Event	49
Appendix G: Abbreviations	53

Acknowledgements

This collaborative workshop was made possible with support from the National Academies of Sciences, Engineering, and Medicine's Gulf Research Program and the Gulf of Mexico Research Initiative. Additional support came from the Alaska Sea Grant College Program, Florida Sea Grant College Program, Louisiana Sea Grant College Program, Mississippi-Alabama Sea Grant Consortium, Texas Sea Grant College Program, University of Southern California Sea Grant Institutional Program, and Virginia Sea Grant College Program. Special thanks to Carolyn Bigos (U.S. Coast Guard), Emily Blejwas (Gulf States Health Policy Center), Ryan Bradley (Mississippi Commercial Fisheries United), Jeff Collier (Town of Dauphin Island), Adam Davis (National Oceanic and Atmospheric Administration), Carl Edmiston (U.S. Coast Guard, Retired), Melissa Finucane (RAND Corporation), Duane Gill (Oklahoma State University), Cathy Holmes (Navarre Beach Sea Turtle Conservation Center), Debbie Jones (Organized Seafood Association of Alabama), Kathryn Keating (Louisiana State University), Katherine Kirkland (Association of Occupational and Environmental Clinics), Juston Lee (U.S. Coast Guard), Jordan McGee-Davila (U.S. Coast Guard), Eric Passarelli (U.S. Coast Guard), Michael Sams (U.S. Coast Guard), Kim-Lien Tran (Boat People SOS), Chris Verlinde (Florida Sea Grant College Program), Thao Vu (Mississippi Coalition for Vietnamese-American Fisher Folks and Families), and Maggie Walser (National Academies of Sciences, Engineering, and Medicine). Special thanks to LaDon Swann (Mississippi-Alabama Sea Grant Consortium) for providing edits and feedback and Amanda Morgan (Amanda A. Morgan editorial services) for providing editing and layout services.

Cover photo

Shrimp boats line the dock inside the harbor at Bayou La Batre, Alabama. Photo by Mississippi-Alabama Sea Grant Consortium.

Suggested citation

Partyka, M., Hale, C., Maung-Douglass, E., Sempier, S., and Skelton, T. (2019). Preparing for oil spills in the eastern Gulf: A regional workshop report from the National Academies and Sea Grant collaborative workshop series, held May 6–7 in Mobile and Bayou La Batre, Alabama. GOMSG-W-19-001.



Coastal residents, community advocates, researchers, responders, oil and gas representatives, and outreach professionals gather at the Bayou La Batre Community Center in Bayou La Batre, Alabama, to share stories of oil spill impacts and to talk about how communities can prepare for another spill. Photo by Texas Sea Grant College Program.

Executive Summary

The Deepwater Horizon oil spill of 2010 led to the establishment of the Gulf Research Program (GRP), “an independent, science-based program [of the National Academies of Sciences, Engineering, and Medicine (NASEM)] that funds studies, projects, and other activities in the areas of research and development, education and capacity building, and monitoring and synthesis” (NASEM GRP, 2019). In 2018 and 2019, GRP collaborated with the Gulf of Mexico Research Initiative and multiple Sea Grant college programs to conduct a series of workshops to gather local input from communities that have been or are likely to be impacted by oil spills. A total of five workshops were held in West Coast, mid-Atlantic, Alaska, and eastern and western Gulf of Mexico communities.

This report highlights priorities for the eastern Gulf region, identified by a diverse audience convened at two workshops in Alabama—in Mobile and Bayou La Batre—on May 6–7, 2019. Participants focused on three broadly defined themes: building resilience to future events, incorporating human health and societal needs into oil spill response, and understanding risk before, during, and after a spill.

Workshop participants suggested emergency response protocols, pilot project ideas, research and outreach priorities, and resources available and needed that addressed the three themes. Participants in both events sought greater transparency in and access to information on oil spills and their impacts, both through changes in existing protocols and through provision of additional resources. Discussion centered on integrating communities into the local and regional response framework so that incident- and recovery-related information could continue to flow within communities long after a disaster. They also wanted to see greater inclusion of community members and leaders in oil spill response and identified a clear need for more training and support of community members on the front lines of disaster response.

Pilot project ideas and research priorities identified in both locations included creating and making widely available education and training programs that respect diverse cultures in order to build capacity to cope with the mental, physical, social, and economic consequences of future spills. Participants raised issues with the existing claims and compensation process, highlighting the need for greater transparency. Participants also focused on the need for spill prevention and ways to assure the public that lessons had been learned from the Deepwater Horizon oil spill. Engagement between outreach professionals and impacted communities remains an ongoing need long after the response has concluded.

The results described in this report have been combined with those from four other regional workshop reports into a summary document that identifies research and outreach priorities that have national significance. This feedback will inform future funding competitions in support of research, outreach, and/or pilot projects related to oil spill preparedness and human well-being.

Introduction

Following the Deepwater Horizon (DWH) oil spill of 2010, the federal government asked the National Academies of Sciences, Engineering, and Medicine (NASEM) to establish a new program dedicated to funding and conducting activities related to offshore energy system safety, human health, and environmental resources. The new program became the NASEM's Gulf Research Program (GRP), "an independent, science-based program that funds studies, projects, and other activities in the areas of research and development, education and capacity building, and monitoring and synthesis" (NASEM GRP, 2019). Activities focus on the transfer of knowledge within the Gulf of Mexico region and other U.S. regions where human communities, ecosystems, and energy production co-exist. Furthermore, GRP's Thriving Communities Initiative "seeks to improve the quality, accessibility, and use of information about how to protect communities from the impacts of oil spills" (NASEM GRP, 2019). For more information about the GRP, visit www.nationalacademies.org/gulf.

In 2017, GRP and the Health and Medical Division of NASEM hosted a workshop in Washington D.C. titled "Preparing for a rapid response to major marine oil spills: Protecting and assessing the health and well-being of communities" (Giammaria, Nicholson, & Snair, 2018). The workshop participants discussed research opportunities for improving public health preparedness, response, and protection associated with oil spills. They identified potential challenges and opportunities for communities to support preparedness and resiliency after a spill and recommended that GRP gather input at the local level.

To address the need for local-level input and other recommendations identified in the August 2017 workshop, GRP collaborated with seven of the 34 Sea Grant college programs via the Gulf of Mexico Sea Grant Oil Spill Science Outreach Program. The outreach program's team is comprised of staff from the Florida Sea Grant College Program, Louisiana Sea Grant College Program, Mississippi-Alabama Sea Grant Consortium, and Texas Sea Grant College Program. They focus on synthesizing, translating, and delivering peer-reviewed oil spill science information for people whose livelihoods depend on healthy natural resources. With support from the GRP as well as the Gulf of Mexico Research Initiative, the team led two workshops in the Gulf of Mexico region and partnered with the Alaska Sea Grant College Program, University of Southern California Sea Grant Institutional Program, and Virginia Sea Grant College Program to lead regional workshops in their locations. The goal was to gather feedback at the local and regional levels to identify opportunities to improve preparedness for oil spills. The five regions identified for this national collaborative effort—the West coast, mid-Atlantic, Alaska, and eastern and western Gulf of Mexico—are all home to communities that have been impacted by oil spills. One workshop was planned for each region, focusing on three broadly defined topical areas—minimizing health, social, and economic disruptions after oil spills.

A GRP research fellow prepared a pre-workshop summary document to inform the development of the workshop series (Sibley & Hale, 2018). A project planning committee comprised of emergency responders, researchers, GRP advisory board members, and Sea Grant professionals formed in 2018 to guide the development of all five workshops (Figure 1). This project planning committee participated in monthly teleconferences to discuss the project objectives, recommend topics and speakers for each workshop, and review planning and reporting documents associated with the overall project. The following, listed alphabetically, were members of the project planning committee:

- Torie Baker, formerly Alaska Sea Grant College Program
- Michelle Covi, Virginia Sea Grant College Program
- Linda Duguay, University of Southern California Sea Grant Institutional Program

- Phyllis Grifman, University of Southern California Sea Grant Institutional Program
- Chris Hale, Texas Sea Grant College Program (chair)
- Doug Helton, National Oceanic and Atmospheric Administration Office of Response and Restoration
- Christopher Hershey, U.S. Coast Guard
- Davin Holen, Alaska Sea Grant College Program
- Richard Kwok, National Institute of Environmental Health Sciences
- Missy Partyka, Mississippi-Alabama Sea Grant Consortium
- Chris Rea, NASEM GRP
- Liesel Ritchie, Oklahoma State University and NASEM GRP Advisory Board
- Marika Schulhof, University of Southern California Sea Grant Institutional Program
- Stephen Sempier, Mississippi-Alabama Sea Grant Consortium
- Martha Sibley, NASEM GRP Fellow, Oklahoma State University
- Kevin Sligh, U.S. Coast Guard
- Grace Walker, Virginia Sea Grant College Program
- Maggie Walser, NASEM GRP



Figure 1. Five regional workshop planning committees and a project planning committee organized the workshops.

Each of the five Sea Grant program workshop leaders gathered a team of experts to form regional workshop planning committees to organize the five workshops. Each workshop planning committee identified locally and regionally relevant themes that aligned with the project goals and objectives. The five workshop planning committees identified leaders representing impacted communities as well as experts in emergency response and preparedness, oil spill science, and human health and well-being, and invited them to share

their knowledge with an audience of community stakeholders. The committees also established opportunities for participants to provide input that would be recorded and reported back to GRP.

The five workshop planning committees hosted the workshops in locations where communities had experienced or were likely to experience oil spills, listed here in order of occurrence:

- Houma, Louisiana, December 4–5, 2018
- Anchorage, Alaska, February 20–21, 2019
- Virginia Beach, Virginia, March 29, 2019
- Santa Barbara, California, April 5, 2019
- Mobile and Bayou La Batre, Alabama, May 6–7, 2019

This collaborative effort between GRP, Sea Grant, and the Gulf of Mexico Research Initiative focused on the workshop series' designated topical areas—improving oil spill preparedness with a focus on public health, social disruptions, and economic impacts resulting from oil spills—to produce the following specific deliverables:

- clearly identified and articulated regional research and outreach priorities within the topical areas;
- clearly identified and articulated inter-regional research priorities within the topical areas;
- a list of suggested emergency response protocols to include in existing response and regulatory frameworks;
- a list of local, state, or regional pilot project ideas within the topical areas;
- a list of resources available within the topical areas;
- increased understanding of the topical areas by workshop participants;
- a foundation for future funding proposals to support research, outreach, and/or pilot projects related to the topical areas; and
- five workshop reports (one per regional workshop) and a synthesized summary document.

This report summarizes the suggested emergency response protocols, pilot projects, research and outreach priorities, and resources for improving oil spill preparedness that were identified by participants in the eastern Gulf of Mexico regional workshop.

Methods

The workshop planning committee for the eastern Gulf regional installment of this workshop series included members of three Sea Grant programs, members of the response community, and a public health specialist, listed below alphabetically:

- Carolyn Bigos, U.S. Coast Guard
- Emily Blejwas, Gulf States Health Policy Center
- Jordan McGee-Davila, U.S. Coast Guard
- Chris Hale, Texas Sea Grant College Program
- Missy Partyka, Mississippi-Alabama Sea Grant Consortium (workshop leader)
- Eric Passarelli, U.S. Coast Guard

- Stephen Sempier, Mississippi-Alabama Sea Grant Consortium
- Chris Verlinde, Florida Sea Grant College Program
- Daniel Wheeler, U.S. Coast Guard

The workshop planning committee benefited from the experiences of other regions' organizers as well as the feedback from those workshops' participants. One suggestion from previous participants was to hold the workshop either on a weekend or outside of traditional working hours to reach community members unable to leave work or arrange childcare to attend. In an effort to be adaptive and inclusive, the workshop planning committee decided to hold two separate workshop events. Both events were broadly advertised through the Sea Grant network, social media, email lists, and community meetings.

Mobile, Alabama

The first event took place in Mobile, Alabama, over two days. The workshop planning committee chose Mobile for its accessibility and centrality in the eastern Gulf of Mexico. Mobile, like coastal Alabama as a whole, is home to a mixed population including fishing families, hospitality workers, members of the oil and gas industry, and a wealth of other community members who both enjoy and rely on the natural resources of the Gulf of Mexico. Many of the surrounding communities were impacted by the 2010 DWH oil spill.

The Mobile event included a series of talks by members of the response community; experts in the social, mental, and physical health impacts of oil spills; and representatives of impacted

communities and economic sectors. Panel discussions alternated with speakers, with an additional panel made up of community members (Figure 2) impacted by the DWH oil spill in unique and diverse ways. Organizers built time into the program to allow for engagement and discussion in a large-group setting as well as additional periods for small-group or breakout sessions. The workshop began (Figure 3) and ended with a brief online questionnaire to gauge the topics that were of greatest concern to workshop participants. The full agenda for the Mobile event can be found in Appendix A.



Figure 2. Mayor Jeff Collier (Town of Dauphin Island, Alabama), Ryan Bradley (Mississippi Commercial Fisheries United), and Melissa Finucane (RAND Corporation) share their perspectives on recovering from Gulf Coast disasters. Photo by Texas Sea Grant College Program.

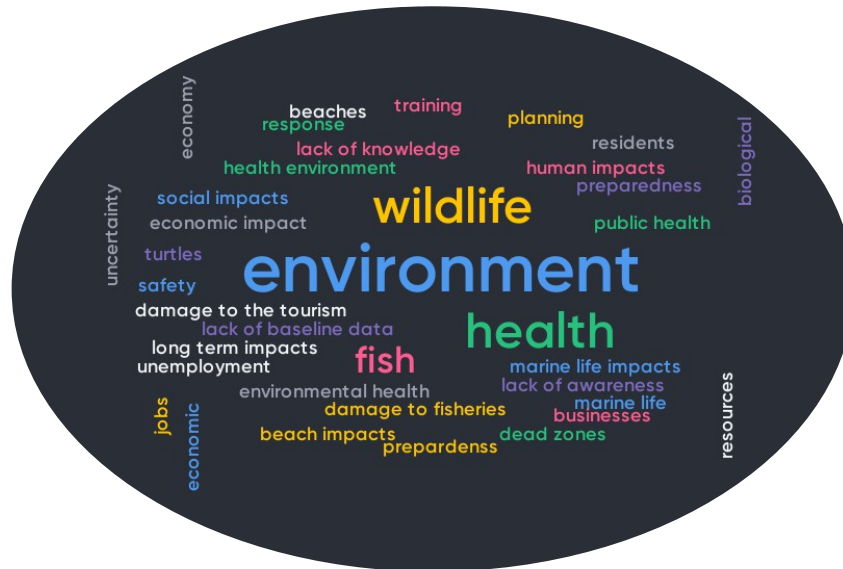


Figure 3. Word cloud generated using participant responses at the beginning of the workshop to the question “In three words or less, what are your biggest concerns about oil spill impacts?” Image created by Mississippi-Alabama Sea Grant Consortium staff using Mentimeter software.

Three themes were chosen as the focus for the workshop, based on a review of past workshop reports (Giammaria et al., 2018) and community needs assessments (Sempier, Graham, Maung-Douglass, Wilson, & Hale, 2015; Sibley & Hale, 2018) and in consultation with the project planning committee:

- building resilience to future events;
- incorporating human health and societal needs into oil spill response; and
- understanding risk before, during, and after a spill.

To explore each of these themes, participants were asked to answer four discussion questions for each theme:

- a. What are the **suggested protocols** to include in existing response and regulatory frameworks that address the theme?
- b. What **pilot project ideas** do you have that address the theme?
- c. What are the **research and outreach priorities** that address the theme?
- d. What **resources** are available that address the theme?

For example, the first breakout session focused on the theme “building resilience to future events,” and participants were asked, “What are some suggested protocols to include in existing response and regulatory frameworks that will help communities build resilience to future events?” All three breakout sessions followed this format so that same four questions were answered in each session. The four questions were standardized across all five regional workshops, while each workshop developed unique themes that were most important to its region.

To guide and document discussion during the breakout sessions, Sea Grant extension professionals served as facilitators and note takers. Breakout sessions were one hour long, allowing for roughly 15 minutes of discussion per question (a through d above), though facilitators allowed discussions to evolve as necessary. Participants joined one of two to four

smaller discussion groups that ranged in size from 9 to 15 participants. The smaller discussion groups improved sharing and ensured the facilitator could capture all aspects of the discussion. The facilitator recorded responses and conversations on flipcharts, intervening only to help focus the conversations and suggestions into the established outputs. All flipchart pages were photographed to maintain a digital record prior to transcription by facilitators and compilation by the workshop lead.

Bayou La Batre, Alabama

The second event took place in the coastal community of Bayou La Batre, Alabama, during the evening to enable family attendance. Workshop planning committee members used grassroots methods to advertise for the event. They posted workshop fliers at local grocery stores, restaurants, churches, and hardware stores to reach community members who either had limited access to the internet or were unlikely to subscribe to email lists advertising the workshop series. The fliers were produced in multiple languages in addition to English, specifically Lao, Khmer (Cambodian), and Vietnamese—three languages spoken extensively throughout Alabama’s rural fishing communities. Members of the workshop planning committee and other community leaders helped to spread information about the workshop through word of mouth and by posting information about the workshop on their Facebook pages.

Bayou La Batre and its residents were the subject of repeated and regular study following the DWH oil spill by social scientists, health care researchers, and economists. The DWH oil spill negatively impacted local economies because many residents of this and neighboring communities rely on the fishing industry for employment. The economic impacts contributed to negative mental and physical health outcomes for community members (Buttke et al., 2012; Patel, Saltzman, Ferreira, & Lesen, 2018). The workshop planning committee made efforts to remain sensitive to the oil spill impacts as well as the impact on this community of being regularly studied.

Based on audience input from previous workshops, the structure of this event was purposefully different from that of the Mobile event. The time frame was abbreviated to two hours, with a brief presentation by two members of U.S. Coast Guard Sector Mobile followed by sharing of stories by members of the community. The workshop concluded with a 40-minute discussion and question/answer session facilitated by Sea Grant extension professionals (Figure 4). To capture input from the participants, the session leader focused the discussion on the central topic of community preparedness and



Figure 4. Steve Sempier (standing at rear) from Mississippi-Alabama Sea Grant Consortium helps field community questions during the workshop at Bayou La Batre Community Center. Photo by Texas Sea Grant College Program.

outreach needs. The schedule also allowed time for translation of presented information and stories into Vietnamese and Khmer.

For the sake of anonymity, the names of participants in both events are excluded from this report. However, participants self-identified their sector (e.g., response, seafood industry) and affiliations (e.g., U.S. Coast Guard, self-employed fisher) during the registration process and when filling out a post-workshop evaluation (Appendices D–F).

Results

Participants

Forty-four people, including speakers and facilitators, participated in the two-day Mobile event. Fifty-four people, including speakers and facilitators and excluding children, participated in the Bayou La Batre evening event. Participants represented all three eastern Gulf states—Alabama, Florida, and Mississippi—as well as Louisiana and Texas. They also came from a variety of sectors (Figure 5).

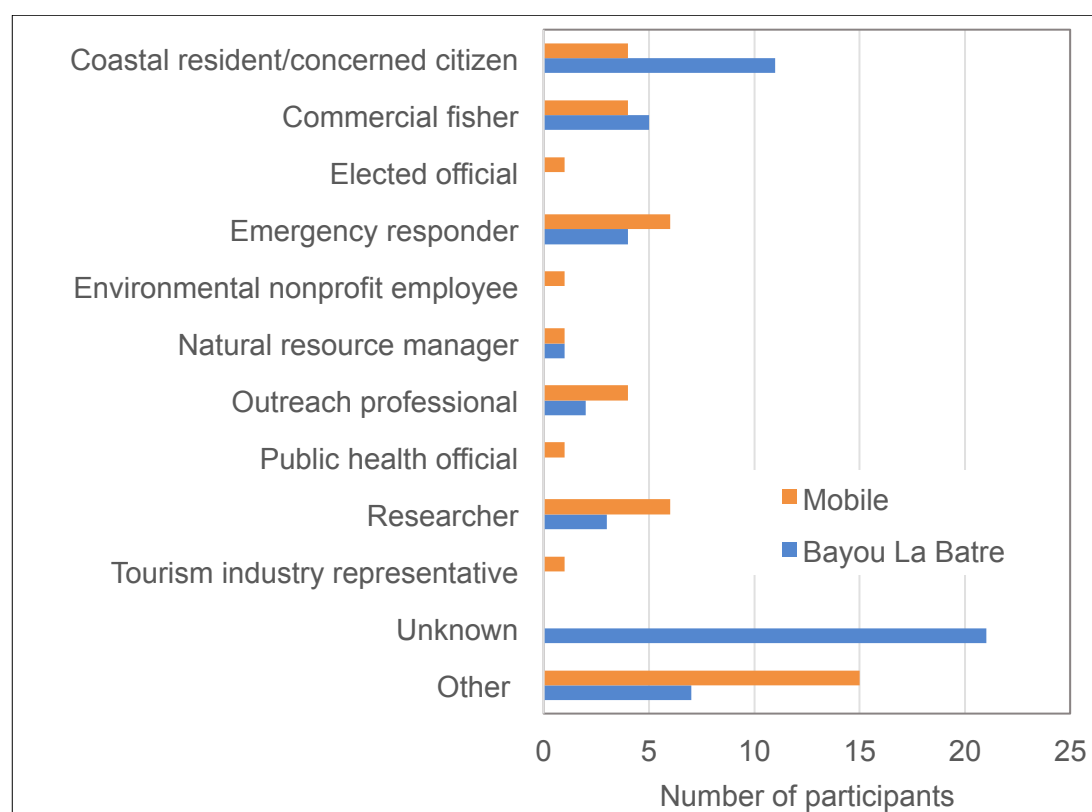


Figure 5. Sectors represented by participants in the two sessions.

Mobile Workshop Participant Feedback

During three breakout sessions, participants suggested multiple changes to existing response protocols, described pilot project ideas, identified research and outreach priorities, and shared information on resources that are currently available or needed for each of the themes. The need for transparency, building of trust, and improved communication were common concerns raised in every discussion. A key concern was the disconnect between response activities and the communities impacted by spills. Participants expressed uncertainty about where and how to find accurate information, which sources to trust, and

how to share information with community members who are not connected to the internet or do not speak or read English. These suggestions, ideas, priorities, and needs were captured by breakout session facilitators. They are summarized briefly below, organized by discussion question, and presented in full in Appendix B.

Suggested protocols

Participant suggestions for improving existing response protocols or creating additional protocols can be roughly grouped into five categories: communication, training/education, compensation, planning, and health. Participant comments are summarized in Tables 1a–1c and listed in full in Appendix B1.

Table 1a. Protocols for building resilience to future events (breakout session 1).

Key categories	Number of responses
Communication	26
Planning	16
Compensation	12
Health	2
TOTAL	56

Table 1b. Protocols for incorporating human health and societal needs into oil spill response (breakout session 2).

Key categories	Number of responses
Planning	8
Communication	6
Training/education	6
Compensation	3
Health	3
Total	26

Table 1c. Protocols for understanding risk before, during, and after a spill (breakout session 3).

Key categories	Number of responses
Training/education	16
Planning	6
Communication	5
Total	27

The above five categories cover a wealth of subcategories. For example, participants regularly mentioned the need for public information officers (PIOs), people who coordinate communication between response agencies and communities, to have local knowledge and be culturally sensitive and to work with trusted community liaisons to share information. These suggestions were categorized under “communication” but also relate to trust, relationships, and potential language barriers. Communication, the most common need identified by participants, can be further divided into subcategories: sharing information from trusted sources (n = 18), building relationships (n = 8), using or creating a community liaison or PIO (n = 6), holding public meetings (n = 3), and addressing language barriers and cultural sensitivities (n = 2).

Pilot project ideas

Participants shared 55 ideas and suggestions for potential pilot projects that could help address the three themes: building resilience to future events (Figure 6); incorporating human health and societal needs into oil spill response; and understanding risk before, during, and after a spill. The suggestions covered a variety of topics, from translation services to improved community engagement to the creation of story-sharing spaces where members of the public could talk and hear about community experiences. Though the suggestions were diverse, they could generally be consolidated into six main categories: community engagement, foundation/infrastructure, healthcare, training/education, information sharing, and research. The foundation/infrastructure category includes diverse needs such as increased staffing, physical buildings, and spaces to gather. A summary of the responses is provided in Tables 2a–2c, and the full responses are provided in Appendix B2.



Figure 6. Florida Sea Grant extension agent Chris Verlinde facilitates a breakout session on how communities can build resilience to future oil spills. Photo by Mississippi-Alabama Sea Grant Consortium.

Table 2a. Pilot project ideas for building resilience to future events (breakout session 1).

Key categories	Number of responses
Community engagement	7
Foundation/infrastructure	7
Information sharing	6
Research	4
Healthcare	3
Training/education	3
Total	30

Table 2b. Pilot project ideas for incorporating human health and societal needs into oil spill response (breakout session 2).

Key categories	Number of responses
Training/education	5
Foundation/infrastructure	3
Information sharing	2
Research	2
Healthcare	1
Total	13

Table 2c. Pilot projects for understanding risk before, during, and after a spill (breakout session 3).

Key categories	Number of responses
Community engagement	4
Training/education	3
Information sharing	2
Healthcare	1
Foundation/infrastructure	1
Research	1
Total	12

Research and outreach priorities

Participants identified 102 research and outreach priorities that they feel should be created or expanded to improve community preparedness for future oil spill events. Their ideas were diverse and far-ranging. Research priorities could be generally grouped into five categories: community, education, health, socioeconomic, and general. Most suggestions focused on impacts to human health, both mental and physical, and socioeconomic issues. For example, they suggested research to improve understanding of the roadblocks to disaster preparedness.

These suggestions are summarized in Tables 3a–3c and listed in full in Appendix B3. Participants were also asked about research priorities in a brief online questionnaire at the end of the workshop; their answers are summarized in Figure 7.

Table 3a. Research priorities for building resilience to future events (breakout session 1).

Key categories	Number of responses
Community	3
Health	2
Education	1
General	1
Total	7

Table 3b. Research priorities for incorporating human health and societal needs into oil spill response (breakout session 2).

Key categories	Number of responses
Socioeconomic	13
Health	11
Education	1
Total	25

Table 3c. Research priorities for understanding risk before, during, and after a spill (breakout session 3).

Key categories	Number of responses
Socioeconomic	8
Health	3
Education	2
Total	13

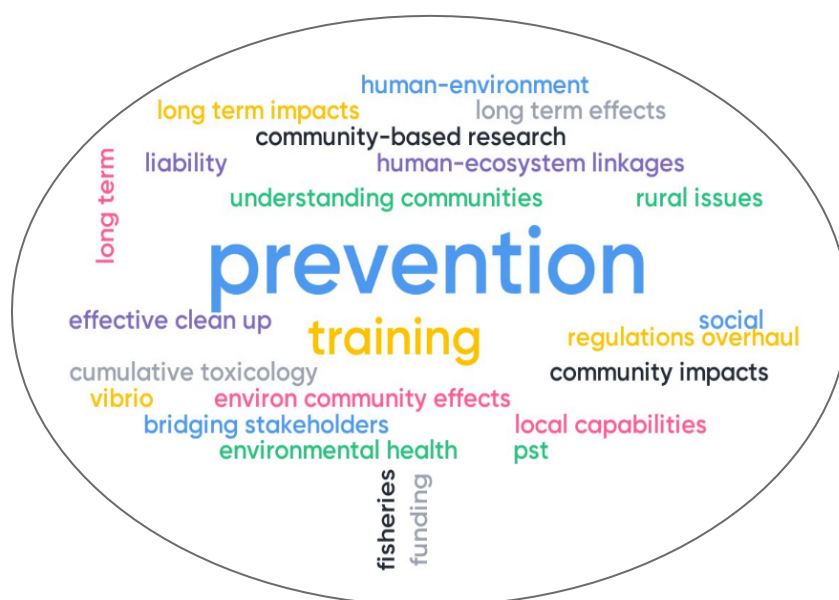


Figure 7. Word cloud generated from Mobile workshop participant responses to the question “In three words or less, what do you think future oil spill research should focus on?” Image created by Mississippi-Alabama Sea Grant Consortium staff using Mentimeter software.

The number of suggestions for outreach priorities (57) was greater than the number of suggestions for research priorities (45). The outreach priorities were grouped into five categories: community, education/training, health, information transfer, and general. The suggestions for education and training for outreach programs went beyond the general transfer of information on a specific topic. For example, participants highlighted the need for engagement with young people and the advancement of scientific literacy in underserved communities. Responses are summarized in Tables 4a–4c and listed in detail in Appendix B4.

Table 4a. Outreach priorities for building resilience to future events (breakout session 1).

Key categories	Number of responses
General	8
Information transfer	6
Community	5
Health	4
Education/training	3
Total	26

Table 4b. Outreach priorities for incorporating human health and societal needs into oil spill response (breakout session 2).

Key categories	Number of responses
General	3
Community	3
Information transfer	3
Education/training	2
Total	11

Table 4c. Outreach priorities for understanding risk before, during, and after a spill (breakout session 3).

Key categories	Number of responses
Health	9
Community	7
Information transfer	3
General	1
Total	20

Resources

Participants identified multiple resources that are either currently available or needed to help build community resilience, incorporate human health and societal needs into oil spill responses, and improve understanding of risk around oil spills. These resources fell into seven categories: community, education, financial, health, information, networking, and response. Community resources included civic, faith-based, and family resources outside of the health network. The networking category covered resources that are available to community members involved in response, policy-making, resource management, and academia, and included multiple regional and national conferences.

Tables 5a–5c summarize resources identified by participants as currently available, and Tables 6a–6c summarize resources identified as needed. Detailed responses are listed in Appendices B(5) and B(6), respectively.

Table 5a. Resources available for building resilience to future events (breakout session 1).

Key categories	Number of responses
Information	12
Community	7
Health	3
Financial	2
Response	1
Total	25

Table 5b. Resources available for incorporating human health and societal needs into oil spill response (breakout session 2).

Key categories	Number of responses
Health	9
Education	3
Community	2
Financial	1
Total	15

Table 5c. Resources available for understanding risk before, during, and after a spill (breakout session 3).

Key categories	Number of responses
Networking	9
Information	5
Community	5
Response	2
Total	21

Table 6a. Resources needed for building resilience to future events (breakout session 1).

Key categories	Number of responses
Information	8
Health	2
Response	2
Community	1
Financial	1
Total	14

Table 6b. Resources needed for incorporating human health and societal needs into oil spill response (breakout session 2).

Key categories	Number of responses
Financial	6
Education	4
Community	1
Health	1
Total	12

Table 6c. Resources needed for understanding risk before, during, and after a spill (breakout session 3).

Key categories	Number of responses
Information	2
Health	1
Total	3

Bayou La Batre Workshop Participant Feedback

The evening event in Bayou La Batre solicited feedback from participants in a larger group discussion setting without the use of smaller breakout groups. The discussions and suggestions from participants focused on several topics. The most frequently mentioned were impacts to human health, economic opportunity, and concern about the environment. For example, participants voiced concerns about water quality and impacts on the shellfish industry but also about the long-term health effects of dispersants. They expressed frustration over a lack of transparency and communication between the response sector and the local community. This led to lack of trust and to concern that they were being left out of the conversation about response planning.

Participants' responses are summarized below and presented in detail in Appendix C.

Pilot project ideas

Participants suggested six potential pilot projects (Table 7) addressing socioeconomic, environmental, and training issues. Participants were interested in training programs related to exposure hazards, particularly programs offered in multiple languages. They also suggested the creation of fishing cooperatives that can provide resource support and information exchange.

Table 7. Pilot projects suggested by Bayou La Batre workshop participants.

Key categories	Number of responses
Socioeconomic	3
Environment	2
Training	1
Total	6

Research and outreach priorities

Participants suggested 11 potential research projects and outreach programs that could help communities prepare for and recover from future oil spills (Table 8). Most of the suggestions were related to either health or the environment, but one called for more information on the location and occurrence of spills.

Table 8. Research and outreach priorities identified by Bayou La Batre workshop participants.

Key categories	Number of responses
Health	8
Environment	2
Information	1
Total	11

Resources

Participants listed 14 resources—10 that are currently available and 4 that need to be expanded or created—to support the community before, during, and after a spill (Table 9). These fell into two categories: health and wellness resources, such as local free clinics, and community or social support resources, like church and family.

Table 9. Resources (available or needed) identified by Bayou La Batre workshop participants.

Key categories	Number of responses
Community/social support	10
Health and wellness	4
Total	14

Conclusion

The input gathered from participants in the Mobile and Bayou La Batre workshop events shared many points in common. Participants sought greater transparency in and access to information on oil spills and their impacts. They wanted to see community members and leaders included in oil spill response, and they saw the need for more training and support of community members on the front lines of disaster response. Participants in both workshops also focused on the need for spill prevention and assurance to the public that lessons had been learned from the DWH oil spill.

The biggest difference between the two events was the way in which participants described their feelings about recovery efforts and research communities. Participants at the Bayou La Batre event said that they had been left out of the conversations about oil spills and needed additional support beyond the duration of short-term research and outreach programs. They also expressed frustration at the difficulty in finding information on oil spill health impacts and the lack of resources to help their families in times of crisis. Mobile participants, on the other hand, many of whom participated in response efforts or research activities following the DWH oil spill, talked about the needs of community members through the lens of their own role in response activities. It was apparent from both workshop events that regular engagement with impacted communities should be prioritized.

These workshop results will be combined with the results of the western Gulf, mid-Atlantic, West Coast, and Alaska workshops, which were conducted as part of this collaborative effort. A summary document will be used as a foundation for future funding competitions in

support of research, outreach, and/or pilot projects related to oil spill preparedness and human well-being. Please visit <https://gulfseagrant.org/oilspilloutreach/collaborative-workshop-series/> to access the reports and learn more.

References

- Buttke, D., Vagi, S., Bayleyegn, T., Sircar, K., Strine, T., Morrison, M., . . . Wolkin, A. (2012). Mental health needs assessment after the Gulf Coast oil spill—Alabama and Mississippi, 2010. *Prehospital and Disaster Medicine*, 27(5), 401–408.
- Giammaria, C., Nicholson, A., & Snair, J. (2018). NASEM workshop summary: Preparing for a rapid response to major marine oil spills: Protecting and assessing the health and well-being of communities. *TR News*, 313, 21–25. Retrieved from <http://onlinepubs.trb.org/onlinepubs/trnews/trnews313.pdf>
- National Academies of Sciences, Engineering, and Medicine Gulf Research Program. (2019). About the Gulf Research Program. Retrieved from <http://nationalacademies.org/gulf/about/index.html>
- Patel, M., Saltzman, L., Ferreira, R., & Lesen, A. (2018). Resilience: Examining the impacts of the Deepwater Horizon oil spill on the Gulf Coast Vietnamese American community. *Social Sciences*, 7(10), 203.
- Sempier, S., Graham, L., Maung-Douglass, E., Wilson, M., & Hale, C. (2015). Summary of target audience input on oil spill science topics based on input collected between August 2014 and February 2015. GOMSG-S-15-001. Retrieved from <http://masgc.org/oilscience/final-target-audience-input-2014-early-2015.pdf>
- Sibley, M., & Hale, C. (2018). Oil spill science: Improving preparedness for marine oil spills to minimize health, social, and economic disruptions. GOMSG-W-18-002. Retrieved from <http://masgc.org/oilscience/NAS-Pre-Workshop-Summary.FINAL.pdf>

Appendices

The appendices provide the complete responses by workshop participants, which were summarized in the main body of the report, as well as workshop agendas, evaluation results, and definitions of abbreviations used in the workshop discussions.

Appendix A: Workshop Agendas

Preparing for oil spills in the eastern Gulf: Health, economic resilience, and community well-being May 6–7, 2019 Riverview Plaza Hotel, Mobile, Alabama

Day 1

8:30 – Welcome, Sea Grant oil spill program & NAS-GRP collaboration overview	Missy Partyka & Chris Hale, Sea Grant
8:45 – Ice breaker survey (see instruction page!)	Missy Partyka, Sea Grant
Regulation, response, and recovery	
8:55 – Pollution contingency planning and response overview	Mike Sams, USCG D8
9:15 – Managing the media during oil spills and other natural disasters	Juston Lee, USCG Sector Mobile PIO
9:35 – The multifaceted role of NOAA SSCs	Adam Davis, NOAA SSC
9:55 – Q/A panel discussion with all speakers	
10:10 – Break	
10:25 – Breakout Session 1: Building resilience to future events	
11:25 – Breakout report out (5 mins per team)	
11:45 – Lunch break	
Understanding spill impacts	
12:30 – Occupational and environmental health response to oil spills	Katherine Kirkland, AOEC
12:50 – Mental health in the years following the Deepwater Horizon oil spill	Kathryn Keating, LSU
13:10 – Social disruption following oil spills	Duane Gill, Oklahoma State University
13:30 – Preserving community by advocating for health	Kim-Lien Tran, Boat People SOS
13:50 – Q&A panel discussion with all speakers	
14:10 – Breakout Session 2: Incorporating human health and societal needs into oil spill response	
15:10 – Break	
15:25 – Breakout report out (5 mins per team)	
15:45 – Recap and quick overview for Day 2/ adjourn	Missy Partyka, Sea Grant

Day 2

8:00 – Welcome back, light breakfast

8:25 – Brief recap of yesterday

Missy Partyka, Sea Grant

Life on the coast

8:30 – The mixed economic impact of spills for fisherfolk

Ryan Bradley, MS Commercial Fisheries United, Inc.

8:50 – Island communities: recovering from multiple disasters

Mayor Jeff Collier, Town of Dauphin Island

9:10 – Communicating risk to diverse audiences

Melissa Finucane, RAND Corporation

9:40 – Q&A panel discussion with all speakers

10:00 – Break

10:15 – Community panel discussion: Sharing oil spill experiences and insights

Carl Edmiston, Ret. USCG, Karlos Finley Esq., Cathy Holmes Navarre, Sea Turtle Rescue

11:00 – Breakout session 3: Understanding risk before, during, and after a spill

12:00 – Lunch

13:00 – Breakout report out (5 mins per team)

13:20 – Wrapping up survey

Missy Partyka, Sea Grant

13:40 – Closing remarks, Adjourn

Missy Partyka, Sea Grant

Specific workshop outcomes:

- List of suggested protocols to include in existing response and regulatory frameworks
- List of pilot project ideas
- Identify research and outreach priorities
- List of resources available to address the topical issues
- Foster new connections and partnerships

Evening of Tuesday, May 7, 2019
Bayou La Batre Community Center, Bayou La Batre, Alabama

Specific meeting outcomes:

- Suggestions for changes or additions to existing protocols
- List of pilot project ideas
- Priorities for future research and outreach programs
- Availability of resources for spill preparation, response, and recovery
- Foster new connections and partnerships

5:00 – Registration, dinner from Catalina Restaurant

5:30 – Opening remarks, outlining goals for the evening Missy Partyka, MS-AL Sea Grant

5:45 – The flow of communication during oil spills Juston Lee, USCG Sector Mobile

6:00 – Stories from the eastern Gulf: A community panel discussion Kim-Lien Tran, Boat People SOS,
Debbie Jones, Organized Seafood,
Tara Steiner Marshall, Steiner
Shipyards

6:30 – Facilitated group discussion: increasing community preparation for spills

7:15 – Closing remarks, adjourn Missy Partyka, Sea Grant

Appendix B: Detailed Responses from Mobile Workshop Participants

Comments were transcribed by breakout session facilitators and reworded for clarity where necessary by report authors [in brackets]. Abbreviations used in the notes are explained in Appendix G. Categories within each appendix are presented alphabetically.

Appendix B1. Suggested protocols

1a. Suggested protocols for building resilience to future events (breakout session 1)

Communication

- All counties/communities should have their own PIO.
- All community PIOs can be represented and present to share during meetings.
 - DRC has space for all PIOs from community.
- Area Committee meeting invitations, planning, etc. gets handled internally but there is no single “inbox” for communications to reach; need one “inbox” that never changes.
 - E.g., create a general email address for Contingency Planning at the district level.
- Coast Guard and other response agencies should identify and develop relationships with community leaders.
- Communicate [information] to small groups to start and then move to larger groups.
- Communication [is important]—get information out in a way people can understand.
- Going through proper channels sometimes leads to inaction [e.g., bureaucracy can slow down communication preventing appropriate action].
- If information must be vetted for accuracy before sharing, how long will that take? [Response should] have some controls in place to keep public aware of the process to keep frustration at timeline down.
- Information coming out of ICS is too broad (general) for local action.
- Information comes better through leaders people trust. [People need to] TRUST THE SOURCE.
- Improve the communications [within response]. When [responders] change, information gets lost. Does the ACP address this? In the ACP, focus on entering the name of the position or role and not on the actual person’s name.
 - [Need] to keep consistent communications and point of contact as turnover occurs.
- It all goes back to trust—[need to] have it there in advance [of a spill].
- Local media, radio stations [have] more broad reach than online [sources].
- Make sure communication [about spills] is culturally responsive [e.g., different cultures may require different types of information].
- Many times, groups know what information they want, but they don’t know where to get it.
- Need neutral sources [of trusted information].

- Need to define whether [the] event is [an] emergency or not; that determines how information is shared before, during and after [a spill].
- Need to tell people the information [in a clear and timely manner].
- Need ways to ensure community PIOs liaise back to community.
 - E.g., Ms. Jones may be trusted but Ms. Jones needs to share back [to the community to maintain that trust].
- [Response should] have a plan in place to hold regular open houses to bring information directly to the community.
- There is a disconnect between people in [multi-cultural] communities being impacted and response (USCG, e.g.).
 - Language barrier needs to be addressed.
 - Non-English-speaking communities in particular. Community leaders need to be connected into response.
- Town hall meetings [are often] held by command, but not in all towns. [Communities may not know about town hall meetings if they are not held in their town.]
 - Location/time should be announced in advance.
- Trust must be maintained and ongoing.
- Turnover of emergency response staff/personnel affects response. [Need protocol for transfer of information during personnel changes.]
- Use leaders from local businesses to serve as trusted sources of information.
- Who will communicate [with communities]? Establish a point of contact and make sure everyone knows who it is.

Compensation

- Are there resources for others that are displaced but not selected for the VOO program?
- Changes to VOO program to allow for [more] community involvement.
- Demand systematic transparent process [for the VOO program and others].
- Having access to financial resources was good after [the] spill, but inadequate [to cover the full losses].
- How do we get involved [in VOO program]? Who do we turn to?
- How do people get on priority list for selection to a VOO program?
- Many [fisherfolk] left with nothing once contract capacity was met [on the VOO program].
- Need political influence/pressure to demand changes to VOO program.
- Not systematic approach [to selecting vessels for the VOO program].
- Responsible party was in control [of the VOO program], USCG had no control.
- VOO [was] born out of BP, not [the] command. BP [only] rented boats.
- VOO/SCAT needs to be better organized at the community level.
 - [Potentially controlled] within incident command.

Health

- Get baseline/benchmark data [on community and worker health] ahead of incidents.
- [Need distinction between] water column focus vs. on surface [focus on human health]. Improve the efforts to address surface and water column [safety] issues. Tourists encountering tar balls affects businesses [and] communities [because they are afraid of possible risks].

Planning

- Address the [perception] that response is politics-driven instead of science-based.
- Ambulances and other emergency services need to be housed at a safe space outside of the community [making them unavailable during an event].
 - But need safe space locally so emergency services remain nearby.
- Build a resource library of oil spill information—possible pilot project [as well].
- Exercises required [for communities to practice], but they (communities) exercise their plan. Plans can be flawed and need to exist to begin with [in order to be practiced].
- Find ways to incorporate social scientist(s) into response (command).
- For pending disasters, need to have mechanism to staff up [for] regional, state, county, and local action.
- Identify vulnerable groups [in advance of a disaster]!
- Improve or identify new/more locations for dispatching response.
- Know sectors who might be impacted and build relationships ahead of events.
- Need continuity of message [throughout response].
- Need neutral environment, safe spaces that people trust to receive services and information.
- Need resource for planning regarding barriers/engineering (e.g., Presidio Pass).
- Need to find out if [a/the] community has a plan [for oil spill events].
- Plans [should be] adjusted from lessons learned but [they] need to start from a plan.
- See what's already there [as a plan] to use as a basis for future work.
- Use TEK—local knowledge—identify local experts in advance. Local knowledge can sometimes counter models [so should be considered in response plan].

1b. Suggested protocols for incorporating human health and societal needs into oil spill response (breakout session 2)

Communication

- Can't rely [solely] on media, too biased/political to have consistent information.
- Disinformation [is] common, [and] people cannot be forced to use a single centralized source.
- Information not passed down below 30K foot level that one "ruler" took over [the] response [during DWH].
 - Looked like chaos to the outside [communities].

- Media can create anxiety.
 - Need central source but [some sources] can be sensationalized.
 - Need trusted local/regional source to ensure best information is shared.
- Need to listen to community about their priority concerns.
- Uncertainty [exists about how/when/where information is made available], need flow chart of how information flows to [the] public.
 - Flow charts exist, but are different for different organizations, so can get confusing.
 - More confusing when roles [are] overlapping.

Compensation

- Individuals don't always use money payouts as intended, dependents and debt collectors take their toll.
- Instead of giving people a check, is there a way to redirect those resources into specific sources?
 - E.g., grocery store vouchers, services, schooling.
 - Encourages resources back into community-based businesses.
- Monitor/track TWIC card holders [to understand how people are using resources].

Health

- Emergency responders [need to] have a baseline health assessment and mental health evaluation.
- [Need] health protection and safety guidelines (quick response) [for] disasters, including toxins, PPE, annual safety trainings by first responders and the EOC.
- Overall health tracking of all involved [in response]. Not only volunteers, [but also] contracted workers, and agencies.

Planning

- [Community members and all involved need to] be prepared to be the solution.
- Health care planning is undervalued [by many people].
 - We don't plan unless we have to, e.g., run on supplies before a storm.
- If [the] power goes out, how do we maintain healthy food, etc.?
- Involve volunteers in other activities/organizations (food banks, etc.).
- List of occupational health experts (e.g. toxicologists) [working] in the area.
- Make response about response and not politics. [Need to change perception that response is politically driven.]
- Need to get down to the community level [when creating plans].
 - What are the needs?
 - What level of needs are being met?
- Schools are primary food resources for some families; need to ensure they are supported during an event.

Training/education

- Basic cultural sensitivity training [is needed for responders].
- Incorporating disaster response/preparation into Common Core classroom curricula [to start children thinking about spill preparation].
- More stringent guidelines for volunteers, e.g. health assessment and training. Hazard training, PPE, etc. [are needed] from the beginning rather than mid-response. Include VOO, wildlife [handling], [and] cleanup [protocols].
- Response safety [is important]; federally acceptable [training] alternative(s) to OSHA HAZWOPER standards [would be useful].
- Training [is needed] for health professionals.
- Training overall. Volunteers need to be team players. Some agencies [are] not trained in ICS. Need complete documentation and training before response; [volunteers need to] know their role.

1c. Suggested protocols for understanding risk before, during, and after a spill (breakout session 3)

Communication

- Establish relationships and partnerships that lead to liaisons or someone to [act as a] bridge [between] communities and response.
- Local organizations [are] capable of disseminating valid/truthful information [and should be used].
 - E.g., [getting information out about] fisheries closures.
- Need laymanization of federal “languages” [used for response communication].
- Need translations [of risk information into additional languages] beyond word for word, must be contextually valid/appropriate.
- Translators not in cultural positions of authority may not be able to translate accurately.
 - E.g., age/deference may cause translators to censor information.

Planning

- ACM has pre-designated locations for initial response but can expand/change as response grows [and so should consider locations based on need].
- Does a registry of people with boats exist? Are they trained? If so, [the list] needs to be updated regularly.
 - E.g., the Cajun Navy is well organized [and up to date].
- For cleanup workers, [need to ensure they have] local understanding of oil and dispersants.
- Identify local experts to “sprinkle in” with responders/advisers.
- Need the development of a database of bi/multilingual people available [to help with] translation.
 - Local [bilingual] people are key [to building and maintaining trust].

- Sea Grant publications and seminars for both general communication and cleanup workers. Easy to digest, translated, available in locations where people can access that info. [Should] have the materials in ports, docks, and other coastal locations.

Training/education

- Connect with National Disaster Preparedness Day and insert spill preparation. Put it on the calendar and include all types of disasters. E.g., September is National Preparedness Month [so they should promote oil spill preparation].
- Connect with [existing] worker training programs (e.g., NIEHS).
 - E.g., PanCare clinic members went through this type of training for [the] first time in Ohio last year.
- Dauphin Island doesn't have a response team. [Need to] raise awareness to push for what is needed [in some communities like Dauphin Island].
- [Different timelines of training are needed]—48 hours (rapid) vs. a week (extended).
- Environmental education [is needed]. People hear about hurricane preparation but not so much regarding spills. [Should] incorporate spill preparedness for general public [into] communities [and] schools.
- Find ways to make hazard training more accessible and more affordable.
- [Funding for training is an issue.] Who is going to pay to get locals trained?
- Funds [are] needed to pay for continued training.
- Hurricane season—people expect it [and therefore trust the information]. But if industry or [the] government shows up with educational materials [it] could lead to worry/concern/paranoia [about oil spills], which [can] lead to distrust.
- More community training [is needed] beyond OSHA.
 - Better focus on health/hazard training.
- More developed or new training specific to spills [is needed] for communities. Include dispersants [in the] education and training [program].
- Need abbreviated (shortened) version of HAZWOPER training.
 - "HAZ-lite" [exists and is] usually given as refresher, but [it could] be used [for] rapid training in advance of a spill.
- Pool of funds [should] be made available by consortium of oil/gas industry members to pre-train people for disaster response.
- Start with educating [the] community in general. Mirror hurricane education.
- Train-the-trainer programs [are needed] to extend training out into communities.
- Two kinds of training [are needed for] responders/cleanup workers [and] communities/locals.

Appendix B2. Suggested pilot projects

2a. Pilot projects for building resilience to future events (breakout session 1)

Community engagement

- Community education and engagement [are needed] for different ethnic groups. [Need long-term building of relationships to facilitate awareness.]
- Communities need to see the results of their interactions and engagement. [This] helps build trust and commitment.
- How can USCG get invitations [to ACMs and ACPs] to [community] groups? County level contacts exist [along with] local EOCs. Some local groups that have funding, staff, and resources should be facilitating this [interaction].
- Make sure that community leaders and [local] knowledge are included in any clearinghouse effort.
- MASGC is able to create programs and is one the trusted entities [in the region]. Spokespeople from familiar and trusted institutions could be point [people] for the communities, especially when dealing with coastal resilience [issues].
- Some community groups may not understand that they can participate in the ACP. [Need to] get them engaged.
 - But those communities need to remain committed over time.
 - Transportation is needed [to keep people involved]; other resources [are needed] to get those groups to the table. [There are] so many barriers to get them [to meetings].
- TRUST is key. [You] get more participation [when going through] trusted points of contact.

Foundation/infrastructure

- [Develop] evaluations of current [response] activities including tabletop exercises and post-DWH activities.
- [Find] a space for all community leaders (physical and virtual) where information can be relayed to the community.
 - [Use a] local hub that is trusted by the community, e.g., local health care clinics.
- Need [the] development of local disaster plans in order to run drills/exercises.
- Need [physical] infrastructure for disasters planning, like a dedicated building.
- Need a [physical] muster location for community workers that is safe.
- [Need to use a] small community center to build trust; helps individuals feel comfortable to share [their needs].
- [Need] tabletop exercises with emergency management and identified community leaders.

Healthcare

- Awareness of health-related issues may be lower in some areas, e.g., people from Pascagoula [may live away from obvious spill impacts]. If they had health issues [after the spill, they] may not know if those issues are spill related or not.
 - But providers also need to know [about symptoms of potential impacts]. Isolated people need to be drawn in [to understand additional impacts].
- Need [funding] to expand capacity for health care.
 - E.g., need for helipads [at rural hospitals].
- Partnerships should include health-related institutions, clinics, community centers.

Information sharing

- Clearinghouse can't just be online—users need to be able to access it in multiple ways.
 - Include health effects on children, mental and behavioral effects on adults and children, worker health, CDC information, and would build in local knowledge.
- [Create a] clearinghouse of oil spill health impacts, [but] information [should be] kept updated.
 - Clearinghouse(s) could be local, regional, or national.
- Development of central website for compiled information [on oil spill impacts].
- On [response] agency side: [develop a] project to build a point of contact. Not necessarily a person, but a [permanent] role via email or phone etc. that remains consistent.
- Translation of information. Services exist but often those are the children of elders doing the translating. [Translations by children may fail to capture or pass on key information because the children have lower social status and defer to their elders.]
- Translation! [Perform an] assessment of languages spoken in local areas, followed by systematic translation of government documents into readable, understandable language—in English too. [English speakers also need government documents in an understandable format.]

Research

- Do community SNA models to determine [who are the] trusted resources of information in every locality.
- Do local assessments—where are we vulnerable, where good, where are information gaps? Use these assessments to build a model [that] communities could buy into.
- Project accessing local attitudes towards mental and behavioral health that would include community focus groups, door-to-door interviews, mixed-methods assessments, and outreach to medical community.
- Tech-friendly projects. Ask people what would be useful (language specific). Age gaps [need to be considered]. Step one is to get feedback then build the technology. Perhaps coordinate already existing apps or methods.

Training/education

- [Create] educational opportunities for health providers and impacted folks.
- Model training programs that cover those important issues [on oil spills], [but these programs] need funding.
- Training for locals in oil response (HAZWOPER, etc.) ahead of time (pre-spill).

2b. Pilot projects for incorporating human health and societal needs into oil spill response (breakout session 2)

Foundation/infrastructure

- Better planning for research projects at the beginning (pre-spill).
- Find ways to incorporate social scientist(s) into response (command).
 - E.g., embed someone like Liesel Ritchie [sociologist from Oklahoma State University who has studied communities impacted by oil spills].
- [Need] supplemental staff [to increase training], e.g., AmeriCorps [volunteers] coming in to provide additional training.

Healthcare

- Streamline pre-[spill] physical assessment for all workers (utilize preferred vendor list of either local or state governments for response efforts).

Information sharing

- Creation of a “story-corps” for community storytelling [about spill impacts].
- Good anecdotal stories can get traction in a way that news and science cannot. [Need to find ways for people to share their stories between communities.]

Research

- [Ask the question,] “What does it take to find the trusted local representation?”
- [Conduct] case studies of resilient communities and training programs.
- [Create] video game format, clickbait-esque format that makes people want to read.
 - E.g., Farmville or community preparation version of Sim City.
 - Throw in oil spill scenarios into disaster scenarios in video games.

Training/education

- [Create or conduct] cultural competency training, include printed outreach materials in multiple languages.
- [Develop] toxicologist response training.
- Including new types of information like disaster planning within educational training/Common Core.
 - Issues may exist with IRB; who do we ask about changes to Common Core?
- Start [training children] young, addressing topics in middle and high school.
 - They need to know where the resources are.

2c. Pilot projects for understanding risk before, during, and after a spill (breakout session 3)

Community engagement

- Develop two-pagers of stories from oil spill and lessons learned (personally).
- Messaging: [There is a] range of high risk to low risk [following a spill]. Lack of information leads people to assume [everything] is high risk. [But the] media doesn't help. Need clear message [on risk] to avoid panic.
- Traditional Ecological Knowledge. Use it in identifying locations for collecting environmental information.
 - E.g., Mississippi Sound boaters and fishers collect water quality info before incidents and over time. Partner with universities, oyster farmers, etc. Include curricula, Sea Grant Extension, citizen scientists.
- Utilize school and local/global events to share information [about spills].

Foundation/infrastructure

- Creation of internships to fill in program staff needs. [Provides more affordable labor when medical and response centers need to staff up.]
 - Provides valuable experience and training [to the] next generation.

Healthcare

- Establish health and wellness centers with activity centers, computer access, childcare, exercise rooms, pool, etc.
 - E.g., KROC—managed by Salvation Army.
 - Provide respite care, memberships with sliding scale based on needs.

Information sharing

- Spotlight or online sharing space for community members to share their stories and for others to learn from their experiences.
- Translated versions of [outreach and government] publications [are] needed.

Research

- More pilot projects that have a more specific focus on diverse communities and cultures. Include understanding of risk perception.
 - Why don't people evacuate, etc.? What are the drivers?

Training/education

- Connect with worker training programs (e.g., NIEHS).
 - E.g., PanCare clinic members went through this type of training for first time in Ohio last year.
- Develop training materials for volunteer groups.
- Volunteer groups and other community members [need] to participate in worker training programs.

Appendix B3. Research priorities

3a. Research priorities for building resilience to future events (breakout session 4)

Community

- [Determine if] food security an issue locally.
- Map community assets and vulnerabilities.
- What are communities' concerns/fears?

Education

- Inventory of training available in area on an ongoing basis.

General

- Partner with industry for research and outreach; all industries. Be inclusive of the needs of the workforce. E.g., tourism [staff may have different needs than fishers].

Health

- Applying lessons learned outside of areas impacted long-term. It took years for mental health info/results to arise, but funding had decreased by then. [Need extended funding for long-term impacts.]
- Communities don't necessarily have capacity to carry on long-term support [of those still in need].

3b. Research priorities for incorporating human health and societal needs into oil spill response (breakout session 2)

Education

- Find video game(s) that could be easily adapted to help kids to plan for spills.

Health

- Assessments of first responders [both mental and physical health].
- [Create] bridges into mental health systems that have longer-term care.
- [Examine] ecosystems of community health/well-being.
- Expand GRHOP, [further] expanding the [ongoing] expansion of health infrastructure.
- [Investigate] indirect impacts, e.g., wives of responders impacted heavily but not directly.
- Health projects are difficult [to conduct]; [they] need IRB review.
- Legal assessments [of health impacts needed without violating] HIPPA laws.
- More longitudinal studies.
- Move GRHOP into other regions.
- Need integrated care to address physical and mental care.
- Utilize former [health-related] research from other areas.

Socioeconomic

- [Ask,] “Does your family have a preparedness plan?”
 - Question is too vague for families, need to drill down to specifics. E.g., do you have enough food to survive for one week?
- Big storms happen, but they’re rare. Oil spills rarer, so how [do people] plan?
- Expanding availability of social workers [to address mental health needs] to allow medical doctors to focus on physical health.
- Find ways to incorporate social scientist(s) into response (command).
- More social research in general.
- Need research programs that balance needs of diverse communities, e.g., coal mining communities [rely on fossil fuel industry so try not to alienate them].
- Need programs to address basic lack of resilience in the absence of spills/disasters if hope to be resilient to disaster.
- Need research on “unintended/unrecognized” impacts of spills.
 - Non-direct impacts overlooked.
- Need to define what a preparedness plan is.
 - E.g., living wills and end of life preparation [may need to be included].
- Research needed on preparedness procrastination. Why do we wait?
- Resources were made available to help communities expand resources but need remains after program ended.
- Use 2020 census data [to get baseline demographics on communities].
- What are road blocks at [the] local level that stop us from preparing?
 - [Determine] social factors for procrastinating.

3c. Research priorities for understanding risk before, during, and after a spill (breakout session 3)

Education

- How to secure funding for training volunteers to build in capacity [during a spill].
 - Constant struggle for nonprofits [to secure funding].
- STEM educator opportunities. Teach the teachers so that [they] can teach the students. Streamline that education for long term. Develop new curriculum [that incorporates spill impacts and risks].

Health

- Crisis incident stress management [as a model approach].
 - [Currently used by] USCG, [can] act as a template on websites, etc.
- Developing diverse programs for self-care.
 - Not everyone has same needs for feeling better.
- [Look at] nonphysical risks, e.g., stress, uncertainty, impacts spread out to whole family.

Socioeconomic

- Backup to vital staff [are needed. Staffing is a regular problem].
- Being able to explore other funding opportunities [for staffing] so that staff [at health and community centers] don't have to wear all hats.
- Community-based participatory research—do we need a mandate in funding mechanisms that would require that participation? Need to educate agencies [on its importance]. Community needs to voice this to federal agencies.
- Help (financial) to maintain volunteers for longer periods.
- Make sure we gather social and cultural info/data (regardless of the dollar sign/valuation).
- Need better understanding of human and environmental coupling. Impacts to people who depend on resources, like fishing communities. Social, economic, and natural systems.
- [Need more understanding of] nonphysical risks.
- NRDA is the only process in place that exists after a spill. Can we connect in to the NRDA process to collect human and environmental data, with community participants? Do we need to revise assessment process? What's the additional data we need? What are we lacking? Are we utilizing what is important? Leads to mitigation. Only knowing the financial impacts/lost recreation is not enough. Tie into health [and the impacts that financial loss can generate].

Appendix B4. Outreach priorities

4a. Outreach priorities for building resilience to future events (breakout session 1)

Community

- Identify community leaders, both formal and informal [e.g., elected officials and trusted social leaders].
- [Need] multilingual community outreach.
- Need trusted folks (w/o agenda) to share information.
 - E.g., leaders from local grocery stores are a necessary resource.
- Need outreach/marketing for free community resources.
- Outreach through churches [is effective]; go to them, try to get everybody.

Education/training

- Need to push into schools to get information to children.
- [Reach out to the] younger generation, work through schools. Seventh/eighth grade is a good time. When children learn about something, they communicate with parents and other elders.
- [Involving children in oil spill outreach] could [be the start of] a pipeline [for] a scientists/student career path.

General

- Agencies need to be better at distributing their research and information.
- More outreach programs from Sea Grant.
- Need desktop exercises for planning.
- Outreach on difference between OPA/Stafford Act.
 - Who [you should] contact is different for hurricanes and spills.
- Partner with industry for research and outreach; all industries. [Consider workforce diversity.] E.g., tourism [has different needs than municipalities.]
- Sharing best practices between different agencies.
- Transportation is an issue. If there is a meeting, send a van/bus or send a spokesperson to them (the community). Lots of low-income and remote/rural communities [that cannot readily get to workshops or planning meetings].
- USCG outreach limited to committee meetings [so they need to reach out more].

Health

- Health centers need to be targeted [for outreach activities].
- Groups of social workers that specifically work with kids and schools.
 - E.g., Mostellar Clinic.
- [There is] paranoia regarding seafood; lack of knowledge [is a problem].
- What medical assets are available locally? Do people use them? Do they use alternative providers? If so, who?

Information transfer

- Get information out on claims filing. [Help on] how to handle paperwork? Where do I get representation? Where do I get information?
 - Literacy rates can be low; need local representation [to improve understanding].
- Information sharing before, during, after spill.
- Need easy access to resources by non-tech-savvy [community] members.
- Politics [impacts] trust; people need a reliable source of information.
- Under-marketing of available resources [needs to be addressed].
- Ways to get all information available online in a searchable way.

4b. Outreach priorities for incorporating human health and societal needs into oil spill response (breakout session 2)

Community

- Can't be limited to just oil spill. Has to be grounded in where the community is now.
- Include deliverables back to communities in funding [requests]. Include communities in the front end of research projects and provide solutions and goals.
- People show up for food, so outreach needs to include snacks!

Education/training

- Scientific literacy [is low]. [We] need to create literate communities to expect them to make informed decisions.
- Start them young, addressing topics in middle and high school.

General

- Battling against entrenched beliefs [is a priority for outreach].
- How do you make oil spills relevant 10 years after the fact?
- [Talking about preparedness and impacts means] people have to admit that they could be hurt or die, challenging [to talk about].

Information transfer

- Need ways to get information to people without them realizing it.
 - E.g., scholars' program at Tulane. Use college students as interns.
- Need to find ways to spoon-feed facts [so that people believe them].
 - Science seen as hoax.
- [People] need to know where the resources are.

4c. Outreach priorities for understanding risk before, during, and after a spill (breakout session 3)

Community

- Bring together workers and community responders to talk about their perception of risk.
- Community members hear different stories [and so draw different conclusions regardless of facts].
- Contracting professionals to come and talk to community members about impacts.
- Discrepancy between what a community experiences and actual facts.
 - E.g., belief that responders don't go down dirt roads [reduces trust].
- Frequency of outreach to communities is important. Collaborate with communities.
- Want to avoid "one way" experience [after engagement]; give back (share) results to community.
- Needs to involve faith-based communities to advocate for community members.

General

- Use "Docu-moments" [as examples]. short videos on available risk information or training.
 - E.g., Climate Matters [series].

Health

- Creation of support groups that can be marketed as social groups.
- Diverse programs for self-care.
 - E.g., cooking together as healing.
 - E.g., brunch and mani-pedis with gals or walking in nature.
- Health risk resources [are needed].
- More likely to have positive public perception if [risk data is] presented lightly.
 - E.g., Florida safe driving comedy course.
- Need [ways] to convey to responders/volunteers to protect themselves before helping others. Practice self-care.
 - E.g., air plane oxygen mask. [Place your mask before helping others.]
- Need to get information gathered by clinics and academics out to the public.
- [Need] professionals to talk to community members about [many] issues, e.g., alcoholism and domestic abuse.
- Separate men, women, seniors, youth [during outreach and sharing sessions] to open up conversation.
- Support groups. [Outreach needed about the development of these groups.]

Information transfer

- [Communities need help] getting information [about] opportunities.
- [Develop] short videos, end with links to places with more information.
- Translation of the law and statutes [into multiple languages].

Appendix B5. Resources currently available

5a. Resources available for building resilience to future events (breakout session 1)

Community

- Boat People SOS.
- Churches: Church leaders are diverse and can reach diverse audiences.
- Community grocery stores.
- Open-ended contracts [exist] with some local contractors to clean up oil in event of spill in some counties. Process is streamlined because contractors are already approved.
- People might not trust info coming from [the] government, but if [it is] coming from trusted community points of contact the info will likely be absorbed and shared. [Again, the] trust factor.
- Safe Harbor (grand opening March 2012).
- Schools: Children hear everything [and share that information with parents].

Financial

- FEMA has funds for Stafford Act, not for OPA.
- [A] fallacy [regarding] National Contingency Plan is that no one actually gets money from the feds.
 - The responsible party is “responsible” [for paying out, not the federal government].

Information

- Academic resources like GoMRI.
- Agency for Toxic Substances and Disease Registry.
- CDC.
- Internet [is the] primary resource for information.
- Kathy Kirkland [executive director of AOEC] can put people in touch with groups that can answer clinical questions; 1-800 numbers [are available].
- Local bar association: Trained legal volunteers that know how to help.
- Radio stations [but need to know which ones are responsive to outreach].
- Sea Grant publications. The public doesn’t care until emergency strikes. [Need to] have these pubs ready to go.
- Sea Grant.
- Social media, biggest space for getting message out there.
 - Source is key, source must be trusted when using social media.
- Unified information, like weather alerts and traffic information.
- USCG utilizes Homeport, a website available to the public. It needs to be simplified and in laymen’s terms. Too much lingo [for general public]. USCG needs to push it as an information tool, partner with media [outlets].

Health

- Central Points of Distribution (used for meds).
- Free clinic resources.
 - E.g., Bayou La Batre clinics that take all regardless of insurance.
- Health centers.

Response

- Trained social workers.
 - Need CEC to stay current [on their licenses].

5b. Resources available for incorporating human health and societal needs into oil spill response (breakout session 2)

Community

- Bilingual employees.
- Schools [are] valuable resources.

Education

- CLE or CME [continuing education] programs for lawyers and health professionals.
- Elementary school books [can be updated to include information on spills].
- Training requirement to maintain licensing for health workers.

Financial

- Churches as resources for supplies after disasters.

Health

- Closed Point of Dispensing facility (14 in Mobile County).
- FQHCs need more marketing.
- Local FQHS—but [staff] could use increased training.
- Local health departments.
- Mostellar Medical Center (they have pre-screened volunteers).
- Mostellar [Medical Center] programs to increase support for families.
 - E.g., post-partum support.
- Red Cross, United Way, etc.
- Social workers.
- [Mostellar clinic] programs continue to grow and expand.

5c. Resources available for understanding risk before, during, and after a spill (breakout session 3)

Community

- Community events, great opportunity for outreach.
- Faith-based communities.
- Kim-Lien Tran [community advocate for Boat People SOS]: community leaders with passion and drive are rare commodities and need additional support.
- Local governments and chambers of commerce
- Nonprofits.

Information

- BOEM reports and fact sheets. Very local [information] and includes Bayou La Batre. They will host meetings, too, if community requests it.
 - BOEM's Information Transfer Meetings are free and open to the public; they usually hold in New Orleans, to share science and other work.
- Legal resources to help understand legal risks.
 - Law schools—e.g., Tulane Law.
 - Liability issues.
 - Sea Grant legal program in Oxford, Mississippi.

- NASEM.
- NGOs—need listing of all and overlapping.
- Sea Grant. It's a clearing house of information [that is] reliable, understandable.

Networking

- Academic communities.
- Area Committee Meetings.
- Bays and Bayous conference; has local focus.
- Clean Gulf conference—industry, emergency response community, and academia—great venue for learning and networking. [It's] in New Orleans this year.
- Coalition meetings.
- GOMOSSES conference.
- International Oil Spill Conference—every three years.
- Social networks: [create a] "Meet Up" [that gets] people to join together.
 - Free and easy [to organize and participate in].
- State of the Coast conference.

Response

- Regional Response Teams.
- Restore Council, NRDA Process, NFWF—they need outcome-oriented restoration.

Appendix B6. Resources needed

6a. Resources needed for building resilience to future events (breakout session 1)

Community

- Need to expand peer listening trainings to keep program going—train the next generation.

Financial

- Need transportation [support and funding].

Health

- Lessons learned [that can be] used to change [current] plans.
- Need care for caregivers.

Information

- Adaptable [information], ready-to-go spill information relevant to locality. Put in libraries, town halls, etc.
- Lag [in] information [flow]; communication needs to be improved. A vacuum is immediately created during [an] incident; someone needs to fill that void with correct information for the public.
- Need longitudinal, ongoing programs that interface with public and stay up to date.

- Need to know which [media outlets] are responsive and accessible to help get info out.
- Need trained folks in every community who can answer questions without having to call 1-800 numbers.
- Pre-spill communications can be tricky when you're trying to be proactive.
- PSAs on TV. Website links advertised on popular news channels.
- Sharing information between radio/TV channels.

Response

- EOC, Homeland Security, local and state emergency managers need to do a better job making people aware of their emergency managers and locations.
- Need regular assessment of available resources in advance of disasters.

6b. Resources needed for incorporating human health and societal needs into oil spill response (breakout session 2)

Community

- Lack of family support systems in some areas.

Education

- CEC tailored to vulnerable communities.
- Need certification of volunteers from states or local governments. Funding is available.
- Some history has been taken out [of school textbooks]; what gets put back in?
- Why [is training] for oil spills not [required for health workers]?

Financial

- Are there community resources for funding/supplies?
- [During a disaster] it is hard [for families] to move if you don't have the deed.
 - E.g., multigenerational homes where deed has been lost, families with close ties may need a lot of help to leave following a disaster.
- Need [funds] for relocation assistance.
- Need funding for preparedness.
- People are already in [financial] disaster mode before other types of disasters [e.g. hurricanes or oil spills], no extra money for preparedness.
- Transportation issues are key; need funds for transportation.
 - E.g., community members cannot get to services easily.

Health

- Need marketing to destigmatize [use of] mental health [services].

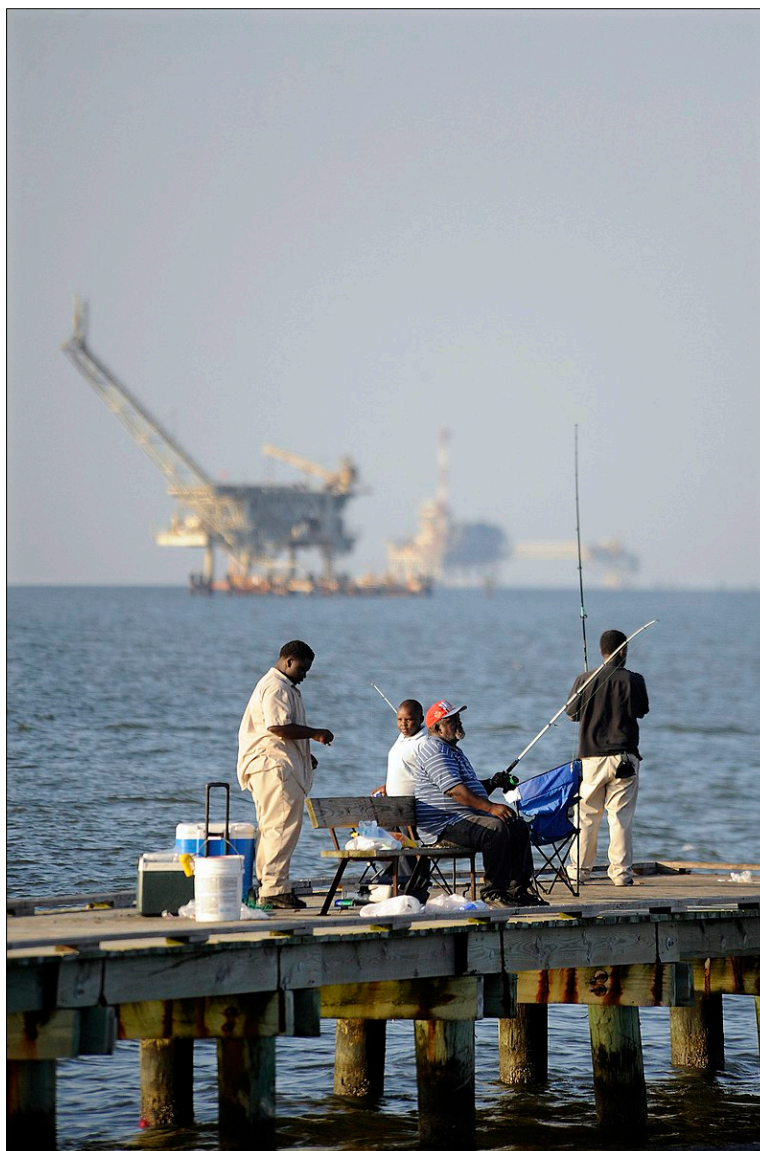
6c. Resources needed for understanding risk before, during, and after a spill (breakout session 3)

Health

- Health and wellness centers with multiple activities and access to information are needed in communities.

Information

- Challenging for public to engage with NFWF. How can we more effectively engage with [NFWF] to ensure local issues are being addressed? Public meeting process is not working. Public does not attend.
- Local/county level PIO [should] make sure they are putting out reliable information to their constituents.



Recreational fishermen at a pier in southern Alabama in sight of offshore oil rigs. Photo courtesy of U.S. Navy.

Appendix C: Detailed Responses from Bayou La Batre Workshop Participants

Comments were transcribed by a breakout session facilitator and reworded for clarity where necessary by report authors [in brackets]. Categories within each appendix are presented alphabetically. Abbreviations used in the notes are explained in Appendix G.

Appendix C1. Suggested pilot projects

Environment

- [Address] prevention. How do we prevent spills from happening?
- Watershed programs in various areas/counties [are needed].
 - E.g., sewer drain information regarding dumping. Improve/upgrade sewage treatment. [Clean water is essential to community health.]

Socioeconomic

- Alternative jobs: training for other opportunities and jobs other than fishing and seafood or other impacted livelihoods so that there is stable employment.
- Local employment for restoration—contracts for locals.
- Potentially start a fisherfolk's co-op or other type organization or association to provide/channel resources and information [to fisherfolk].

Training

- Need instructions and gear for folks participating in cleanup. Before next spill, [people need to] receive training, especially for fishermen.
 - Consider all language barriers.
 - Risks and hazards re: exposure. What are the methods of exposure?

Appendix C2. Research and outreach priorities

Environment

- How is climate change going to impact Bayou La Batre? What actions will the Bayou take to address it?
 - E.g., sand dunes of Dauphin Island. Naturally occurring sand restoration opening led to oyster and crab impacts.
- USCG does not enforce sewage issues but they receive a lot of calls about it.
 - E.g., houseboats dump in public swimming areas.
 - Enforcement agency needs to address this. It's one more stressor to add to the list [of impacts to natural resources].

Health

- Identify who cleanup workers are [during the response].
 - Biomedical researchers need to come and document, follow up, and continue long term [monitoring of workers].

- Need documents to facilitate claims and compensation [process], and to protect health [of community members].
- Need follow-up on health [impacts] for communities, in particular non-English-speaking communities.
- [There is a] stigma of people talking about requiring/needing mental health support (potentially keeps them from getting the help they need).
- [There is a] lack of documentation for health impacts or exposure.
 - Members of the community that can't read or write will need a tool of some kind in order to document [their exposures and potential impacts].
- Toxicity [of] dispersants—what are the impacts long term?

Information

- Lack of information and knowledge coming from the [oil] industry. [Need] list of spills, locations, etc.

Appendix C3. Available and needed resources

Community and/or social support

- After hurricanes, churches helped [families] but they did not post-spill.
- Churches should help.
- Coastal Response Center.
- Family as a resource.
- Food drives.
- Need funds to sustain the community organizations.
- Need [more] resources, organizations to turn to [during a crisis].
- Peer to peer listening [program].
- South Bay Community Alliance.
- Ryan Bradley [Director Mississippi Commercial Fisheries United] and Thao Vu Mississippi Coalition [for Vietnamese Fisher Folks and Families] as resources.

Health and wellness

- Accordia—Integrated medical facility for both physical and mental health needs.
 - Located in Bayou [La Batre], opened in 2018.
 - They are actively seeking patients in Bayou La Batre.
- [Communities need a] trusted clinic [for] long- and short-term [care].
- Peer to peer listening.
- Psychiatrists at Mostellar Clinic are a resource.

Appendix D: Workshop Evaluation Form

Identical evaluation forms were used for the Mobile and Bayou La Batre events; only the header was changed. The Mobile evaluation is shown here as an example.



Workshop Evaluation Prioritizing health and oil spill preparedness May 6-7, Mobile, AL

Name: (Optional) _____ Organization (Optional) _____

Email: (Optional) _____

Please share your ideas to help us better serve you in the future.

1. Please reflect your level of agreement with the following statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
This workshop raised my awareness of public health issues related to oil spills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This workshop helped promote networking among groups that may have not previously interacted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This workshop identified regional-level needs and priorities for improving preparedness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This workshop identified resources to address the issues discussed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. What did you like about this workshop?

3. What could we do to improve this workshop?

4. Are there individual presentations or speakers you would like to comment on? This helps inform planning for our future events.

5. What specific questions do you continue to have about oil spills, planning and response, and public health related topics?

6. How do you wish to receive the latest oil spill information? (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> 8-page summary publication | <input type="checkbox"/> Email correspondence |
| <input type="checkbox"/> 1-page informational sheet | <input type="checkbox"/> In-person correspondence |
| <input type="checkbox"/> Short videos | <input type="checkbox"/> Sea Grant oil spill website |
| <input type="checkbox"/> Workshops with facilitated discussions | <input type="checkbox"/> Brochure |
| <input type="checkbox"/> Science seminars | <input type="checkbox"/> Other, please specify: _____ |

7. How would you best describe yourself:

- | | |
|--|--|
| <input type="checkbox"/> Emergency responder | <input type="checkbox"/> Oil and gas industry member |
| <input type="checkbox"/> Environmental consultant | <input type="checkbox"/> Policymaker |
| <input type="checkbox"/> Member of fishing community or industry
(commercial, for-hire, recreational,
subsistence) | <input type="checkbox"/> Sea Grant/Cooperative Extension agent |
| <input type="checkbox"/> Health professional (clinical or community) | <input type="checkbox"/> Tourism industry staff |
| <input type="checkbox"/> Natural resource manager | <input type="checkbox"/> University researcher |
| <input type="checkbox"/> Non-profit staff | <input type="checkbox"/> Other, please specify:
_____ |

8. Which state(s) do you primarily work in? (check all that apply)

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> Texas | <input type="checkbox"/> Florida |
| <input type="checkbox"/> Louisiana | <input type="checkbox"/> Outside of U.S. Gulf of Mexico region |
| <input type="checkbox"/> Mississippi | <input type="checkbox"/> Please enter location:
_____ |
| <input type="checkbox"/> Alabama | |

9. We will be following up with workshop participants within the next year to help us determine the effectiveness of our workshop series. Are you be willing to be contacted to answer a few survey questions? Identifying information (name, contact info) will be kept confidential. If so, please leave your name and email on this form.

10. Please provide any other ideas, comments, questions, or feedback.

Appendix E: Workshop Evaluations for Mobile Event

Question 1. Please reflect your level of agreement with the following statements. (N = 28)

Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
This workshop raised my knowledge of public health issues related to oil spills.	64%	36%	0%	0%	0%
This workshop helped promote networking among groups that may not have previously interacted.	75%	25%	0%	0%	0%
This workshop identified regional-level needs and priorities for improving preparedness.	75%	25%	0%	0%	0%
This workshop identified resources to address the issues discussed.	52%	44%	4%	0%	0%

Question 2. What did you like about this workshop?

- Breakout groups.
- Breakout sessions mixed with presentations. Focus on health of humans.
- Breakout sessions/speakers.
- Breakout workshops.
- Casual setting and discussion during breaks.
- Commercial fisheries speaker who still had documents and pics from [Deepwater Horizon].
- Diverse and accurate experts and their presentations.
- Everything, timing, presenter topics/quality, food!
- Everything. Workshop was great.
- I liked the diversity of speakers.
- Informality, knowledge and experience-based presentation.
- Learned about oil spill environmental impacts I hadn't known about.
- Lots of time for breakout discussions, not too many "academic" presenters.
- Multi-faceted look at a single issue. Clear focus/organized. Wide range of speaker backgrounds. Engaging; allowed for a lot of dialogue.
- Networking and meeting people.
- Networking opportunities, educational/relevant topics for Gulf Region (oil spill preparedness).
- Networking; breakout discussions.
- Speakers.
- Speakers, breakout groups, panels. Handouts and connections.
- Thank you for including me, loved hearing the eastern Gulf perspective.

- The authenticity of the speakers. Diversity in presentation and information sharing.
- The broad spectrum of the group.
- The outstanding presenters.
- There was a variety of backgrounds that were able to contribute to the discussion. Great presenters.
- USCG presentations, Mayor Collier and Ryan Bradley.
- Variety and professionalism of speakers.
- We brainstorm in our breakout groups using our collective knowledge and experience.

Question 3. What could we do to improve this workshop?

- Better food.
- Have everyone introduce themselves in the beginning so you know who is in the room and which agencies/stakeholders are represented. Also, it's great for networking! Invite someone from OSHA.
- 1. Have legal presenter. 2. Have an industry presenter talk about prevention.
- It was great having the panel Q & A.
- Loved it as is!
- More community involvement?
- More workshops!
- Move the column! LOL!
- Nothing.
- Nothing, terrific!
- Parking would have been nice.
- Serve Gulf Seafood for lunch!
- Would like to see more on how the health system respond to natural disaster.

Question 4. Are there individual presentations or speakers you would like to comment on? This helps inform planning for our future events.

[Purposely left blank for confidentiality.]

Question 5. What specific questions do you continue to have about oil spills, planning and response, and public health related topics?

- Are there ways to help volunteers or paid workers prevent any side effects from contact with the oil-based products?
- How do we improve preparedness and communication?
- Latest results of continuing research.
- Longer-term effects, health, economic, environment.
- More communication.
- Most were discussed as needs but getting the public health information dispersed into the general public is a huge need.

- Social impacts of oil spill and response.
- What can be done to address mental health needs during and after a disaster like an oil spill?

Question 6. How do you wish to receive the latest oil spill information? (Check all that apply.) (N = 23)

Answer	%	Count
Email correspondence	23%	16
Sea Grant oil spill website	21%	15
Workshops with facilitated discussions	15%	11
Science seminars	10%	7
1-page informational sheet	8%	6
8-page summary publication	8%	6
Short videos	8%	6
Brochure	4%	3
In-person correspondence	1%	1
Total number of responses	100%	71

Question 7. How would you best describe yourself? (N = 24)

Answer	%	Count
Emergency responder	25%	7
Non-profit staff	18%	5
University researcher	14%	4
Health professional (clinical or community)	7%	2
Member of fishing community or industry (commercial, for-hire, recreational, subsistence)	7%	2
Oil and gas industry member	4%	1
Sea Grant/cooperative extension agent	4%	1
Natural resource manager	4%	1
Other, please specify ^a	18%	5
Total number of responses	100%	28

Note: Some respondents provided multiple answers

^aEmergency manager, concerned citizen, former regulatory administrator, federal government emergency management.

Question 8. What states do you primarily work in? (Check all that apply.) (N = 24)

Answer	%	Count
Alabama	35%	15
Mississippi	28%	12
Florida	19%	8
Louisiana	9%	4
Texas	5%	2
Outside of U.S Gulf of Mexico region, please enter location ^a	5%	2
Total number of responses	100%	43

^aAlaska, D.C. headquarters so entire U.S., all of U.S. and its territories, California.

Question 9. We will be following up with workshop participants within the next year to help us determine the effectiveness of our workshop series. Are you willing to be contacted to answer a few survey questions? Identifying information (name, contact info) will be kept confidential. If so, please leave your name and email on this form.

[Purposely left blank for confidentiality.]

Question 10. Please provide any other ideas, comments, questions, or feedback.

- Keep up the amazing work!
- Keep up the good work!
- Thank you for all you hard work and excellent planning/organization!
- Healthcare/emergency and chronic preparedness.
- Great workshop!
- Please purchase parking passes for those attending. Parking costs \$24 for two days.
- Negotiate parking with venue rental.
- Purchase a parking pass for attendees as part of the room package.
- Good work!
- Great workshop!
- Great conference!

Appendix F: Workshop Evaluations for Bayou La Batre Event

Question 1. Please reflect your level of agreement with the following statements. (N = 23)

Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
This workshop raised my knowledge of public health issues related to oil spills.	57%	30%	13%	0%	0%
This workshop helped promote networking among groups that may not have previously interacted.	59%	41%	0%	0%	0%
This workshop identified regional-level needs and priorities for improving preparedness.	70%	26%	4%	0%	0%
This workshop identified resources to address the issues discussed.	52%	35%	13%	0%	0%

Question 2. What did you like about this workshop?

- The ways how speaker express information about oil spills.
- Everything.
- It really gets the community to participate and speak up.
- The community had a chance to be heard.
- They were engaging and had real discussion they included everyone.
- Attendance by local stakeholders.
- Very professionally done, great food, thank you!
- Good.
- I enjoyed hearing from the community that was affected by a major oil spill.
- Thank you for the opportunity to attend.
- Diversity.
- Outreach team's effort in successfully getting audience to participate in providing questions and sharing experiences.
- Cross section of target community.
- Community based discussion.

Question 3. What could we do to improve this workshop?

- More meeting.
- Meeting.
- A microphone would be great.
- More translation, a microphone.
- This not sure.
- Need to tailor discussion to local culture and languages.

- Better.
- Possibly identify translators for each community represented.
- Food after evening discussions/presentations.
- Microphone, fisheries extension agent representing, more industry representation.
- Air conditioning!

Question 4. Are there individual presentations or speakers you would like to comment on? This helps inform planning for our future events.

[Purposely left blank for confidentiality.]

Question 5. What specific questions do you continue to have about oil spills, planning and response, and public health related topics?

- Diversify the type of jobs available in Bayou La Batre so people don't depend solely on seafood industry.
- Dispersant, long term healthcare factors what to expect in future.
- All the same as this morning...
- What is being done by local, state, feds to put people (directly affected by incidents) back to work? Since affected population is most motivated to fix problem, they should be first in line to be employed in cleaning up after incidents. 2) What is being done to increase environmental health? Resilience of community that depends on clean water and air would have better chance of rebounding quickly if air and water quality are high, rather than marginal or poor, at the time of the incident.

Question 6. How do you wish to receive the latest oil spill information? (Check all that apply.) (N = 13)

Answer	%	Count
Email correspondence	23%	6
Sea Grant oil spill website	23%	6
8-page summary publication	12%	3
Brochure	12%	3
Short videos	12%	3
Workshops with facilitated discussions	8%	2
1-page informational sheet	4%	1
In-person correspondence	4%	1
Other ^a	4%	1
Total number of responses	100%	26

^aText message.

Question 7. How would you best describe yourself? (N = 15)

Answer	%	Count
Member of fishing community or industry	31%	5
Emergency responder	19%	3
Non-profit staff	19%	3
Natural resource manager	6%	1
Environmental consultant	6%	1
Concerned citizen	6%	1
Other ^a	25%	4
Total number of responses	100%	18

Note: Some respondents provided multiple answers

^aEmergency manager, retired biologist, coastal resident.

Question 8. What states do you primarily work in? (Check all that apply.) (N = 15)

Answer	%	Count
Alabama	48%	11
Mississippi	22%	5
Louisiana	13%	3
Florida	9%	2
Texas	4%	1
Outside of U.S Gulf of Mexico region. Please enter location ^a	4%	1
Total number of responses	100%	23

^aNo location provided.

Question 9. We will be following up with workshop participants within the next year to help us determine the effectiveness of our workshop series. Are you willing to be contacted to answer a few survey questions? Identifying information (name, contact info) will be kept confidential. If so, please leave your name and email on this form.

[Purposely left blank for confidentiality.]

Question 10. Please provide any other ideas, comments, questions, or feedback.

- Apparently the Bayou community is lacking an English-second language program. USA could probably help out by sending student volunteers to teach English as a second language.
- Thank you!
- Possible fisherman coop info can be found by the University of Guam.
- Good Job.

Appendix G: Abbreviations

Abbreviation	Meaning
ACM	Area Committee Meeting
ACP	Area Contingency Plan
AOEC	Association of Occupational and Environmental Clinics
BOEM	Bureau of Ocean Energy Management
CDC	Centers for Disease Control and Prevention
CEC	Continuing Education Credit
CLE	Continuing Legal Education
CME	Continuing Medical Education
DRC	Disaster Response Center
DWH	Deepwater Horizon
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Administration
FQHC	Federally Qualified Health Centers
GOMOSSES	Gulf of Mexico Oil Spill and Ecosystem Science Conference
GoMRI	Gulf of Mexico Research Initiative
GRHOP	Gulf Region Health Outreach Program
GRP	Gulf Research Program
HAZWOPPER	Hazardous Waste Operations and Emergency Response
HIPAA	Health Insurance Portability and Accountability Act
ICS	Incident Command System
IRB	Institutional Review Board
KROC	Ray and Joan KROC Community Centers
MASGC	Mississippi-Alabama Sea Grant Consortium
NASEM	National Academies of Science Engineering and Medicine
NFWF	National Fish and Wildlife Foundation
NGO	Non-government Organization
NIEHS	National Institute of Environmental Health Sciences
NOAA	National Oceanic and Atmospheric Administration
NRDA	National Resource Damage Assessment
OPA	Oil Pollution Act of 1990
OSHA	Occupational Safety and Health Administration
PIO	Public Information Officer
PPE	Personal Protective Equipment
PSA	Public Service Announcement

Abbreviation	Meaning
SCAT	Shoreline Cleanup and Assessment Technique
SNA	Social Network Analysis
STEM	Science, Technology, Engineering, and Math
TEK	Traditional Ecological Knowledge
TWIC	Transportation Worker Identification Credential
USCG	United States Coast Guard
VOO	Vessels of Opportunity