11-2016

2016 NRPT: Natural Disaster Causing Technology Disasters in Mobile Bay Area

Coastal Response Research Center (CRRC)

Natural Disaster Causing Technology Disasters in Mobile Bay Area

Photo Credit: NOAA

June 8 - 9, 2016
NOAA's Gulf of Mexico Disaster Response Center
Mobile, AL

A WORKSHOP REPORT

COASTAL RESPONSE RESEARCH CENTER

Coastal Response Research Center

NOAA

Acronyms

ACP	Area Contingency Plan
ADCNR	Alabama Department of Conservation and Natural Resources
ADEM	Alabama Department of Environmental Management
ARD	Assessment and Restoration Division (ORR)
ASPA	Alabama State Port Authority
BOA	Basic Ordering Agreement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund)
CERT	Community Emergency Response Team
CGE	Computable General Equilibrium
COTP	Captain of the Port (USCG)
CRRC	Coastal Response Research Center
CWA	Clean Water Act
DRC	Gulf of Mexico Disaster Response Center (ORR)
DRF	Disaster Relief Fund
ERD	Emergency Response Division (ORR)
ERRA	Electronic Regional Risk Atlas
FEMA	Federal Emergency Management Agency
FOSC	Federal On-Scene Coordinator
GIS	Geographic Information System
GOM	Gulf of Mexico
GoMRI	Gulf of Mexico Research Initiative
GRP	Geographic Response Plan
HazMat	Hazardous Materials
ICS	Incident Command System
IMT	Incident Management Team
LEPC	Local Emergency Planning Committee
MBNEP	Mobile Bay National Estuary Program
MOA	Memorandum of Agreement
NaTech	Natural Disasters Triggering Technological Disasters
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NERRS	National Estuarine Research Reserve System
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NPFC	National Pollution Funds Center (USCG)
NRC	National Response Center (USCG)
NRDA	Natural Resource Damage Assessment
NRF	National Response Framework
NRPT	NOAA Regional Preparedness Training
NWS	National Weather Service (NOAA)
OCM	Office for Coastal Management (NOAA)
OPA 90	Oil Spill Pollution Act of 1990
ORR	Office of Response and Restoration (NOAA)
OSC	On-Scene Coordinator
OSLTF	Oil Spill Liability Trust Fund
OSRO	Oil Spill Removal Organization
POC	Point of Contact
RCP	Regional Contingency Plan
RP	Responsible Party
RRT	Regional Response Team
T&E	Threatened and Endangered
UC	Unified Command
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

Acknowledgements

The content for the workshop was developed in cooperation with the National Oceanic and Atmospheric Administration (NOAA) Office of Response and Restoration (ORR) Gulf of Mexico Disaster Response Center (DRC) and the following Organizing Committee members:

- Carol Adams-Davis, AL Sierra Club
- Dr. Becky Allee, NOAA OCM
- Gretchen Barrera, ASPA
- Adam Davis, NOAA ORR
- LTJG Daniel Dunn, USCG
- Leo Francendese, USEPA
- Anthony Ford, USFWS
- Amy Gohres, Genwest
- Bob Harris, ASPA
- Dr. Nancy Kinner, CRRC
- Kathy Mandsager, CRRC
- Dianne Palmore, ADEM
- Dr. Susan Rees, USACE
- Dr. Tracie Sempier, MS-AL Sea Grant
- Dr. LaDon Swann, MS-AL Sea Grant
- Roberta Swann, MBNEP
- Will Underwood, ADCNR

The workshop was facilitated by Nancy Kinner from the Coastal Response Research Center (CRRC; www.crrc.unh.edu) and was held at the DRC in Mobile, AL. CRRC has extensive experience with issues related to oil spills. The Center is known for its independence and excellence in the areas of environmental engineering, marine science, and ocean engineering as they relate to spills. CRRC has conducted numerous workshops bringing together researchers, practitioners, and scientists of diverse backgrounds (including from government, academia, industry, and non-governmental organizations) to address issues in spill response, restoration and recovery.

We wish to thank the following presenters for their participation in the workshop:

- Kim Albins, NOAA ORR
- CDR Christopher Cederholm, USCG
- Adam Davis, NOAA ORR
- Leo Francendese, USEPA
- Dr. Nancy Kinner, CRRC
- Kevin Kirsch, NOAA ORR
- Ashley Leflore, USACE
- CRD Kevin Lynn, USCG
- Tom Smith, USACE
- Peter Tuttle, USFWS

We would also like to thank Terry Gilbreath, Whitney Hauer, Charlie Henry, Nancy Kinner, and LaDon Swann for assuming the role of breakout group leads during the workshop.

Lastly, we would like to thank the DRC for hosting the workshop.

Introduction

On June 8-9, 2016, the Coastal Response Research Center (CRRC)[1] and Gulf of Mexico Disaster Response Center (DRC) co-sponsored a National Oceanic and Atmospheric Administration (NOAA) Regional Preparedness Training (NRPT) Workshop at the DRC's facility in Mobile, AL. The workshop, titled "Natural Disaster Causing Technology Disasters in Mobile Bay Area", focused on preparedness, planning, and improving response to an oil spill occurring during a natural disaster (e.g., flooding from a tropical storm) and explored the roles and responsibilities under the *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (Stafford Act) and the *Oil Pollution Act of 1990* (OPA 90).

Thirty participants (Appendix A) represented federal, state and local agencies, industry, and non-governmental organizations (NGOs).

The workshop was the second of three in the NRPT series to provide a focused training to enhance Gulf of Mexico regional preparedness across NOAA line offices and among key state, federal, and other stakeholder partners. The overall goal of the NRPT workshops was to better understand human and natural resources at risk, the roles and responsibilities of different response agencies, and the science that drives decision-making during a coastal emergency. The first workshop, held at the Flower Garden Banks National Marine Sanctuary Office in Galveston, TX on May 25-26, 2016, focused on preparedness, planning, and improvement of response to a potential oil spill that threatened the sanctuary, particularly dispersant use and *in-situ* burning, while developing the framework for an Environmental Tradeoff Analysis to evaluate response options. The third workshop, held in St. Petersburg, FL on June 28-30, 2016, focused on risk communications during a major oil spill.

Nancy Kinner (CRRC Co-Director) and Charlie Henry (DRC Director) provided the welcome and introductions for the Mobile Bay workshop. Charlie Henry provided background information about the NRPT workshops and their goals. The goals of the Mobile Bay workshop were to increase awareness, understanding, and coordination among participating stakeholder groups and agencies during response and recovery to natural disasters that result in widespread impacts to industry, commerce, communities, and natural resources in the Mississippi and Alabama coastal zone.

Objectives of the Mobile Bay workshop were to:

- Bring together a diverse group representing agencies and stakeholders who may be impacted by or involved in response to Natural disasters triggering technological disasters (NaTech); and
- Increase regional preparedness by identifying potential strategies for improved response, enhanced resilience, and quicker recovery when NaTech events occur.

NaTech events may result in a complicated response due to widespread impacts to industry, commerce, business, residents, and natural resources in the coastal zone. Additionally, the response may be further complicated as response actions occur under multiple enabling legislative authorities at the same time – namely, the Stafford Act (due to the natural disaster) and OPA 90 (due to the oil spill).

[1] A list of acronyms is provided on Page 1 of this report.

The workshop consisted of presentations, a forum to answer participant questions, and breakout sessions. Presentation topics included: primers on federal disaster response legislation and spill regulations, case studies of responses under the Stafford Act and OPA 90, and an overview of the Mobile Bay area.

The breakout sessions included discussions of: roles and challenges for different stakeholder groups and for given NaTech scenarios, additional spill response challenges due to the natural disaster, and improvements in preparation and planning for NaTech.

The agenda for the workshop can be found in Appendix B.

Presentations

A summary of each presentation from the workshop is provided in this section. Slides for the presentations are located in Appendix C. Most summaries were written by the presenters.

National Incident Management System and National Response Framework

CDR Kevin Lynn (U.S. Coast Guard (USCG) Gulf Strike Team) provided an overview on the National Response Framework (NRF) and the National Incident Management System (NIMS) as part of a refresher and primer on federal disaster response legislation. During times of emergency, the U.S. is guided in its response protocol by two overarching concepts, among many other levels of federal, state and local doctrine. The NRF meets the president's national preparedness objective and outlines how the federal government will provide coordinated support to the other echelons of government. NIMS meets the president's objective for managing domestic incidents and establishes the concepts for incident command and multi-agency coordination. This presentation provided an overview of concepts, implementation, key functions, and relationships to the public, private sector, NGOs and all levels of government. Major coordination actions of the federal government authorized by the Stafford Act, associated Emergency Support Functions, and initiating triggers were presented along with a high level overview of the Incident Command System (ICS) and concept of Unified Command (UC). The presentation concluded with a discussion on how the NRF and NIMS are interdependent on each other and emphasized the critical need for partnership and preparedness.

Robert T. Stafford Disaster Relief and Emergency Assistance Act

Ashley Leflore (U.S. Army Corps of Engineers (USACE)) provided a brief overview of the history of disaster legislation and how the Stafford Act became the authority by which the federal government supports local and state efforts in disasters. This presentation served as the second part of the refresher and primer on federal disaster response legislation.

The Stafford Act consists of seven sections (i.e., titles): (1) congressional findings, (2) preparedness and mitigation, (3) administrative information, (4) types of federal assistance programs, (5) types of emergency assistance programs, (6) emergency preparedness, and (7) miscellaneous rules regarding assistance.

Three types of federal assistance were discussed:

1. A major disaster declaration occurs after an event has caused damage,
2. An emergency declaration is an occasion in which federal assistance is required to save lives, protect property, or lessen a threat (in the latter case, it can be declared prior to the event),
3. Fire Management Assistance includes grants, equipment, personnel, and supplies made available to supplement community efforts when a fire on public property, forest, or grasslands threatens a major disaster declaration.

The intent of the Stafford Act can be described in two core principles: (1) it is a supplement to state and local efforts, which means it is not an entitlement, and has to be approved among various parameters as a third level of assistance; and (2) the legislation can only be triggered by the request of the governor in the state impacted. The governor must submit an official request that includes: the severity of the event, what assistance is requested, what local/state resources and funds are committed to the effort, and what priorities are for assistance.

The assistance provided includes:

- Individual assistance (e.g., lodging, help with rent, disaster counseling),
- Public assistance (e.g., debris removal, restoring the use of public roads and utilities),
- Hazard mitigation, which is a grant program to fund measures that reduce risk (e.g., buying out properties, elevating homes).

The Federal Emergency Management Agency (FEMA) administers most authorities under the Stafford Act and all assistance is financed through the Disaster Relief Fund (DRF). The DRF is a congressional appropriation with funding that is not limited to fiscal years and does not expire.

More information on the Stafford Act can be found in the Media Library on the FEMA website[2].

Federal Spill Regulations Refresher and Primer

CDR Christopher Cederholm (USCG Sector Mobile) and Leo Francendese (U.S. Environmental Protection Agency (USEPA)) provided an overview to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), OPA 90, the *Clean Water Act* (CWA), and the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA).

A number of federal authorities are responsible for governing oil spills in the U.S. The main actors in the governing system are a combination of state, federal and international authorities. They are collectively responsible for creating and implementing legislation to prevent oil spills and handling the decisions and procedures that follow in the aftermath.

The NCP established the response system the federal government follows in the event of an oil spill and/or release of hazardous materials into the environment. The NCP was a response by U.S. policy makers to the *SS Torrey Canyon* oil tanker spill in 1967 off the coast of England. It has since been amended by CWA, OPA 90, and CERCLA.

[2] http://www.fema.gov/media-library

The purpose of the NCP is to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants. The four general priorities include:

1. Giving safety and human health top priority during every response action,
2. Stabilizing the situation in order to prevent the event from worsening,
3. Using all necessary containment and removal tactics in a coordinated manner to ensure timely, effective response,
4. Taking action to minimize further environmental impact from additional discharges.

The NCP established the Regional Response Teams (RRTs) and their roles and responsibilities which include coordinating preparedness, planning, and response at the regional level. Each RRT consists of a team made up of federal agency representatives, as well as state and local government representatives and an incident-specific team that are activated in a response.

The NCP also defines the objective, authority, and scope of the National Contingency Plan, Regional Contingency Plans (RCPs), and Area Contingency Plans (ACPs) (which may also include Geographic Response Plans (GRPs)).

Agency jurisdictions as the Federal On-Scene Coordinator (FOSC) include:

- USCG - discharges of oil; release of hazardous substances, pollutants and/or contaminants into the environment in the coastal zone,
- USEPA - discharges of oil; release of hazardous substances, pollutants and/or contaminants into the environment inland,
- Department of Defense - discharges of oil; release of hazardous substances, pollutants and/or contaminants into the environment from military-operated facilities, installations, munitions and/or military vessels,
- Department of Energy - discharges of oil; release of hazardous substances, pollutants and/or contaminants into the environment from DOE facilities or non-DOD radiation sources.

Notice of discharge and releases are made to the National Response Center (NRC) which is the federal government’s communications center. Reports to the NRC activate the NCP and the federal government’s response capabilities.

The CWA is the primary federal law in the U.S. governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. It is administered by USEPA, in coordination with state governments.

OPA 90 increased the role and dimensions of the NCP by establishing more robust planning and response systems to prevent and mitigate spills in marine environments. It is the primary legislation that governs oil spills in the U.S. The establishment of OPA 90 substantiated the federal government’s role in responding to oil spill cleanups. OPA 90 made amendments to the already existing CWA to provide three options to the delegated authorities through the president. The options include:

- Conducting immediate cleanup by federal authorities,
- Monitoring the response of the responsible party,
- Commandeering the cleanup activities of the responsible party.

Hence, OPA 90 gives the federal government the authority to determine the level of cleanup required.

OPA 90 was established as a result of the *Exxon Valdez* oil spill in 1989 and it created the Oil Spill Liability Trust Fund (OSLTF) using the primary source of revenue from a per-barrel tax on the oil industry. The responsible party (RP) is liable for costs and damages. OPA 90 also establishes a certain dollar amount above which an RP is not liable for paying for the cost of a spill; this value was updated in December 2015. The National Pollution Funds Center (NPFC) has a billing and collection program to recover costs expended from the OSLTF. Included in the use of the funds is the response costs incurred by the USCG and USEPA, as well as the payments to Federal, State and Tribal Natural Resource Trustees (Trustees) to conduct Natural Resource Damage Assessments (NRDAs) and restorations. It also allows the USCG to designate Basic Ordering Agreement (BOA) contracts to Oil Spill Removal Organizations (OSROs).

CERCLA, administered by the USEPA, was enacted in 1980 and it: (1) established prohibitions and requirements concerning closed and abandoned hazardous waste sites, (2) provided for liability of persons responsible for releases of hazardous waste at these sites, and (3) established a trust fund to provide for cleanup when no responsible party could be identified.

As part of the RRT 4 RCP, a Memorandum of Agreement (MOA) between the USCG and USEPA delineates the inland and coastal zone geographical boundaries establishing responsibility for the pre-designation of the FOSC. The USEPA provides the pre-designated FOSC for pollution response in inland zones and the USCG Captain of the Port (COTP) is the pre-designated FOSC for pollution in the coastal zone.

The USCG and the USEPA use the ICS management system called, which is a part of the NIMS, which provides a framework for responses, including oil spill responses.

The EPA On-Scene Coordinator website[3] provides updates on spills and releases under OPA 90 and CERLA where USEPA is the FOSC. The NOAA Incident News[4] website provides information about spills where NOAA ORR provides scientific support for the incident response.

[3] https://www.epaosc.org/
[4] https://incidentnews.noaa.gov/

Case Study: Stafford Act Response

Kim Albins (NOAA Marine Debris Program) provided a brief overview of an historic flooding event which occurred in South Alabama in April 2014 and resulted in a declaration of the Stafford Act. Severe weather and over 20 inches of rainfall resulted in record flooding. In anticipation of ongoing severe weather, Alabama's governor declared a State of Emergency to initiate a state-level response to supplement local efforts. Local municipalities, including fire and police departments, and county and state responders led initial search and rescue operations. At the state's request, President Obama made a Major Disaster Declaration on May 2 making federal disaster aid available. $1.9 million was allocated for debris removal on a cost-sharing basis. Storm impacts were varied and included one confirmed fatality, road closures, sinkholes, flooded homes and debris in waterways. After Baldwin County rejected the state's request to lead waterway debris removal operations, the Alabama Department of Conservation and Natural Resources (ADCNR) took the lead as an applicant to FEMA with the USACE providing technical assistance under a mission assignment. In order to be eligible for Stafford Act funding, debris must be storm-related, a threat to navigation safety, and/or impacting threatened and endangered species habitat. Waterway debris removal operations occurred during September-October 2014.

Case Study: OPA 90 Response

Adam Davis (NOAA ORR Emergency Response Division (ERD)) provided a case study presentation on an oil spill response in the Mobile River which occurred in 2011. The spill originated from a bulk oil storage facility during a tank-to-tank transfer on Blakely Island and resulted in the discharge of approximately 500 barrels of oil to the river. This spill was limited to localized impacts, such as a brief river closure, and did not involve a complex or prolonged cleanup. The oil in the river was quickly contained with boom. A number of deep draft vessels and smaller vessels, barges, and a dredge were oiled and required decontamination.

The case study was chosen to demonstrate the roles, responsibilities and authorities of agencies responding under a typical OPA 90 response with an identified and UC response structure. The RP initiated their response plan, notified the NRC, and mobilized their OSRO. The OSRO and RP secured the source, contained the spill, and mobilized cleanup crews. The USCG received notice from the NRC, contacted the RP and ordered an overflight for assessment. The USCG mobilized to the incident in order to set up UC. Then, in concert with NOAA, they began the larger assessment of impacts and resources at risk.

The complications in the response included an initial confusion as to the product type (i.e., crude vs. refined) and its associated fate in the environment. Weather hindered operations on the first day which resulted in an increased amount of oiled debris (and increased cleanup costs). The river was closed for several days.

The RP funded the response under OPA 90/CWA Limits of Liability. The USCG accessed the OSLTF with reimbursement from the RP. There were third party claims for the oiled vessels and loss of revenue due to the river closure.

Mobile River Delta and Basin Overview

Tom Smith (USACE) provided a brief overview of the Mobile River Delta and Basin relative to its natural features, salient industrial elements, transportation and wastewater infrastructure and adjoining population centers.

Salient natural features included:

- Five rivers (Mobile, Tensaw, Blakeley, Spanish, and Apalachee) form the second largest delta, the fourth largest watershed based on drainage, and the fifth largest based on area in the U.S.,
- There is 415 sq. mi bay area with average depth of 10 ft. and over 135 mi of shoreline and it was designated as one of 28 National Estuary Programs in 1995,
- It is one of the most diverse ecosystems in the U.S. with three types of wetland habitats, extensive seagrasses, 200+ species of fish, major shellfish communities, and 300+ species of birds and reptiles,
- The Mobile-Tombigbee River basin is one of 51 U.S. Fish and Wildlife Service (USFWS) recognized Strategic Habitat Units in Alabama where the agency is managing and restoring populations of rare fishes, mussels, snails, and crayfishes,
- It is only one of two places on earth where the phenomenon of “Jubilees” occur (i.e., crustaceans and demersal fish can be found in shallow coastal water in large numbers),
- The Alabama seafood industry contribute approximately $461 million in revenue annually and 10,000 jobs.

Salient industrial elements:

- The Port of Mobile is the twelfth busiest in the U.S. with a reported 54 million tons of commerce,
- Commercial and military ship builders include Austal with an ongoing $3.5 billion littoral combat ship contract,
- There is a growing aerospace industry including large scale passenger plane manufacturing and repair.

Transportation and wastewater infrastructure:

- Interstate 10 and U.S. Highway 90 both span the area from east to west and pass through tunnels beneath the Mobile River. Additionally, Interstate 10 is elevated approximately 20 ft. above the Bay,
- Annually, 6.2 tons of material passes through the Port of Mobile by rail,
- The Mobile Area Water and Sewer System, has two wastewater treatment plants located at McDuffie Island and Three Mile Creek. The McDuffie Island plant processes 28 million gallons per day (MGD) and is 15 ft. above sea level. Three Mile Creek plant processes 12.8 MGD and the site elevation ranges 10 to 30 ft. above sea level.

Adjoining population centers (i.e., communities within proximity to the Port of Mobile and bound by Interstate 10 to the sound and Three Mile Creek to the north):

- The "Down the Bay" area is approximately 11 ft. above sea level with mostly slab on grade construction,
- The "Downtown Historic District" is approximately 13 ft. above sea level with step-up raised first floor elevations,
- The "Downtown and LODA" areas are approximately 13 ft. above sea level with primarily nonresidential first floor space,
- "De Tonti Square" is approximately 10 ft. above sea level with step-up raised first floor elevations,
- "Orange Grove, Renaissance" is approximately 10 ft. above sea level with slab on grade construction,
- "Plateau (Africatown)" on average, 20 ft. above sea level with slab on grade construction,
- There are two Hospitals along the banks of Three Mile Creek with parking lots and drives at 9 ft. above sea level with nonresidential first floor and 700 beds.

Introduction to Natural Hazards Triggering Technological Disasters

Nancy Kinner provided an overview of NaTech (e.g., the 1 million gallon Murphy Oil spill (St. Bernard Parish, LA) caused when Hurricane Katrina displaced an oil storage tank). Much of the research and planning and preparedness for NaTech has been done in the European Union and Japan, but more recently within the U.S. (e.g., the June 2016 FEMA-led "Cascadia Rising" exercise that centered on an earthquake and tsunami triggering technological disasters). The key components in emergency response are often no different for NaTech events than natural disasters, but it is the need to conduct multiple, concurrent responses that makes preparation and planning essential. Integrated Risk Management is essential for NaTech planning: to identify multiple risks and discuss how to address synchronous events.

The presentation described several ongoing NaTech related activities: (1) the European Commission's NaTech Accident Database; (2) the electronic regional risk atlas (ERRA) being pioneered in central Europe; (3) the "bow-tie" approach to integrated risk management; and (4) the extended NaTech risk analysis framework. The latter project, a collaboration between European and Japanese scientists, uses models of natural disasters to predict the susceptibility of industrial facilities (i.e., fragility) to damage. This helps identify key infrastructure to upgrade and protect in order to avoid or mitigate technological disasters. A second part of the project uses a "comprehensive economy-wide simulation model" (computable general equilibrium (CGE) model) and existing local input – output tables of goods and services to minimize supply chain disruption resulting from NaTech. These latter two approaches (fragility and CGE modeling) could be used in the U.S., especially for storm-prone ports (e.g., New Orleans, LA; Mobile, AL) to plan/prepare for NaTech events.

Natural Resource Trustee Perspective on Impacts and Challenges: Natural Resource Damage Assessment and Restoration

Peter Tuttle (USFWS) and Kevin Kirsch (NOAA ORR Assessment and Restoration Division (ARD)) provided an overview on NRDAs and restoration.

Under CERCLA and OPA 90, the parties responsible for a release of hazardous substances or an oil spill are financially responsible for a variety of costs, including among other things, the cost to clean up the release and the cost to compensate the public and the environment for natural resources and resource services lost or diminished by the release and associated response activities. Federal, State, and Tribal Trustees, acting on behalf of the public, are responsible for leading NRDA efforts to assess the effects of the oil spill and associated response actions to natural resources and to restore injured resources to the condition in which they would have been, but for the spill (i.e., baseline).

In simple terms, NRDA may be defined as a compensatory (not a punitive) process used by the Trustees to determine the nature and extent of injury to trust resources caused by an oil spill or the release of a hazardous substance for the purpose of restoring the natural resources. NRDA compensates the public and the environment for these injuries and losses. Federal Trustees are designated by the president. State Trustees are designated by the governor. Injury is defined as any adverse change in the condition of resources or resource services caused by exposure to the released material or action taken to respond to the release. Natural resources include land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, or held in trust by, the U.S., States, Tribes, or foreign governments. Trustees are mandated to use monies recovered through the NRDA process to restore, rehabilitate, replace, or acquire the equivalent of the natural resources injured by the release. To meet this mandate, Trustees seek to restore injured resources and services to baseline. The public must also be compensated for interim losses (the losses that occur during the time it takes the resources to recover to baseline). RPs are responsible the cost of assessing injuries to natural resources and can participate in the NRDA. The public is able to participate in restoration planning.

Disaster Scenario Overview

Adam Davis provided context to a potential disaster scenario with publicly available Geographic Information System (GIS) tools including the Environmental Response Management Application (ERMA®)[5] and the Coastal Flood Exposure Mapper[6] as well as images of oil spills from Hurricane Katrina and its associated storm surge.

CRRC further refined the potential scenario to:

- Date: September 7, 2017,
- Slow-moving tropical storm hits the Mobile Bay area causing 4-5 ft. of flooding in the downtown area resulting in the causeway bridge closure (the tunnels remain open),
- An oil tanker, with crew on-board and a 100 million gallon capacity, is partially submerged in the Port of Mobile adjacent to the Convention Center.

A spill scenario in 2017 potentially includes new cruise line industry operations in the Port of Mobile. It is important to note that forecasts of a tropic storm may not be a cause for evacuation of the port and the subsequent flooding from a slow-moving storm may not always be predicted.

[5] https://erma.noaa.gov
[6] https://coast.noaa.gov/floodexposure

Breakout Sessions

Workshop participants were divided into three or four groups for breakout sessions. The first breakout session consisted of four different groups based on the types of organizations the participants represented. [N.B., There were two groups that represented federal and state agencies.] The second and third breakout session had three parallel groups (i.e., each group discussed the same topic). An effort was made by CRRC to have a distribution of participant expertise in all groups. A list of the breakout groups is located in Appendix D. Each group had a leader to help facilitate the discussion and a notetaker equipped with a laptop and projector to capture discussion points. Each group completed a predetermined workshop template (Appendix E).

The summary and distillation of key points from the breakout sessions are presented below. Breakout session notes are located in Appendix F.

Session I

The first breakout session was in the afternoon on the first day of the workshop. The session identified stakeholder needs and concerns. Groups were divided into the following categories:

- Federal and state agencies,
- National Estuarine Research Reserve System (NERRS), NGOs, academia, education and outreach,
- Port and local stakeholders.

Participants discussed the following questions for the NaTech event in the Mobile Bay area:

1. What would your role(s) be?
2. What do you foresee being the greatest challenge for you in your current role(s)?
3. What do you want others to understand better about your roles?
4. What other organizations in this category (e.g., federal and state agencies) have not been mentioned? What are their roles?
5. From your perspective, who are potential stakeholder groups affected by or concerned with the oil spill and/or the storm-related disaster? What is their greatest concern? How can they be better involved and/or informed? What do they need to know?

Federal and State Agencies

Federal agency participation included NOAA, USACE, USCG, USEPA, and USFWS. State agency participation included ADCNR and Alabama Department of Environmental Management (ADEM).

The role(s) of the federal agencies during a NaTech response include:

- NOAA: Provides weather forecasts, physical damage assessments and NRDAs, and scientific support to the FOSC; assists with marine debris and in the safe navigation in ports with NOAA charts and surveying for debris in waterways (except for Corps channels); and is a Trustee,
- USACE: If Stafford Act is enacted, supports FEMA,
- USCG: Serves as FOSC for the incident in the coastal zone, conducts search and rescue, and determines whether to open or close port areas (i.e., COTP's authority),
- USEPA: Provides OSC support to the USCG,
- USFWS: Provides support to the IC on how to minimize impacts to resources (e.g., threatened and endangered (T&E) species, habitat), and is a Trustee.

The role from the state government agencies during a NaTech response include:

- ADCNR: Leads FEMA requests for support, involved in search and rescue, and is a Trustee
- ADEM: Administers major environmental laws (e.g., CWA, Clean Air Act), and is a Trustee

A challenge from the state agency perspective is the State's willingness to cover the cost share requirement of the Stafford Act. There is also a perception issue because the public does not understand the limitations of the agencies' authorities and funding. If the Stafford Act is invoked, it is important to understand and communicate how the public's involvement or volunteer efforts impact whether the activity is eligible for reimbursement from FEMA.

A challenge within the federal agencies is the competing demands of personnel and time during a NaTech response. Further, the USCG must prioritize missions (e.g., search and rescue over environmental protection) in the response efforts. Communication and coordination within and between organizations, as well as the dissemination of information to the public is a challenge.

Other federal entities that would be involved in a NaTech response include:

- FEMA,
- Department of Homeland Security,
- National Guard,
- NOAA National Weather Service,
- U.S. Public Health Service,
- National Parks Services,
- Centers for Disease Control and Prevention.

Other state agencies that would be involved in a NaTech response include:

- AL Department of Transportation,
- AL Law Enforcement Agency,
- Geologic Survey of Alabama.

NERRS, NGOs, Academia, Education and Outreach

Participants from MS-AL Sea Grant, the Gulf of Mexico Research Initiative (GoMRI), AL Sierra Club and Grand Bay NERR comprised the "NERRS, NGOs, Academia, Education and Outreach" breakout group.

Sea Grant does not have a mandatory role in responding to a NaTech event, however, the organization would serve as a liaison for NOAA to assess the needs of communities. NERRS facilities and equipment can be provided for responders and response efforts. NGOs (e.g., AL Sierra Club) can coordinate volunteers and evaluate and advocate for change in legislation to address future NaTech events. Academia can collect data and information. All of these organizations have networks and the ability to engage with the community. The organizations can all reach out to stakeholders and share information, field questions and correct misinformation.

Challenges include: accessing information from the UC in a timely manner in order to share with stakeholders, reporting and responding to unforeseen concerns, as well as creating and understanding their roles in response efforts.

In general, these types of organizations seek to aid the response effort by making information more accessible to the public, or providing preparedness training for local communities.

Other organizations that could be involved in a NaTech response include:

- Faith-based organizations,
- Other NGOs,
- Civic clubs,
- Neighborhood associations.

Port and Local Stakeholders

Participants representing the Alabama State Port Authority (ASPA), BAE Systems, and the City of Mobile comprised the "Port and Local Stakeholders" breakout group. The Harbormaster from the ASPA is responsible for ensuring the operations of the port, the safety of navigation, and the security of the harbor, which includes determining which vessels move in and out of the port and at what times. In the event of flooding, the City of Mobile would be involved regarding impacts to the city's stormwater. An employee from BAE Systems, representing private industry, discussed the company's role if a spill originated from or impacted their facility. If that happened, BAE would oversee remediation and reporting.

Challenges for the port and local stakeholders include: accessing the information from the UC to the industry, not including local responders in the response effort when the federal government is involved (where other responders do not understand the area), and there is limited response equipment. Documentation, inspections, and reimbursement involving the federal government were also viewed as challenges. The greatest challenge would be to resume port operations after a NaTech event due to its impact on the economy. Not only is there an impact of a closed port to the local economy with employees out of work, but the reach of the port is global where manufacturing in other areas would quickly shut down without shipments of inventory transiting from the port.

Other local agencies and stakeholder that would be involved in a NaTech response include:

- Local industry (e.g., tank farms, oil facilities, bar pilots, tug captains),
- Local business (e.g., Convention Center),
- Hotels,
- Cruise ships,
- Downstream users (e.g., just-in-time manufacturing),
- Police and fire department,
- Mobile and Baldwin County health departments,
- Local utilities (e.g., power, wastewater, water),
- Schools,
- Elected and appointed officials.

Challenges and Stakeholder Concerns

There were challenges that were identified in the breakout groups that applied to or were related across categories, including:

- Limited funding,
- Limited personnel and equipment,
- Timely communication (with public, internal within the response, to impacted industries other than RP, from UC),
- Federal agency logistical support,
- Interagency coordination,
- Personnel turn-over,
- Prioritization of missions,
- Managing social media/other media,
- Combatting public perception,
- Entities lacking a response mentality,
- Responders caught in the middle (i.e., public demand for information vs. reluctance to release information),
- Apparent slowness of response due to lag time in permitting (e.g., T&E species),
- Injection of politics into the response,
- Financial loss while the port is closed,
- Federal response using non-local personnel, equipment, etc.,
- Established protocols for access,
- Tapping into NGOs, NERRS, and academic networks to improve response and prepare (e.g., communication to stakeholders, training of local communities).

The overall concern for all stakeholders is knowing what is happening and when everything will return to “normal”. Table 1 summarizes the stakeholder concerns identified in Breakout Session I.

Table 1. Summary list of stakeholder concerns for Breakout Session I for a NaTech event in the Mobile Bay area

Stakeholder	Concern
Public	• When can I get back home? • How do I get reimbursed? • Health and safety, including mental health/stress concerns • Who can help me gain access to services? • Loss of livelihood • Financial losses • Seafood safety
Local business	• Loss of livelihood • When can I re-open? • Financial losses • Mental health/stress • Loss of personnel
Tourism (e.g., cruise lines)	• Mental health/stress • Financial loss • Public perception • Environmental impacts
NGOs (e.g., Sierra Club, Bay Keeper)	• Environmental impacts • Mission-based concerns
Seafood Industry/Commercial Fishing	• Environmental impacts • Financial loss • When can I fish again? • Mental health/stress
Recreational Fishing	• When can I fish again?
Elected officials	• Public perception • Impact on electability • How is my constituency affected? • How is my infrastructure impacted?
Industry (e.g., transportation, manufacturing)	• When is navigation safe? • What are priorities for vessel movement? • When can we go back to normal operation? • Financial losses
Trustees	• Environmental impacts
Tribes	• When can I get back home? • Health and safety, including mental health/stress concerns • How do I get reimbursed?

	• Who can help me gain access to services? • Loss of livelihood • Financial losses • Cultural impacts • Seafood safety
Subsistence users	• When can I get back home? • Health and safety, including mental health/stress • How do I get reimbursed? • Who can help me gain access to services? • Loss of livelihood • Financial losses • Food scarcity and seafood safety
NERRS, NPS	• Environmental impacts
Local schools	• Health and safety • When can students return? • Limited resources, personnel
Hospitals	• Public access • High demand during period of limited resources and staffing
Local utilities (e.g., power, sewer, water)	• Facility repairs • Financial losses • When can facilities operate again? • Communication

Session II: Planning and Preparedness

The second breakout session was in the morning of the second day of the workshop. Participants revisited the challenges and concerns from the first session and addressed the following questions:

1. What would likely work "as planned" (i.e., if there was only an oil spill)?
2. What would be the special challenges in responding to the oil spill as a result of the flooding and storm-related issues?
3. What is missing in the existing plans/preparedness? What should be added or changed?
4. How well prepared are we to predict what will happen/impacts and respond? What can we do to better predict impacts?
5. What are the possible "unknowns"? How do we deal with uncertainty?
6. What best practices would help us to respond better?

In the event of a spill, an NRC notification would be issued and the USCG COTP and Harbormaster would be notified. The USCG, as FOSC, would be the federal lead in the response effort with the following efforts:

- Initiate search and rescue (if needed),
- Notify state, county, local agencies, etc.,
- Shut down river traffic, businesses, and facilities,
- Set up security zones on water and land,
- Initiate Hazardous Materials (HazMat) response,
- Mitigate and stabilize sources,
- Activate the ACP including vessel/facility response plan(s) and GRPs as part of response efforts and identify areas that need immediate protection,
- Request NOAA trajectories,
- Set up Incident Command Post.

Challenges that may arise in spill response as a result of flooding and storm-related issues include:

- Mobilizing assets due to access and impacted transportation routes (e.g., causeway closed),
- Containing the spill due to flooding,
- Storm conditions may impact the oil spill trajectory,
- Increase in oiled debris from contaminated land (instead of storm debris),
- Storm impacts the response efforts,
- Difficult to establish a perimeter and secure the scene.

There is a prioritization to conduct search and rescue before an environmental response. There may be displaced people and public health concerns. There may be reduced spill response personnel due to the storm response efforts. Communications within and between organizations may be impacted. A loss of power would be a constraint.

In terms of the predicting impacts, the ability to predict flooding exists, tide and current data is immediately available, the spill trajectory analysis is developed rapidly by NOAA ORR, and storm forecasting is provided by NOAA National Weather Service (NWS). There is an understanding of how water moves around Mobile Bay and the city as a result of sea level rise and storm surge work that could be tied into response efforts. In prioritizing a response, GRPs show sensitive areas (e.g., booming strategies, T&E species locations). By conducting Area Committee Meetings before an incident occurs, responders can be made aware of the sources of information and existing models. The use of remote sensing could better predict impacts, however, they may have limited use during a storm.

The “unknowns” from the scenario included:

- What is the weather forecast? Will it escalate impacts?
- Are there other threats escalating (e.g., wastewater treatment plant, neighboring industries impacted by flooding)?
- Are there human casualties from the natural disaster?

- What OSROs are available?

In general, outreach is not included in existing preparedness plans. In order to prepare for NaTech events and response, contingency plans could include:

- Ability for the public to report oil sighting (e.g., to submit photographs in the case of oil spreading),
- Use of the county social media,
- Incorporation of public perception into the messaging (instead of combating it).

In addition, plans could also include a process for security to protect the public due to flooding and contamination on land.

In order to better respond, it is important to practice NaTech responses (e.g., trainings, drills, tabletop exercises). Use of contingency plans (i.e., ACPs, GRPs, facility and vessels plans) during these practices can help identify ways to refine/improve the plans.

Session III: Next Steps

The last breakout session was in the afternoon of the second day of the workshop and participants addressed the following questions:

- What steps need to be taken to improve preparation and planning (as discussed in breakout session II) to address this kind of scenario?
- Who should be involved in implementing these steps (e.g., partnerships, teams)?
- What are the impediments, if any (e.g., funding)?
- How long would it take to implement the steps (e.g., months, years, continual)?

After the participants in the breakout groups identified these steps, they prioritized them in terms of importance. The top responses are summarized below.

Two of the three groups identified increased participation at the USCG Area Committee meetings and training events is the most important step in planning for a NaTech event and response. Increased participation would improve the content of the ACP, as well as build relationships and increase understanding of the various roles and responsibilities during response. Participates should include USCG, NOAA, USEPA, ADEM, Sea Grant, NERRS, Mobile Bay National Estuary Program, NGOs, industry, elected officials, and state and local agencies. Currently, the participation in and frequency of these meetings are low. Challenges include scheduling conflicts, time commitment issues, and general complacency. Personnel turnover results in out of date email contact lists. The participation in Area Committee meetings and training must be a continual effort.

All three groups highly ranked the frequency of tabletop exercises and trainings for preparedness planning. Organizations include: USACE, FEMA, U.S. Army, USCG, Trustee agencies, NGOs, public health agencies, and state and local government. One group included media participation in training exercises as part of building relationships and improving messaging. Tabletop exercises that use GRPs and online tools would provide the opportunity to update contingency plans. In addition to funding, challenges include the lack of interest or engagement. These training exercises must be a continual effort.

One group suggested more equipment and training of the local police department in HazMat response (e.g., mimic OSC equipment) in order to protect responders and improve communication. This would include the local police department and city council. Once funding was secured, training could be implemented in months, however, the training refresher would be on an annual basis.

One group identified the need for an internal and external process and procedure for developing and releasing press releases, and for sharing information and data from the UC. An efficient process would better improve the safety for stakeholders and the public, while allowing responders to focus on the response. This would involve the UC including the Incident Management Team (IMT), members of the Joint Information Center, and the environmental unit. This would require execution at different levels within the USCG and there would need to be a willingness to address this throughout the organization. The process and procedure could be developed within three months.

Another group suggested organizing public forums (e.g., town hall meetings) with communities to educate them about what to expect during a NaTech response and use the opportunity to combat misconceptions. Forums would include spokespeople from individual agencies, Local Emergency Planning Committees (LEPC), and other members of the community.

Conclusions

The workshop was an opportunity to increase awareness, understanding, and coordination among participating stakeholder groups and agencies involved in a NaTECH response. Unfortunately, NaTech events will continue to occur. In addition to Hurricane Katrina, the weather conditions from Hurricane Sandy (2012) caused: a diesel spill at the Motiva Refinery (Sewarren, NJ), a biodiesel spill at the Kinder Morgan Terminal (Carteret, NJ), a fuel oil spill at the Phillips 66 Refinery (Linden, NJ), and other spills which spread oil and hazardous materials in NY and NJ waterways and ports. The workshop was an example of the importance of continual regional training to improve preparedness, planning and response to potential oil spills that impact natural and human resources. Discussions among all of the potential stakeholders prior to spills always improve the “climate” for response when an actual spill occurs.

The workshop identified the need for:

- More continual and frequent Area Committee meetings and trainings with greater participation among stakeholders to: update and improve the ACP and GRPs, better understand the roles and responsibilities of responders, and build relationships,
- More training and equipment for local police departments for HazMat response,
- An internal and external process and procedure for developing and releasing press releases, and sharing information and data from the UC, as well as a process to communicate with communities so they know what to expect when an incident happens.

The challenge of communicating important information to the public and media in a timely manner was highlighted throughout the workshop. The third workshop in the NRPT series, “Addressing Public Concerns During Spill Response… Sorting Fact from Fiction During Response” held June 28-29, 2016 in St.

Petersburg, FL had the goal of improving responders' knowledge of the current state-of-science of risk communication during oil spills and their ability to communicate to the public about the response. The challenges identified from the Mobile Bay workshop reported here were considered during the FL NRPT workshop.

Natural Disaster Causing Technology Disasters in Mobile Bay Area

APPENDIX

June 8 - 9, 2016
NOAA's Gulf of Mexico Disaster Response Center
Mobile, AL

Coastal Response Research Center

Appendix A: Participant List

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

PARTICIPANTS

Carol Adams-Davis
Alabama Sierra Club
mcadamsdavis@earthlink.net

Kim Albins
NOAA Marine Debris
kimberly.albins@noaa.gov

Becky Allee
NOAA OCM
becky.allee@noaa.gov

Brian Austin
BAE
brian.austin@baesystems.com

Denise Brown
City of Mobile
denise.brown@cityofmobile.org

CDR Christopher Cederholm
USCG, Sector Mobile
Christopher.R.Cederholm@uscg.mil

Adam Davis
NOAA ORR SSC
adam.davis@noaa.gov

LTJG Daniel Dunn
USCG, Sector Mobile
daniel.j.dunn2@uscg.mil

Leo Francendese
EPA OSC
francendese.leo@epa.gov

Terry Gilbreath
Alabama State Port Authority
tgilbreath@asdd.com

Amy Gohres
NOAA DRC
amy.gohres@noaa.gov

Larissa Graham
MS-AL Sea Grant
ljg0008@auburn.edu

Ayesha Gray
Grand Bay NERR
ayesha.gray@dmr.ms.gov

Patric Harper
USFWS, Gulf Restoration Program
patric_harper@fws.gov

Bob Harris
Alabama State Port Authority
bharris@asdd.com

Whitney Hauer
CRRC, UNH
whitney.hauer@unh.edu

Charlie Henry
NOAA GOM Disaster Response Center
charlie.henry@noaa.gov

Shannon Holbrook
U. S. Fish and Wildlife Service
Alabama Ecological Services Field Office
shannon_holbrook@fws.gov

Nancy Kinner
CRRC, UNH
nancy.kinner@unh.edu

Ashley Leflore
US Army Corps of Engineers
ashley.leflore@usace.army.mil

CDR Kevin Lynn
USCG Gulf Strike Team
kevin.p.lynn@uscg.mil

Kathy Mandsager
CRRC, UNH
kathy.mandsager@unh.edu

Dianne Palmore
Alabama Department of Environmental Management
cdianne.palmore@adem.alabama.gov

LT Katherine Pierson
USCG, Sector Mobile
katherine.e.pierson@uscg.mil

Mike Shelton
ADCNR, Weeks Bay NERR
mike.shelton@dcnr.alabama.gov

Tom Smith
US Army Corps of Engineers
thomas.e.smith@usace.army.mil

LaDon Swann
MS-AL Sea Grant
swanndl@auburn.edu

Peter Tuttle
NRDA Field Office
USFWS
pete_tuttle@fws.gov

Will Underwood
AL Dept of Conservation & Natural Resources
Natural Resource Planner
will.underwood@dcnr.alabama.gov

Chuck Wilson
GOMRI
chuck.wilson@gomri.org

Appendix B: Agenda

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 8 - 9, 2016
NOAA's Gulf of Mexico Disaster Response Center
Mobile, AL

Goal: Increase awareness, understanding and coordination among participating stakeholder groups and agencies during response and recovery to natural disasters that result in widespread impacts to industry, commerce, communities and natural resources in the Mississippi/Alabama coastal zone.

Objectives:

- Bring together a diverse group representing agencies and stakeholders who may be impacted by or involved in response to natural disasters resulting in multiple impacts.
- Increase regional preparedness by identifying potential strategies for improved response, enhanced resilience, and quicker recovery.

Wednesday, June 8

8:30 am — Welcome & Logistics
- Nancy Kinner**,** Coastal Response Research Center (CRRC)

8:40 am — Welcome, Background, Workshop Goals
- Charlie Henry, NOAA's Gulf of Mexico Disaster Response Center

8:50 am — Participant Introductions

9:15 am — Response Case Studies: Stafford Act Response and OPA 90 Response
- Stafford Act Response – Kim Albins, NOAA Marine Debris Program
- OPA 90 Response – Adam Davis, NOAA

9:45 am — Federal Disaster Response Legislation Refresher and Primer
- National Incident Management System (NIMS) and National Response Framework – CDR Lynn, USCG Gulf Strike Team
- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) –Ashley Leflore, Emergency Management Planner, Army Corps of Engineers

10:15 am — *BREAK*

10:30 am — Federal Spill Regulations Refresher and Primer
- Clean Water Act, OPA 90 – CDR Cederholm, USCG Sector Mobile
- CERCLA – Leo Francendese, USEPA

11:00 am — Disaster Scenario Overview
- Adam Davis, NOAA Office of Response and Restoration (ORR)

11:15am — Participant Questions/Input

11:30-12:45 — *LUNCH (on your own)*

12:45 pm Response to Questions from earlier session

1:15 pm Overview of Impacted Area
- Tom Smith, Army Corps of Engineers

1:35 pm Summarize Impacts in Relation to Scenario Specifics – Adam Davis, NOAA ORR

1:45 pm Charge to Breakout Groups - Nancy Kinner, CRRC

2:00 pm Breakout Group Session I: Identifying Stakeholder Needs and Concerns

Breakout Groups by Category:
- Federal Agencies
- State/Local Agencies
- Industry
- NGOs/Academia

Questions to consider:
1. What are your roles?
2. In this scenario, what do you foresee being the greatest challenge for you in your current roles?
3. What do you want others to understand better about your roles?
4. Are there other "players" that belong to this category (federal, state/local, industry, or NGOs/academia) that have not been mentioned? What are their roles?
5. From your perspective, who are potential stakeholder groups affected by/concerned with the oil spill and/or storm related disaster?
   - What is their greatest concern?
   - How can they be better involved and/or informed?
   - What do they need to know?

3:30 pm *BREAK*

3:45 pm Group Reports

4:45 pm Adjourn

Thursday, June 9

8:30 am Recap & Recalibrate

8:45 am Plenary Session: Introduction to Natural Hazards Triggering Technological Disasters (NaTECH)
- Nancy Kinner, CRRC

9:00 am Panel: Natural Resource Trustee Perspective on Impacts and Challenges: Damage Assessment and Restoration
- NOAA ARD
- USFWS
- ADCNR
- Grand Bay NERR

9:45 am *BREAK*

10:00 am Breakout Group Session II: Planning/Preparedness
For the scenario, revisit themes of challenges and concerns from Breakout Session I when addressing the following questions:
1. What would likely work "as planned" (i.e., if there was only an oil spill)?
2. What would be the special challenges due to attendant flooding and storm related issues?
3. What is missing in the existing plans/preparedness? What would we add or change?
4. How well prepared are we to predict and respond? What can we do to better predict impacts?
5. What are the possible "unknowns"? How do we deal with uncertainty?
6. What best practices would help us to respond better?

11:30-12:45 *LUNCH (on your own)*

12:45 pm Group Reports

1:30 pm Breakout Group Session III: Next Steps:
1. What steps need to be taken to improve preparation and planning (as discussed in breakout session II) to address this kind of scenario?
2. Who should be involved? Partnerships, Teams, etc.
3. Prioritize these steps (time table)
4. Identify/address impediments (e.g., funding)

3:00 pm *BREAK*

3:15 pm Group Reports

4:15 pm Wrap-Up and Path Forward

4:30 pm Adjourn

Appendix C: Presentations

Appendix D: Breakout Group Participant Lists

Breakout Group 1

Weds June 8, 2016

Group A (Federal/State)
Room : Communications

Peter Tuttle

Will Underwood

Phillip Hinesley

Susan Rees

Charlie Henry (Group Lead)

Katherine Pierson

Ashley Leflore

Amy Gohres (Recorder)

Christopher Cederholm

Group B (Federal/State)
Room: Command/Control

Shannon Holbrook

Diane Palmore

Tom Smith

Jeff Medlin

Nancy Kinner (Group Lead)

Kevin Lynn

Leo Francendese

Becky Allee (Recorder)

Daniel Dunn

Group C (NERRS and NGOs)
Room: Breakout Three

Carol Adams-Davis

LaDon Swann (Group Lead)

Larissa Graham (Recorder)

Ayesha Gray

Chuck Wilson

Group D (Port/Local Stakeholders)
Room: Training (across hall)

Brian Austin

Bob Harris

Whitney Hauer (Recorder)

Terry Gilbreath (Group Lead)

Denise Brown

Tommy Robinson

Vincent Phillips

Breakout Groups 2 and 3

Thursday June 9, 2016

Group A
Room : Communications

Charlie Henry, LEAD

Amy Gohres (Recorder)

Peter Tuttle

Carol Adams-Davis

Brian Austin

Tom Smith

Diane Palmore

Group B
Room: Command/Control

Whitney Hauer, LEAD

Becky Allee (Recorder)

Patric Harper

Bob Harris

Ashley Leflore (AM only)

Daniel Dunn

Leo Francendese

Group C
Room: Training (across hall)

LaDon Swann, LEAD

Larissa Graham (Recorder)

Mike Shelton

Terry Gilbreath

Katherine Pierson

Denise Brown

Will Underwood

Appendix E: Breakout Group Template

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 8, 2:00 PM
Breakout Group Session I: Identifying Stakeholder Needs and Concerns

Group A. Federal/State Agencies
Group C. Federal/State Agencies
Group C. NERRS and NGOs
Group C. Port/Local Stakeholders

1. What are your roles?

2. In this scenario, what do you foresee being the greatest challenge for you in your current roles?

3. What do you want others to understand better about your roles?

4. What other NERRS and NGOs have not been mentioned? What are their roles?

5. From your perspective, who are potential stakeholder groups affected by/concerned with the oil spill and/or storm related disaster?

   - What is their greatest concern?

   - How can they be better involved and/or informed?

   - What do they need to know?

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 9, 10:00 AM
Breakout Group Session II: Planning/Preparedness
Group A

For the scenario, revisit themes of challenges and concerns from Breakout Session I when addressing the following questions:

1. What would likely work "as planned" (i.e., if there was only an oil spill)?

2. What would be the special challenges in responding to the oil spill as a result of the flooding and storm-related issues?

3. What is missing in the existing plans/preparedness? What could we add or change?

4. How well prepared are we to predict impacts and respond? What can we do to better predict impacts?

5. What are the possible "unknowns"? How do we deal with uncertainty?

6. What best practices would help us to respond better?

1:30 pm
Breakout Group Session III: Next Steps
Group A

What steps need to be taken to improve preparation and planning (as discussed in breakout session II) to address this kind of scenario?	Who should be involved in implementing the steps above (e.g., partnerships, teams)?	Identify any impediments (e.g., funding)	Prioritize these steps and estimate how long it would take to implement the steps (e.g., months, years, continual)

Appendix F: Breakout Group Notes

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 8, 2:00 PM
Breakout Group Session I: Identifying Stakeholder Needs and Concerns
Attendees: Charlie Henry (NOAA, DRC), Amy Gohres (NOAA, DRC), Ashley Leflore (U.S. Army Corps of Engineers, Mobile District), Will Underwood (ADCNR, State Lands Division, Coastal Section), Peter Tuttle (U.S. Fish and Wildlife Service, NRDA Office), CDR Chris Cederholm (U.S. Coast Guard, Sector Mobile)

Group A. Federal/State Agencies

1. What are your roles?

ADCNR:

- State Lands has submerged lands trustee status. Wildlife and Freshwater Fisheries (WFF) has trustee status over fish, birds, mammals. Marine Resources Division (MRD) has trustee status over marine resources.
- Engineering Section leads FEMA requests for support on recovery side.
- State Lands Division (SLD) officers involved in SAR ops. State also manages lands that could be impacted (National Estuarine Research Reserves (NERRS)).

USFWS:

- During response (oil/hurricane), serve as resource within IC
    - Provide local information to IC and different sections on wildlife resources, sensitive habitat, T&E.
    - Within IC, often takes lead role on wildlife operations section. Injured/impaired wildlife recover and rehabilitation.
- Within environmental contaminant program, have knowledge about contaminant effects/toxicology.
- From regulatory standpoint, TE involved so there will be an emergency consultation.
    - Incident responders can serve as liaison to home office.
    - Emergency consultations are consulting on effects of response action itself (not pollution itself). Within IC, serve more as a liaison.
- Within Mobile Bay area, Bon Secour National Wildlife Refuge (NWR) on Ft. Morgan peninsula.
    - Land owner management role for NWR. If Natural Resource Damage Assessment (NRDA) action. Distinct funding streams between OPA funds and NRDA funds.

USCG:

- CPT of Port (COTP) owns closing/opening port areas. Broad federal authority. Restart commerce and marine transportation.
- Search and Rescue (SAR) mission coordinator (SMC)
- Federal On-Scene Coordinator (FOSC) coordinates during spills/releases/etc.
- Officer in Charge of Marine Inspections (OCMI), US Flag Fleet, licensing (may not be used in this scenario)
- Federal Maritime Security Coordinator – coordinates things on the water security wise
- Manpower-Surge resources – can have thousands of individuals

USACE:

- Don't have to wait to fight floods or check civil works projects – check on USACE managed areas and infrastructure right away
- May receive FEMA mission assignments. Have staff at coordination center waiting on green light (for ESF-3 primarily)
- Manages emergency permitting, permitting for work in wetlands, Section 404. Go through paperwork for entry into private property.

NOAA:

- National Weather Service - Weather forecasts
- Assessments: Physical damage assessments (NGS aircraft, satellites)
- Assisting and opening ports and safe navigation (NOAA charts) – surveying for debris in waterways (except Corps channels)
- Assist in response to oil and chemical pollution (ESF-10), marine debris
- NRDA, including consultations for protected species (marine)
- New EMA pre-scripted mission assignment for NOAA Coastal Science Coordinator to work with JFO to support response and long term recovery

2. In this scenario, what do you foresee being the greatest challenge for you in your current roles?

ADCNR

- Small agency, limited resources
- Internal communications, turnover within agency – reinforce recognition of roles

USFWS

- During hurricane/oil spill, competing demands of personnel and time
    - Chemical companies, Walmart, gas stations, etc. all impacted at the same time that would require attention
- Service facilities – Bon Secour NWR and how they were impacted
- No availability of Stafford Act funds (b/c federal agency)

USCG

- Prioritization of missions
- Interagency coordination
- Public affairs/governmental affairs pressures
- Communications
- Note: May be operating in multiple different areas

USACE

- Agency is impact at the same time they are responding. Do damage assessments on civil works projects and also assist on other projects/mission assignments.
- How to access USACE downtown facility or COOPS location after event
- Impacts to contractors who would do the work. Do we need to share resources with other districts?

NOAA

- Maintaining communications
- Logistical support for staff from other locations – no place for them to stay after event

3. What do you want others to understand better about your roles?

ADCNR

- Public have better understanding of roles of individual divisions within agency (ADCNR)
- With FEMA response, if volunteers remove debris it may not be eligible for reimbursement from FEMA. Desire for public involvement but may not be a place for it during Stafford response.

USFWS

- Within USFWS/DOI have depth and a lot of resources
- DOI has roles under each ESF
- Nationwide and can bring in highly qualified people at short notice
- A lot of expertise

USCG

- Staff-wise organization is transient, per person productivity might be less than other agencies because of new personnel
- Upside is that this adds to staff capabilities

USACE

- Locals do not have an understanding of what USACE's role is or that USACE only does what FEMA directs them to do (during emergency response). People may think USACE has a say in determining eligibility.

NOAA

- More than just office that regulates fisheries (snapper season)

4. What other federal and state agencies have not been mentioned? What are their roles?

Federal

- FEMA
- NPS (FL and MS)
- National Guard, Civil Support Team
- Public Health Service, CDC
- USEPA

State

- ADEM
- AL Law Enforcement Agency (ALEA)
- ALDOT
- Geologic Survey of Alabama (GSA) – mapping, state trustee

County Health agencies

- Mobile County Health Dept
- AL Dept of Public Health, Baldwin County

5. From your perspective, who are potential stakeholder groups affected by/concerned with the oil spill and/or storm related disaster?

NGOs (Sierra Club, Audubon)
Seafood Industry/Commercial Fishermen

Recreational fisherman
Industry (multiple: transportation, manufacturing, retail, etc.)
Various levels of government (elected officials, city mayors)
Public in general, people who lost homes

- What is their greatest concern?

Just want to know. When will it be back to normal.

NGOs (Sierra Club, Audubon) - Dependent on NGO mission-set (environmental social justice, wildlife, etc.)

Seafood Industry/Commercial Fishermen – safety, closures, public perception (marketability), long term effects, safe refuge for vessels (so doesn't become debris), access to fuel/docks/ice, debris

Recreational fisherman – snapper season, safety, fishery closures, ramp closures or used for response

Industry (multiple: transportation, manufacturing, retail, etc.) – Just in time delivery, finances/profits

Various levels of government (elected officials, city mayors) – Public perception, how fast will we recover (tax revenue)

Public in general, people who lost homes – insurance rates, getting back to normal life (electricity, fuel, food), toxicity/health concerns from spill, identifying contractors for repairs

- How can they be better involved and/or informed?

Transparency, including multi-media transparency (use multiple sources for information)
Better public affairs and information management within response
Expectation management, don't overpromise

- What do they need to know?

We need to answer the questions they are going to have
Don't tell them what they need to know

NOAA's Regional Preparedness Training (NRPT)

June 8, 2:00 PM
Breakout Group Session I: Identifying Stakeholder Needs and Concerns

Group B. Federal/State Agencies

1. What are your roles?

USCG – serving as federal OSC for incident in coastal zone; fyi -- ESF 10 → oil and hazmat function under NRF
Army Corps – once Stafford Act enacted, FEMA brings in Corps for ice distribution, debris removal, and evaluating roofs; incidental contact as needed, billable organization; if someone has a specific expertise that is needed, can pull that person in to help with issue; may be tasked to assess information once acquired; ESF 3 → public works and engineering; perform damage assessments for structures and utilities; Corps is invited in, does not have a specific mission
EPA – EPA would work w/ (support) USCG as lead; Stafford Act lead is "less significant" (more about which tool is most appropriate at the time) b/c each agency has mission assignment; evaluate problems and send out notification(s) to initiate appropriate response (e.g., notify the gas company of a leak)
FWS – dealing with environmental resources; advise IC (or command structure) on how to handle resources (living, habitat); minimize impacts
ADEM – sitting in on joint science meeting, environmental trustee for state; document all activities to preserve info (who did what, environmental impacts); no authority to do anything; "secretary on the road"; documenting to make sure things get done; have no fund and no contracting authority; much less delegating authority from state; would likely forward IAP to someone else seeking concurrence, not someone at scene but in a managerial or political position (e.g., head of ADEM); skill depends on how well ADEM staff keep management informed; have responsibility for sampling (e.g., after DWH, told to go collect water – figure out why later)
Jointly – carve out tasks among agencies as information grows

2. In this scenario, what do you foresee being the greatest challenge for you in your current roles?

In general – State's willingness to cover cost share portion of Stafford Act requirement
USCG – Managing social media; combatting public's perception of what we're doing
Army Corps – getting in own way, Corps or other government agencies; many entities within a government organization don't have response mentality
EPA – dissemination of information – accurate and timely; restricted by higher ups; minor issue can become very big issue; different perspectives
FWS – media perception; mission not to see effect on humans – negative view; perceived as not caring about people; process takes time, can't happen overnight
ADEM – public interface huge challenge; most people do not understand limitations of authority; public expects action

3. What do you want others to understand better about your roles?

USCG – public perspective how they can integrate into response; when is it appropriate?
Army Corps – Understanding role, especially non-federal entities; role limited by authorities; public needs to understand role has limitations
EPA – perception that emergency response is insular group that cuts out participation; really opposite; in age of expanding participation but still someone has to be in charge

FWS – that process takes time; requires evaluation
ADEM – understand limitations

4. What other state and federal agencies have not been mentioned? What are their roles?

Dept of Public Health – local or state; trusted by public; good at communicating hazard; NCP requires OSC ensures safety to public and consultation w/ public health departments and checking Agency for Toxic Substances and Disease Registry
Alabama Power – not a state agency BUT has own fund for response; authorized by governor to expend funds in response
ACDNR
Fire/Police Departments – secure scene; road closures; evacuations
ALDOT – road closures; road/bridge inspections; open response fund (their own fund) for isolated incidents
Alabama Emergency Management Agency – general emergency coordination
NOAA/NWS
IMAAC (Interagency Modeling and atmospheric assessment center) – issues plume model bulletins
Homeland Security – because of impact to major transportation and refineries
FEMA – funding and writing checks
National Guard – Civilian Support Team

5. From your perspective, who are potential stakeholder groups affected by/concerned with the oil spill and/or storm related disaster?

Public
Transportation sector
Elected officials
NGOs/Conservation groups – e.g., River Keeper
Community groups – Africatown has a group
FWS
NOAA Fisheries and Ocean Service – as trustees for resources; integrated into response structure
Chamber of Commerce
Local industry – chemical primarily
Local businesses
Tribes
Tourism providers
Watermen – people making living from or recreating on the water
Subsistence fishers
Cruise lines

- What is their greatest concern?

Public – safe, home, money 1) safety, health, getting back in homes, back in routine, going back to work, power, internet; 2) NOAA radio, media communication; 3) what they can expect, what impact will be, timeline from a trusted entity, where to go for help
Transportation sector – 1) money (includes economy), when back to normal operations; 2) Maritime Transportation system recovery groups; 3) when is navigation safe, what are priorities for movement (who moves first)
Elected officials – 1) public perception, public health, how constituency is affected, infrastructure; 2) get involved in planning and preparedness stages, understand roles/responsibilities and limitations; 3)

impacts of all aspects of their area (e.g., transportation), need to understand response mechanisms, need to understand how NRF process works →go to governor → request to president
NGOs/Conservation groups – e.g., River Keeper
Community groups – Africatown has a group
FWS – as trustees for resources; integrated into response structure; 1) impacts to resources; 2) involvement in planning and response
NOAA Fisheries and Ocean Service – as trustees for resources; integrated into response structure (same as FWS)
Chamber of Commerce
Local industry – chemical primarily
Local businesses
Tribes
Tourism providers
Watermen – people making living from or recreating on the water
Subsistence fishers
Cruise lines

- How can they be better involved and/or informed?

- What do they need to know?

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 8, 2:00 PM
Breakout Group Session I: Identifying Stakeholder Needs and Concerns

Group C. Academia, Outreach/Education, and NGOs

1. What are your roles?

- No mandatory role but would interface with NOAA based on partnerships/efforts from past disasters (Sea Grant)
- Share information & correct misinformation from stakeholders (seafood, file claims, etc) - Compile questions but also answer questions; distill science; conduct seminars/workshops; serve as a liaison for NOAA to assess needs of communities (Sea Grant)
- Provide facility & equipment available for responders & response efforts (NERR)
- Coordinate efforts & assist own communities on personal time (NERR/DMR)
- Field questions & provide information (NERR)
- Answer questions; share information in a timely matter; correct misinformation; provide environmental educational programs; host experts to answer questions (Sierra Club)
- Evaluate & advocate for change in legislation, etc., for future spills/disasters (Sierra Club)
- Share lessons learned from past experiences (All)
- Reach out to national network for assistance (All)
- Engage communities (All)
- Work together to be more effective and more resourceful (All)
- Collect information (Academia)
- Coordinate volunteers (NGOs)

2. In this scenario, what do you foresee being the greatest challenge for you in your current roles?

- Getting access to information from unified command in a timely manner so it can be shared with stakeholders
- Facility and equipment might be impacted by disaster (NERR)
- Reporting and responding to unforeseen concerns & develop solutions
- Understanding & creating a role in response efforts

3. What do you want others to understand better about your roles?

- Searching for answers & truth and want to share that information
- Help response efforts – answer questions, ease concerns, lessen burden
- More assessable to public – can serve as leader to help share information
- Provide preparedness/preventative training for local communities

4. What other groups (academia, outreach/education, NGOs) have not been mentioned? What are their roles?

Other groups:
- Faith-based organizations
- NGOs
- Cities, counties, states
- Elected and appointed officials
- Civic clubs
- Neighborhood associations
- Schools

Roles:
- Trust established
- Relationships developed
- In proximity/neighbors with communities

Ideas (for future efforts):
- Have similar event as today for communities
- Need to exercises to practice response efforts (with community involvement)

5. From your perspective, who are potential stakeholder groups affected by/concerned with the oil spill and/or storm related disaster?

- Communities (Africatown, Pritchard, bait shrimping community)
- Waterfront residents
- Waterfront businesses – ports, harbors
- Fishing community
- Battleship

- What is their greatest concern?

- Long-term impacts
- Loss of livelihood
- Contamination
- Flooding
- Impacts that won't recover
- Environmental health
- Public health

- How can they be better involved and/or informed?

- (We can:) Develop relationships with those that would have information during response
- (We can help:) Develop monitoring programs in place (air, water, etc.) to collect data

- What do they need to know?

- Effects/impacts to all concerns listed above
- How questions will be answered
- Compensation
- Who is responsible
- Future prevention/preparedness
- Recovery timeline

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 8, 2:00 PM
Breakout Group Session I: Identifying Stakeholder Needs and Concerns

Group D. Port/Local Stakeholders

1. What are your roles?

- Harbor master – which vessels need to go, when to get moving
- Env. Director AL State Port Authority – If release, 2nd call after fire dept. once fire dept. has stabilized the situation, then over to the env. Director. One challenge is to ID the RP. Then convince them to come out bc its their responsibility
    - Storm checklist, try to get haz materials out ahead of the storm
    - Person owning haz mat also wants out of harms way
- Env. Group, City of Mobile – only involved impacts to city stormwater, storm drain within the city limits. City will have to a follow up report how there was impact to rivers, creeks. Would have to monitor.
- Env. Supervisor, industry (BAE) – reporting locally for a facility, report to USCG, oversee remediation, reports (spills from facility or spills impacting the facility)

2. In this scenario, what do you foresee being the greatest challenge for you in your current roles?

- From the industry side, trying to make sure that you are part of what is going on with the Fed response. Be a part of the command center is possible to listen in
- Feds tend to take over the response and overwhelm everything and forget the local responders (Feds have BOA for major companies, but there are local responders). RP does not stay in charge for very long.
- Politics!
- Industry might be peripherally damaged, but not principal
- Port, all the customers want to be up and operational ASAP but are pressured. Get channel surveyed
- Shipyard has similar issues as the Port
- Federal response hears from local
- Fed bring in out of state personnel, not familiar with the area
- MTSRU is supposed to help the USGS, but need to understand the area
- Tough to understand the financial implication that the port, shipyard or city is incurring
- Responders become scarce in the example of a big hurricane. Bring in responders from out of town. Responders nearby will want to hold back people resources bc they will all be affected
- Limited response equipment
- "Fed money comes with Fed problems", new animal dealing with FEMA, need to be prepared for a new set of challenge than paying yourself and asking for reimbursement from FEMA. E.g., inspector/inspections and documentation
- Fed/state/local sealing off an area. Need to established protocol for how to get into the Port. From a security perspective, trying to get in to do the job. How do get people into a secured area. E.g., get an electrician into the port

3. What do you want others to understand better about your roles?

- Pressure to get the Port back in business
- Reach of the port throughout the state is huge. E.g., shipment of paper by rail to Kansas, paper from Brazil, big impact to industry
- Employees out of work, need to work to support families etc.
- Manufacturing without a lot of inventory, shutdown happens quickly
- Bringing to another Port does not solve the problem
- For the city, FEMA may have support but city knows where to go, what to unclog, clear streets, etc. city has done it before

4. What other port/local stakeholders have not been mentioned? What are their roles?

- Tank farms, oil facilities
- Bar pilots (can only work 12 hr within 24 hr period), tugs – limited personnel
- Tugs captains also have limitations - staff
- Roles of coast guard plays to reopen channel and ACE – survey of waterway, aids to navigation (mark the channel)
- Other industries along the river, e.g., Austal usually have 4-5 vessels in the water. Unmanned.
- Cruise ships – 2000 people on ship, vehicles at cruise terminal
- Downstream users, just in time delivery (manufacturers don't stockpile)
- Local business, responders working out of Convention Center
- Hotels, putting up responders
- Local utilities (power, sewage, water)
- Hospitals

5. From your perspective, who are potential stakeholder groups affected by/concerned with the oil spill and/or storm related disaster?

- Commercial and recreational fishing
- Fishing vessels became vessels of opportunity
- Tourism, cruise ships
- Gulf Island Nat Seashore (NPS)
- Local business
- Local schools
- Resource agencies (wetlands, habitat, wildlife)
- Environmental groups, bay keepers, Sierra Club, etc.
- Other municipalities and counties

A copy and paste from #4:

- Tank farms, oil facilities
- Bar pilots (can only work 12 hr within 24 hr period), tugs – limited personnel
- Tugs captains also have limitations - staff
- Roles of coast guard plays to reopen channel and ACE – survey of waterway, aids to navigation (mark the channel)
- Other industries along the river, e.g., Austal usually have 4-5 vessels in the water. Unmanned.
- Cruise ships – 2000 people on ship, vehicles at cruise terminal
- Downstream users, just in time delivery (manufacturers don't stockpile)
- Local business, responders working out of Convention Center
- Hotels, putting up responders

- Local utilities (power, sewage, water)
- Hospitals

- What is their greatest concern?

- When they can get back to normal function?
- Injury, loss of personnel
- Getting information out (find out when street are open, etc)
- From Katrina, lessons learned about communication

- How can they be better involved and/or informed?

- Communication: storm radios, local antennae
- Have an emergency plan (work, family)
- Know who to contact (with the city, the port, a business)
- More involved in emergency response exercise/preparedness

- What do they need to know?

- Access, e.g., to home or business, when will roads be cleared, etc.
- When will utilities be restored to get back home or business
- Where to go for help. E.g., medical, food, gas, ice
- Accounting for all members of the family and employees

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 9, 10:00 AM
Breakout Group Session II: Planning/Preparedness
Group A
Attendees: Carol Adams (Sierra Club), Brian Austin (BAE Systems), Charlie Henry (NOAA), Diane Palmore (ADEM), Tom Smith (USACE), Pete Tuttle (USFWS)

For the scenario, revisit themes of challenges and concerns from Breakout Session I when addressing the following questions:

1. What would likely work "as planned" (i.e., if there was only an oil spill)?

- Communications and notification systems (NRC notification)
- Harbor master, head of port has been notified. Would have knowledge of what equipment/vessels are in the area.
- Oil spill control specialists deploy on behalf of company (Responsible Party - RP), will have contracts with local spill cleanup Oil Spill Response Organizations (OSROs)
- U.S. Coast Guard will act as federal lead (Federal On-Scene Coordinator - FOSC)
- Area Contingency Plan (ACP) in place and will be activated – Identifies areas that need immediate protection
- Vessel has response plan in place regarding source control – they (captain, crew) are the most competent people to manage the source control

2. What would be the special challenges in responding to the oil spill as a result of the flooding and storm-related issues?

- Transportation routes needed to implement ACP may be impacted by weather
    - Slows response
    - Getting equipment launched (vessels, aircraft) and accessing water
- Poor visibility
- Oil continues to spill throughout event
- Deployed equipment could be affected by weather
- Booms may be ineffective in weather conditions
- Vessel may not be safe for people to stay on.
    - Vessel may be compromised – captain needs to do damage assessment and update as needed.
    - Crew may have to be evacuated
    - Could have fatalities or serious injuries
- People responsible for managing oil spill response are already engaged in preparing facility for approaching storm, managing Search and Rescue, etc.
    - Have to check and ground truth all reported issues – pulled in many different directions.
    - All agencies are already busy.
- If evacuating because of high water, could create issues. Flooding has potential to transport oil unless oil is contained within the river.
- Sensitive areas north and south of spill location could be impacted
- High winds could transport oil north into the delta (dependent on rotation), natural

dispersion can increase impact
- Public needs to be notified to avoid the area
- Have not been a lot of spills in area. Plans have not been exercised recently. Complacency.
- Flammability/fire could complicate response

3. What is missing in the existing plans/preparedness? What could we add or change?
   - If oil is spreading, need to have a number for public to call if they are sighting oil (more eyes help). Perhaps use photographs instead of verbal reports.
   - Use of social media by counties, use to advantage in response. Use photographs.
   - Incorporate public perception into message rather than combating it

4. How well prepared are we to predict impacts and respond? What can we do to better predict impacts?
   - Complacency. No large spills in areas in long time.
   - Protection strategies, contacts in ACP are used. Other sections are not.
   - Have Area Committee Meetings (before and incident) to plan for how to respond
   - NOAA leads trajectory analysis using information called in – weather forecasters will be busy because of storm forecasting
   - USACE modeling expertise could be used to improve forecasts (in development)
   - Tide and currents data is immediately available
   - Hydrographs would change because of storm event
   - Use of remote sensing could better predict impacts, but may have limited use because of storms
   - Responders need to be aware of sources of information and models
   - Need awareness of sensitive areas to prioritize response (in ACP and Environmental Sensitivity Index (ESI) maps)
   - Knowing cause of leak could help prevent future events
   - Collecting data early is a challenge

5. What are the possible “unknowns”? How do we deal with uncertainty?
   - What weather will do - Will it escalate?
   - What other threats are escalating? Ex. Sewage treatment plant, neighboring industries impacted by water damage
   - Human casualties (separate from spill response)
   - Other releases or problems because of storm, chemical releases that threaten responder health
     - Above ground storage tanks (other hazmat storage) could have high water and be in jeopardy. Clay foundations could deteriorate because of standing water. Historically, don’t have to detain water.
   - Things change since plan is developed, and may not know what has changed until boots are on the ground

6. What best practices would help us to respond better?
   - Practice our plan
   - Should port have a copy of response plans from vessels? Or have it publicly available?

(Debate over release to general public). USCG may already have this information.

- Need to review preventative measure plans
- Additional training (like this workshop), exercises/drills that engage larger community
- Identify weaknesses in the plans
- Increased communication could increase ability to utilize local resources
- Why did this happen in the first place? Crew oversight, etc? Learn from mistake and implement solutions.
- Have a number for public to call or use photographs to report oil.
- Use of social media by counties, use to advantage in response.
- Incorporate public perception into messaging rather than combating it

1:30 pm
Breakout Group Session III: Next Steps
Group A

What steps need to be taken to improve preparation and planning (as discussed in breakout session II) to address this kind of scenario?	Who should be involved in implementing the steps above (e.g., partnerships, teams)?	Identify any roadblocks (e.g., funding)	Prioritize these steps and estimate how long it would take to implement the steps (e.g., months, years, continual)
Work within agencies/ organizations to address problems internally (so don't repeat the same mistakes)	• Individual organizations/agencies • Cross-agency leadership	• Personalities/egos • Changes in leadership, turnover • Administration changes and new appointees • Actually implementing changes • Learning curves • Status quo	Timeline: Months-Years, 5 years for a cultural shift #4
Develop systems of knowledge retention, archival and sharing within agencies. So you can benefit from existing programs.	• Individual employees • Top down, leadership to staff, corporate board	• Ownership, territorial of information • Lack of information sharing programs • IT, security • Lack of incentives to develop as an agency	Timeline: Up to 5 years #5
Build relationships with media and journalists in fair weather	• Individual agencies/organizations, public affairs offices and officials (PIOs)	• Current policies too restrictive • Miscommunications between what is happening on ground and PR person • Unnecessarily defensive	Timeline: Quick or long-term. Ongoing process. #6
Have public forums (town hall meetings, etc.) with communities so that they know what to expect when an incident happens. Combats misperceptions and lack of	• Spokespeople from individual agencies – use agency websites to inform • LEPC – Superfund local groups	• Complacency, lack of interest • Short memories • Funding • Too much going on – info overload	Timeline: Months #3

information – set public at ease early on.	• Media – radio and TV networks	• Misconceptions • Local/cultural norms and standards (might accept lower standards than other areas) • Laws different from state to state • Agency polices • Media	
Increase frequency of exercises that involve state/local agencies in AL (perhaps included in hurricane preparedness agendas)	• Anyone who plans for these events • State • USACE • FEMA • Army • Other fed agencies with role in response (USFWS) • Municipal gov • Public health agencies	• Funding • Time • Lack of interest • Lack of engagement – complacency	Timeline: 2 years to implement, but can get started immediately #2
Increase participation at meetings and improve U.S. Coast Guard Area Contingency Plan (ACP) content	U.S. Coast Guard NGOs States (ADEM) Industry Elected officials	• Public affairs (USCG, others?) • Low frequency of ACP meetings in Sector Mobile • Low participation • Old email lists	Timeline: Start publicizing now. Month or less. #1

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 9, 10:00 AM
Breakout Group Session II: Planning/Preparedness
Group B

For the scenario, revisit themes of challenges and concerns from Breakout Session I when addressing the following questions:

Special notes: I-10 would be open; Bankhead would be closed; causeway would be flooded; Bayway would likely be open; oil would likely be mixing with flood waters in town (depends on winds); DHS, FEMA, Red Cross needed for evacuations and temporary housing; spill would likely be on top of I-10 tunnel

1. What would likely work "as planned" (i.e., if there was only an oil spill)?

In terms of preparedness training; would area contingency plan still be valid? In immediate aftermath, probably not.

- NCP→RCP→ACP(FRP, VRP)→GRP
- First week or two in reaction mode.
- Vessel and facility (FRP) CPs would be used.
- Same resources needed to respond to scenario, i.e., there would not be additional resources available.
- Notification parts of plans would work well for city, facility, and vessel.
- County EMA plans address temporary housing; interface with FEMA; distribution of ice/water; feeding people
- Wide-spread shoreline assessment needs → have resources

2. What would be the special challenges in responding to the oil spill as a result of the flooding and storm-related issues?

- Mobilizing assets would be problem b/c access issues (flooding downtown), causeway closed, tunnels open; would not be able to drive anything near spill
- Containment efforts would likely not work well
- Loss of power, boom resources, night time (can't do much of anything) event → would all be constraints
- Prioritization →search and rescue before environmental response
- Establishing perimeter; securing the scene (harbor master, Captain of the Port [COTP], local police, DOT)
- Displacement of people; do good job evacuating but no good plan for where they go and for how long; special needs; pets
- Public health concerns
- What to do with oil, i.e., transfer?
- Would have oily debris vs usual storm debris
- Clean-up of fish kills
- Movement of oil; where oil goes will need clean-up, e.g., marsh, oyster reefs, etc.

3. What is missing in the existing plans/preparedness? What could we add or change?

- Outreach to public; most plans do not have good outreach component
- Outreach not part of response
- Poor coordination
- Where to put displaced people

4. How well prepared are we to predict impacts and respond? What can we do to better predict impacts?

- Predictions are really good for floods
- Vessel and facility plans do good job with spill predictions
- Geographic Response Plans (GRP) show sensitive areas, booming strategies, T&E species locations, etc.

5. What are the possible "unknowns"? How do we deal with uncertainty?

- How much oil has leaked
- How much more oil could be released
- How many people are on tanker
- How to get people off tanker
- Cause of spill
- Why is vessel partially submerged → need to stop sinking and move vessel to prevent further sinking
- Structural integrity of vessel
- Requires lots of phone calls (communication)
- Nationality of people on vessel; may not speak English

6. What best practices would help us to respond better?

- Exercises
- Training/workshops
- Professional outreach staff
- Detailed development and updating of GRPs →fully developed GRP is nuts and bolts of being prepared
- Tactical evaluations
- Pre-approved dispersant use

1:30 pm
Breakout Group Session III: Next Steps
Group B

What steps need to be taken to improve preparation and planning (as discussed in breakout session II) to address this kind of scenario?	**Who should be involved in implementing the steps above (e.g., partnerships, teams)?**	**Benefits of implementation**	**Identify any impediments (e.g., funding)**	**Prioritize these steps and estimate how long it would take to implement the steps (e.g., months, years, continual)**
1. Better equip and train local PD for HAZMAT response, e.g., mimic OSC equipment; HAZWOPER training → reach out to USCG	Local PD; potentially USCG; city council; EPA; NOAA; EMA	Protecting responders; improved communication	Funding for training; purchase and maintenance of equipment; Initial 40 hr training; requires annual refresher	Once funding secured, could implement within months
3. More exercises, particularly tabletop; utilize GRPs, incorporate online tools	All – state, federal, local, county, NGOs, perhaps some elected officials, limited stakeholder representation (i.e., vetted POCs); MAWSS; NEPs, TNC	Updated GRPs → living document; increased institutional knowledge	Scheduling; time constraints	Continual, quarterly
2. Internal and external process and procedure for developing and releasing press releases, and for sharing info and data from Unified Command	Unified Command – Incident Management Team (IMT); members that make up Joint Information Center (JIC) and environmental unit team	Protecting responders, improving safety for stakeholders/public; better use of responder time → can focus on other more important needs	Political appointees; increasing level of bureaucracy → execution at different levels	90 days if will was there
4. Equip NERRS with back-up communication equipment; prep bldg. for use as Incident Command Post; concept here is to utilize existing structures as back up facilities	MS DMR; NOAA; Jackson County EOC	Provides backup/alternate location; safety for people already in bldg	No clear impediments	90 days

NOAA's Regional Preparedness Training (NRPT)
Natural Disaster Causing Technology Disasters in Mobile Bay Area

June 9, 10:00 AM
Breakout Group Session II: Planning/Preparedness
Group C

For the scenario, revisit themes of challenges and concerns from Breakout Session I when addressing the following questions:

1. What would likely work "as planned" (i.e., if there was only an oil spill)?

Typical response responsibilities would kick in and include:
- Initiate search & rescue (if needed)
- Notify state, county, local agencies, etc.
- Shut down river traffic, businesses, and facilities
- Set up security zone on water & land
- Response from hazmat
- Mitigate and stabilize source
- Activate vessel response plan & response efforts (booms, etc.) and geographic response plans
- Request NOAA trajectories
- Set up Incident Command Post

2. What would be the special challenges in responding to the oil spill as a result of the flooding and storm-related issues?

- Contaminated land (city, habitats, etc.) due to flooding
- Movement of oil would be determined by conditions of storm
- Negative public perception related to response efforts – people may not understand why response efforts are on hold (due to storm)
- Changes in response efforts (or be on hold) due to storm surge, wind, increased water flow, debris, etc.
- Oil would move more quickly; response efforts move more slowly because of weather
- Impacted industries (down bay)
- Reduced access (roads, tunnels, bridges, etc.)
- Increased risk to personnel safety
- Reduced personnel because of storm response efforts
- Reduced/impacted communications (include interagency)
- Restricted vessel movement/fewer events at local event facilities because of storm
- Decontamination process of downtown (flooding, contamination, etc.)
- Increased economic impacts (port, rail, etc. shut down due to flooding)
- Localized event (storm)
- Change in funding sources

3. What is missing in the existing plans/preparedness? What could we add or change?

- Process for security to protect the public due to flooding and contamination on land
- Process for requesting and receiving help from other regions

4. How well prepared are we to predict impacts and respond? What can we do to better predict impacts?

- Current response plans are in place but resources may be limited
- Response to storm could have efforts & resources already in place
- Understanding of how water moves around the bay and city (sea level rise & storm surge work) already exists and could be tied into response efforts

5. What are the possible "unknowns"? How do we deal with uncertainty?

- Communicating/info sharing about response efforts to media and public – priorities, process, etc.
- Claims/compensation process for damage due to oiling on land (businesses, gov't buildings, etc.)
- Availability of oil spill removal organizations (OSRO)
- Logistics within port (receiving containerships, etc. & timing)
- Contingency plans for companies impacted by port/rail being shut down
- Availability of resources due to other competing events (disasters, Mardi Gras, sports)
- Status of closed roads, etc.

6. What best practices would help us to respond better?

- Continue to practice communicating with other agencies (public perception)
- Continue to train (e.g., hazwoper) and have drills to be prepared
- Pre-stage additional response resources
- Share resources /existing MOUs
- Establish more inspections & better maintenance of equipment (moorings, etc.)

1:30 pm
Breakout Group Session III: Next Steps
Group C

What steps need to be taken to improve preparation and planning (as discussed in breakout session II) to address this kind of scenario?	Who should be involved in implementing the steps above (e.g., partnerships, teams)?	Identify any impediments (e.g., funding)	Identify benefits/outcomes	Prioritize these steps and estimate how long it would take to implement the steps (e.g., months, years, continual)
Get politicians to participate in training exercises	Training host, state on-scene coordinator, NEP (gov't network committee), local USCG	PROBABLY WON'T HAPPEN – Too busy, scheduling, other priorities, high turnover, perceived as irrelevant	Assist with decision-making outcome, funding, assist with re-election, piggyback on other relevant event, media coverage	#6 – continual 6, 5, 6, 4, 5, 6, 6 = 38
Get environmental NGOs to participate in training exercises	Training host, NGOs (e.g., Mobile BayKeeper, AL Coastal Foundation, Africatown community group), emergency responders	Keeping NGOs on task and focused, NGO lack of trust and ownership, perceptions, focused on advocacy topic, priorities misunderstood (on both sides)	See bigger picture and greater understanding of process and challenges, improve media/public perception, more incentive to keep story in context	#5 – annual or as available 3, 2, 5, 5, 4, 4, 5 = 28
Get media to participate in training exercises	Training host, impartial media experts (e.g., COMPASS), port & agency public information officers/pr/media contact, media, governor's office, contact that knows media	Bias, lack of relationships, lack of trust, turnover, secondary job for some public information officers	Education, relationship building, more incentive for factual reporting and in correct context, improved messaging	#2 – annual or as available 5, 1, 2, 3, 1, 5, 2 = 18

What steps need to be taken to improve preparation and planning (as discussed in breakout session II) to address this kind of scenario?	**Who should be involved in implementing the steps above (e.g., partnerships, teams)?**	**Identify any impediments (e.g., funding)**	**Identify benefits/outcomes**	**Prioritize these steps and estimate how long it would take to implement the steps (e.g., months, years, continual)**
Encourage participation at Area Committee meeting/training events (i.e., spill drills)	Training host, Sea Grant, NEP, NERRs, NGOs, USCG, FOSC, EPA, state and local agencies	Scheduling conflicts, time commitment, complacency, turnover, visibility, people don't know about the meeting	Building understanding, face-to-face time, relationships, understanding roles and responsibilities , identifying go-to people, updating response plans, understanding jurisdictions, dependable findings	#1 – continual 1, 4, 1, 1, 2, 1, 1 = 11
Outreach to businesses, civic and local groups, media	NOAA DRC, Chamber of commerce, Downtown Alliance, civic organizations, Leadership Mobile, Partners in Environmental Progress, Sea Grant	Scheduling conflicts, time commitment, priorities, return on investment, ignorance	Better understanding of how response works, roles and responsibilities, oil behavior, etc. (modeled after Science of Spills), funding	#3 – monthly/continual 4, 3, 3, 6, 3, 2, 3 = 24
Finding ways to maintain certification (e.g., hazwoper)	NOAA DRC, state and local agencies, NERRs, cooperative extension, emergency mgmt agency, Chevron, NGOs, businesses, etc.	Scheduling conflicts, time commitment, priorities, return on investment, perceived need, incentive	Increased safety, meets a job requirement	#4 – annual or as available 2, 6, 4, 2, 6, 3, 4 = 27