



MISSISSIPPI RIVER COMMISSION

VICKSBURG, MISSISSIPPI

August 23, 2013

Statement of the Mississippi River Commission *Call to Action*

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The American Geography is an impressive one. The Greater Mississippi Basin together with the Intracoastal Waterway has more kilometers of navigable internal 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 United States has capital, food surpluses and physical insulation in excess of every country in the world by an exceedingly large margin. So... the Americans are not important because of who they are, but because of where they live.

*"The Geopolitics of the United States: The Inevitable Empire,"
Stratfor Global Intelligence, May 2012¹*

The above assessment by Stratfor Global Intelligence clearly captures the strategic importance of the natural, God-given assets that served as the foundation for the greatness of the United States of America. Yet our transformation from a fledgling agrarian nation into the world's preeminent economic power – "the inevitable empire" – necessarily depended on a strong vision, persistent determination to overcome all obstacles, massive private and federal investment that ultimately overcame frequent initial failures, and an intergenerational commitment to develop the full potential of the Greater Mississippi Basin. The determined commitment to make this vision a reality enabled the United States to fully leverage its unique geopolitical advantages and develop a unified national system of rivers, canals, roads and railways connecting the riches of the American interior to its coastal ports and overseas markets.

By the mid to late 20th century, our nation's long-term investment efforts delivered an inland transportation system that was the envy of the world. The abundant natural waterways of the American interior remain the envy of the world, but the same can no longer be said for our infrastructure. Our nation's infrastructure – its ports and navigation locks, levees and dams, highways and bridges, railroads and tunnels – all suffer from prolonged under-investment, deferred maintenance and a failure to upgrade and modernize capacity to keep pace with global trends. Having built out the greatest transportation infrastructure in the world, and then benefiting from its consequences for decades, we became accustomed to its enormous benefits and allowed ourselves to be lulled into assuming this advantage would always endure. So while the rest of the world has forged ahead in building modern marvels of infrastructure capable of efficiently moving vast quantities of waterborne cargo in recent years, the United States has fallen increasingly behind due to its failure to continue its pattern of investment.

Since 1879, the seven-member Presidentially appointed Mississippi River Commission has developed and matured plans for the general improvement of the Mississippi River from the Head of Passes to the Headwaters. The Mississippi River Commission brings critical engineering representation to the drainage basin, which impacts 41% of the United States and includes 1.25 million square miles, over 250 tributaries, 31 states, and 2 Canadian provinces.

Listening, Inspecting, Partnering and Engineering since 1879

The resultant neglect is resulting in such a degree of deteriorated infrastructure, that it is actively undermining our economic competitiveness.

At no time has the fragility of the Greater Mississippi Basin's waterborne transportation infrastructure been so tested by the extremes of nature as in the past few years. Floods of record occurred on the lower Mississippi, the Souris, the Red River of the North, the Missouri and the Illinois Rivers, all in the last two years. To punctuate the vicissitudes of nature, the record or major flooding that occurred across America's heartland in 2011 and 2013 was interspersed by a devastating drought that destroyed crops and threatened to impede or halt commerce along the middle Mississippi River in the winter of 2012-13. While nature challenges our infrastructures ability to cope with these extremes, lock outages across the system are trending upward, growing by nearly six times from 1991 to 2011.

As a result of our own neglect and the reality that much of the world has surpassed or is surpassing our previous advantages in reliable transportation infrastructure, America now stands at an important crossroads. Today, multiple game-changing realities challenge our prior pre-eminent economic position, compelling this Commission to issue a decisive Call to Action. These inter-related challenges include:

- Pending explosion in the global population by more than two billion people by mid-century – accompanied by a substantial improvement in global standards of living, and consequently expectations – will increase demands for food, water and energy dramatically;
- Across the globe infrastructure investment is increasing exponentially. In contrast, the United States spends a fraction on infrastructure investment and recapitalization. The opening of expanded locks at the Panama Canal in 2015 will dramatically affect United States and global trading patterns, for which our nation has only recently begun to prepare;
- Inefficient and sometimes ineffective and even conflicting federal processes driven by a dizzying array of laws, policies and regulations. The overly complex requirements must be streamlined to exemplify the processes employed in the construction of the I-35 W bridge in Minnesota or the Hurricane Storm Damage and Risk Reduction System in southeast Louisiana.²

Through our public engagement process spanning many decades, the Mississippi River Commission has received testimony from those who live, work, produce and play along the "father of waters" – the Mississippi River and its tributaries. We share their viewpoint that the time for action is now:

- ✓ The Commission advocates a strong national vision for investment in infrastructure that compels the United States to unify behind systems-based, watershed-level projects that assure the long-term vitality of the economy, national security and the environment. That vision must necessarily prioritize high-value projects and must be supported by policies that integrate waterborne and overland transportation needs in order to maximize the nation's natural geographic advantages and bolster our global competitiveness.

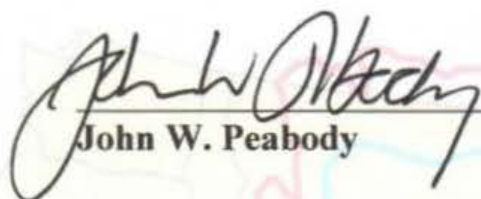
- ✓ The Commission recommends exploring new avenues for funding and executing water resources missions through more aggressive priorities and investment strategies along the lines identified in the recently published report by McKinsey Global Institute on infrastructure productivity.³
- ✓ The Commission supports streamlining water resource development processes, to include all laws, regulations and executive orders, in a manner that serves progressive economic and environmental betterment of the nation as a whole. The streamlined processes should enable state, federal agencies and other key stakeholders to deliver valuable solutions based on clear understanding of risks, within clearly defined schedules.

Roughly 90 percent of all global trade is conveyed by sea, and America uniquely encompasses large coasts on both the Atlantic and Pacific Oceans, making us a global maritime nation. America's economic competitiveness and its ability to feed and supply the world, therefore, depend on fully leveraging and maintaining the reliability, efficiency and effectiveness of moving goods via all transportation systems on which our economic greatness rests. As we cautioned in our April 15, 2011, *Statement on Inland Waterway Navigation System*, the level of commitment to the nation's transportation infrastructure has been waning for decades. A continued failure to invest in sustaining an effective and reliable national transportation network for the 21st century, and a failure to modernize our infrastructure project delivery processes, will negatively affect America's economic and global competitiveness.⁴

This call to action comes at a pivotal moment in history when increasingly globalized trade provides fantastic opportunities for America to deliver on its promise of economic potential to fulfill the world's demands, while advancing the economic security of our nation and its people for generations. Thomas Jefferson and other founders first envisioned the potential of the abundant natural waterways that the "Greater Mississippi Basin" held out, and acted on that vision.⁵ It is already past time to re-energize that vision to guide our future, by acting now to invest in the required infrastructure that will match or exceed the transportation capacity that much of the world is building. Inaction would result in an increase in transportation link failures, an unacceptably negative consequence that would doom America's potential and global needs would remain unfulfilled.

Our current generation must not be complicit in allowing, through inaction, the inevitable catastrophic failure in some vital component of the nation's critical infrastructure, or the inexorable competitive decline while our infrastructure slowly crumbles. Our nation must re-commit to leverage the fortune of its enormous geographic advantages, with its inherent ability to produce and export, by investing in our infrastructure. Such an effort will be the work of a generation or two, yet while we wait the rest of the world is continuing to pass us by. The voices of our diverse partners from every sub-basin in the greater watershed are clear: The time for action is now, and the moment to start is immediately.

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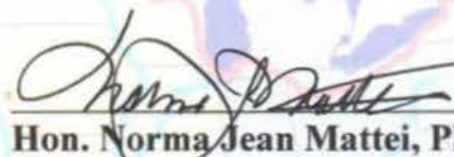
John W. Peabody



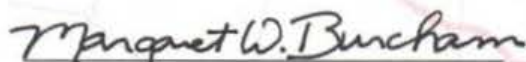
Hon. Sam E. Angel



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Addendum: Mississippi River Commission Call to Action

1. Growing Global Population

This great nation has the ability to produce the right food to satisfy the noble, yet profitable, mission to feed the growing global population. In 2012, despite severe droughts over great swaths of the American bread basket, American farmers exported nearly \$136 billion in agricultural products, which represents roughly 10 percent of all United States exports.⁶ America's ability to produce food is matched by our ability to export it to those who need it and will pay for it. The Mississippi, Missouri, Arkansas, Illinois, Red, Ohio and Tennessee rivers – which comprise the greater Mississippi basin - together with the Intracoastal Waterway traverse the nation's agricultural heartland, with most of the prime farmland located in reasonably close proximity to a navigable river.

These water highways, working in tandem with the nation's roads and interstate system, transcontinental rail lines, as well as river and ocean ports, allow farmers to easily and affordably ship their products to domestic and foreign markets. Therefore, a vibrant and modernized transportation system, complete with road, rail and waterborne infrastructure improvements, is the key to remaining competitive with ascending grain powerhouses elsewhere in the world, like in South America.

2. Panama Canal Expansion

The opening of the expanded locks along the Panama Canal in early 2015 will allow much bigger vessels - the size of aircraft carriers – that will significantly improve routes and time savings to access harbors across the western hemisphere. The massive “post-Panamax” ships, however, require deeper harbors. Recognizing this, nations are scrambling to deepen harbors, dredge channels and invest in critical transportation infrastructure in an effort to lure the new generation of massive ships to their facilities to capture their slice of the expected economic boom.⁷

The Commission is concerned that the Panama Canal expansion comes at a time when many experts indicate that our nation's infrastructure suffers from deferred maintenance and lack of modernization to the point it has undermined our economic competitiveness. The American Society of Civil Engineers (ASCE) *2013 Report Card for America's Infrastructure* assigned the following grades:⁸

Inland Waterways			D-
Ports	C	Rail	C+
Roads	D	Bridges	C+

A vibrant transportation system, complete with road, rail and waterborne infrastructure investment, is the key to our competitiveness. With this in mind, the Commission maintains we must invest wisely but heavily in high-value, high-return transportation

infrastructure to maximize the natural competitive advantages provided by geography in order to exploit the promise of the expanded canal. It matters not by whom the investment is made or who carries out the work, but such investments must be done.

3. Federal Program/Project Delivery Process

[US Water] Policy is ad hoc, implementation is decentralized, coordination is fragmented, and communication is non-existent or fails to connect. We need a national water policy and unifying vision and guiding principles.

*Honorable James L. Oberstar, former Chairman,
US House of Representatives Transportation and Infrastructure Committee,
August 2009*

The current federal delivery process is comprised of a long and confusing list of laws, regulations and executive orders that would confound the most capable effort to efficiently and effectively plan design, build and operate high value infrastructure investments. A systematic delivery model - similar to the comprehensive Mississippi River and Tributaries project - is more appropriate for a future effective infrastructure investment strategy. We recommend an independent organization with the experience and competencies of organizations like the American Society of Civil Engineers and the McKinsey Global Institute infrastructure group be sanctioned to develop balance and clear recommendations that may lead to a more coherent and executable infrastructure investment decision making and execution process. The President has identified a need for action and signed a memorandum modernizing federal infrastructure review and permitting.⁹ This initiative needs to be acted on aggressively.

4. Consequences of Inaction are Dramatic

The Great Flood of 1927 devastated the lower Mississippi Valley after decades of federal apathy resulted in an inadequate state-by-state piecemeal "protection" system. Then Secretary of Commerce Herbert Hoover described the flood as "the greatest peacetime calamity" in the history of the United States. The facts support his description. The swollen river overpowered the outmatched levees protecting the lower valley and cut a 50-mile-wide swath from southern Missouri and Illinois to the Gulf of Mexico. Floodwaters inundated more than 16 million acres (26,000 square miles) of prime farmland and towns in seven states. More than 500 people lost their lives and 600,000 more were left homeless and forced to seek shelter in Red Cross refugee camps as floodwaters rendered approximately 160,000 homes unlivable. Estimates of the total value of losses approached \$1 billion during an era when the entire federal budget rarely exceeded \$3 billion.

In the aftermath of that devastating flood event, the nation galvanized in support of a comprehensive and unified system, buttressed by a significant commitment of appropriations, to prevent a similar tragedy from happening again. Since then, successive administrations and congresses have teamed with the nation's engineers and local project sponsors to authorize, fund, construct and maintain the world-class

engineering marvel known as the Mississippi River and Tributaries (MR&T) project – a program that “makes room for the river” by incorporating multiple engineering techniques to accommodate the natural tendency of the river to expand during periods of flood. That intergenerational commitment proved its worth during the record-setting 2011 flood. Despite a discharge roughly 25 percent greater than the 1927 flood, the 2011 flood caused no loss of life. More than 10 million acres that flooded in 1927 remained dry during the larger 2011 flood event. The MR&T project operated as designed, with reservoirs impounding potential floodwaters, levees protecting nearly one million households and floodways diverting excess flows past critical reaches.

The performance of the MR&T system on the lower Mississippi and Ohio Rivers during the 2011 flood validated that wise investment of more than \$13 billion by protecting the lives and livelihoods of four million people living in the lower Mississippi Valley, preventing more than \$234 billion in damages to vital infrastructure and people. Without that strong intergenerational support, the lower Mississippi Valley could have experienced the same type of devastation as witnessed in Southeast Asia in 2011, where in stark contrast floods killed more than 3,000 people, inundated more than one million homes and caused more than \$45 billion in damages to the economy. The consequences of inaction, indeed, are dramatic.

5. Environmental Sustainability

This century presents unprecedented challenges to the sustainability of North America's largest river system, the Mississippi River watershed. These challenges impact the livelihoods of those who depend on fresh water and the ecosystem services provided by the river system and its varied environments. Economic and environmental sustainability of the entire river system are in jeopardy from the combination of competing uses, protracted drought or flooding, changing flows, pollution and nutrient loading, and need for improved land management. Growing populations and development, increased competition for fresh water resources, threats to native biodiversity including exotic species, and ever-changing environmental conditions serve to lower the sustainable environmental quality and value of the Mississippi River watershed.

We look forward to peer-reviewed science, engineering, and technology with experienced leadership to both inform and drive forward necessary national decisions for investments. The following initiatives provide a small sampling of the many relationships supported by memoranda of agreements, which proved the tools needed to assure implementation of sound practices.

- Mekong River Commission (MRC)
- National Great Rivers Research and Education Center (NGRREC)
- America's Watershed Initiative (AWI)
- America's Watershed: a 200-year working vision

6. Conclusions of the OHIO RIVER LOCKS AND DAMS 52 & 53 QUALITATIVE RISK ASSESSMENT

A qualitative risk assessment by a multidiscipline team of engineers was completed on August 28, 2012. They concluded that both projects contained numerous critical components that are likely to fail without investment beyond normal general maintenance. Fourteen significant and credible failure modes were identified for Locks and Dam 52, and fifteen failure modes for Locks and Dam 53. Each of these modes represent significant risk to property and economic benefit. However, some of these modes also have the potential to cause loss of life to those working at and using the projects.

The team developed a potential repair strategy including cost and priority of order. However, due to the poor condition, most of the components would not be operating at a high degree of reliability even after repair. For example, it is not possible to effectively inspect many of the components submerged and/or buried at the facilities, and given the known existence of widespread deteriorated conditions, it is probable that unidentified problem areas exist. The previous assessments of the projects identified several components, including the timber pile foundations of the dams and the main lock sheet pile cells, are inadequate for a seismic load.

The assessment team concluded that it is not possible to make Locks and Dams 52 and 53 reliable even with significant investments in repairs. There is only so much that can be done to an old, deteriorated system that is well beyond its intended service life. Major rehabilitation or complete replacements are the only viable options.

Facts:

- Tonnage transited these two locks rank #1 and #2 nationally and #3 and #4 globally
- In 2011, the navigable waterway reach maintained by Locks and Dams 52 and 53 moved 99 million tons of commerce valued at ~\$19 billion.
- The average transportation cost savings is \$14 per ton; realizing transportation savings of nearly \$1.5 billion in the year 2011.
- The geographic reach of these projects stretches from the Gulf Coast on the south to the Great Lakes on the north and from Wyoming and Saskatchewan in the west to Virginia in the east. Farmers, coal exporters, steel makers, aluminum manufacturers, chemical firms, construction companies, coal miners and electric utility companies have come to rely upon dependable service from these lynch pin projects.
- Lock or dam outages at either of these projects would have the most widespread and direct impact on the public through the electric utility sector. The predominant commodity moving on the lower Ohio is coal, the majority of which (63%) serves electric utilities. Utility coal transiting this area services 18

