Sept. 2017

Maj. Gen. Richard G. Kaiser
President-designee

Hon. Sam E. Angel
Member

Hon. R. D. James
Member, Civil Engineer

Hon. Norma Jean Mattei, Ph.D.
Member, Civil Engineer

Rear Adm. Shepard Smith
Member

Brig. Gen. Mark Toy
Member

Col. Paul E. Owen
Member-designee

Mississippi River Commission

2017 Executive Summary 397th & 398th Sessions

Listening, Inspecting, Partnering & Engineering since 1879

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Mississippi River Commission

www.mvd.usace.army.mil/mrc/

The Mississippi River Commission has a proud heritage that dates back to June 28, 1879, when Congress established the seven-member presidential commission with the mission to transform the Mississippi River into a reliable commercial artery, while protecting adjacent towns and fertile agricultural lands from destructive floods.

In its current capacity, the Mississippi River Commission prosecutes the Mississippi River & Tributaries (MR&T) project authorized by the 1928 Flood Control Act. The MR&T project employs a variety of engineering techniques, including an extensive levee system to prevent disastrous overflows on developed alluvial lands; floodways and backwater areas that provide expansion room for the river so that the levee system will not be unduly stressed; channel improvements and stabilization features to protect the integrity of flood control measures and to ensure proper alignment and depth of the navigation channel; and tributary basin improvements, to include levees, headwater reservoirs and pumping stations, that maximize the benefits realized on the main stem by expanding flood protection coverage and improving drainage into adjacent areas within the alluvial valley.

Since its initiation, the MR&T program has brought an unprecedented degree of flood protection to the more than 4 million people living in the 35,000-square-mile project area within the lower Mississippi Valley. The nation has contributed $15.1 billion toward the planning, construction, operation and maintenance of the project. To date the nation has received a 54 to 1 return on that investment, including $823 billion in flood damages prevented.

The performance of the MR&T system during the Great Flood of 2011 validated this wise investment. Despite record high flows and stages, not a single life was lost as a result of the flood. Water lapped at the top of floodwalls and levees the length of the river, exerting unprecedented pressure on the backbone of the protection system, but the levees withstood the record stages and pressure due in large part to the operation of three floodways and the storage capacity provided by non-MR&T reservoirs in the Ohio and Arkansas-White basins. All told, the MR&T project prevented in excess of $234 billion in damages, not including potential losses from interrupted business activities and related impact. One year later, with much of the drainage basin under exceptional drought conditions and river stages plunging to near historic lows more than 50 feet lower than the 2011 highs on the major gages between Cairo and Red River Landing, the performance of the MR&T system again validated the nation's wise investment, as the navigation channel remained viable.

The Mississippi River Commission continued its 138-year process of listening to the concerns of partners and stakeholders in the Mississippi valley, inspecting the challenges posed by the river, and partnering to find sustainable engineering solutions to those challenges through the 2017 high-water (397th session) and low-water (398th) inspections. The official record of the Proceedings of the Mississippi River Commission are kept on file in the Office of the President in Vicksburg, Mississippi, or can be accessed at: http://www.mvd.usace.army.mil/About/Mississippi-River-Commission-MRC/

Mississippi River Commission

Inspection Trip Objectives

The intent behind the inspection trips, carried out under the authority of Section 8 of the 1928 Flood Control Act, is to allow stakeholders, partners and members of the public to meet with the commission to discuss local and regional concerns related to the Mississippi River & Tributaries project and other flood control, navigation and other water resources challenges. The inspection trip allows the commission to continue cultivating these partnerships through face-to-face meetings with partners, stakeholders and the public; listening to their needs and concerns; and making site visits and inspections that provide a first-hand and from-the-ground perspective of the importance of these projects and their impacts on the region. The commission uses the knowledge gained to foster a better understanding of the needs of the region and to improve the management of the watershed and inform policymakers.

Public Meetings: These allow for partners, stakeholders and the public to gather in a public setting to share their concerns to the commission through public testimony and through the submission of formal written statement. Through this process, commission members are able to hear first-hand accounts from the very people impacted and develop a dialogue centered on providing solutions for the challenges facing the region. The commission responds publicly to questions and provides formal written responses to each speaker. This democratic process allows the commission to inform policy makers and determine the key regional issues. (See Public Meetings Section)

Inspections: Site visits provide the commission with the opportunity to get boots-on-the-ground and inspect key MR&T project features that convey floods or facilitate commerce. Likewise, the commission visits public infrastructure, businesses and other enterprises from the transportation, agriculture, manufacturing, commerce and energy sectors that benefit from flood control and navigation improvements. Through this process the commission is able to meet with local sponsors and entrepreneurs and to gain a deeper understanding of the impacts of federal investments on the local, regional and national economies. (See Inspections Section)

Partnering Sessions: These consist of face-to-face discussions, roundtable discussions, one-on-one meetings and presentations that provide the commission and its staff with the opportunity to meet with stakeholders, partners and the public on a more intimate and personal level. Partners can voice their concerns to the commission, ask questions, receive explanations, cultivate relationships and build trust. Through this process, the commission learns about the needs of the region on a more personal level so that these needs can be better communicated to key leaders and policy makers to improve the management of the watershed. (See Partnering Sessions)

Strategic Messages

Infrastructure Investment

A multigenerational commitment to invest in our water commerce infrastructure transformed this great nation from a largely agrarian nation to the world's pre-eminent economic power. We have seen with great interest the various infrastructure priority lists for possible funding under the President's infrastructure initiatives and applaud the inclusion of water infrastructure.

- Our nation's inland waterways system has more miles of navigable river than the rest of the world combined.
- The inland waterways connect the main industrial centers of the interior (Pittsburg, Pennsylvania; Chicago, Illinois; Cincinnati, Ohio; Memphis, Tennessee; St. Louis, Missouri; Kansas City, Missouri) with coastal ports.
- The inland navigation system overlays the largest contiguous section of farmland in the world. Most prime agricultural lands are within 120 miles of a navigable river.
- 95 percent of all United States imports and exports ($4.1 trillion) move on our waterways and ports.
- Inland waterways account for 2 billion tons of domestic and imported cargo annually.

Strategic Messages

Without Flood Control, Nothing Else Matters

Flood control is necessary to achieve energy security, economic security, food security and job security. The Mississippi River & Tributaries project has prevented more than $800 billion in flood damages since 1928, or $54 for every dollar invested.

The MR&T protects ENERGY:

- 108 power plants that account for 26 percent of the total power generated in the five states of the lower Mississippi: Louisiana (45 percent), Arkansas (27 percent), Mississippi (23 percent), Missouri (11 percent) and Tennessee (5 percent). [1]
- 108 power plants that employ 2,700 workers and generate $6.8 billion in revenues annually. [1]
- 12 major oil refineries with a 3 million barrel per day capacity.
- 33,911 oil and gas wells that produce $7.6 billion in revenues (398 billion cubic feet of natural gas and 56 million barrels of oil in 2004). [1]
- 4,574 miles of natural gas transmission pipelines. [2]

The MR&T protects COMMERCE:

- 4,364 miles of highways, including major sections of Interstates 10, 20, 40, 55 and 57. [2]
- 2,364 miles of rail used by four major Class I freight carriers with combined (nationally) operating revenues of $50 billion annually. [2]
- Infrastructure supporting four of the top 15 deep-draft ports, including the largest port (Port of South Louisiana: 246 million tons). [1]
- Infrastructure supporting commercial navigation on the lower Mississippi River that generates $4.6 billion in revenues and 18,700 jobs. [1]
- Tourism and travel industries that generate $15.5 billion in expenditures and 190,000 jobs. [1]
- 563 manufacturing facilities that generate $106 billion in revenues and employ 207,000 workers. [1]

1 Economic profile of the Lower Mississippi River, Final Report Feb. 2014 (Industrial Economics Inc.).

March 2017

2 Data sources include the latest available data from the National Levee Database for Levees and Leveed Areas and Infrastructure Data from FEMA HSIPGOLD 2015.

Strategic Messages

Without Flood Control, Nothing Else Matters

The MR&T protects AGRICULTURE:

- 22.5 million acres of cropland valued at $51 billion. [1]
- 22.5 million acres of cropland that generate $8.7 billion in agricultural revenue annually and employ 56,000 people. [1]
- 53,525 farms with an average of 422 acres per farm lie within the lower Mississippi River corridor and are protected by MR&T levees. [1]
- MR&T levees protect lands producing 133 million bushels of rice annually, or 67 percent of the total rice produced in the United States. [2]

The MR&T protects PEOPLE and CRITICAL INFRASTRUCTURE:

- 4.5 million people and 1.2 million residential structures. [2]
- 1,147 schools and 91 colleges/ universities. [2]
- 646 fire stations and 346 police stations.
- 102 hospitals and 240 nursing homes. [2]
- 158 airports and 86 heliports. [2]

1 Economic profile of the Lower Mississippi River, Final Report Feb. 2014 (Industrial Economics Inc.).

March 2017

2 Data sources include the latest available data from the National Levee Database for Levees and Leveed Areas and Infrastructure Data from FEMA HSIPGOLD 2015.

Strategic Messages

Conditions are Set for Infrastructure Investment

Cheap domestic energy sources and reliable commercial transportation systems will promote the return of manufacturing. Examples of manufacturing plants that are dependent on flood protection and transportation infrastructure, particularly inland waterways commerce, include the Big River Steel Plant in northeast Arkansas and CLECO's Bream Energy Center and Benteler Steel in Louisiana. These manufacturing plants and their regional economic benefits are made possible because of investment in flood protection and inland waterways transportation infrastructure.

BIG RIVER STEEL

- $1.3 billion investment to produce flat-rolled steel.
- Created 450 direct jobs (10,000 applicants) with an average annual wage of $85,000.
- Indirect job creation with eight (8) companies announcing investments and more than 300 jobs created.
- Also made possible by effective flood control.

BENTELER

- The plant cost nearly $1 billion to construct and is Benteler's first location in the U.S. to focus on steel/tube production and is the headquarters for the *Steel/Tube* division.
- One of the primary reasons the German-owned company decided to build its first plant in U.S. at the Caddo-Bossier Port was the multi-modal transportation infrastructure in the region.
- The plant directly created approximately 550 high-paying jobs and numerous additional indirect jobs, and will create another 250 jobs when it expands to its next phase.

CLECO

- Fuel inputs are critical for the electric company to produce power, and transportation infrastructure, especially dependable inland waterways, are essential to meet these fuel input needs.
- The company cited barge traffic and access to the river as the main reason why they chose to locate their facility where it is.
- CLECO employees more than 1,200 people and creates thousands of indirect jobs.

Strategic Messages

Call to Action

- Protecting productive farmland, manufacturing, refineries, pipelines and overland commerce through reliable flood control based on resiliency.
- Inland water transportation is the only economic game-changing transportation system with the capacity capable of handling the increase in moving agricultural, energy and manufacturing products to the coasts for export.
- Water infrastructure makes delivery of domestic stability and security possible.
- The worldwide demand for food, water and energy is increasing dramatically and will continue to do so in the future. We have the means to meet these demands and must invest in infrastructure that allows us to meet these demands.
- Globally, other nations are investing in infrastructure to meet these demands. We must invest to keep up and remain the world leader and to ensure that we reap the benefits of these increases in demands because we, more than any other nation, have the capacity to meet these demands.
- Federal laws, policies, regulations, etc., lead to inefficient processes that impede infrastructure investment. These processes need to be streamlined to allow for more efficient investment in infrastructure projects.
- MRC calls for:
  - ✓ Strong national vision for infrastructure investment that prioritizes high-value projects and is supported by policies that integrate waterborne commerce and overland transportation needs in order to maximize the nation's natural geographic advantages and bolster global competitiveness.
  - ✓ MRC recommends new, more aggressive avenues for funding and executing water resources missions.
  - ✓ MRC supports streamlining laws, regulations, policies and executive orders to improve efficiency of federal process with respect to water resource development. A streamlined process will allow state and federal agencies, as well as stakeholders, to quickly and efficiently address problems and develop the optimal solutions in a timely manner.

Strategic Messages

We Are a Maritime Nation

- We are losing hard-fought ground earned by prior generations through their financial and personal sacrifices.
- We have benefitted from the investments of our forefathers but have done little to assure this heritage will be passed on to our children's children.
- Our economic prosperity, standard of living and environmental quality are increasingly vulnerable to threats posed by aging infrastructure and increase potential for failure.
- Reliable ports, harbors and channels matter.
- Reliable living in highly productive areas makes our nation great.
- The people in the alluvial valley drive productivity and help to feed the world.
- National security and global stability are assured through success in the Mississippi Valley.

"The Mississippi River Commission strives to help maintain the nation's global economic competitiveness by ensuring a reliable navigation channel and the commercial reliability of ports and harbors…."

Statement on extreme low water, Mississippi River Commission

"The Greater Mississippi Basin, together with the Intracoastal Waterway, has more kilometers of navigable waterways than the rest of the world combined. The American Midwest is both overlaid by this waterway and is the world's largest contiguous piece of farmland…"

The Geopolitics of the United States: The Inevitable Empire, STRATFOR Global Intelligence

"Our dependence on the seas and inland waterways has driven our national security and economic success throughout our nation's history."

Statement on inland waterway navigation system, Mississippi River Commission

397th Session of the Mississippi River Commission High-water Inspection Trip

Hickman, Kentucky

Memphis, Tennessee

Greenville, Mississippi

Baton Rouge, Louisiana

High-Water Inspection Trip

April 1-7, 2017

The 397th session of the Mississippi River Commission took place from April 1-7, 2017. The annual high-water inspection included approximately 900 miles of the lower Mississippi River between Cape Girardeau, Missouri, and Baton Rouge, Louisiana. Approximately 600 people, representing boards, agencies and associations with memberships and constituencies numbering in the tens of thousands, partnered directly with the commission through public hearings, partnering sessions, site visits and inspections, and other engagements during the high-water inspection (See "Partners Engaged," pages 32-36).

This trip was the first time that all seven members of the commission were appointed and confirmed by the President of the United States at the same time since 2007.

The members of the Mississippi River Commission present during the 397th session were:

- Maj. Gen. Michael Wehr, appointed as president on Aug. 5, 2015.
- Hon. Sam E. Angel, reappointed as member on Dec. 30, 2010.
- Hon. R. D. James, civil engineer, reappointed as member on April 6, 2003.
- Hon. Norma Jean Mattei, PhD, civil engineer, appointed as member on Dec. 3, 2012.
- Rear Adm. Shepard Smith, appointed as member on Jan. 3, 2017.
- Brig. Gen. David C. Hill, appointed as member on Dec. 8, 2015.
- Brig. Gen. Mark Toy, appointed as member on Dec. 13, 2016.
- Col. Richard Pannell served as secretary of the commission, a non-voting position.

From left to right: Col. Richard Pannell, Brig. Gen. Mark Toy, Dr. Norma Jean Mattei, Mr. Sam Angel, Maj. Gen. Michael Wehr, Mr. R.D. James, Brig. Gen. David Hill and Rear Adm. Shepard Smith.

High-Water Inspection Trip

Public Meetings: What We Heard

The Mississippi River Commission held formal public hearings at Hickman, Kentucky; Memphis, Tennessee; Greenville, Mississippi; and Baton Rouge, Louisiana. Mississippi River Commission hearings are held in accordance with Section 8 of the 1928 Flood Control Act:

"Sec.8….The commission shall make inspection trips of such frequency and duration as will enable it to acquire first-hand information as to conditions and problems germane to the matter of flood control within the area of its jurisdiction; and on such trips of inspection ample opportunity for hearings and suggestions shall be afforded persons affected by or interested in such problems."

The hearings, engagements and dialogue help maintain a consistent connection - an exchange of viewpoints and ideas among the public, partners, stakeholders, elected officials, the Mississippi River Commission, the U.S. Army Corps of Engineers and agencies from the private, state and federal sectors. This process provides a greater voice for those who live and work in the region in shaping federal management and policy on the river.

Approximately 300 members of the public attended the public meetings and listened to the testimony presented by 60 individual speakers.

High-Water Inspection Trip

Public Meetings: What We Heard

***ISSUE*: The need to adequately fund, repair and complete the MR&T system.**

- **Rob Rash, Mississippi Valley Flood Control Association:** "[W]ith a current return on federal investment of over 54 to 1…[t]his project must be targeted for swift completion, proper maintenance and increased investment for recapitalization."

- **Dustin Boatwright, Little River Drainage District, MO:** "The local people are working diligently with the U.S. Congress to secure the $7.1 billion needed to [complete] the project. Once the funding is secured there is no doubt, under the leadership of the Mississippi River Commission, the U.S. Army Corps of Engineers will [complete] the project."

- **Bruce Cook, Yazoo-Mississippi Delta Levee District**: "It is imperative that the MR&T project receive the proper funding to expediently move toward completion."

- **Harry Stephens, Mississippi Valley Flood Control Association:** [T]he investment in the MR&T system in preparation for the 2011 flood resulted in more than $246 billion worth of damages prevented…in ONE YEAR. It is an investment not an expense."

- **Jai Templeton, Tennessee Department of Agriculture**: "Without the ongoing maintenance and management of the levee system, channel improvements, control structures and floodways along the Mississippi, flood events have a greater potential to be prolonged and catastrophic. We support the Corps' efforts to repair and improve our river infrastructure and join in urging Congress to provide adequate funding."

- **Chip Morgan, Delta Council**: "The MRC and Corps will hopefully place the highest priority on maintenance of the system. Absent the commerce generated by the Mississippi River and Tributaries, it is very doubtful that the 33,000 jobs that are in our region that rely totally on agriculture would be here."

High-Water Inspection Trip

Public Meetings: What We Heard

***ISSUE*: The need for investment in water infrastructure.**

- **Dustin Boatwright, Little River Drainage District, MO: "**The citizens of this country need builders to build and rebuild the infrastructure for our nation. We are depending on leaders in this room to efficiently and effectively execute the projects needed."

- **Jimmy Moody, Mississippi Valley Flood Control Association**: "Infrastructure is mentioned on nearly every newscast, regulations are being rolled back, and I believe doors are opening that I thought were closed for my lifetime… Hopefully we will be able to get the work done prior to a failure rather than after one and flood control and navigation will not be threatened."

- **Riley James, St. John Levee and Drainage District**: "The new Administration has announced that rebuilding the infrastructure of this nation will be a priority... I…encourage you to make sure the requests by the Corps of Engineers include a robust budget for the improvements that are vitally necessary to support flood control and navigation."

- **Peter Nimrod, Board of Mississippi Levee Commissioners**: "The Trump Administration has been pushing to "Invest in America." What better project to invest in than the MR&T Project which has a 54:1 benefit to cost ratio? We need $7.1 billion to finish this project."

High-Water Inspection Trip

Public Meetings: What We Heard

***ISSUE*: Aquifer depletion, water management and water supply.**

- **Edward Swaim, Arkansas Natural Resource Commission**: "We in Arkansas have a problem with water supply. We are looking at a bad situation where we won't be able to pump enough water to meet our agricultural demands in the future."

- **Ann Cash, Boeuf-Tensas Regional Irrigation**: "[I]f withdrawals continue at the current rate the aquifer may not be sustainable to provide an irrigation source in the region." This "would damage the economy throughout the region as well as the security of the U.S. food and fiber supplies."

- **Gene Sullivan, Bayou Meto Water Management District**: "National Security means water and food security... Protecting our food and water supply must become a priority at all levels of government and by private property interests. There is no Federal agency charged with groundwater management for Eastern states."

- **Hugh Teaford, Memphis Public Works**: "[T]he sustainability of this valuable ground water resource needs the continued support of…the Corps of Engineers…to retain rainwater for supplemental usage for agricultural needs thereby reducing the stress on the regions ground water assets."

- **Reynold Minksy, Fifth Louisiana Levee District** : "[W]ith water levels continuing to decrease and with a number of farmers pulling from this great resource increasing, we feel that the time is now to have a coordinated response to address this before it becomes a crisis for our region."

- **Rex Morgan, Yazoo-Mississippi Delta Joint Water Management District**: "We must develop new and improved utilization of existing surface water. We don't have a water quantity problem, but we have a severe water management problem."

High-Water Inspection Trip

Public Meetings: What We Heard

***ISSUE*: The importance of ports, harbors and inland navigation.**

- **Greg Curlin, Hickman-Fulton County Riverport Authority**: "We need to continue to be a voice in Washington to find a permanent resolution in making sure that the ports and harbors along the Mississippi River are fully maintained and kept open for business."
- **Rob Rash, Mississippi Valley Flood Control Association**: "Flood Control and Navigation interests go hand in hand and you cannot have efficient commerce movement and delivery without a reliable system during critical business seasons."
- **Mac Wade, Port of Morgan City, La.:** "We are severely underfunded. Appropriations through the Civil Works Budget are steadily decreasing. Opportunities to diversify and grow our economy will be lost forever, current jobs plus the potential to create new jobs will be lost, and our B/C ratio will continue to move in the wrong direction as dredging costs increase and benefits decrease due to customer loss."
- **Chip Morgan, Delta Council**: "The MRC and Corps will hopefully place the highest priority on maintenance of the system. Absent the commerce generated by the Mississippi River and Tributaries, it is very doubtful that the 33,000 jobs that are in our region that rely totally on agriculture would not be here."
- **Randy Richardson, Port of Memphis:** "When we talk to the big manufacturing companies that need a product every single day, and you can deliver that by barge, they have to have reliability in the system."
- **Sean Duffy, Big River Coalition:** "We have funding issues and they continue to challenge our ability to maintain the river not just for navigation but for all functions.

High-Water Inspection Trip

Public Meetings: What We Heard

***ISSUE*: The need for comprehensive flood control and investment for the upper Mississippi.**

- **Mike Reed, Sny Island Levee and Drainage District**: "Since the Great Flood of 1993, it's been 24 years and we still don't have a plan for what we are going to do about massive flooding in the upper valley.
- **Rob Rash, Mississippi Valley Flood Control Association**: "An Upper Mississippi River Comprehensive approach to Flood Control and the Mississippi River and Tributaries Project must be funded and promptly executed for protection of the entire Mississippi River Valley."

High-Water Inspection Trip

Public Meetings: What We Heard

***ISSUE*: Request to modify the flow distribution at Old River Control.**

- **Libbyrose Clark. James Cotton Estate**: "The Mississippi River seems to be carrying more water today than it did in the past, and we are flooding more. Could you please consider changing the ratio of water going down the Mississippi River and Atchafalaya River?"
- **George Gilmer LaCour, GNG Farm Partnership**: "If I had a wish, it would be that the Corps could operate the [Old River] system for flood control. I hope that you can make some changes in that 70-30 – we need it while we are still high and dry."
- **Kelley Williams, Baton Rouge**: "It's time to change how Old River Control Complex is used - so the Corps can do its job of preventing and relieving floods."

High-Water Inspection Trip

INSPECTION: Hickman Floodwall & Port / Fulton County Levee

On April 3, members of the commission and their staff met with representatives from the Hickman-Fulton County Riverport Authority, the Fulton County Levee District Board of Commissioners and partners from western Kentucky and Tennessee to listen to their concerns and needs in the area. Local partners highlighted the value of the inland navigation system and the strategic importance of regional ports, as well as the importance of the Fulton County Levee for regional flood protection. They also gave the commission and its staff a tour of the Fulton County Levee, the Hickman Floodwall and the Hickman Port and discussed various the needs and concerns at these sites.

High-Water Inspection Trip

INSPECTION: Dyer County Levee, Tenn.

On April 3, members of the commission and their staff met with representatives from the Dyer County Levee and Drainage District, Tennessee, to visit the levee and to listen to the concerns and needs of local partners. Officials from the levee district briefed the commission and its staff on the significance of the levee and the slide repair and berm construction work at the levee.

High-Water Inspection Trip

INSPECTION: Mississippi River Levee & Yazoo Backwater

On April 3, members of the commission and their staff met with representatives from the Board of Mississippi Levee Commissioners and from the Yazoo River Basin to tour the Mississippi levee system and Yazoo backwater area and listen to the concerns of local partners. The board also briefed the commission on the Steele Bayou Drainage Structure and gave a tour of the facilities. The board explained how the structure is operated, as the gates are closed during Mississippi River floods to prevent water from backing in to the Yazoo backwater area, but water accumulating behind the levee cannot escape, leading to ponding and extended flooding in the area which can only be evacuated by a pumping station. Representatives from the board also gave the commission a tour of the 1927 Flood Museum to help them better understand the importance of flood control in the region.

High-Water Inspection Trip

Partnering Sessions

As part of the 397th Session, the Mississippi River Commission hosted round-table and panel discussions to facilitate a deeper dialogue among our partners, Corps of Engineers staff and the commission on key issues and challenges confronting those who live, work and prosper along the Mississippi River.

- Commission staff gave a presentation on the history of flood control on the lower Mississippi River to professors from Arkansas State University.
- Commission held a meeting with members of the Mekong River Commission.

Greenville, Miss., to Vicksburg, Miss.

- Milo Hamilton, agriculture economist for First Grain, gave a presentation to commission staff and stakeholders.

High-Water Inspection Trip

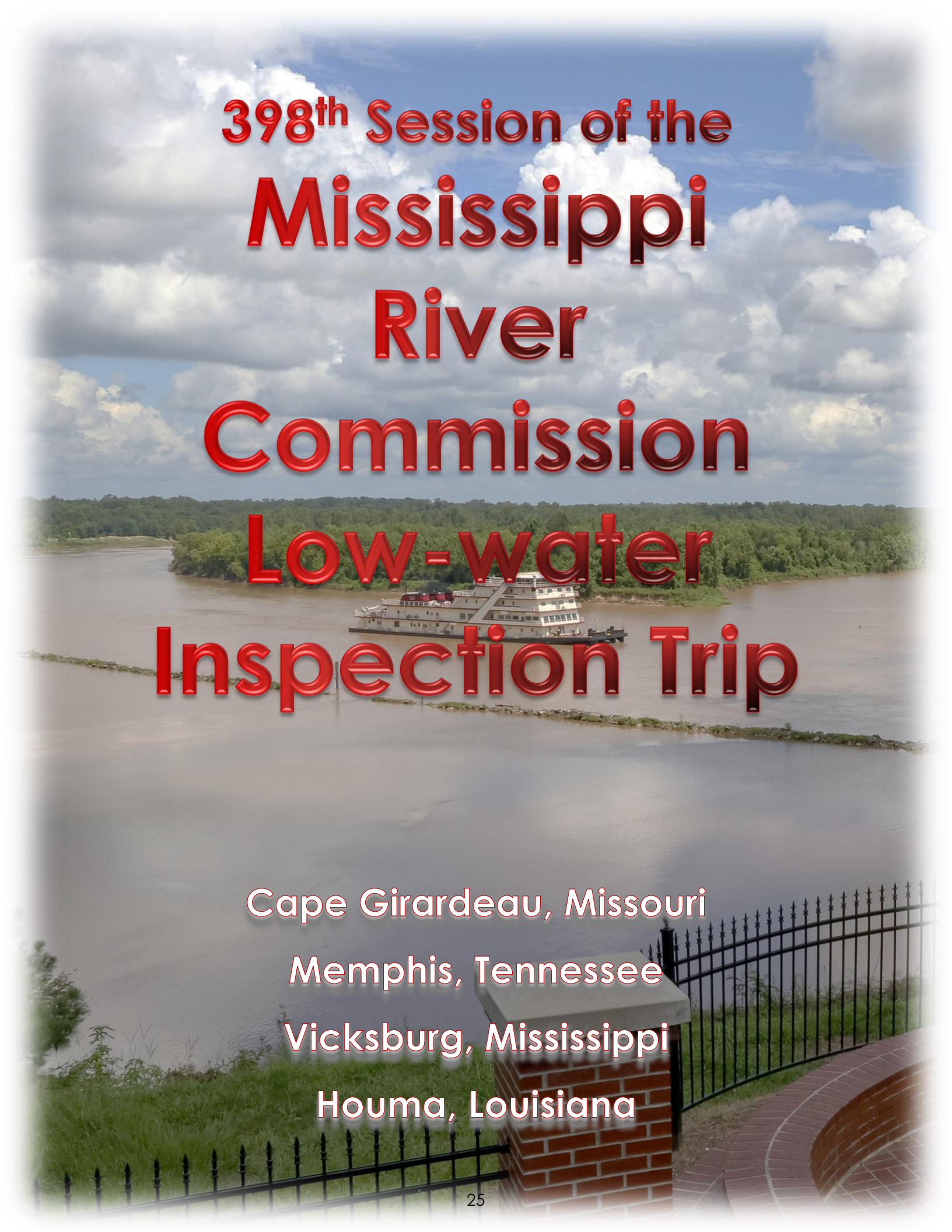
Partnering Sessions

Old River Lock to Baton Rouge

- The commission and the New Orleans District led a group panel discussion with stakeholders, who voiced their opinions on the Corps of Engineers strengths, weaknesses and opportunities for improvement. The stakeholders considered inadequate funding and overregulation as two of the key issues. The discussion included representatives from:
  - ✓ Atchafalaya Basin Levee District
  - ✓ Coalition to Restore Coastal Louisiana
  - ✓ Louisiana Department of Transportation and Development Committee
  - ✓ The Nature Conservancy
  - ✓ Pontchartrain Levee District
  - ✓ Port of Morgan City
  - ✓ Teche-Vermillion Fresh Water District
  - ✓ The Water Institute of the Gulf

Baton Rouge, Louisiana

- The commission held a roundtable discussion with members of the River Industry Executive Task Force:
  - ✓ American River Transportation Company
  - ✓ American Commercial Barge Line
  - ✓ Businelle Towing Company
  - ✓ Campbell Transportation Company
  - ✓ Canal Barge Company
  - ✓ Gulf Intracoastal Canal Association
  - ✓ Ingram Barge Company
  - ✓ JB Marine Services
  - ✓ Kirby Inland Marine
  - ✓ Marathon Petroleum Company
  - ✓ Marquette Transportation Company
  - ✓ River Industry Executive Task Force
  - ✓ Terral River Service


398th Session of the
Mississippi River Commission
Low-water Inspection Trip
Cape Girardeau, Missouri
Memphis, Tennessee
Vicksburg, Mississippi
Houma, Louisiana

Low-Water Inspection Trip

Aug. 6-18, 2017

The 398th session of the Mississippi River Commission took place from Aug. 6-18, 2017. The annual low-water inspection included approximately 800 miles of the lower Mississippi River between Cape Girardeau, Missouri, and Vicksburg, Mississippi, and approximately 236 miles of the Red River between Shreveport, Louisiana, and Old River. The historic journey down the Red River was the commission's first in its illustrious 138-year history. A total of approximately 600 people, representing boards, agencies and associations with memberships and constituencies numbering in the tens of thousands, collaborated directly with the commission through public hearings, partnering sessions, site visits and inspections, and other engagements during the low-water inspection (See "Partners Engaged," pages 53-58).

The trip also included Maj. Gen. Richard Kaiser, who served on the commission during his tenure as commander of the Great Lakes and Ohio River Division. Kaiser is set to replace Maj. Gen. Michael Wehr as president of the commission Sept. 7. Additionally, the newest commission member, Col. Paul Owen, commander of Southwestern Division, replaced former commissioner Brig. Gen. David Hill on the trip.

The members of the Mississippi River Commission present during the 398th session were:

- Maj. Gen. Michael Wehr, appointed as president on Aug. 5, 2015.
- Hon. Sam E. Angel, reappointed as member on Dec. 30, 2010.
- Hon. R. D. James, civil engineer, reappointed as member on April 6, 2003.
- Hon. Norma Jean Mattei, PhD, civil engineer, appointed as member on Dec. 3, 2012.
- Rear Adm. Shepard Smith, appointed as member on Jan. 3, 2017.
- Col. Paul Owen, designated as member on July 27, 2017.
- Brig. Gen. Mark Toy, appointed as member on Dec. 13, 2016.

From left to right: Rear Adm. Shepard Smith, Dr. Norma Jean Mattei, Mr. Sam Angel, Maj. Gen. Michael Wehr, Mr. R.D. James, Brig. Gen. Mark Toy and Col. Paul Owen.

Low-Water Inspection Trip

Public Meetings, Inspections and Partnering Sessions

PUBLIC MEETINGS

The Mississippi River Commission held formal public hearings at Cape Girardeau, Missouri; Memphis, Tennessee; Vicksburg, Mississippi; and Houma, Louisiana. Mississippi River Commission hearings are held in accordance with Section 8 of the 1928 Flood Control Act:

"Sec.8….The commission shall make inspection trips of such frequency and duration as will enable it to acquire first-hand information as to conditions and problems germane to the matter of flood control within the area of its jurisdiction; and on such trips of inspection ample opportunity for hearings and suggestions shall be afforded persons affected by or interested in such problems."

The hearings, engagements and dialogue help maintain a consistent connection - an exchange of viewpoints and ideas among the public, partners, elected officials, the Mississippi River Commission, the Corps of Engineers and agencies from the private, state and federal sectors. This public hearing process provides a greater voice for those who live and work in the region in shaping federal management and policy of the river.

Approximately 275 members of the public attended the meetings and listened to 60 individual speakers testify.

INSPECTIONS

The commission visited and inspected key features of the Mississippi River & Tributaries project and of flood control and navigation projects throughout the Mississippi River watershed. These inspections allow the commission to engage with local partners and gain a firsthand, boots-on-the-ground perspective on key projects, the maintenance issues and challenges facing these projects, and the regions and people impacted by them.

During the 398th Session, the commission inspected flood protection and drainage projects in the St. Francis and Yazoo-Mississippi Delta basins; the Bird Point-New Madrid Floodway; the Cairo, Illinois, floodwall; Memphis Harbor; the Mat Sinking Unit; and the Monroe, Louisiana, floodwall and Tensas Basin Levee District. The commission also completed a historic visit to the Red River Waterway, stopping at ports, levee and drainage districts, and locks and dams from Shreveport, Louisiana, to the mouth of Old River.

PARTNERING SESSIONS

The commission met with partners from across the greater Mississippi River watershed who represented a diversity of public and private groups, including those with interests ranging from flood control, navigation, recreation, commerce and transportation, conservation and the environment, manufacturing and industry, academia and economic development. These sessions provide the commission with key insights into the challenges facing the basin and help the commission to communicate these challenges to policymakers and Congress to promote improved management of the watershed.

Low-Water Inspection Trip

Listening - Partnering Sessions

As part of the 398th Session, the Mississippi River Commission hosted round-table and panel discussions to facilitate a deeper dialogue among partners, Corps of Engineers staff and the commission on key issues and challenges confronting those who live, work and prosper along the Mississippi River.

Seven Louisiana parish presidents joined the commission Aug. 17 on the Motor Vessel MISSISSIPPI V and led a panel discussion on the numerous challenges facing the region and what the Corps of Engineers, Mississippi River Commission and policy makers in Washington, D.C., can do to address these issues.

- Guy Cormier, St. Martin Parish president
- Bill Fontenot, St. Landry Parish president
- Larry Richard, Iberia Parish president
- David Savoy, Acadia Parish president
- David Hanagriff, St. Mary Parish President
- Joel Robideaux, Lafayette Parish president
- Ronald Darby, Vermillion Parish president

Significant Issues:

- The need for protection against flooding caused by poor drainage, backwater or tides. Water has nowhere to go and local partners want a plan for addressing drainage issues.
- The need for increased dredging and channel maintenance to insure that harbors remain open and the authorized channel is maintained as access to waterways are a vital link for the economy for these parishes.
- Wetland loss due to sedimentation and coastal loss.
- More accurate FEMA flood maps.
- The need for a comprehensive model for inland waterways project selection.

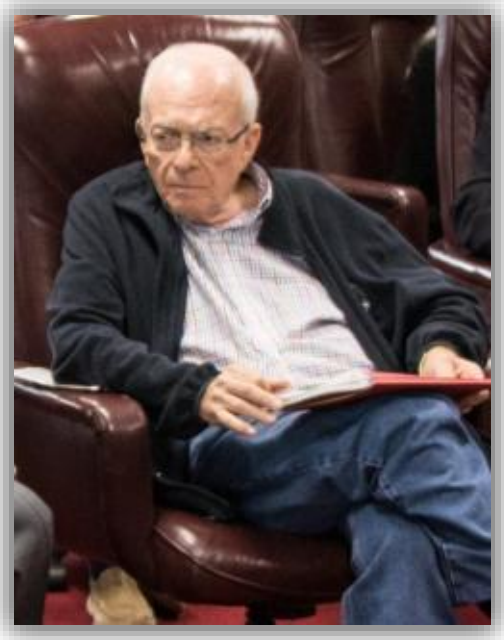
Low-Water Inspection Trip

Historic Red River Waterway Trip

The Mississippi River Commission made its first ever journey down the Red River Aug. 13-16. Partners from the Red River Valley Association and Red River Waterway Commission joined the commission on this historic trip.

Aug. 13

The journey kicked off in Shreveport, Louisiana, Aug. 13, where the Mississippi River Commission was greeted by partners from across the Red River Basin. Rich Brontoli, the executive director for the Red River Valley Association, and Colin Brown, the executive director for the Red River Waterway Commission, organized numerous site visits and panel discussions that allowed the Mississippi River Commission to better understand the quandaries facing partners throughout the Red River and also to allow the commission to share its experiences in managing similar challenges on the Mississippi River.



Low-Water Inspection Trip

Historic Red River Waterway Trip

Aug. 14

The Mississippi River Commission toured the Benteler Steel plant located at the Caddo-Bossier Port. The $1 billion plant relies heavily on transportation infrastructure, especially access to the Red River, and has directly created more than 550 high-paying jobs.

Louisiana Gov. John Bel Edwards, Secretary of Louisiana Economic Development Don Pierson, and Louisiana Department of Transportation and Development's Commissioner of Multimodal Commerce Tommy Clark also joined the commission on the trip. The governor led a panel discussion aboard the Motor Vessel MISSISSIPPI that included more than 70 partners from throughout the region, 20 Louisiana state representatives and senators, and numerous local mayors and parish presidents.

The primary topics of discussion included commerce, particularly multimodal commerce, and the economic benefits of investing in transportation infrastructure, especially reliable waterways. The partners discussed the need to enlarge the Red River channel to 12 feet and improve maintenance as a means to increase traffic and spur economic development. Many partners stressed the importance of reliable inland waterways transportation to the future of the U.S. agricultural industry. The U.S. will need to double its agricultural output by 2050 in order to meet the demand of the increasing world population.

The commission then visited the Caddo Levee District office where district officials led a panel discussion on regional challenges, particularly rising base flood elevations due to sedimentation. The commission shared its experiences with similar problems on the Mississippi and discussed potential strategies for addressing the issues.

Low-Water Inspection Trip

Historic Red River Waterway Trip

Aug. 15

The commission toured the Red River Parish Port and Natchitoches Port, where port officials provided briefings on industry in the region and the economic benefits of having access to reliable waterborne transportation. The commission then joined local partners for a panel discussion on the ports along the Red River, and the general importance of inland waterways transportation infrastructure investment for the state of Louisiana and the nation.

Gary LaGrange, president and CEO of the Port of New Orleans from 2001-2016, provided a briefing on the Port of New Orleans and how the Mississippi River watershed connects most of the nation and investing in this vast commercial network is vital to the nation's economic health.

Aug. 16

The commission toured the Central Louisiana Regional Port and Avoyelles Port and visited CLECO's Bream Energy Center, which relies on access to the Red River for fuel inputs to its power units.

Local partners from the ports, the Red River Valley Association and the Red River Waterway Commission then led a panel discussion on the various challenges facing the Red River, particularly lack of channel maintenance, leading to navigation restrictions that impact the entire Mississippi River watershed. The restrictions do not just affect ports on the Red River, but also ports on the Mississippi, Ohio and Illinois rivers that either receive goods from or ship goods to ports on the Red.

A recurring theme throughout the trip was that the Mississippi River watershed must be understood as a system. Impacts in one part of the system have the potential to spread throughout the entire system and have wide-ranging economic impacts for the nation.

Low-Water Inspection Trip

MR&T Site Visit – Birds Point-New Madrid Floodway and Cairo Floodwall

Commission members and staff traveled to the Birds Point-New Madrid Floodway Aug. 7 where Memphis District staff discussed the operational plan for activating the floodway and for restoring the floodway after activation. The districts watershed experts also briefed the commission on the impacts of nearby Kentucky and Barkley reservoirs on stages at Cairo, Illinois, and the activation of the floodway.

Commission members then visited the portion of the frontline Mississippi River levee that acts as the upper fuseplug for the floodway. During the 2011 flood, the Corps detonated explosives in this portion of the fuseplug levee to activate the floodway and lower stages at Cairo. Following activation, the Memphis District rebuilt the levee. Resetting the system is essential to the floodway performing its design function.

The commission then met with partners from Levee and Drainage Districts Nos. 2 and 3 in Missouri, who discussed regional challenges.

The commission also met with partners from Len Small Levee, a levee damaged during recent flooding, in Alexander County, Illinois. The partners and commissioners discussed the potential impacts the damaged levee may have on the navigation channel. The commission finished with a visit to the Cairo Floodwall.

Low-Water Inspection Trip

MR&T Site Visit – St. Francis Basin

Dustin Boatwright, chief engineer of the Little River Drainage District of Missouri, led the commission and staff on a tour of the district Aug. 8, where the group visited various drainage ditches with severe blockages. These blockages require maintenance work both to clear the obstructions as well as prevent such impasses from occurring in the future. If the blockages are not cleared, water cannot move downstream and instead backs up, leading to flooding.

The commission also visited the St. Francis Levee District of Missouri, where local partners showed the commission blockages in the St. Francis River resulting in severe underseepage and diversions in the river toward the levee, thereby undermining the levee's integrity. Locals cannot afford to fix the issue without federal aid and have requested dredging to clear the blockages and a permanent project to prevent future blockages. The commission also met with partners from the Elk Chute Drainage District who communicated similar issues.

Lastly, the commission toured the St. Francis Levee District of Arkansas, where the commission and staff were transported atop numerous miles of levee, where they were able to see firsthand the condition of the levees and the lands protected by the levees. They were also able to visit the historic Marked Tree Siphon and pumping station, which carries water from the St. Francis Lake over the top of the levee into the St. Francis River.

Low-Water Inspection Trip

MR&T Site Visit – Port of Memphis

Randy Richardson, executive director of the Port of Memphis, led the commission on a tour of the port Aug. 9, including Presidents Island and Pidgeon Industrial Area. The commission was able to see firsthand the numerous industries and manufacturing plants that rely on access to the river and a dependable navigation channel. The industries that the port supports have a total annual economic impact of $8.46 billion and are responsible for more than 7,000 jobs and nearly 13,000 indirect jobs. Investment in inland waterways navigation infrastructure and cheap, dependable shipping are essential for businesses and international ports like Memphis to compete in the global market.

Site Visit – Yazoo Mississippi Delta Frontline Levee

Bruce Cook, chief engineer of the Yazoo-Mississippi Delta Levee Board, led the commission on a tour of the frontline Mississippi Levee Aug. 9, which stretches 98 miles and includes 24 miles of backwater levees. The mainline levee protects the Yazoo-Mississippi Delta, its 250,000 residents and approximately 4 million acres of land from Mississippi River floods. The commission traveled atop approximately 20 miles of Mississippi River levee, allowing them to see firsthand the condition of the levees and the lands they protect.

Low-Water Inspection Trip

Site Visit – Mat Sinking Unit

The commission and its staff toured the Mississippi River Mat Sinking Unit (MSU) Aug. 10, and were able to witness the channel and bank stabilization work conducted on the river. The commission was joined by cadets from the U.S. Military Academy at West Point and retired Lt. Gen. William Grisoli. The visit gave the commission and the cadets a boots-on-the-ground perspective of the daily efforts of blue-collar, manual laborers, whose hard work stabilizes the river channel and makes navigation of the river possible.

The MSU consists of barges for transporting, feeding and placing the articulated concrete mattress used to stabilize riverbanks, and a motor vessel to move what is essentially a floating plant filled with workers, machines and materials along the river.

Low-Water Inspection Trip

Site Visit – Tensas Basin Levee District & Monroe Floodwall

The commission visited the Tensas Basin Levee District in Monroe, Louisiana, and toured the Ouachita River levees and the Monroe Floodwall Aug. 11. The Ouachita River levees stretch south to just north of the Red River and provide flood protection for northeast Louisiana.

The levee district briefed the commission on regional challenges, including damages to the Monroe Floodwall and Ouachita River levees following recent floods.

Federal operation and maintenance funding to address these issues have been insufficient. The district also requested that the Ouachita River levees, previously a part of the Mississippi River & Tributaries project, be included in the MR&T once again.

Low-Water Inspection Trip

Site Visit – Caddo-Bossier Port & Caddo Levee District

The commission visited the Caddo-Bossier Port and its 2,300-acre Port Industrial Complex Aug. 14, which serves as the region's multimodal commerce and economic development center. Port officials briefed the commission on the various industries located at the port and the economic benefits that the port brings to the region, including the direct creation of more than 1,500 jobs. The unique location of the port provides businesses with a link to domestic and international markets via the Mississippi River, the nation's largest river system, and the Gulf Intracoastal Waterway.

The commission also toured the recently constructed Benteler Steel/Tube plant. The plant cost nearly $1 billion to construct and is Benteler's first location in the U.S. to focus on steel/tube production and is headquarters for the Steel/Tube division. One of the primary reasons the German-owned company decided to build its first plant in the U.S. at the Caddo-Bossier Port was the multimodal transportation infrastructure in the region. The plant directly created approximately 550 high-paying jobs and numerous additional indirect jobs, and will create another 250 jobs when it expands to its next phase. Benteler is just one of 17 companies located at the port, all of which rely of transportation infrastructure and provide significant economic benefits to the region.

After touring the port, the commission visited the Caddo Levee District, where members of the levee board briefed them on the challenges facing the district, including siltation and rising base flood elevations on the Red River. The commission shared its experiences with similar challenges on the Mississippi River and strategies for addressing these challenges. The commission also visited areas within the levee district that were inundated during 2015-2016 flood.

Low-Water Inspection Trip

Site Visit – Red River Parish Port & Natchitoches Port

The commission visited the Red River Parrish and Natchitoches ports Aug. 15, where they toured the various industrial and manufacturing facilities located at these ports, all of which rely on access to the river and a dependable navigation channel. The commission then visited the Red River Waterway Commission's Grand Ecore Center and recreation area where port officials and local partners briefed the commission on the activities at the port and the challenges they are facing. The primary challenge that port officials cited was the need to maintain a dependable navigation channel of sufficient depth to attract investors and businesses, all of whom must have confidence that link between the Red River and the Mississippi River will remain unbroken.

Low-Water Inspection Trip

Site Visit – Central Louisiana Regional Port & Avoyelles Port

The commission visited the Central Louisiana Regional Port in Alexandria and toured the Central Louisiana Electric Company's Bream Energy Center Aug. 16. Fuel inputs are critical for the electric company to produce power; and transportation infrastructure, especially dependable inland waterways, are essential to meet these fuel input needs. The company cited barge traffic and access to the river as the main reason why they chose to locate their facility where it is. The Madison 3 unit relies on the Red River for the delivery of petroleum coke, a by-product of the petroleum processing, for the generation of energy.

Low-Water Inspection Trip

What We Heard – Top Regional Issues

***ISSUE*: The need to adequately fund, repair and complete the MR&T System**

Throughout the lower Mississippi River valley, the commission's partners and concerned citizens who live near the river and depend on it for their livelihood lamented that the Mississippi River and Tributaries Project remains incomplete and cannot pass the Project Design Flood. If the system is unfinished when the project flood strikes, the flood could overwhelm the system, leading to loss of life and devastation to the region's and the nation's economy. The lower Mississippi River serves as the spigot at the end of a funnel covering 41 percent of the nation. Without the MR&T Project, the ports and harbors, industrial and the nation's economy. The lower Mississippi River serves as the spigot at the end of a funnel covering 41 percent of the nation. Without the MR&T Project, the ports and harbors, industrial and agricultural development, and all the benefits of inland waterways transportation and flood control would be lost.

Partners throughout the valley have called for the Federal Government to re-invest in and re-capitalize on infrastructure investment, specifically the MR&T Project. Partners have requested that Congress authorize $7.1 billion to complete the project and to provide $500 million annually in maintenance. The project has provided a 54 to 1 return on investment for taxpayers and prevented $246 billion in damages during the 2011 flood, essentially paying for itself in one year. Moreover, absent the commerce generated by the MR&T project, 33,000 jobs in the regions that rely totally on agriculture would no longer exist. Concerned citizens up and down the valley re-iterated that the MR&T Project is an investment, not an expense, and the time to invest is now. The partners called for Congress to be proactive instead of reactive to prevent the next catastrophic flood; otherwise, the next generation will be forced to pay for the current lack of investment.

Low-Water Inspection Trip

What We Heard – Top Regional Issues

***ISSUE*: The need for investment in water infrastructure**

Throughout the greater Mississippi River watershed, the Commission listened to testimony requesting further investment in water infrastructure. For citizens in the lower Mississippi River valley, this investment is the completion of the MR&T project and adequate annual maintenance funding. Partners from the upper Mississippi, Illinois and Missouri rivers called on Congress to invest in water infrastructure to protect against floods; properly maintain locks and dams, many of which are well past their design life and need increased maintenance; and dredge our harbors and navigation channels in order to keep navigation flowing for the many communities along the river who depend on the river for their economic livelihood.

Again and again, the Commission heard citizens reference the administration's promise to invest in rebuilding the infrastructure of the nation and to roll back regulations.

Partners also called on investment in water infrastructure as a necessity to meet future global demands for food. With the world population increasing, the demand for food is set to double by 2050. The U.S. has the capability to produce the agricultural output needed to feed the world, but only if the nation invests in water infrastructure to protect the agricultural lands and industries along the river from flooding and maintains navigation channels in order to transport products to the market.

Low-Water Inspection Trip

What We Heard – Top Regional Issues

***ISSUE*: Aquifer depletion, water management and water supply**

While water is abundant throughout the region, water management and aquifer depletion have become major concerns for those living and working in the alluvial valley. Partners in Arkansas, Mississippi and Louisiana voiced concerns that aquifers are being depleted because water is being drawn out for agricultural use. If water withdrawals continue at the current rate, many partners are concerned that there will not be sustainable supplies of water to support irrigation for agriculture, which would severely damage the regional economy as well as U.S. food and fiber supplies.

To address these water management challenges, partners called for improved management of surface water so that it can be preserved for future agricultural use or the diversion of water from areas of plenty to areas of high demand. Adopting these water management practices would allow the aquifers to recharge while the irrigation of agriculture continued. Local partners also lamented that there is no federal agency charged with groundwater management in the eastern U.S.

Low-Water Inspection Trip

What We Heard – Top Regional Issues

***ISSUE*: The importance of ports, harbors and inland navigation**

Partners continue to call on Congress to provide adequate funding for dredging in the federal budget. Ensuring that ports and harbors are accessible and that the navigation channel remains reliable for waterborne commerce is essential to the regional economy. The Mississippi River watershed is a vast system connecting 41 percent of the continental U.S. Because of the interconnectivity of this system, restrictions or unreliability in one small section of a river can have a chain reaction that impacts ports throughout the system. Ports cannot be considered individually, but must be considered as part of a larger inland navigation system.

Flood control and navigation form a symbiotic relationship that allows for industrial and agricultural development near the river, but also for access to affordable, reliable waterborne transportation. Partners from agriculture and manufacturing, as well as various other industries, all agree that what sets the nation apart from the competition is its transportation infrastructure. The interconnectivity of the greater Mississippi River system gives the U.S. a competitive advantage, but this advantage only exists if ports, harbors and inland navigation channels are maintained.

Numerous partners related stories about companies (Benteler Steel, Big River Steel, and CLECO just to name a few) that invested billions of dollars in projects specifically because of access to an inland waterway. These projects create thousands of jobs and extensive economic benefits for the region. Conversely, lack of a reliable harbor and navigation channel leads companies to invest funds elsewhere or move facilities to wherever inexpensive, reliable transportation is available.

Low-Water Inspection Trip

What We Heard – Top Regional Issues

***ISSUE*: Too much focus on process and instead results**

Throughout the inspection trip partners from a variety of regions expressed concern that policymakers have become too focused on the process and have lost sight of what really matters, which is actually getting work done and completing projects.

The partners stated that an overabundance of regulations, combined with required interagency coordination for every project, have led to red tape that make projects nearly impossible to complete. For example, 37 steps are required to obtain a permit for a project. Such a process, combined with inadequate funding, leads to significant delays and drives up the cost for a project. These processes bog down projects in legal analysis that can last years and waste taxpayer dollars on processes rather than the actual work of putting dirt in the ground and completing much-needed infrastructure projects that citizens are demanding.

The Section 404 and 408 permitting processes and the National Levee Safety Program are especially unpopular with local partners, who called for these processes to be streamlined and simplified.

Low-Water Inspection Trip

What We Heard – Top Regional Issues

***ISSUE*: Request to modify the flow distribution at Old River Control to alleviate flooding of batture lands (unprotected land between levee systems).**

Some partners living near the Old River Control structure have stated that they believe that increases in flood stages and in the duration of flood stages are due to the Old River Control structure. They believe that the Mississippi River below Baton Rouge is becoming a bottleneck that causes water to back-up near Old River, leading the batture lands (unprotected lands between levees) to be inundated more frequently and for longer periods. Consequently, they have requested that the Corps of Engineers study the issue and consider greater flexibility in the operation of Old River Control Structure, which diverts Mississippi River water into the Atchafalaya River. Currently, the structure is authorized to maintain the same flow distribution that existed in 1950, with 70 percent of the combined flows of the Mississippi and Red rivers remaining in the Mississippi, and 30 percent flowing down the Atchafalaya. Several partners in the region have requested that the Corps of Engineers increase the percentage of Mississippi River water diverted through Old River. The hope is that flexibility in the operation of the structure would decrease flood stages.

Mississippi River & Tributaries Project

Economic Values

Congress authorized the Mississippi River & Tributaries (MR&T) project in 1928; one year after the devastating Great Flood of 1927 flood cut an 80-mile wide swath across the alluvial valley. The massive flood ravaged the valley by inundating 26,000 square miles of land, destroying 41,000 buildings, killing 500 people and creating up to 700,000 refugees. The flood was not merely one that impacted the valley; its consequences were felt nationwide as the raging waters put more than the 3,000 miles of rail and thousands of miles of highways out of service, severing east-west communications and commerce for months.

To prevent a similar tragedy, the nation invested heavily in a unified system of public works to provide unprecedented flood protection and a reliable commercial artery. The resultant MR&T project has four main features:

1. Levees and floodwalls to confine ordinary floods.

2. Floodways and backwater areas to provide room for the river to expand and relieve pressure on the levee system during larger floods.

3. Channel stabilization and channel improvements to provide an efficient channel that carries more water at lower stages during floods.

4. Tributary basin improvements that maximize the benefits of mainstem protection by providing reservoirs for headwater protection and interior drainage improvements.

These features work in tandem to provide a safe and dependable commercial navigation channel on the Mississippi River, while protecting adjacent towns, farms, industry, manufacturers, energy providers, public and private investment, ports and transportation systems from "uncontrolled" flooding.

This increases reliability and productivity, and protects the nation's high-value investments.

In addition, the MR&T project provides:

- For more than 670 million tons of cargo to move annually ($5.6 billion in annual transportation rate savings).
- Authorized depths for continued water commerce during severe droughts (1988, 1999, 2012).
- A commercial link from the bread basket and sugar and rice bowls of the nation to more than 30 ports, including four of the nation's busiest ports.

Mississippi River & Tributaries Project

Authorized Work Remaining Necessary to Convey the Project Design Flood

FEBRUARY 2017

*MR&T System Component	Funds Required to Complete	Funds Required to Complete (Critical)
Main Stem Improvements Total:	**$7.1 B**	**$3.1 B**
MS River Levees / Floodwalls	$3.1 B	$2.0 B
Floodway Levees / Floodwalls	$1.3 B	$347.4 M
Channel Improvement	$1.7 B	$230.8 M
Structures	$1.0 B	$542.4 M
Tributary Improvements Total:	**$1.4 B**	-

LEVEES & FLOODWALLS

MS River: ($3.1 B) ($2.0 B)

- 138 levee & floodwall segments encompassing over 370 miles remain to be raised.
- 97 levee segments have confirmed seepage encompassing approximately 395 miles.

Atchafalaya Floodway: ($1.3 B) ($347.4 M)

- 35 levee enlargement segments encompassing over 115 miles remain to be raised.
- 19 floodwall segments that do not meet stability standards & require structural evaluation.

MS River Channel Improvements: ($1.7 B) ($230.8 M)

- 31 miles of revetments to be constructed & extended.
- 56 dikes remaining to be raised/ extended

Structures: ($1.0 B) ($542.4 M)

MS River:

- Improvements to the Old River Overbank are required.

Atchafalaya Floodway:

- Bayou Sorrel, Berwick, & Bayou Boeuf navigation locks are below design elevation.
- Charenton, East Calumet, & West Calument floodgate replacements.
- Yellow Bayou Pump Station requires reconstruction.

Tributary Improvements Total: ($1.4 B)

- **Tributary Levees & Floodwalls:**
  - 67.5 miles of levees remain to be constructed.
  - 33 levee reaches are below design grade.
  - Approximately 40 miles of levee segments require seepage or stability berms.
- **Tributary Channel Improvements:**
  - 30 Channel enlargements & one dike remain to be constructed.
- **Tributary Structures:**
  - Yazoo Backwater Improvements
  - St. Johns New Madrid Improvements
  - Various locations where work required to complete is still under evaluation:
    - Little Bayou Meto-drainage, Tillatoba Creek grade control structures, Panola-Quitman grade control structures, & 47 stoplog water control structures.

MR&T Deferred Maintenance: ($300 M)

- Proper operation & function of the features of the system is critical.
- Known deficiencies require enhanced readiness & increased flood fighting measures.
- Does not include unknown channel improvement deficiencies due to dynamic changes in the river or maintenance incurred from recent flood events.

NOTE:

- **Critical** items pose the greatest performance concern and higher probability of catastrophic consequences combined with urgent construction needs.
- Remaining items reflect data per the MR&T Strategic Investment Plan dated July 2015 and preliminary cost estimates from the Economic Re-evaluation Report.

Mississippi River Commission

We Value

Listening - Access
… providing an equal opportunity for all citizens to share their insight and wisdom in a free and open forum – a forum that offers greater access for citizens to actively engage in and shape federal water resource management policy.

Inspecting - Professionalism
… setting the highest professional, engineering and process standards that are emulated nationally and internationally, and offer an intergenerational vision for the world's 3rd largest watershed.

Partnering – Relationships
… establishing and nurturing long-term collaborative relationships with diverse interests, elected representatives, state and federal agencies, and the Corps of Engineers to develop sustainable solutions for current and future watershed challenges.

Engineering - Action
… protecting lives, property, economic prosperity and the nation's natural resources by advancing balanced and sound water resource engineering solutions reached through collaboration and long-term relationships.

Mississippi River Commission

Priorities

Navigation – *assuring availability, preparing for the future by improving delivery of goods*

- Consider, discuss and address container on barge with opening of the new Panama Canal set of locks (2015).
- Dredging of small ports and harbors.
- Navigation, Ecosystem Sustainability Program (NESP).

Infrastructure

- Use MRC process of listening, inspecting, partnering and engineering to increase awareness of the deteriorating infrastructure in the watershed.
- Through established relationships develop plans to address infrastructure in the watershed; lead federal efforts.
- Use MRC process to increase and help improve infrastructure investment.

Comprehensive Flood Control and Management – *a systems approach*

- MR&T (2011 flood system restoration; Mississippi River levees, Morganza to the Gulf).
- Upper Mississippi / Illinois Rivers Comprehensive Plan.
- Communicate MRC/MR&T process as a comprehensive balanced watershed approach to follow in the six major sub-basins comprising the world's largest watershed inland navigation system – the Mississippi, Missouri, Ohio, Red, Arkansas, Illinois river basins and tributaries.

Environmental Sustainability – *uniting water, land and people*

- Integrate science based, sustainable and resilient work into all projects (life-cycle cost and delivery of solutions to long term viability of water resources).
- LCA: Explore and recommend innovative science based approaches and solutions to coastal challenges … such as water and sediment diversions.

Water Supply and Ground Water

- Prolonged drought concerns / storage of runoff.
- Multi-state aquifer depletion.

200-year working Vision – America's Watershed

- MRC signed a working vision on Aug. 20, 2009 (revised 2015). It serves as:
  - A system-wide balanced approach, offers an intergenerational commitment and compliments a national vision.
  - A platform for broad participation, international recognition and a long term balanced working vision for the world's largest navigable watershed.

Mississippi River & Tributaries Project

Facts

The Mississippi River and Tributaries project was authorized by the 1928 Flood Control Act. In the wake of the 1927 flood, it was deemed necessary to put into place a comprehensive, unified system of public works within the lower Mississippi Valley that would provide unprecedented protection from floods and an equally efficient navigation channel.

The MR&T project has four major features:

- Levees/floodwalls
- Floodways
- Channel improvement and stabilization
- Tributary basin improvements

These features work together to provide flood protection and navigation, and foster environmental protection and enhancement.

PROJECT BENEFITS

Flood Control

- $15.1 billion invested for planning, construction, operation and maintenance since 1928.
- $823 billion in flood damages prevented, since 1928.
- Approximately 4 million people protected.
- $234 billion damages prevented in 2011.
- 54 to 1 return on each dollar invested.
- 1927 Flood = 16.8 million acres flooded.
- 2011 Flood = 6.4 million acres flooded.
- Untold economic productivity enables farms, towns & factories.

Navigation

- More than 670 million tons of cargo move on the Mississippi River system each year.
- $5.6 billion saved annually in transportation benefits.
- The Mississippi River remained opened during the 1988, 1999 and 2012 droughts, as well as the 2011 record flood. The ability to keep the river open offered unequivocal evidence of the benefit of the MR&T project to the nation. Keeping it open and reliable is a pillar of economic stability and national security.

America's Watershed: A 200-year working vision

An Intergenerational Commitment

Our people enjoy a quality of life unmatched in the world:

- We lead secure lives along the river or tributary.
- We enjoy fresh air and the surrounding fauna, flora and forests while hunting, fishing and recreating.
- We travel easily, safely and affordably.
- We drink from and use the abundant waters of any river, stream or aquifer.
- We choose from an abundance of affordable basic goods and essential supplies that are grown, manufactured and transported efficiently and reliably along and by the river to local and world markets.

The Mississippi watershed is 41% of the U.S., 31 states, 1.25 million square miles, more than 250 tributaries.

Balancing needs for:

- ✓ National security, flood control and flood damage reduction
- ✓ Environmental sustainability and recreation
- ✓ Infrastructure and energy
- ✓ Water supply and water quality
- ✓ Movement of goods; agriculture and manufacturing

Leveraging local citizens' input, international dialogue, science, engineering, technology and public policy.

Join the dialogue, visit:

- www.mvd.usace.army.mil/mrc
- cemvd-ex@usace.army.mil

High-Water Inspection Trip

Partners Engaged

AGRICULTURE AND ECONOMIC DEVELOPMENT

- Central Louisiana Economic Development Alliance
- Delta Council
- Delta Regional Authority
- Eastern Arkansas Enterprise Community
- First Grain
- Global Economic Development Consulting
- GNG Farm Partnership
- Greater Bossier Economic Development Foundation
- Illinois Farm Bureau
- Lake Mary Planting Company
- Louisiana Cotton and Grain Association
- Louisiana Economic Development
- Lundell Farms, La.
- Mississippi Farm Bureau Federation
- Northeast Louisiana Economic Partnership District
- Rye Development
- Southeastern Arkansas Economic Development District

BUSINESS AND MANUFACTURING

- Arthur J. Gallagher and Co.
- Benteler
- Bierden Construction
- Booz, Allen, Hamilton
- Capital Sand
- CLECO
- Cypress International
- EMR/Southern Recycling
- England Industrial Park
- Entergy
- Garber Brothers
- Hawks Logistics
- Hickman Electric System
- Madden Construction
- Marathon Petroleum Company
- Mississippi Associated General Contractors
- Nucor/Longview
- Oakley
- PBS&J
- Priefert
- R.W. Tyson Producing Company
- Savage
- Tropicana Casino
- Taylor Porter
- Ternium

EDUCATION AND RESEARCH

- Arkansas State University
- Center for Earthquake Research and Information
- Department of Natural Resources and Environmental Sciences-University of Illinois
- Gosnell Elementary, Ark.
- Lindenwood University
- Presbyterian Day School, Memphis, Tenn.
- Southern University, La
- University of Arkansas-Pine Bluff, Water Manager Center
- University of Memphis – Meeman Biological Center
- Vicksburg-Warren School District
- The Water Institute of the Gulf

High-Water Inspection Trip

Partners Engaged

ENVIRONMENTAL CONSERVATION, RECREATION AND TOURISM

- Acadian Group Sierra Club
- Arkansas Game and Fish Commission
- Arkansas Natural Resources Commission
- Atchafalaya Basinkeeper
- Atchafalaya Basin Program
- Audubon Louisiana
- Bayou Blue Environmental
- Coalition to Restore Coastal Louisiana
- Coastal Protection and Restoration Authority
- Ducks Unlimited
- Grenada Lake Champion
- Lake Pontchartrain Basin Foundation
- Louisiana Department of Natural Resources Office of Coastal Restoration and Management
- Louisiana Department of Wildlife and Fisheries
- Mississippi Department of Environmental Quality
- Mississippi Forestry Commission
- Mississippi River Corridor-TN
- Missouri Department of Natural Resources
- National Wildlife Federation
- Natural Resources Conservation Service
- The Nature Conservancy
- Restore or Retreat, Inc.
- Safari Club International
- State Conservationist Louisiana
- Tennessee Wildlife Resources Agency

FLOOD CONTROL

- Atchafalaya Basin Levee District, La.
- Atchafalaya Levee Board, La.
- Bigger Pie Forum, Miss.
- Bossier Levee District, La.
- Caddo Levee District
- Cairo Drainage and Levee District, Ill.
- Central Clay Drainage District, Ark.
- Cotton Belt Levee District, Ark.
- Drainage District No. 7, Ark.
- Dyer County Levee and Drainage District No. 1, Tenn.
- Elk Chute Drainage District, Mo.
- Fifth Louisiana Levee District, La.
- Fulton County Levee Board, Ky.
- Helena Improvement District
- Horn Lake Creek Drainage District, Miss.
- Len Small Levee and Drainage District, Ill.
- Levee Board District No. 2, Mo.
- Levee District No. 3, Mo.
- Little River Drainage District, Mo.
- Mississippi Levee Board, Miss.
- Mississippi Valley Flood Control Association
- North Lafourche Levee District
- Piney Drainage District, Ark.
- Pointe Coupee Parish Drainage District, La.
- Red River Atchafalaya and Bayou Boeuf Levee District
- Sny Island Drainage District, Ill.
- Southeast Louisiana Flood Protection Authority-West
- Southwest Illinois Flood Prevention District
- St. Francis Drainage District, Mo
- St. Francis Levee District Arkansas
- St. Johns Levee and Drainage District, Mo.
- St. Mary Levee District, La.
- Tensas Basin Levee District, La.
- Terrebonne Levee & Conservation District, La.
- White River Drainage District, Ark.
- Yazoo Mississippi Delta Levee Board, Miss.

High-Water Inspection Trip

Partners Engaged

PORTS AND HARBORS

- Avoyelles Parish Port
- Caddo-Bossier Port
- Central Louisiana Regional Port
- City of Hickman/Fulton County Riverport Authority, Ky.
- Claiborne County Port Commission, Miss.
- Greenville Port Commission, Miss.
- Helena-West Helena/Phillip County Port Authority, Ark.
- Kaskaskia Regional Port District
- Lake Providence Port Commission, La.
- Mississippi County Port Authority, Mo.
- Natchitoches Parish Port
- Port Fourchon, La.
- Port of Greenville, Miss.
- Port of Iberia, La.
- Port of Memphis, Tenn.
- Port of Morgan City, La.
- Port of Pointe Coupee Commissioner, La.
- Ports Association of Louisiana
- Red River Parish Port
- Rosedale-Bolivar County Port Commission, Miss.
- SEMO Port
- Terrebonne Port
- Windsor Harbor, Mo.

RIVER INDUSTRY

- American Commercial Barge Line
- American River Transportation Company
- American Waterways Operators
- Arkansas Waterways Commission
- Big River Coalition
- Bollinger Shipyards
- Businelle Towing Corporation
- Campbell Transportation Company
- Canal Barge Line Company
- Central Boats
- Conrad Shipyards
- Florida Marine
- Genesis Venture Logistics
- Grand Isle Shipyards
- Gulf Intracoastal Canal Association
- Ingram Barge Company
- Inland Ports and Terminals
- JB Marine Services
- Kirby Inland Marine
- Luhr Bros.
- Marquette Transportation Company
- Office of Multimodal Programming
- Rig Masters
- River Industry Executive Task Force
- Terral River Service
- Turn Services
- Vulcraft
- Waterways Journal
- Wepher Marine

RIVER BASIN ASSOCIATIONS

- Atchafalaya River Basin Commission, La.
- Lower Mississippi River Sub-basin Committee
- Mekong River Commission
- Ouachita River Valley Association, La. & Ark.
- Red River Valley Association
- Red River Waterways Commission
- Upper Mississippi, Illinois and Missouri River Association
- West Tennessee River Basin Authority
- White River Coalition, Ark.

WATER SUPPLY / WATER MANAGEMENT ENTITIES

- Bayou Lafourche Fresh Water District, La.
- Bayou Meto Water Management District, Ark.
- Boeuf-Tensas Irrigation Water Distribution District, La. & Ark.
- South East Arkansas and North East Louisiana Feasibility Study
- Teche-Vermillion Fresh Water District, La.
- Tensas Regional Water District
- Union County Water Conservation Board, Ark.
- White River Irrigation District, Ark.
- Yazoo Mississippi Delta Joint Water Management District, Miss.

High-Water Inspection Trip

Partners Engaged

U.S. SENATE

- Sen. Lamar Alexander, Tenn. (Chris Connolly)
- Sen. John Boozman, Ark. (Ty Davis and Chase Emerson)
- Sen. Bill Cassidy, La. (Michael Eby, Tommie Seaton and Stephanie McKenzie)
- Sen. Thad Cochrane, Miss. (Bill Crump)
- Sen. Bob Corker, Tenn. (Nick Kistenmacher)
- Sen. Tom Cotton, Ark. (Patricia Herring)
- Sen. John Kennedy, La. (John Barr, Hannah Livingston and Jay Vicnair)
- Sen. Claire McCaskill, Mo. (Christy Mercer)

U.S. HOUSE OF REPRESENTATIVES

- Rep. Ralph Abraham, LA-5 (Donna Howe and Jessica Sunderhaus)
- Rep. Mike Bost, IL-12 (Carol Klaine)
- Rep. Steve Cohen, TN-9 (Rick Maynard)
- Rep. Rick Crawford, AR-1 (Jay Sherrod)
- Rep. Garret Graves, LA-6 (Paul Sawyer and Andre Miller)
- Rep. Gregg Harper, MS-3 (Austin Fratesi and Chip Reynolds)
- Rep. Mike Johnson, LA-4 (Chip Layton and Leslie Quinn)
- Rep. Trent Kelly, MS-1(Walt Starr)
- Rep. David Kustoff, TN-8 (Ivy Fulton and Kelley Hankins)
- Rep. Jason Smith, MO-8 (Eric Bohl, Darren Lingle and Donna Hickman)
- Rep. Bruce Westerman, AR-4 (Ben Gilmore)

High-Water Inspection Trip

Partners Engaged

MAYORS, PARISH PRESIDENTS & ELECTED OFFICIALS

- County Administrator, Claiborne County Board of Supervisors, Brenda Buck
- District Four Supervisor, Adams County Board of Supervisors, James Gray
- District One Supervisor, Adams County Board of Supervisors, Mike Lazarus
- District One Supervisor, Claiborne County Board of Supervisors, Marie Clark
- District Two Supervisor, Claiborne County Board of Supervisors, Kenneth Davis
- Executive Director, Claiborne County Economic Development District, Milton Chambliss
- Louisiana Governor John Bel Edwards
- Louisiana State Rep. Larry Bagley
- Louisiana State Rep. Terry Brown
- Louisiana State Rep. Thomas Carmody
- Louisiana State Rep. Kenny Cox
- Louisiana State Rep. Cedric Glover
- Louisiana State Rep. Lance Harris
- Louisiana State Rep. Lowell Hazel
- Louisiana State Rep. Horton
- Louisiana State Rep. Sam Jenkins
- Louisiana State Rep. James Morris
- Louisiana State Rep. Barbara Norton
- Louisiana State Rep. Eugene Reynolds
- Louisiana State Rep. Alan Seabaugh
- Louisiana State Sen. Jim Fannin
- Louisiana State Sen. Eric LaFleur
- Louisiana State Sen. Gerald Long
- Louisiana State Sen. Jay Luneau
- Louisiana State Sen. John Millkovich
- Louisiana State Sen. Barrow Peacock
- Louisiana State Sen. Neil Riser
- Louisiana State Sen. Gregory Tarver
- Mayor Kenny Anderson, DeValls Bluff, Ark.
- Mayor Sharon Weston Broome, Baton Rouge, La.
- Mayor Ossi Clark, Colfax, La.
- Mayor Tyrone Coleman, Cairo, Ill.
- Mayor Clarence Fields, Pineville, La.
- Mayor George Flaggs, Vicksburg, Miss.
- Mayor William Foresythe, Hornersville, Mo.
- Mayor Bobby Hardrick, Madison, Ark.
- Mayor Frank Hash, El Dorado, Ark.
- Mayor Vernon Jackson, Coldwater, Miss.
- Mayor Denny Johnson, Lake County, Tenn.
- Mayor Allen Latimer, Horn Lak, Miss.
- Mayor David Lattus, Hickman, Ky.
- Mayor John Lemone, City of Marksville, La.
- Mayor Mike McGraw, Caruthersville, Mo.
- Mayor Benny McGuire, Union City, Tenn.
- Mayor Alma Moore, Boyce, La.
- Mayor Jacques Roy, City of Alexandria, La.
- Mayor Errick Simmons, Greenville, Miss.
- Mayor Thomas Smith, Louise, Miss.
- Mayor Ollie Tayler, Shreveport, La.
- Mayor Lorenzo Walker, Bossier City, La.
- Mississippi Secretary of State, Delbert Hosemann
- Office of Louisiana State Sen. Ryan Gatti
- Office of Louisiana State Sen. Mike Johnson (Maria Trichell and Mary Smith)
- Parish Commissioner, Ellis Boothe, Catahoula, La.
- Parish President, Amos Cormier, Plaquemines, La.
- Parish President, Gordon Dove, Terrebonne La.
- Parish President, Charles Jones, Avoyelles Parish, La.

High-Water Inspection Trip

Partners Engaged

CITIES, TOWNS, COUNTIES AND PARISHES

- Acadia Parish, La.
- Adams County, Miss.
- Alexander County, Ill.
- Alexandria, La.
- Berwick, La.
- Bossier, La.
- Bossier Parish, La.
- Cairo, Ill.
- Cape Girardeau, Mo.
- Caruthersville, Mo.
- Claiborne County, Miss.
- Clay County, Ark.
- Coldwater, Miss.
- Colfax, La.
- Coyce, La.
- DeValls Bluff, Ark.
- Dyersburg, Tenn.
- East Prairie, Mo.
- Evangeline Parish
- Greenville, Miss.
- Hickman, Ky.
- Hornersville, Mo.
- Horn Lake, Miss.
- Iberville Parish, La
- Jonesborough, Ark.
- Lafayette Parish, La.
- Lake County, Tenn.
- Louise, Miss.
- Madison, Ark.
- Marksville, La.
- Memphis, Tenn.
- Morgan City, La.
- Natchez, Miss.
- New Canton, Ill.
- Obion County, Tenn.
- Pineville, La.
- Poinsette County, Ark.
- Rapides Parish, La.
- Red River Parish, La.
- Shelby County, Tenn.
- Shreveport, La.
- St. Martin Parish, La.
- St. Mary Parish, La.
- St. Landry Parish
- Tiptonville, Tenn.
- Union City, Tenn.
- Vermillion Parish, La.
- Vicksburg, Miss.

FEDERAL AGENCIES

- Federal Emergency Management Agency
- Maritime Administration
- National Weather Service
- U.S. Coast Guard
- U.S. Coast Guard Marine Safety Unit Baton Rouge

STATE AGENCIES

- Bossier Chamber of Commerce
- Central Louisiana Chamber of Commerce
- City of Memphis Public Works Division
- DeSoto County Board of Supervisors
- Hickman Chamber of Commerce
- Louisiana Department of Agriculture and Forestry
- Louisiana Department of Transportation and Development
- Mississippi Department of Transportation
- Missouri Emergency Management
- Multimodal Commerce
- Poinsett County Road Department
- Shreveport Chamber of Commerce
- Tennessee Department of Agriculture
- Tennessee Department of Environment and Conservation
- Tennessee Emergency Management Agency

DEPARTMENT OF THE ARMY
MISSISSIPPI RIVER COMMISSION, CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

6 April 2017

STATEMENT OF THE MISSISSIPPI RIVER COMMISSION ON THE PROJECT FLOOD ASSESSMENT

The Mississippi River and Tributaries (MR&T) project stands among the most successful civil works projects ever initiated, coming with a 54 dollar return for every dollar invested. The completion of the authorized project, therefore, remains the highest priority of the Mississippi River Commission. At the same time, the Commission recognizes that the evolution of the MR&T project responds to changes both to the natural system and a complex blend of engineering, programmatic, political, and social realities.

The ongoing technical assessment directed through the 23 September 2013 memorandum from the Mississippi Valley Division Commander of the historic model for passing the project design flood will assist in balancing risk across the system to remediate any identified deficiencies and drive the completion of the authorized remaining work. The assessment will also assist in the development of a sustainable plan for managing and operating the MR&T system within the context of existing authorities and funding. To ensure the system will continue to protect the nation for future generations, the assessment will encourage opportunities to improve on the science behind meteorology and geomorphology and effective engineering operations of the system as whole.

With this in mind, the Commission confirms its multi-generational commitment to complete the authorized remaining work under the 1973 MR&T project design

flowline. The Mississippi River Commission President directs the Mississippi Valley Division to continue the assessment of the hydrological and operational aspects of the MR&T system to determine if future adjustments are warranted to protect people, commerce, agriculture, and industry.

MICHAEL C. WEHR
Major General, U.S. Army
President, Mississippi
River Commission

SAM E. ANGEL
Member, Mississippi
River Commission

R. D. JAMES
Member, Mississippi
River Commission

NORMA JEAN MATTEI, Ph.D.
Member, Mississippi
River Commission

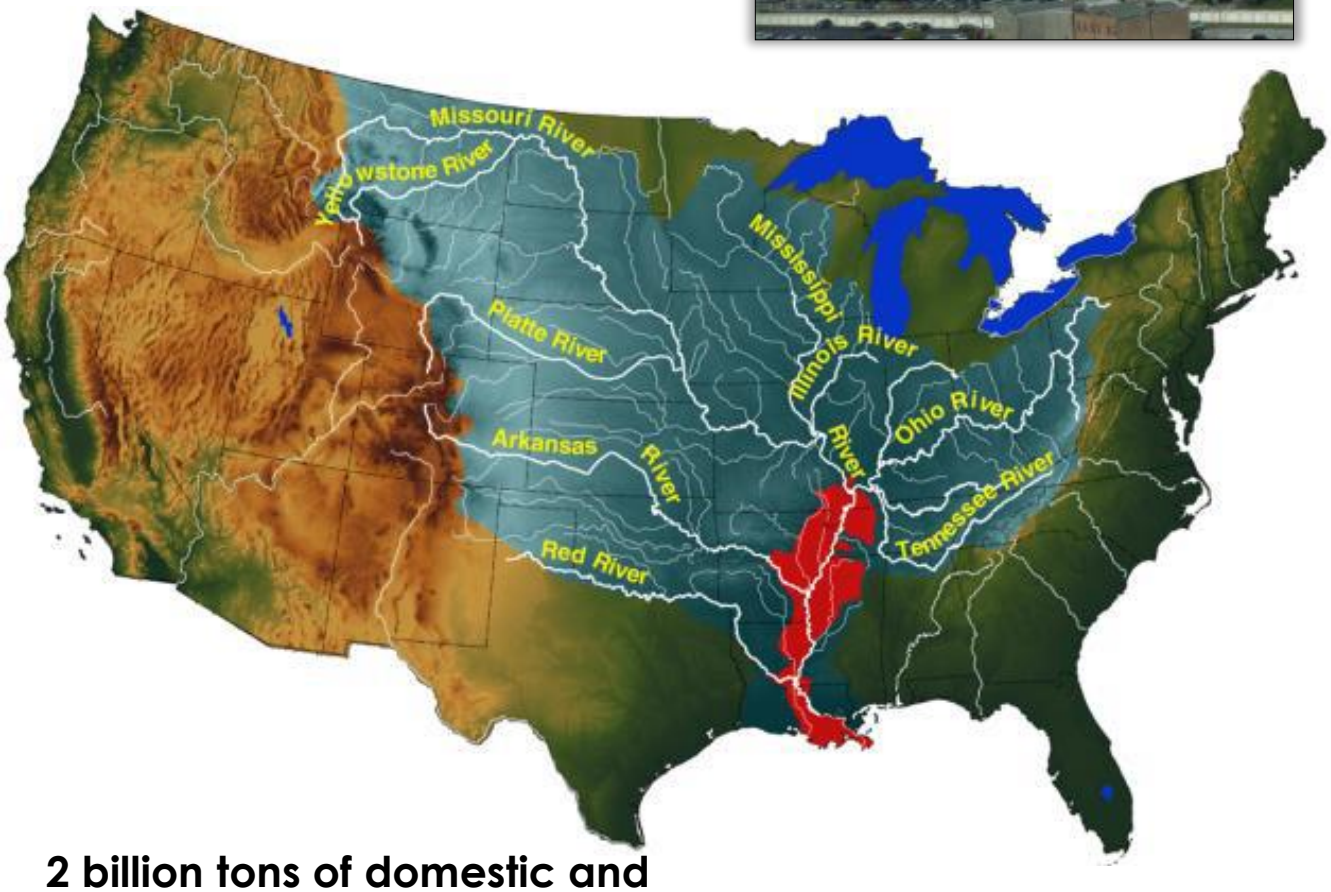
SHEPARD SMITH
Rear Admiral, NOAA
Member, Mississippi
River Commission

DAVID C. HILL
Brigadier General, U.S. Army
Member, Mississippi
River Commission

R. MARK TOY
Brigadier General, U.S. Army
Member, Mississippi
River Commission

World's Largest Naturally Navigable Watershed

95% of al U.S. imports and exports (about $1.4 trillion) move on waterways and/or ports.



2 billion tons of domestic and import/export cargo move on the U.S. waterways annually.