Inland Waterways: Recent Proposals and Issues For Congress

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Summary

Inland waterways are a significant part of the nation's transportation system. Because of the national economic benefits of maritime transport, the federal government has invested in navigation infrastructure for two centuries. As a result, barge shipping has received significant support through federal funding for operational costs, capital expenditures, and major rehabilitation on inland waterways. Since the 1980s, expenditures for construction and major rehabilitation projects on inland waterways have been cost-shared on a 50/50 basis between the federal government and users through the Inland Waterway Trust Fund (IWTF), with operations and maintenance costs remaining a 100% federal responsibility.

Future financing for the inland waterway system is uncertain. The IWTF is currently supported by a $0.20 per gallon tax on barge fuel, but the trust fund's balance has declined significantly in recent years. Without major changes to the current user revenue stream or the federal/non-federal cost-share requirements for construction, future spending on inland waterway projects may be limited.

Previously under both the Bush and Obama Administrations, the executive branch has submitted legislative proposals to replace the fuel tax with a lock user fee that would have increased revenues and tied user fees to IWTF balances. However, Congress and industry interests rebuffed these proposals. In 2010, the Inland Waterways Users Board (IWUB), a federal advisory committee advising the U.S. Army Corps of Engineers on inland waterways, endorsed an alternative proposal that is supported by many barge industry interests. The proposal would increase the fuel surcharge that funds the IWTF, but would also require an even greater increase to the federal share of inland waterway costs. Some, including the National Commission on Fiscal Responsibility and Reform, have proposed to significantly increase user charges for inland waterway costs, including operations and maintenance costs, without increasing federal outlays.

The user industry (including the barge industry and agricultural groups) argues that changes are necessary to shore up the trust fund, improve the deteriorating state of inland waterway infrastructure, and distribute cost responsibilities more equitably among those who benefit from the system (i.e., more funding by federal taxpayers). They argue that these changes would support jobs for a vital component of the nation's transportation mix. The Obama Administration has generally agreed that major changes are needed to meet new infrastructure needs, but argues that these revenues should continue to be shared between users and the federal government. Taxpayer and environmental advocacy groups have argued against additional federal support for the IWTF, and in some cases argue for an increased share of costs to be borne by users (i.e., a decreased share for the federal government). These groups often disagree with the justifications for increased investment in inland waterways, and note that the barge industry already benefits from generous federal support in the form of 100% federal funding for operations and maintenance costs on inland waterways.

Congress may consider whether to increase the overall level of inland waterway funding in the future (and by what amount); the appropriate type of user fee to fund the nonfederal share of these costs (fuel taxes, lockage fees, etc.); the division of cost-share responsibilities between the federal government and commercial users; and whether to initiate process-based recommendations that aim to improve the delivery and efficiency of IWTF-funded projects.

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Introduction to U.S. Inland Waterways

Inland waterways are a significant component of the nation's marine transportation system.[1] These waterways carry approximately one-sixth of the national volume of intercity cargo on 25,000 miles of commercially active inland and intracoastal waterways.[2] Included in this total are approximately 12,000 miles of fuel-taxed federal waterways known as the Inland Waterway System (IWS), which are managed by the U.S. Army Corps of Engineers (Corps). These waterways cover 38 states and handle approximately half of all inland waterway freight (or one-twelfth of all national freight).[3] The Corps develops, operates, and maintains the infrastructure of these commercial waterways (e.g., navigation channels, harbors, locks and dams), and also maintains and regulates the channel depths through dredging and water management.

Costs for maintenance and construction on inland waterways are funded by the Corps (through appropriations) and the commercial user industry (through user fees paid to the federal government). The Corps pays for 100% of the cost for studies and for operations and maintenance on the IWS, while the cost for new construction or major rehabilitation (currently defined as any upgrade in excess of $8 million) is shared equally between the Corps and the commercial industry.

Congress is faced with competing proposals relating to future financing for inland waterway system investments, including who will finance what investments, and at what level. The current revenue source, a set tax on fuel agreed to in the mid-1980s, is insufficient to cover the nonfederal costs of major capital expenditures on inland waterways. This has in some years resulted in federal taxpayers covering more than half of these costs. The ongoing shortfall is currently limiting the number of new and ongoing inland waterway construction projects, and is expected to continue to do so until changes to the financing system are enacted by Congress.

Recent proposals highlight a number of issues associated with inland waterways. On multiple prior occasions, the executive branch has proposed to phase out the fuel tax in favor of a lock usage fee, but these efforts have been rebuffed by Congress. More recently, the user industry proposed and continues to favor a combination of increases to the existing fuel tax and an increase in the federal share of inland waterway costs.

Rationale and Statistics

The Inland Waterway System predates the founding of the nation itself. Before the onset of rail and highway transport, inland waterways were a primary means of transporting bulk goods. Through the early 1800s, inland waterway development was left to the states, until the Supreme

[1] While harbors maintained by the Corps are a significant part of the U.S. transportation system, the focus of this report is the inland waterway system. For more information on harbors and the Harbor Maintenance Trust Fund, see CRS Report R41042, *Harbor Maintenance Trust Fund Expenditures*, by John Frittelli.

[2] Unless noted otherwise, this report uses "inland waterways" as a shorthand for all inland and intracoastal waterways in the United States (including inland, coastal, and lakewise domestic traffic).

[3] CRS analysis based on data derived from the Army Corps of Engineers, *Final Waterborne Commerce Statistics for Calendar Year 2008* (available at http://www.ndc.iwr.usace.army.mil//wcsc/pdf/finaltotal08.pdf), and the Department of Transportation's Commodity Flow Survey for 2007 (available at http://www.bts.gov/publications/commodity_flow_survey/final_tables_december_2009/html/table_01a.html).

Court gave the United States authority over interstate commerce in 1824.[4] Shortly thereafter, the federal government began to provide funding and support to these waterways to improve interstate and international commerce. Improvements in other forms of transportation, including rail and highway, have decreased reliance on inland waterways as a means of commercial freight transportation, but these waterways remain a significant component in the nation's transportation mix for many bulk commodities.

Today, inland, intracoastal, and lakewise waterway traffic accounts for around 8% of domestic annual freight tonnage in the United States.[5] Tonnage on the federal IWS is a subset of this freight traffic. Freight traffic on the federal fuel-taxed IWS accounted for approximately 550 million tons (or approximately 4%) of all domestic freight shipped in 2007. While in terms of tonnage, inland waterways are a relatively small part of the nation's overall freight transportation network, these waterways remain an important transportation route in some regions of the country, especially those that rely on movement of bulk goods over long distances. Along with freight rail, inland waterways are a primary means of transport for the nation's grain and oilseed exports, and also for raw materials and liquid and bulk products such as coal, petroleum, chemicals, processed metals, cement, sand, and gravel.

The system of fuel-taxed inland and intracoastal waterways is displayed in **Figure 1**. Inland waterway tonnage relative to other modes of freight transit is shown in color in **Figure 2**. As **Figure 2** indicates, almost all of the tonnage (approximately 90%) transported on inland waterways comes through the Mississippi and Ohio River System, primarily through bulk shipping on barges.

Although previous estimates by the Corps and others projected that inland waterway traffic would increase over time, actual traffic on inland waterways has for the most part remained flat in recent years.[6] At the same time, overall freight tonnage for all modes of domestic freight shipping increased at an average annual rate of 1.2% from 1997 to 2007, and is expected to continue to increase.[7] The Department of Transportation projects that freight tonnage will double over the next 25 years, with inland waterway traffic projected to increase at a rate significantly less than that projected for rail and highway shipping.[8]

[4] *Gibbons v. Ogden*, 22 U.S. 1 (1824).

[5] CRS analysis based on 2007 data from U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, *Waterborne Commerce of the United States, Calendar Year 2008*, and the U.S. Department of Transportation's Commodity Flow Survey for 2007.

[6] For detailed statistics by year for 1999-2008, see U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, *Waterborne Commerce of the United States, Calendar Year 2008*, p. 5.

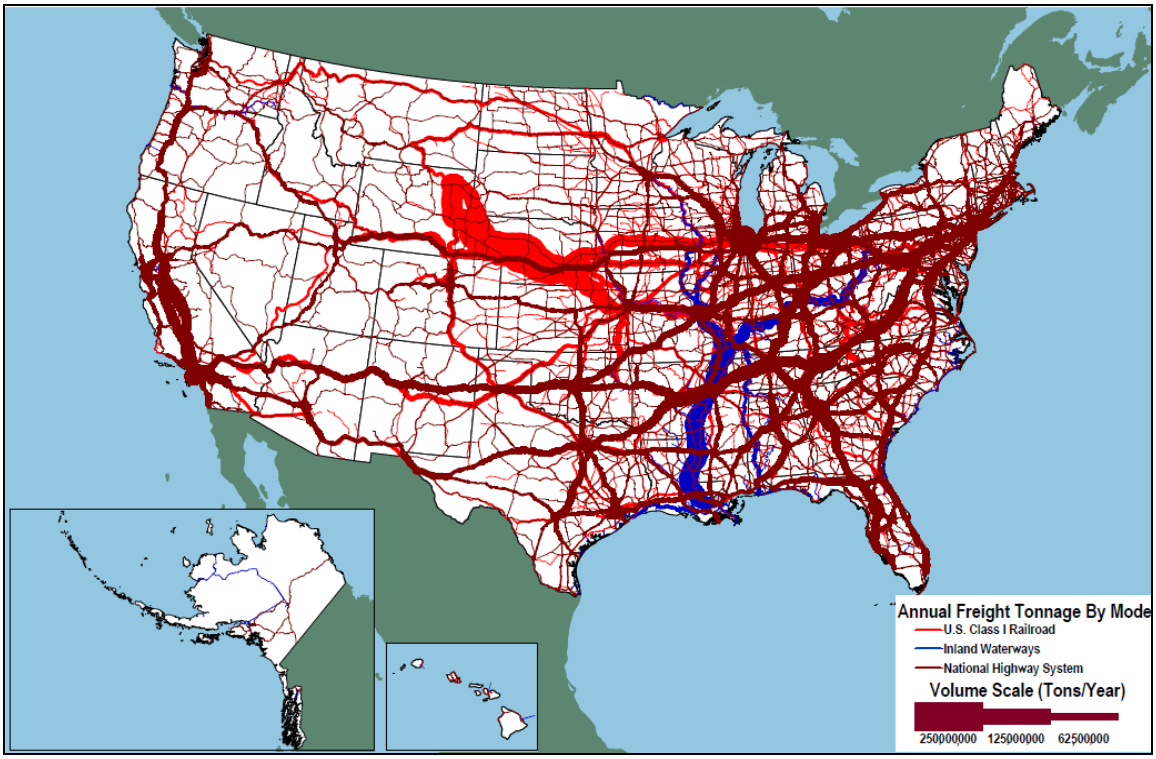
[7] CRS analysis based on U.S. Department of Transportation, p. 5-22, and U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, *Waterborne Commerce of the United States, Calendar Year 2008*, p. 5, at http://www.iwr.usace.army.mil/ndc/wcsc/pdf/wcusnatl08.pdf. Does not include multiple modes of shipping, which are not broken out individually by DOT.

[8] U.S. Department of Transportation, *Freight Analysis Framework: Freight Facts and Figures*, 2009, http://ops.fhwa.dot.gov/freight/freight_analysis/nat_freight_stats/docs/09factsfigures/table2_1.htm.

Figure 1. Fuel-Taxed Inland Waterway System

Source: Inland Marine Transportation System, Capital Projects Business Model, April 13, 2010.

Figure 2. Relative Tonnage on Highways, Railroads, and Inland Waterways, 2002



Source: U.S. Department of Transportation, Freight Facts and Figures, 2008.

Financing Inland Waterways

The federal government invests in inland waterways because of the value of these waterways to the nation. The federal government first began to invest in inland waterways in the early 1800s. Over time, this gave way to a significant federal investment in the form of full funding for investigations, operations and maintenance, and construction costs funded through the U.S. Army Corps of Engineers. However, legislation in the 1970s and 1980s changed this system and created user cost-sharing requirements for a subset of these costs.

Previous Legislation: 1978 and 1986

Two pieces of legislation transformed inland waterway financing and created the framework for the current system: the Inland Waterways Revenue Act of 1978 (P.L. 95-502, 26 U.S.C. § 9506) and the Water Resources Development Act (WRDA) of 1986, as amended (P.L. 99-662, 26 U.S.C. § 4042). These two laws underpin the current financing system for Corps inland waterway projects. Prior to these laws, investments had been entirely funded by the federal government as a result of established policies (see box below). Together, the acts of 1978 and 1986 established a fuel tax on commercial barges, cost-share requirements for inland waterway projects, and a trust fund to hold these revenues and fund investments in construction. The overall effect of these changes was a greater financial and decision-making responsibility for commercial operators on the inland waterway system.

Inland Waterways Revenue Act of 1978

The Inland Waterways Revenue Act of 1978 was the original law establishing user fee requirements for commercial waterway shipping, and much of the debate leading up to that bill's passage is still relevant today.[9] For 40 years prior to passage of this law, successive administrations and congressional sponsors had tried and failed to institute user fees on barge traffic to increase equity among transportation modes and across various regions of the country. These efforts failed, primarily because, over time, Congress had developed a strict policy of no user fees on inland waterways.[10]

The 1978 bill was revised significantly from earlier versions in the House and Senate. The barge industry initially opposed any form of tax or user fee on the aforementioned policy basis. Advocates for a user fee, including the bill's sponsors, had initially proposed a much higher fee on lock usage (enough to raise approximately $350 million a year in nonfederal revenues). The sponsors also proposed that user feeds be tied to overall expenditures on inland waterways (i.e., user fees would go up automatically when expenditures on construction went up).[11]

In the final version of the legislation, the lock usage fee was replaced with a fuel tax that would generate significantly less on an annual basis. Additionally, as part of the negotiations between the bill's sponsors and the waterway industry, the capital recovery mechanism was replaced with a more indirect tie between revenues and overall expenditures in the form of a dedicated trust fund. While the trust fund would hold user revenues for the explicit purpose of inland waterway investments, the fuel tax itself was not tied to expenditures out of the trust fund.

[9] Efforts to secure passage of this legislation were the primary subject of series of articles in *The Washington Post*, as well as a book on the issue. See T. R. Reid, *Congressional Odyssey: The Saga of a Senate Bill* (San Francisco, CA: W.H. Freeman and Company, 1980).

[10] This policy dated to the Northwest Ordinance of 1787, in which Congress declared that certain inland waterways "shall be common highways and forever free ... without any tax, impost, or duty therefore."

[11] For more information on this argument, see the "Funding for Proposed Investments" section of this report.

The federal policy of taxing fuel on commercial barge traffic was codified in the Inland Waterways Revenue Act of 1978.[12] The act of 1978 also established the Inland Waterway Trust Fund (IWTF), which was initially funded by this fuel tax ($0.04 per gallon, beginning in FY1980, gradually increasing to $0.10 per gallon in FY1986), and established those waterways that are subject to the tax.[13] However, no appropriations were authorized from the IWTF until later, in WRDA 1986.

WRDA 1986 authorized additional increases to the 1978 act's fuel tax, which were set to rise to the current level of $0.20 per gallon beginning in 1994.[14] (See **Table 1** for the full schedule of tax increases.) Similar to the initial tax under the 1978 act, this tax was not indexed for inflation. Significantly, WRDA 1986 also laid out a cost-sharing process for inland waterway expenditures: it stipulated that inland waterway construction projects would be funded on a 50/50 basis, with 50% of the funds required for construction coming from the IWTF and the remaining 50% funded by the Treasury's General Revenue (GR) fund.[15] On the other hand, operations and maintenance (O&M) costs were to remain a 100% federal responsibility.

Table 1. Fuel Taxes on Inland Waterways

(taxes under 1978 and 1986 acts)

Date[a]	Tax per Gallon
October 1, 1980-September 30, 1981	$0.04
October 1, 1981-September 30, 1983	$0.06
October 1, 1983-September 30, 1985	$0.08
October 1, 1985-December 31, 1989	$0.10
1990	$0.11
1991	$0.13
1992	$0.15
1993	$0.17
1994	$0.19
After 1994	$0.20

Source: Inland Waterways Revenue Act of 1978 (P.L. 95-502) and WRDA 1986 (P.L. 99-662).

a. Tax levels preceding 1990 were set in P.L. 95-502 and were adjusted based on fiscal years, while post-1990 levels were set in P.L. 99-662 and were based on calendar years.

Under WRDA 1986, expenditures from the IWTF on a construction project are not automatic. They must be first authorized by Congress and then funded in annual discretionary appropriations. WRDA 1986 authorized an initial round of projects to be funded by the IWTF,

[12] See box, "Inland Waterway Revenue Act of 1978." While the IWTF first received revenues in 1980, Congress did not authorize appropriations from the fund before WRDA 1986. The fund initially had a balance of $260 million before any other appropriations were made.

[13] A list of waterways currently subject to the fuel tax is available through the *Federal Register* (26 C.F.R. §4042, Subpart G).

[14] 33 U.S.C. § 201. The tax was gradually increased from $0.10 per gallon in FY1986 to $0.20 cents per gallon after 1994. This tax has stayed at $0.20 cents per gallon since 1994, and is not indexed for inflation.

[15] 26 U.S.C. § 9506 (C)(2).

and subsequent Water Resources Development Acts passed by Congress have authorized additional projects. Pursuant to the WRDA requirements, appropriations for these projects have been made by Congress in annual appropriations bills (see next section, "Inland Waterways Trust Fund: Trends and Issues Since 1986," for additional information on funding trends).

As previously mentioned, WRDA 1986 retained the policy of 100% federal funding for inland waterway costs besides construction and major maintenance (i.e., expenditures for studies and operations and maintenance costs less than $8 million).[16] While not technically part of the IWTF, the amount of federal dollars spent on O&M typically exceeds the amount spent on construction and major rehabilitation by a significant amount, and is often part of policy discussions related to inland waterways.[17] (See below section, "Other Proposals: Increase User Share.")

WRDA 1986 also established the Inland Waterways Users Board (IWUB), a federal advisory committee subject to the Federal Advisory Committees Act.[18] Section 302 of WRDA 1986 stipulates that the board be made up of 11 members representing shipping interests on the primary geographical areas served by inland waterways, with due consideration given to tonnage shipped on the respective waterways.[19] The board was established to give commercial users an opportunity to inform the priorities for federal decision-making on IWTF projects. It meets regularly three times a year to develop and make recommendations to the Secretary of the Army and Congress regarding these investments.[20]

Inland Waterways Trust Fund: Trends and Issues Since 1986

Between 1986 and 2010, the IWTF balance has varied considerably. Beginning in 1992, balances increased, reaching their highest level, $413 million, in 2002. On multiple occasions, the executive branch (through the Clinton Administration in 1996 and the Bush Administration in 2004) proposed to further increase fees on the user industry and require the IWTF to also fund some portion of operations and maintenance expenditures (in addition to the construction and major rehabilitation requirements). These proposals were not enacted by Congress.

Beginning in FY2005, appropriations from the IWTF increased significantly as the Bush Administration requested and Congress appropriated greater investments in IWTF-funded projects. These increasing expenditures significantly exceeded annual fuel tax collections going into the IWTF and interest on the IWTF balance.[21] (See **Figure 3**.) Additionally, some projects

[16] 33 U.S.C. § 2212

[17] In recent years, O&M costs on inland waterways have averaged more than $500 million annually.

[18] 5 U.S.C., Appendix § 2. Pursuant to the WRDA 1986 authorization, the IWUB is not subject to Section 14 of the act, concerning termination of a committee.

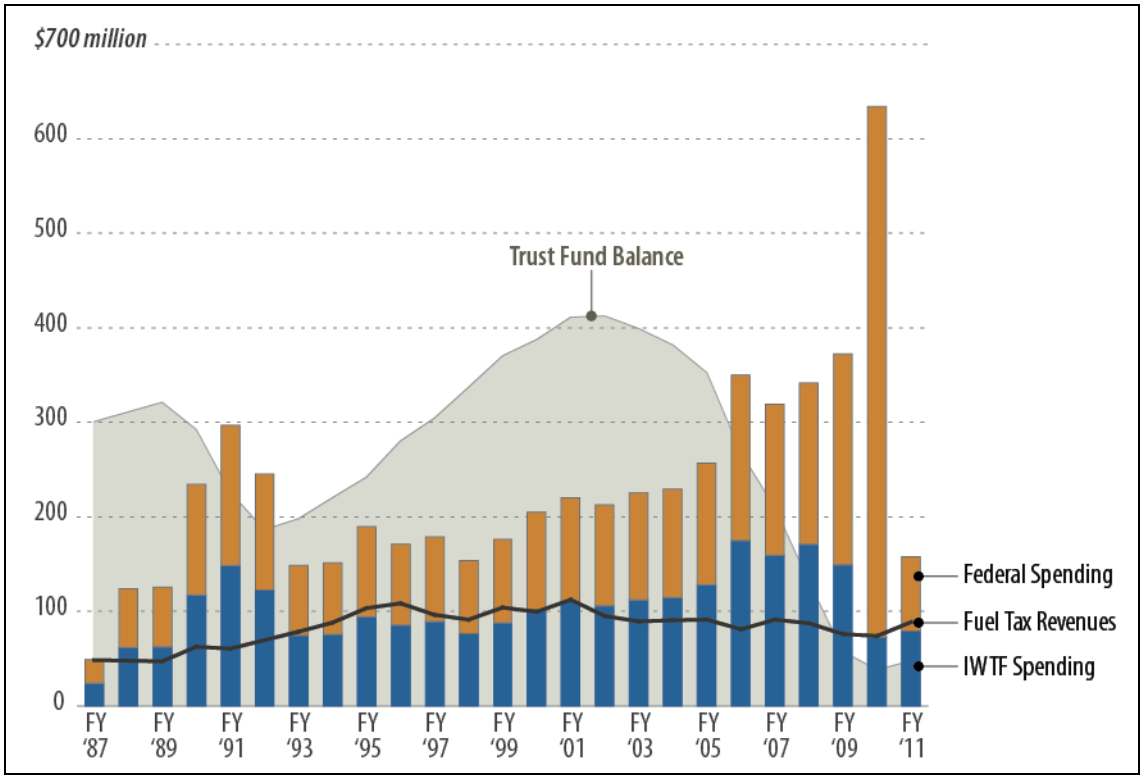
[19] P.L. 99-662, § 302. A map of geographical areas and additional information about current representatives is available at http://waterwaysusers.us/BoardMembers.htm.

[20] The board is composed of 11 members selected by the Secretary of the Army, and typically meets three times a year to develop and make recommendations to the Secretary regarding construction and rehabilitation priorities and spending levels. Recommendations by the IWUB are transmitted to Congress in an annual report.

[21] For instance, in FY2007 $171 million was spent from the IWTF, while only $88 million in tax revenues were received. Notably, the increased investment in these inland waterway projects was endorsed by the IWUB.

significantly exceeded their original cost estimates, further stressing the trust fund.[22] As a result, balances fell sharply from 2007 to 2010. As of the end of FY2010, the available IWTF balance for new appropriations was $38.2 million.[23] A summary of these trends is provided in **Figure 3**.

Figure 3. Federal Inland Waterway Projects: Financing Trends, 1987-2010



Source: Army Corps of Engineers Data, adapted by CRS.

Notes: Funding amounts are in nominal dollars and represent funding for construction only. Federal spending for FY2009 and FY2010 reflects congressional "stopgap" measures and supplemental funding under ARRA (P.L. 111-5).

In an effort to reduce stress on the IWTF and prevent the balance from falling to unsustainable levels, Congress has in recent years taken "stopgap" measures. Specifically, Congress exempted major rehabilitation projects from their usual cost-sharing requirements in the continuing resolution for FY2009 (P.L. 110-329) and in regular appropriations for FY2009 (P.L. 111-8). Congress also provided inland waterway projects with more than $400 million in construction funding under the American Recovery and Reinvestment Act (ARRA, P.L. 111-5), with no corresponding IWTF cost-share requirement. These measures limited the costs to the IWTF for ongoing projects, while also allowing for the completion of these projects. Together with provisions in the FY2009 and FY2010 (P.L. 111-85) enacted appropriations bills that prohibited the Corps from entering into new contracts requiring IWTF funding, near-term demand on the

[22] A recent Corps report studied this issue at several locations. See U.S. Army Corps of Engineers, Great Lakes and Ohio River Division, *Inland Navigation Construction, Selected Case Studies*, U.S. Army Corps of Engineers, White Paper, July 17, 2008.

[23] Inland Waterways Trust Fund Status Report. October 20, 2010. Available at http://www.waterwaysusers.us/IWTF_Status_64.pdf.

IWTF has fallen and, barring major new appropriations, the trust fund balance is not expected to be exhausted in the near future.[24]

Due to the aforementioned stopgap measures and increased federal spending, the trust fund balance is expected to stabilize in FY2011. Without reforms to IWTF financing, the trust fund may require more stopgap measures in the future. These may include suspension of some or all of the current IWTF cost-share requirements (such as was provided in FY2009 and in ARRA) or limiting available funding to projected fuel tax revenues (as was provided in FY2010 appropriations).[25] In the latter case, significantly fewer projects would be undertaken by the Corps, and current project backlogs would be exacerbated. Long-term options to prevent a shortfall, including recent proposals, are discussed in the "Issues for Congress" section of this report.

Other Concerns with IWTF Planning

In addition to concerns related to the balance of the IWTF, fuel-tax payers (represented by the IWUB) have registered complaints related to structural inefficiencies and inequities in the Corps project planning process for inland waterways investments. Many users note that in the past, issues over which only the Corps has control have led to what some consider inefficient project implementation (in the form of cost escalation and schedule delays on some IWTF projects). As a partial response to these concerns, in FY2006 the Corps implemented several reforms to its project delivery process, including implementation of risk-based cost estimates and prioritized funding for projects with a high risk of cost overruns. While the IWUB generally recognizes these changes as improvements, it continues to advocate for additional structural reforms to the planning process.[26]

Recent Inland Waterway Financing Proposals

Concerns related to the solvency of the IWTF and the equity of the financing system for fuel-taxed inland waterways has led to a number of recent proposals, first by the Bush Administration in 2008, then by the Obama Administration in 2009 and 2010. While these proposals were rejected by Congress, the Administration has indicated that it may soon present a new proposal. The user industry, represented by the IWUB, recently adopted its own proposal, which differs significantly from the Administration's proposal. The user proposal would implement an increase to the current fuel tax, while also requiring an increased federal share for some inland waterway investments (e.g., dams).

Executive Branch Proposals: Lock Usage Fee

In response to concerns regarding a potential IWTF shortfall, the Bush Administration submitted a legislative proposal to Congress in 2008 that would have instituted a lock usage fee to replace

[24] This assumes that the Administration and Congress will not appropriate funding for new projects beyond that available in current year fuel tax receipts. (This was the case for the Administration's FY2011 budget request.)

[25] Based on recent years, the Administration projected approximately $85 million in fuel tax revenues in the FY2011 budget.

[26] IWUB Report, p. 19.

the fuel tax and generate additional revenue for the IWTF.[27] The fee proposed to phase in charges to commercial barges of $50-$80 per lockage through the end of calendar year 2012 for lock chambers greater than 600 feet in length, and $30-$48 for chambers less than 600 feet. (See **Table 2**.) Additionally, it proposed to tie IWTF balances to this user fee after the end of 2012 by raising lockage fees when the IWTF balance fell below $25 million, and lowering fees when the balance rose above $75 million. A similar mechanism, also referred to as "capital recovery," was proposed in the original 1978 inland waterway bill but was not included in the final bill.[28]

Table 2. Lock User Fee Proposal

Date	Fee for Locks Greater than 600 Feet in Length	Fee for Locks Less than 600 Feet in Length
Oct 1 2008-Sept 30 2009	$50 per barge	$30 per barge
Oct 1 2009-Sept 30 2010	$60 per barge	$36 per barge
Oct 1 2010-Sept 30 2011	$70 per barge	$42 per barge
Oct 1 2011 Dec 31, 2012	$80 per barge	$48 per barge
After Dec 31, 2012	As provided for in legislation[a]	As provided for in legislation[a]

Source: Legislative proposal by the Department of the Army, Office of the Assistant Secretary for Civil Works, April 4, 2008.

a. Pursuant to subsection 2(b) of the proposed legislation, if the balance of the IWTF fell below $25 million, then the fee for lockages would have automatically increased from the 2012 levels ($10 more per lockage for large locks, $6 more per lockage for small locks). Similarly, if the balance of the IWTF rose above $75 million, then fees would have automatically decreased by these same amounts.

The Bush Administration argued that its approach would allow for the necessary new investments on inland waterways while maintaining the 50/50 federal-industry cost-share arrangement and ensuring long-term solvency of the trust fund. It also argued that an approach which focused additional taxes on lock users would improve equity in waterborne commerce investments, since locks account for most IWS capital expenditures. Both the House and Senate Appropriations Committees rejected this approach, arguing that a lock fee would pose an unacceptable burden on lock users, who would pay considerably more under the Bush proposal than they currently pay.[29] Congress instead provided temporary relief through the General Revenue fund (as previously mentioned) and requested that the executive branch revisit its approach.

The Obama Administration's FY2010 budget included a similar proposal to the Bush Administration lockage fee proposal, with the only major change being an option for the Secretary to increase congestion fees at individual locks (potentially reducing traffic and increasing revenues). In contrast to the Bush Administration, the Obama Administration did not assume the revenues associated with this proposal. In FY2010, Congress again ignored the proposal, stating in appropriations language that it had no intention of enacting the fee. Instead it

[27] The FY2009 budget requests assumed additional revenue based that would have resulted from an enacted bill.

[28] See above section, "Previous Legislation: 1978 and 1986."

[29] U.S. Congress, House Committee on Appropriations, *Omnibus Appropriations Act, 2009 (P.L. 111-8)*, Committee Print, 111th Cong., 1st sess., March 2009 (unnumbered) (Washington: GPO, 2009), pp. 591-592.

chose to again insert bill language that limited the projects for which the Corps could use IWTF funds.[30]

The Obama Administration's FY2012 request once again proposed a usage fee to replace the fuel tax, but again did not assume the revenue from this usage fee and requested an appropriation level based only on current year expected fuel tax revenues ($85 million). To date, the Administration has not formally stated whether it will continue to support the lock usage fee or whether it will consider other alternatives (such as the user proposal for a fuel tax increase discussed below). In previous appropriations committee reports, Congress has reiterated its intention to ignore the lock user fee proposal. In addition, in FY2011 the Senate Appropriations Committee noted that if the authorizing committees do not advance a satisfactory solution soon, then it may be forced to act.[31]

2010 Inland Waterways Users Board Proposal

In April 2010, the Inland Waterways Users Board (IWUB) officially adopted and transmitted to Congress a proposal of its own. The final report of its Inland Marine Transportation Systems Capital Investment Strategy Team, *Inland Marine Transportation Systems Capital Projects Business Model* (hereafter referred to as the IWUB report, or the user proposal), has come to represent the preferred alternative of much of the inland waterway user industry.[32] This report was prepared at the request of the IWUB, and the authors noted that it had not been endorsed by the Administration. However, its authors credited participation by the Corps, the IWUB, and members of the inland waterway user community. In hearings and other public forums, the report has been endorsed by the IWUB and other commercial waterway users, but it has not been endorsed by the Corps or the White House.[33]

Based on its own research and analysis, the IWUB report recommends a new financing system and a number of other proposed changes for inland waterways. The report's recommendations can generally be divided into three categories:

- **Revenue recommendations**: Increase the existing IWTF fuel tax by $0.06-$0.09 per gallon (30% to 45% above the current tax of $0.20 per gallon). The exact increase would depend on future fuel tax revenues.
- **Cost-share recommendations**: Modify the subset of inland waterway investments subject to IWTF cost-share requirements (see **Table 3**) and make a corresponding overall shift to a larger portion of IWTF projects being funded solely by the General Revenue fund.

[30] U.S. Congress, House Committee on Appropriations, *P.L. 111-85*, H.Rept. 111-278, 111th Cong., 2nd sess., October 28, 2009 (Washington: GPO, 2009), Title I, p. 58.

[31] U.S. Congress, Senate Committee on Appropriations, report to accompany S. 3635, 111th Cong., 2nd sess., 2010, S.Rept. 111-228 (Washington: GPO, 2010).

[32] While members of the IWUB did not author the report itself, the board commissioned the report and has since has since adopted its contents.

[33] See http://www.waterwayscouncil.org/index/capitalplansupport.pdf for a list of endorsements. Users also endorsed the report at a hearing before the Senate Environment and Public Works Committee on May 6, 2010. See http://epw.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=4b8b8d4c-802a-23ad-44e6-1b546f908652.

- **Other recommendations**: Increase IWUB involvement in project planning and construction, and other recommendations, including the promulgation of regulations that would formally adopt the report's prioritization criteria.

Revenue Recommendations

The most prominent component of the IWUB report is a proposed increase to the inland waterway fuel tax rate (currently $0.20 per gallon) of between $0.06-$0.09 per gallon. The increase would depend on actual fuel tax collections over the next several years (i.e., if collections are below recent averages, the tax would be higher). Overall, the report projects that the new tax level would generate approximately $112 million per year in fuel tax revenues for the IWTF, an increase over revenues from the last 10 years (approximately $85 million annually). Despite this increase, most of the new revenue would not be spent until future years, which would allow the IWTF to replenish its balances. As was the case with the original tax of $0.20 per gallon, the proposed increase to the fuel tax would not be indexed for inflation and would not include a capital recovery mechanism linking future taxes to expenditures.

Table 3. Existing and Proposed Cost-Shares for Inland Waterway Construction

	Source for Construction Funding	
	Current and Administration-Proposed Lock Fee[a]	**IWUB Proposed**
New Lock Construction	50% IWTF; 50% GR	50% IWTF; 50% GR
Lock Rehabilitation[b]		
Less than $8 million	100% GR	100% GR
$8 million-$99 million	50% IWTF; 50% GR	100% GR
$100 million or more	50% IWTF; 50% GR	50% IWTF; 50% GR
Dams	50% IWTF; 50% GR	100% GR
All Cost Overruns	50% IWTF; 50% GR	100% GR

Source: *Inland Marine Transportation Systems Capital Projects Business Model, Final Report*. April 2010.

Notes: GR: General Revenue fund, IWTF: Inland Waterway Trust Fund.

a. The Administration's lockage fee proposal would continue current cost-shares with the IWTF (as previously noted, the significant change would be to the means through which IWTF revenue is raised, not the cost-share itself).

b. The IWUB proposes to change the definition of what constitutes "major rehabilitation." Under the current system, major rehabilitation (i.e., projects subject to cost-sharing) is any rehabilitation project in excess of $8 million. The IWUB proposes to revise this definition to only include projects of $100 million or more.

Cost-Share Recommendations

The IWUB report also proposes to shift more of the cost for inland waterway projects toward the federal government by increasing the number of investments on inland waterways that are funded solely by the federal government and decreasing the projects that are subject to 50/50 cost-

sharing. Under the report's recommendations, all dam-related expenses (construction and rehabilitation), as well as rehabilitation projects on locks with costs less than $100 million, would be exempt from WRDA 1986 cost-sharing requirements.[34] The IWUB report also proposes to establish a "cap" on the use of IWTF funds at authorized levels to discourage construction cost overruns. Critics point out that this is an additional hidden cost, as currently all cost overruns are funded equally between the federal government and the IWTF.[35] Cumulatively, these changes would affect the overall cost-share for IWTF projects. The subset of projects no longer requiring cost sharing under the proposal would in effect increase the overall federal share for new and major rehabilitation investments over the next 25 years from current levels (50%) to approximately 70% for the same subset of projects.[36] Differences between the current arrangement and the report's proposals are outlined by project type in **Table 3**. Proposed funding requirements under the report's proposals over the next 25 years are divided into five-year increments in **Table 4**.

Other Recommendations

The report also proposes several reforms for improving cost-effectiveness of IWTF projects overseen by the Corps.[37] These recommendations would increase the involvement of the IWUB in the Corps project delivery process for IWTF investments, thereby expanding the board's current roles and responsibilities. The report recommends appointing IWUB representatives to the project design teams for individual projects, where they would oversee planning for IWTF investments and report back to the IWUB. The report also recommends obtaining sign-off from the IWUB on plans for projects funded by the IWTF, as well as providing the IWUB with status updates on all relevant project planning documents. The IWUB seeks these changes as representatives of the nonfederal cost-sharers. However, the degree of involvement by nonfederal entities in development of studies by a federal agency could raise concerns related to conflicts of interest and whether the federal government may lose control of the planning process.

Notably, the report also proposes a portfolio of specific IWTF projects over the next 20 years, including projects and funding levels for both the IWTF and federal government. Projects recommended in the IWUB report were prioritized for selection based on a number of factors, such as asset condition, likelihood of diminished performance, consequence of diminished performance, and the degree to which new projects would improve system performance.[38] As proposed in the IWUB report, full funding for this suite of investments requires that annual expenditures (from the GR fund and the IWTF) average approximately $380 million per year, a

[34] As noted previously, the current definition for "minor" lock rehabilitation (i.e., 100% federal lock funding) is any rehabilitation project less than $8 million.

[35] See final paragraph of this section for more information on efforts to address cost overruns.

[36] Based on CRS analysis of Corps documents. The IWUB report outlines a general program of $380 million per year for investments, including $270 million in federal contributions and $110 million in IWTF contributions (in effect a 71/29 cost share compared to current requirements). However, according to the Corps, the actual cost to implement the proposed portfolio would result in less cost overall and a slightly different cost share compared to current levels (68/32 cost share compared to current requirements).

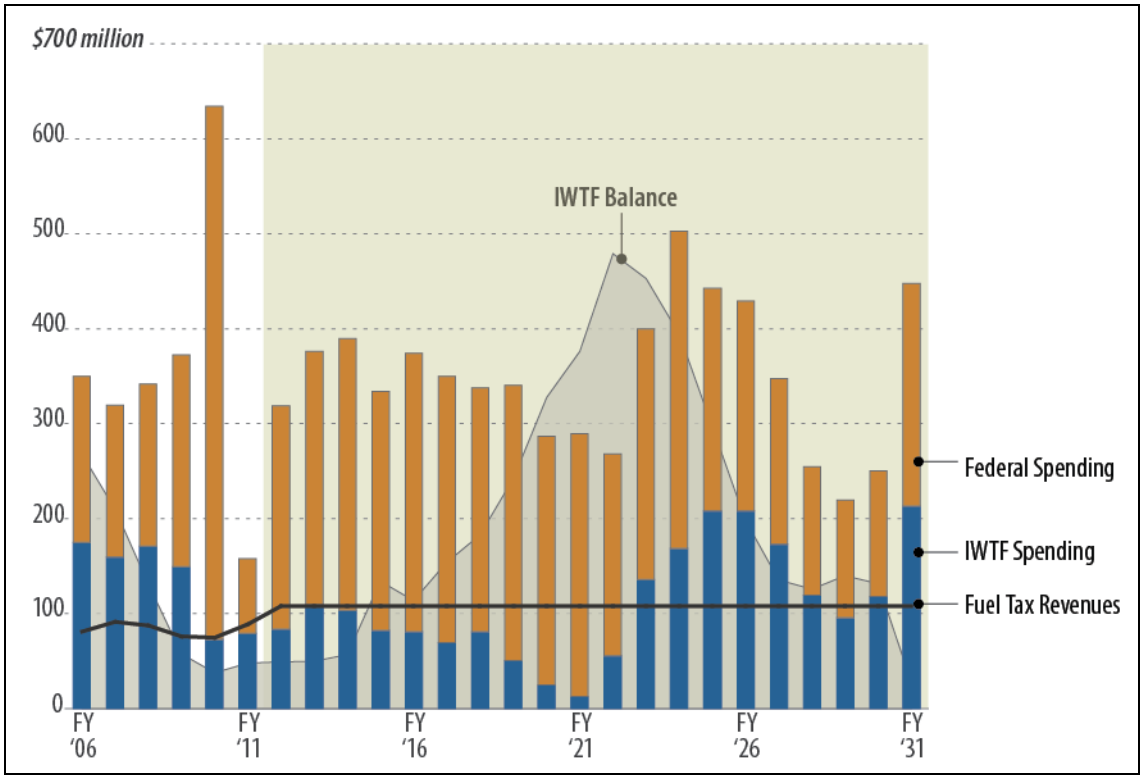
[37] The full list of 21 project-based recommendations (including those already being implemented) can be found on pp. xiii-xv.

[38] IWUB report, p. viii.

significant increase over historical averages.[39] This would necessitate an increase above average total expenditures since 1994, which have been approximately $234 million annually.

In the immediate future, most of the increase needed to fund the proposed portfolio of $380 million per year would be derived from the GR fund (in order to allow the trust fund balance to rebuild). For instance, to meet the IWUB proposal's requirements over the first five years, federal funding would need to be $1.33 billion, or 74% of the total funding required for the portfolio of projects over this time period. Around 2020, the proportion of funds derived from the trust fund would gradually increase, although federal requirements would still exceed 50% of the required investments. Although the report calls for an increased investment from both sources, on the whole, more new funding would be required from the federal government (through the GR fund) than the IWTF. Expected trends under the user proposal are shown in **Figure 4**. The revised effective cost-shares that are required under the proposal are shown in **Table 4**.

Figure 4. Inland Waterway Projects: Projected Funding Trends under IWUB Proposal



Source: CRS adaptation of Corps projections, as proposed in the 2010 Inland Marine Transportation Systems Capital Projects Business Model.

Notes: FY2011 line separates actual values to date from projections under the IWUB proposal. Projections for federal spending do not include any potential cost overruns, which would be funded as a 100% federal expense under the proposal. Fuel tax revenues based on IWUB proposal projections $112 million/year. CRS projections for future IWTF balances under the proposal were calculated by adding the balance at the end of FY2010 to projected balances under the IWUB proposal.

[39] The estimated total requirement of $380 million is the amount cited in the IWUB proposal. See IWUB report, p. xiii.

Table 4. Share of Total Costs Under IWUB Proposal

(dollars in millions)

	2011-2015	2016-2020	2021-2025	2026-2030
Federal Government	$1,333 (74%)	$1,365 (85%)	$1,265 (62%)	$800 (53%)
Inland Waterway Trust Fund	$460 (26%)	$239 (15%)	$776 (38%)	$719 (47%)

Source: CRS analysis based on project funding requirements provided by the Corps of Engineers.

Other Proposals: Increase User Share of Costs

In the past, some have advocated for changes that would shift costs away from the federal government and increase the user-financed share of inland waterway costs, by decreasing the federal share of either O&M (currently 100% federal) or construction (currently 50% federal). Those arguing for these changes point to inequalities in spending relative to the value of certain segments of the inland waterway system. A previous analysis by the Congressional Budget Office (CBO) noted that the current uniform tax throughout the inland waterway system fails to cover fixed operational costs and thus distorts the actual costs of maintaining the system. CBO concluded that a user fee structure that recovered the true costs for inland waterway operations would increase economic efficiency of the system.[40] Such a fee would result in increased costs for waterways with low traffic-to-expense ratios, since federal costs for maintaining these waterways are greater than fuel tax receipts generated. **Figure 5** provides a comparison of current tax revenues on inland waterway segments relative to O&M costs and ton miles on these waterways.

Recently, the National Commission on Fiscal Responsibility and Reform included a proposal to make the inland waterways "self-funding."[41] Similarly, in its 2011 budget options report, CBO included a proposal to increase user fees on inland waterways to a level sufficient to cover the costs of construction, operations, and maintenance. CBO projected that such a change would save approximately $4 billion over a 10-year horizon.[42] Previously industry interests have argued that significant new user fees of any kind, especially significant increases to cover O&M costs, would harm the shipping industry and result in the loss of jobs and economic activity.

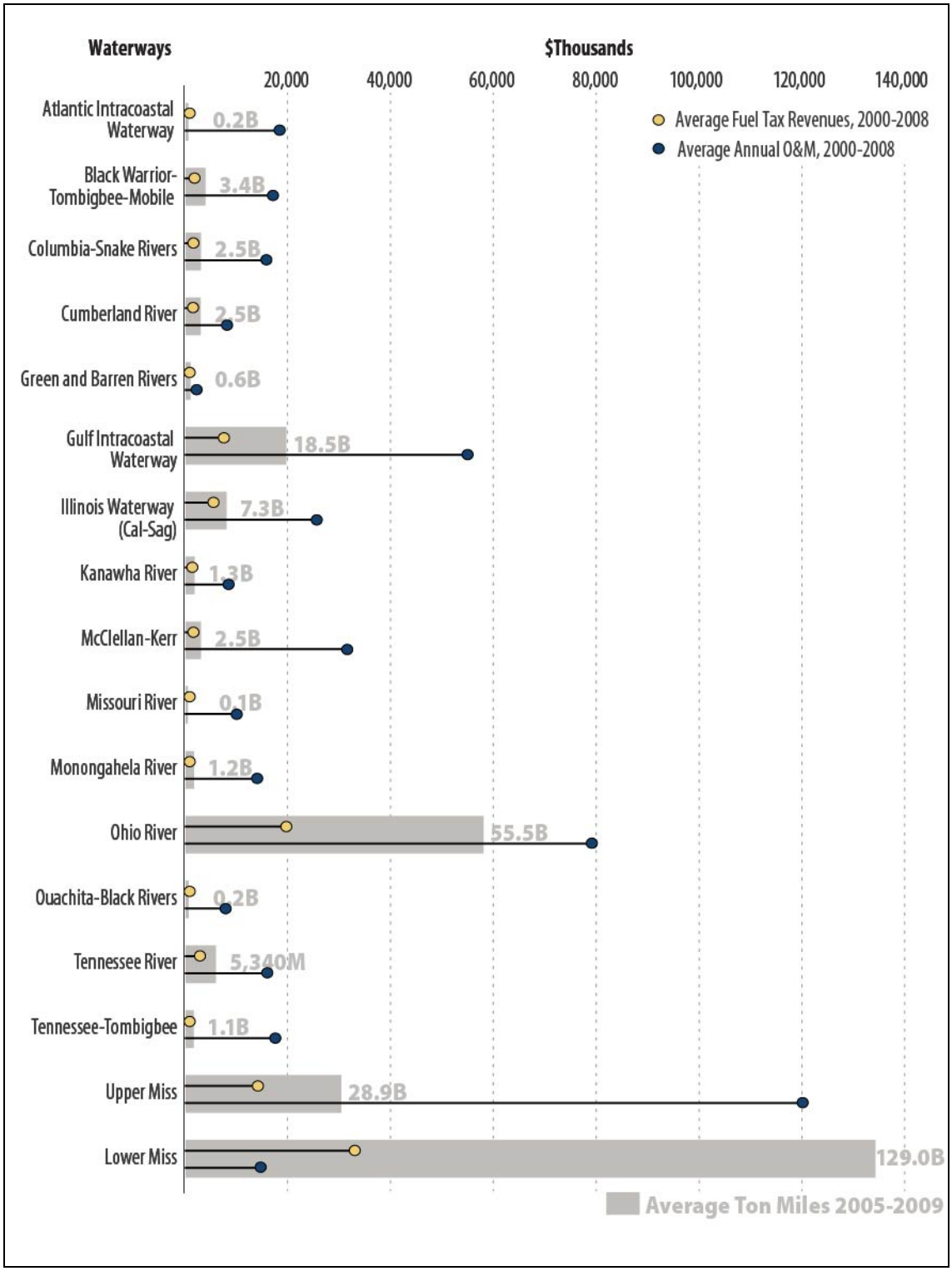
Proposals to increase user shares have generally left out specific recommendations regarding what kinds of user fees should be imposed to raise new revenues, and in what amounts. The aforementioned CBO report noted that new user fees could take a variety of forms beyond an increase to the fuel tax. Options include setting user fees or taxes to recover operating costs on individual segments of inland waterways. Additional ideas proposed but not enacted include licensing fees and congestion pricing for high traffic locks and other segments of the IWS.

[40] See Congressional Budget Office, *Paying for Highways, Airways, and Waterways: How Can Users Be Charged?*, Washington, DC, May 1992, pp. 53-71, http://www.cbo.gov/ftpdocs/32xx/doc3249/1992-Transportation.pdf. Hereafter "CBO User Charge Report."

[41] This proposal is available at http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/Illustrative_List_11.10.2010.pdf.

[42] Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options*, Pub. No. 4212, Washington, DC, March 2011, p. 105, http://www.cbo.gov/ftpdocs/120xx/doc12085/03-10-ReducingTheDeficit.pdf.

Figure 5. Fuel Tax Receipts Relative to O&M Expenditures, Ton-Miles
(totals by waterway)



Source: CRS Analysis of Corps of Engineers data, including 2009 Waterborne Commerce of the United States. Available at http://www.ndc.iwr.usace.army.mil/wcsc/pdf/wcusnatl09.pdf. Fuel tax data by waterway is based on a model developed by the Tennessee Valley Authority for the Corps in 2008.
Notes: Ton miles equals cargo tonnage times the distance between loading and unloading.

Issues for Congress

The aforementioned proposals differ in important ways and bring up a number of issues for Congress. These proposals claim to resolve ongoing issues associated with the IWTF by proposing new investment levels and revenue sources that would fundamentally depart from the current financing system. In addition to new financing sources, some of these proposals would also alter the fundamental balance of cost-sharing between commercial users of the IWUB and general taxpayers.

An overarching question for Congress is what level of new and ongoing investment is warranted for the inland waterway system. Once such an investment level is defined, Congress may also need to decide whether changes to the current user fee (either changing the level of the fuel tax or incorporating a new fee) and cost-share arrangement are warranted to achieve this investment level. New legislation would be required to address these and other related issues.

Competing Views on Inland Waterway Navigation Investments

A central issue for Congress is the level and urgency of infrastructure investments on federal waterways. Commercial users, including shippers and some agricultural interests, have argued that additional investment is justified because of aging infrastructure, the need for expanded capacity, and positive environmental externalities associated with inland waterway shipping compared to other forms of shipping. These users argue that the benefits of inland waterways are widespread. Their claims are countered by a number of other groups, including taxpayer and environmental advocacy groups, who argue against increased federal funding for inland waterways. These groups note that the shipping industry often misrepresents or overstates the benefits of these investments and that major funding increases for inland waterway projects are not warranted.[43]

Most entities agree that the current system of financing inland waterways is inadequate to address future needs, regardless of the precise level of those needs. As a result of the recent funding drawdown, the Corps currently has appropriations for just one ongoing lock replacement project through 2016 (Olmstead Lock on the Ohio River).[44] Barring a new source of revenue or supplemental federal appropriations by Congress, new or ongoing IWTF construction projects may be put on hold by the Corps, regardless of their urgency.

Aging Infrastructure and Urgency of New Investments

The condition of Corps inland waterway facilities has been a primary driver behind the call for increased investment on inland waterways. The Institute for Water Resources (part of the Corps of Engineers) notes that the majority of locks in the United States are now past their intended design age of 50 years.[45] The Corps has connected this aging infrastructure to an overall decline

[43] "Conservation and Watchdog Groups Oppose Barge Industry's Plan to Shift Costs to Taxpayers," press release, June 21, 2010, http://www.moenviron.org/pdf/NIC%20IWTF%20Proposed%20Changes%20Press%20Release.pdf.

[44] Correspondence with David Grier, Corps of Engineers, April 11, 2011.

[45] David Grier, *The Declining Reliability of the U.S. Inland Waterway System*, Institute for Water Resources, Army Corps of Engineers, Alexandria, VA, 2009, http://onlinepubs.trb.org/onlinepubs/archive/Conferences/MTS/4A%20GrierPaper.pdf (hereafter referred to as Grier).

in the efficiency of its assets on inland waterways, noting that overall lock unavailability (both scheduled and unscheduled) has increased in recent years.[46] In some cases, the user industry favors new lock construction and expanded capacity over ongoing maintenance for a number of reasons.[47]

Other groups argue against significant new investments for inland waterway projects. In arguing against new locks on the Upper Mississippi River, a coalition of environmental groups noted that while the design life of new investments is usually only 50 years, regular maintenance can extend the life of existing locks for an additional 50 years at a considerably lesser cost than that for new construction.[48] These groups generally argue that the costs of new lock construction greatly exceed the benefits of reduced waiting time and lock unavailability, and point out that issues associated with most aging inland waterways infrastructure can be overcome by improved small-scale and nonstructural improvements.[49]

Waterway Traffic Projections

The Corps has in the past noted that the justification for most new navigation alternatives depends greatly on traffic forecasts from future trade scenarios, which can themselves be difficult to predict. These forecasts often depend on a number of interrelated variables, such as commodity prices, the overall price sensitivity of shippers, and outside factors such as increases or decreases in the efficiency of other modes of freight transit.

The Corps has noted that total domestic freight traffic is expected to increase by approximately 70% by 2020, but recently has avoided projections specific to inland waterway freight traffic.[50] The Department of Transportation projects that the majority of this increase in freight traffic will be on freight rail and highway traffic, with annual waterway traffic projected to increase slightly between 2010 and 2035.[51] Shipping interests point out that an overall increase in the efficiency of inland waterways could lessen anticipated pressure on highway and rail shipments, or at least maintain viability of inland waterways compared to these other forms of freight shipping. Future lock upgrades or new construction would likely increase demand for inland waterways. However,

[46] Grier, p. 3.

[47] Expanded lock capacity can in some cases decrease the amount of time required for lockage of large barge tows, which may be required to split into multiple tows in order to pass through smaller locks. The question of whether new capacity was preferable to prioritized maintenance was a primary issue of debate in the case of recently proposed Corps investments on the Upper Mississippi River-Illinois Waterway (UMM-IWW). See CRS Report RL32630, *Upper Mississippi River System: Proposals to Restore an Inland Waterway's Ecosystem*, by Kyna Powers and Nicole T. Carter by Nicole Carter.

[48] Brad Walker, *Big Price, Little Benefit: Proposed Locks on the Upper Mississippi and Illinois River Are Not Economically Viable*, The Nicollet Island Coalition, February 2010, p. 10, http://www.iwla.org/index.php?ht=a/GetDocumentAction/i/2079.

[49] This was one conclusion of a 2001 National Research Council study. See National Research Council, *Inland Navigation System Planning: The Upper Mississippi River-Illinois Waterway,"* Washington, D.C., 2001. p. 4.

[50] Grier, p. 2.

[51] According to the Department of Transportation's Freight Analysis framework, waterway traffic (including harbor and non-fuel taxed waterway traffic) is expected to increase by approximately 2% per year from 2010-2035. See U.S. Department of Transportation, Office of Freight Management and Operations, *Freight Facts and Figures, 2009*, p. 5. Available at http://www.ops.fhwa.dot.gov/freight/freight_analysis/nat_freight_stats/docs/09factsfigures/pdfs/fff2009_highres.pdf.

the extent to which these upgrades would have an effect on demand would likely also depend on a number of other external factors.

Some groups have countered industry requests for new lock construction based on traffic projections by noting that traffic has been flat or decreasing at some individual locks on high-traffic portions of the inland waterway system.[52] Observers, including former Corps employees, have also criticized previous projections of traffic increases by the Corps and as overly optimistic.[53] Although the Corps has not used projected future traffic increases as a basis for changes to the overall level of investments on inland waterways, it did make this argument recently for new lock construction on inland waterways.

Environmental Impacts of Inland Waterways

Shipping interests also argue for increased investment on inland waterways because of the overall value of inland waterways compared to other modes of shipping. They point to studies that have concluded that barge shipping in particular constitutes a transportation alternative that is more efficient and environmentally friendly than other forms of shipping, such as highway and rail. For example, previous industry studies have calculated that railroads are 28.3% less fuel-efficient than inland waterways.[54] Additionally, they argue that inland waterways contribute significantly fewer greenhouse gas emissions per mile than other forms of freight transportation.[55] Studies have also noted other benefits, including reduced highway congestion and noise reduction.

Taxpayer and environmental groups have questioned studies citing environmental benefits as a basis for new investments in barge shipping. For instance, groups have disagreed with industry fuel-efficiency calculations, noting that many industry studies have not taken into account technical factors such as the directional constraints of river flow, or "circuity."[56] They argue that the use of a conversion factor to account for circuity creates a more accurate picture of fuel efficiency among various modes. They have also noted that using the fuel efficiency for unit grain trains instead of an average for all rail shipping would allow for a more accurate comparison of fuel efficiency between barge and rail shipping.[57]

Environmental groups also note that inland waterway projects can negatively affect riparian habitat and species by altering natural flows.[58] Structural changes to rivers such as locks and dams (which can create sedimentation, increase turbidity, and lead to other reservoir-like effects)

[52] See comments by the Institute for Agriculture and Trade Policy at http://www.moenviron.org/pdf/NIC%20IWTF%20Proposed%20Changes%20Press%20Release.pdf. Accessed August 19, 2010.

[53] Donald C. Sweeny, *A Critique of "Final Re-Evaluation of the Recommended Plan: UMR-IWW System Navigation Study: Interim Study,"* Nicollet Island Coalition, September 2009, p. 9.

[54] These studies generally define "fuel efficiency" as ton-miles per gallon. See for example, C. James Kruse, Annie Protopapas, and Leslie Olson, et al., *A Modal Comparison of Domestic Freight Transportation Effects on the General Public*, Texas Transportation Institute, Texas A&M University, Final Report, College Station, TX, December 2007, p. 41. http://www.americanwaterways.com/press_room/news_releases/NWFSTudy.pdf.

[55] Texas Transportation Institute,

[56] "Circuity" refers to the fact that rivers and similar bodies of water are constrained by their natural course, which may be longer than the distance traveled between destinations on highway or rail. Some groups note that failing to account for circuity skews fuel efficiency calculations in favor of barge tows. (Generally barge tows use less fuel per mile than highway or rail shippers, but also have to travel a longer distance than these shippers to get to the same locations.)

[57] Walker, pp. 15-16.

[58] Walker, pp. 1-2.

and levees (which separate rivers from flood plains) effect the natural state of these bodies of water. Additionally waterway traffic may also cause bank erosion through wave action.

Funding for Proposed Investments

Inland Waterway Fuel Tax and Other User Fee Proposals

In addition to deciding whether additional investment is needed, Congress may also consider making changes to the system that finances these investments. Since the fuel tax under WRDA 1986 was capped at $0.20 per gallon and inland waterway infrastructure needs seem to be increasing, many stakeholders note that there is a need for changes to the existing revenue stream. Congress may consider the two primary options for additional revenue that were most recently proposed (the Administration's lock usage fee and the user board's proposed increase to the fuel tax) along with other options (such as licensing fees or congestion pricing). Changes to each of these proposals may also be considered, such as automatic inflation adjustments to user fees.

The lock usage fee previously proposed by the Obama Administration would address the issue of inadequate revenues by eliminating the fuel tax and replacing it with new fees on lock users.[59] The Administration argued that since lock repairs account for most capital construction and major rehabilitation costs, user fees should come from the primary beneficiaries of these projects. The IWUB and Congress rejected this and similar proposals as unrealistic. The IWUB argued that targeting lock users runs counter to the original idea of the inland waterways as a whole "system" whose interconnectivity benefits the nation.[60] Additionally, users note that such a change could significantly affect the behavior of some shippers operating within the system.[61]

The IWUB report proposes its own revenue alternative to restore the IWTF and provide increased funding for IWTF projects. It proposes an increase to the existing fuel tax from $0.20 to $0.26-$0.28 per gallon. This would be somewhat in keeping with the current system (with no major changes in the revenue collection process) while also providing an increase in fuel tax revenues of about $27 million per year. Combined with increased federal responsibility for some inland waterway costs, the IWUB argues that this proposal would rebuild the trust fund balance and also fund new investments. (See IWTF balances in **Figure 4**.) While this tax would generate additional revenue, some taxpayer and environmental groups argue that the increased federal expenditures tied to this proposal are unacceptable. The user industry has not indicated whether it would accept an increase to the fuel tax without the corresponding changes to cost sharing arrangements. (See "Congress may also consider additional means that would make the revenue stream for inland waterways more reliable. An automatic adjustment for inflation has previously been discussed and could be incorporated into either a fuel tax increase or a new lockage fee. An inflation adjustment could provide additional future revenues and increase the real purchasing power of IWTF funds, which has decreased substantially since 1994. Some argue that such an automatic adjustment amounts to hidden (and therefore unacceptable) tax increases in the future. (See box above.)

[59] This was the original proposal in the earlier versions of the 1978 Bill.

[60] Summary Minutes, Inland Waterways Users Board Meeting, 8/11/2009. Available at http://waterwaysusers.us/Summary%20Minutes%2061.pdf.

[61] See discussion on waterway traffic projections under the previous section, "Competing Views on Inland Waterway Navigation Investments."

If no long-term solution is enacted to address the IWTF revenue shortfall, Congress may again be forced to take measures to ensure the solvency of the trust fund. Previously, some of these options have included capping IWTF withdrawals at the level of current year fuel tax revenues or putting a temporary hold on all new contracts and focusing on ongoing work. Both of these options would curtail investments on the inland waterway system to some extent. Congress might also stipulate that some or all of the subset of IWTF investments be exempted from WRDA 1986 cost-sharing requirements (similar to the exemption provided by Congress in FY2009 enacted appropriations). However, an exemption such as this would have an additional cost to taxpayers in the form of funds from the GR account.

IWTF Cost-Sharing" section, below.)

Previously other means to raise revenue have been considered by Congress. Early forms of the Inland Waterways Revenue Act of 1978 proposed a lock usage fee in lieu of the fuel tax included in the final bill, and other fees have subsequently been proposed as replacements or supplements to the fuel tax. In addition to lock usage fees, options such as annual licensing fees, systemwide and segment-specific tolls, ton-mile charges, and lock charges for the most congested portions of the system have all been proposed as potential means to raise revenues on inland waterways.[62] Theoretically, some of these items could also be combined with the current fuel tax to increase equity in the system and encourage efficient behavior by users. However, in the past users have generally preferred increases to the fuel tax over alternative means to raise revenue.

A concept that was represented in the original 1978 legislation but left out of the final bill was the idea that user fees should recover capital investments by the government (also known as "capital recovery).[63] This concept, also represented in subsequent proposals, would tie user fees to overall expenditures on inland waterways. Such a mechanism could take the form of an increase to user fees when the IWTF value drops below a certain level, or else annualized or per-use fees structured to recover capital costs over time after construction is complete. Such a fee could render less likely future shortfalls in the trust fund. It might also force users to narrow those projects pursued to only the most vital authorizations. Users have previously argued against capital recovery, noting that it is difficult to plan for a tax that is constantly changing, and that such an increase could create an "upward spiral" of cost increases.

Indexing Excise Taxes to Inflation

Automatic inflation adjustments for excise taxes such as the IWTF fuel tax are an item of debate among policymakers. Some argue that since construction expenditures tend to increase along with prices and wages, an inflation adjustment of some type (for example, tied to the Consumer Price Index or Construction Price Index) should be factored into taxes that fund these investments. In the case of the IWTF, the lack of an automatic inflation adjustment in the fuel tax rates set in WRDA 1986 means that the overall purchasing power of IWTF revenues has decreased

[62] See CBO User Charge Report, pp 53-71. In addition to its proposed lockage fee, the Obama Administration proposed in the FY2010 budget that the Secretary of the Army be provided with authority to further increase lockage fees at some individual congested locks (there was no limit to these proposed increases in the Administration's legislative proposal). This proposal was not enacted.

[63] As previously noted, the IWTF itself and the 50/50 cost-share requirements were set up as a compromise in lieu of capital recovery. However, the recent increase in spending coupled with no corresponding increase in revenues has demonstrated the downside of the current structure.

[64] Based on the Consumer Price Index, the current tax of $0.20 cents per gallon is equivalent to approximately $0.14 cents in 1994 (a decrease of approximately 30%).

since the tax was set at its current level in 1994.[64] If the original tax had included an annual inflation adjustment based on CPI, CRS calculates that it would be approximately $0.29 cents per gallon today, and would have resulted in approximately $300 million in additional revenues since 1994, plus interest on the investment and federal matching funds.[65]

Some excise taxes with similar characteristics to the IWTF fuel tax are indexed for inflation, while others are not. A tax on aviation users was established in 1970 and is authorized to expend its funds on items such as airport planning and construction, safety measures, and related departmental expenditures.[66] Since 2003, this aviation user tax has been indexed to inflation. Alternatively, the Federal Highway Trust Fund funds construction and operations and maintenance on federal highways through a fuel tax of $18.4 cents per gallon, and is not indexed to inflation. As a result, it has experienced a decrease in real purchasing power (similar to the IWTF). Some states, such as Maine, Wisconsin, and Florida, index their state highway fuel taxes to CPI or some other measure of inflation, while other states have recently considered this option but rejected it.

Congress may also consider additional means that would make the revenue stream for inland waterways more reliable. An automatic adjustment for inflation has previously been discussed and could be incorporated into either a fuel tax increase or a new lockage fee. An inflation adjustment could provide additional future revenues and increase the real purchasing power of IWTF funds, which has decreased substantially since 1994. Some argue that such an automatic adjustment amounts to hidden (and therefore unacceptable) tax increases in the future. (See box above.)

If no long-term solution is enacted to address the IWTF revenue shortfall, Congress may again be forced to take measures to ensure the solvency of the trust fund. Previously, some of these options have included capping IWTF withdrawals at the level of current year fuel tax revenues or putting a temporary hold on all new contracts and focusing on ongoing work.[67] Both of these options would curtail investments on the inland waterway system to some extent. Congress might also stipulate that some or all of the subset of IWTF investments be exempted from WRDA 1986 cost-sharing requirements (similar to the exemption provided by Congress in FY2009 enacted appropriations). However, an exemption such as this would have an additional cost to taxpayers in the form of funds from the GR account.

IWTF Cost-Sharing

A related question before Congress is whether the current cost-share arrangement for inland waterway projects is adequately balanced. As previously mentioned, WRDA 1986 established cost-sharing requirements for construction and major lock rehabilitation projects. Under WRDA 1986, construction and major rehabilitation were cost-shared, while "routine" operations and maintenance was a 100% federal cost. Several years later, WRDA 1992 (P.L. 102-580) established that "major rehabilitation" should be defined as any upgrade requiring more than $8 million in total funding (among other requirements).[68]

(...continued)

[65] This assumes that like most other excise taxes, an inflation adjustment for the IWTF fuel tax would be based on CPI. Some argue that another index, such as the construction cost index, might be a more appropriate basis for this adjustment.

[66] Joseph J. Cordes et al., "Airport and Airway Trust Fund," in *Encylopedia of Taxation and Tax Policy*, 2nd ed. (Washington, DC: The Urban Institute Press, 2007), pp. 4-5.

[67] The FY2011 budget, as well as the Senate Appropriations Committee markup, have chosen to limit trust fund withdrawals to current year revenues.

[68] Like the original fuel tax, this amount was not indexed for inflation.

While the Administration's lock user fee would not alter the current cost-share, the IWUB proposal would significantly modify this arrangement. As previously mentioned, it would change the existing cost-share arrangement to exclude dams and minor rehabilitation from cost-share requirements, shifting funding for these types of projects to 100% federal funding from the General Revenue stream. Notably, the IWUB reasons that costs for dams should be a federal responsibility because significant segments of the U.S. population benefit from these structures.[69] The IWUB also proposes a new threshold for what it considers to be major lock rehabilitation, specifying $100 million as the new cut-off between routine operations and maintenance and major rehabilitation.[70] In short, the IWUB proposes to redefine the $8 million threshold established for projects in WRDA 1992, and replace it with a threshold of $100 million. This would in effect greatly increase the number of maintenance and rehabilitation projects that are federally funded. Additionally, the report proposes to make all cost overruns for IWTF construction projects a 100% federal responsibility. While some note that this provides project managers within the Corps an added incentive to keep projects within budget, critics note that the change represents an additional hidden cost to the federal government that is not reflected in IWUB report's estimates.

The overall effect of the IWUB's proposed changes would be to shift the overall costs for inland waterway projects toward the federal government. Assuming the proposed project list in the IWUB report, CRS calculates that the cost-share arrangement for IWTF construction projects would shift from the current 50/50 arrangement to approximately 68% federal, 32% non-federal (see **Table 4**).[71] While commercial waterway users and the IWUB favor this shift in order to distribute the cost-share burden, taxpayer and environmental groups note that the IWTF already benefits from significant federal support in the form of 100% federal funding for investigations (studies) and operations and maintenance. In recent years, this support has represented an additional $500-$650 million annually of federal expenses with no cost-sharing requirements.[72] Assuming existing funding trends for other Corps work supporting inland waterways (e.g., operations & maintenance and investigations), CRS calculates that federal costs for inland waterways under the proposal could rise to more than 90% of the total costs for the system. Currently, the federal government is responsible for about 80%-85% of these costs annually, with some variation.

As previously noted, some have argued in favor of shifting cost shares away from the federal government and increasing user responsibility not only for construction, but also for operations and maintenance of inland waterways. These groups, including some of the aforementioned environmental and taxpayer interest groups, have argued that waterway users should not only pay

[69] IMTS Capital Investment Strategy Team, p. 69. An important point regarding this proposed change is that it includes the dam portion of lock and dam projects. Thus, for future proposed upgrades or new construction of lock and dam projects, the report proposes to divide up these costs (which are currently cost-shared). This may prove controversial, since many argue that lock users benefit significantly from these systems.

[70] WRDA 1992 (P.L. 102-580, §205) established a statutory definition for "rehabilitation" of Inland Waterways projects. Generally rehabilitation projects are subject to the IWTF cost-share arrangement, while routine operations are a 100% federal responsibility.

[71] Several additional factors could potentially increase the federal share beyond the 68% level. For instance, this estimated ratio does not account for cost-overruns that are currently cost-shared but would be a federal responsibility under the IWUB proposal. Additionally, it assumes the annual funding for the IWUB recommended project list instead of the overall IWUB program recommendation of $380 million per year (the latter results in a ratio of 72% federal, 28% non-federal).

[72] CRS calculation based on Corps of Engineers Data as of September 2010.

for 50% of construction and major rehabilitation costs, but also pay for some or all operations and maintenance costs, which are currently fully funded by the general treasury revenues. While Congress has in the past rejected these proposals, they may once again be considered in the context of overall government cost-cutting efforts.

Other Issues with Inland Waterway Planning

Finally, users may ask Congress to weigh in on other suggested reforms to Corps IWTF planning processes. Among other things, the IWUB proposed a number of reforms to increase its involvement and improve project prioritization. Industry users argue that many of these reforms will decrease the likelihood of cost overruns, which have in the past been a problem for IWTF projects. A previous study by the Corps concluded that in several cases, a number of factors contributed to cost overruns, including inaccurate construction schedules and costs, general cost escalation, and non-optimal funding. However, the degree of involvement by a non-federal entity in the planning and decision-making process could raise concerns related to conflicts of interest.

The method of prioritization for all inland waterway projects may be an additional item that gains congressional attention. As noted in the IWUB report, IWTF investments to date have usually been considered in isolation, that is there is no formal set of criteria used to make decisions among investments competing for IWTF funds. Instead these decisions are largely left to the Corps and the Administration (in the annual budget formulation process) and Congress (in the appropriations process). The IWUB proposes to alter this practice by adopting a priority ranking system, which is described in detail in the IWUB report.[73] Significantly, the IWUB report recommends that this system be promulgated as a regulation. This could fundamentally affect the role of Congress in the project selection and funding process.[74] Currently, Congress decides which projects to authorize, which feeds the need for appropriations on specific projects. If the system for prioritizing investments in the IWUB report is promulgated as a regulation, the Corps would utilize these criteria to select projects for funding, and the role of Congress could potentially be limited to providing project authorizations and overall appropriations levels for the IWTF.

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[73] IMTS Capital Investment Strategy, pp. 23-66.

[74] See IMTS Capital Investment Strategy, p. xv.