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Harbor Maintenance Finance and Funding

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September 12, 2013

Congressional Research Service
7-5700
www.crs.gov
R43222

CRS REPORT
Prepared for Members and
Committees of Congress

Summary

The federal government has assumed principal responsibility for maintenance of the nation's harbors and shipping channels. Harbor maintenance activities are overseen by the U.S. Army Corps of Engineers (the Corps or USACE) and largely funded through the harbor maintenance trust fund (HMTF), which receives revenue from taxes on waterborne cargo and on cruise ship passengers. The future of the HMTF is a major issue in consideration of the Water Resources Development Act (WRDA), which is now pending in Congress. Legislation passed in the Senate (S. 601) and under consideration in the House (H.R. 3080), if enacted, would significantly increase, but by differing amounts, annual spending from the HMTF. Each bill would make a variety of other changes in the way federal harbor maintenance funds are allocated and spent, but there are notable differences between the two bills.

The debate over harbor maintenance is occurring in the context of heightened interest in the cost-effectiveness of industrial supply chains. In 2010, the U.S. Departments of Transportation and Commerce launched the Competitive Supply Chain Initiative, which seeks to strategically improve the nation's marine transportation system and its connecting infrastructure. Most sea-borne imports and exports move through a relatively small number of ports, but a significant proportion of HMTF spending is used to cover the cost of dredging harbors that have relatively little or no cargo. One reason for this is that the Corps still maintains navigation channels and harbors authorized a century or more ago, when maritime commerce was carried by smaller vessels utilizing a larger number of harbors and coastal channels protected from the open ocean. One key issue for Congress is the extent to which the HMTF, which is funded mainly by a tax on cargo, should give priority to improvements that do not benefit commercial shipping.

Other key policy questions for Congress include the following:

- Should the HMTF continue to finance dredging only of channels, which benefits mainly ports with shallow natural harbors, or should the scope of allowable activities be increased to benefit ports with deeper harbors, including some of the nation's largest cargo ports?
- Should there be a relationship between the amount of revenue collected from a port through harbor maintenance taxes and federal spending on that harbor?
- Does the harbor maintenance tax, as presently levied, pose an obstacle to domestic shipping, and particularly to transshipment of international freight aboard coastal vessels?
- Should the government be required to spend annual harbor maintenance tax collections when received rather than accumulating them in a trust fund, which would result in more spending for harbor maintenance but also increase the federal budget deficit?
- Is the Corps compiling the necessary information to further improve the efficiency of the nation's maritime supply chain and to ensure the efficient allocation of available resources?

Contents

Tables

Contacts

Introduction

More U.S. merchandise trade (measured in tons) is carried by oceangoing vessel than by airplanes, trucks, freight trains, and pipelines combined. About half of U.S. merchandise trade by value and nearly 80% by volume enters or leaves the United States through a seaport.[1] Harbor maintenance thus has a critical role in facilitating U.S. foreign trade. It is also important in minimizing the cost of trade between the continental United States, Alaska and Hawaii, and U.S. island territories. A limited amount of coastal shipping (e.g., Houston to Tampa) also relies on waterways and harbor channels maintained by the U.S. government.

Congress has chosen to make the U.S. Army Corps of Engineers (the Corps or USACE) responsible for maintaining federal navigation channels. The Water Resources Development Act (WRDA) is the principal legislative vehicle for altering the Corps' Civil Works Program; its consideration offers Congress an opportunity to revisit harbor maintenance policy.[2] In 1986, when Congress established current harbor maintenance policy, merchandise trade accounted for 14% of GDP. It now accounts for 25%, so decisions on harbor maintenance may have greater impact on the U.S. economy than was the case in 1986.[3]

Under existing law, the cost of harbor maintenance is supported by a harbor maintenance tax (HMT) on imported and domestic waterborne cargo and cruise passengers. The tax rate is 0.125% of the value of cargo shipped or cruise tickets sold, representing $1.25 per $1,000 of cargo or cruise ticket value. The tax is generally assessed at coastal and Great Lakes ports.[4] Almost all of the collected revenue is generated by imported waterborne cargo.[5] Revenue from the tax flows into the harbor maintenance trust fund (HMTF), which is used to cover the Corps' cost of dredging channels, maintaining jetties and breakwaters, and operating locks along the coasts and in the Great Lakes.

Unlike some other federal trust funds, such as the highway trust fund, the HMTF may be drawn on only with an appropriation by Congress. Under congressional budget rules, HMT revenue is scored as federal receipts, and expenditures from the HMTF are scored as current-year expenditures; thus, a surplus of HMT receipts over expenditures reduces the federal budget deficit. In recent years, a little more than half of the HMT collected annually has been spent on harbor maintenance. Unexpended HMT collections remain in the trust fund, and the fund balance is credited with interest from the Treasury. The balance in the trust fund was $8.5 billion as of July 2013.[6] In FY2014, the Corps expects the HMTF to receive $1.8 billion from the harbor

[1] David Long, International Trade Administration, "Our Marine Transportation System: The Competitiveness Context," *Coast Guard Proceedings*, summer 2011, pp. 36-39.

[2] For further information on WRDA, see CRS Report R41243, *Army Corps of Engineers: Water Resources Authorizations, Appropriations, and Activities*, by Nicole T. Carter and Charles V. Stern.

[3] http://www.data.worldbank.org.

[4] There are some exceptions, including an exception for domestic cargo at ports in non-contiguous states. See 19 C.F.R. 24.24 for details on tax assessment. In this report, "coastal" includes Great Lakes harbors.

[5] In FY2012, imported cargo generated 92% of revenue, domestic cargo 7%, and cruise passengers less than 1%. See http://www.savingsbonds.gov/govt/reports/tfmp/hmaint/hmaint.htm. The HMT as applied to exports was declared unconstitutional by the U.S. Supreme Court in *United States v. United States Shoe Corp*., 523 U.S. 360 (1998). President Clinton proposed a replacement fee designed to meet the Supreme Court's definition of a user fee, H.R. 1947, 106th Congress. It was not adopted by Congress.

[6] See http://www.savingsbonds.gov/govt/reports/tfmp/hmaint/hmaint.htm.

maintenance tax and $247 million of interest, for total income of $2.05 billion. The Administration's budget requests $923 million for harbor maintenance.[7]

Bills in the 113th Congress, S. 601 (approved by the Senate in May 2013), S. 218, and H.R. 335, if enacted, would nearly double annual spending on harbor maintenance and related activities, requiring that HMT revenues be spent for harbor maintenance rather than accumulating in the trust fund account. H.R. 3080, introduced by the leadership of the House Transportation and Infrastructure Committee and Subcommittee on Water Resources and Environment, would increase HMTF expenditures every year, so that by FY2020 and thereafter, 80% of the HMT collected the prior fiscal year would be spent on harbor maintenance. Increasing spending from the HMTF has the potential to reduce funding for other Corps activities, such as harbor construction or flood control, or other activities funded under the Energy and Water Development Appropriations acts.[8] Congress could compensate for increased funding from the HMTF by allocating more funds to the energy and water development appropriation, but this would require less funding for activities outside this appropriation to stay within total federal budget caps.

Putting the HMTF to Use

When Congress established the HMTF in the Water Resources Development Act of 1986 (WRDA 1986; P.L. 99-662), it specified that the funds were to be used to pay for "the eligible operations and maintenance costs assigned to commercial navigation of all harbors and inland harbors within the United States."[9] Congress defined "harbors," in part, as "capable of being utilized in the transportation of commercial cargo in domestic and foreign waterborne commerce by commercial vessels," and defined "inland harbors," in part, as "used principally for the accommodation of commercial vessels and the receipt and shipment of waterborne cargoes on inland waters."[10] A key distinction in these definitions is that "inland harbors" must be currently handling cargo, while coastal or Great Lakes harbors need only be "capable" of handling cargo. In both definitions, "commercial cargo" includes passengers transported for compensation but excludes fresh-caught fish. Ferries are excluded from the definition of "commercial vessel."[11] These definitions have not been substantively changed since 1986.[12]

The Corps did not conduct a rulemaking to implement the harbor maintenance provisions in WRDA 1986, so there is no *Federal Register* record of its interpretation of the act. According to its annual reports to Congress on the status of the HMTF (the most recent of which covers FY2006), the Corps interprets the term "commercial navigation" to mean any project authorized by Congress with commercial navigation as an authorized purpose.[13] According to the Corps, most harbor projects are authorized as "single-purpose" commercial navigation projects, and

[7] *United States Budget for FY2014*, *Appendix*, Corps of Engineers—Civil Works, http://www.whitehouse.gov/omb/budget/Overview.

[8] For activities funded under this appropriations bill, see CRS reports at http://www.crs.gov/pages/subissue.aspx?cliid=2343&parentid=73&preview=False.

[9] P.L. 99-662, §210; 100 Stat. 4106; codified at 33 U.S.C. 2238.

[10] P.L. 99-662, §214; 100 Stat. 4108-4109.

[11] P.L. 99-662, §1402; 100 Stat. 4266-4267.

[12] They are codified in current law at 33 U.S.C. 2241 and 26 U.S.C. 4462.

[13] See USACE, Annual Reports to Congress on the Status of the HMTF. Reports available online cover FY1993 to FY2006; http://www.iwr.usace.army.mil/Library/IWRLibrary.aspx.

therefore all operations and maintenance (O&M) costs at those harbors are payable from the HMTF. If a project is authorized as a "multi-purpose" project, aiding commercial navigation along with purposes such as recreation or flood control, only expenditures on behalf of commercial navigation and joint-use costs allocated to commercial navigation are eligible for recovery from the HMTF.[14]

Based on information Corps personnel recently presented to the ports industry, the 59 ports the Corps defines as "high use"—those handling more than 10 million tons of freight per year—accounted for 90% of maritime commerce (by tonnage). These ports received approximately two-thirds of HMTF spending in FY2013. Almost all the high-use ports had operations and maintenance (O&M) activities scheduled (see **Table 1**). "Moderate use" ports, those handling between 1 million and 10 million tons of cargo, accounted for 9% of maritime commerce but received 19% of HMTF spending in FY2013, and about half had O&M projects planned. Some 7% of "low use" ports had federally funded O&M projects planned; the low-use ports collectively handled 1% of all maritime commerce, but received 5% of HMTF spending. A roughly similar pattern prevailed in FY2012, according to the Corps.

Table 1. Corps Operation and Maintenance (O&M) Activities and Funding for Coastal Navigation

Category of Port	Number of Ports	Share of Commerce (by tons)	FY13 O&M Projects (number)	FY13 O&M Funds ($ millions)	FY12 O&M Projects (number)	FY12 O&M Funds ($ millions)
High Use	59	90%	56	66% (483)	54	62% (499)
Moderate Use	100	9%	52	19% (139)	61	25% (201)
Low Use	908	1%	63	5% (37)	41	6% (48)
Other				10% (73)		7% (56)
Total	1067	100%	171	100% (732)	156	100% (805)

Source: USACE presentation to the American Association of Port Authorities, March 18, 2013, modified by CRS. The USACE presentation did not include dollar amounts. CRS added this information using Corps budget documentation.

Note: "Other" includes navigation research and development, project condition surveys, and other items.

This table encapsulates an important part of the HMTF debate, also reflected in differences between S. 601 and H.R. 3080, over how HMTF funds should be allocated. Seen from one point of view, the vast majority of harbors—those classified as "low use" or "moderate use"—receive little or no federal funding, perhaps limiting their ability to receive cargo, fishing, and recreational vessels, and thereby damaging local economies. Seen from another point of view, harbors used by big commercial vessels, which generate almost all HMT revenue, receive a smaller share of HMTF spending than their economic importance justifies, while a

[14] Ibid.

disproportionate share of funding goes to harbors that receive little or no commercial traffic.[15] H.R. 3080 specifically directs the Corps not to allocate harbor maintenance funds solely according to tonnage, while S. 601 appears to favor funding of large, commercial cargo ports.

Corps data provided to CRS identify a total of 1,228 waterways or segments of waterways on which operations and maintenance are eligible to be reimbursed by HMTF funds.[16] Of these, 752 waterways or segments (61% of the total) carried no cargo from FY2005 to FY2009, and 100 handled less than one truckload of cargo per day (8,030 tons per year).[17] An additional 50 waterways eligible for HMTF spending handled less than the equivalent of one Panamax[18] shipload per year (52,000 tons or about 2,400 truckloads). Thus, almost 75% of the eligible waterways handled little or no cargo.

While the Administration's budget requests for the Corps in recent years have directed the majority of HMTF spending to high-use harbors, "high use" is defined by the volume of cargo, as measured in tons, rather than the value of cargo that is the basis of the tax. The volume-based metric tends to favor ports that handle tankers carrying oil and chemical products and bulk ships that carry grains, ores, and coal. Alternatively, if a value-based metric were to be used, budgeting might direct a greater share of HMTF funds to ports that handle containerships, whose cargo is of much greater value on a per-ton basis. This would tend to concentrate harbor maintenance funding, as the five largest container ports—Los Angeles, Long Beach, New York/New Jersey, Savannah, and Oakland—collectively handled about 56% of U.S. maritime container shipments in 2012.[19]

Ports defined by the Corps as "high use" received only about half of the O&M funds requested by their Corps district engineers in FY2011.[20] (It is not known to what extent the district engineers' requests represent a genuine "needs list" versus a "wish list.") Moderate-use ports received about 30% of the funds their district engineer requested, and low-use harbors received 10%. The total amount requested for low-use harbors, $766 million, nearly approached the amount requested for the busiest harbors, $922 million.[21] Once again, from one point of view, small harbors received only one-tenth of the funds their local Corps official thought they needed, but from another point of view the most economically significant ports received only half of the funds requested—a shortfall all the more problematic because, according to the Corps, the 59 busiest commercial

[15] A Panamax vessel—the largest ship currently able to pass through the Panama Canal—can carry about 52,000 tons of cargo. Thus, a harbor could be classified as "moderate use" by the Corps if it were to handle the equivalent of one-and-a-half Panamax ships per month, implying that there might be many days on which such a harbor has no commercial vessel traffic. The two largest U.S. harbors, in tonnage terms, handle the equivalent of more than 300 Panamax ships per month.

[16] E-mail communication from the Corps, June 2013.

[17] For this purpose, a truckload is 22 tons (44,000 lbs.), which is about the maximum load a 5-axle truck ("18-wheeler") can carry given federal interstate highway weight limits.

[18] Refers to the size of ship that can transit the Panama Canal locks.

[19] Statistics on container traffic by port are from the American Association of Port Authorities, http://www.aapa-ports.org/Industry/content.cfm?ItemNumber=900&navItemNumber=551.

[20] Kenneth Ned Mitchell, *A Review of Coastal Navigation Asset Management Efforts within the Coastal Inlets Research Program (CIRP) Part 2: The Channel Portfolio Tool*, USACE, April 2012, p. 2. The author notes that his analysis used unofficial budget development data obtained from Corps headquarters.

[21] Ibid.

shipping channels functioned at their authorized widths and depths only 30% of the time in 2008, the most recent year for which data are available.[22]

Allocation of HMTF Spending

A 2012 National Academy of Sciences study stated the following about how the Corps allocates funding:[23] "Financial stresses placed on the Corps to provide safe and efficient operation of all infrastructure leads to partial investments across many facilities, rather than larger investments in more critical facilities."[24]

When measured in terms of ship capacity, harbor traffic is more concentrated than when measured in tonnage. Under this measure, 90% of ship traffic occurs at the top 35 ports, and the top 10 ports account for 60% of commercial ship calls.[25] If national economic benefit were to be the principal criterion for HMTF spending, the Corps might be justified in further concentrating its O&M funds on high-use harbors while reducing spending on low-use harbors. However, this could preclude moderate-use ports from eventually developing into high-use ports, as they might lack the channel depth to accommodate many commercial vessels, and could hinder the functioning of some ports with significant fishing and recreational vessel traffic.

The Corps' FY2013 "Federal Program Inventory" states that it maintains more than 900 coastal channels and harbors.[26] Many of these may require maintenance only once every several years. Based on funding provided to HMTF-eligible projects from FY1999 to FY2008, the most recent data available from the Corps, in any given year the Corps performed maintenance work on 400 to 500 harbors and channels. A 2012 Corps study states that the Corps is authorized to maintain more than 1,400 coastal navigation projects but that it actively maintains only 360 of them.[27] It is not clear whether the Corps is definitively maintaining fewer projects than it did a few years ago, and, if so, whether this is a matter of policy, funding levels, or maintenance needs.

A 2001 letter from two Members of Congress to the Corps questioning the need for continued maintenance of several Corps projects, including harbor projects, prompted a Corps study released in 2003. The study made a number of pertinent observations concerning harbor maintenance funding:[28]

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[22] The authorized width and depth were measured at the center 50% of the channel. Full availability decreased from 38% in 2005 to 30% in 2008. USACE, *Five-Year Development Plan, FY2011 to FY2015*, pp. 23 and 25; http://www.usace.army.mil/Missions/CivilWorks/Budget.aspx.

[23] National Academy of Sciences, *Corps of Engineers Water Resources Infrastructure: Deterioration, Investment, Or Divestment?*, 2012, p. 6.

[24] For further analysis of this issue, see CRS Report R41961, *Army Corps Fiscal Challenges: Frequently Asked Questions*, by Nicole T. Carter and Charles V. Stern.

[25] U.S. Maritime Administration, "Vessel Calls at U.S. Ports," data for 2011.

[26] USACE, *FY2013 Federal Program Inventory*, May 2013.

[27] Kenneth Ned Mitchell, *A Review of Coastal Navigation Asset Management Efforts within the Coastal Inlets Research Program (CIRP) Part 2: The Channel Portfolio Tool*, USACE, April 2012, p. 2.

[28] *Report on Revitalization of Corps of Engineers Projects*, prepared by William C. Holliday for Institute for Water Resources, USACE, April 2003, IWR Report 03-PS-1.

- The Corps does not have a systematic or regular practice for reevaluating the economic justification of continued federal investment in harbor projects.[29]
- Corps managers assume "that project authorizations equate to a mandate to perpetually operate and maintain projects as authorized without regard to changed circumstances. These views have contributed to passive stewardship of vital resources."[30]
- The Corps' "present policies and management tools are insufficient for identifying inefficient projects, curtailing maintenance and/or disposing of the projects."[31]
- "Policy guidance for harbors needs to establish explicit requirements and procedures for confirming continuing economic viability of harbor projects, to include economic reevaluation when selected indicators fail minimum threshold value tests (or 'triggers')."[32]

The findings of the 2003 Corps study underscore that many harbor projects were initially authorized many decades ago, in some cases before modern highways, railroads, pipelines, and airports provided alternatives to waterways for the movement of passengers and freight. For example, in the early 1900s "regular line boats" provided scheduled service at 50 Great Lakes ports.[33] A great proportion of cargo and passengers traveled in small vessels, and maritime commerce was widely dispersed, utilizing many small harbors that today are bypassed by larger cargo vessels. Many of these protected channels and small harbors are now used predominantly by pleasure boats, but the Corps retains responsibility for maintaining them using funds derived mainly from a cargo tax.

Over the years, Congress has allowed the Corps to divest a handful of inland waterways projects no longer needed for carrying commercial cargo.[34] The Corps has not been relieved of responsibility for a harbor, but it has undertaken recent initiatives that tend to direct available funds to harbor maintenance projects of greatest commercial importance. In 2008, the Corps began development of a "Channel Portfolio Tool" that is intended to provide a more objective, consistent, and justifiable basis for prioritizing its allocation of funds among harbors, using data

[29] This is a long-standing criticism of the Corps. A 1944 study by the Board of Investigation and Research requested by Congress (§305 of the Transportation Act of 1940) entitled *Public Aids to Domestic Transportation* (H. Doc. 159, 79th Congress) concluded that there "is the need for more realistic and consistent traffic analyses of proposed projects and for continuing economic appraisals of existing projects. Unless this is done ... there will probably continue to be wide differences on many waterways between traffic estimates and results. It would be desirable, in this connection, to require systematic reviews of every project at least once in ten years ..." (p. 72). Similarly, a 1951 study (Arthur Maass, *Muddy Waters*: *The Army Engineers and The Nation's Rivers*, Harvard Univ. Press, Cambridge, p. 187) states, "The Corps regularly collects commercial statistics on waterway traffic, but makes no use of these for the purpose of reevaluating the economy of waterways. By failing to do this, the Corps avoids taking action that should lead both to greater economic soundness and to continued planning in relation to shifting economic and physical conditions."

[30] 2003 Corps study, p. 51.

[31] 2003 Corps study, p. 44.

[32] 2003 Corps study, p. 49.

[33] USACE and U.S. Shipping Board, *Transportation on the Great Lakes*, 1926.

[34] It appears that only one of the divested projects, the locks on the Lower Fox River Waterway in Wisconsin, may have been or would be eligible for HMTF funding, while the remainder would have been funded from a separate trust fund for inland river locks and dams.

on commercial tonnage and value and on ship transits by draft for each harbor to assess dredging needs.[35]

Recent Corps budget guidance also indicates that the Corps is using metrics or "triggers" to group projects. Beginning with its FY2012 budget justification, the Corps has specified that it uses "objective performance-based criteria to allocate O&M funds to Corps projects."[36] For commercial navigation, the criteria include tonnage and cost per ton. Other criteria the Corps uses, according to its budget development guidance, are support for commercial fishing and public transportation (passenger ferries), public safety (harbors of refuge, subsistence harbors, Coast Guard search and rescue, national security requirements), the current condition of the infrastructure and its reliability, and legal requirements (court orders). Although this list appears to address the concerns about the lack of criteria raised in the 2003 Corps study, the large number of criteria leaves it unclear how many harbor navigation projects would be unable to qualify for priority funding.

In a 2008 report, the Government Accountability Office (GAO) recommended that Congress create an advisory committee, including payers of the HMT, to provide input to the Corps on national harbor maintenance projects and priorities. No such committee has been created.[37] A 2010 GAO report states that Congress is concerned that the Corps' criteria to prioritize projects are not transparent and may not be achieving the highest return on investment.[38] The 2010 GAO audit found that the overall emphasis of the Corps' budget process was on the anticipated rather than demonstrated performance of projects.[39] But GAO clarified this finding, stating that the O&M budget did reflect actual performance, after the Corps submitted comments to GAO stating,[40] "For completed projects in the Operation and Maintenance program, actual performance over time is assessed against authorized project purposes and contributes to the determination of budget priority. For example, in the navigation program, actual commercial use of projects normally establishes the budget priority."

Opportunity Cost

Opportunity cost is a significant metric for distributing O&M funds to harbors efficiently, but it is not specifically mentioned in the Corps' budget guidance. Opportunity cost, in this context, concerns whether, with the finite resources available, providing maintenance to harbor "X" results in a loss of potentially greater economic benefits from failing to fully maintain harbor "Y." A former Secretary of the Army asserted nearly half a century ago that "the Corps must consistently be guided by the principle that what is desired is a definition of problems within a

[35] For further information, http://chl.erdc.usace.army.mil/chl.aspx?p=s&a=Spotlight!9, and http://acwc.sdp.sirsi.net/client/search/asset/1006662.

[36] USACE, FY2012 Budget Justification, p. C-5; p. C-6 in FY2013 Budget Justification, p. CR-3 in FY2014 Budget Justification.

[37] GAO, *Federal User Fees*[:] *Substantive Reviews Needed to Align Port-Related Fees with the Programs They Support*, GAO-08-321, February 2008.

[38] GAO, *Army Corps of Engineers*[:] *Budget Formulation Emphasizes Agencywide Priorities, but Transparency of Budget Presentation Could be Improved*, GAO-10-453, April 2010.

[39] Ibid., p.13.

[40] Ibid., p. 35.

broad framework of national needs and optimum solutions to such problems, not merely determinations that a given project is justified."[41]

CRS calculations indicate that the costs of operations and maintenance activities funded from the HMTF vary considerably among ports when measured on a per-ton or per-ship basis (see **Table 2**). In particular, the costs per ton and per vessel appear to be far higher at some smaller ports than at major cargo ports. O&M at a particular harbor can vary considerably from year to year, so an average over several years is a better indicator of O&M expense. However, the two datasets with O&M expense and waterway usage apparently have not been jointly analyzed by the Corps, so the data spanning several years are not readily available to Congress.

Table 2. O&M Costs at Selected Harbors, 2011

Harbor	FY2011 O&M Budget Request ($ millions) (A)	Foreign and Domestic Tonnage (million tons) (B)	O&M Cost per Ton ($) (A)/(B)	Ship Calls (C)	O&M Cost per Ship Call ($) (A)/(C)
Portland, ME	0.00	13.18	0.00	245	0
Seattle/Tacoma, WA	1.86	50.76	0.04	2,065	899
New York/New Jersey	17.15	139.17	0.12	4,661	3,679
Boston, MA	2.70	18.41	0.15	602	4,485
Savannah, GA	18.46	35.46	0.52	2,731	6,760
Gulfport, MS	3.88	2.15	1.80	237	16,380
Mobile, AL	23.56	55.55	0.42	1,065	22,122
Morehead City, NC	3.80	3.57	1.06	77	49,351
Grays Harbor, WA	10.55	1.65	6.39	9	1,172,222
Yaquina, OR	1.79	0	—	0	—
Saginaw River, MI	3.19	2.12	1.51	not available	not available
Buffalo, NY	1.17	0.94	1.24	not available	not available

Source: CRS calculations using data from the U.S. Maritime Administration (Ship Calls) and USACE (Tons and O&M Budget).

Notes: Ship Calls are ships over 10,000 dwt (accounting for 98% of ship capacity calling at U.S. ports). The U.S. Maritime Administration does not provide these data for Great Lakes ports.

[41] Stanley R. Resor, Secretary of the Army, Letter of Transmittal of the Civil Works Study Board report, *A Report to the Secretary of the Army on the Civil Works Program of the Corps of Engineers*, January 17, 1966, report dated January 1965. Committee print submitted to the Committee on Public Works, U.S. Senate, 89th Congress, 2nd session.

Cost-Sharing and Expanded Uses of Funds

The Corps maintains only federally designated channels. The HMTF is used to pay 100% of the federal cost of maintaining harbors up to 45 feet in depth. For harbors greater than 45 feet, a non-federal sponsor (for instance, a port authority) is responsible for paying 50% of the additional cost of maintaining the harbor at that depth. S. 601 would change the non-federal cost share requirement for O&M, so that local cost-sharing would be required only for maintenance of channels with authorized depths of greater than 50 feet.[42]

New construction, such as deepening or widening a channel to a larger authorized dimension, is not funded through the HMTF, but is paid for from general government revenues. The federal share of the construction cost ranges from 40% for harbors greater than 45 feet in depth to 80% for harbors less than 20 feet in depth. The general fund expenditures for construction at coastal harbors, $175 million in FY2013, partially offset the HMT collections that are deposited into the HMTF but are accumulated rather than expended.

Under current law, berths (where ships tie up at docks) and some private side channels are the responsibility of port authorities or terminal owners, and may not be dredged or widened with HMTF money. Some ports that already have very deep channels have objected that this deprives them of the ability to draw on the HMTF, even though shippers using their ports pay the HMT. S. 601 would allow ports that generate significantly more HMT revenue than they receive, under certain conditions, to use funds from the HMTF to dredge berths, remove contaminated sediments, or possibly return HMT collections to the shippers who paid the tax at their port. If this provision were to be adopted, the deepest ports, such as Los Angeles and Long Beach, the nation's leading ports for container traffic, would have increased ability to draw on the HMTF, potentially reducing the amount of funds allocated to other ports. H.R. 3080 also expands use of the HMTF for dredging of berths and contaminated sediments under certain conditions.

As **Table 3** indicates, there is wide variation in the amount of HMT generated at harbors. In 2011, New York harbor generated about $132 million, which was about 15% of total HMT collections that year. The harbors of Los Angeles and Long Beach generated about a quarter of total HMT collections.[43] The top 15 harbors in terms of tax receipts collect more than 75% of total HMT revenue.[44] The disparity between individual ports' share of HMT revenue and their O&M costs may raise concerns about equity and efficiency.

[42] For a listing of harbors and their current depths, see pp. 49-51 at http://www.iwr.usace.army.mil/Portals/70/docs/portswaterways/rpt/June_20_U.S._Port_and_Inland_Waterways_Preparing_for_Post_Panamax_Vessels.pdf.

[43] The harbors of Los Angeles and Long Beach are geographically distinct, but figures on HMT collections provided to CRS by U.S. Customs and Border Protection (CBP) do not distinguish between the two.

[44] Most of these are also the top container ports.

Table 3. HMT Collections and Expenditures at Selected Harbors

2011 Data

Harbor	HMT Collections ($ millions)	FY2011 O&M Budget Request ($ millions)
Portland, ME	2.71	0.00
Boston, MA	12.29	2.70
New York/New Jersey	131.73	17.15
Morehead City, NC	0.77	3.80
Savannah, GA	43.84	18.46
Mobile, AL	8.72	23.56
Gulfport, MS	1.90	3.88
Yaquina, OR	0	1.79
Grays Harbor, WA	0.06	10.55
Seattle/Tacoma, WA	36.18	1.86
Saginaw River, MI	0.04	3.19
Buffalo, NY	0.20	1.17

Source: U.S. Customs and Border Protection (CBP) and USACE.

Public Safety Harbors

For public safety reasons, the Corps maintains harbors or channels that may have little or no cargo activity. These include "harbors of refuge" for small craft, with consideration for distances between harbors and prevailing sea state conditions. It appears that almost all of these harbors were originally authorized by Congress between 1850 and 1950.[45] The Corps makes the distinction of "critical" harbors of refuge when allocating O&M funds.

Harbors that support Coast Guard search and rescue stations, "subsistence harbors" that provide the principal means of supply to isolated communities,[46] and channels used by passenger ferries may also receive priority from the Corps even if they have little or no cargo. In the Corps budget justifications for FY2011 through FY2014, the Corps identified 30 different harbors as being subsistence harbors or critical harbors of refuge to justify O&M funding. (No harbor is likely to be funded solely for one of these purposes, so a subsistence harbor might also be listed as a harbor of refuge.)

In FY2012, FY2013, and FY2014 (reported but not yet enacted), the House and Senate Appropriations Committees have provided an additional $30 million above the President's

[45] A search of the Statutes at Large under "harbor of refuge" and "refuge harbor" and their plural forms results in 64 hits for years 1850 to 1899, 73 hits for years 1900 to 1949, and 10 hits since 1950. The harbors authorized since 1980 are in the Great Lakes and Southeast Alaska.

[46] A handful are in Alaska. In the lower 48, examples include Tangier Island in the Chesapeake Bay; the Channel Islands off the coast of California; Block Island, RI; and Ocracoke Island, NC.

request for the maintenance of "small, remote, or subsistence" harbors.[47] The committees explained in their FY2014 reports:[48]

> [T]he administration's criteria for navigation maintenance do not allow small, remote, or subsistence harbors and waterways to properly compete for scarce navigation maintenance funds. The Committee urges the Corps to revise the criteria used for determining which navigation maintenance projects are funded in order to develop a reasonable and equitable allocation under this account. The criteria should include the economic impact that these projects provide to local and regional economies, in particular those with national defense or public health and safety importance.

Debate over Harbors with Little Commercial Cargo

Federal maintenance of harbors predominantly, and, in some cases, solely used for recreational purposes has been a contentious issue between prior Congresses and Administrations. President Clinton proposed a two-year phase-out of federal funding for harbors that did not contribute to the HMTF, identifying 501 such harbor projects totaling about $63 million in annual expenditures (about 13% of HMTF annual expenditures at the time).[49] The Clinton Administration proposed that state and local governments take over responsibility for maintaining these harbors, refocusing the Corps' role on water projects of national significance, including the 236 harbor projects it identified as contributing tax revenues to the HMTF.[50] Earlier, President Reagan had proposed terminating funding of harbors with federal maintenance costs exceeding $1 per ton of cargo.[51] The Reagan Administration estimated that this threshold would save about $150 million in annual federal harbor maintenance expenditures. The HMT was enacted as a user fee during the Reagan Administration after Congress refused to approve the Administration's original proposal to permit local port authorities to assess their own fees on ships to cover the costs of harbor maintenance and construction.[52]

Debate over maintaining harbors with little or no commercial cargo dates back to at least the 1950s. At that time, the Corps' stated policy was not to maintain harbors not extensively used by commercial navigation, regardless of recreational use or local benefits.[53] In 1954, the House Committee on Appropriations endorsed this policy:[54]

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[47] See S.Rept. 112-75, p. 53; S.Rept. 112-164, p. 51; H.Rept. 112-462, p. 61; H.Rept. 113-135, p. 65; S.Rept. 113-47, p. 59.

[48] H.Rept. 113-135, p. 65; S.Rept. 113-47, p. 59.

[49] Senate Hearings Before the Committee on Appropriations, *Energy and Water Development Appropriations: Fiscal Year 1996*, 104th Congress, 1st Session, S. Hrg. 104-407, May 2, 1995; and Hearings Before A Subcommittee of the Committee on Appropriations, House of Representatives, 104th Congress, 1st Session, Subcommittee on Energy and Water Development, *Energy and Water Development Appropriations for FY1996*, February 21, 1995.

[50] At this time, the HMT was still being collected from exported cargo.

[51] Hearings Before A Subcommittee of the Committee on Appropriations, House of Representatives, 97th Congress, 2nd Session, Subcommittee on Energy and Water Development, *Energy and Water Development Appropriations for FY1983*, February 17, 1982. Note that this was prior to enactment of the HMT and HMTF in 1986.

[52] See S. 809 and H.R. 2959, 97th Congress. For a history of WRDA 1986, see USACE (Office of History), *Reshaping National Water Politics: The Emergence of the Water Resources Development Act of 1986*, IWR-91-PS-1, October 1991.

[53] *Report on the Analysis of the Economic Justification of Waterway and Projects Being Maintained*, January 4, 1954. The Corps' policy is essentially restated in hearings before the Subcommittee of the Committee on Appropriations, (continued...)

> While the federal government may have an obligation to maintain navigable waterways, it has no such obligation to maintain those whose use is no longer economical. Minimum appropriations in the past several years have served to prevent the use of funds on too many obsolescent waterways. This, at best, is a temporary expedient. There is a need for an analysis of the need for continued maintenance of specific waterways and harbors.

However, a 1956 audit by the General Accounting Office (now the Government Accountability Office) found that, contrary to the Corps' stated policy, it was maintaining channels predominantly used by recreational boaters or used by a single shipper.[55] Based on this finding, GAO recommended that Congress establish specific continuing policies and criteria for determining which navigation projects are to be operated and maintained at federal expense. In its report, GAO identified 11 coastal navigation projects that it considered of questionable value. In 2011, those 11 projects received $12 million in O&M spending and generated HMT revenues of $1.5 million. Only two of the projects still carry cargo.

One project highlighted in the 1956 GAO study was the 155-mile Okeechobee Waterway in Florida. GAO recommended that this cross-Florida waterway be reclassified as a flood-control project because it offered negligible navigation benefit. Reclassification would have made the waterway ineligible for HMTF expenditures. The waterway was not reclassified, and from FY1999 to FY2008 it received about $30 million from the HMTF. In 2012, it handled 21 barges (loaded and empty) and a total of 2,000 tons of cargo, along with 3,997 recreational vessels.[56] Another HMTF-supported project criticized by GAO in 1956, the Anahuac Channel and Trinity River project in Texas, received about $17 million of HMTF funds from FY1999 to FY2008.[57] No cargo has moved on this waterway in recent years. Recent budget requests have assigned O&M expenses to flood risk mitigation and not navigation.

Funding Recreational Harbors

Recreational harbors can have a positive local economic impact. A 2008 study by the Corps found that the 911,000 recreational boaters on the Great Lakes spent $2.4 billion per year on boating trips and $1.4 billion per year on vessels, equipment, and supplies, and that they created 60,000 jobs.[58] A similar Corps study of 18 recreational harbors in Oregon found that recreational boating supported 1,700 jobs.[59]

Recreational boaters do not contribute to the HMTF, but they pay federal fuel taxes used for restoring fish habitat, administering boating safety education programs, and building boat ramps

(...continued)

U.S. Senate, *Civil Functions, Department of the Army Appropriations, 1955*, 83rd Congress, 2nd session on H.R. 8367, pp. 92-93, 1382.

[54] House Committee on Appropriations, FY1954; H.Rept. 450, 83rd Congress.

[55] GAO, *Review of Operation and Maintenance of Navigation Projects*[:] *Corps of Engineers (Civil Functions) Department of the Army*, January 1956.

[56] See http://www.navigationdatacenter.us/lpms/lpms.htm.

[57] This includes funding for the Wallisville Lake project, a related waterway.

[58] USACE, *Great Lakes Recreational Boating*, December 2008; http://www.lre.usace.army.mil/Portals/69/docs/PPPM/PlanningandStudies/JohnGlenn/boating.pdf.

[59] USACE, *Economic Impacts of Recreation Activities at Oregon Coastal and River Ports*, August 2003.

and sewage disposal facilities at marinas.[60] This use of boat fuel taxes dates to a time when harbor dredging was funded from general revenues rather than from a cargo tax, which was enacted in 1986. In the past, some representatives of the recreational boating industry have supported use of motorboat fuel taxes to pay for dredging of recreational harbors.[61] The Corps has initiated a pilot program involving several low-commercial-use waterways on the Atlantic Coast to investigate the feasibility of greater local financing.[62]

Missing Information

Certain information that might be helpful in assessing the need for and effectiveness of increased spending on harbor maintenance appears not to be publicly available. The unavailable information includes the following:

1. **Current HMTF expenditure reports.** In 1992, Congress requested the Corps to issue annual reports on the status of the HMTF, to include a description of expenditures from the trust fund on a project-by-project basis.[63] The most recent such report listed on the Corps website covers FY2005 and FY2006.[64] The Corps has continued to request funds in its yearly budget justification to prepare and distribute such reports to Congress.[65]
2. **Data comparing harbor usage with O&M expense.** The Corps has collected cargo tonnage data from waterborne carriers since 1922.[66] It therefore knows how much tonnage (by commodity) and how many vessels (by type and draft) use each of the channels and waterways it maintains. Since 1977, the Corps has kept track of its O&M expenditures on each facility.[67] However, the facility nomenclature in its tonnage database does not match and is not mapped to the nomenclature in its expenditure database.
3. **A channel condition and performance report.** Corps documents do not compare the depth and width of shipping channels to their authorized dimensions or to the dimensions needed to adequately serve modern vessels. The Corps also does not publish estimates of the economic loss from such deficiencies or the expected benefit and cost associated with correcting them.

[60] See CRS Report RS22060, *The Sport Fish Restoration and Boating Trust Fund*, by Eugene H. Buck and M. Lynne Corn.

[61] U.S. Congress, House Committee on Merchant Marine and Fisheries, Subcommittee on Merchant Marine, *Maritime Policy and Regional Economic Development - Port Development*, Port Development Oversight, 98th Cong., 1st sess., April 21, 1983, Serial No. 98-9, pp. 159, 160, 165; http://www.ncwaterways.com/businessassistance/Regulatory/Dredging/MOAA_DredgingWhitePaper3-14-03.htm.

[62] http://operations.usace.army.mil/nav/11OctWEDA/12_Oct_2011_WEDA_LOW_USE_PRESENTATION.pdf.

[63] §330 of P.L. 102-580, enacted October 31, 1992, codified at 26 U.S.C. 9505.

[64] http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/Harbor_main_trust_fund_2005_2006.pdf.

[65] See p. RIO-72, FY2014 Budget Justification; p. RIO-71, FY2013 Budget Justification; p. RIO-68, FY2012 Budget Justification; p. RIO-66, FY2011 Budget Justification; p. RIO-63, FY2010 Budget Justification, etc., http://www.usace.army.mil/Missions/CivilWorks/Budget.aspx. The Corps did not respond specifically to CRS's inquiry about the availability of recent HMTF annual reports.

[66] Data collection is authorized in Section 11 of the Rivers and Harbors Appropriations Act of 1922 (33 U.S.C. 555). The data are available at http://www.navigationdatacenter.us/.

[67] *Congressional Record*, March 26, 1986, p. 6232.

The Corps has established the "Navigation Economic Technologies Program" (NETS), whose purpose is to develop a standardized and defensible suite of economic tools for navigation improvement evaluation. The NETS website states that "The U.S. Army Corps of Engineers is committed to spending the nation's tax dollars wisely by investing in navigation projects that provide the best value for the dollar long term. The NETS program supports this mission by developing independently-verified economic models, tools and techniques."[68] NETS appears to focus more on economic analysis of construction dredging projects rather than on the economics of operating and maintaining existing harbors and channels at authorized dimensions, although the majority of federal spending on dredging is for maintenance.[69]

In July 2012, Congress requested that the Corps estimate the nationwide average availability, expressed as a percentage, of the authorized depth and width of all channels that are maintained from the HMTF that would result from the amount requested in the annual budget request, starting in FY2014.[70] It also asked for an estimate of the average annual amount from the HMTF needed to increase average availability to 95% over a three-year period. It appears that this information was not submitted with the FY2014 budget request.

The Impact of the HMT on Shipping Costs

The Federal Maritime Commission (FMC) has estimated that the average HMT payment for a 40-foot shipping container is $109.[71] The HMT rate, 0.125%, is small compared to cargo value, but it is more significant when measured against typical freight charges, particularly for containers holding relatively valuable cargo. The cost of shipping a 40-foot container from an Asian port to the U.S. Midwest is in the neighborhood of $4,000. A 40-foot container of imported electronics may have, on average, a value of $117,606, and thus would be assessed an HMT of $147 (see **Table 4**), raising port-to-destination shipping costs about 4%.

[68] See http://www.corpsnets.us/index.html.

[69] See http://www.navigationdatacenter.us/dredge/ddcosts.htm.

[70] P.L. 112-141 (MAP-21), §1537.

[71] FMC, *Study of U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports*, July 2012; http://www.fmc.gov/assets/1/News/Study_of_US_Inland_Containerized_Cargo_Moving_Through_Canadian_and_Mexican_Seaports_Final.pdf.

Table 4. HMT Average Payment for Containerized Cargo

Commodity	$ Value/ton	$ Value/40' container	HMT/40' container
Electronics	12,104	117,606	$147.01
Apparel	14,517	114,274	$142.84
Hardware	7,096	107,916	$134.90
Autos and Auto Parts	6,452	90,248	$112.81
Footwear	11,745	84,310	$105.39
Toys and Sport Equipment	7,964	68,032	$85.04
Beverages, Spirits, Vinegar	2,128	49,546	$61.93
Plastic Products	3,421	37,168	$46.46
Furniture	3,268	27,210	$34.01
Woodenware	1,315	21,860	$27.32

Source: FMC, *Study of U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports*, July 2012, p. 42.

U.S. ports in proximity to the Canadian and Mexican borders assert that the HMT diverts inbound cargo, particularly containerized cargo bound for the Midwest, to ports across the border because no similar tax is levied in Canada or Mexico. A 2012 FMC study concluded that numerous factors lead shippers to use ports in Canada or Mexico, including factors such as risk mitigation through port diversification and rail rate disparities that have nothing to do with the HMT. The FMC estimated, based on work by a consulting economist, that if U.S. importers were relieved of paying the HMT or if an equivalent fee were imposed on cargo coming to the United States through Canadian West Coast ports, shippers would divert roughly 59,000 to 72,500 40-foot containers per year from Canadian to U.S. ports. "[I]t seems clear that removal of the HMT would drive some U.S. discretionary cargo going through Canadian ports back to U.S. west coast ports, but by no means all," the FMC concluded.[72]

Senators Murray and Cantwell have announced that they intend to introduce legislation that would replace the HMT with a maritime goods movement user fee that would be paid by shippers bringing goods into the United States through ports in Canada and Mexico, as well as users of U.S. ports, in order to reduce the incentives for shipment through Canada.[73]

The HMT may be a more serious obstacle to transshipment of import and export cargo by sea. Waterborne cargo shipped domestically between two U.S. harbors only pays the HMT at one harbor, if it is shipped on one vessel.[74] However, if imported cargo is unloaded at a U.S. port and reloaded on another ship, as in a coastal feeder vessel operation, the HMT is levied twice, once at each destination port.[75] Thus, the HMT as currently assessed may discourage coastal feeder

[72] FMC, *Study of U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports*, July 2012, pp. 3, 55-57. The study estimates that the equivalent of 118,218 40-foot containers bound for the United States passed through Canadian ports in 2010, implying that eliminating the HMT would cause around 40% of those containers to be shipped through U.S. ports instead.

[73] See http://www.murray.senate.gov/public/index.cfm/newsreleases?ContentRecord_id=f8e7e105-e9d2-45fa-a36f-2615069173d0.

[74] As mentioned earlier, the HMT is generally only assessed at coastal and Great Lakes harbors. Waterborne shipments subject to a barge fuel tax on the inland waterways (rivers and intracoastal waterways) are not subject to the HMT.

[75] See 19 C.F.R. 24.24.

service, which has generally been unsuccessful in challenging road and rail for transshipment of containers arriving at U.S. ports.[76] On the other hand, CBP and the Corps estimated in 2011 that as much as $500 million per year in HMT owed by domestic waterborne shippers goes uncollected due to difficulties identifying and enforcing tax collection on these shippers.[77]

Unlike import duties, the HMT is not refundable under CBP's "duty drawback" program, so it affects the price competitiveness of some U.S. exports. Under the duty drawback program, import duties paid on imported parts or materials used in U.S.-made products can be refunded when the goods are exported. This is intended to ensure that U.S. import duties do not reduce the price competitiveness of U.S. exports.[78] Exporters do not pay the HMT for port use when exporting a product, but they do pay the HMT on any materials and inputs transported through a coastal or Great Lakes port and used in the production of an exported product.

Harbors in a Competitive U.S. Supply Chain

The debate over WRDA is occurring in the context of heightened interest in the cost-effectiveness of industrial supply chains. The House and Senate Committees on Appropriations have expressed concern that the President's budget requests for FY2013 and FY2014 for Corps O&M have not been sufficient to "ensure continued competitiveness in a global marketplace" and have directed the Corps to use additional funds provided for harbors that, among other things, will promote international competitiveness.[79]

The U.S. Departments of Transportation and Commerce have launched the Competitive Supply Chain Initiative, which seeks to strategically improve the nation's marine transportation system and its connecting infrastructure as part of a larger effort to improve America's overall national freight infrastructure and national competitiveness. The Department of Commerce explains that "in a world in which entire supply chains compete with one another, supply chain competitiveness affects the cost of every single product made, moved, bought, or sold in the United States, and whether we can meet global prices. It also determines where companies invest and hire."[80] This assertion is consistent with a 2010 analysis of competition between the United States and China, which contends that[81]

> [T]he most important battleground for corporate competitiveness has become about the speed and efficiency of supply chain management. In this environment it is imperative that policymakers, management leadership and academicians understand and ensure that the design and management of supply chains and transportation infrastructure are tightly aligned with collective strategic priorities and direction ...

[76] For further information on the prospects of coastal shipping, see CRS Report R41590, *Can Marine Highways Deliver?*, by John Frittelli.

[77] USACE, FY2011 Budget Justification, p. RIO-66.

[78] See 19 C.F.R. Part 191.

[79] See S.Rept. 112-164, p. 51; S.Rept. 113-47, p. 59; H.Rept. 112-462, p. 60; H.Rept. 113-135, p. 64.

[80] David Long, International Trade Administration, "Our Marine Transportation System: The Competitiveness Context," *Coast Guard Proceedings*, summer 2011, p. 37.

[81] Chris Carr and Ray Bowman, "US-China Trade and Transportation Infrastructure Challenges: A Strategic Primer for Policymakers, Business Leaders and Academicians," *Journal of Transportation Law, Logistics, and Policy*, 2nd quarter 2010, vol. 77, no. 2, p. 131.

In March 2012, the Corps and the U.S. Department of Transportation signed a memorandum of understanding to identify and capitalize on opportunities to improve transportation infrastructure investments by developing consistent criteria between the two agencies for project prioritization and by aligning waterside and landside infrastructure investment along national priorities. With expansion of the Panama Canal scheduled for completion in 2015, President Obama announced in 2012 an initiative to expedite federal permitting for construction projects at five harbors.[82] In his FY2013 Budget, the President also noted the establishment of a Task Force on Ports, composed of officials from five departments and five White House offices, in response to calls from state and local governments, ports, and other maritime stakeholders for a more strategic framework for allocating federal investments.[83]

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[82] The White House, Office of the Press Secretary, *We Can't Wait: Obama Administration Announces 5 Major Port Projects to Be Expedited*, July 19, 2012.

[83] See http://www.whitehouse.gov/sites/default/files/email-files/Task_Force_on_Ports_Fact_Sheet_FINAL_7_19_12.pdf. As of September 2013, the task force has not issued any public statements concerning its activity.