# INLAND WATERWAYS USERS BOARD 24<sup>th</sup> ANNUAL REPORT

To The SECRETARY OF THE ARMY And the UNITED STATES CONGRESS

# **OCTOBER 2010**

## Investing In America's Future

"The most important contest we face is not the contest between Democrats and Republicans. In this century, the most important competition we face is between America and our economic competitors around the world."

> President Barack Obama November 3, 2010

## ...by Improving Our Waterways' Investments



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#### Inland Waterways Users Board 24<sup>th</sup> Annual Report October 2010

#### **Introduction**

From the original leaders of the U.S. Army Corps of Engineers, such as the revered Brigadier General Sylvanus Thayer, to the public and private sector leaders of our country today, our country's guardians of commerce and trade have always known the importance of the maintenance of a vibrant inland waterways infrastructure system. Every dollar we spend on our waterways infrastructure helps protect an existing U.S. job and attract a new U.S. job.

This report is an update of the Inland Waterways Users Board's (the Board) effort to advance this cause with a collaborative public/private effort. The report includes recommendations which, when implemented, will significantly improve the way our nation plans, funds and constructs inland navigation projects over the next 20 years, resulting in billions of dollars of benefits to the U.S. economy. What follows in this annual report is a summary of the Inland Marine Transportation System (IMTS) Capital Projects Business Model Report's recommendations as well as this Board's actions to inform the public and our policy makers on the merits of the IMTS's long term plan. The entire IMTS Capital Projects Business Model Report may be accessed at www.waterwaysusers.us.

Although we know the many values of maintaining the infrastructure which supports our vital inland waterways, there remain shortcomings which will waste valuable dollars in the current program. The deficiencies in the present inland waterways capital development business model have been well chronicled in previous Board reports and elsewhere, and the challenges that face us merit repeating here:

- While the design life of our locks and dams is generally 50 years, the majority of our locks have exceeded that many are more than 70 years old.
- The United States Maritime Administration projects dramatic growth of domestic freight volumes, which will compound the congestion problems on the nation's already overcrowded highway system, driving industries to our inland waterways system to find competitive alternatives for moving their goods.
- Enormous project cost overruns and delays in project schedules have greatly strained the Inland Waterways Trust Fund balance. Meanwhile, the billions of dollars in benefits foregone by virtue of not having the use of completed projects continue to escalate.
- Project completion delays result in part from a Federal budgeting and appropriations model that provides funding in annual and often-insufficient increments that are frequently further complicated by one or more continuing resolutions that delay budget certainty rather than a more reliable multi-year funding mechanism that would provide the certainty needed to more efficiently contract and build these capital projects.

- In the not-too-distant past, projects (such as those authorized by the Water Resources Development Act of 1986, P.L. 99-662) were completed within an average of 6.3 years and with an average increase of 32.5% of authorized costs; compared to the present day projects under construction that are more than double authorized amounts and require more than 17 years to complete.
- Another truly startling example of the contrast between today's project delivery performance and yesteryear's is McAlpine Locks and Dam (Louisville, KY). The recently dedicated 1200' lock chamber took 10 years to complete. The virtually identical lock chamber sitting next to it was constructed in just three years (1958-1961).

Many of the deficiencies in the present business model were identified in the U.S. Army Corps of Engineers (the Corps) Inland Navigation Construction Selected Case Studies report which was presented to the Board at Meeting No. 58 in July 2008. Those findings revealed a number of principal reasons that explain the enormous cost escalation, including delay caused inflation, government design changes, design omissions, re-estimates and differing site conditions encountered during construction. The Corps agreed that these findings highlight the need for process improvements in engineering, construction and project management. In addition, the Selected Case Studies report concluded that "less than optimal funding" accounted for nearly one-third of the cost growth for two large projects (Lower Monongahela Locks and Dams 2, 3, 4 and Olmsted Locks and Dam). As things stand today, if that one-third cost growth alone had been prevented, almost \$800 million would have been saved compared to today's estimated cost to complete the two projects.

Recognizing these shortcomings, the Corps and the industry agreed to work together in undertaking an extensive review in order to identify ways to improve the Corps project delivery model. A team of 50 key Corps and industry experts, known as the Inland Marine Transportation System Investment Strategy Team (IMTS Team or team), worked for nearly two years in order to develop a long term plan for addressing the critical needs of inland waterways infrastructure. The names of the participants and contributors are listed in Appendix C.

#### **Twenty Year Capital Development Plan**

The IMTS Team recognized that there are many inland navigation projects that have been identified as possible candidates for capital investment in the next 20 years. This list included both new construction and major rehabilitation projects, many of which had only rough order of magnitude cost estimates.

In order to prioritize the work that is most needed to maintain our navigation system, the IMTS Team developed and applied logical metrics to help guide investment choices. The team's criteria fell into two broad categories: (1) structural and operational risk and reliability and (2) economic return. Both categories were represented by numeric scores and the prioritization lists were developed by relying heavily on those scores.

The IMTS Team then developed an achievable consensus-based budget of \$380 million per year for new construction and major rehabilitation during the next 20 years. This \$7.6 billion

20-year investment strategy attempts to address the highest priority projects as determined by the criteria weighting and decision principles.

The plan focuses on spending money each year on only those projects that can be efficiently funded with the available funds. While this means some vital projects may have to wait a few years to be started, these projects still will be finished far sooner than if we maintain the status quo. This is a critical feature of the plan. If projects don't get all the money they need when they need it, we cannot accomplish all we have to do with the resources that will be available. The investment strategy addresses at least 27 of the candidate projects that have been identified by Corps districts and highlights how those projects would be prioritized based on the recommended investment level. The graph below illustrates the dramatic improvement that is expected from the recommended new business model versus our current inefficient and undisciplined business model.



With the recommended \$380 million annual funding-level program, Inland Waterways Trust Fund (IWTF) revenues are proposed to be increased beyond what is anticipated under current law. The IMTS Team reviewed and evaluated many options for funding the IMTS Capital Projects Business Model investment plan and made the following recommendations:

- All *lock* construction projects should be cost-shared 50 percent from general appropriations and 50 percent from the IWTF and all major rehabilitation lock projects costing at least \$100 million should be cost shared at 50 percent from general appropriations and 50 percent from the IWTF.
- Construction and major rehabilitation *dam* projects and major rehabilitation lock projects below \$100 million should be entirely funded from general appropriations. This adjustment better reflects the fact that there are multiple beneficiaries of dams

(municipal water supply, electric utilities, economic development, recreation, tourism, etc.) and underscores the differentiation between major rehabilitation versus maintenance of lock projects.

- With the program recommendation of \$380 million per year, the average IWTF requirement over the next 20 years is \$110 million per year, with the Federal cost sharing requirement averaging \$270 million per year. In the future, these average amounts may vary depending on the mix of projects in the program.
- The establishment of a project-by-project cost sharing cap to protect waterways diesel fuel taxpayers from unreasonable cost escalation and project delays. This should also serve as a further incentive for the government to efficiently fund and execute the program.

The IMTS Team acknowledged that the current revenue-raising system (waterways diesel fuel tax) is a workable, understood, acceptable, and auditable system for collecting the waterways industry's share of the IMTS capitalization costs and that the additional revenues required in the team's consensus recommendations should best be raised through an increase in the current waterways fuel tax. The recommended program would require a 30-45 percent increase in the current fuel tax (a \$0.06 - \$0.09 per gallon increase). The 30 percent increase is based on an assumption that, under current law, anticipated future revenues would equal the average \$85 million annually generated over the past five years, while the 45 percent increase is calculated assuming future annual revenues would equal FY 2009 actual revenues of \$76 million.

Finally, the IMTS Team reviewed the current Corps project delivery process and developed a number of recommended process improvements. Those recommended improvements have significant potential to improve the capital projects business model. Some of these recommendations are already in the process of being implemented while others will require more time. The Board wishes to note in particular, the recommendation that in the future all IMTS projects shall have a risk-based cost estimate of at least an 80 percent confidence level. This is a key improvement that is aimed at ensuring that we have much more reliable cost estimates prior to undertaking future projects both before authorization as well as prior to and during construction. The Board believes that the report's process improvement recommendations, along with the underlying premise that the necessary funding will be provided in an efficient manner, lay the foundation for a vastly improved capital projects business model.

#### **Benefits to the Nation**

At stake are billions of dollars of economic benefits to the nation. While there are billions of dollars in business expansion and new business development hinging on keeping the inland waterways system operating efficiently and without interruption, our report focuses mostly on the protection of an existing business base and on the efficiency gained by allocating and spending the needed modernization dollars in a more effective manner. The business growth and new job potential impact is not included in the benefits of this analysis, which, if they were included, would make the case even more compelling than the billions of dollars of savings we have described in the material. Tables 1 and 2 help illustrate the significance of the gains from more efficient budgeting and allocation, exclusive of commercial growth and employment expansion resulting from these reinvestment actions.

Table 1 examines six post-Water Resources Development Act of 1986 (WRDA '86) lock and dam modernization projects that are currently under construction (Olmsted Locks and Dam, Lower Monongahela River Locks and Dam 2, 3, 4, Kentucky Locks and Dam, and Chickamauga Lock and Dam) or recently have been completed (McAlpine Locks and Dam and Marmet Locks and Dam). The table seeks to help answer the question "If construction of these post-WRDA '86 projects had been held to the same 33% level of cost overruns as the WRDA '86 projects, where would we be today with the money we have invested in those projects?". As the table indicates, after Fiscal Year (FY) 2010, we would be only \$166 million short of the amount needed to complete construction of all six projects.

Today's Projects With Post-WRDA '86's Performance <sup>1</sup>				
	Auth (orig)	Auth + 33%	Spent $\leq$ FY 10 <sup>2</sup>	Overspent/still
	(millions of \$)	(millions of \$)	(millions of \$)	needed
				(millions of \$)
Olmsted	775	1031	1,208	177
McAlpine	220	293	429 <sup>3</sup>	136
Lower Mon	556	739	550	189
Kentucky	393	523	346	177
Marmet	230	306	406 <sup>3</sup>	100
Chickamauga	310	412	199	213
				<b>Total: 166</b>

Table 1 Today's Projects With Post-WPDA '86's Performance<sup>1</sup>

<sup>1</sup> Through and including FY 2010

<sup>2</sup> Incl. ARRA

<sup>3</sup> IMTS CDP figure

	Today's Projects:	Current Situation <sup>4</sup>	
	Today's est. cost (millions of \$)	Spent $\leq$ FY 2010 <sup>5</sup> (millions of \$)	Still needed today (millions of \$)
Olmsted	2,044	1,208	836
McAlpine	429	429 6	
Lower Mon	1,700	550	1, 150
Kentucky	713	346	367
Marmet	406	406 °	
Chickamauga	375	199	176
			<b>Total: 2,529</b>

Table 2

Instead, Table 2 shows where things currently stand with the post-WRDA '86 projects.

At the end of FY 2010, only McAlpine and Marmet are complete and \$2,529 million in additional funding is still needed to complete Olmsted (\$836 million), Lower Mon (\$1,150 million), Kentucky (\$367 million) and Chickamauga (\$176 million). In other words, we are \$2,363 million (\$2,529 million minus \$166 million) short of where we would be if the cost overruns on these projects had been held to WRDA '86 levels.

In the IMTS Capital Projects Business Model Report, the Corps examined economic benefits and conservatively estimated that the IMTS Team's proposed plan is expected to avoid cost growth of as much as \$2.1 billion over the defined 20-year program. Other economic benefits include avoiding more than \$2.8 billion in additional National Economic Development benefits now foregone. The \$2.8 billion figure was calculated looking only at projects currently under construction and does not include, as it should in order to more completely reflect the entire plan, the value of beginning other projects under the proposed program much earlier than otherwise would be possible. And, of course, the plan would also deliver additional transportation and non-transportation related economic, environmental, recreational, societal, safety and energy benefits that accrue to the nation because of the expanded and more efficient use of the inland waterways system.

<sup>&</sup>lt;sup>4</sup> Through and including FY2010

<sup>&</sup>lt;sup>5</sup> Including ARRA

<sup>&</sup>lt;sup>6</sup> IMTS CDP figure

Under the proposed IMTS Team model, significant modernization of the inland waterways system will occur. Without the model, necessary achievable progress completing lock and dam and channel improvement projects will languish, dangerously threatening our nation's economic well being. The IMTS Team concludes its report with these words: "While unlikely that any set of recommended improvements could completely eliminate cost increases and schedule delays, these recommended improvements---in combination with the development of the capital investment strategy and with the underlying premise that the funding will be provided in an efficient manner--- will achieve the goal of an improved capital projects business model."

#### **Board Action**

During Board Meeting No. 63 in Springfield, Virginia on April 13, 2010, the Board unanimously adopted the IMTS Team's Capital Projects Business Model final report and formally provided the report to the Assistant Secretary of the Army for Civil Works, Ms. Jo-Ellen Darcy, with the Board's request that the Administration similarly adopt these recommendations and implement them as set out in the report. Assistant Secretary Darcy was present at the meeting. The Board also requested that the IMTS Capital Projects Business Model report be delivered to each member of Congress.

On April 15, 2010 (two days after the Board meeting), Chairman Little testified before the U.S. House of Representatives Water Resources and Environment Subcommittee at which time he urged Congress to include the IMTS Capital Projects Business Model report's recommendations as part of the Water Resources Development Act (WRDA) that is under consideration. Similarly, Board member Matthew Woodruff testified before the U.S. Senate Environment and Public Works Committee on May 6, 2010 and explained the features of the IMTS Capital Projects Business Model report and requested that body to pass legislation that would implement the report's recommendations.

The public's response to the plan has been very encouraging. To date, more than 200 organizations and companies have signed on in support of the IMTS Capital Projects Business Model plan. A list of those supporters appears in Appendix D.

#### Awaiting the Administration's Response

On January 21, 2009, President Barack Obama issued a memorandum for the heads of executive departments and agencies in which he stated:

"Government should be participatory. Public engagement enhances the Government's effectiveness and improves the quality of its decisions. Knowledge is widely dispersed in society, and public officials benefit from having access to that dispersed knowledge. Executive departments and agencies should offer Americans increased opportunities to participate in policymaking and to provide their Government with the benefits of their collective expertise and information. Executive departments and agencies should also

solicit public input on how we can increase and improve opportunities for public participation in Government.

Government should be collaborative. Collaboration actively engages Americans in the work of their Government. Executive departments and agencies should use innovative tools, methods, and systems to cooperate among themselves, across all levels of Government, and with nonprofit organizations, businesses, and individuals in the private sector. Executive departments and agencies should solicit public feedback to assess and improve their level of collaboration and to identify new opportunities for cooperation."

The IMTS Team effort epitomized the very ideals espoused in President Obama's memorandum. The Board accepted the Corps invitation to participate in that collaborative effort. For nearly two years, top executives from the nation's leading barge lines along with other experts from the industry and the Corps worked for hundreds of hours in a cooperative fashion to reach the consensus based approach set forth in the team's report recommendations.

We now await the Administration's response. More than six months have passed since the report was formally submitted to the Assistant Secretary and we remain optimistic that the Administration will recognize the compelling case we have outlined and will soon respond in a thoughtful and meaningful manner that befits the gravitas embodied in the IMTS Team report. The strengthening of our inland navigation system, indeed our country, depend on such a response. The lack of a serious and timely response from the Administration will cause this industry, the global business community, and the public to question our country's commitment to maintaining transportation options needed to keep and attract new industry, while preserving the treasured waterways of our nation for its citizens.

#### **Awaiting Congressional Action**

Congress is well aware of the crisis facing our Inland Waterways System. Those challenges have been well documented in this Board's previous annual reports to Congress and acknowledged by many members of Congress and Congressional Committees. In July, 2009, the Senate Appropriations Committee in Senate Report 111-45 in referring to the funding problem in the IWTF stated: "A solution to this problem must be developed with the users of the system, the Corps and the appropriate authorizing committees of the Congress". That same report also cautioned that, "As waterways are the most efficient mode of transport, any solution to the funding shortfall should not provide disincentives for using the Inland Waterways."

The IMTS Capital Projects Business Model Report meets those challenges. Members of Congress and their staffs have received testimony from the industry, as well as innumerable faceto-face meetings, that explain the plan's recommendations. The Board is disappointed in the lack of legislative action by this Congress to address the matter. Although many Members of Congress have responded very favorably to the comprehensive solution that has been proposed, it has not yet translated into Congressional action. Our frustration is shared by some within Congress, as evidenced by the following language in the recent report from the Senate Appropriations Committee accompanying the Committee's Energy and Water Development appropriations bill for FY 2011:

"It should be noted that the Committee has waited through four budget cycles for a viable proposal to more robustly fund the investments that need to be made in the inland waterway system. The Committee continues to support the current cost-shared approach for these projects with half of the fund derived from general revenues and half from the IWTF. However, the Committee is only willing to wait so long for the appropriate committees to fulfill their responsibilities and provide the necessary legislation to resolve this issue. Ultimately, this Committee may be forced to act in order to address the serious needs of the inland waterway system." (S. Rpt. 111-228)

#### **Recommendations**

The Board's recommendations for 2010 continue and build upon the themes contained in previous Inland Waterways Users Board annual reports. Those themes include calls to address the pressing need for modernization on the inland waterways system, improvement of program management and project delivery performance through structural changes, elimination of significant project cost escalation and delay, assurance of adequate program funding, regularization of the Congressional budget and appropriations process, priority recognition of the full range of transportation and non-transportation related benefits (economic, environmental, employment, safety and social) that the waterways contribute to the nation, and development of a reliable long term investment strategy for the inland waterways system.

Fortunately from the Board's perspective, all of these themes are advanced significantly in the set of recommendations contained in the Inland Marine Transportation System Investment Strategy Team report.

O <u>Adopt and implement the Capital Development Plan</u>. As a matter of the highest priority, the Administration should express its full-throated support for all the recommendations contained in the IMTS Team's Capital Projects Business Model. Working together as necessary, the Administration and Congress should assure the immediate implementation of the comprehensive IMTS Capital Projects Business Model's dynamic 20-year construction plan that is based on a realistic and real-world budget, prioritizes investments based on risk and the consequences of diminished future performance, makes appropriate cost sharing adjustments related to all who benefit from inland waterway modernization projects, provides protection against future unreasonable project cost escalation while at the same time incentivizing efficient project completion, and creates the additional revenues necessary to effectuate the plan. It should be emphasized that while it is necessary to have a long range plan such as the 20-year plan proposed, such a plan is not envisioned as a static plan. The Board envisions annual reviews and adjustments as needed based on new facts. The plan, as confirmed or revised each year, would be provided to Congress, which would exercise its discretion

and authority to make required course corrections. Hence as time goes on, we should always maintain a long term vision as to where we are going, but have the flexibility to adjust our course as needed consistent with the overall objectives of the plan to maintain and improve the Inland Marine Transportation System in the most cost-efficient manner possible.

O<u>Provide additional funding</u>. To the extent that the Administration and Congress agree in the coming months to address the nation's current or future economic challenges by providing additional Federal funding support for infrastructure, lock and dam modernization should be one category of infrastructure project receiving significant additional funding. As occurred with the American Recovery and Reinvestment Act, the additional inland waterways system modernization funding should be able to be obligated quickly and not be constrained by the level of the balance in the Inland Waterways Trust Fund. To the extent the nation considers alternative funding options such as bonding, an infrastructure bank or other means of financing capital improvements, we should explore how these mechanisms could be used to provide the stable funding stream that will eliminate much of the wasteful cost escalation in our current investment model.

O <u>Pursue efficiency advances</u>. Both Congress and the Administration should press ahead to identify and implement further efficiency-enhancing policies and mechanisms that are likely to make construction of inland waterways system modernization projects as timely and cost-effective as possible. The recommendations contained in the IMTS Team's Capital Projects Business Model are important in and of themselves. They should not be viewed, however, as the end of the challenge. Rather, they should be viewed as a first step in an intensive, continuing, multi-step examination of how to create maximum value to the nation as the result of investing in our inland waterways system.

#### **Acknowledgements**

The Inland Waterways Users Board wishes to express its sincere appreciation to Major General William T. Grisoli, the U.S. Army Corps of Engineers Deputy Commanding General for Civil Works and Emergency Operations, and Executive Director to the Board, Mr. Gary A. Loew, the Chief of the Corps Civil Works Programs Integration Division, Mr. Mark R. Pointon from the Corps Directorate of Civil Works, the Executive Secretary to the Board, and Messrs. Kenneth E. Lichtman and David V. Grier from the Corps Institute for Water Resources for all the support they provide. Also, the Corps' division and district staffs and the staffs at Corps Headquarters and the Institute for Water Resources have provided thorough and timely information for the Board's use.

#### Appendix A

#### History

The Inland Waterways Fuel Tax was established to support inland waterway infrastructure development and rehabilitation. Commercial users are required to pay this tax on fuel consumed in inland waterway transportation. Revenues from the tax are deposited in the Inland Waterways Trust Fund and fund 50% of the cost of inland navigation projects each year as authorized. The amount of tax paid by commercial users is \$.20 per gallon of fuel. This tax rate generates approximately \$85 million in contributions annually to the Inland Waterways Trust Fund.

Reflecting the concept of "Users Pay, Users Say", the Water Resources Development Act of 1986 (Public Law 99-662) ("WRDA '86") established the Inland Waterways Users Board (the "Board"), a Federal advisory committee, to give commercial users a strong voice in the investment decision-making they were supporting with their cost-sharing tax payments. The principal responsibility of the Board is to recommend to the Congress, the Secretary of the Army and the U.S. Army Corps of Engineers the prioritization of new and replacement inland navigation construction and major rehabilitation projects.

### Appendix **B**

### List of the Fuel Taxed Inland and Intracoastal Waterways and System Map

Statutory Definitions of Inland and Intracoastal Fuel Taxed Waterways of the United States

SOURCES: Public Law 95-502, October 21, 1978, and Public Law 99-662, November 17, 1986.

1. Alabama-Coosa Rivers: From junction with the Tombigbee River at river mile (hereinafter referred to as RM) 0 to junction with Coosa River at RM 314.

2. Allegheny River: From confluence with the Monongahela River to form the Ohio River at RM 0 to the head of the existing project at East Brady, Pennsylvania, RM 72.

3. Apalachicola-Chattahoochee and Flint Rivers (ACF): Apalachicola River from mouth at Apalachicola Bay (intersection with the Gulf Intracoastal Waterway) RM 0 to junction with Chattahoochee and Flint Rivers at RM 107.8. Chattahoochee River from junction with Apalachicola and Flint Rivers at RM 0 to Columbus, Georgia at RM 155 and Flint River, from junction with Apalachicola and Chattahoochee Rivers at RM 0 to Bainbridge, Georgia, at RM 28.

4. Arkansas River (McClellan-Kerr Arkansas River Navigation System): From junction with Mississippi River at RM 0 to Port of Catoosa, Oklahoma, at RM 448.2.

5. Atchafalaya River: From RM 0 at its intersection with the Gulf Intracoastal Waterway at Morgan City, Louisiana, upstream to junction with Red River at RM 116.8.

6. Atlantic Intracoastal Waterway: Two inland waterway routes approximately paralleling the Atlantic coast between Norfolk, Virginia, and Miami, Florida, for 1,192 miles via both the Albemarle and Chesapeake Canal and Great Dismal Swamp Canal routes.

7. Black Warrior-Tombigbee-Mobile Rivers: Black Warrior River System from RM 2.9, Mobile River (at Chickasaw Creek) to confluence with Tombigbee River at RM 45. Tombigbee River (to Demopolis at RM 215.4) to port of Birmingham, RM's 374-411 and upstream to head of navigation on Mulberry Fork (RM 429.6), Locust Fork (RM 407.8), and Sipsey Fork (RM 430.4).

8. Columbia River (Columbia-Snake Rivers Inland Waterways): From the Dalles at RM 191.5 to Pasco, Washington (McNary Pool), at RM 330, Snake River from RM 0 at the mouth to RM 231.5 at Johnson Bar Landing, Idaho

9. Cumberland River: Junction with Ohio River at RM 0 to head of navigation, upstream to Carthage, Tennessee, at RM 313.5.

10. Green and Barren Rivers: Green River from junction with the Ohio River at RM 0 to head of navigation at RM 149.1.

11. Gulf Intracoastal Waterway: From St. Mark's River, Florida, to Brownsville, Texas, 1,134.5 miles.

12. Illinois Waterway (Calumet-Sag Channel): From the junction of the Illinois River with the Mississippi River RM 0 to Chicago Harbor at Lake Michigan, approximately RM 350.

13. Kanawha River: From junction with Ohio River at RM 0 to RM 90.6 at Deepwater, West Virginia.

14. Kaskaskia River: From junction with Mississippi River at RM 0 to RM 36.2 at Fayetteville, Illinois.

15. Kentucky River: From junction with Ohio River at RM 0 to confluence of Middle and North Forks at RM 258.6.

16. Lower Mississippi River: From Baton Rouge, Louisiana, RM 233.9 to Cairo, Illinois, RM 953.8.

17. Upper Mississippi River: From Cairo, Illinois, RM 953.8 to Minneapolis, Minnesota, RM 1,811.4.

18. Missouri River: From junction with Mississippi River at RM 0 to Sioux City, Iowa, at RM 734.8.

19. Monongahela River: From junction with Allegheny River to form the Ohio River at RM 0 to junction of the Tygart and West Fork Rivers, Fairmont, West Virginia, at RM 128.7.

20. Ohio River: From junction with the Mississippi River at RM 0 to junction of the Allegheny and Monongahela Rivers at Pittsburgh, Pennsylvania, at RM 981.

21. Ouachita-Black Rivers: From the mouth of the Black River at its junction with the Red River at RM 0 to RM 351 at Camden, Arkansas.

22. Pearl River: From junction of West Pearl River with the Rigolets at RM 0 to Bogalusa, Louisiana, RM 58.

23. Red River: From RM 0 to the mouth of Cypress Bayou at RM 236.

24. Tennessee River: From junction with Ohio River at RM 0 to confluence with Holstein and French Rivers at RM 652.

25. White River: From RM 9.8 to RM 255 at Newport, Arkansas.

26. Willamette River: From RM 21 upstream of Portland, Oregon, to Harrisburg, Oregon, at RM 194.

27. Tennessee-Tombigbee Waterway: From its confluence with the Tennessee River to the Warrior River at Demopolis, Tennessee



## Appendix C

### List of Participants and Contributors to the Inland Marine Transportation System (IMTS) Capital Projects Business Model Report

The following are acknowledged for participating as team members or contributing by providing input, background or advice:

NAME	ORGANIZATION
Timothy Black	U.S. Army Corps of Engineers
Eric Braun	U.S. Army Corps of Engineers
Rick Calhoun	Cargill Marine and Terminal, Inc.
Larry Daily	Alter Barge Line, Inc.
John Doyle	Jones Walker
Anthony Dunams	Booz Allen Hamilton
Michael Ensch	U.S. Army Corps of Engineers
James Fisher	U.S. Army Corps of Engineers
William W. Fuller	U.S. Army Corps of Engineers
Sandy Gore	U.S. Army Corps of Engineers
David Grier	U.S. Army Corps of Engineers
Jorge Gutierrez	U.S. Army Corps of Engineers
James Hannon	U.S. Army Corps of Engineers
William Harder	U.S. Army Corps of Engineers
Andy Harkness	U.S. Army Corps of Engineers
Mike Hennessey	Consol Energy
Stephen Hrabovsky	U.S. Army Corps of Engineers
Jeanine Hoey	U.S. Army Corps of Engineers
Keith D. Hofseth	U.S. Army Corps of Engineers
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Michael Jacobs	U.S. Army Corps of Engineers
Gerald Jenkins	Ursa Farmer Cooperative
Steve Jones	U.S. Army Corps of Engineers
Michael Kidby	U.S. Army Corps of Engineers
Jerry Knapper	Ingram Barge Company
Mark Knoy	AEP River Operations LLC
Stephen Little	Crounse Corporation-
Gary Loew	U.S. Army Corps of Engineers
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Daniel Martin	Ingram Barge Company
Jeffrey McKee	U.S. Army Corps of Engineers
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Michael Park	U.S. Army Corps of Engineers
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John Pigott	Tidewater Barge Lines
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Matthew Woodruff	Kirby Corporation

## Appendix D

List of Supporters of the Inland Waterways Capital Development Plan

## Supporters of the Inland Waterways Capital Development Plan

#### National Organizations

The American Waterways Operators National Waterways Conference, Inc. Waterways Council, Inc. American Agri-Women American Land Conservancy American Soybean Association Dredging Contractors of America Inland Rivers Ports & Terminals, Inc. International Liquid Terminals Association The International Propeller Club of the United States

National Association of Manufacturers National Audubon Society National Corn Growers Association National Council of Farmer Cooperatives National Grain and Feed Association National Mining Association North American Equipment Dealers Association Steel Manufacturers Association Transportation Research Board/Marine Board U.S. Chamber of Commerce

#### State, Regional, and Local Organizations

Alabama State Port Authority Association of Tennessee Valley Governments Bond County (III.) Farm Bureau Boone County (Ill.) Farm Bureau Bureau County (III.) Farm Bureau Calhoun County (III.) Farm Bureau California Marine Affairs & Navigation Conf. (CMANC) Carpenters' Dist. Council of Greater St. Louis and Vicinity Carroll County (Ill.) Farm Bureau Chemical Industry Council of Illinois City of Pittsfield, Ill. Clark County (III.) Farm Bureau Coalition of Alabama Waterway Associations, Inc. Cook County (III.) Farm Bureau Coosa-Alabama River Improvement Association, Inc. DeWitt County (III.) Farm Bureau DeWitt (Mo.) Drainage and Levee District Ducks Unlimited, St. Louis Mid-County Chapter DuPage County (III.) Farm Bureau Effingham County (III.) Farm Bureau Farm Resource Center Grain & Feed Association of Illinois Great River Economic Development Foundation Greene County (III.) Farm Bureau Gulf Intracoastal Canal Association Hancock County (III.) Farm Bureau Huntington District Waterways Association Illinois AgriWomen Illinois Association of Drainage Districts Illinois Biotechnology Industry Organization Illinois Corn Growers Association Illinois Farm Bureau Illinois Fertilizer & Chemical Association Illinois Grape Growers & Vintners Association Illinois Seed Trade Association Illinois Soc. of Prof. Farm Managers and Rural Appraisers Illinois Soybean Association Indiana Corn Growers Association Indiana Soybean Alliance International Union of Operating Engineers Local 513 Iowa Corn Growers Association Jasper County (Ill.) Farm Bureau Jersey County (III.) Business Association

Jersey County (III.) Farm Bureau Kane County (III.) Farm Bureau Kendall County (III.) Farm Bureau Kentuckians for Better Transportation Kentucky Chamber of Commerce Kentucky Corn Growers Kingdom of Callaway (Mo.) Chamber of Commerce Knox County (Ill.) Farm Bureau LaSalle County (Ill.) Farm Bureau Lee County (Ill.) Farm Bureau Little Rock Port Authority Louisiana Assn. of Waterway Operators and Shipyards Macon County (III.) Farm Bureau Marshall-Putnam (III.) Farm Bureau Mason County (Ill.) Farm Bureau McDonough County (III.) Farm Bureau McLean County (Ill.) Farm Bureau Menard County (Ill.) Farm Bureau Mercer County (III.) Farm Bureau MidCentral Illinois Regional Council of Carpenters Minnesota Chapter of ASFMRA Minnesota Corn Growers Association Minnesota Grain and Feed Association Mississippi Water Resources Association Missouri Corn Growers Association Missouri Levee & Drainage District Association Mo-Ark Association Montgomery County (Ill.) Farm Bureau Ogle County (Ill.) Farm Bureau Ohio Corn Growers Association Pacific Northwest Waterways Association (PNWA) Paducah Area Chamber of Commerce Peoria County (III.) Farm Bureau Perry County (Ill.) Farm Bureau Pike and Scott County (Ill.) Farm Bureaus Port of Cincinnati, LLC Port of Houston Authority Board of Commissioners of the Port of New Orleans Port of Pittsburgh Commission Port of Portland (Oregon) Port of Vancouver, Wash. Red River Valley Association Rock Island County (Ill.) Farm Bureau

## Supporters of the Inland Waterways Capital Development Plan

State, Regional, and Local Organizations

Rosedale-Bolivar County (Miss.) Port Commission Sangamon County (III.) Farm Bureau Shelby County (III.) Farm Bureau Stark County Farm (III.) Bureau Stephenson County (III.) Farm Bureau Tennessee Cumberland Waterways Council Tennessee River Valley Association Tennessee-Tombigbee Waterway Development Auth. Tennessee-Tombigbee Waterway Development Council Texas Agri Women Texas Waterways Operators Association

Tri-State Development Summit Tri Rivers Waterway Development Assoc. Tulsa Port of Catoosa Upper Mississippi Waterway Association Upper Mississippi, Illinois & Missouri Rivers Assn. Warrior-Tombigbee Waterway Association Washington County (Ill.) Farm Bureau Waterways Association of Pittsburgh Whiteside County (Ill.) Farm Bureau Will County (Ill.) Farm Bureau

#### Companies

Advantus Strategies, LLC AEP River Operations Ag-Land FS, Inc. Agriservices Of Brunswick, LLC Alter Barge Line, Inc. American Commercial Lines American Inland Ports,LLC American River Transportation Company Amherst Madison, Inc. Artco Fleeting Service B&G Towing LLC/Acme Marine LLC Bayou Fleet Inc. Bludworth Marine LLC Blue Danube Incorporated Bob Brackmann Farms Brennan Marine, Inc Brunswick River Terminal, Inc. Buffalo Marine Service, Inc. Bunge North America C&C Marina Maintenance Company Campbell Transportation Company Canal Barge Company, Inc. Cargill, Inc. CF Industries Holdings, Inc. CGB Enterprises, Inc. Channel Shipyard Companies CHS Inc. Cincinnati Bulk Terminals, LLC CITGO Petroleum Corporation Clarkson Grain Company Inc. Colusa Elevator Co. CONSOL Energy Crounse Corporation Deloach Marine E.ON U.S. Farm Credit Services of Illinois FirstEnergy Solutions Grain Processing Corporation GROWMARK Hartsburg Grain Company Hodel Farms Inc.

Holcim (US) Inc. Ingram Barge Company Inland Marine Service The Integra Group, Inc. J.A.M. Marine Services, LLC Kirby Corporation K-Sea Transportation Partners LP Lafayette Workboat Rentals, LLC LeBeouf Bros. Towing, LLC Magnolia Marine Transport Co. Marathon Petroleum Company LLC MARMAC, LLC d/b/a McDonough Marine Service Marquette Transportation Company, LLC Martin Marine McNational Inc. Mulzer Crushed Stone Natures Way Marine, LLC New Orleans Shipyard Northern Partners Cooperative Nucor Steel Tuscaloosa, Inc. Osterholt Farms Parker Towing Company PowerSouth Energy Cooperative Rentech Energy Midwest Sause Bros., Inc. Servco FS Cooperative Smurfit Stone Container Corporation T & T Marine Salvage, Inc. Thomson, Rhodes & Cowie P.C. Tidewater Barge Lines, Inc. TradeWinds Towing LLC Trinity Marine Products, Inc. Turn Services, LLC Twomey Company United Ocean Services Upper River Services LLC Valero Energy Volunteer Barge & Transport Inc. Vulcan Materials Company The Waterways Journal, Inc. Yager Materials, LLC

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