

Interagency Recovery Task Force

Together...restoring the third largest watershed in the world!

Volume I, Issue I

July 13, 2011

How it began:

- Monumental Flooding in the Mississippi River Valley Watershed
- Activation Memo from HQ Signed May 13 , 2011 to establish the Interagency Recovery Task Force (IRTF)
- Invitation letters to join the IRTF signed by MG Walsh and sent May 20, 2011.
- First Interagency Recovery Task Force Meeting held May 27, 2011 via web / teleconference
- Face-to-Face meeting in Memphis, TN, on June 22
- Next meeting 23 Aug.

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Mississippi River Flood of 2011

By Major General Michael J. Walsh
President, Mississippi River Commission
Commander, Mississippi Valley Division

This year, the greatest flood in the history of the Mississippi River proved that the Mississippi River and Tributaries System could withstand and manage epic flows, and the most critical aspect of the 2011 event was what did not happen because the system performed as designed. Runoff from a snowpack three times greater than normal combined with rainfall ten times greater than average spread out over a 200,000 square-mile area within the Mississippi River's watershed produced the Great Flood of 2011. The epic floodwaters experienced in the valley this year surpassed even the Great Flood of 1927. This nation could not afford a repeat of the 1927 disaster which claimed 500 lives, left 600,000 people homeless and created a pathway of destruction 80 miles wide and 1,000 miles long, flooding more than 26,000 square miles, or 16.6 million acres of land.

The Corps of Engineers' response required using every flood control resource within the Mississippi River watershed, the 3rd largest in the world, to shave height from historic crest levels during the flood's most dangerous hours. Reservoirs and lakes along the Ohio, Missouri and upper Mississippi Rivers were filled to capacity and exceeded many historic levels to help keep the water from overtopping the Mississippi River and Tributaries system's flood control structures. The MR&T is a complex system of waterways, rivers and lakes that the Mississippi River Commission and water engineers must consider as a whole.

Still, the reservoirs were not enough to stem the steadily rising river and I, as President of the Mississippi River Commission, along with the MRC members, faced decisions that no engineer ever wants to make—the deliberate operation of floodways to save the integrity of the flood control system. Making these kinds of decisions was neither easy nor hard from an engineering perspective, because seasoned engineers made the same decisions more than 70 years ago when the system was designed. Essentially, the river helps tell us when it's time to operate the system as designed.

The decision to operate was grave though because it would lead to loss of property and livelihood, either in a floodway, which was designed to flood, or in an uncontrolled area that was not designed to flood. One of my colleagues on the MRC, the Honorable R.D. James from Missouri, was personally impacted by our decision to operate the Birds-Point New Madrid Floodway. "My family's land lies within the floodway, and I could not remove from my mind what the decision would mean to my friends and neighbors who live and farm the floodway's 130,000 acres," Mr. James said. "But when the National Weather Service issued a forecast of 63 feet on the Cairo, Ill., gage on May 2, I realized that a decision on activation was imminent. As I sat with General Walsh throughout the day, my position as a member of the Commission weighed heavily on my soul. I knew the decision points of activation were a part of federal law and that decision lay with the MRC," James said. "I know that General Walsh withheld his order to activate until the very moment there was no choice. When he gave the order, I prayed for the safety of all involved, and for all affected. I applaud his delayed and deliberate approach to giving that order and support him in doing so," James





Ben Weiger, NWS, Richard Lockwood, Mississippi Valley Division, and Richard Hancock, Lake & Rivers Division

MS River Flood—cont.

added. Over a 3-day period, activation of the Birds Point-New Madrid Floodway reduced the forecasted crest near Hickman, KY., by 3.8 feet and prevented the river from overtopping federal levees protecting cities and towns in Illinois, Kentucky, Missouri and Tennessee. As waters from the upper Mississippi and Ohio Rivers gathered below the confluence at Cairo, IL., on May 3, the river grew to monstrous proportions with flows of more than 2.3 million cubic feet per second, equal to 25 times the amount of water flowing over Niagara Falls.

The Corps' Memphis District, having worked around the clock preparing for operation of the Birds Point - New Madrid Floodway, were again fully engaged in their second district-wide flood fight in less than 2 months. On May 10, the river crested at 47.87 feet in Memphis after setting records at New Madrid and Caruthersville, MO. Col. Vernie Reichling, Memphis District Commander, helped assure residents of the area that for the Corps of Engineers, the number one priority was public safety. At the height of the flood in his area, the district had 150 people out on the levees, walking, inspecting and assisting communities.

Along the swollen St. Francis River in Arkansas, a Mississippi River tributary, the Memphis District operated the Huxtable Pumping Plant (the world's largest storm water pumping station) continuously for almost 3 consecutive months, threatening the plant's previous operational record set at 120 days of non-stop pumping. Between May 3 and May 19, the river inundated 6.8 million acres of farmland in unprotected areas between Cape Girardeau, Mo., and the Head of Passes in Louisiana -- areas which were designed to flood as a part of the Mississippi River and Tributaries project. Approximately 10,000 people evacuated due to backwater flooding.

Despite giving up some ground to allow the river to flex its power, the flood control system operated as designed and protected almost 10 million acres, thousands of homes, more than four million people and 200 billion dollars of infrastructure from inundation. During this same time period, we had to make two additional decisions to protect the integrity of the MR&T system between Baton Rouge and New Orleans – operation of the Bonnet Carré, La., and the Morganza, La., floodways. As MRC President, with the other Commissioners, I ordered New Orleans District Commander, Col. Ed Fleming, to open Bonnet Carré on May 9 to keep the volume of river flows passing New Orleans at 1.25 million cubic feet per second. The spillway protects the integrity of the levees and floodwalls that protect New Orleans.

Over a period of days, 330 of Bonnet Carré's 350 bays were opened, passing a flow of 316,000 cfs through the structure. Spillway gates remain open until river levels drop below 1.25 million cfs passing New Orleans.

A more difficult decision soon followed when we ordered the Morganza Floodway opened on May 14. The operation order called for a deliberate and slow opening of the structure in order to spread the resulting inundation gradually over a one-week period. Morganza is located at Mississippi River mile 280 and at the peak of operation had 17 of 125 bays open with a discharge of approximately 172,000 cfs. The operation of both Morganza and Bonnet Carré resulted in a 2.5-foot lowering of the river's forecasted crest at New Orleans and Baton Rouge, protecting a 200-mile-long corridor of people and the nation's commerce. History was made with the opening of the Morganza spillway because it represented the first time three floodways had been operated simultaneously.

By operating the MR&T system as it was designed, including the floodways, the value of this investment to our nation can be counted by what we haven't lost: lives, critical infrastructure for the energy industry and more than 70 billion dollars (and climbing) in damages to homes and businesses. On May 19, the river crested in Vicksburg, Miss., setting a record at 57.1 feet. Fortunately, the river did not overtop the Yazoo backwater levees, sparing more than 24,000 acres of rich farmland.

During this flood, the Corps worked closely with the U.S. Coast Guard to ensure naviga-



Jack Hurdle, HQ, USACE, Alex Dornstauder, HQ, USACE, and Scott Whitney, Mississippi Valley Division



Joseph Klinger, IL Emergency Management Agency and Mike Womack, MS Emergency Management Agency

MS River Flood—cont.

tion safety as well as the integrity of flood control structures. Even though navigation was constrained at times, the MR&T channel improvements were a critical part of the flood control system during this historic event. Without river bend cutoffs, dikes and revetments, the high water would have overwhelmed levees and floodwalls and the communities they protect.

From Cairo to Baton Rouge, flood stage records were broken; however, where channel improvements were made – at Memphis, Helena and Arkansas City – river crests stayed well below prior record levels. This was despite flows near or above those experienced during the 1927 and 1937 floods. The Mississippi River Commission and the Corps have never claimed to tame the giant river as it meanders toward the Gulf of Mexico, only to protect the people within the confines of the MR&T system.

All the MR&T's flood control features (floodways/spillways, backwater levees, channel improvements, levees/floodwalls, gates, pumps, reservoirs and relief wells) have worked in concert to pass historic flows while accommodating the natural tendencies of the mighty Mississippi River. The MR&T system, which is 89 percent complete, performed as designed throughout this notable event. If the system is to be depended on to perform as well during future floods, we must begin work to repair, rebuild and reinvest in the infrastructure that saved so much and so many in 2011.



Doug Mundrick, EPA, and Harold Deckerd, USDA

IRTF Face-to-Face Meeting in Memphis, TN

Operation Watershed-Recovery Interagency Recovery Task Force - The first face to face meeting was held 22 June, in Memphis, TN. Four states (TN, MS, IL, MO) and seven agencies (NWS, FEMA, USDA, EPA, USGS, USCG, MARAD) were in attendance. From the Corps, representatives from HQ, Mississippi Valley Division, Lakes and Rivers Division, Southwest Division, and the Memphis District were supportive. The collaborative task force aims to set priorities and plan a comprehensive and holistic approach to restoring the watershed. Communication and participation is crucial in making the best decisions for our current impacts and future flood risk management in the valley. By pooling resources, talents, and expertise, to create short- and long-term restoration priorities, the task force will focus on key elements that protect the lives and livelihoods of millions of Americans and ensure the system is prepared to prevent future catastrophic flooding.



Roy Wright, FEMA, James Murphy, MARAD, Jane Waldrop, IL Emergency Management Agency, Steve Hadley, USCG, and Dru Buntin, MO. Department of Natural Resources

The meeting was very successful and dialogue toward the way ahead in recovery was very productive. Taskers were generated and feedback is forthcoming to continue the collaborative efforts. A message went out to the task force members to thank them for their participation and continued support, along with information they had requested: copies of maps, link to the facebook page, link to our Operation Watershed video. At the meeting, a tentative date of 17 Aug was discussed. However, the Mississippi Emergency Management Agency, Director Mike Womack, has graciously agreed to host the next meeting on 23 Aug. The logistics will be sent by email with the meeting minutes from the face-to-face meeting, a draft agenda for our meeting on 23 August, and the team's action items/taskers with delivery schedule. We are hoping for participation from the remaining three states and USFWS for the next meeting.



Did he say this is the 3rd largest watershed in the world?!

For the next meeting, the Corps will have a draft management plan and charter, and begin conversations about regional priorities. By mid August, all team members will have a better perspective and understanding of the current state of affairs to include, critical issues in their state/agency, funding levels, and have a plan for the coming fiscal year.



Interagency Recovery Task Force

Damage Assessments

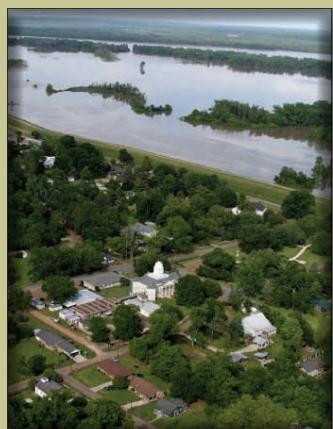
Damage assessments began from the time the waters started to rise and are on going. Teams of engineering specialists have walked the levees, identified seeps, boils, slides and other anomalies, documented, and uploaded information to a GIS system. Now that the waters are receding, these teams continue to do assessments and will prepare standard documentation designed to characterize the location, nature, extent, repair alternatives and preliminary repair cost estimates for these project areas. All assessments being done are utilizing a DAR (Damage Assessment Report) in order to keep data gathering consistent. These DARs are being done with a systematic methodology in order to assure all reaches of levee, all structures, and all navigational river miles have been inspected, documented, and prioritized. With the assessments, cost estimates are being derived to determine total funding needs to RESET the system before the spring floods.

The reports are then submitted to an oversight team that will provide a multidisciplinary regional perspective to ensure consistency, functionality and quality assurance for the process followed and products. One of their challenges will be to develop or adhere to existing prioritization strategies and criteria to create a tiered or rank ordered listing of RESET and RESTORE projects. This list will have the highest priorities, RESET items, will be determined. Should funding become available, those items would be taken care of in order. However, new critical areas can still appear as the levees dry out or sediments in the river fall out causing dredging issues. As such, the Priority List will be a living document that may be superseded by daily events. The first run at prioritized items is due the 2nd week in August.

As of this week, there are a total of 74 identified "hotspots" or areas of concern for the Mississippi valley. All sight assessments at those locations should be complete by 29 July.



Wappapello Lake, MO, Emergency Spillway



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System Performance Evaluations

This USACE System Performance Evaluation effort will investigate and document the performance of the MR&T system and how the entire Mississippi River Watershed was managed as a system during the historic Mississippi River Basin Flood Event that extended from March through June 2011. The purpose of this evaluation would be to (1) assess MR&T system performance, (2) identify and prioritize recapitalization requirements for system components necessary to reset the MR&T system for future events, and (3) assess effectiveness or areas of improvement for water control communication and coordination across the watershed. The results of the evaluation will be used to guide the design and construction of immediate and long term repairs, assess the integrity of the planned remedial actions for the sections of the systems not severely damaged, and identify future efforts to enhance the capabilities of the system to achieve long term risk reduction. The resulting document should be a valuable resource for system management, operation and improvements. It will also serve as a reference guide for future flood risk management.

Perishable Data

Perishable data to the Historic Mississippi River Flood of 2011 is defined as valuable information that if not collected will degrade in quality or possibly be irretrievably lost with time. It is imperative that this information be quickly located, secured and stored in central database for use by Corps and our partners that will be carefully assessing, evaluating and rebuilding as a result of this historic flood. Teams working on each of the aforementioned elements are working to inventory and secure their respective perishable data. An initial Draft inventory of perishable data has been developed. Teams will be working with personnel across four Corps Divisions and a broad array of federal and state partners to secure and archive this information for current and future use and analysis.