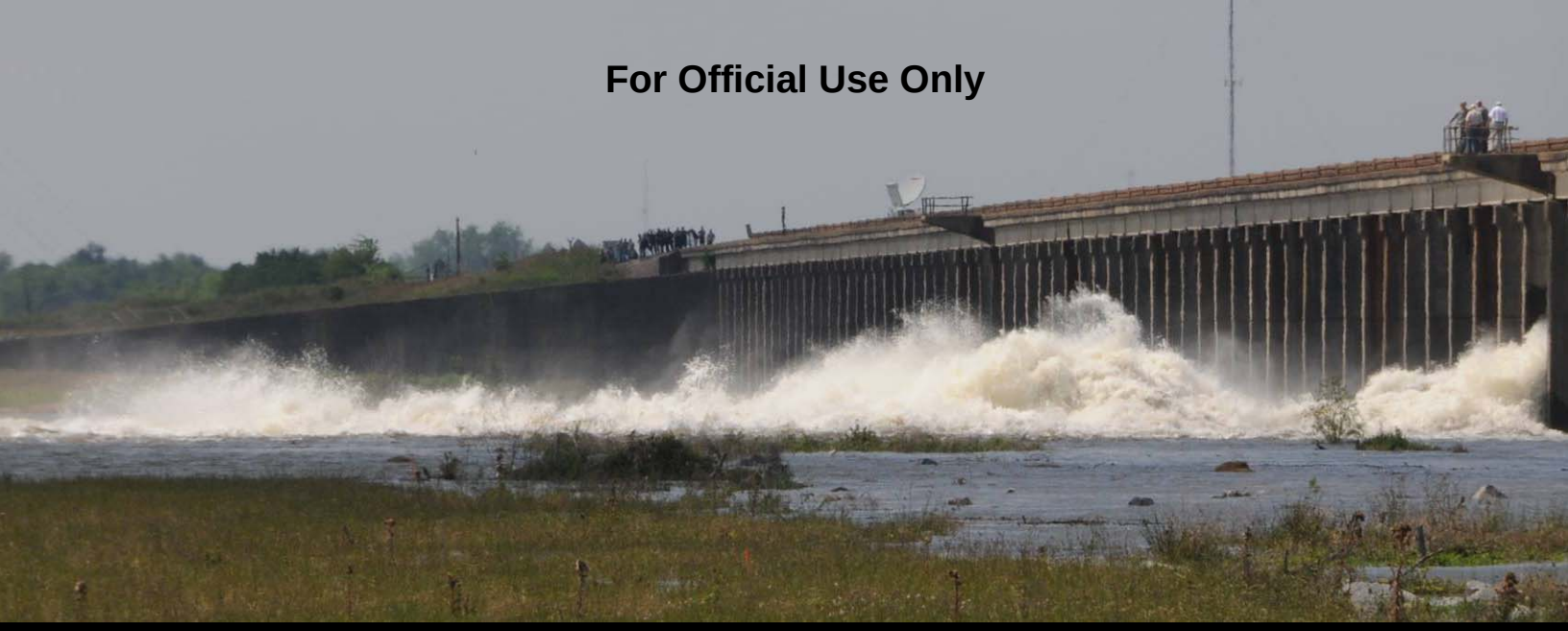

State of Louisiana May 2011 Flood Event Draft After-Action Report

November 30, 2011

Cover Photo: Morganza, LA, May 14, 2011—Morganza Spillway opens the first bay to alleviate pressure on the levees from the Mississippi River. This is the first time in nearly 40 years that the spillway has opened. FEMA/Daniel Llargues

Executive Summary

The state of Louisiana rated its response to this event as very good. For most of the event, the State Emergency Operations Center (EOC) activated its Crisis Action Team (CAT) at Modified Level 3. State agencies worked with the parishes and provided a variety of resources to assist with their response to the flood. Estimates provided by the National Weather Service and the United States Army Corps of Engineers (USACE) were not accurate, which was an issue for the State because it made planning more difficult. The State and parishes prepared for a larger event than what actually occurred.

It was also difficult for the State to maintain real-time situational awareness, because not all State agencies and parishes consistently and continually submitted situation reports through WebEOC. Despite this, stakeholders always provided pertinent information during conference calls. Overall, this event cost the state $53.2 million.

The State identified the following strengths in the response to this event:

- The State's all-hazards plan, which has been tested by many events.
- The operational tempo of the event.
- Collaboration among agencies.

The State identified the following areas for improvement in the response to this event:

- Propagation of rumors through social networking.
- Accuracy of data.
- Inconsistent and incorrect use of WebEOC by State agencies and parishes.

The following are general statements regarding the State's response to this event:

- **Planning:** The State activated its all-hazards plan. This plan has been tested by other events and proved to be sufficient for response to this event. Additionally, the operational tempo of this event was slow enough to conduct deliberate planning.
- **Communications:** All critical communications systems were functioning. The state issued many portable radio systems to the parishes so that they could all talk on the same channel.
- **Intelligence and Information Sharing and Dissemination:** The parishes and State agencies did not submit situation reports through WebEOC as frequently as they should have. This made it difficult for the State to maintain a common operating picture. Apart from this, the State gathered a lot of information from conference calls. Data received from USACE was not always accurate.
- **Emergency Operations Center Management:** The EOC CAT was activated at a Modified Level 3. All emergency support functions (ESFs) but ESF-4 (Firefighting) were activated.

- **Critical Resource Logistics and Distribution:** The State filled parish resource requests for many items, such as sand, sandbags, and HESCO baskets. The State did not have to request resources through the Emergency Management Assistance Compact (EMAC). The State did not provide support to other states.
- **Citizen Evacuation:** This is a local responsibility, and few parishes ordered evacuations for this response. The State provided support to these parishes.
- **Emergency Public Information and Warning:** Information was coordinated and disseminated through a modified joint information system. State public information officers disseminated timely information, but it was only as accurate as the data available.

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Introduction

Each spring, snowmelt from the upper Midwest runs into the Mississippi River and, ultimately, into tributaries or the Gulf of Mexico. The volume of this year's snowmelt was uncommonly high and was increased by the high precipitation of an active weather pattern in April and May of 2011. This resulted in a flood event along the Mississippi River that affected states from Illinois to Louisiana.

About 500 miles of the Mississippi River pass through Louisiana.[1] Along the river in Louisiana, water levels crested well above the flood stage in several areas.[2] Some areas even crested at record stages.[3] Because of concern that the flooding might stress the levees and result in a breach in highly populated areas, the U.S. Army Corps of Engineers (USACE) opened both the Bonnet Carré Spillway (May 9 through June 20) and the Morganza Spillway (May 14 through July 7) to relieve pressure.[4] This was only the second time that the Morganza Spillway had been opened since it was built in 1954.

As a result of this event, 27 parishes declared emergencies. The President issued an emergency disaster declaration on May 6 (FEMA-EM-3322), which enabled the Federal Emergency Management Agency (FEMA) to provide assistance.[5] Additionally, 1,150 National Guardsmen were mobilized for this event to provide services such as security, inspection, and aviation support.[6]

Purpose

The Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) identified 25 parishes as the focus of a statewide after-action report (AAR). GOHSEP contracted CRA, Inc. to work with the emergency management directors and regional coordinators responsible for the parishes to capture the strengths, challenges, trends, and lessons learned during this event.

[1] "1998 Mississippi River Navigation Charts." U.S. Army Corps of Engineers. http://www.mvd.usace.army.mil/gis/navbook/main.html (last accessed September 27, 2011).
[2] "River Summary Archives." National Weather Service River Forecast Center (RFC), Lower Mississippi RFC. Available online at http://www.srh.noaa.gov/lmrfc/?n=riversummaryarchive (last accessed September 26, 2011).
[3] "Mississippi River & Passes." U.S. Army Corps of Engineers, RiverGages.com. Available online at http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm (last accessed September 26, 2011).
[4] "The Mississippi River." U.S. Army Corps of Engineers, Team New Orleans. August 29, 2011. Available online at http://www.mvn.usace.army.mil/bcarre/missriver.asp (last accessed September 26, 2011).
[5] "Louisiana Flooding: Emergency Declared May 6, 2011 (EM-3322)." Federal Emergency Management Agency. Available online at http://www.fema.gov/news/eventcounties.fema?id=14372 (last accessed September 26, 2011).
[6] "Update on State Agency Flood Fighting Efforts in Louisiana." Louisiana.gov. May 31, 2011. Available online at http://emergency.louisiana.gov/Releases/archiveSpringFlood2011/Release.html?doc=05312011UpdateOnStateAgencyFloodFightingEfforts (last accessed September 27, 2011).

In addition to having historical value, this AAR may also be used to determine if any changes need to be made to existing documentation (e.g., plans, policies, procedures) or if training needs to be conducted to improve on certain response capabilities.

Weather Conditions

At the time of the flood event, the state of Louisiana was also experiencing a drought that increased the potential for fire dangers and affected the agricultural community. The drought and the flood event were the product of *La Niña*. The weather phenomenon created above-normal snowfall across the Great Plans and the Midwest, which compounded the spring flood event. On top of that, the flood was exacerbated by severe weather patterns in these areas that bypassed Louisiana, continuing the drought.[7]

During the event, the state got very little precipitation. From April 1 through July 1 in Baton Rouge, for example, there was only 6.33 inches of rain.[8] In the month of May, the state received only 1.58 inches of rain, which was the sixth driest May in recorded history.[9]

Methodology

Two methods were used to collect data from the 25 parishes: a data collection tool and in-person interviews. Parish emergency management directors completed the tool then returned it to CRA for analysis. CRA identified areas that needed further clarification and follow-on questions, which would be addressed at the in-person interview with the parish emergency management director.

While parish representatives were encouraged to speak openly about the event, this AAR focuses on target capabilities selected from the FEMA Target Capabilities List (TCL) that are appropriate to the general level of response.

Data Collection Tool

The data collection tool was designed to capture a broad overview of the parish's response to the flood event. It included 56 items covering the following three sections:

- Background Information: This section was designed to capture open-ended, general information about the parish's involvement in the flood event.

[7] "How Louisiana is Experiencing Drought and Flood at the Same Time." Southern Climate Impacts Planning Program. Available online at http://www.southernclimate.org/index.php/main/news/349 (last accessed November 29, 2011).
[8] "History for Baton Rouge, LA, April 1, 2011 through July 1, 2011." Weather Underground. Available online at http://www.wunderground.com/history/airport/KBTR/2011/4/1/CustomHistory.html?dayend=1&monthend=7&yearend=2011&req_city=NA&req_state=NA&req_statename=NA (last accessed November 29, 2011).
[9] "State of the Climate National Overview May 2011." National Oceanic and Atmospheric Administration National Climactic Data Center. Available online at http://www.ncdc.noaa.gov/sotc/national/2011/5 (last accessed November 29, 2011).

- Common Target Capabilities: This section focused on the parish's capabilities for emergency operations center (EOC) management, critical resource logistics and distribution, citizen evacuation, and emergency public information and warning as they pertained to this event.
- Final Thoughts: This section allowed respondents to address any other information they thought was pertinent but not included in the data collection tool.

Respondents were asked to evaluate very general statements about their parish's response to the event, and were encouraged to provide more specific information. Evaluations were compared across the 25 parishes to establish a baseline, which was used to identify trends.

In-Person Interview

While the data collection tool was designed to solicit general information from the parishes, the in-person interviews were meant to capture more specific information. Before the interview, a CRA team member analyzed the parish's data collection tool to formulate questions. Missing or unclear information was resolved during this process.

Limitations

Many parishes did not complete the data collection tool before the in-person interview. Instead of using the time to address incomplete or missing information, the CRA team member had to spend the time filling out the tool with the parish emergency management director. While the data collected was beneficial, the process tended to be linear. The CRA team member did not always have an opportunity to explore certain areas because of either time constraints or the general progression of the process.

Event Overview

GOHSEP created an incident in WebEOC on April 25, 2011, but it had begun receiving notifications about an event approximately one month beforehand. Governor Bobby Jindal declared a state of emergency on April 27, and the State EOC was activated. Unified Command Group (UCG) meetings with the Governor and his cabinet-level secretaries began on April 28.

When the EOC was activated, the Crisis Action Team (CAT) operated at the following levels:

- April 27–May 3: Normal duty hours.
- May 4–May 13: Modified Level 3 activation working 12-hour shifts, seven days a week.

- May 14–May 19: Modified Level 3 activation working 24-hour operations in two shifts.[10]
- May 20–May 31: Modified Level 3 activation working 12-hour shifts, seven days a week.
- June 1–June 23: Normal duty hours with off-site monitoring after hours.

GOHSEP was directed to model how opening the Morganza Spillway would affect the outcome of the event. USACE developed four scenarios to predict inundation, given different conditions, and ultimately decided to open the spillway at 21 percent of its maximum capacity.[11] Major General Michael Walsh, USACE, had the ultimate authority to open the Bonnet Carré and Morganza spillways. Before the Morganza Spillway could be opened, the flood level had to reach 1.5 million cubic feet per second at Red River Landing.

The trigger for opening the Bonnet Carré Spillway was similar; however, elevation was also a factor. It was opened on May 8, and the Morganza Spillway was opened on May 14. USACE eventually opened 330 of the 350 Bonnet Carré gates and 17 of the 125 Morganza gates to control the flow of water along the Mississippi River. They were able to monitor the event using stations from the United States Geological Survey.

Much of the data used for modeling was from the 1973 flood event, but conditions during that event were not the same as conditions during this one. As a result, flood predictions and damage estimates were higher than what the state experienced. This can be attributed to the following:

- Weather conditions: The 1973 model accounted for a significant amount of rain with the flood event, which was not the case.
- Dryness of the ground: The state was simultaneously experiencing a drought with the flood event. The ground in the spillway was so dry that it absorbed seven days' worth of water.
- Lack of water from the Red and Ouachita rivers: These rivers empty into the Mississippi River, but the amount of water deposited was not enough to affect flood levels.
- General uncertainty about the effects of opening the Morganza Spillway: The spillway had only been opened once before (for the 1973 flood event), so it was hard to predict how long it would take the water to reach different flood stages or at what depth the water would be after opening it.

The State believes its response to the flood event was very good. It did not deviate from its all-hazards plan—notifying, activating, and mobilizing the correct people. The State was also

[10] This coincided with the opening of the Morganza Spillway. Select State agencies (e.g., Louisiana National Guard (LANG), Louisiana State Police (LSP), Louisiana Department of Wildlife and Fisheries (LADWF)) worked overnight.

[11] Rioux, Paul. "Morganza Floodway opens to divert Mississippi River away from Baton Rouge, New Orleans." The Times-Picayune. May 14, 2011. Available online at http://www.nola.com/environment/index.ssf/2011/05/morganza_floodway_opens_to_div.html (last accessed November 15, 2011).

appropriately flexible, especially concerning tools and communication. Most notably, the State can ultimately measure its success by the minimal loss of property and no loss of life.

Response to the event cost the state $53.2 million (among State agencies and parishes). Because there was a Federal declaration, the State will bear only 25 percent of the cost. In hindsight, the cost of the response was higher than it should have been. State and parish agencies prepared for what they thought would be a major event and activated manpower and resources to a level they thought appropriate to respond to that size of event. In the end, in most cases, the resulting flood required fewer resources than the State and parishes had expected.

The State identified many strengths in the response to this event. It has a process in place to respond to all hazards, which is based on its long history of responding to incidents. Still, this event was unique, and the State benefited from its operational tempo, which was much slower than previous emergencies.

Collaboration was especially notable during this event. Members of GOHSEP, USACE, the Louisiana Department of Transportation and Development (DOTD), and the Louisiana Office of Coastal Protection and Restoration (OCPR) formed the Infrastructure Flood Fight Team. These four agencies worked together under defined roles and responsibilities. This event also elicited collaborative planning between the State and local agencies at a greater level than usual because of its uniqueness.

Social networking was both a strength and a challenge. The State had the ability to disseminate accurate and timely information, but it could not rely on the accuracy of information retrieved from social media. Rumors were often propagated through social media.

Accuracy of data was also a challenge. As previously mentioned, inaccurate data made planning and preparing for this event difficult. The data used by the State came from a technical support agency (i.e., it was not State-generated). The State could only work with the data it received.

Another notable challenge was that neither State agencies nor the parishes were using WebEOC to provide good situational awareness. GOHSEP requested situation reports (SitReps) from the first day of the event but were not receiving them as frequently as they should have been. Some parishes used the request function of WebEOC for this purpose (i.e., to log resources they received). This only created more work for the State because it had to reach back to the parishes to confirm or resolve the “requests.”

GOHSEP noted that it also needs to do a better job of providing situational awareness to the parishes through WebEOC. Specifically, this event was being managed by USACE and OCPR, but they did not submit updates on WebEOC as they made plans. The parishes thus were not made aware of these plans, even though the State stressed to these agencies that they needed to enter their updates in WebEOC.

For future events, the following changes could be made to improve the State's ability to prepare for, respond to, mitigate, and recover from them:

- **Correct and timely use of WebEOC to its maximum potential by parishes and State agencies (e.g., SitReps, updates, pictures, requests).** As previously stated, this would help to build situational awareness for all stakeholders. This is an ongoing training issue.
- **Defining and appropriately using the term *evacuation*.** Parish officials who order evacuations need to vet messages and notifications. During this event, evacuation orders for specific areas within the parish were being misconstrued as general evacuation orders for the entire parish. Also, parish officials should ensure that they are using the legal definitions for types of evacuation.
- **Activation of all Emergency Support Function (ESF) 5 (Emergency Management) branches.** In an effort to activate as few people as possible during this event, the Infrastructure branch was the only one that was fully activated. There were, however, components of other branches that were also activated, but the branch manager positions were not activated. This was problematic because a person requesting information had to reach out to the field to get it instead of getting information directly from personnel in the EOC.

Target Capabilities

Planning

The State used its all-hazards plan (Supplement 6) to respond to this event. It does not have a specific annex for responding to floods, but it does consider flooding a threat. OCPR is responsible for managing flood events with support from DOTD. The State is working with these agencies to define their roles and responsibilities. It is also about to start an emergency operations plan (EOP) update process, which will incorporate lessons learned from this event.

USACE, the UCG, the American Red Cross, and the State Levee District were involved in the decision-making process. The operational tempo and timing of the event allowed the State and these agencies to conduct deliberate planning.

Some strategic planning had been done before this event, but there were some unique elements to this response. For example, northern parishes along the Mississippi River were not accustomed to evacuation and sheltering procedures. ESF-6 (Mass Care, Emergency Assistance, Housing, and Human Services) contacted the state of Missouri, which had just experienced a similar event, to put together a briefing for State leadership. As a result, Mass Care obtained a cemetery disruption plan, which mapped private and public cemeteries along the river, in the event that disinterment became an issue. The Infrastructure Flood Fight Team was also involved in planning and tried to determine how local requests might affect regional areas.

The following plans were also executed in response to this event:

- Unified Shelter Plan.
- Business Emergency Operations Center (BEOC) Plan.
- Department of Health and Hospitals Cemetery Disruption Plan.
- Louisiana Department of Wildlife and Fisheries (LDWF) search and rescue plans (modified for this event).

No statewide exercises have focused on flooding, but all exercises test the State's all-hazards plan, which prepared personnel to respond to this event. The State also has sufficient real-world experience, including response to hurricanes and other flood events (1991 and 1995).

Critical infrastructure and key resources and top economic drivers along the river were identified and prioritized before this event. Louisiana Economic Development prepared cost estimates based on different contingencies. Additionally, the State conducted several webinars and conference calls with industries located along the Mississippi River. During the event, it was not necessary to execute a critical infrastructure plan; however, a risk analysis was conducted.

The State did not use the Emergency Management Assistance Compact (EMAC) in response to this event. FEMA brought in a Defense Coordinating Element and dispatched division supervisors who were counterparts to the State regional coordinators. Division supervisors shadowed the regional coordinators, which gave FEMA better situational awareness.

Communications

All critical communications networks were functioning. There were no issues with WebEOC, and, because there was no loss of power, it was not necessary to use satellite phones. Many portable radios were issued to the parishes to allow them to talk on the same channel. Overall, the 700 MHz system worked well.

As previously mentioned, maintaining situational awareness at the State level was difficult at times. The State requested SitReps from the onset of the event, but they were not submitted often enough or with clear enough information from State agencies and parishes. Also, the parishes needed to post updates through SitReps, not the WebEOC request function. The State was, however, able to collect a lot of information from parish conference calls. It also held its own conference calls to maintain a common operating picture (COP) and to share information. This is part of the CAT Level 3 activation plan. How often they are held depends on the severity of the situation; for this event, conference calls were typically held every other day unless something significant occurred. Additionally, the State provided SitReps to Federal agencies to ensure that they could maintain a COP.

Intelligence and Information Sharing and Dissemination

The State began working with the National Weather Service (NWS) about 30 days ahead of the event (March 10–15) to get projected data.

The State conference calls were the best ways to receive information from the affected parishes and to disseminate information to them. They began on May 6 and were generally held every other day through May 30. Participants included State agencies, parish leadership, and the levee districts.

Beginning on April 27, Mass Care also conducted conference calls to gather information. It worked with GOHSEP regional coordinators to set up the calls in advance for a time that worked best for all participants. Before the calls, the regional coordinators asked stakeholders five specific questions about mass care. Using this information, as well as information discussed on the calls, Mass Care developed a comprehensive executive summary that was disseminated to mass care partners and senior leadership.

Information received by the State EOC was vetted and analyzed before it was disseminated—mostly by the UCG and a modified joint information center (JIC). For example, when USACE and the NWS developed graphics and predictions, the UCG reviewed the information and asked questions about it before releasing it. Although the information was not always accurate, it was timely. A modified JIC was activated on May 9, which reviewed social networking sites and vetted the information found on them.

State authorities provided relevant information to Federal entities in a usable format and in a timely manner. This was done through FEMA teams; a temporary joint field office (JFO) was established for this event. Initially, there was a problem with misinformation in national SitReps; they included information about evacuations that had not occurred. The State worked with a FEMA incident management assistance team to correct the issue, and information flowed more accurately from that point on.

The State also worked with the parishes to obtain and disseminate information; however, the parishes believed that the State was calling them too often. The State noted that it would not have had to call so much if the parishes had appropriately updated the SitRep in WebEOC.

The State did not work with other states during this event. Other states were invited to conference calls, but they did not participate. The State noted, however, that there was some local coordination between Concordia Parish and Natchez, Mississippi. Also, Mass Care reached out to host states to let them know that this was not a sheltering event and that the State would not be sending evacuees to them.

Emergency Operations Center Management

In response to notification of the incident, the EOC was activated, staffed, and organized but not to the level it should have been. Instead of a Modified Level 3 activation, it should have been a Full Level 3 activation. The State did note, however, that some things, such as filling requests, could be done remotely, thus eliminating the need to run 24-hour operations. The State also said that it was difficult for technical experts in the State EOC to work with experts in agency EOCs.

The following ESFs were activated to respond to the event:

- ESF-1 (Transportation)
- ESF-2 (Communications)
- ESF-3 (Public Works and Engineering)
- ESF-5 (Emergency Management)
- ESF-6 (Mass Care, Housing, and Human Services)
- ESF-7 (Resource Support)
- ESF-8 (Public Health and Medical Services)
- ESF-9 (Search and Rescue)
- ESF-10 (Oil Spill and Hazardous Materials and Radiation)
- ESF-11 (Agriculture)
- ESF-12 (Energy and Utilities)
- ESF-13 (Public Safety and Security)
- ESF-14 (Community Recovery, Mitigation, and Economic Stabilization)
- ESF-15 (Public Information)
- ESF-16 (Military Support to Civil Authorities)

USACE also had liaison officers (LNOs) from its Vicksburg and New Orleans stations in the EOC.

Upon establishing the EOC, the State maintained situational awareness by gathering, organizing, and documenting incident situation and resource information. Information on the conference calls was being logged. Notes and NWS presentations were typed up immediately following the calls and entered into WebEOC. The State and parishes used WebEOC effectively during this response, but its use needs improvement—especially, as previously mentioned, with situation reporting. Also, in some cases, multiple requests were made but not all were filled. The State noted that it needs to do a better job with tracking what was filled for reimbursement.

The State coordinated with nongovernmental agencies and the private sector to collect and share data. This was done through BEOC and Mass Care. The State provided a daily SitRep to BEOC, which was posted on their web portal. Also, BEOC leadership participated in conference calls and on planning committees.

A lot of the resource logistics and distribution were coordinated through the State EOC, but there were instances in which parishes circumvented the system (e.g., parishes got resources through local agency representatives) and informed the State about the resources they obtained. Also, unique to this event, because of the length of this event, the parishes established relationships with Federal agencies and were able to obtain resources through them.

During this event, the levee boards worked with the parish emergency preparedness directors, even though they are not required to do so. The State was appreciative of this and would like to see this continue in future events.

Accuracy of data was an issue during this event. The State frequently asked USACE for data, but never got it. The State wanted to match the accurate data with predicted data but was unable to do this. It was also unable to get elevation versus inundation data. The format of the data also became an issue. The State could get images based on data but could not get the actual data.

Geographic information system (GIS) capabilities were better than expected in some cases and less so in other cases. USACE inundation maps led GOHSEP and the public to take actions that they might not have otherwise taken because of the lack of accurate information. Accurate maps and data are important for effectively responding to an event such as this.

Critical Resource Logistics and Distribution

Concordia Parish made the first resource request on April 29 for sandbags. The State provided the following to the affected parishes:

- Sand.
- 1,268,000 sandbags.
- HESCO baskets.
- Radios.
- Transportation.
- Meals.
- Water.
- Life jackets.
- Helicopters.
- Search light kits.
- Mosquito spray.
- Pet cages.

The following agencies also provided resources:

- DOTD provided sand and transportation to West Baton Rouge Parish, which became a sandbag filling station. Most of the sandbags were deployed to St. Mary and Lafourche parishes. DOTD also provided personnel for levee patrols, 60,000 linear feet of HESCO baskets, and engineers to conduct technical evaluations.
- The State Department of Corrections provided manpower to fill sandbags. Inmates from Angola Prison also shored up West Feliciana Parish levees.
- LDWF provided security on waterways, search and rescue support, feral hog patrols, levee patrols, and barge security detail in St. Mary Parish. It also helped with the closure of recreational fisheries. LDWF initially based its operations out of a mobile command bus.
- ESF-11 received mostly direct requests—not requests through WebEOC—but it tried to get requestors to go through the system. Also, many requests were made without timely notice, often late at night and on the weekends. ESF-11, although spread thinly, provided pet cages, assistance in loading them, and a CT-19. ESF-11 also worked with livestock and deer pastured on the levees and found alternate pastures. There was one issue in which someone cut the exotic deer fence, and LDWF helped recapture them.
- Mass Care transported and deployed showers and toilets at the primary and secondary planned shelter sites. The Department of Children and Family Services (DCFS) activated its EOC on April 30 and put some staffs on alert. They were sent to hotels at locations along the upper Mississippi River.
- The Louisiana National Guard (LANG) provided personnel for security and levee patrols, engineers to conduct technical evaluations, transport for sandbags, tents, cots, a front-end loader, dump trucks, and tiger dams. Levee patrols evaluated sand boils and shored up the levee. LANG started working with Angola Prison on April 29. LANG also dropped sandbags and set up HESCO baskets in Concordia Parish, which was effective. LANG had LNOs in every parish along the river and senior planners in key parishes.
- The levee boards coordinated placement of HESCO baskets and levee patrols. In total, 99,060 linear feet (18.76 miles) of HESCO baskets were used.

The state of Louisiana did not provide support to other states nor did it request support through EMAC. It did request Federal assets and assistance, however, including the following:

- USACE provided 30 rolls of plastic sheeting material, air-droppable sand bag slings, and security.
- The Environmental Protection Agency (EPA) sent assessment teams.
- The Civil Air Patrol (CAP) and U.S. Coast Guard (USCG) conducted flyovers to make assessments. For future events, the State will continue to use CAP for flyovers and share information gathered from them with other agencies.

Citizen Evacuation

The State did not direct, manage, or coordinate evacuation procedures in this event. In most instances, this is a local responsibility. The State supports the parishes with this and provides assistance. For example, the State worked with the parishes to identify populations, institutions (e.g., hospitals, nursing homes, correctional facilities), and locations to be evacuated. It considered multiple scenarios and used dispersion maps from USACE. Evacuating Angola State Prison was a concern. The EOC coordinated with supporting agencies and prearranged providers to obtain appropriate means of transportation (e.g., buses, ambulances, handicap-assisted vans) for people who would require transportation assistance.

The State coordinated with the appropriate agencies to identify risks to the transportation infrastructure that may have been used for evacuation—especially in Morganza. The State needed to know if opening the spillway would affect roads.

The appropriate personnel were identified and mobilized in support of an evacuation. The Louisiana DCFS, Louisiana Department of Agriculture and Forestry (LDAF), and American Red Cross prepositioned personnel. ESF-11 (Agriculture) positioned some semi trucks at three locations in the state to pick up trailers. LANG staged some high-water vehicles. The Department of Defense (DoD) also pre-staged some assets at Camp Beauregard, but the State did not ask DoD to do this.

Emergency Public Information and Warning

A modified JIC was activated on May 9. The State followed JIC plans, procedures, and policies to coordinate, manage, and disseminate public information. It activated public information officers (PIOs), and Governor Jindal was the spokesperson for the event.

The JIC coordinated information and disseminated it to the public, monitored media, and controlled misinformation and rumors. Much of the information the State received was vetted by the JIC. The JIC was not activated as quickly as it should have been, and rumors became an issue during the event.

Public information alerts, warnings, and notifications were issued through established systems to the public, coordinating officials, and incident managers and responders. In addition to the typical methods of distributing information, the State sent workers door to door to speak with residents in the spillways. Information was accessible by populations with access and functional needs (e.g., blind, deaf, non-English–speaking individuals).

The public received consistent and timely warnings, instructions, and information updates, but the information was not always accurate. The State developed its messaging based on the information it had access to. All information distributed to the public should be based on information obtained from WebEOC. This requires that State and parish agencies consistently input information into WebEOC. The State noted that parish PIOs have access to WebEOC.

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Appendix A: Trends Across Parish AARs

The following are some of the trends identified across the AARs:

- **Different expectations about the event:** The predictions made for most parishes were often more dire than what actually occurred. Most parishes expected to be heavily affected by the event, and the impact was minimal for most.
- **Inaccurate data:** Most parishes were unable to get accurate data from USACE and/or the NWS. Like the State, these parishes found it difficult to plan for this event with inaccurate data.
- **Runaway barge:** Some parishes noted that they were concerned about a runaway barge striking and breaching the levee. They were not prepared to respond to this.
- **Using WebEOC for situational awareness:** Some parishes noted that WebEOC was a great tool for maintaining situational awareness. Specifically, it allowed them to see what other parishes were doing and what they were requesting.
- **Calculating river height without flood gauges:** Some parishes do not have river gauges, so they had to calculate river heights on their own.
- **Exercises versus real-world events:** Most of the parishes had not conducted flood exercises; however, they noted that they had a lot of real-world experience with flooding. Flooding was also a component of some exercises in which they had participated.
- **Social media:** Many parishes relied on social media to disseminate information.
- **Rumor control:** This was an issue for many parishes. A lot of misinformation spread rapidly within and across parishes.
- **Interoperable communications with LANG assets:** Some parishes noted that it was difficult to work with LANG assets because they were not communicating over shared channels.

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Appendix B: Parish After-Action Reports

Ascension Parish

Executive Summary

Ascension Parish rated its response to the May 2011 flood event as excellent. Although it initially was only expecting typical spring flooding, the parish was able to seamlessly adapt to a larger event as a result of exercise and real-world experience. Ultimately, the parish did not suffer much damage and experienced only minimal flooding.

The parish identified the following strengths as key to its successful response to this event:

- Unified command was executed effectively, and the agencies worked well together.
- The Ascension Parish Office of Homeland Security and Emergency Preparedness was able to analyze the incoming information and translate it into a usable format before disseminating it to the public.
- Parish agencies were well equipped, particularly the Ascension Parish Department of Public Works, to respond to this type of threat.

Conversely, the parish noted the following challenges in responding to this event:

- The State's Louisiana Wireless Information Network (LWIN) communication system made it difficult to communicate with entities outside of the parish.
- There was no single point of reference from which the parish could receive an overall picture of the event. EOC staff had to access and piece together multiple sources of information to develop a comprehensive understanding of the event.
- The information from USACE was inaccurate, and the liaison it provided did not have authority to release information to the parish.

The following are general statements about the parish's response to this event:

- **Planning:** The parish responded to this event using its all-hazards plan. Although the parish has formalized internal mutual aid agreements, it developed informal inter-parish agreements for this event.
- **Communications:** Communications were effective during this event; however, there were issues with trying to contact agencies over LWIN.
- **Intelligence and Information Sharing and Dissemination:** The parish found the Louisiana Governor's Office of Homeland Security and Emergency Preparedness conference calls helpful for developing a common operating picture, but gathering information from Federal partners was challenging.

- **Emergency Operations Center (EOC) Management:** The Ascension Parish EOC was partially activated with extended hours. In addition to the State WebEOC system, the parish had its own intra-parish WebEOC system to help coordinate local agencies.
- **Critical Resource Logistics and Distribution:** Resources were requested through WebEOC. Additionally, the parish used inmate labor.
- **Citizen Evacuation:** Evacuation orders were not issued for this event.
- **Emergency Public Information and Warning:** Emergency public information and warning was coordinated at the parish joint information center.

Event Overview

Ascension Parish has an extensive history of dealing with the effects of normal spring flooding and rated its response to this event as excellent because of the cooperation among the local agencies and officials. The parish did not suffer extensive damage, but there was minor flooding at a batcher near some petrochemical facilities. The National Weather Service (NWS) flood predictions proved to be accurate, but information from USACE needed clarification before it could be released to the public. USACE maps provided information about water depths and inundation levels, but this information was not cross referenced with elevation data, which led to misleading information.

The parish also had difficulty getting precise information pertaining to when the Morganza Spillway would be opened. Because of this, extra precautions had to be taken, which resulted in the deployment of more HESCO baskets than were actually needed. The parish incurred $54,000 worth of labor and material costs for this event.

The parish identified the following strengths as key to its successful response to this event:

- Unified command was executed effectively, and the agencies worked well together.
- The Ascension Parish Office of Homeland Security and Emergency Preparedness was able to analyze the incoming information and translate it into a usable format before disseminating it to the public.
- Parish agencies were well equipped, particularly the Ascension Parish Department of Public Works, to respond to this type of threat.

Conversely, the parish noted the following challenges in responding to this event:

- The State's Louisiana Wireless Information Network (LWIN) communication system made it difficult to communicate with entities outside of the parish.
- There was no single point of reference from which the parish could receive an overall picture of the event. EOC staff had to access and piece together multiple sources of information to develop a comprehensive understanding of the event.
- The information from USACE was inaccurate, and the liaison it provided did not have authority to release information to the parish.

Target Capabilities

Planning

The parish maintains an all-hazards plan that covers all the assets available to the parish for a response, but it does not include specific details about how to respond to this type of event. The plan provided a good framework for the response and has been activated during exercises and real events, but some ad hoc planning was needed to mitigate the flooding near a batcher at some petrochemical facilities. Mutual aid agreements within the parish are formalized, but, at the time of this event, inter-parish agreements were informal.

The parish used the following plans in addition to its all-hazards plan:

- The jail evacuation standard operating procedure (SOP).
- SOPs for Emergency Support Function (ESF) 6 (Mass Care, Housing, and Human Services).
- SOPs for ESF-2 (Communications) in case of the need to activate reverse 9-1-1.
- The joint information center (JIC) annex to the all-hazards plan.

Parish plans contain a prioritized list of critical infrastructure and key resource sites, and a critical infrastructure plan was developed in partnership with private industry located in the batcher area. A unified command structure was established and given the overarching authority to direct the response.

Parish officials reported that having more insight into the decision-making process for opening the spillways would improve future responses to events of this type.

Communications

The parish reported that local communications functioned effectively, but there were issues when trying to contact USACE, the levee districts, and other agencies using the LWIN system. During the initial activation, parish response agencies did not have access to the talk groups that outside agencies were using. Eventually, the EOC was able to get access to these groups from GOHSEP, but the parish felt that an effective common operating picture was never developed.

Intelligence and Information Sharing and Dissemination

EOC staff members reported that the conference calls organized by GOHSEP were helpful in establishing a comprehensive picture of the incident, but a central location from which parishes could access information from all the Federal partners would be beneficial. For this response, EOC representatives had to gather information from multiple websites and daily reports, then collate and vet the information before disseminating it to the public.

Information that originated from the parish level was shared with State and Federal partners through GOHSEP's regional representatives, daily conference calls, and WebEOC.

Information was shared across local authorities and entities, including nongovernmental organizations (NGOs) and the private sector, but it was fragmented and, at times, redundant.

Emergency Operations Center Management

The parish initially expected that this event would be a regular, seasonal flooding, but, based on the responses of surrounding parishes, it partially activated its EOC, which involved extended work hours for EOC staff for seven days. During the activation, EOC staff accessed WebEOC to gather information from surrounding parishes, such as information about flood stages. The parish also employed an intra-parish WebEOC to ensure coordination among local agencies. Coordination was similarly maintained with NGOs and private industry, particularly the petrochemical industry batcher area.

The EOC was used to funnel the request for Louisiana National Guard (LANG) support up to GOHSEP and directed the emergency management warehouse that processed all direct assistance material for the parish (e.g., cots, tents, generators). The EOC coordinated with the parish geographic information system unit to develop maps for identifying potential hazards.

Critical Resource Logistics and Distribution

For this incident, the EOC requested LANG manpower, HESCO baskets, and super bags through WebEOC and used trustee labor from the Elayn Hunt Correctional Center. No resources were requested from other parishes.

Citizen Evacuation

This event did not require evacuation operations, but the parish maintains plans that designate populations, institutions, and locations that may need evacuation assistance. The EOC staff used the parish-wide WebEOC to coordinate with all parish agencies, including those that would be necessary in an evacuation. Transportation assets were also prepared to provide assistance, and a constant flow of information ensured that the public was aware and prepared in case an evacuation became necessary.

Emergency Public Information and Warning

The parish established a JIC to coordinate, manage, and disseminate public information and warnings. It was also vital in controlling rumors. At the time of the flooding, the parish joint information system did not include procedures for communicating with populations with access and functional needs, but the parish has been working to develop procedures to address this issue for future responses. In accordance with the parish all-hazards plan, a parish spokesperson was identified.

Assumption Parish

Executive Summary

Assumption Parish rated its response to the flood event as very good. The parish expected heavy flooding, but the actual effects of the flood were minimal. The event is estimated to have cost the parish approximately $1 million, which included $150,000 for sandbags, $450,000 for flood tubes (tiger dams), and $250,000 for internal equipment and personnel.

The parish identified the following strengths in the response to this event:

- Elevation data was available from previously conducted hazard mitigation projects.
- Parish workers had experience from previous incidents.
- The parish was supported by various disciplines and from trustees from the local prison.

The parish identified the following challenges in the response to this event:

- The United States Army Corps of Engineers (USACE) provided inaccurate water level data to the parish.
- There were operational differences among parishes.
- The Federal Emergency Management Agency did not declare this event a disaster.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish emergency operations plan has individual annexes that are executed as needed for flood events.
- **Communications:** There was an interoperability issue with the Louisiana National Guard radios, but all other critical communications networks worked well.
- **Intelligence and Information Sharing and Dissemination:** USACE inundation maps and information were vetted before dissemination.
- **Emergency Operations Center (EOC) Management:** The parish EOC was activated on a 24-hour basis for two weeks. WebEOC was used to send situation reports, maps, and resource requests.
- **Critical Resource Logistics and Distribution:** The parish used sandbags, flood tubes, prison labor trustees, a barge, and assistance from the National Guard and Caddo-Bossier to respond to the event.
- **Citizen Evacuation:** The parish did not issue any evacuation orders.
- **Emergency Public Information and Warning:** The parish used its website, e-mails, and reverse 9-1-1 for public messaging.

Event Overview

The May 2011 flood event only minimally affected Assumption Parish. The parish expected heavy flooding based on data received from USACE; however, the information was inaccurate. Although the parish did experience some flooding, it was less than what was expected.

There are no flood gauges in Assumption Parish, so the parish was not able to compare its levels with what was reported by the National Weather Service (NWS) flood gauges. Temporary flood gauges were installed but were not set in such a way as to evaluate water levels.

The overall cost of the parish's response to this event was approximately $1 million. This included $150,000 for sandbags, $450,000 for flood tubes (tiger dams), and $250,000 for internal equipment and personnel.

Overall, the parish believes that its response to the event was very good. Elected officials complimented responding agencies on how well they worked together during this event, which can be attributed to the experience of the parish's workers and lessons learned from previous events. The parish was also supported by trustees from the local prison. Additionally, the parish benefited from data it had on hand from hazard mitigation projects that it was working on before this event.

Despite the excellent response, the parish faced some challenges during this event, such as the inaccurate data from USACE. Additionally, the parish noted operational differences among parishes (i.e., there was only one USACE liaison working among multiple parishes). Had the event been more severe, one liaison would not have been enough. The lack of a FEMA declaration also affected the parish's response to the event.

The following changes could be made that would have the biggest impact to enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- **A permanent construction at Bayou Chene.** The barge that was submerged at Bayou Chene for this event provided a documented difference of three feet in water elevation.
- **Continued National Guard support.** During this event, National Guard assistance with setting out the tiger dams was a tremendous asset to the parish.
- **More liaisons from USACE.** For this event, USACE provided a liaison to the parish to decipher the data. Because the incident was not significant, one liaison was shared between two parishes. For more significant incidents, one liaison for two parishes would be insufficient.

Target Capabilities

Planning

Because of previous flooding events and the hazard mitigation measures/projects, Assumption Parish is actively engaged in strategic planning. The parish has never participated in an exercise involving a flood event, but it has real-world experience with flooding.

The parish has developed and maintains an emergency operations plan (EOP) with annexes to appropriately respond to flood events. The EOP and annexes describe how personnel, equipment, and other governmental, nongovernmental, and private resources support and sustain incident management requirements. The EOP identifies critical infrastructure and key resources.

In addition to the EOP, the parish has a GOHSEP-approved hazard mitigation plan, which was also approved by FEMA in 2010. Mutual aid agreements were developed with all parishes within Region 3 before this event. In addition, Assumption Parish has a sheltering agreement with Caddo and Bossier parishes.

Communications

A common operating picture was maintained for real-time sharing of information with all participating entities, and all entities within the parish received up-to-date information. The parish held daily briefings, and attendance was high.

All critical communications networks were functioning during this event; the parish employed 700 MHz radios. There were, however, interoperability issues between the parish and the National Guard. The parish did not have permission to program its radios to the National Guard frequencies, as neighboring parishes do. The parish believes that this policy needs to be addressed for future incidents. Agencies/Entities responding to an event should have each others' frequencies/talk groups programmed into their radios.

Intelligence and Information Sharing and Dissemination

The process that the parish used to receive and disseminate information was successful. When the parish EOC received a flood inundation map from USACE, it was analyzed and vetted before it was disseminated to the public; however, information from the American Red Cross and the Louisiana Department of Transportation and Development was not vetted.

Relevant information was provided from local authorities to other entities in a usable format and in a timely manner. Situation reports (SitReps) and maps were sent out via WebEOC. The parish used its website and e-mail to disseminate information across local authorities and entities. Information was also sent to the State public information officer (PIO).

Emergency Operations Center Management

In response to notification of the incident, the parish EOC was fully activated on a 24-hour basis for two weeks. The EOC was staffed and organized in accordance with emergency plans and standard operating procedures. The Police Jury President was the designated authority to make decisions to address the event.

Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. This was achieved through WebEOC and daily conference calls. WebEOC was also used to post SitReps and to make requests.

The parish coordinated emergency management efforts at the State level, rather than with other parish EOCs. The parish also coordinated with the private sector to collect and share data. For example, representatives of the energy sector participated in the daily meetings.

When local support was exhausted, Assumption Parish requested National Guard assistance from the State. Resource logistics and distribution were coordinated through the EOC. The EOC supported the identification of potential hazards and threats using Virtual Louisiana to get elevation data, USACE maps, and parish maps.

Critical Resource Logistics and Distribution

Assumption Parish used the following assets and resources to respond to this event:

- Tiger dams.
- Sand and sandbags.
- Prison labor (trustees).
- National Guard personnel and resources (National Guard used its own equipment to support the deployment of the tiger dams).
- Barges (provided by J. Ray McDermott).

Assumption Parish did not provide resources to or request resources directly from other parishes; however, the parish requested personnel support through the State, which was filled by Caddo-Bossier.

Citizen Evacuation

Evacuation was not necessary for Assumption Parish.

Emergency Public Information and Warning

Assumption Parish activated plans, procedures, and policies to coordinate, manage, and disseminate public information and warnings. Public information, alerts, warnings, and notifications were issued to coordinating officials, incident managers, and responders using reverse 9-1-1.

In response to this event, the parish activated and deployed its PIO, who also acted as the spokesperson for the parish. The parish used its website, e-mail, and reverse 9-1-1 to provide the public with accurate, consistent, and timely warnings, instructions, and information updates. The parish also held two public meetings to provide the public with information.

Avoyelles Parish

Executive Summary

Avoyelles Parish rated its response to the flood event as very good. The parish expected backwater rising; the estimates were 50 percent lower. The event is estimated to have cost the parish government approximately $15,000.

The parish identified the following strengths to the response to the event:

- Communication and coordination
- State support
- Citizen participation

The parish identified the following challenges to the response to the event:

- Process knowledge of elected officials and the understanding of chain of command

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish EOP, the Emergency Evacuation Plan, and the Department of Health hospitals and cemetery plans were activated to respond to the event.
- **Communications:** Communication was very good except for some interoperability challenges in areas that have been noted as "dead spots" in the parish.
- **Intelligence and Information Sharing and Dissemination:** The parish participated in one-a-day and/or two-a-day conference calls led by the USACE, and received updates every morning from the USACE before the first conference call.
- **Emergency Operations Center (EOC) Management:** The parish EOC was partially activated. WebEOC was used to provide daily situational reports and request resources.
- **Critical Resource Logistics and Distribution:** The parish used Public Works resources and its First Responders to respond to the event. Requests were made for sandbags and water pumps.
- **Citizen Evacuation:** The parish issued and enforced a volunteer evacuation order. Local volunteers assisted with the process.
- **Emergency Public Information and Warning:** The parish had a public meeting and used local media to keep the public informed.

Event Overview

Avoyelles Parish's response to the flood event was very good as a result of coordination and communication among local agencies. During this event, parish agencies worked to maintain operations, so they were not able to assist other parishes. In addition to interagency coordination, there was also good coordination with the State and with the citizens of the

parish. Mandatory evacuation was not ordered; however, the parish activated its emergency evacuation plan to support voluntary evacuations.

This event was different from previous flood events because it was a slow-moving process. The parish expected a high rise of backwater, but the estimates were 50 percent lower than what the parish actually experienced. Avoyelles Parish did not keep a detailed account of what happened at each flood stage to compare with National Weather Service data, but it participated in daily conference calls with other parishes, GOHSEP, the Levee District, and USACE. Before these conference calls, USACE provided updates about water levels, as well as other information.

A cemetery in the parish sustained minor damage, with the potential for more. This was immediately addressed by the Department of Health and Hospitals, which sent a cemetery plan to the parish coroner. Overall, the response to the flood event cost Avoyelles Parish $15,000.

The only challenge identified by the parish was that elected officials did not know the process for responding to an event such as this and did not understand the chain of command. If GOHSEP were to provide executive-level training for parish senior leaders and elected officials, this would make the biggest impact to enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event.

Target Capabilities

Planning

Strategic planning was conducted before this event, and, according to the parish, its plans, policies, and procedures were effective during the response. The parish maintains an emergency operations plan (EOP) to appropriately respond to a flood event. It describes how personnel, equipment, and other governmental, nongovernmental, and private resources support and sustain incident management requirements.
Critical infrastructure and key resources were identified and prioritized before this event. It was necessary to execute the parish's critical infrastructure protection plan to protect the oil tanks in a wildlife management area.

In response to the incident at the cemetery, the parish coroner followed a cemetery plan provided by the Department of Health and Hospitals. In addition to the EOP, the parish has a GOHSEP- and FEMA-approved hazard mitigation plan.

Before the event, individuals and organizations involved in this response had participated in exercises and real-world events of sufficient intensity to prepare them to respond to this event.

Communications

Communication was very good during this event. A common operating picture was maintained for real-time sharing of information among all participating entities within the parish. Although the information provided was usable, not all of it was accurate.

All critical communications networks were functioning, but there were some interoperability issues in areas that have been noted as dead spots in the parish. The parish 700 MHz system provided the best coverage.

Intelligence and Information Sharing and Dissemination

The process that Avoyelles Parish used to receive and disseminate information was successful. When the parish EOC received information, it was analyzed and vetted before it was disseminated. Relevant information was provided vertically from local authorities to Federal and State entities and horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a generally usable format and in a timely manner. Again, not all information received was accurate.

Emergency Operations Center Management

In response to notification of the incident, the EOC was partially activated, staffed, and organized in accordance with emergency plans and standard operating procedures. Much of the response was coordinated from the EOC, and the Parish President was designated to make decisions to address the incident, in conjunction with the Avoyelles Parish Office of Homeland Security and Emergency Preparedness (OHSEP) director and other parish leaders. Approximately 600 people were involved in the response to this event. The parish held a meeting to coordinate emergency management efforts among local, regional, State, and Federal EOCs.

Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting.

The parish used WebEOC to provide daily situation reports and make requests. When local support was exhausted, the parish requested higher-level assistance from the Louisiana Department of Wildlife and Fisheries, the Levee Board, and USACE.

Critical Resource Logistics and Distribution

Resource logistics and distribution were coordinated through the EOC. The parish relied on its public works department and first responders to respond to this event.

Mutual aid agreements were developed before this event; however, it was not necessary to request resources from other parishes. Instead, sandbags and water pumps were requested through WebEOC.

Citizen Evacuation

In response to the flood event, Avoyelles Parish directed, managed, and coordinated voluntary evacuation procedures for both the general population and populations requiring evacuation assistance. Appropriate personnel were identified and mobilized in support of an evacuation. Local volunteers also assisted the parish with this process.

Before this event, the parish identified populations, institutions (e.g., hospitals, nursing homes, correctional facilities), and locations to be evacuated and identified populations who would require evacuation assistance.

The EOC coordinated with agencies providing emergency public information and warning to ensure effective communication of the evacuation order and procedures. At-risk populations were notified that they may need to evacuate. The EOC coordinated with supporting agencies and prearranged providers to obtain the appropriate means of transportation (e.g., buses, ambulances, handicap-assisted vans) for people requiring transportation assistance. Additionally, the parish coordinated with appropriate agencies to identify risks to the transportation infrastructure.

During and following the event, the parish provided reentry assistance and information to the public on a timely and ongoing basis. Additionally, the school board had its own notification process. The Avoyelles Parish President and OHSEP director coordinated with the school superintendent to disseminate a cohesive message to the public through local media regarding emergency transportation.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. Public information, alerts, warnings, and notifications were issued to the public, coordinating officials, and incident managers and responders through established systems. The parish held public meetings that included response agencies.

In response to this event, public information officers were activated and deployed, and the Parish President was identified to address the public; the parish OHSEP director was the alternate spokesperson. Timely and accurate emergency public information was coordinated through a joint information system, which was used to disseminate information to the public, monitor media, and control misinformation and rumors.

The public received accurate, consistent, and timely warnings, instructions, and information updates. Information was accessible by populations with access and functional needs (e.g., blind, deaf, non-English–speaking individuals).

Catahoula Parish

Executive Summary

Catahoula Parish rated its response to the flood event as very good. The parish was prepared for a major flooding; however, the event only affected low-lying areas with only a few camps being flooded in remote areas. The event is estimated to have cost the parish $10,000, which includes $5,000 for public works and $5,000 for personnel costs.

The parish identified the following strengths to the response to the event:

- Knowledge and experience from previous flooding event.
- Proactive citizens.
- Communication and coordination with other agencies.

The parish identified the following challenges to the response to the event:

- Acquiring resources from other agencies.
- Funding for expenses.
- Outdated and inaccurate information from Federal agencies.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish EOP and its flooding, direction and control, and public welfare annexes were activated.
- **Communications:** Communications needs were met between agencies within the parish. The parish experienced no issues with communications during this event.
- **Intelligence and Information Sharing and Dissemination:** Information was primarily disseminated through town hall meetings, e-mails, conference calls, and the local media.
- **Emergency Operations Center (EOC) Management:** For two weeks, the EOC was fully activated from 7 a.m. to 7 p.m. and partially activated from 7 p.m. to 7 a.m. WebEOC was used to request resources.
- **Critical Resource Logistics and Distribution:** The parish used public works equipment to respond to this event and requests resources, such as sandbags, pet cages, and pumps.
- **Citizen Evacuation:** The parish did not issue any evacuation orders, but some residents did self evacuate.
- **Emergency Public Information and Warning:** The parish held one town hall meeting to provide information to the public. In addition, the parish disseminated daily information through its public information officer.

Event Overview

The May 2011 flood event affected low-lying areas in Catahoula Parish, flooding only a few camps in remote areas and several roads. The impact of the event would have been greater if the Morganza Spillway had not been opened. The parish expected widespread flooding throughout the unprotected areas, but the lack of rainfall at the Red River and Ouachita River drainages helped to keep floodwater levels lower than expected.

The parish has only one flood gauge, which is located at Jonesville Lock and Dam. The parish did not keep a detailed list of what happened at each flood stage; however, it did monitor the National Weather Service (NWS) reports on the Internet. NWS and USACE flood predictions were fairly accurate.

The overall cost of the parish's response to this event was approximately $10,000. This included $5,000 for public works (sand and pumps) and $5,000 for personnel cost (overtime, filling sandbags, etc.).

Overall, the parish believed its response to the event was very good; the response was strengthened by experience with previous flood events. The parish was concerned about backwater, so it prepared for a major flooding event. It prepared an emergency evacuation plan and coordinated with local agencies to ensure that an evacuation would be accomplished if necessary. Communication among agencies was also a strength in this event.

Citizen preparedness was another notable strength. Following warnings issued by the parish, citizens proactively prepared for a flood. Because they experience floods on a yearly basis, they understand what to expect.

The parish found that acquiring resources from other agencies was a challenge. For example, the parish requested four pumps through the State for the municipal pumping stations but only received one. Similarly, the parish found it difficult to get information from USACE. The maps they received, for example, were outdated, and the methods USACE used to measure water levels did not result in accurate measurements.

Another challenge the parish faced during this event was getting funding for expenses incurred. The Catahoula Parish Police Jury had reservations about releasing funding for the resources.
The following changes would enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- **Additional resources for response.** For example, the parish does not have long-term shelters for residents.
- **Additional mitigation funding** for relocation and elevation projects.
- **An understanding of Federal requirement changes,** such as the new National Flood Insurance Program requirement. The changes to the levee height are based on the new levee certification requirement. This will require homeowners to purchase flood insurance in areas in which it was not previously required.

Target Capabilities

Planning

Catahoula Parish conducted strategic planning before this event and used its emergency operations plan (EOP), which has an annex that addresses flooding, during the event. The parish also activated the EOP's direction and control and public welfare annexes. The EOP and its annexes describe how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. Per the EOP, the Parish President was designated as the authority to make decisions to address the event.

In addition to the EOP, the parish also activated its emergency evacuation plan, which was developed to address possible levee breaches. The parish also has a GOHSEP-approved hazard mitigation plan, which was updated in 2011.

The parish response agencies have only verbal/handshake mutual aid agreements; nothing has been documented. The Catahoula Parish Office of Homeland Security and Emergency Preparedness (OHSEP) intends to approach the Catahoula Parish Police Jury to document and finalize agreements.

The parish had not participated in exercises involving a flood before this event; however, it had experience with real-world flood events.

Critical infrastructure and key resources (CI/KR) were identified and prioritized before this event, but there is no formal documentation that identifies CI/KR during a flood. Mitigation measures are taken into account when building CI/KR, however. For example, during the construction of a school, levees were also built to protect it. Actions such as these are required by local building codes.

Communications

Catahoula Parish did not experience any communications issues during this event. All critical communications networks were functioning.

The parish maintained a common operating procedure for real-time sharing of information with all participating agencies. This was achieved by e-mails, conference calls, and daily meetings.

Intelligence and Information Sharing and Dissemination

The process that Catahoula Parish used to receive and disseminate information was successful. When the parish EOC received information, the parish OHSEP director analyzed and vetted it before disseminating it.

Local authorities and entities, including nongovernmental organizations (NGOs) and the private sector, provided relevant information in a usable format and in a timely manner.

These entities received information through the local media, e-mail, and meetings. Federal and State entities received it from local authorities promptly. The parish used e-mail to communicate with USACE and the Levee Board, and information was also disseminated at meetings or during conference calls.

Emergency Operations Center Management

In response to notification of the incident, Catahoula Parish fully activated the EOC for 12-hour shifts (7 a.m. to 7 p.m.) for a two-week period. The parish OHSEP director and assistant director were on call for the other 12 hours. The EOC was partially activated during non-critical times.

EOC personnel included two full-time staff members and two liaison officers (LNOs). Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The parish used WebEOC for situational awareness and to request resources. The parish used maps from USACE to identify potential hazards and threats. The first set of maps it received, however, were inaccurate.

The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs through the regional coordinator, WebEOC, and meetings. The parish also coordinated with NGOs and the private sector through face-to-face meetings and phone conferences.

The parish used mutual aid agreements to request sandbags, pumps, and signs from the State Department of Transportation and Development (DOTD).

Critical Resource Logistics and Distribution

All resource logistics and distribution were coordinated through the EOC. The parish used public works equipment, dump trucks, and excavators to respond to this event, as well as WebEOC to fill requests for sandbags, pet cages, signs from DOTD, pumps for lift stations, and regional coordinators. The parish furnished sandbags to citizens, and the private sector provided areas for storing sand for sandbags.

Citizen Evacuation

Catahoula Parish did not issue any evacuation orders, but a small group of residents self evacuated.

In preparation for this event, the parish identified populations, institutions, and locations to be evacuated in case it became necessary. The parish used information from previous incidents to identify populations that would require evacuation assistance. In addition, healthcare agencies notified the EOC about residents who would need to evacuate.

The parish coordinated with public works and DOTD to identify potential risks to the transportation infrastructure.

Emergency Public Information and Warning

The parish OHSEP director served as the public information officer (PIO) and spokesperson for this event. Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. The public received daily updates via the media, and the parish held one town hall meeting, which was attended by the Levee Board and USACE. Public information, alerts, and notifications were also issued through established systems to the public, coordinating officials, and incident managers and responders.

While Catahoula Parish residents received information, the parish was inundated by phone calls from out-of-state relatives trying to check on their loved ones.

Concordia Parish

Executive Summary

Concordia Parish rated its response to the flood event as very good. Although the parish commonly experiences flooding in specific areas, this event significantly affected the parish beyond its normal experiences. The event is estimated to have cost the parish between $3.5 million and $5 million.

The parish identified the following strengths to the response to the event:

- Planning and communication.
- Leadership and unity.
- Rumor control.

The parish identified the following challenges to the response to the event:

- Entire flood event.
- Public concern.
- Support coordination.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish has an emergency operations plan and an emergency evacuation plan for flood events.
- **Communications:** The parish did not experience any communications problems.
- **Intelligence and Information Sharing and Dissemination:** The leadership and unity of the parish and city leadership exhibited a great effort for coordination, information sharing, and communication.
- **Emergency Operations Center (EOC) Management:** The parish partially activated its EOC during the event. WebEOC was used to request resources.
- **Critical Resource Logistics and Distribution:** The parish used all of its resources and personnel assets available, including sandbags, helicopters, boats, barges, and patrol personnel. The parish received assistance from the National Guard and Livingston Parish.
- **Citizen Evacuation:** While the parish did not issue mandatory evacuation orders, it directed, managed, and coordinated evacuation procedures for both the general population and populations requiring evacuation assistance.
- **Emergency Public Information and Warning:** City leaders met as a team to discuss strategy regarding development of a cohesive message for the public.

Event Overview

The May 2011 flood event was a challenge for Concordia Parish, as it affected them significantly. There was property damage outside of the levee, which imposed financial and psychological strain on residents.

There was also a major financial impact on the parish and its vicinities. The overall cost of the parish's response to this event is estimated to be between $3.5 million and $5 million. Additional costs to residential structures are estimated to be from $600,000 to $1 million.

The flooding from this event was greater than that of most previous floods. Sandbags became ineffective, and sand boils occurred. The parish had to establish a five-foot HESCO basket wall to protect major areas, including the community center. Although the flooding was higher than is typical of such events, it never crested at the predicted 65 feet.

Assessing the flood damage was challenging. GOHSEP conducted a flyover, which was useful for observing the flood levels in the parish, but the water was too high to make an effective assessment of the damage. Following the flyover, the parish determined that using boats would be the most effective method of evaluating flood damage until the water levels receded.

The parish monitored National Weather Service data daily and participated in conference calls with GOHSEP, USACE, the Levee District, and other parish directors. The communication, coordination, and dissemination of data were helpful in preparing for and staying informed about the flood event.

Overall, the parish believes its response to the event was very good. It expected much more flooding to take place in the town of Vidalia, so extra preparations were made. Federal, State, regional, and local coordination and communication were beneficial during this event; however, coordinating the support was a challenge.

The parish identified the following strengths of the response:

- Planning and communication.
- Leadership and unity.
- Rumor control.

The parish believes that it would benefit from exercising its plans before the next flood event. The plans also need to be updated regarding coordination among Federal, State, and local jurisdictions.

Target Capabilities

Planning

Concordia Parish conducted strategic planning before this event. The parish has developed and maintains an emergency operations plan (EOP) to respond to flood events, which

describes how personnel, equipment, and other governmental, nongovernmental, and private resources support and sustain incident management requirements.

The parish identified the following authorities to address issues and/or make decisions regarding the flood event:

- Parish President.
- Office of Emergency Preparedness (OEP) director.
- Sheriff.
- Mayors (only when their townships were impacted).

The parish also has a hazard mitigation plan that was approved by both GOHSEP and FEMA, as well as an emergency evacuation plan, which is currently being reviewed and revised by the Local Emergency Planning Committee to guarantee that the previous and most recent lessons learned are documented.

The parish did not develop mutual aid agreements or compacts before this event; however, it has a process in place to develop them. Mutual aid support is also identified in the parish's EOP and standard operating procedures (SOPs).

Before this event, individuals and organizations involved in the response had participated in exercises and real-world events of sufficient intensity to prepare them to respond to this one. Notably, in Concordia Parish, individuals and organizations involved in the response have more real-world experience than exercise experience.

Critical infrastructure and key resources (CI/KR) were identified and prioritized before this event, and a critical infrastructure protection plan was executed in response to it. The parish is working on a specific CI/KR plan to ensure that all response agencies are aware that the following are key areas within Concordia Parish:

- Farms.
- Elevators.
- Gins.
- Banks.
- Community center.
- Hospitals.
- Port houses.

Communications

During this event, the parish maintained a common operating picture; all information was up to date and shared on a daily basis. Although the event moved slowly, communication was not disjointed. All communications networks were functioning, and the new statewide communications system worked well in the parish. It is a valuable tool.

Intelligence and Information Sharing and Dissemination

The process that the parish used to receive and disseminate information was successful, and communication among parish leadership was effective. When the parish EOC received information, it was analyzed and vetted before it was disseminated to the proper recipients. Relevant information was provided vertically from local authorities to Federal and State entities and horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a usable format and in a timely manner. Local information sharing and dissemination were excellent.

Emergency Operations Center Management

In response to notification of the incident, the parish EOC was partially activated and prepared to follow SOPs. Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The parish used WebEOC to make requests, which were ultimately filled. Parish personnel learned more about how to use this tool during the event.

The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs and coordinated with nongovernmental agencies and the private sector to collect and share data. When local support was exhausted, the parish requested higher-level assistance.

Resource logistics and distribution were coordinated through the EOC. The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting. The parish shared maps, models, and forecasts with the print media to keep residents informed about the flood event.

Critical Resource Logistics and Distribution

Concordia Parish used all of its assets and resources to respond to this event. It also requested the following assets, resources, and personnel using WebEOC:

- Sandbags.
- Helicopters.
- HESCO baskets.
- Boats.
- Patrol personnel.
- Oversized sandbags.
- Barge.
- Backhoes.
- Louisiana National Guard.
- Subject matter experts.

In addition to the requests made through WebEOC, Concordia Parish requested a helicopter from Livingston Parish. The parish found that having the opportunity to see an aerial view of the area was beneficial.

Citizen Evacuation

In response to the flood event, Concordia Parish directed, managed, and coordinated evacuation procedures for both the general population and populations requiring evacuation assistance. Populations, institutions, and locations to be evacuated were identified before this event, as well as those who would require evacuation assistance. At-risk populations were notified that they may need to evacuate. Appropriate personnel were identified and mobilized in support of the evacuation, and the parish coordinated with the appropriate agencies to identify risks to the transportation infrastructure that would be used for evacuation.

The EOC coordinated with agencies providing emergency public information and warning to ensure effective communication of the evacuation order and procedures. The EOC also coordinated with supporting agencies and prearranged providers to obtain appropriate means of transportation for people requiring transportation assistance. The parish provided reentry assistance and information to the public on a timely and ongoing basis.

Emergency Public Information and Warning

Plans, procedures, and policies were activated in Concordia Parish to coordinate, manage, and disseminate public information and warnings. Public information, alerts, warnings, and notifications were issued to coordinating officials and incident managers and responders, and information was accessible by populations with access and functional needs. The public received accurate, consistent, and timely warnings, instructions, and information updates.

In response to the event, public information officers were activated and deployed, and the Parish President and parish OEP director acted as spokespersons. Timely and accurate emergency public information was coordinated through a joint information system, which was used to disseminate information to the public, monitor the media, and control misinformation and rumors.

East Baton Rouge Parish

Executive Summary

East Baton Rouge Parish rated its response to the flood as excellent despite the challenges it faced. The assumptions and predictions of how this incident would affect the parish were accurate, and the parish ensured that stakeholders were receiving up-to-date and accurate information.

East Baton Rouge Parish listed the following factors as strengths:

- Information sharing.
- Public awareness.
- Resource coordination.

Parish officials noted the following factors as challenges:

- Communication with State agencies.
- Confusion among State partners during the response planning.
- Conference call coordination.

The following are general statements about East Baton Rouge Parish's response to this event:

- **Planning:** East Baton Rouge Parish's standard operating guidelines include an annex that addresses flood events. It has been activated for both real-world events and exercises.
- **Communications:** Communications during this event went well. All critical communications networks functioned properly.
- **Intelligence and Information Sharing and Dissemination:** Information that originated at the parish level was shared with State and Federal partners through daily conference calls and WebEOC.
- **Emergency Operations Center (EOC) Management:** During the event, the EOC was staffed at a partial activation level, and numbers of personnel on duty fluctuated as needed. Mutual aid agreements were used when local support was exhausted.
- **Critical Resource Logistics and Distribution:** The parish used a number of resources in response to this event. WebEOC was used to request personnel, equipment, and flood barriers.
- **Citizen Evacuation:** It was not necessary to order an evacuation in response to this event; however, the parish maintains plans to evacuate its citizens.
- **Emergency Public Information and Warning:** Plans, procedures, and policies were activated during this response to coordinate, manage, and disseminate public information and warnings.

Event Overview

East Baton Rouge Parish faced many challenges during the May 2011 Mississippi River flood event. Parish officials did not believe levee breaching was a threat, but overtopping of the levees was a concern. As in the past, sand boils were a problem near the levees, and the locations were documented to improve future responses.

The assumptions and predictions of how this incident would affect the parish were accurate. There was a discrepancy early in the event between what the National Weather Service gauges were reporting and what engineers were calculating, but the problem was quickly addressed. From that point forward, the data proved to be accurate.

East Baton Rouge Parish rated its response to the flood as excellent. The Mayor's Office of Homeland Security and Emergency Preparedness (MOHSEP) reached more than 400 people each day across the southern United States with its daily information bulletins. Informational meetings with local businesses, industry, first responders, and elected officials were held throughout the event to ensure that all stakeholders had the most up-to-date and accurate information. The MOHSEP director attended council meetings, where she spoke to concerned citizens about what they could do to remain prepared.

East Baton Rouge Parish listed the following factors as strengths:

- Information sharing.
- Public awareness.
- Resource coordination.

Parish officials noted the following factors as challenges:

- Communication with State agencies.
- Confusion among State partners during the response planning.
- Conference call coordination.

The following are areas where changes could be made that would have the largest impact on future responses:

- Communication with State agencies.
- Better planning coordination.
- Conference call coordination.

Target Capabilities

Planning

MOHSEP used its standard operating guidelines (SOGs) in response to the flood event. The SOGs include an annex that directs the parish's response to flooding and describes how parish officials, personnel, equipment, and other government resources will be used. The

guidelines have been activated for both real-world events and exercises. In accordance with the SOGs, the director of emergency management was given the authority to direct response activities.

In addition to the SOGs, the parish has a mitigation plan that was updated and approved in 2010. As part of the update process, all critical infrastructure and key resources within the parish were identified and prioritized. A critical infrastructure plan was developed for this event.

Communications

Communications during this event went well. All critical communications networks functioned properly.

A common operating picture was developed with local stakeholders and maintained for real-time sharing of information. MOHSEP continually updates its emergency contacts database to ensure that contact information is up to date and correct.

Intelligence and Information Sharing and Dissemination

The process used by MOHSEP to receive and disseminate information was very successful. Data and situational reports were successfully received, analyzed for accuracy, and disseminated to relevant agencies and the public. All incoming information was vetted by parish officials before being released.

Information that originated at the parish level was shared with State and Federal partners through daily conference calls and WebEOC. Information was shared across local authorities and entities, including nongovernmental organizations and the private sector.

Emergency Operations Center Management

During the event, the EOC was staffed at a partial activation level, and numbers of personnel on duty fluctuated as needed. The EOC gathered, coordinated, organized, and documented situation reports and resource information to maintain a complete picture of the parish response. The staff put considerable effort into coordinating with the private sector during this response through conference calls and direct meetings. Mutual aid agreements with local entities were executed when parish support was exhausted; all logistics and distribution were coordinated by the EOC. Parish geographic information system (GIS) assets identified potential hazards and threats.

Critical Resource Logistics and Distribution

The parish used the following assets during the response to this event:

- All-terrain vehicles.
- Audio/Visual equipment located in the EOC.
- Portable generators.

- Pallet jack.
- Infrastructure cameras.
- Electronic devices (e.g., iPads, computers, smart phones, printers).
- Forklift.
- Onsite Guardian camera trailers.
- Verizon MiFi device.
- GPS cameras.
- Plotter.
- Pictometry software.
- 700 MHz radios.
- Trailers.
- Video conferencing.
- Urban search and rescue team equipment.
- Red Stick Ready information network.
- Red Stick Ready public awareness campaign.
- WebEOC.
- Social media.
- Website.
- Informational briefings.
- Notification system.
- Bicycle police patrol.
- Helicopter police unit.
- Maritime patrol vessel.

WebEOC was used to request personnel, equipment, and flood barriers. No requests were made to other parishes.

Citizen Evacuation

It was not necessary to order an evacuation in response to this event; however, MOHSEP maintains plans for evacuating its citizens. The plan identifies transportation infrastructure that would be used during an evacuation and addresses its susceptibility to flooding. The plan accounts for populations with access and functional needs, including citizens who require transportation support during an evacuation. The parish provided situation reports to all agencies that would be called on during an evacuation.

Emergency Public Information and Warning

Plans, procedures, and policies were activated during this response to coordinate, manage, and disseminate public information and warnings. Each day, using social media, MOHSEP provided information to more than 400 citizens across the southern United States. Private industry, elected officials, and first responders were involved in town hall–type meetings to provide the most up-to-date and accurate information possible and to receive information. The MOHSEP director spoke at council meetings to concerned citizens about what they could do to prepare for flooding.

East Carroll Parish

Executive Summary

Although the flood event was a major concern, East Carroll Parish rated its response as excellent. As the flood progressed, it became clear that the parish would not be as affected by the event as it believed. The parish did experience some flooding; water covered a 14-mile stretch of road, and the few homes located in that area were also flooded. The event is estimated to have cost the parish approximately $3,000. As a result of the vigilance of the parish, it was only minimally affected by the flood.

The parish identified the following strengths to the response to the event:

- Monitoring events.
- Providing the public with information.
- Maintaining daily updates on the levee.

The parish identified the following challenges to the response to the event:

- Addressing rumor control.
- Addressing citizen phone calls.
- Addressing roles and responsibilities.

The following are general statements regarding the parish's response to this event:

- **Planning:** East Carroll Parish coordinated and executed its necessary plans, policies and procedures to address this flood event, including its emergency operations plan, standard operating procedures, and its emergency evacuation plan.
- **Communications:** Communications worked well in the parish.
- **Intelligence and Information Sharing and Dissemination:** The parish participated in conference calls with the U. S. Army Corps of Engineers, the Fifth Levee District, and the Governor's Office of Homeland Security and Emergency Preparedness.
- **Emergency Operations Center (EOC) Management:** The parish partially activated its EOC and used WebEOC for situational awareness, updates, and requests.
- **Critical Resource Logistics and Distribution:** The parish requested and used sand, sandbags, and equipment.
- **Citizen Evacuation:** The EOC coordinated with agencies providing emergency public information and warning to ensure effective communication of the evacuation order and procedures.
- **Emergency Public Information and Warning:** Information, including alerts, was accessible by populations with access and functional needs.

Event Overview

East Carroll Parish had major concerns about flooding leading up to the event, but, as it progressed, reports showed that the parish would not be heavily impacted by the flood. The parish expected that the water would be held by the secondary and main levees, but a 14-mile section of a parish road was flooded, as well as the few homes located in that area. The cost of the response to the parish was approximately $3,000.

USACE provided the parish with daily flood activity reports. The parish also gathered flood stage information during daily conference calls with USACE, the Fifth Levee District, GOHSEP, and other parish directors.

Overall, the parish rated its response to this event as excellent. The response was strengthened by the parish's capability to monitor the event, receive daily levee updates, and disseminate this information to the public.

Public information was especially important because rumors were a challenge during this event, as was addressing citizen phone calls. The parish also found addressing roles and responsibilities to be a challenge.

The following changes could enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- More in-house manpower.
- More sand and proper sandbags.
- More preparations for the night patrol to deal with potential sand boils.

Target Capabilities

Planning

East Carroll Parish conducted strategic planning and developed mutual aid agreements prior to this event and coordinated and executed its necessary plans, policies, and procedures to address it. The parish executed its emergency operations plan (EOP) and appropriate standard operating procedures. The EOP describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. The parish also has a hazard mitigation plan that was approved by both GOHSEP and FEMA, as well as an emergency evacuation plan.

Before the event, individuals and organizations involved in this response participated in exercises of sufficient intensity to prepare them to respond to the flood event. Additionally, the parish identified critical infrastructure and key resources (CI/KR), but there was no threat to those areas during the flood. The Fifth Levee District provided guidance in this process as well.

The Parish President was designated to make decisions to address the incident.

Communications

All critical communications networks were functioning in East Carroll Parish, and a common operating picture was maintained for real-time sharing of information with all participating entities. The incident commander, Reynold Minsky, was efficient in communicating information.

Intelligence and Information Sharing and Dissemination

The process that East Carroll Parish used to receive and disseminate information was successful. The parish EOC analyzed and vetted information before disseminating it. Relevant information was disseminated vertically from local authorities to Federal or State entities and horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a usable format and in a timely manner.

Emergency Operations Center Management

In response to notification of the incident, the East Carroll Parish EOC was partially activated; however, the parish was already receiving requests from residents and neighboring parishes before it stood up its EOC. The parish used WebEOC to maintain situational awareness, get updates about the flood event, and make requests. Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting.

The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs. It coordinated with West Carroll Parish, Lincoln Parish, and the American Red Cross to collect/share data.

Resource logistics and distribution were coordinated through the EOC. When local support was exhausted, the parish requested assistance.

Critical Resource Logistics and Distribution

East Carroll Parish used WebEOC to request equipment and materials necessary for the response to this event, such as sand and sandbags. While it was not necessary to request resources from another parish, the option was available.

Citizen Evacuation

Although a mandatory evacuation order was not issues for the parish, in response to the flood event, East Carroll Parish directed, managed, and coordinated evacuation procedures for both the general population and populations requiring evacuation assistance. The parish identified populations, institutions (e.g., hospitals, nursing homes, correctional facilities), and locations to be evacuated before the event and identified populations requiring evacuation assistance. At-risk populations were notified that they may need to evacuate.

Appropriate personnel were identified and mobilized in support of an evacuation. The parish coordinated with appropriate agencies to identify risks to the transportation infrastructure that may have been used for evacuation.

The EOC coordinated with agencies providing emergency public information and warning to ensure effective communication of the evacuation order and procedures. The EOC coordinated with supporting agencies and prearranged for providers to obtain appropriate means of transportation (e.g., buses, ambulances, handicap-assisted vans) for people requiring transportation assistance. The parish provided reentry assistance and provided reentry information to the public on a timely and ongoing basis.

Emergency Public Information and Warning

The parish activated plans, procedures, and policies to coordinate, manage, and disseminate public information and warnings, and it deployed and activated a public information officer. The public received accurate, consistent, and timely warnings, instructions, and information updates.

During this event, the Parish President was the initial spokesperson, and the East Carroll Parish Office of Homeland Security and Emergency Preparedness (OHSEP) director followed. The Fifth Levee District President also acted as a parish spokesperson.

A joint information system was established to coordinate and disseminate timely and accurate emergency information to the public, monitor the media, and control misinformation and rumors. Information was accessible by populations with access and functional needs. Public information, alerts, warnings, and notifications were also issued to coordinating officials and incident managers and responders through established systems.

Iberia Parish

Executive Summary

Iberia Parish rated its response to the flood event as good. The parish pre-planned for a levee break; however, only two boat landings experienced major flooding. The flood had no other major impact on the parish. The event is estimated to have cost the parish $35,000, which includes $30,000 for public works and $5,000 for the sheriff's office.

The parish identified the following strengths to the response to the event:

- Unified command.
- Outstanding support by the Louisiana National Guard (LANG).
- The Governor's Office of Homeland Security and Emergency Preparedness' (GOHSEP) role in establishing unified incident command at the State level.

The parish identified the following challenges to the response to the event:

- Public information, rumor control, and misunderstanding of the event's nature.
- Lack of experience with or understanding of flooding in the Atchafalaya basin.
- Lack of modeling support for potential local flooding.

The following are general statements regarding the parish's response to this event:

- **Planning:** Major planning was conducted before and during the event to prepare for a potential levee breach. Levee surveillance and parish patrolling were part of the planning process.
- **Communications:** The event highlighted a previously identified communications problem—the lack of direct communication with supporting LANG units.
- **Intelligence and Information Sharing and Dissemination:** Information was shared primarily through daily conference calls with the U.S. Army Corps of Engineers, Levee District, Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), and other parishes' offices of emergency preparedness and homeland security.
- **Emergency Operations Center (EOC) Management:** The parish EOC was partially activated during the event. WebEOC was used to submit resource requests.
- **Critical Resource Logistics and Distribution:** Law enforcement and public works were used to patrol the levee. Large construction equipment was also prepositioned close to the levee.
- **Citizen Evacuation:** The parish did not issue any evacuation orders.
- **Emergency Public Information and Warning:** No public information officer was activated. Public information was coordinated through the joint information system.

Event Overview

Iberia Parish flood predictions were accurate. The parish was not heavily affected by the event, but its two boat landings did have major flooding. Barricades were placed at these two areas to protect the citizens from the deeply flooded portions of the landing. Because of the uncertainties involved, the parish's public works department, sheriff's office, and supporting Louisiana National Guard (LANG) units expended considerable effort in monitoring the local levee.

Iberia Parish did not keep a detailed list of what happened at each flood stage to compare it with what was reported by the National Weather Service (NWS) flood gauges and on the NWS website.

The overall cost of the parish's response to this event was $35,000, which included $30,000 from the public works department and $5,000 from the sheriff's office.

The parish believed its overall response to the flood event was good. One notable strength of this response was unified command. GOHSEP's role in establishing unified command at the State level led to good response and coordination at the local level. Other strengths include the planning done by the parish and the support provided by LANG.

Despite the successful response, the parish faced challenges. It was difficult for the parish to control rumors and misunderstandings about the nature of the event, and it did not have a good understanding about flooding in the Atchafalaya Basin because it had no relevant experience. Similarly, the parish lacked modeling support to identify areas of potential local flooding.

The parish identified the following changes that would enhance its ability to prepare for, respond to, mitigate, and recover from another flood event:

- At-risk properties should be elevated or relocated.
- Coastal restoration and improvement activities should be conducted at Marsh Island.
- USACE should provide modeling of levee breaches in the parish.

Target Capabilities

Planning

Although this event was unanticipated, the response was aided by coordination among participating agencies. Before and during the event, plans were made to prepare for a potential levee breach. Efforts, such as levee surveillance and patrolling by the parish public works department, sheriff's office, and LANG, were a part of this planning process.

An appropriate authority was designated to make decisions to address the incident. The Parish President declared an emergency, and the Iberia Parish Office of Homeland Security and Emergency Preparedness (OHSEP) director managed the response from the EOC.

Iberia Parish has a GOHSEP-approved hazard mitigation plan. The parish also has plans in place to address natural events, but it did not have an emergency operations plan (EOP) or an annex to an EOP that addressed this type of flood event because it was a low-probability incident. The parish used established standard operating procedures and EOPs, including the Iberia Parish Emergency Evacuation Plan, to respond to this event. The parish is presently developing an annex to its EOP that addresses flood events.

Although the parish did not have a hazard-specific plan in place, individuals and organizations involved in this response had participated in exercises of sufficient intensity to prepare them to respond to this event. The parish also has real-world flood experience resulting from hurricane events; however, the parish drew a distinction between flooding from a hurricane and flooding from a levee break/breach.

Critical infrastructure and key resources (CI/KR) were identified and prioritized before this event, but a critical infrastructure protection plan was not executed.

Communications

The parish rated its communications during this event as adequate. A common operating picture was maintained for real-time sharing of information with all participating entities, and all critical communications networks were functioning.

This event highlighted a previously known problem: supporting LANG units did not have parish talk groups programmed into their LWIN [Louisiana Wireless Information Network] radios. Although LANG liaison officers (LNOs) in the parish's EOC sent mission requirements to the appropriate headquarters, LANG units in the field were unable to communicate with law enforcement, fire services, or public works personnel working near them.

Intelligence and Information Sharing and Dissemination

The process that Iberia Parish used to receive and disseminate information was successful. The EOC analyzed and vetted information before it was disseminated. Relevant information was provided vertically from local authorities to Federal and State entities, as well as horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a usable format and in a timely manner.

The Iberia Parish OHSEP participated in daily conference calls with USACE, the Levee District, GOHSEP, and emergency preparedness offices in other parishes. The parish felt that this level of communication and coordination was beneficial to its response. The parish praised GOHSEP's role as a central hub to all of these entities and its ability to address and assess the day-to-day operations in response to the event. The parish also noted that the guidance and support that LANG LNOs provided were very beneficial.

Emergency Operations Center Management

Iberia Parish partially activated its EOC in response to this event. Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. Emergency management efforts were coordinated among local, regional, State, and Federal EOCs. Additionally, the parish coordinated with nongovernmental agencies and the private sector to collect and share data.

The EOC supported the identification and determination of potential hazards and threats using mapping, modeling, and forecasting; however, parish representatives said their ability to model potential hazards was crude and probably inaccurate. The parish requested modeling from USACE to identify which areas would be impacted if a levee were breached, but did not receive a response to that request. Such data would be useful for future events. Specifically, the parish would like modeling for levee breaches in Loreauville.

Resource logistics and distribution were coordinated through the EOC. WebEOC was a beneficial tool and worked well during this event. It was used to submit resource requests, most of which were met during the event.

As citizens requested information or resources (e.g., sandbags), their needs were met with urgency.

Critical Resource Logistics and Distribution

Iberia Parish used local resources and assets in response to this event—particularly in support of the levee. Local law enforcement and public works personnel patrolled the levee during this event, and large construction equipment was prepositioned close to the levee. Mutual aid and assistance agreements were developed before this event, but the parish did not find it necessary to request resources from another parish.

It should be noted that the parish used WebEOC to request levee elevation, but the request was later rescinded.

Citizen Evacuation

Ultimately, evacuation was not necessary for Iberia Parish; however, the parish prepared itself for that possibility prior to this event. The parish identified populations, institutions, and locations that might need to be evacuated and coordinated with appropriate agencies to identify possible risks to the transportation infrastructure that might need to be used for evacuation. The parish identified populations that would require evacuation assistance, notified at-risk populations that they may need to evacuate, and identified and mobilized appropriate personnel to support an evacuation.

Emergency Public Information and Warning

The public received accurate, consistent, and timely warnings, instructions, and information updates in Iberia Parish. The public was very concerned about what type of personal planning they should do, and the parish tried to ensure that the public was aware of the progress of the event.

Public information officers were not activated and deployed in response to this event, but the Iberia Parish President and the OHSEP director both acted as spokespersons, depending on who was available when the media requested updates from OHSEP.

Timely and accurate emergency public information were coordinated through a joint information system (JIS). The parish used the JIS to disseminate information to the public, monitor media, and control misinformation and rumors. Public information, alerts, warnings, and notifications were issued through established systems. Information was not accessible by populations with access and functional needs.

Iberville Parish

Executive Summary

Iberville Parish rated its response to the May 2011 flood event as excellent. Although the parish did not experience any flooding, it prepared for that scenario with sandbags and continuous monitoring of the event. The cost of the response to the parish was approximately $10,000 for labor, sand, sandbags, and overtime.

The parish identified the following strengths in the response to this event:

- Effective response to public panic.
- Receipt of daily reports from Pontchartrain Levee District.
- Receipt of assistance from West Baton Rouge Locks.

The parish identified the following challenges in its response to this event:

- Interpreting predictions and forecasts.
- Lack of information about levee elevations and problem areas.
- Need to disseminate more information about land elevations.
- Public panic caused by limited information about land elevation and potential problems.

The following are general statements regarding the parish's response to this event:

- **Planning:** Iberville Parish conducted strategic planning for this event and had prepared sandbags in case of flooding.
- **Communications:** The parish participated in all conference calls and held meetings with parish officials. All critical communications networks were functioning.
- **Intelligence and Information Sharing and Dissemination:** The parish's process for receiving and disseminating information was effective; the emergency operations center (EOC) analyzed and vetted information before distributing it.
- **Emergency Operations Center Management:** The EOC was partially activated, and information was organized and documented to maintain situational awareness.
- **Critical Resource Logistics and Distribution:** All parish and city assets and resources were on standby.
- **Citizen Evacuation:** Only the area near the Morganza Spillway was evacuated, but the parish was prepared to carry out more extensive evacuations.
- **Emergency Public Information and Warning:** The public received accurate and consistent warnings and updates.

Event Overview

Iberville Parish did not experience any major issues during this flood event. It had expected some backwater flooding, largely in the southern end of the parish. Also, as a result of opening the Morganza Spillway, the parish expected minor flooding in Bayou Sorrel and Bayou Pigeon from the Atchafalaya Basin; however, the levees within the basin were high enough to protect the area from flooding.

The parish rates its response to the event as excellent. Although there was no flooding in the parish, all of the responders were prepared for that scenario. The event was monitored continuously by both leadership and the responders. The parish received daily reports from Pontchartrain Levee District, and the Louisiana National Guard conducted a flyover. It assisted the levee districts with sandbags and received sandbags from West Baton Rouge Parish. This event cost the parish approximately $10,000, which includes expenses for labor, sand, sandbags, and overtime.

One of the strengths in the response to this event was the parish's response to public panic. USACE flood inundation maps showed inflated flood estimates (the highest potential for flooding), which caused public concern. As a result, parish responders conducted research on land elevations, flood stages, and flood gauges, which showed that the USACE information to be more dire than what the parish should actually expect.

There were several challenges during the response, including the initial public panic resulting from USACE data and the need for more detailed information to interpret predictions and forecasts. More precise information was needed regarding land elevations and potential problem areas. There was also concern regarding commercial fishing, but there was no official order to close the boat landing. The high waters were ideal for crawfishing, but the area was dangerous.

There are two changes in procedure that would enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event: the dissemination of public information regarding river gauges and land elevations and better communication between State and local agencies regarding the enforcement of specific closures and restrictions.

Target Capabilities

Planning

Iberville Parish gathered information for its strategic planning process, and the parish has sufficient response experience as a result of real-world events. The parish has an emergency operations plan (EOP) for responding to a flood event. It describes how personnel, equipment, and outside resources will support and sustain incident management requirements. The parish also has a GOHSEP-approved hazard mitigation plan.

The parish prepared sandbags in case of flooding. The levee districts also brought in some HESCO barriers and heavy equipment. The Bayou Sorrel Lock Master provided very useful assistance, and USACE helped by welding a metal plate to the locks to add approximately

five feet of elevation. Mutual aid agreements were already in place before this event; Region 2 parishes have always maintained excellent coordination and communication.

Critical infrastructure and key resources were identified and prioritized before the flood event, including the courthouses, bridges, and industry facilities; however, it was not necessary to execute the critical infrastructure plan. At this time, Bayou Sorrel does not have a flood gauge. The U.S. Geological Survey is working with the National Weather Service to establish one for the area.

The Parish President and Parish Office of Homeland Security and Emergency Preparedness (OHSEP) director were the designated authorities for making decisions concerning the event. The sheriff, police chief, fire chief, mayors, and industry officials are also involved in the planning and preparation process for incidents.

Communications

The parish did not have any issues with communications during this event, and a common operating picture was maintained for real-time sharing of information. The parish participated in conference calls with USACE and GOHSEP. Information from these calls benefited the parish's officials meetings.

All critical communications networks were functioning.

Intelligence and Information Sharing and Dissemination

The process that Iberville Parish used to receive and disseminate information was successful. When the parish EOC received information, it was analyzed and vetted before it was disseminated. Relevant information was provided by local authorities to Federal and State entities, as well as among nongovernmental organizations, the private sector, and local entities, in a usable format and in a timely manner.

Emergency Operations Center Management

In response to notification of the event, the EOC was partially activated in accordance with emergency plans and standard operating procedures. Personnel organized and documented incident situation and resource information from all sources to maintain situational awareness. The parish declared a state of emergency, and the parish's public meeting was noted in WebEOC.

The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs and coordinated with nongovernmental agencies and the private sector to share data. The EOC supported the identification of potential hazards to the parish using maps USACE maps, although more information was needed before the information could be distributed to the public.

Critical Resource Logistics and Distribution

Although Iberville Parish did not experience any flooding, all parish and city assets and resources were on standby.

Citizen Evacuation

The populations, institutions (e.g., hospitals, nursing homes, correctional facilities), and locations that were susceptible to flooding were identified before the event. The parish had also identified populations who would require evacuation assistance. At the initial officials meetings, the parish discussed and identified possible risks to the transportation infrastructure that would be used for evacuation; evacuation plans. Evacuation orders were never issued to the public; structures near the Morganza Spillway were evacuated, however.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. The public received accurate, consistent, and timely warnings, instructions, and information updates, with the assistance of public information officers. The Iberville Parish director and OHSEP director were the parish spokespersons.

The information was coordinated through a joint information system, which was used to disseminate the information to the public, monitor media, and control misinformation and rumors. Alerts, warnings, and notifications were issued to the public, coordinating officials, and incident managers and responders. The information was also accessible by populations with access and functional needs (e.g., blind, deaf, non-English-speaking individuals).

Jefferson Parish

Executive Summary

Jefferson Parish rated its response to the May 2011 flood event as good. Opening the Morganza and Bonnet Carré spillways eliminated the risk to the parish. There was typical minor seepage at two locations, but the parish was largely unaffected otherwise.

The parish noted a successful response to this event based on the following strengths:

- As a result of experience and training, there was a high level of coordination among all responding agencies.
- Communication between regional and State partners was effective.
- Parish response plans are well maintained.

Conversely, the following points were noted as challenges during this response:

- Information that was being relayed by State and Federal partners—particularly the U.S. Army Corps of Engineers—had to be vetted before it could be released. Inundation maps did not account for elevation.
- There were issues with controlling rumors and managing expectations of the public.

The following are general statements about the parish's response to this event:

- **Planning:** Jefferson Parish's emergency operations plan addresses flooding. Additionally, parish agencies were prepared for this event as a result of exercises and real-world experience.
- **Communications:** Communication among local, State, and Federal agencies was strong. State agencies were always available to the parish when it needed information.
- **Intelligence and Information Sharing and Dissemination:** The parish took steps to ensure that the data it received was useful to the public.
- **Emergency Operations Center (EOC) Management:** The parish EOC was not activated for this event, but the parish emergency management staff monitored the event.
- **Critical Resource Logistics and Distribution:** The parish used its emergency management staff during this event, as well as the Levee District. No requests were made through WebEOC.
- **Citizen Evacuation:** No evacuation order was issued for the parish.
- **Emergency Public Information and Warning:** The parish used its public information plans and procedures during this event and used public information officers to provide consistent and timely information to the public.

Event Overview

Opening the Morganza and Bonnet Carré spillways prevented major flooding in Jefferson Parish. This eliminated the threat of the river nearing flood stage, so the parish did not keep detailed records to compare with the National Weather Service predictions. Although no longer a threat, the event caused minor seepage at two locations; however, problems at these locations are routine, and the effects were negligible. Parish representatives categorized Jefferson Parish's response as good due to the following strengths:

- As a result of experience and training, there was a high level of coordination among all responding agencies.
- Communication between regional and State partners was effective.
- Parish response plans are well maintained.

Conversely, the following points were noted as challenges during this response:

- Information that was being relayed by State and Federal partners—particularly USACE—had to be vetted before it could be released. Inundation maps did not account for elevation.
- There were issues with controlling rumors and managing expectations of the public.

There was no cost to the parish for this incident.

Target Capabilities

Planning

Jefferson Parish maintains an emergency operations plan (EOP) that addresses flooding and describes how personnel, equipment, nongovernmental resources, and private resources will be used to manage a response. It also designates the parish director of emergency management as having the authority to direct all response operations. It contains a prioritized list of critical infrastructure and key resources, but these locations were never at risk during this event, so a critical infrastructure plan was not executed. Before this event, parish agencies had participated in exercises and real-world events that prepared them for this type of incident.

Communications

Communication among local, State, and Federal agencies was a strength during this response. The parish was able to maintain a common operating picture through daily briefings with parish and State representatives, and the State was always available to parish officials whenever information was needed. All critical communication networks functioned throughout this event.

Intelligence and Information Sharing and Dissemination

Data and situational reports were successfully received, analyzed for accuracy then disseminated to relevant agencies and the public. Additional steps had to be taken to vet the information received from USACE in order to put it into a format that would be useful to the public. Inundation maps had to be cross referenced with elevation data to determine the true water depths at a given location.

Because response operations were not necessary for this event, no information was sent out from the parish to State or Federal agencies.

Emergency Operations Center Management

Because of the lack of flooding, the EOC was never activated, but the incident was monitored by emergency management staff as part of their daily operations. WebEOC was monitored by staff, and information was gathered, organized, and documented to maintain situational awareness. Potential hazards and threats were identified before this event using maps and models produced by parish, State, and Federal partners.

Critical Resource Logistics and Distribution

Jefferson Parish used staffs from its Department of Emergency Management and the Levee District. No requests were made through WebEOC, and assistance from other parishes was not required.

Citizen Evacuation

An evacuation order was not issued for the parish. Early in the planning stage, parish officials identified what locations and populations were at risk and held preliminary discussions with transportation assets and other agencies that would be called on during an evacuation. The parish EOP includes procedures for evacuating these populations.

Emergency Public Information and Warning

In preparation for the flood, the parish activated plans and procedures for providing the public with information and warnings. Until the threat receded, consistent and timely information was provided to the public by the parish's public information officers (PIOs). Jefferson Parish's EOP describes the procedure for activating and deploying departmental PIOs, as well as procedures for relaying information to populations with access and functional needs. The parish did not need to use a joint information system in response to this event.

Lafourche Parish

Executive Summary

Lafourche Parish rated its response to the flood event as very good. The flood did not affect the parish; water levels remained the same during the event. The event is estimated to have cost the parish approximately $100,000.

The parish noted that a strength of the response to this event was that agencies worked well with each other and that they continued to improve their working relationships. One challenge was trying to determine how the United States Army Corps of Engineers (USACE) got its data for water levels and flood heights.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish has an emergency operations plan and a critical infrastructure protection appropriate for flood events.
- **Communications:** All communications went well among all participating agencies.
- **Intelligence and Information Sharing and Dissemination:** The parish held daily meetings and used its website, e-mail, local media, and social media to share information with all participating agencies.
- **Emergency Operations Center (EOC) Management:** The EOC was partially activated with normal working hours. WebEOC was used for situational awareness.
- **Critical Resource Logistics and Distribution:** The parish used dump trucks, bulldozers, and excavators to respond to this event. The parish sent resources to Terrebonne, Assumption, and St. Mary parishes.
- **Citizen Evacuation:** The parish did not need to issue any evacuation orders.
- **Emergency Public Information and Warning:** The parish used its website, media, and social media to disseminate information to the public.

Event Overview

Ultimately, the May 2011 flood event did not affect Lafourche Parish. The water levels remained the same during the course of the event. Although the parish did not experience any flooding, it prepared a response in anticipation of a possible event. All agencies came together as one and, as a result, continue to improve their working relationships.

While the overall response went well, it was not without its challenges. The greatest challenge to the parish was that USACE gave them inaccurate data. The parish could not confirm the levee and flood height measurements it received from USACE, and the USACE data showed that Thibodaux, the highest point in the parish, would flood. The agencies in the parish worked together to rectify this and calculate accurate levels. Receiving timely and

accurate information from USACE would have the biggest impact on the parish's ability to prepare for, respond to, mitigate, and recover from future flood events.

The parish estimates that the response to this event cost $100,000.

Target Capabilities

Planning

Lafourche Parish did not have time to conduct strategic planning before the event because the information it received from USACE was inaccurate; however, the parish has an emergency operations plan (EOP) to appropriately respond to a flood event. It describes how personnel, equipment, and other governmental, nongovernmental, and private resources support and sustain incident management requirements. During an event, the Lafourche Parish President is the designated authority for making decisions to address the incident.

In addition to the EOP, the parish has a hazard mitigation plan, which was approved by FEMA at the beginning of 2011, and a critical infrastructure protection (CIP) plan, which was executed in response to this event. The parish is prepared to execute the CIP whenever there is the potential for flooding. The parish has identified critical infrastructure and key resources (CI/KR) located in flood zones.

Mutual aid agreements were developed before this event. All parishes within Region 3 have mutual aid agreements to assist each other during any incident.

Lafourche Parish and its agencies have not participated in any flood exercises; however, before the event, individuals and organizations involved in this response participated in real-world events of sufficient intensity to prepare them to respond to this event.

Communications

All critical communications networks were functioning during this event. The parish experienced no communications issues.

Agencies that participated in this event communicated well, and a common operating picture was maintained for real-time sharing of information with all participating entities. Lafourche Parish used its website, e-mail, local media, and social media to share information. In addition, agencies shared information during daily meetings.

Intelligence and Information Sharing and Dissemination

The process that Lafourche Parish used to receive and disseminate information was successful, as it disseminated all information it received in a timely manner. When the EOC received information, the Lafourche Parish assistant director analyzed and vetted it before disseminating it.

Relevant information was provided vertically by local authorities to Federal or State entities in a usable format and in a timely manner using WebEOC. Likewise, relevant information was provided horizontally across local authorities and entities, including nongovernmental organizations (NGOs) and the private sector, in a usable format and in a timely manner via e-mail, the parish website, and local media.

Emergency Operations Center Management

In response to notification of the incident, the EOC partially activated using its normal staff. It was organized in accordance with emergency plans and standard operating procedures. Staff members worked their usual four-day workweek; however, they did have to work two weekends during the event. Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. Additionally, the EOC used mapping, modeling, and forecasting to determine potential hazards and threats.

Lafourche Parish coordinated emergency management among regional EOCs and sent resources to Terrebonne Parish and Assumption Parish during this event. The parish used WebEOC to provide the State with updates and to maintain situational awareness in the parish. The parish also coordinated with nongovernmental agencies and the private sector to collect and share data.

Critical Resource Logistics and Distribution

Resource logistics and distribution were coordinated through the EOC. Lafourche Parish used dump trucks, bulldozers, and excavators to respond to this event. The dump trucks were requested from the State through WebEOC. The parish also requested tiger dams from Jefferson Parish, but decided they were not needed; they were then sent to St. Mary Parish.

Citizen Evacuation

Response to this event did not require Lafourche Parish to conduct an evacuation.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings, but this was done without activating a joint information system. Coordinating officials, incident managers, and responders received information during conference calls and regularly scheduled meetings.

Lafourche Parish used its website and social media to disseminate accurate, consistent, and timely warnings, instructions, and information updates to the public. Additionally, a public information officer (PIO) distributed press releases daily during this event and was designated as spokesperson.

The parish director of homeland security and emergency preparedness noted that State and Federal agencies were disseminating information without letting the parish first validate it. He suggested that doing so would help with rumor control.

Madison Parish

Executive Summary

Madison Parish rated its response to the flood event as excellent. The flooding of farmland was very critical, and camps were also affected by the flood. The event is estimated to have cost the parish approximately $60,000–$70,000.

The parish identified the following strengths to the response to the event:

- Public awareness and successful public meetings.
- Coordination.

The parish identified the following challenges to the response to the event:

- Money.
- Rumor control.
- Levee breach notification.
- Personnel and equipment.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish had had an emergency operations plan, standard operating procedures, and an evacuation plan to respond to this event.
- **Communications:** Communications worked great in the parish.
- **Intelligence and Information Sharing and Dissemination:** Intelligence and information sharing and dissemination on the Federal, regional, State, parish, and local levels worked very well.
- **Emergency Operations Center (EOC) Management:** The parish EOC was fully activated initially and transitioned into partial activation as the event progressed. WebEOC was used for requests, checking for updates, and sending situational awareness.
- **Critical Resource Logistics and Distribution:** Madison Parish responded to the vent using the Madison Parish Sheriff's Department, Tallulah Police Department, Tallulah Public Works, Madison Parish Office of Homeland Security and Emergency Preparedness (OHSEP), Madison Parish 9-1-1, and Madison/Tallulah shelters, churches, and schools (on standby). The parish requested sandbags, barricades, and Louisiana National Guard assets.
- **Citizen Evacuation:** Madison Parish did not enforce mandatory evacuation, but some residents volunteered to evacuate.
- **Emergency Public Information and Warning:** Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings.

Event Overview

Because Madison Parish is an agricultural parish, the May 2011 flood event caused residents, private-sector entities, and government agencies major concern. The parish expected that everything inside the levee would be damaged. There was also concern about other structures and critical infrastructure/key resources (CI/KR), including elevators, gins, the port, Mayfield Delta, and camps.

The parish received daily updates and reports regarding the flood stages from USACE and the Fifth Levee District. It also received information during daily conference calls with GOHSEP and other parish directors.

The flood event affected farmland and camps. Response to this event cost Madison Parish $800–$1,000 per day for 2.5 months, which is approximately $60,000–$75,000. The parish believed its response to the event was excellent and identified public awareness and coordination between agencies as strengths.

Rumor control was a challenge for the parish, as was notification regarding a levee breach. Lack of money, personnel, and equipment was also a challenge during this response.

Improving parish warning notifications would enhance the parish's ability to respond to the next flood event. Having equipment prepared and ready would also enhance its response.

Target Capabilities

Planning

The Madison Parish Office of Homeland Security and Emergency Preparedness (OHSEP) was very prepared for this event. It conducted strategic planning before the event, and mutual aid agreements were in place. In response to the event, the parish executed its emergency operations plan (EOP), which describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. The EOP is presently under review and revision.

In addition to the EOP, the parish executed its emergency evacuation plan. The parish also has a hazard mitigation plan that was approved by both GOHSEP and FEMA.

Before the event, individuals and organizations involved in this response had participated in exercises and real-world events that prepared them to respond to this one. The parish has more experience from responding to real-world events than from participating in planned exercises.

CI/KR were identified and prioritized before this event, and the parish critical infrastructure protection plan, which is part of the EOP, was executed in response to it.

The Parish President was designated as the authority to make decisions to address the incident; the parish OHSEP director was the backup.

Communications

Communications systems were excellent in Madison Parish; all critical communications networks were functioning well. The parish's new radios worked well, and the EOC was well equipped to meet response needs.

Additionally, the parish maintained a common operating picture for real-time sharing of information with all participating entities.

Intelligence and Information Sharing and Dissemination

The process that Madison Parish used to receive and disseminate information was successful. Rumor control was properly managed. The parish encouraged responders to listen to the concerns voiced by members of the public so that the parish could develop appropriate messaging to assure the public of their safety.

The parish analyzed and vetted information before disseminating it. Relevant information was disseminated vertically from local authorities to Federal or State entities, and horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a usable format and in a timely manner.

Emergency Operations Center Management

In response to notification of the incident, the Madison Parish EOC was fully activated initially; however, as the event progressed and the risk declined, the EOC transitioned to partial activation. The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting.

Because this was a major event that lasted more than a month, sustaining funding, personnel, and equipment was a challenge; however, surrounding parishes and municipalities were available to assist when requested.

During EOC activation, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness and coordinated emergency management efforts among local, regional, State, and Federal EOCs.

Madison Parish used WebEOC to request resources, get updates, and send situation reports. The parish also coordinated with nongovernmental agencies and the private sector to collect/share data.

When local support was exhausted, the parish executed mutual aid agreements and requested higher-level assistance. Resource logistics and distribution were coordinated through the EOC.

Critical Resource Logistics and Distribution

Madison Parish used the following resources and assets to respond to this event:

- Madison Parish Sheriff's Department
- Tallulah Police Department
- Tallulah Public Works
- Madison Parish OHSEP
- Madison Parish 9-1-1
- Madison/Tallulah shelters, churches, and schools (placed on standby)

The parish has mutual aid agreements in place, but it did not have to request resources from other parishes. The parish did, however, use WebEOC to request sandbags, barricades, and the Louisiana Army National Guard.

Citizen Evacuation

In response to the event, the parish directed, managed, and coordinated evacuation procedures for both the general population and populations requiring evacuation assistance. Madison Parish did not order a mandatory evacuation, but some residents volunteered to evacuate.

The parish identified populations, institutions, and locations to be evacuated before the event, including populations requiring evacuation assistance. At-risk populations were notified that they may need to evacuate.

Appropriate personnel were identified and mobilized in support of an evacuation. The parish coordinated with appropriate agencies to identify risks to the transportation infrastructure that may have been used for evacuation.

The EOC coordinated with agencies providing emergency public information and warning to ensure effective communication of the evacuation order and procedures. It also provided reentry assistance and information to the public on a timely and ongoing basis and coordinated with supporting agencies and prearranged providers to obtain the appropriate means of transportation for people requiring transportation assistance.

Emergency Public Information and Warning

Plans, procedures, and policies were activated in Madison Parish to coordinate, manage, and disseminate public information and warnings. Public information, alerts, warnings, and notifications were issued to coordinating officials and incident managers and responders, and information was accessible by populations with access and functional needs. The public received accurate, consistent, and timely warnings, instructions, and information updates

In response to the event, public information officers were activated and deployed. The Parish President and OHSEP director both acted as the parish spokesperson. Timely and accurate

emergency public information was coordinated through a joint information system, which was used to coordinate and disseminate information to the public, monitor media, and control misinformation and rumors. Public information, alerts, warnings, and notifications were issued through established systems to the public, coordinating officials, and incident managers and responders. Information was accessible by populations with access and functional needs.

Orleans Parish

Executive Summary

Orleans Parish rated its response to the May 2011 flood event as very good. The parish benefitted from the opening of the Morganza Spillway. A response scenario in which the spillway had not been opened would likely have shown overtopping or breaching of levees. The parish prepared for this scenario but was grateful for the negligible effect it experienced due to the opening of the spillway.

The parish listed the following as strengths in the response to this event:

- Because of previous flooding, the parish has highly developed plans to address this type of event.
- The cycle for updating parish response plans is constant and coordinated among all the agencies, which produces precise plans.
- The parish has extensive experience operating in a unified command structure.

The following are general statements about the parish's response to this event:

- **Planning:** Orleans Parish benefited from real-world experience and exercises, as well as a flexible emergency operations plan.
- **Communications:** Communication was not an issue for the parish, but uncertainty behind the decision to open the Morganza Spillway affected information sharing.
- **Intelligence and Information Sharing and Dissemination:** Information was disseminated to all stakeholders in a timely and efficient manner.
- **Emergency Operations Center (EOC) Management:** The parish partially activated its EOC, running it in 12-hour shifts with 10–15 personnel per day. WebEOC was used to track events and submit situation reports to the State.
- **Critical Resource Logistics and Distribution:** The only resources used by the parish were EOC personnel.
- **Citizen Evacuation:** Evacuations were not ordered for this event, but plans were in place.
- **Emergency Public Information and Warning:** Public information officers and external affairs offices coordinated and managed timely and accurate information and disseminated it to the public and media.

Event Overview

In response to the 2011 flood event, the Orleans Parish Emergency Operations Center (EOC) was activated with representation from first responders and city agencies. The parish participated in daily conference calls, disseminated information, and developed contingency

plans for a possible levee breach or overtopping. Additionally, Orleans Parish was affected by the closure of the Mississippi River to river traffic. The parish did not have any significant flood damage and was prepared to provide support to other parishes if requested.

The level of threat posed to the parish correlated to the decision to open the Morganza Spillway. The parish expected the levees to overtop if the spillway remained closed but believed that damage would be negligible if it were opened, which proved to be the case.

The parish did not keep detailed records comparing the actual flooding to the inundation levels projected by the National Weather Service (NWS). The danger point for Orleans Parish begins at 21 feet, and water levels never surpassed 19 feet during this event.

The parish's response was very effective; it did not incur any expenses for this response. Although it was not impacted by flooding, preparations were made in order to be fully prepared for a flood event and/or levee breach. Coordination among all parish agencies was superb.

The parish rated its response to the event as very good, and listed the following areas as strengths:

- Because of previous flooding, the parish has highly developed plans to address this type of event.
- The cycle for updating parish response plans is constant and coordinated among all the agencies, which produces precise plans.
- The parish has extensive experience operating in a unified command structure.

The parish was not particularly challenged by any issues during this event; however, it identified the following areas for improvement that could enhance future responses:

- Identify and type all resources in accordance with National Incident Management System (NIMS) standards.
- Develop a formal contingency plan for a catastrophic levee breach or formalize the ad hoc plan developed during this event.
- Develop a parish/city/State incident management team and develop Type 3 Incident Command System (ICS) teams.

Target Capabilities

Planning

Orleans Parish has extensive real-world and exercise experience with threats similar to those posed by the May 2011 flood event. The parish maintains an emergency operations plan (EOP) that describes how personnel, equipment, and private resources will be employed during an emergency, as well as a City Assisted Evacuation Plan. Along with these plans, the parish has a hazard mitigation plan that was updated and approved in 2011.

The EOP has been used in numerous flooding events, but, for this event, the parish chose to modify its plan to address the possibility of a catastrophic levee breach. This ad hoc plan addressed conducting swift water rescue operations, repositioning parish assets, and protecting critical infrastructure and key resources (CI/KR), as well as other lifesaving measures. The parish is working with the Levee Board and other agencies to formalize this plan. During its development, a critical infrastructure plan was enacted—with coordination from the sewage and water boards—to protect the water intakes along the Mississippi River from vessel collisions, debris, and leakage.

The parish has mutual aid agreements in place with neighboring parishes, but none of those parishes were affected by the flood.

In accordance with the parish standard operating procedures (SOPs), the authority to direct the response rested with the Orleans Parish emergency management director.

Communications

Orleans Parish reported no communications issues, and all critical communications networks functioned during this event. Constant updates allowed for real-time information sharing and helped to maintain a common operating picture. Despite this, the parish reported many occasions when it was uncertain of the strategies pertaining to opening the Morganza Spillway. This presented challenges to sharing information locally. The EOC understood why certain decisions were slow to trickle down; however, this presented problems for the EOC when local officials requested information.

Intelligence and Information Sharing and Dissemination

The parish reported that the process used to receive and disseminate information was good, and the operational tempo was well established and easily followed. The parish was able to disseminate information to all stakeholders in a timely and efficient manner. The parish primarily received information from a direct source, so it was not always necessary to vet it. When it was needed, the vetting process was quick; all agencies were responsive. There was a constant flow of information vertically from the parish to State and Federal agencies, as well as horizontally among local authorities and nongovernmental organizations (NGOs). This flow of information was greatly assisted by the strong existing relationships among parish officials and outside agencies.

Emergency Operations Center Management

In response to this incident, the EOC was partially activated, which prescribed 12-hour shifts and 10–15 personnel per day. The EOC operated at this level for about three weeks. During the response, WebEOC was used to track events and submit situation reports (SitReps) to the State.

The EOC conducted daily briefings and maintained a strong SitRep/Documentation Unit that continually updated information. This information was used for the mayor's press releases and briefings. The parish also coordinated response efforts among State and local EOCs and

the private sector. In accordance with the parish SOPs, all resource requests would have been coordinated through the EOC, but no requests were made during this incident.

The parish relied on geographic information system (GIS) assets to produce CI/KR maps, which were used to identify those locations and healthcare facilities (e.g., hospitals, nursing homes, homebound/bed-ridden patients) within 5–10 miles of the river.

Critical Resource Logistics and Distribution

The only resources that the parish used during this response were EOC personnel. All other agencies performed within their normal duties and were not considered affected by this incident.

Citizen Evacuation

While this incident did not require evacuation operations, the parish is well prepared for these actions and has a detailed plan in place. The City Assisted Evacuation Plan details personnel and agencies that would be involved with an evacuation, how the public will be notified, procedures for populations with access and functional needs, transportation resources, and reentry procedures. Continual efforts to improve the plan and educate the citizens on it are also made through the EOC.
GIS was used to produce mapping resources for contingency planning and notification of the at-risk population in the parish. This included the homebound population, who is tracked via the City Assisted Evacuation Plan. The parish stayed in constant communication with Emergency Support Function (ESF) 1 (Transportation), which is tasked with identifying any risks there may be to the evacuation routes.

Emergency Public Information and Warning

EOC staff maintained constant communication with the public information officer (PIO) and external affairs offices to coordinate and manage timely and accurate information and disseminate it to the public and media. In accordance with parish plans, the mayor served as the spokesperson.

The parish's joint information system has the ability to e-mail and text residents who sign up for the emergency alert notification, and a public alert system is also available in coordination with Cox Communications. This incident did not affect the parish enough to warrant the activation of those systems, but public information went out in a timely fashion and was coordinated through the EOC and PIO.

Plaquemines Parish

Executive Summary

Plaquemines Parish rated its response to the flood event as excellent. The levees were monitored daily, and damage estimates were consistent with expectations. The cost to the parish for monitoring the levees and mitigating damage was $25,318, which included equipment and work by the parish's Land Department and Heavy Equipment Department.

The parish identified the following strengths in its response to this event:

- The parish had an experienced flood fighting personnel with the ability to respond quickly.
- The parish has an experienced inspection staff.
- Staff members have excellent communication skills and relationships with the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) and United States Army Corps of Engineers (USACE).

The parish identified the following challenges in its response to this event:

- The parish was unable to see possible damage below the water level because of the flow rate and subsurface debris.
- USACE had to abandon construction on 12 miles of levee because of the flooding.
- Barges were docked too close to the levees and would bump in to them as a result of wakes on the water.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish emergency operations center (EOC) was ready, and emergency equipment was checked. The parish was in constant contact with USACE.
- **Communications:** Residents were advised of river and levee conditions via e-mail. The parish's critical communications networks were functioning.
- **Intelligence and Information Sharing and Dissemination:** The parish received information from the State and USACE; it passed the information on to its personnel and residents after analyzing and vetting it.
- **Emergency Operations Center Management:** WebEOC was used for real-time reporting and information requests. The EOC has its own GIS unit to support the identification of potential hazards.
- **Critical Resource Logistics and Distribution:** The parish used personnel from its Land Department, Heavy Equipment Department, and EOC. It was not necessary to request resources from another parish.
- **Citizen Evacuation:** Evacuation was not necessary for this event.

- **Emergency Public Information and Warning:** The public received accurate and consistent warnings and updates.

Event Overview

The effects of this flood event on Plaquemines Parish were consistent with what was expected, and no evacuations were necessary. Estimates of the damage were similar to the model for such an event, and some of the characteristics of this incident reflected those of a spring thaw. Parish employees monitored the Mississippi River levees daily to determine whether any damage or degradation was taking place. There were numerous areas of damage on the concrete slope where the water rose and debris pounded against it. The Heavy Equipment Department performed mitigation activities as necessary.

The parish views its response to the event as excellent. There was consistent monitoring by Plaquemines Parish government personnel, and the mitigation actions helped to prevent levee failure. The Land Department monitored the levees during the entire event, and worked directly with USACE.

The cost to the parish of monitoring the levees and mitigating the damage was $25,318, which included $9,486 for the Heavy Equipment Department's work, equipment, and fuel and $15,832 for the Land Department's work.

The parish's response was strengthened by its personnel who were experienced with responding to floods. They were able to respond quickly. Also, the parish has experienced inspection staff. The parish's employees additionally have excellent communication skills and good relationships with GOHSEP and USACE.

One of the challenges during the response was an inability to see any possible damage below the water level because of the flow rate and the subsurface debris. Another issue was that the barges that were docked along the river were too close to the earthen levee, and the wake caused by river traffic bumped them into the levee. Finally, an active USACE construction project on 12 miles of levee, which had not been topped with limestone, had to be abandoned because of the flooding.

The following changes would enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- Repair all concrete slope paving on the levees before the next flood.
- Pre-stage repair material (limestone and quarry stone) and fill material.
- Concentrate on inspecting the levee slope.

Target Capabilities

Planning

Before this flood event, Plaquemines Parish had conducted strategic planning with regard to its levees. Twelve miles of levee were under construction in order to meet 100-year-flood

protection; however, the flood event halted and affected this project. USACE requested that polyurethane and concrete bags be placed to protect this construction.

The Parish President and Office of Emergency Preparedness director were actively involved in making decisions during the incident. Plaquemines Parish has an emergency operations plan (EOP) for responding to a flood event, which is currently being updated. It also has a hazard mitigation plan that was approved by GOHSEP in 2010.

The parish's Land Department, which is responsible for monitoring the levees, and its Heavy Equipment Department have many years of experience in dealing with flood mitigation. They have real-world experience with seasonal events, such as hurricanes.

On May 5, the parish EOC was put on standby, and emergency equipment and supplies were checked and inventoried. An e-mail message was sent to residents and industry advising them of the current situation. The EOP contains a list of industry personnel who are to receive e-mail messages as well. The parish was in constant contact with USACE and the West Jefferson Levee District, which kept all relevant entities informed about ongoing activities.

Communications

Residents were advised of river and levee conditions via e-mail as deemed appropriate. The parish had daily conference calls with USACE and submitted daily status reports in WebEOC. Additionally, the parish maintained a common operating picture for real-time sharing of information with all participating entities and for situational awareness though WebEOC.

All critical communications networks were functioning.

Intelligence and Information Sharing and Dissemination

The process that Plaquemines Parish used to receive and disseminate information was successful. Information came into the EOC and the Land Department from State government and USACE. That information was sent to analyzed and vetted before being sent to parish personnel and residents. Relevant information was provided by local authorities to Federal/State entities, as well as nongovernmental organizations and the private sector, in a usable format and in a timely manner.

Communication between parish agencies and local government offices was excellent. The Land Department had daily conference calls with USACE regarding river flood stages and the condition of the levees.

The parish maintains a First Call alert system, although it was not necessary to activate it for this event.

Emergency Operations Center Management

In response to notification of the event, the EOC was first put on standby and then activated and staffed in accordance with emergency plans and standard operating procedures. Personnel worked extended days.

Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. WebEOC was used for real-time reporting, evaluation, and information requests.

The parish EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting, as the parish maintains its own geographical information system (GIS) unit. Resource logistics and distribution were coordinated through the EOC.

Critical Resource Logistics and Distribution

To respond to this event, the parish used personnel from its Land Department, Heavy Equipment Department, and EOC. It was not necessary to request resources from another parish.

Citizen Evacuation

Evacuation was not necessary. Before this event, however, the parish had identified populations who would require evacuation assistance, as directed in its EOP. The appropriate personnel were identified and mobilized in support of a possible evacuation.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. The public received accurate, consistent, and timely warnings, instructions, and information updates. The EOC's essential personnel included public information officers.

The information was coordinated through a joint information system, which was used to disseminate the information to the public, monitor media, and control misinformation and rumors. Alerts, warnings, and notifications were issued to the public, coordinating officials, and incident managers and responders. The information was also accessible by populations with access and functional needs (e.g., blind, deaf, non-English-speaking individuals).

Pointe Coupee Parish

Executive Summary

Point Coupee Parish rated its response to the flood event as very good. The parish was prepared for a worst-case scenario—the overtopping or breach of levees—which did not happen. The event is estimated to have cost the parish approximately $180,000, which included $70,000–$75,000 for the Pointe Coupee Police Jury, $70,000–$80,000 for the Point Coupee Sheriff's Office, $20,000 for fire departments and police departments, and $10,000–$20,000 in miscellaneous costs.

The parish identified the following strengths to the response to the event:

- Interoperable communications with alternate system capabilities.
- Public information and rumor control.
- Cooperation between agencies.

The parish identified the following challenges to the response to the event:

- Insufficient public education and family planning.
- Lack of additional methods of information dissemination to public.
- Lack of direction or assistance provided on where to send evacuees in case an evacuation had been required.

The following are general statements regarding the parish's response to this event:

- **Planning:** Parish planning was extensive and comprehensive, and parish leaders held meetings twice a day, seven days a week, before and during the event.
- **Communications:** The parish had no communications issues.
- **Intelligence and Information Sharing and Dissemination:** The sheriff held briefings twice a day directed at responders. The parish also participated in conference calls with the Army Corps of Engineers, the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), the Levee District, other parish directors, and all other participating entities during this flood event.
- **Emergency Operations Center (EOC) Management:** The EOC was partially activated during the event. WebEOC was used for situation reports, operations reports, and assistance requests.
- **Critical Resource Logistics and Distribution:** The parish used inmates for sandbagging. Manpower and equipment from the Louisiana National Guard, the Louisiana Department of Wildlife and Fisheries, and Atchafalaya Basin Levee District were used for guarding and patrolling the levees, 24 hours-per-day, seven days-per-week.
- **Citizen Evacuation:** The parish did not issue any evacuation orders.

- **Emergency Public Information and Warning:** The sheriff had daily radio briefings for the general public at noon, 5 p.m., and 7:30 p.m. He and his staff also attended public meetings.

Event Overview

Pointe Coupee Parish is bordered on the east by the Mississippi River, on the west by the Atchafalaya River, and on the north by Old River. The Morganza Floodway begins just north of the town of Morganza and divides the parish. More than 120 miles of levee from the rivers and spillway encircle and divide the parish. The confluence of these bodies of water created problems unique to Pointe Coupee and quickly overwhelmed the limited parish resources. Seepage water and sand boils were prevalent along the Mississippi levees. The Mississippi River reached its crest in Pointe Coupee at 63.39 feet, a record, on May 18.

The parish was prepared for a worst-case scenario, which would have been the overtopping or breaching of the levees, but that did not happen. Damage estimates, however, were as expected.

The Parish President signed state of emergency declarations on May 4 and June 2. The parish response, however, began well before the former and continued well after the latter.

The emergency operations plan (EOP) for responders was designed and implemented by the Pointe Coupee Parish Sheriff's Office. The sheriff held responder-centric briefings twice a day (0700 and 1730) and radio briefings for the general public at 1200, 1700, and 1930. The sheriff and staff also attended public meetings called by local Police Jurors and school board members.

The sheriff called for volunteers to create a rescue flotilla. Within two days, almost 150 manned boats were on standby in case of a levee breach. Inmates from the parish detention center were used to fill sandbags that were placed by USACE. Manpower and equipment from Louisiana's Army National Guard, Wildlife and Fisheries, and Atchafalaya Basin Levee District were used to assist locals in guarding and patrolling the levees 24/7.

The parish did not keep a detailed list of what happened at each stage of the flood, but it did monitor the National Weather Service (NWS) data and participate in conference calls (both once-a-day and twice-a-day calls) with USACE, GOHSEP, the Levee District, other parish directors, and all other participating entities during the flood event.

The overall cost of the parish's response to this event was approximately $180,000, which included $70,000–$75,000 for the Pointe Coupee Police Jury, $70,000–$80,000 for the Pointe Coupee Sheriff's Office, $20,000 for the fire and police departments, and $10,000–$20,000 for miscellaneous costs.

Overall, the parish believed its response to the event was very good. It was strengthened by cooperation between agencies, interoperable communications with alternate system capabilities, and public information and rumor control.

The parish experienced the following challenges during the response to this event:

- Insufficient public education and inadequate family planning.
- Lack of methods of information dissemination to the public.
- No direction or assistance given on where to send evacuees in case an evacuation had been required.

GOHSEP, Wildlife and Fisheries, the Louisiana State Police, the Atchafalaya Basin Levee District, the Louisiana Department of Transportation and Development (DOTD), and the Louisiana Department of Agriculture and Forestry all did an excellent job, but there is a recurring problem during events involving smaller, rural parishes. Shelter resources are made available to high-population parishes, but parishes with lower populations (typically rural and/or poorer) and with fewer resources do not get the same support and are thus left to address the issues alone.

Addressing sheltering for both the general population and for residents with access and functional needs before the next event would enhance the parish's preparedness, response, mitigation, and recovery. Additionally, the parish would benefit from having a process that ensures that it receives information from State and Federal agencies in a timelier manner. During this event, for example, parish emergency preparedness directors received daily briefs and had opportunities to participate in daily conference calls with State and Federal agencies; however, some information disseminated during State department-level meetings was not immediately passed on to parish emergency preparedness directors.

Target Capabilities

Planning

Pointe Coupee Parish conducted extensive and comprehensive planning prior to this event. All local responder agencies participated in two meetings at the parish EOC. The sheriff and other parish leaders had meetings twice a day, seven days a week, before and during the event.

The parish does not currently have mutual aid agreements. Region 2 was working on a mutual aid agreement before the incident and is currently having all eight parishes sign off on the finalized agreement.

The parish has an outdated all-hazards EOP. It was being updated and revised before the flood event and is currently awaiting approval from the Police Jury and the incorporated area. The plan describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management to the extent of a generalized EOP.

The parish has a GOHSEP-approved hazard mitigation plan. Portions of the newer plan were incorporated into the parish's response efforts. In addition, the sheriff developed an

operations plan for his department and prepositioned resources for lily pads, rendezvous points, etc.

Most responder agencies have participated in exercises. The Pointe Coupee Parish Sheriff's Office and local Office of Homeland Security and Emergency Preparedness (OHSEP) have developed a three-year plan to increase the scale and complexity of parish exercises.

Critical infrastructure and key resources (CI/KR) were identified and prioritized before this event, but a critical infrastructure protection plan was not executed in response to it.

The Pointe Coupee sheriff was designated to make decisions to address the incident in conjunction with guidance from OHSEP.

Communications

All critical communications networks were functioning. Pointe Coupee Parish has had a parish-wide first responder communications system for more than 11 years. If the parish system failed, was damaged, or was destroyed, most responders would be able to switch over to the Louisiana Wireless Information Network (LWIN).

A common operating picture was maintained for real-time sharing of information with all participating entities parish-wide.

Intelligence and Information Sharing and Dissemination

The process that Pointe Coupee Parish used to receive and disseminate information was successful. When the parish EOC received information, it was analyzed and vetted before it was disseminated. Relevant information was provided vertically from local authorities to Federal or State entities and horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a usable format and in a timely manner.

Emergency Operations Center Management

The EOC was partially activated throughout the incident; all agencies were on standby in case it was necessary to fully activate the EOC. Parish resources were ready to respond to an overtopping or breach of the levees, an evacuation of citizens, or the looting and vandalism of property.

WebEOC was used to post situation reports and operations reports and to request assistance. When local support was exhausted, the parish requested higher-level assistance through WebEOC.

Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The parish coordinated emergency management efforts among local, regional, State, and Federal

EOCs. The parish also coordinated with nongovernmental agencies and the private sector to collect and share data.

The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting. Given the parish's proximity to the river, however, it would have been impossible to prevent flooding if the levee system had failed.

Critical Resource Logistics and Distribution

The parish requested the following assets through WebEOC:

- Security personnel.
- Supporting gear and vehicles.
- High water vehicles (in case of an evacuation).
- Sand.
- Sandbags.
- HESCO baskets.

A number of parishes offered assistance, but, fortunately, none was needed. Pointe Coupee Parish did provide sandbags to an adjacent parish.

Citizen Evacuation

It was not necessary to execute evacuations in Pointe Coupee Parish; however, the parish was prepared to evacuate if needed. Populations, institutions, and locations to be evacuated were identified before this event. The parish coordinated with appropriate agencies to identify risks to transportation infrastructure that would have been used for evacuation.

Before this event, the parish identified populations who would require evacuation assistance. At-risk populations were notified that they may need to evacuate. Appropriate personnel were identified and mobilized in support of an evacuation. The EOC coordinated with agencies providing emergency public information and warning, and procedures were in place for effective communication of evacuation orders in case that became necessary.

Agreements were in place with supporting agencies and prearranged providers to obtain appropriate means of transportation for people requiring transportation assistance and residents with access and functional needs.

Emergency Public Information and Warning

Plans, procedures, and policies were activated in Pointe Coupee Parish to coordinate, manage, and disseminate public information and warnings. Public information alerts, warnings, and notifications were issued to coordinating officials and incident managers and responders, and information was accessible by populations with access and functional needs. The public received accurate, consistent, and timely warnings, instructions, and information

updates. For example, the sheriff's radio briefings for the general public aired daily at 1200, 1700, and 1930.

In response to the event, public information/affairs officers were activated and deployed, and the Parish President was identified as spokesperson for the event. If he was unavailable, the OHSEP director was his backup. The provision of timely and accurate emergency public information was coordinated through a joint information system, which was used to coordinate and disseminate information to the public, monitor media, and control misinformation and rumors. Public information, alerts, warnings, and notifications were issued through established systems to the public, coordinating officials, and incident managers and responders.

Rapides Parish

Executive Summary

Rapides Parish rated its response to the flood event as very good. The parish had little backwater flooding. The parish was prepared to shelter residents of Catahoula, Concordia, LaSalle, and Rapides parishes. The event is estimated to have cost the parish $20,000.

The parish identified communication and coordination as strengths to the response to the event—especially with affected parishes and the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 6 Coordinator.

The parish identified the following challenges to the response to the event:

- Information sharing among Federal, State, and local agencies.
- Coordination of Federal, State, and local resources.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish has an emergency operations plan to appropriately respond to a flood event. The parish coordinated with other Region 6 parishes to support its facility needs.
- **Communications:** Parish-to-parish communication was not a major issue, but communication with Federal, State, and local agencies was a challenge.
- **Intelligence and Information Sharing and Dissemination:** The parish had some issues with receiving accurate, timely, and usable information.
- **Emergency Operations Center (EOC) Management:** The EOC was partially activated. WebEOC was used to maintain situational awareness and to request resources.
- **Critical Resource Logistics and Distribution:** The parish did not need to request resources; however, it provided communications equipment to a standby urban search and rescue team.
- **Citizen Evacuation:** The parish did not issue an evacuation order.
- **Emergency Public Information and Warning:** Because Rapides Parish was not affected by the event, it was not necessary to activate plans to coordinate public information. Public information officers were not activated and deployed for this event.

Event Overview

The Louisiana May 2011 flood event did not heavily impact Rapides Parish; there was only minimal backwater flooding from the rise of the Mississippi River. The parish expected some flooding in its flood-prone areas and prepared for this scenario. It primarily made preparations to shelter/support the residents of Catahoula, Concordia, and La Salle parishes who might have been displaced. The American Red Cross was the main resource for

coordinating shelter availability. The State has a Unified Shelter Plan, and each agency has a local plan in place to meet the specific needs of its parish.

The parish coordinated with other Region 6 parishes to support their facility needs. As a result, local hospitals in Rapides Parish accepted patients from Concordia Parish facilities.

The parish Office of Homeland Security and Emergency Preparedness (OHSEP) director stated that the parish did not receive a request from GOHSEP to maintain a detailed list of what happened at each flood stage to compare it with National Weather Service (NWS) data. However, the parish participated in daily conference calls led by USACE. Other parish directors, GOHSEP representatives, and members of the Levee District also participated in these calls. As a typical process, NWS data was monitored. The parish also received daily reports from USACE in the mornings and evenings.

The cost of the parish's response was approximately $20,000. The parish rated its overall response to this event as very good. The response was strengthened by communication and coordination with the impacted parishes and with the GOHSEP Region 6 Coordinator.

The parish experienced challenges by the following issues in response to this event:

- Information sharing among Federal, State, and local agencies.
- Coordination of Federal, State, and local resources.

The following changes would enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- More effective communication among Federal, State, and local agencies.
- More detailed definition of authority.
- More description regarding a unified approach to coordination of assets.

Target Capabilities

Planning

Rapides Parish conducted strategic planning before this event. The parish has developed and maintains an emergency operations plan to appropriately respond to a flood event. The parish also has a GOHSEP- and FEMA-approved hazard mitigation plan.

The parish has not participated in any State-led exercises regarding Mississippi River flooding and levee failures, but it has experienced real-world events and has used lessons learned and areas for improvement to update plans, policies, and procedures.

Critical infrastructure and key resources were identified and prioritized before this event, but they were not affected by it.

The Parish President, in coordination with the parish OHSEP director, was designated to make decisions to address the incident.

Communications

Technology was not an issue in Rapides Parish, and information sharing among parishes was not a major concern. However, Federal, State, and local communication was problematic. The parish believes that dissemination of more information regarding levels of authority and responsibility would have helped players respond effectively to the event.

A common operating picture was maintained for real-time sharing of information among all participating entities, and all critical communications networks were functioning well.

Intelligence and Information Sharing and Dissemination

The parish EOC analyzed and vetted information before disseminating it. This was necessary because the EOC received information from multiple sources with varying details. Relevant information was provided from local authorities to Federal and State entities in a usable format and in a timely manner. The parish believes that the process it used to receive and disseminate information could be improved.

Emergency Operations Center Management

In response to notification of the incident, Rapides Parish partially activated its EOC. WebEOC was used to maintain situational awareness of the activities and to request resources if it became necessary during the event. The parish gathered, organized, and documented incident situation and resource information from all sources.
The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs. Because Rapides Parish was not recognized as an impacted parish, coordination was carried out through the Regional Coordinator; communication with GOHSEP was limited for this reason.

The parish coordinated with nongovernmental agencies and the private sector to collect and share data. Resource logistics and distribution were coordinated through the EOC, but it was observed that no resources were needed for Rapides Parish.

Critical Resource Logistics and Distribution

Rapides Parish shelters were placed on standby. Communications equipment was provided to the urban search and rescue team, which was also placed on standby to respond if needed.

No mutual aid agreements were developed before this event. The Louisiana GOHSEP Intrastate Mutual Aid Compact (IMAC) addresses mutual aid among parties.

Citizen Evacuation

Rapides Parish did not need to evacuate any of its residents, but it coordinated with other parishes in the region to provide support and facilities. Local hospitals in Rapides Parish accepted patients from facilities in Concordia Parish.

Before this event, the parish identified populations who would require evacuation assistance not only in Rapides Parish, but also in Catahoula, Concordia, and La Salle parishes. At-risk populations were notified of the possible need for evacuation, and appropriate personnel were identified and mobilized in support of an evacuation. The EOC coordinated with supporting agencies and prearranged providers to obtain appropriate means of transportation for people who would require transportation assistance.

Emergency Public Information and Warning

Because Rapides Parish was not affected by the event, it was not necessary to activate plans to coordinate public information. The parish OHSEP director acted as the spokesperson for the event, however, and provided situational updates to the Parish President throughout.

St. Charles Parish

Executive Summary

St. Charles Parish rated its response to the flood event as very good. The parish's levees were in great shape and held up well, but the parish was initially concerned that they would break and cause massive flooding. Additionally, the Bonnet Carré Spillway system worked as was designed and relieved pressure from the levees. The parish worked well with the United States Army Corps of Engineers (USACE) and the State; however, the amount of time it took to decide to open the Bonnet Carré Spillway affected the parish's planning and preparations.

The parish identified the following strengths to the response to the event:

- Many years of experience with maintaining 24-hours operation.
- Well-established communication procedure with the public and industry.
- Good coordination with other parishes and the State during daily meetings and conference calls.

The parish identified the following challenges to the response to the event:

- Delayed opening of the Morganza Spillway.
- Lack of experience with how high water would affect industry.
- Lack of great data/recorded history on what or how opening the Morganza Spillway would affect the parish.
- No stated end to the event.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish conducted strategic planning before to the event; however, it has not developed an emergency operations plan or annex to address flooding of the Mississippi River.
- **Communications:** Communications from the State level (conference calls) were adequate; however, the parish believes that there were too many participants on the conference call and that not all participants used the calls for their intended purposes.
- **Intelligence and Information Sharing and Dissemination:** Decisions could have been made and information could have been shared in a timelier manner. For example, the time it took to decide whether or not the Morganza Spillway would be opened affected the parish's planning for this event. Also, the State never seemed to issue a notification that the event had concluded.
- **Emergency Operations Center (EOC) Management:** The parish EOC was fully activated and maintained 24-hour operations. The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs.

- **Critical Resource Logistics and Distribution:** The parish did not need to request resources to respond to this event; however, it sent supported St. Mary Parish's requests for sent tiger dam and flood tubes.
- **Citizen Evacuation:** Appropriate personnel were identified and mobilized in support of an evacuation; however, it was not necessary to order an evacuation.
- **Emergency Public Information and Warning:** Throughout the event, public information was provided to the citizens, and meetings were held with industry representatives to help predict the effects the river levels would have on their facilities.

Event Overview

The biggest challenge for St. Charles Parish during the May 2011 flood event was uncertainty surrounding its impact—from both geographical/environmental and procedural standpoints. The parish's main concern was that the levee would break and there would be massive flooding. The parish has a very good levee system, but the pressure that an event of this magnitude can put on the levees was enough to cause concern.

Opening the Morganza Spillway upriver in Pointe Coupee Parish would have relieved some of the pressure from the flood; however, the decision to open it had to be made by the State, and this took time. In the meantime, the parish's ability to plan and prepare was directly tied into the State's decision regarding if and when the Morganza Spillway would be opened.

The parish had to prepare for maximum river heights. The river was expected to reach 19.5 feet without the Morganza Spillway being opened and 17.5 feet with it being opened. The parish's flood stage was at 20 feet. St. Charles Parish believes that the decision to open the spillway should have been made far in advance, as some parishes had mitigation plans that were contingent on it opening.

The Bonnet Carré Spillway, on the other hand, which is located in St. Charles Parish, was opened early enough to prevent a major impact on the community. It was opened as the disaster declaration took place. Knowledge and experience regarding how it works and its effects allowed the parish to use this system with great confidence. Opening the Bonnet Carré Spillway required the parish public works department and USACE to reinforce the West Guide Levee and build levees along Highway 61 to prevent water from spilling onto the highway. The relationship between USACE and the public works department was excellent, as was the communication between them.

Although opening the spillway was successful in relieving pressure on the levees, water from it damaged the spillway, as has happened in the past. This resulted in a closure of the road, which, in turn, resulted in increased traffic on Highway 61. The parish believes the road should be elevated for future events so that it does not become damaged. One route to a major industry facility (Entergy's Little Gypsy power plant) was also closed, which hampered emergency personnel's access to the Montz area. This could possibly have been avoided if the Morganza Spillway had been opened sooner.

Because of historical river heights and the opening of the Bonnet Carré Spillway, St. Charles Parish became a sightseeing area—both for parish residents and non-residents. Law enforcement personnel spent a lot of time asking civilians to stay off of the levees; however, there was no way to enforce the request. Violations of the request were a constant issue, but there were no penalties for violation.

The parish experienced some problems getting river level data from the National Weather Service (NWS), especially around the Waterford 3 nuclear site. Each time the parish contacted the NWS, different people provided information, and they did not seem to understand what questions were being asked. Still, throughout the event, public information was made available to citizens so that they could understand how the flood might affect them, and meetings were conducted with industry representatives to help them predict the effects the river levels would have on their facilities.

The parish experienced the following challenges during the response to this flood event:

- Lack of knowledge of the possible effects of the high water on industry.
- No stated end to the emergency by GOHSEP.
- Too many different departments on conference calls.

Overall, despite the challenges, the parish believed its response to the event was very good. The parish used emergency classifications and implemented procedures to ensure that its service to the citizens of St. Charles was of high quality.

Overall, the parish identified the following strengths of the response:

- Many years of experience with maintaining 24-hour operations.
- Well-established communication procedures with the public and industry.
- Well-established mutual aid agreements.

The following changes could be made that would have the biggest impact to enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- There should be an established map of water intakes that provides parish officials with information on which industries need to be shut down and at which river heights.
- GOHSEP could provide each parish with the location of sand boils upriver from their boundaries.

Target Capabilities

Planning

St. Charles Parish conducted strategic planning before this event, which affected the outcome of the response. The Parish President, acting on the advice of the parish Office of Homeland Security and Emergency Preparedness (OHSEP) director, was designated as the authority to make decisions to address the incident. The director oversaw all of the day-to-day response activities.

Critical infrastructure and key resources were identified and prioritized before the event; however, it was not necessary to execute a critical infrastructure protection plan in response to the event.

Although the parish did not have a plan specific to a Mississippi River flood event, its all-hazards plan describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. In addition to the all-hazards plan, the parish has a GOHSEP-approved hazard mitigation plan.

Before the event, individuals and organizations involved in this response participated in exercises of sufficient intensity to prepare them to respond to this event.

Communications

The parish maintained a common operating picture for real-time sharing of information with participating entities. The parish also participated in State-level conference calls. The purpose of these calls was to discuss the current status of events and to determine which parishes needed what assistance. The calls were informative and helpful for the parish's planning process and provided specific data that the parish needed to give its staff, the Parish President's Office, and the public. The parish believes, however, that the time allotted for these calls was not always used wisely and that they ran too long. For example, a lot of time on the calls was taken up by parishes asking about their WebEOC requests or asking other questions that were not relevant to the call. Also, the conference calls were used to address both emergency preparedness and construction projects. The parish believes that there should be separate calls to address these topics. The conference calls should be for parishes to update each other, not a forum for them to address their grievances.

The coordination with the Pontchartrain and Lafourche Levee Districts went well concerning the monitoring of the levees; however, their representatives were sometimes hard to reach by phone. They were easy to reach in the beginning, but, as the event progressed, the parish had to call other district personnel. When they could be reached, however, they were quick to respond to the calls.

All communications networks were functioning. Parish staff members continuously monitored river heights and projections, as well as river traffic, over the Coast Guard Radio.

They also quickly responded to and reported all issues along the river to prevent major problems from occurring in the area.

Intelligence and Information Sharing and Dissemination

The process that St. Charles Parish used to receive and disseminate information was successful. When the parish EOC received information, it was analyzed and vetted before it was disseminated. Relevant information was provided vertically from local authorities to Federal or State entities and horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a usable format and in a timely manner. In turn, members of the community aided in sharing information. They reported problems and any suspected boils or leaks to the EOC.

While the parish successfully sent information up to higher levels of government in a timely manner, it did not feel that the USACE Command Group in Vicksburg, MS, provided adequate support to assist in local decision making. Specifically, the parish needed information about the impact and consequences of river stages for industry facilities along the river, including Entergy's Waterford 3 nuclear steam-generating facility and two major refineries. Despite this, industry personnel were able to make the necessary adjustments to the river heights and maintained coordination with the EOC, which prevented major problems in the area.

The parish believes that releasing the flood inundation maps to the public before they were provided to State and local emergency managers was unacceptable. The parish recommends that USACE follow the established GOHSEP-led response coordination procedures already in place for large, statewide responses (e.g., hurricanes).

Emergency Operations Center Management

The St. Charles EOC maintains 24-hour operations. The EOC gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The EOC coordinated with nongovernmental agencies and the private sector to collect and share data.

The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs. The parish worked very well with USACE regarding flood control efforts around the area—particularly reinforcing the West Guide Levee. The EOC also worked well with the Pontchartrain and Lafourche levee districts, USACE, and the Coast Guard in monitoring and securing the area.

The parish noted that there was no official end projected for this event or for the restrictions associated with the river levees. As soon as the river began to decline after reaching its maximum height, the entire State-level emergency operation seemed to evaporate with no indication that the event was officially over or that any precautions or civilian restrictions were to be rescinded. This is important to know so that parishes can direct their resources to other tasks. While an official ending of the event may have been issued, it was not made clear to the parish.

The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting; however, it would have benefited from historical data. It did not have any SLOSH [sea, lake, and overland surge from hurricane] models or recent examples of the result of leaks, overtopping, or failures of the levee system. The parish was unsure of where the water would go and how fast it would move. Similarly, the EOC would have benefited from historical data showing how opening the Morganza Spillway has affected the parish.

Critical Resource Logistics and Distribution

Resource logistics and distribution were coordinated through the EOC. The parish found it difficult to pre-stage assets because it had to prepare to react to issues that could have occurred anywhere along many miles of river levees.

Mutual aid agreements were developed before the event. The parish was able to work well with its neighboring parishes and assist Terrebonne and St. Mary parishes' requests for tiger dam flood tubes. It was not necessary to request resources from other parishes.

Citizen Evacuation

St. Charles Parish did not conduct an evacuation, but it was prepared to do so. Before the event, the parish identified populations, institutions, and locations to be evacuated, and identified populations who would require evacuation assistance. It coordinated with appropriate agencies to identify risks to the transportation infrastructure that would be used for evacuation. Appropriate personnel were identified and mobilized in support of an evacuation.

The EOC coordinated with agencies providing emergency public information and warning to ensure effective communication of an evacuation order and procedures. They coordinated with supporting agencies and prearranged for providers to obtain appropriate means of transportation for people who would require transportation assistance.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. The public received accurate, consistent, and timely warnings, instructions, and information updates. In response to this event, a public information officer was activated and acted as the parish spokesperson for the event (in addition to the parish OHSEP director). Public information, alerts, warnings, and notifications were issued through established systems to the public, coordinating officials, and incident managers and responders.

A flood warning that was issued for St. Charles Parish throughout the duration of the event worried some residents. Many were skeptical or lacked confidence in the levee systems because of previous occurrences in the state.

St. James Parish

Executive Summary

St. James Parish had an exceptional response to the May 2011 flood event. It was prepared for several contingencies that never came to pass. The greatest challenge to this parish was rectifying the incorrect and outdated information they received from USACE and the Levee Board. Fortunately, this did not hinder the parish's response. Under different circumstances, however, the time or resources may not have been available to resolve this issue. Without timely and accurate data, planning a response to an event such as this becomes significantly more difficult.

The parish identified the following strengths to the response to the event:

- Great communications with all agencies involved during the incident.
- Quick response by the National Weather Service to questions asked by the parish.
- Great communication with the Levee Board and all of Region 3, including parish representatives and response agencies.

The parish identified the following challenges to the response to the event:

- Obtaining accurate levee height information from USACE.
- Format of GIS maps and data.
- Determining the most effective location to pre-stage assets in the event of a levee failure.
- Getting crest levels on the river for every mile.
- Determining what to purchase to prevent or mitigate in the event of levee failure.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish has an all-hazards plan and is supported by mutual aid agreements among Region 3 parishes.
- **Communications:** Communications worked well within the parish.
- **Intelligence and Information Sharing and Dissemination:** The parish conducted daily meetings with key stakeholders. The levee height data the parish collected was shared with USACE.
- **Emergency Operations Center (EOC) Management:** St. James Parish EOC was partially activated with six personnel working extended hours. The parish used WebEOC to submit information, resource requests, and situational awareness.
- **Critical Resource Logistics and Distribution:** The parish used heavy equipment and parish labor to respond to this event, including dump trucks, sandbags, and inmate labor.
- **Citizen Evacuation:** The parish did not issue an evacuation order.

- **Emergency Public Information and Warning:** The parish used social media, such as the parish Facebook page, and conducted town hall meetings to keep the public informed.

Event Overview

St. James Parish did not experience any flooding as a result of this event; however, its level of preparedness in the event of flooding was exceptional. The parish rated its response to this event as very good because of the high level of communication with all parish agencies involved in the event, the Levee Board, and all Region 3 parish representatives and response agencies. Additionally, the National Weather Service (NWS) provided quick responses to St. James Parish queries.

Despite the success of the response, the parish faced some challenges. Obtaining accurate levee height information from USACE was problematic. Additionally, the Levee Board's information was outdated, so the parish used a geographic information system (GIS) to collect its own data, which it provided to the Levee Board. This presented its own challenge, however, in that maps with the necessary information were not available in digital or GIS formats.

Similarly, getting crest levels for every mile on the river was challenging. St. James Parish does not have a flood gauge in the parish, so it had to calculate its own levels by determining the decrease of slope between Donaldsonville and Reserve, LA. The parish sent the calculations to the NWS, which validated that their calculations were correct.

Parish representatives were worried about a runaway barge striking the levee. The parish has no methods for preventing or mitigating such an incident. In general, planning for a possible levee failure was a challenge. It was difficult to determine where assets could be pre-staged. It was also hard to determine what could be purchased to prevent or mitigate flood damage if the levee failed.

In response to this event, St. James Parish provided manpower to sandbag the levee. As a mitigation measure, the parish had to raise the power panel on the river intake at the Vacherie Water Plant. At the time of the interview, the parish had not yet totaled the cost of the flood event, thus the final numbers were not ready.

The following improvements can be made to enhance St. James Parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- Ensuring that the information from the Levee Board and USACE is accurate.
- Sharing data among all agencies.
- Increasing the height of the levee.
- Reevaluating the timing of the opening of the Morganza Floodway (the parish believed that it should have been opened sooner).

Target Capabilities

Planning

St. James Parish is not aware of any planning that has been done to address the levee overtopping with water; however, for this event, the parish used its hurricane plan. It describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. In addition to the incident-specific plan, St. James Parish has a GOHSEP-approved hazard mitigation plan, which was revised in 2011. The parish also has an all-hazards plan, an evacuation plan, and an Incident-Specific Annex, which was developed one month before this event.

Critical infrastructure and key resources (CI/KR) are identified and prioritized on a yearly basis for the U.S. Department of Homeland Security; however, a critical infrastructure plan was not executed in response to this event.

Before this event, the parish had real-world experience with flooding following Hurricane Gustav, but the parish has not done any planning or training with USACE or the Levee Board. During the event, multiple meetings were conducted that included the Levee Board and local fire services to generate possible what-if scenarios.

During this event, the parish operated under a unified command structure, which included representatives from the parish, the Levee Board, and municipalities within the parish. Once the event began, mutual aid agreements were in place among the Region 3 parishes. An incident action plan (IAP) was developed before the flooding. St. James Parish was the first parish in the state to submit an IAP.

Communications

Communications worked well within St. James Parish during the response to this event. All communications networks were functioning; no agency or organization affiliated with the parish experienced communications issues or failures.

A common operating picture was maintained for real-time sharing of information with all participating entities. All information collected by the parish was shared in a timely manner with the Levee Board and all of the municipalities within the parish.

Intelligence and Information Sharing and Dissemination

The process St. James Parish used to receive and disseminate information was successful. The parish conducted daily meetings to ensure that key stakeholders received new and updated information was. GIS mapping was also discussed in these meetings. When the parish emergency operations center (EOC) received information, it was analyzed and vetted before being disseminated to the parish and key stakeholders.

Information was provided vertically from local authorities to Federal or State entities in a usable format and in a timely manner. For example, the parish had a liaison from USACE in

the EOC sending out information as necessary. Similarly, information was provided horizontally across local authorities and entities, including nongovernmental organizations (NGOs) and the private sector, in a usable format and in a timely manner.

There was an issue with the accuracy of the information that the parish received from USACE and the Levee Board regarding levee heights. The parish was able to overcome this issue, however, by hiring a surveying contractor to calculate accurate measurements. This information was shared with the Levee Board.

Emergency Operations Center Management

When notified of the incident, the EOC was partially activated, staffed with six personnel, and organized in accordance with emergency plans and standard operating procedures. The EOC operated on extended hours (i.e., 12-hour shifts) for a two-week time frame during this event.

All parish agencies worked well together and provided each other with updates. Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The parish also used WebEOC for situational awareness, which allowed it to see what was happening in other parishes. WebEOC was also used to vet information and request resources.

The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs. The parish conducted and participated in daily conference calls with the State, the NWS, and Levee Board representatives.

As previously mentioned, the EOC supported the identification and determination of potential hazards and threats using GIS mapping to determine water levels at each mile of the river. Once this information was validated by the NWS, the parish distributed it to appropriate agencies.

Critical Resource Logistics and Distribution

Resource logistics and distribution were coordinated through the EOC. St. James Parish used heavy equipment (e.g., dump trucks) and parish labor (e.g., inmates) to respond to this event and requested only sandbags. While mutual aid agreements were in place to supplement local support, there was no need to activate them. Distribution of resources was only from agency to agency within the parish.

Citizen Evacuation

The parish did not conduct an evacuation; however, if necessary, it would have activated its evacuation plan, which uses local school buses.

In preparation for this event, the parish identified populations (e.g., home health patients) and institutions (e.g., hospitals, nursing homes, hospices, correctional facilities) to evacuate if it became necessary. The parish also coordinated with appropriate agencies to identify risks to

the transportation infrastructure that may be used for evacuation, according to its hurricane plan.

Emergency Public Information and Warning

St. James Parish activated plans, procedures, and policies to coordinate, manage, and disseminate public information and warnings. The parish has a full-time public information officer (PIO) who ensured that the public received accurate, consistent, and timely warnings, instructions, and information updates. Because of the small number of residents with access and functional needs (e.g., blind, deaf, non-English–speaking individuals), no specific consideration was given to crafting messages in a form more accessible to these individuals.

The parish sent out its first message to the public by text message on May 7 and later distributed a press release. They used social media, such as its Facebook page, to disseminate information, and also conducted town hall meetings in the West Bank Reception Hall.

No joint information system was established for this event. Emergency public information was coordinated at the local level. Public information, alerts, warnings, and notifications were issued through established systems to the public, coordinating officials, and incident managers and responders. The parish conducted daily briefings with local response agencies, and the information learned from these meetings was disseminated using social media.

St. John the Baptist Parish

Executive Summary

St. John Parish rated its response to the flood event as excellent. The parish planned for a worst-case scenario but did not experience flooding outside of the levees. The event is estimated to have cost the parish $30,000, which was spent on mitigation measures to raise electrical panels located at the water intake on the West Bank.

The parish identified the following strengths to the response to the event:

- Coordination among response agencies and both levee boards.
- Public information messaging and having a full-time public information officer (PIO).
- Excellent coordination with private sector businesses located along the river

The parish identified the following challenges to the response to the event:

- Receiving timely and accurate information from the United States Army Corps of Engineers.
- Dealing with rumor control as a result of inaccurate information released to the public by the media.
- Having to work short staffed.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish's all-hazards plan covers response to flood events. No other plans were activated, as the parish was not affected by the flood.
- **Communications:** The parish experienced no issues with communications during this event.
- **Intelligence and Information Sharing and Dissemination:** Information received from the National Oceanographic and Atmospheric Administration and the Internet was vetted in the emergency operations center (EOC) before dissemination.
- **Emergency Operations Center Management:** The EOC ran daily operations with normal staffing. WebEOC was used to post situation reports.
- **Critical Resource Logistics and Distribution:** The parish's geographic information system department developed maps to use for this event.
- **Citizen Evacuation:** Shelter facilities were identified prior to the event, but the parish did not need to issue any evacuation orders.
- **Emergency Public Information and Warning:** Daily meetings and conference calls were conducted. The PIO updated the parish website with press releases, which were also emailed to the media and the school systems.

Event Overview

St. John the Baptist Parish (St. John Parish) was not directly affected by the flood and did not provide support to any other parishes during this event. Nevertheless, the parish did monitor the river levels and maintained a high level of situational awareness. The parish did plan for a worst-case scenario but had no damage predictions or estimates regarding damages. As a preventive measure, approximately $30,000 was spent to raise electrical panels located at the water intake on the West Bank.

The parish did not keep a detailed list of events at each flood stage to compare them with what was reported by the National Weather Service (NWS) flood gauges on the NWS website because the parish did not experience any flooding outside of the levees. The parish does not have flood gauges; they rely on information from NWS.

Overall, the parish rated their response to the flood event as excellent. The parish generally responds to flooding resulting from hurricanes rather than backwater flooding. In particular, the coordination among response agencies, including levee boards and private-sector entities along the river, was a strength during this event. The parish's full-time public information officer (PIO) was also extremely helpful with information sharing during this event.

Working with USACE was a challenge for the parish, as USACE did not respond to the parish's queries in a timely manner. Improving on this issue would make a big difference in enhancing the parish's ability to prepare for, respond to, mitigate, and recover from future flood events.

Rumor control was also a challenge for the parish. The media reported the worst-case scenario to the public using inaccurate information it received from USACE without having vetted the information with the parish's PIO.

USACE issued a no-dig order for subsurface work within 1,500 feet of the levee center line, which delayed the current mitigation projects. Similarly, the U.S. Coast Guard issued an order that interrupted commerce on the river, which delayed production for the private sector and industry along the river.

Target Capabilities

Planning

St. John Parish developed and maintains an all-hazards plan that addresses courses of action and emergency operations appropriate for responding to flood events. The plan describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. During this event, the director of the St. John Parish Office of Homeland Security and Emergency Preparedness was the designated authority to make decisions to address this incident.

GOHSEP approved the parish's hazard mitigation plan in February 2011, but neither it nor any other plan was used in response to this event because the parish did not experience any

flooding. There is no actual documentation for strategic planning for the parish; however, it did conduct a cost-benefit analysis for flooding in certain areas when its hazard mitigation plan was updated. The parish noted that it needs to update its plans.

The parish identified its critical infrastructure and key resources (CI/KR) before this event. The two primary critical infrastructures for this parish are the water intakes. The parish does not have a critical infrastructure protection plan, but each agency within the parish identifies CI/KR in their own plans.

Before this event, the parish participated in multiple flood and hurricane exercises, which prepared agencies and organizations to respond to this event. In addition, the parish has responded to actual flood events in the past, which gave parish agencies and organizations hands-on, real-world experience. Despite the parish's level of preparedness, it still had concerns about being able to respond to an incident involving a runaway barge striking the levee.

Communications

Overall, communications went well for all response areas within the parish; the parish experienced no issues with critical communications during this event. A common operating procedure was maintained for real-time sharing of information with all participating entities. Information was distributed via e-mail, the Internet, and the local media. Daily meetings were conducted with key officials and stakeholders during this event.

Intelligence and Information Sharing and Dissemination

The process used in St. John Parish to receive and disseminate information was successful. The parish received information from the NWS and the Internet, and the EOC analyzed and vetted the information it received before disseminating it. Relevant information was provided to local authorities and entities, including the private sector, in a usable format and in a timely manner. The private sector relied on accurate and timely information from the EOC during this event.

Emergency Operations Center Management

The St. John Parish EOC operated at its normal staffing level in response to notification of this incident; however, the parish found itself short-staffed, which was challenging at times. Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. For example, whenever the EOC received notification of seepage on the levee, it notified the levee boards. The parish used WebEOC to post two situation reports during this event.

The parish coordinated emergency management efforts with GOHSEP and the Region 3 river parishes during this event. The parish also coordinated situational awareness with chemical facilities located along the river. Local support was never exhausted, so the parish did not have to execute mutual aid agreements or request higher-level assistance.

Critical Resource Logistics and Distribution

Because this event did not directly affect St. John Parish, it operated under normal, day-to-day operations. The parish used its geographic information systems (GIS) department to develop maps for this event, but did not request any resource assets from other jurisdictions.

Citizen Evacuation

The parish did not conduct an evacuation. In preparation for such an order, however, the parish pre-identified populations (including functional and access needs populations), institutions (e.g., hospitals, nursing homes, correctional facilities), and locations to be evacuated if necessary.

Emergency Public Information and Warning

Plans, procedures, and policies were activated in St. John Parish to coordinate, manage, and disseminate public information and warnings. Coordinating officials, incident managers, and responders received accurate, consistent, and timely warnings, instructions, and information updates at daily meetings and conference calls, through e-mails, or on the parish website. The school system also received notifications by e-mail.

The parish has a full-time PIO on staff who is also the spokesperson for the parish. Following the daily meetings, the parish PIO would post a press release on the parish website with up-to-date, accurate information so that the public could access it. The PIO would also send the press releases to the media and the government access television station.

St. John Parish did not establish a joint information system for this incident.

St. Landry Parish

Executive Summary

St. Landry Parish rated its response to the flood event as excellent. The parish experienced minimal impact from the flood and only received a few inches of floodwater in wooded areas. The event is estimated to have cost the parish $53, 647.05.

The parish identified the following strengths during the response to the event:

- Local collaboration and cooperation.
- Unified response.
- Local communication.

The parish identified the following challenges during the response to the event:

- Lack of explanation on information received from the United States Army Corps of Engineers (USACE).
- Maintaining an accurate timeline.
- Home health/New skilled care agencies.

The following are general statements regarding the parish's response to this event:

- **Planning:** Parish leadership properly implemented plans, policies, and procedures, during the event.
- **Communications:** The parish did not experience any communications issues.
- **Intelligence and Information Sharing and Dissemination:** The parish participated in conference calls led by USACE.
- **Emergency Operations Center (EOC) Management:** The EOC was partially activated during the event. WebEOC was used for status reporting, requests, and updates.
- **Critical Resource Logistics and Distribution:** The parish established multiple sandbagging locations. Among other resources and assets, the parish used sandbags, sand shooters, HESCO baskets, and pumps.
- **Citizen Evacuation:** The EOC coordinated with agencies providing emergency public information and warning. Procedures were in place for effective communication of an evacuation order.
- **Emergency Public Information and Warning:** The St. Landry Parish Office of Homeland Security and Emergency Preparedness used its Facebook page to provide real-time information to the public.

Event Overview

The May 2011 flood event had minimal impact on St. Landry Parish. Flood level predictions were higher than what the parish actually experienced; it only flooded a few inches in wooded areas. The response to this event cost the parish $53,647.05.

The parish did not keep a detailed list of what happened at each flood stage to compare it with what was reported by the National Weather Service (NWS); however, it participated in daily conference calls in which this information was communicated and coordinated with USACE, the Levee District, GOHSEP, and other parish directors.

Overall, the parish believed its response to the event was excellent, as it was strengthened by local communication, collaboration, and cooperation, as well as a unified response.

Conversely, the parish experienced the following challenges during its response to this event:

- The information the parish received from USACE lacked details and needed explanation.
- Without detailed information from USACE, it was difficult to maintain an accurate timeline.
- Home health agencies and new skilled care agencies were not as familiar with their plans, policies, and procedures as they should have been.

Before the next event, identifying populations with access and functional needs and soliciting accurate information from home health agencies would enhance the parish's preparedness, response, mitigation, and recovery activities.

Target Capabilities

Planning

The strategic planning that was conducted in St. Landry Parish before the flood event affected the outcome of the response. The parish leaders were familiar with current plans, policies, and procedures and were able to implement them properly during the event. The parish has an emergency operations plan (EOP) to appropriately respond to a flood event. It describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. In addition to the EOP, the parish has a hazard mitigation plan that was approved by both GOHSEP and FEMA.

Before this event, individuals and organizations involved in the response had participated in exercises of sufficient intensity that it prepared them to respond to this event.

Critical infrastructure and key resources were identified and prioritized before this event, and a critical infrastructure protection plan was executed in response. The Parish President was designated as the authority to make decisions to address the incident. The parish Office of Homeland Security and Emergency Preparedness (OHSEP) director was the designated

backup. Mayors of the respective municipalities and the St. Landry Parish Sheriff were also involved in the discussions about decisions.

Communications

St. Landry Parish experienced no communications issues; all critical communications networks were functioning.

Additionally, a common operating picture was maintained for real-time sharing of information among all participating entities. The parish participated in once-a-day and twice-a-day conference calls led by USACE.

Intelligence and Information Sharing and Dissemination

The process that St. Landry Parish used to receive and disseminate information was successful. The parish EOC analyzed and vetted the information it received before disseminating it. The parish provided relevant information vertically from local authorities to Federal and State entities and horizontally across local authorities and entities, including nongovernmental organizations and the private sector, in a usable format and in a timely manner.

Emergency Operations Center Management

In response to notification of the incident, St. Landry Parish partially activated its EOC. It gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs.

The parish coordinated with nongovernmental agencies and the private sector to collect/share data and used WebEOC to report its status and get updates.

Critical Resource Logistics and Distribution

St. Landry Parish used local manpower and materials for sandbagging, and multiple sandbagging locations were established. When local support was exhausted, the parish requested higher-level assistance through WebEOC. GOHSEP quickly responded to these requests.

The parish used WebEOC to request the following assets and resources:

- Sandbags.
- A sand shooter for filling super sacks.
- HESCO baskets for levee construction.
- Emergency permits to expedite digging on nongovernmental and private-sector properties.
- Liaison officers for the EOC.

- Pumps.
- Lights.
- Manpower to patrol the levee.

Mutual aid agreements were developed before this event, but St. Landry Parish did not need to request resources from another parish.

Citizen Evacuation

In response to the flood event, the parish directed, managed, and coordinated evacuation procedures for both the general population and populations requiring evacuation assistance. Populations, institutions, and locations to be evacuated were identified before this event. The parish identified populations who would require evacuation assistance before the event; however, for future events, better coordination and communication are needed to properly address this issue. At-risk populations were notified that they may need to evacuate.

Appropriate personnel were identified and mobilized in support of an evacuation. The parish coordinated with appropriate agencies to identify risks to the transportation infrastructure that would have been used for evacuation. The St. Landry Parish Sheriff's Office conducted door-to-door evacuation notifications in the affected area.

The EOC coordinated with agencies providing emergency public information and warning, and procedures were in place for effective communication of the evacuation order. The parish provided reentry assistance and reentry information to the public on a timely and ongoing basis.

The EOC coordinated with supporting agencies and prearranged providers to obtain appropriate means of transportation for people requiring transportation assistance. The parish executed a memorandum of understanding (MOU) with the St. Landry Parish School Board for buses, and an MOU was established with parish ambulance providers to transport any residents with access and functional needs.

Using MOUs, St. Landry Parish Animal Control coordinated with the Louisiana State Animal Response Team to establish a pet shelter and with the Louisiana Department of Agriculture and Forestry to acquire additional supplies. The American Red Cross was in the parish early on to help identify problems and to establish a standby shelter.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. The provision of timely and accurate emergency public information was coordinated through a joint information system to coordinate and disseminate information to the public, monitor media, and control misinformation and rumors.

The public received accurate, consistent, and timely warnings, instructions, and information updates. In response to this event, public information officers were activated and deployed.

The Parish President and OHSEP director acted as spokespersons for the parish, and the parish sheriff and mayors would also address the public. All parish press releases were centralized and distributed from the EOC in a timely manner, and information was accessible by populations with access and functional needs.

The public could access real-time information on the St. Landry Parish OHSEP Facebook page, which reduced the number of calls to the EOC. The parish granted administrator rights on its Facebook page to Evangeline Parish, which was very beneficial in ensuring that timely and accurate information was available to the public.

Public information alerts, warnings, and notifications were issued through established systems to coordinating officials and incident managers and responders. During briefings at the EOC, participants received up-to-date information and had their concerns addressed.

St. Mary Parish

Executive Summary

St. Mary Parish rated its response to the flood event as excellent. The parish prepared for a worst-case scenario based on the National Weather Service (NWS) and United States Army Corps of Engineers (USACE) predictions of 13-foot floodwaters; however, floodwaters never reached this prediction. Response to this event is estimated to have cost the parish $15 million. The St. Mary Levee Board spent $12 million for sheet piling work on the Bayou Chene barge project, Yellow Bayou, and the Hanson and Franklin canals. In addition, the St. Mary Parish government spent $3 million for repairs to damage to boat ramps, the Avoca Island Ferry, and Avoca Road.

The parish identified the following strengths during the response to the event:

- Great cooperation from all stakeholders.
- Having a unified plan to follow.
- Having support and assistance from all parishes within the area and USACE.

The parish identified the following challenges during the response to the event:

- Receiving inaccurate information from NWS.
- Controlling and reducing fear and concern regarding the predicted flood rising reports.
- Acquiring funding to complete the Bayou Chene barge project.

The following are general statements regarding the parish's response to this event:

- **Planning:** St. Mary Office of Homeland Security and Emergency Preparedness (OHSEP) researched information regarding the 1973 flood and used the plans, pictures, and articles it found to prepare for this event.
- **Communications:** With a variety of stakeholders supporting St. Mary Parish OHSEP, the Louisiana Governor's OHSEP (GOHSEP) provided 10 additional portable radios to ensure that no issues would occur during the response to this event. In an effort to guarantee a common operating picture, USACE set up an emergency operations center (EOC) at the St. Mary Parish OHSEP.
- **Intelligence and Information Sharing and Dissemination:** The parish participated both in conference calls led by USACE and by the Louisiana GOHSEP.
- **Emergency Operations Center Management:** The parish EOC was partially activated. WebEOC was used for requests, situation reports, and updates.
- **Critical Resource Logistics and Distribution:** The parish used St. Mary Parish government agencies, city of Franklin government agencies, and mutual aid agreements to respond to this event.

- **Citizen Evacuation:** In response to the flood event, the parish directed, managed, and coordinated evacuation procedures. It identified eight possible shelters, two of which were on high ground.
- **Emergency Public Information and Warning:** Channel 3 (KAFE) and Channel 9 in Baton Rouge (WAFB) communicated with St. Mary Parish OHSEP every day. In addition, there were five public meetings held to provide the public with updates and details regarding the flood event.

Event Overview

The May 2011 flood event was not only a historical occurrence but also a great learning experience for St. Mary Parish. Based on National Weather Service (NWS) and USACE predictions, the parish anticipated a 12- to 13-foot flood stage in the Atchafalaya River Basin. The parish's flood stage record was set in 1973 at 10.5 feet, so the parish prepared for the worst flooding it had ever had. Fortunately, floodwaters never reached the predicted levels, nor did they break the record, rising only to 10.3 feet.

The parish felt that its levee system could withstand the 12–13-foot flood stage; the major concern, however, was backwater flooding through Bayou Chene, which would have impacted St. Mary, St. Martin, Assumption, Iberville, Lafourche, and Terrebonne parishes.

The parish spent approximately $15 million on the response to this event. The St. Mary Parish Levee Board spent $12 million for sheet piling work on the Bayou Chene barge project, Yellow Bayou, and the Hanson and Franklin canals. In addition, the St. Mary Parish government spent $3 million to repair damage to boat ramps, the Avoca Island Ferry, and Avoca Road.

Overall, the parish believed its response to this event was excellent. All St. Mary Parish officials (e.g., the Parish Council, Levee Board, Amelia Drainage Board, and all related municipalities) stood united with the barge plan for Bayou Chene. This unified approach was successful. The parish received assistance from USACE, GOHSEP, the Coastal Protection and Restoration Authority (CPRA), and other Federal partners.

The parish's response was strengthened by great cooperation, support, and assistance from others, including area parishes and USACE, and having a unified plan to follow.

The parish's response was challenged by the following:

- Receiving questionable information from the NWS.
- Controlling and reducing fear and concern regarding the predicted flood reports.
- Acquiring funding to complete the Bayou Chene barge project.

Knowing that current plans were successful for this event will embolden future responses; however, the following changes would enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- Revising and/or developing plans based on lessons learned from this event.
- Engaging the media during the response to disseminate information that makes the public feel more secure.

Target Capabilities

Planning

St. Mary Parish conducted strategic planning prior to this event that affected the outcome of the response; the parish Office of Homeland Security and Emergency Preparedness (OHSEP) researched the 1973 flood and found pictures and articles about what the parish leaders tried to accomplish. The parish reviewed a plan that was executed to respond to a 10.5-foot rise in floodwater. Responders sunk a large barge in Bayou Chene to prevent flooding in the surrounding parishes.

For this event, the Atchafalaya River Basin flood stage was originally estimated at eight feet, and a later prediction raised it to nine feet. When the decision to open the Morganza floodgates was being considered, however, the NWS raised the estimate to 12 feet. As floodwaters continued to rise in the Mississippi River, the NWS kept raising the flood stages for the Atchafalaya River Basin, which then led to a prediction of a 13-foot rise. With this new prediction, the parish began emergency measures to prevent floodwaters from coming up Bayou Chene. As in the 1973 flood, the 13-foot floodwater predictions placed the parish in a position to discuss, plan, and submit a permit of approval to the USACE for construction of the barge barrier in Bayou Chene. Approximately two weeks later, it was finished, and the flood stopped.

St. Mary parish has mutual aid agreements with St. Tammany, Tangipahoa, and Iberia parishes, which were executed during the event.

The parish has developed and maintains an emergency operations plan (EOP) to appropriately respond to a flood event. It describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements.

The parish also has a GOHSEP-approved hazard mitigation plan and emergency evacuation plans. The parish was prepared to use its evacuation plans, but did not have to execute them. The American Red Cross and local shelters were on call, but shelter procedures did not have to be executed.

Critical infrastructure and key resources (CI/KR) were identified and prioritized before this event, but it was not necessary to execute a critical infrastructure protection plan.

Before the event, individuals and organizations involved in this response participated in exercises of sufficient intensity to prepare them to respond to this event. Among other real-world events, parish agencies participated in the Hurricane Linda exercise.

The Levee Board executive director was the incident commander for this event and the designated authority to make decisions to address the incident.

Communications

According to the St. Mary Parish OHSEP director, this flood event was the parish's best real-world response. The media was heavily involved, as representatives developed news releases for St. Mary Parish and all surrounding areas. The five public meetings allowed the OHSEP director, the Parish President, the Levee Board executive director, GOHSEP, USACE, and local mayors to speak to the public and provide them with updates and details regarding the flood event. These meetings calmed the fears and concerns of local residents. Reports from public meetings were thorough and detailed and were made available on YouTube.com.

A common operating picture was maintained for real-time sharing of information with all participating entities. The parish always made sure a representative from each municipality was available to address questions or concerns during the flood event. In an effort to guarantee a common operating picture, USACE set up an EOC at the Morgan City Auditorium.

All critical communications networks were functioning well. With a variety of stakeholders supporting the St. Mary Parish OHSEP, GOHSEP provided 10 additional portable radios to ensure that no communication issues would arise during the response to this event.

Intelligence and Information Sharing and Dissemination

The process that the parish used to receive and disseminate information was successful. The parish EOC analyzed and vetted information before disseminating it. The information generated from the various occurrences during the flood event encouraged a timely response.

Relevant information was provided vertically from local authorities to Federal and State entities in a usable format and in a timely manner. The parish participated in daily conference calls led by USACE at 7 a.m. and by GOHSEP at 2 p.m.

Relevant information was provided horizontally across local authorities and entities, including nongovernmental organizations (NGOs) and the private sector, in a usable format and in a timely manner.

Emergency Operations Center Management

The St. Mary Parish EOC was partially activated in response to notification of the event. The Tangipahoa Parish mobile command activated partial emergency operations in Amelia to provide assistance with building the levee and providing updates.

Upon establishing EOC operations, St. Mary Parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs. The parish also coordinated with nongovernmental agencies and the private sector to collect and share data. The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting.

Resource logistics and distribution were coordinated through the EOC. St. Mary Parish has contracts in place for workers and/or engineers to assist with response events. When local support was exhausted, the parish executed mutual aid agreements and requested higher-level assistance. GOHSEP responded quickly to requests made through WebEOC.

The parish used WebEOC for requests, situational reports, and updates. The incident commander ensured that a process was implemented to request resources through WebEOC.

Critical Resource Logistics and Distribution

The manpower and resources of the St. Mary Parish and city of Franklin governments were used to respond to this event. Mutual aid agreements and compacts were also used.

The parish requested 250 Louisiana Army National Guardsmen through WebEOC, and the request was granted. The parish requested additional sand trucks; truckloads increased from 5,000 sandbags per day to 8,000 per day. Iberia Parish provided one sand truck, and St. Tammany Parish provided five. Prison labor was also used to support the sandbagging effort.

Citizen Evacuation

In response to the flood event, the parish directed, managed, and coordinated evacuation procedures for both the general population and populations requiring evacuation assistance; however, it was not necessary to conduct an evacuation. Populations, institutions (e.g., hospitals, nursing homes, correctional facilities), and locations to be evacuated were identified prior to this event.

St. Mary Parish has eight shelters, two of which (West St. Mary Civic Center and Broussard-Harris Recreational Center) were built on higher ground and were identified as contingency shelters if the other six shelters were flooded. The two contingency shelters have a combined sheltering capacity of 700.

Before this event, the parish identified populations who would require evacuation assistance. At-risk populations were notified that they may need to evacuate. Appropriate personnel were identified and mobilized in support of an evacuation. The parish coordinated with appropriate agencies to identify risks to the transportation infrastructure that may have been used for evacuation.

The EOC coordinated with agencies providing emergency public information and warning to ensure effective communication of an evacuation order and procedures. Channel 3 (KAFE) and Channel 9 (WAFB) in Baton Rouge communicated with the St. Mary Parish OHSEP and then to the public everyday.

The EOC coordinated with supporting agencies and prearranged for providers to obtain appropriate means of transportation for people who would require transportation assistance.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. St. Mary Parish has a contract with First Call, and was prepared to use this method of public information and warning if necessary. In addition, fliers were developed in case the emergency evacuation plan had to be activated.

The public received accurate, consistent, and timely warnings, instructions, and information updates. In response to this event, public information officers were activated and deployed. The Parish President was identified as the spokesperson for the event; the OHSEP director was the backup. Media support and assistance helped to ensure that the public was aware of all aspects of the flood event, which calmed fears and concerns.

A joint information system was established to coordinate and disseminate timely and accurate emergency public information to the public, monitor media, and control misinformation and rumors.

Public information, alerts, warnings, and notifications were issued through established systems to the public, coordinating officials, and incident managers and responders. All parish news releases were centralized and distributed in a timely manner from the EOC and response team senior leadership. Information was accessible by populations with access and functional needs. Multilingual fliers were also developed.

Tensas Parish

Executive Summary

Tensas Parish rated its response to the flood event as good. The flood minimally impacted the parish; however, some critical areas and/or key resources could not be properly managed due to personnel challenges. The event is estimated to have cost the parish approximately $18,000 to $28,000, mostly for public works.

The parish identified the following strengths during the response to the event:

- Cooperation.
- Information sharing with responders and agencies.

The parish identified the following challenge during the response to the event:

- Public information.

The following are general statements regarding the parish's response to this event:

- **Planning:** To respond to this event, in addition to the emergency operations plan (EOP), the parish had a radiological plan, an emergency evacuation plan, and a Mississippi River Region 8 evacuation plan.
- **Communications:** The parish experienced no communications issues.
- **Intelligence and Information Sharing and Dissemination:** The process Tensas Parish used to receive and disseminate information was developed as the flood event progressed. Communications worked well with the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 8 Coordinator, the Region 8 radio calls, and the GOHSEP conference calls.
- **Emergency Operations Center (EOC) Management:** The EOC was partially activated. WebEOC was used for status updates and requests.
- **Critical Resource Logistics and Distribution:** Tensas Parish used heavy equipment, personnel, sandbags, and sand to respond to the event.
- **Citizen Evacuation:** Even though no evacuation order was issued, the American Red Cross and some faith-based organizations were on standby for sheltering assistance.
- **Emergency Public Information and Warning:** The parish experienced difficulties with providing the public with accurate, consistent, and timely warnings and instructions. Once an effective method to disseminate public information was in place, the information sharing process became timelier.

Event Overview

Tensas Parish was concerned about flooding at the levee areas during this event. USACE and the Fifth Levee District provided both guidance and optimism throughout the event. The parish received information from USACE daily and participated in conference calls, which were effective and informative. The reports provided by USACE were good, although some of the information varied regarding flood levels for particular areas. The flood gauge was above 51.5 feet at Vicksburg, which was unprecedented.

Damage estimates were speculated, not predicted. Sandbagging was done to prevent flooding around the levee. After reviewing the reports and updates that were provided daily, Tensas Parish determined that mandatory evacuation was not necessary. The American Red Cross and some faith-based organizations were nevertheless on standby for sheltering assistance. This decision was not initially shared with the public but was disseminated during the event.

The overall cost of the Tensas Parish government's response to the flood was approximately $18,000 to $28,000—mostly for public works.

The parish believed its response to this flood event was good. Cooperation and information sharing with responders and agencies were strengths during the response, but public information issues were a challenge. Improving the public information capability would enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event.

Target Capabilities

Planning

Tensas Parish conducted strategic planning prior to this event. Mutual aid assistance agreements were developed beforehand as well.

The parish has developed and maintains an emergency operations plan (EOP) and annex to appropriately respond to a flood event. It describes how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. In an effort to address some of the issues of the flood event, additional information was written into the EOP annex. The parish is planning to review and revise the plan based on lessons learned during this event.

The parish has a hazard mitigation plan that has been approved by GOHSEP and FEMA. In addition, the following plans were available to the parish for this event:

- Radiological plan.
- Emergency evacuation plan.
- Mississippi River Region 8 Evacuation Plan.

Critical infrastructure and key resources (CI/KR) were identified before the event (e.g., State park, gins, elevators). The Tensas Parish Office of Homeland Security and Emergency

Preparedness (OHSEP) director was unsure whether a critical infrastructure plan was executed in response to this event; however, the parish communicated and coordinated with these entities to ensure that they could be properly protected if needed.

Individuals and organizations involved in this response had previously participated in exercises of sufficient intensity to prepare them to respond to this event.

The Parish President was designated to make decisions to address the incident; the parish OHSEP director was the backup.

Communications

Communications worked well in Tensas Parish; all critical communications networks were functioning. The parish was able to communicate with the GOHSEP Region 8 Coordinator and participate in the Region 8 radio calls and the GOHSEP conference calls.

A common operating picture was maintained for real-time sharing of information with all participating entities; however, the information received from different sources varied in detail.

Intelligence and Information Sharing and Dissemination

Tensas Parish did not have a process to receive and disseminate information for this event, but it developed one as the flood event progressed. The EOC analyzed and vetted the information it received before it was disseminated. Relevant information was disseminated from local authorities to Federal and State entities in a usable format and in a timely manner.

Information was provided among the administration and responders in a usable format and in a timely manner, but there were some challenges in sharing information with other entities. Private-sector and nongovernmental organizations received updates about the flood event via e-mail distribution from the parish OHSEP.

The parish held town meetings to address the public and help control rumors. The parish noted, however, that public concern grew in Tensas Parish following town meetings in other nearby parishes. Citizens of these parishes, through word of mouth, were sometimes responsible for rumors about the event.

Emergency Operations Center Management

In response to notification of the incident, the Tensas Parish EOC was partially activated. Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness; however, it did not coordinate with nongovernmental agencies or the private sector to collect and share data. The EOC supported the identification of potential hazards and threats using mapping, modeling, and forecasting.

The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs.

When local support was exhausted, the parish executed mutual aid agreements and requested higher-level assistance. Resource logistics and distribution were coordinated through the EOC. The parish used WebEOC for status updates and requests. When the directors of Tensas, East Carroll, and Madison parishes learned that they were making similar requests, the three parishes appointed one point of contact to ensure that they were all receiving what they needed to respond to the event.

Critical Resource Logistics and Distribution

Tensas Parish used heavy equipment, personnel, sandbags, and sand to respond to this event. They requested resources through WebEOC and also had to request resources from another parish.

Citizen Evacuation

Tensas Parish prepared to direct, manage, and coordinate evacuation procedures before the event by carrying out the following:

- Populations (including those requiring evacuation assistance), institutions, and locations to be evacuated were identified prior to this event.
- The parish coordinated with appropriate agencies to identify risks to the transportation infrastructure that may have been used for evacuation.
- Appropriate personnel were identified and mobilized in support of an evacuation.
- The EOC coordinated with supporting agencies and prearranged for providers to obtain appropriate means of transportation for people requiring transportation assistance.

Ultimately, the parish determined that it was not necessary to order a mandatory evacuation because of the minimal impact of the event on the parish. To that end, the parish did not issue any public information or notifications for evacuation.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings to the extent appropriate for the level of impact the event had on the parish. Initially, the parish experienced difficulty with providing the public with accurate, consistent, and timely warnings and instructions. There were initially no established systems through which alerts, warnings, and notifications could be issued to the public, coordinating officials, and incident managers and responders. Once an effective method was in place, however, the information sharing process improved.

In response to the event, public information officers were activated and deployed, and the Tensas Parish President was identified as the parish spokesperson. The OHSEP director was the backup spokesperson.

The provision of timely and accurate emergency public information was coordinated through a joint information system. It was used to coordinate and disseminate information to the public, monitor media, and control misinformation and rumors. Information was accessible by populations with access and functional needs (e.g., blind, deaf, non–English-speaking individuals). The initial process was disjointed, but once a successful method was established, the process was efficient.

Terrebonne Parish

Executive Summary

Terrebonne Parish rated its response to the flood event as excellent. The parish expected flooding on its western end, and, due to the predictions, a barge was sunk in Bayou Chene as a preventative measure. The event is estimated to have cost the parish approximately $3,116,000.

The parish identified the following strengths during the response to the event:

- Organization of the parish's public works department.
- Cooperation and the availability of the National Guard to assist with response.
- Ability of emergency operations center (EOC) to maintain a good organizational structure within the specific emergency support functions.

The parish identified the following challenges during the response to the event:

- Inaccurate information from the United States Army Corps of Engineers (USACE).
- Permitting process required by the USACE for emergency levees for protecting the population.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish has an all-hazards plan, and each agency within the parish has its own plan to activate during an incident as needed.
- **Communications:** The parish experienced no communications issues**.**
- **Intelligence and Information Sharing and Dissemination:** Parish agencies and key personnel conducted/participated in regularly scheduled conference calls.
- **Emergency Operations Center Management:** The parish EOC was partially activated with 6–8 people working 12-hour shifts for 20 days during this event. WebEOC was used for situational awareness and resource requests.
- **Critical Resource Logistics and Distribution:** All heavy equipment the public works and the levee district own were used during the response. Requests were made for tiger dams, pump sheet pile (bulkheads), sandbags, personnel, and a helicopter from the National Guard.
- **Citizen Evacuation:** The parish did not issue an evacuation order.
- **Emergency Public Information and Warning:** The parish used social media, its community hotline, regular media, and the parish website to coordinate, manage, and disseminate information to the public.

Event Overview

Terrebonne Parish expected that its western end would flood, so it conducted planning and mitigation activities. The parish stockpiled enough sandbags to accommodate its residents, installed tiger dams on the levees, and submerged a barge in Bayou Chene. The barge helped to divert overflowing river water into uninhabited marshes in southwestern Terrebonne, and no communities in the parish flooded. As a result of this success, the parish rated its response to this event as excellent.

During the event, the parish did not keep a detailed list of what happened at each flood stage to compare it against the National Weather Service (NWS) data.

Notable strengths during the parish's response to this event include the organization of its public works department, the availability and incorporation of National Guard assets, and EOC operations. The EOC maintained a solid organizational structure within the emergency support functions (ESFs).

Terrebonne Parish did, however, experience some challenges with USACE. The information the parish received from USACE was neither timely nor accurate. Also, as the parish was trying to establish emergency levees, it was hindered by the permitting process required by USACE.

The actual cost of this event to the parish, as of the day of the interview, was $2,183,031.58. Some parish agencies were gathering total costs, however, and the estimated total cost to the parish is $3,116,000.62. The parish believes that all of the costs it incurred as a result of opening the Morganza Floodway should be covered by FEMA and USACE because the decision to open the floodway is not made by the parish. Before the next event, FEMA and USACE should conduct a cost-benefit analysis to determine whether the floodway should be opened.

Before the next flood event occurs, levees should be constructed in the western portion of the parish. Similarly, the barge that was submerged in Bayou Chene needs to be made a permanent structure. If USACE decides to open the Morganza Floodway, it should be responsible for ensuring that structures are in place to protect communities from flooding.

Target Capabilities

Planning

Terrebonne Parish initiated a unified command structure and used its all-hazards plan to respond to the flood event. Each agency within the parish has its own plan, which is activated during an incident as needed. These plans describe how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements. In addition, the parish has a GOHSEP-approved hazard mitigation plan that is currently being updated.

Public and private critical infrastructure and key resources (CI/KR) were identified and prioritized before this event. A critical infrastructure plan was executed in response to the event as well. Terrebonne Parish identified two schools that could have been affected by the flood and conceptualized protective measures for that possibility.

The parish has never participated in or conducted an exercise that would prepare its staff to respond to this type of event; however, during this event, it had real-world experience to draw from.

Communications

Terrebonne Parish experienced no communications issues during this event. All critical communications networks functioned. The parish also activated the community hotline that members of the community could call to get information.

The parish conducted regularly scheduled conference calls with its agencies and key personnel and also participated in conference calls conducted by the State. The parish suggested that, during future events, participants in these calls need to place their phones on mute because of the amount of background noise.

Intelligence and Information Sharing and Dissemination

The process that Terrebonne Parish used to receive and disseminate information was successful. When the EOC received information, the parish director vetted and approved it before disseminating it. Notably, the parish used social media, the community hotline, and the parish website to disseminate information.

The parish was unable to obtain flood elevation information from USACE in a timely manner. Conversely, the parish was able to receive information from local authorities and entities, including nongovernmental organizations (NGOs) and the private sector, in a usable format and in a timely manner. Representatives and key stakeholders from all agencies were present in the EOC during its activation for this event.

Emergency Operations Center Management

In response to notification of the incident, the EOC was partially activated, staffed with 6–8 people, and organized in accordance with emergency plans and standard operating procedures. Staff members worked 12-hour shifts for 20 days. The parish coordinated emergency management efforts among local, regional, State, and Federal EOCs and among NGOs and the private sector. The EOC conducted meetings twice per day with local agencies and organizations and participated in conference calls with regional, State, and Federal EOCs.

Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. Additionally, the EOC used information supplied by GOHSEP and Federal agencies to develop maps to identify and determine potential hazards and threats.

The parish used WebEOC to post situation reports and request resources.

Critical Resource Logistics and Distribution

During this event, Terrebonne Parish used all of the heavy equipment available locally from the Department of Public Works and the Levee District.

Resource logistics and distribution were coordinated through the EOC using WebEOC. The parish requested tiger dams, pump sheet pile (bulk heads), sand bags, and personnel through WebEOC. In addition, the parish requested a helicopter from the National Guard to observe the levee system and floodwaters.

Terrebonne Parish developed a mutual aid agreement with all of the parishes in Region 3, which was executed to obtain tiger dams from St. Charles Parish.

Citizen Evacuation

It was not necessary to evacuate residents of Terrebonne Parish. Nevertheless, once the EOC was activated, ESF-6 (Housing and Human Services) was identified to support the evacuation. The parish identified shelters that would be used in case the parish flooded and transportation was needed to complete an evacuation. The parish all-hazards plan stipulated that parish school buses would be used to evacuate residents.

The parish identified populations that would require evacuation assistance at the beginning of the event. At-risk populations were notified through the media that they may need to evacuate.

Emergency Public Information and Warning

Terrebonne Parish activated plans, procedures, and policies to coordinate, manage, and disseminate public information and warnings; however, a joint information system was not established.

The Terrebonne Parish president coordinated all public affairs and was the designated spokesperson for this event. The public received accurate, consistent, and timely warnings, instructions, and information updates through the media, social media, the parish website, and the community hotline.

Information was not accessible by populations with access and functional needs (e.g., blind, deaf, non-English-speaking individuals). The parish currently has no system in place to coordinate this.

West Baton Rouge Parish

Executive Summary

West Baton Rouge Parish rated its response to the flood event as very good. Opening the Morganza and Bonnet Carré spillways reduced the risk of damage to the parish. The parish's expectations about how the flood event would impact it were accurate. Because of the low level of impact on the parish, it was able to provide sandbagging support to other parishes.

The parish did not face any challenges from the event; however, it noted the following as strengths:

- Daily conference calls with State agencies provided timely information about the State's activities and an accurate situational report.
- The parish director had direct working relationships with the Louisiana Governor's Office of Homeland Security and Emergency Preparedness staff that allowed him access to information whenever needed.
- The parish was able to quickly muster jurisdictional resources in response to a WebEOC request for sandbags.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish's all-hazards emergency operations plan has an annex specific to floods.
- **Communications:** Daily briefs with the State helped the parish maintain a common operating picture.
- **Intelligence and Information Sharing and Dissemination:** Flood stage data and situational reports were received, analyzed for accuracy, and then disseminated to relevant agencies and the public.
- **Emergency Operations Center (EOC) Management:** The EOC was partially activated at normal staffing levels for an extended workday.
- **Critical Resource Logistics and Distribution:** West Baton Rouge Parish was not threatened enough by the flood to have to request any critical resources.
- **Citizen Evacuation:** The level of the event did not require an evacuation in West Baton Rouge Parish, but plans were in place in case it was necessary.
- **Emergency Public Information and Warning:** As a result of the level of impact to the parish, parish officials held only an initial briefing with community representatives; events did not necessitate routine meetings or further notifications to the public. The parish did continue to communicate with industry officials.

Event Overview

West Baton Rouge Parish was not directly affected by the flood, but the parish EOC was activated and placed on standby to monitor the situation. It was staffed by its regular personnel, who worked extended hours. The event never escalated to a level that required a full activation of the EOC.

The parish supported WebEOC requests for sandbags. The West Baton Rouge Sheriff's Office used trustees to fill sandbags, which were transported to other parishes to mitigate the flooding.

As a result of planning and real-world experience, the parish's expectations were accurate regarding how the flooding would affect it. The National Weather Service (NWS) accurately reported that opening the Morganza and Bonnet Carré spillways would ensure that the Mississippi River would not reach flood stage and would therefore reduce the risk posed to the parish. Because the parish did not flood, it did not create detailed reports based on flood stage data.

The parish rated its response to the flood event as very good and believes its response was strengthened by the following:

- Daily conference calls were held with GOHSEP and other State agencies. These calls provided timely information about the State's activities and an accurate situational report.
- The parish director had direct working relationships with GOHSEP staff that allowed him access to information whenever needed.
- The parish was able to quickly muster jurisdictional resources in response a WebEOC request for sandbags.

Because the effects of this event were minor, the parish did not face any difficulties during its response.

Target Capabilities

Planning

West Baton Rouge Parish used its all-hazards emergency operations plan (EOP) in response to the flooding threat. The EOP has an annex that specifically directs the parish's response to flooding and describes how parish officials, personnel, equipment, and other governmental resources will be used. The plan has been activated for both real-world and exercise situations. In accordance with the EOP, the director of emergency management was given the authority to direct response activities.

In addition to the EOP, the parish has a mitigation plan that was updated and approved in 2010. As part of the update process, all critical infrastructure and key resources in the parish were identified and prioritized, but a critical infrastructure plan was not needed for this event.

Formal and informal mutual aid agreements had been developed and maintained but were not needed in this event.

Communication

Communication among local, State, and Federal agencies was a strength during this response. The parish maintained a common operating picture during daily briefings with local and State representatives, and the State was continuously available to parish officials to offer whatever information was needed.

All critical communication networks functioned throughout this event.

Intelligence and Information Sharing and Dissemination

Although the parish was largely unaffected by this spring flooding event, flood stage data and situational reports (SitReps) were successfully received, analyzed for accuracy, and then disseminated to relevant agencies and the public. Because the event did not necessitate heavy participation from the parish outside of WebEOC SitReps, no information was disseminated from the parish to State or Federal agencies.

Emergency Operations Center Management

For this event, the EOC was partially activated and staffed as directed by the EOP. It was used to coordinate the parish's response. The EOC's normal staffing levels were maintained, but the workday was extended in order to monitor the situation and gather information. Geographic information system (GIS) mapping and flood models were developed to maintain situational awareness. The one WebEOC request for assistance that the parish received was coordinated through the EOC.

Critical Resource Logistics and Distribution

West Baton Rouge Parish was not affected enough by the flood event to request any critical resources.

Citizen Evacuation

No citizens were evacuated during this event; however, the parish EOP does contain procedures for evacuating citizens. The plan identifies the transportation infrastructure that would be used during an evacuation and discusses its susceptibility to flooding. The plan accounts for populations with access and functional needs, including citizens who require transportation support during an evacuation. The parish provided SitReps to all agencies that would be called on during an evacuation.

Emergency Public Information and Warning

The predictions and modeling showed early on that the flooding would not affect West Baton Rouge Parish directly, but plans and procedures were nevertheless put into place to coordinate, manage, and disseminate public information in case the situation worsened. Parish officials held an initial briefing with the community representatives, but events did not

call for routine meetings or further notifications to the public. The EOC continued to communicate with industry officials whose facilities were located directly on the river and levees. All protective measures undertaken by these facilities were done in coordination with the parish.

West Feliciana Parish

Executive Summary

West Feliciana Parish rated its response to the flood event as good. The parish only experienced minor flooding and played more of a support role to Point Coupee Parish and Angola Prison. Mostly rural parts of West Feliciana Parish were affected in areas with homes adjacent to the river; however, it should be noted that flooding normally occurs there.

The parish identified the following strengths during the response to the event:

- The parish flood plain management program discourages residents from building in flood-prone areas. Houses built in these areas must be elevated.
- All parish agencies were willing to work together in this response. There was also support from local vendors and industry. Additionally, there was strong volunteer support from residents of the parish.
- Before the event, the parish's local grant user committee allocated money for training and response among parish agencies.

The parish identified the following challenges during the response during the event:

- A small population base results in a shortage of staff. Some workers are required to fill multiple roles during an event.
- There was uncertainty about what different flood stage levels would mean for the area.
- Because the parish does not have pumping stations and has only one levee, it was difficult to plan for a potential flood. Additionally, the parish was trying to plan for the possibility of having to open shelters.
- Highway 61 at Thompson Creek was almost overwhelmed by backwater. This is a major highway leading into and out of the parish, and is the major evacuation route for River Bend Nuclear Station.
- Some residents were riding boats in unsafe areas near power and distribution lines; some of this was being done on private property over which the parish did not have jurisdiction. These were potentially hazardous conditions.

The following are general statements regarding the parish's response to this event:

- **Planning:** The parish has an all-hazards plan that was used to respond to this event. The parish conducted planning with Angola Prison and the State Department of Corrections.
- **Communications:** Communication among all response agencies and the private sector was excellent.
- **Intelligence and Information Sharing and Dissemination:** Meetings were conducted with all agencies involved to discuss what needed to be done and accomplished. The State fusion center did an excellent job of sending out information in a timely manner.

- **Emergency Operations Center (EOC) Management:** The EOC was partially activated on extended hours during the flood event. WebEOC was used to disseminate daily status reports and make resources request.
- **Critical Resource Logistics and Distribution:** The parish used local assets, including boats, all-terrain vehicles, and helicopters.
- **Citizen Evacuation:** No evacuation was required; however, a few families self-evacuated.
- **Emergency Public Information and Warning:** Information was disseminated during this event via e-mail, the Internet, and the local newspaper. The EOC can also reach one-third of the population through a local cable provider, and the transmission is live from the EOC.

Event Overview

West Feliciana Parish activated a unified command structure composed of the West Feliciana Sheriff's Office, Police Jury, the St. Francisville mayor, and the parish emergency management agency (EMA) director. Colonel Randy Metz was the Operations Section Chief.

USACE predicted that the Mississippi River in West Feliciana Parish would crest at 65.5 feet; it actually crested at 63.5 feet. The parish experienced some flooding, but most of the affected areas were rural. The homes that were affected are adjacent to the river and often flood.

The only levee in the parish is around Angola Prison. For a time, there were concerns about sand boils on the levee. The West Feliciana Office of Homeland Security and Emergency Preparedness provided support to the prison, as well as to Pointe Coupee Parish and the village of Morganza in Pointe Coupee.

The overall cost of the parish's response to this event was low. The parish EMA director was unable to break out individual costs for the event, but the costs included overtime pay, expenses for helicopter fuel, repair to a damaged road at Cat Island, and minor debris removal by the West Feliciana Parish Public Works Department.

Overall, the parish believed its response to the event was good, and all response agencies worked well together. The parish identified the following strengths of the response:

- The parish flood plain management program discourages residents from building in flood-prone areas. Houses built in these areas must be elevated.
- All parish agencies were willing to work together in this response. There was also support from local vendors and industry. Additionally, there was strong volunteer support from residents of the parish.
- Before the event, the parish's local grant user committee allocated money for training and response among parish agencies.

The parish experienced the following challenges during the response to this event:

- A small population base results in a shortage of staff. Some workers are required to fill multiple roles during an event.
- There was uncertainty about what different flood stage levels would mean for the area.
- Because the parish does not have pumping stations and has only one levee, it was difficult to plan for a potential flood. Additionally, the parish was trying to plan for the possibility of having to open shelters.
- Highway 61 at Thompson Creek was almost overwhelmed by backwater. This is a major highway leading into and out of the parish, and is the major evacuation route for River Bend Nuclear Station.
- Some residents were riding boats in unsafe areas near power and distribution lines; some of this was being done on private property over which the parish did not have jurisdiction. These were potentially hazardous conditions.

The following changes could be made to enhance the parish's ability to prepare for, respond to, mitigate, and recover from another flood event:

- The parish's all-hazards plan needs to address backwater flooding. It may be beneficial to elevate the bridge on Highway 61 at Thompson Creek.
- The EOC staff needs to be increased; however, this is hindered by a lack of funds. The smaller, rural parishes need assistance from the State to fulfill the State's staffing mandate, but the mandate is unfunded.
- The State should continue to use the Morganza Floodway, as this would result in less flooding for West Feliciana Parish and areas south of it.

Target Capabilities

Planning

West Feliciana Parish developed and maintains an all-hazards emergency operations plan (EOP) that was used to respond to this flood event. It describes how personnel, equipment, and other governmental, nongovernmental, and private resources support and sustain incident management requirements. Additionally, the parish has a GOHSEP-approved hazard mitigation plan. Once the parish received USACE's flood prediction, it increased its level of planning.

Angola Prison and the River Bend Nuclear Station were identified as critical infrastructure/ key resources before this event. The parish executed a critical infrastructure plan (CIP) in response to the flood event to support evacuation of the prison and to look at the water intakes at the nuclear station. Additionally, at the nuclear station, barges were strategically placed to be protected from runaway vessels.

Development of mutual aid agreements with the parishes in Region 2 was underway before this event. Additionally, Pointe Coupee Parish and West Feliciana Parish were making plans

for support. A copy of the agreement for support between these parishes is kept by Pointe Coupee Parish.
West Feliciana Parish has never participated in a flood exercise; however, parish agencies have real-world experience. They worked with Angola Prison and the Department of Corrections (DOC) in response to a flood in 1997.

In the future, West Feliciana Parish would like to see better use of the Morganza Floodway. The parish EMA director said that this would benefit West Feliciana Parish, as well as other parishes south of the Bonnet Carré Spillway.

Communications

The parish has good communications capabilities, and all critical communications networks were functioning. Law enforcement and emergency medical services (EMS) are on the State 700 MHz system, but fire services and some branches of public works still operate on the 150 MHz system. The parish never faced communications failure from the flood.

Actual communication between response agencies and the private sector was excellent. Responsible entities had a clear understanding of the tasks to be accomplished. A common operating picture was maintained for real-time sharing of information with all participating agencies. Meetings were conducted to address what needed to be accomplished. Participants of these meetings became aware of what each agency was doing.

Intelligence and Information Sharing and Dissemination

The process that West Feliciana Parish used to receive and disseminate information was very successful. Information was distributed via e-mail, the Internet, and the local newspaper. The parish also has reverse 9-1-1 capabilities and first alert. Additionally, the EOC can reach one-third of the population through a local cable provider. With the push of a button, the EOC can broadcast live.

The EOC analyzed and vetted information before it was disseminated. Response agencies made every effort to make sure that all information was sent in a timely manner to State and Federal agencies. Likewise, the State fusion center did an excellent job of sending out information in a timely manner. This is very beneficial to small, rural parishes such as West Feliciana.

Information was provided horizontally across local authorities and entities, including nongovernmental organizations (NGOs) and the private sector, in a usable format and in a timely manner.

Emergency Operations Center Management

In response to notification of the incident, the EOC was partially activated with extended hours and was staffed and organized in accordance with emergency plans and standard operating procedures.

WebEOC was used to disseminate daily status reports and request resources. The parish requested the State Department of Transportation and Development (DOTD) to survey the Thompson Creek bridge at Highway 61. They also requested sandbags.

Upon establishing EOC operations, the parish gathered, organized, and documented incident situation and resource information from all sources to maintain situational awareness. The EOC used mapping, modeling, and forecasting to determine hazards and threats. Because the impact of the flood to the parish was minor, however, there was little need for documentation. The parish coordinated with the State Department of Health and Hospitals (DHH), Department of Agriculture, American Red Cross, and DOC.

Resource logistics and distribution were coordinated through the EOC, as was support for the prison and Pointe Coupee Parish. Because the parish was minimally affected by the flood, there was never a need to execute mutual aid agreements as a result of exhausted resources.

Critical Resource Logistics and Distribution

Local assets, such as boats, four-wheelers, and helicopters, were used to respond to this event, and the parish did not have to request resources from other parishes. Additional assets requested through WebEOC included sandbags, floating pumps, and survey personnel to check on the bridge at Highway 61 and Thompson Creek. The parish EMA director noted that WebEOC was a good tool for the parish because it allowed them to see how other parishes were affected. This showed West Feliciana what kinds of preparations or plans they might need to make.

Citizen Evacuation

Evacuation was not necessary for West Feliciana. Although the parish did not issue a voluntary evacuation order, some employees who live at Angola voluntarily evacuated. Also, three or four families self-evacuated as a precautionary measure.

Before the event, Angola Prison was identified as an institution that would require evacuation if conditions warranted. At the onset of the event, Angola was notified that they may need to evacuate.

Emergency Public Information and Warning

Plans, procedures, and policies were activated to coordinate, manage, and disseminate public information and warnings. The public received accurate, consistent, and timely warnings, instructions, and information updates. Public information, alerts, warnings, and notifications were issued through established systems to the public, coordinating officials, and incident managers and responders. The parish believes that USACE should do a better job of disseminating timely information to emergency managers.

The West Feliciana emergency manager acted as public information officer (PIO) for this incident, as well as the spokesperson. On-camera briefings were given as many as five times a day for approximately two weeks. The parish’s elected officials have shown strong support of all aspects of emergency management within the parish.

West Feliciana Parish has made efforts to identify populations with access and functional needs through handouts and community outreach campaigns. Approximately 100 individuals have been identified. These efforts have been successful due to the participation of EMS, hospitals, local physicians, home health organizations, hospices, and the coroner's office, as well as through speakers at local events (e.g., rotary and lion's club).

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