Harbor Maintenance Trust Fund Expenditures

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Summary

In 1986, Congress enacted the Harbor Maintenance Tax (HMT) to recover operation and maintenance (O&M) costs at U.S. coastal and Great Lakes harbors from maritime shippers. O&M is mostly the dredging of harbor channels to their authorized depths and widths. The tax is levied on importers and domestic shippers using coastal or Great Lakes ports. Due to a Supreme Court decision in 1998, exporters no longer pay the tax because it was found unconstitutional. The tax is assessed at a rate of 0.125% of cargo value ($1.25 per $1,000 in cargo value). The tax revenues are deposited into the Harbor Maintenance Trust Fund (HMTF) from which Congress appropriates funds for harbor dredging.

Despite a large surplus in the trust fund, the busiest U.S. harbors are presently under-maintained. The U.S. Army Corps of Engineers (Corps) estimates that full channel dimensions at the nation's busiest 59 ports are available less than 35% of the time. This situation can increase the cost of shipping as vessels carry less cargo in order to reduce their draft or wait for high tide before transiting a harbor. It could also increase the risk of a ship grounding or collision, possibly resulting in an oil spill. To rectify this situation, some are calling for increasing disbursements from the trust fund. However, Corps data indicate that a significant portion of annual HMTF disbursements are directed towards harbors which handle little or no cargo. The Oregon Inlet in North Carolina, Grays Harbor in Washington, Humboldt Harbor in California, and the Lake Washington Ship Canal in Seattle are some of the harbors or waterways that fit this description. Commercial fishermen and recreational boat (or yacht) owners account for most, if not all, of the vessel traffic in these harbors. Fishermen and recreational boaters do not pay the HMT. Some might argue that to target one group of harbor users for assessing a fee and then to distribute revenues mostly, or entirely, in some cases, for the benefit of other users, undermines the "trust fund" and "user fee" concept. The Administration requested and Congress provided funding for a pilot program that began in FY2010 to investigate the feasibility of having non-cargo harbor users finance the dredging requirements of harbors with little or no commerce.

In addition to the distribution of HMT revenues for the benefit of non-cargo harbor users, there are also equity issues associated with HMT revenue distribution among the nation's top commercial ports. Due to geological differences, ports vary greatly in the amount of dredging they require. About one-fifth of HMTF expenditures are spent in Louisiana. The ports of Mobile, AL, and Portland, OR also are relatively expensive to maintain. The amount of HMT revenue ports generate also varies significantly due to differences in the amount and characteristics of the cargoes they handle. Consequently, HMT revenues are redistributed from ports that are large import gateways with naturally deep channels to lower volume ports that require frequent dredging to maintain adequate channel depths and widths. The ports of Los Angeles, Long Beach, Seattle, and Tacoma, and to a lesser degree, Boston, New York, and Houston are large net generators of HMT revenue. International cargo predominates at most ports. Ports compete for this cargo, and the growth of containerized cargo and the prospective expansion of the Panama Canal have intensified competition among U.S. ports.

Legislation was introduced in the 111th Congress that had varying objectives regarding the HMT. H.R. 3447 and H.R. 4844/S. 3213 would spend down the surplus in the HMTF. H.R. 2355 would increase the tax rate and expand use of the HMTF for landside port infrastructure improvements. H.R. 3486, H.R. 638, S. 551, and S. 1509 would repeal the tax on non-bulk cargo shipped on the Great Lakes and along the coasts in an effort to divert truck cargo from congested highways to waterways. None of these bills were enacted.

Contents

Figures

Tables

Contacts

Introduction

In 1986, the Harbor Maintenance Tax (HMT) was enacted to fund U.S. Army Corps of Engineers' (USACE or the Corps) activities related to the routine operation and maintenance (O&M) of harbors, namely the dredging of harbor channels to their authorized depths and widths. This tax is assessed on the value of imported and domestic cargo handled at ports at the current rate of 0.125% ($1.25 per $1,000 in cargo value), which in recent years has raised over $1 billion annually. U.S. waterborne exporters no longer pay the tax because a 1998 U.S. Supreme Court ruling found it unconstitutional. Importers generate about 95% of the tax revenue. The tax revenues are deposited into the Harbor Maintenance Trust Fund (HMTF) from which Congress annually appropriates funds for harbor maintenance.

In recent years, HMTF annual expenditures have remained relatively flat while HMT collections have increased due to rising import volume (except in 2009 when collections declined along with import volume). Consequently, a large "surplus" in the HMTF has developed. Despite the surplus, the busiest U.S. harbors are not being fully maintained, according to the Corps. Full channel dimensions are, on average, available less than about a third of the time at the 59 highest use U.S. harbors.[1] Under-maintained channels in busy U.S. ports could increase the risks of ship groundings or collisions, resulting in spilled cargo or fuel oil. They also could raise the cost of shipping, requiring ships to carry less cargo to reduce their draft or wait for high tide before transiting a harbor. To rectify this situation, some industry stakeholders seek to enact a "spending guarantee" to spend down the surplus in the HMTF. However, examining where trust fund monies have been spent indicates that little or no shipping is taking place at many of the harbors and waterways that shippers are paying to maintain. Some of these harbors or waterways are among the most expensive to maintain in the country and collectively they represent a significant portion of total HMTF expenditures. Thus, in addition to possibly increasing HMTF expenditures, policymakers may consider whether current expenditures are being efficiently and equitably utilized. Given the amount of HMT collections not spent on harbors and the amount spent on harbors with little or no cargo, a rough estimate is that less than half and perhaps as little as a third of every HMT dollar collected is being spent to maintain harbors that shippers frequently use.

Economic and equity issues related to HMT expenditures and collections are the main focus of this report. Before analyzing these issues, the report reviews the legislative history of the tax and legal challenges to it, discusses the advantages and disadvantages of alternative funding mechanisms, and describes the commercial context of current dredging activity. The last section identifies legislation related to harbor maintenance funding.

Background

Legislative History

The HMTF was established by Title XIV of the Water Resources Development Act of 1986 (WRDA, P.L. 99-662, enacted November 17, 1986). Prior to 1986, U.S. Treasury general funds

[1] USACE, FY2010 Budget Justification, p. RIO-12. Highest use is based on cargo tonnage handled.

were used to pay the federal share for operation and maintenance (O&M) of harbors and for the deepening of channels.[2] The HMT was originally assessed at 0.04% of the cargo value. This revenue was intended to pay for 40% of O&M costs incurred by the Army Corps of Engineers and 100% of O&M costs of the St. Lawrence Seaway. Section 11214 of the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508) increased the HMT from 0.04% to 0.125% in order to recover 100% of the Corps' port O&M expenditures.

In addition to imported and domestic waterborne cargo handled at ports, the tax is assessed on the value of the ticket in the case of cruise ship passengers. As mentioned earlier, export waterborne cargo is not taxed as per a 1998 Supreme Court decision that found that it violates the export clause of the Constitution, which states that, "No tax or duty shall be laid on articles exported from any state."[3] At the time, exports generated about a third of the fund's revenues. Other court decisions (including decisions by the U.S. Court of International Trade (CIT), the U.S. Court of Appeals, and the U.S. Supreme Court) have established that HMT is constitutional as applied to domestic shipments and the embarkation of cruise line passengers.

Generally, coastal and Great Lakes ports are subject to the tax. A list of ports subject to the tax is codified at 19 CFR 24.24. The list does not include ports on inland rivers that are subject to the inland waterways fuel tax collected for the Inland Waterways Trust Fund. Passengers aboard ferries and cargo moving to and from Alaska (except for crude oil), Hawaii, and other U.S. possessions are also not subject to the tax. Since 1998, nearly all of the tax revenue is generated by importers of waterborne cargo[4]—domestic cargo shippers generate only about 5% of the revenue and cruise ship passengers less than 1%. A significant amount of HMT revenue is not collected from domestic shippers. The Corps' preliminary estimate is that approximately $500 million per year remains uncollected.[5] The Corps is working with U.S. Customs and Border Protection (CBP) to improve tax collection from these shippers. Five hundred million dollars represents 44% of the total amount collected in FY2009 and is about eight times more than the amount currently collected from domestic shippers.

The HSUF Proposal

In its 1998 decision the U.S. Supreme Court stated that a user fee based on the value of service provided to a marine carrier would not violate the Constitution. In August 1998, the Clinton Administration proposed a new revenue generating system using a Harbor Services User Fee (106th Congress, H.R. 1947). The payment of the Harbor Services User Fee (HSUF) would be placed on the carrier, rather than the shipper[6] (who pays the current HMT). The HSUF was based on a vessel's capacity, as measured by vessel capacity units, which are a volumetric measurement of ship size based on net tonnage or gross tonnage as appropriate, and its frequency of port use per voyage. Revenues from the fee would be deposited into a proposed Harbor Services Fund, which would fund both routine maintenance and harbor-deepening projects (new work). The proposal was aimed at satisfying the Supreme Court ruling by establishing a closer link between

[2] Prior to1986, the federal share of operation, maintenance, and deepening of ocean and inland ports was 65%. The remaining 35% was paid by the ports, or by state and local government.

[3] U.S. Supreme Court, *United States v. United States Shoe Corp.*, 523 U.S. 360 (1998).

[4] Foreign Trade Zone cargo is subject to the tax and is included with imports.

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

[6] A "shipper" is the owner of the cargo that pays a vessel operator (carrier) to transport it.

the revenue collection and the service provided, while being consistent with trade obligations. The 106th Congress did not pursue the Clinton Administration's proposal or other proposals, such as a return to funding maintenance and dredging from general revenues (H.R. 1260).

The stated advantage of the HSUF proposal was that it required ship owners to internalize the cost of deploying larger ships. Although larger ships save money on the ocean leg, they increase costs at port because, among other things, they require deeper channels and berths.[7] Ship operators do not fully calculate these costs in their decision to build larger ships because dredging costs are borne by others, namely their customers (for harbor maintenance) and federal taxpayers (for harbor deepening). To the extent that dredging costs are external to a ship operator's cost-benefit calculation, its decisions regarding fleet investment will be biased in favor of larger ships. If these costs were internalized by the ship operators through payment of a dredging fee based on ship size, some say, ship investment decisions would more accurately reflect the true cost of bigger ships.

Trading Partner Objections

The federal government is statutorily required to continue collecting the HMT from non-export cargo and passenger ships. The European Union sees the application of the HMT to imports as a discriminatory import tariff that violates U.S. obligations under the World Trade Organization (WTO). In February 1998, the European Union requested WTO consultations on the issue. A first round of consultations took place in March 1998. Second round negotiations, which included Japan, Norway, and Canada, took place in June 1998. The European Union indicated that if satisfactory legislation was not passed by January 1, 2000, it would ask for a WTO dispute resolution panel. As of 2009, however, the European Union has not requested a panel.

Overview of Dredging Operations

The HMTF is used to fund maintenance dredging, not new construction. Maintenance dredging is work performed to maintain a channel's depth and width to the dimensions authorized by Congress. To increase a channel's authorized depth or width requires an act of Congress, which is referred to as construction or "new work" by the Corps and is funded from the General Treasury, not the HMTF. There are also different federal/local cost sharing requirements between construction and maintenance dredging as indicated in the following table.

[7] The cost of bigger ships is illustrated at the Port of New York/New Jersey. To deepen the port to 50 feet, dredgers have had to go beyond just removing soft clay and silt—they have had to blast away up to ten feet of bedrock. But the "design" draft of a ship is not the only concern; sufficient "air" draft can also be a problem. To reach most of the port's terminals, ships must pass under the Bayonne Bridge, which has an under-deck clearance of 156 feet at low tide, too low for the size of ships expected to call at the port once the Panama Canal has finished its deepening project. The port authority is studying options to either raise the deck of the existing bridge, build a new bridge, or dig a tunnel under the ship channel.

Table 1. Cost-Share Requirements for Corps Harbor Projects

Operation and Maintenance and Construction

Harbor Depth	Federal Share and (Source of Funds)	
	Operation & Maintenance	Construction
< 20 feet	100% (HMTF)	80% (General Treasury)[a]
20-45 feet	100% (HMTF)	65% (General Treasury)[a]
> 45 feet	50% (HMTF)	40% (General Treasury)[a]

Source: 33 U.S.C. 2211.

a. The non-federal sponsor pays 10% of the cost over a period not to exceed 30 years. For example, of the 20% paid by a non-federal sponsor for the construction of a harbor of less than 20 feet, 10% of the total (half of the non-federal sponsor's costs) is paid over 30 years.

Over the last decade, maintenance dredging has accounted for about seven out of every ten federal dredging dollars and about 84% of the total material dredged (construction dredging has accounted for the remaining three dollars and 16% of total material dredged). About 80% of maintenance dredging is performed by private contractors under the USACE's direction. On a per cubic yard basis, construction dredging is over twice as expensive as maintenance dredging. In constant dollars (2000), the USACE calculates that maintenance dredging costs per cubic yard have increased from $1.53 in 1963 to $3.19 in 2008.[8]

The Corps dredges only the federally designated channels in harbors. Port authorities are responsible for dredging berths, which is the area next to the pier where a ship docks.

Container Ships, the Panama Canal, and Dredging Needs

In the early 1980s, deep draft colliers (coal ships) fueled debate over U.S. port dredging needs. Today, seemingly ever-larger containerships are the primary driving force behind current dredging activity. Dry bulk vessels (ships that carry grain, soybean, ore, or coal) also have grown in size since World War II, but at present there does not appear to be a trend towards larger vessels in this category. Although oil tankers are among the largest vessels in the world fleet, typically, a supertanker stays at sea for extended periods, loading or unloading at offshore platforms or single-point moorings or discharging at designated "lightering" zones offshore where a supertanker transfers cargo to a smaller shuttle tanker.

Differences in service patterns between container and bulk ships account for the greater need of container ships for deeper access channels. Bulk tankers are usually chartered per voyage between a single origin and destination port and therefore have more flexibility in waiting for tidal action to ease their passage in port. Container ships pick up and drop off cargo at multiple ports as per an advertized schedule. Waiting for high tide would severely disrupt their service performance. Container ships typically call at three or four ports within a coastal region. They would likely be fully loaded at only the first and last calls, and partially loaded (and therefore needing less draft) at ports in between.

[8] For further information, see the USACE's Dredging Information System at http://www.ndc.iwr.usace.army.mil/dredge/dredge.htm.

Ships calling at U.S. ports have been limited in size somewhat by the dimensions of the Panama Canal. The development of double-stack container rail service in the 1980s reduced the cost of shipping containers over land across the United States, thereby reducing reliance on the Canal for transcontinental shipments, and allowing trans-Pacific carriers to deploy larger, "post-Panamax" ships. This development increased the competitiveness of U.S. West Coast ports as gateways for trans-Pacific containerized trade, which is by far much larger than trans-Atlantic trade. Recently, the Panama Canal has embarked on a widening and deepening project, expected to be completed around 2015.[9] U.S. Gulf and East Coast ports anticipate that the Canal's expansion will enhance their competitiveness vis-à-vis West Coast ports in capturing Asian cargo and, thus, their interest in dredging to accommodate larger ships has intensified. Due to geological differences, U.S. Gulf and East Coast ports, as a group, require far more dredging than do West Coast ports, some of which are particularly large generators of HMT revenue.

If U.S. ports subject to the HMT shipped more cargo between them, they would have more of an economic interest in the maintenance of each other's navigation channels.[10] However, domestic shipping on the Great Lakes and along the coasts is only one-fifth the tonnage of U.S. foreign waterborne trade and domestic vessels account for less than one in every ten ship calls at U.S. ports. Besides Alaskan and Hawaiian ports which ship goods to and from California and Washington State ports, the only other U.S. ports with significant domestic volume are Duluth, Minnesota, which ships iron ore to Indiana and Ohio Great Lakes ports, and certain Gulf Coast ports, which ship significant amounts of petroleum or chemical products between them. Thus, for most U.S. ports, the relationship with one another is more competitive than complementary. This is in contrast to the harbor maintenance funding mechanism, which creates a national pool of funds and redistributes the tax revenues from busy U.S. ports with low maintenance costs to less busy ports with higher maintenance costs.

HMTF Revenues

The revenues collected from the HMT are deposited into the HMTF. The HMTF balance is expected to be over $5 billion at the end of FY2010, as shown in **Figure 1**. Currently, revenue deposited into the HMTF exceeds transfers out of the fund, which are approved by Congress annually. Interest on collections has been over $100 million in recent fiscal years. HMTF expenditures fall under the discretionary spending budget ceilings. Congress appropriates funds for the USACE to perform navigation operation and maintenance at individual harbors. The amounts expended in a given year at harbors that qualify for recovery from the HMTF are reimbursed to the General Fund. The HMTF balance increased in FY1999 as a result of the Energy and Water Development Appropriations Act of FY1999 (P.L. 105-245), which did not require the recovery of Corps of Engineers O&M expenditures from the fund for that year. Although a decrease in international trade reduced HMT collections by about $375 million in FY2009, the current HMTF balance, in conjunction with the revenue stream from the remaining HMT collections and interest payments, is considered sufficient to recover expenditures for the foreseeable future. Because the HMTF is not a separate, or "off-budget," account within the

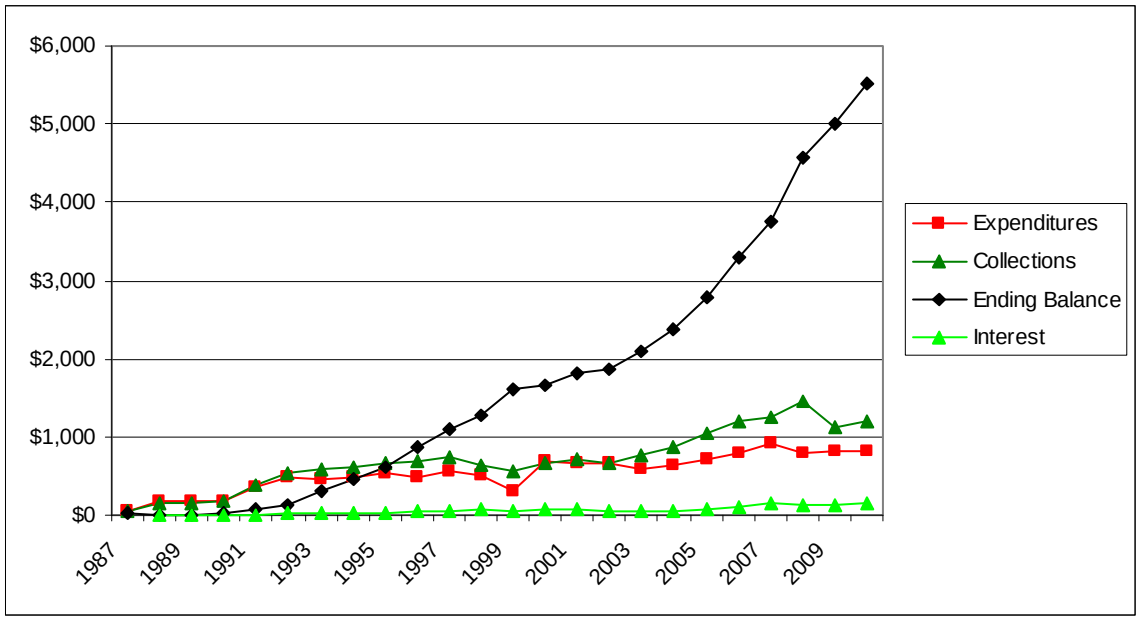
[9] The project will make possible an increase in Panamax ship dimensions in draft, length, and beam from 39.5'x 965'x 106' to at least 50'x 1,200' x 160'.

[10] The U.S. maritime industry contends that the HMT is an obstacle to coastal shipping because it raises the cost relative to truck and rail modes.

federal budget, the "surplus" in the HMTF has in effect already been spent on general government activities.

Figure 1. HMTF Balance

($ in millions)



Source: USACE annual reports to Congress on the HMTF, Federal Budget Appendix, FY2008-FY2011.

Note: Figures not adjusted for inflation.

HMT Revenue Generated by Port

In the administration of the tax, there is no attempt to identify particular port usage and allocate funds accordingly. In other words, the HMT generates a national pool of funds, which is distributed without regard to which ports used triggered collection of the tax. However, the tax is meant to be a port user charge and comparing where the tax is assessed and where the revenues are spent raises a number of policy issues. As indicated above, almost all the tax revenues are generated by importers. This means that ports which handle a large amount of imported containerized cargo are likely to be exceptional in the amount of HMT revenues they generate since containerized cargo is generally higher in value than other cargo types. Data on cargo value is collected by the federal government only for international cargo, not domestic, so it is not possible to calculate the total amount of HMT revenue that could be collected at each port. To provide a rough indication of which ports likely generate the most HMT revenues, the top 25 ports by imported cargo value in 2005 are listed in **Table 2** (2005 is the latest year available; the ranking is fairly stable from year to year). HMT revenue generation is quite concentrated. The top 15 ports account for 75% of the total value of imported cargo and the top 25 ports account for over 85% of the total value.

Table 2. Top 25 Ports by Value of Imported Cargo

2005, in millions of dollars

Rank	Port	Import Value	% of Total
1	Los Angeles, CA	$116,489	13.7%
2	New York, NY	$104,366	12.2%
3	Long Beach, CA	$103,801	12.2%
4	Houston, TX	$52,306	6.1%
5	Charleston, SC	$36,487	4.3%
6	Tacoma, WA	$28,743	3.4%
7	Hampton Roads, VA	$27,540	3.2%
8	Seattle, WA	$27,519	3.2%
9	Baltimore, MD	$27,048	3.2%
10	Oakland, CA	$23,880	2.8%
11	Savannah, GA	$22,129	2.6%
12	Morgan City, LA	$20,946	2.5%
13	Philadelphia, PA	$17,703	2.1%
14	Beaumont, TX	$15,805	1.9%
15	Corpus Christi, TX	$13,271	1.6%
16	New Orleans, LA	$11,676	1.4%
17	Miami, FL	$11,383	1.3%
18	Jacksonville, FL	$10,067	1.2%
19	South Louisiana, LA	$9,997	1.2%
20	Portland, OR	$9,329	1.1%
21	Port Everglades, FL	$9,283	1.1%
22	Texas City, TX	$9,218	1.1%
23	Christiansted, VI	$8,778	1.0%
24	Freeport, TX	$7,918	0.9%
25	Boston, MA	$7,322	0.9%

Source: Association of American Port Authorities.

Notes: 2005 is latest year available.

Among the ports listed in **Table 2**, Los Angeles, Long Beach, Tacoma, and Seattle stand out as ports whose customers generate a substantial amount of HMT revenue that is mostly spent on the maintenance of other harbors. Based on the HMTF expenditures these ports have received and the HMT revenues generated on imported cargo alone (not counting domestic cargo or cruise ship traffic), Los Angeles and Long Beach likely receive less than a penny on the dollar, and Seattle and Tacoma just over a penny for every dollar that import shippers who use their port pay in HMT. New York, Boston, and Houston likely receive less than a quarter of tax revenues collected.

HMT Revenue Generated by Shipper Group

To provide an indication of which importers generate the most revenues for the HMTF, **Table 3** lists fifteen of the top commodities by value of cargo imported by vessel into the United States in 2008. These fifteen commodities account for about 82% of total cargo value imported by vessel. Imported oil accounts for about a third of total value and generates more funds for harbor maintenance than any other commodity (as classified by the harmonized system at the 2-digit level). Consumer goods also appear to generate significant HMT revenues because motor vehicles, clothing, toys and sporting equipment, furniture, footwear, beverages, and at least a portion of appliances and electrical machinery, if aggregated, account for over a third of import value.

Table 3. Leading Commodities by Dollar Value Imported by Vessel

2008

Harmonized System 2-digit Code	Brief Commodity Description	% of total imports by vessel
27	Mineral fuels and oils	34.1
87	Vehicles, other than rail	9.8
84	Machinery and appliances	9.4
85	Electrical machinery	7.0
61	Clothing, knitted	2.7
73	Articles of iron and steel	2.4
95	Toys, games, and sporting eq.	2.4
97	Furniture, bedding, lamps, etc.	2.3
62	Clothing, not knitted	2.3
72	Iron and steel	2.1
29	Organic chemicals	1.7
39	Plastics, articles thereof	1.7
64	Footwear	1.5
40	Rubber, articles thereof	1.3
22	Beverages	1.2
	Sum of above 15 commodities	81.9

Source: Global Trade Atlas.

One advantage of a harbor maintenance tax based on cargo value is that those who can most afford to pay, pay more. Transport costs generally decrease as a percentage of cargo value as cargo value increases. Thus, even though the HMT rate increases for higher value shipments, the overall cost of transportation in relation to shipment value decreases for higher value shipments. But cargo value does not have much correlation with dredging needs, so it works less well as a user fee in this regard. One can say that shippers of high-value, low volume commodities (such as manufactured and finished goods) are likely to prefer a tax based on cargo tonnage rather than cargo value. Conversely, high-volume, low-value shippers (shippers of raw materials in bulk) are likely to prefer a tax based on cargo value rather than cargo tonnage.

HMTF Expenditures[11]

Expenditures by Activity

Maintenance dredging accounts for about four-fifths of the Corps' total harbor and channel O&M costs, ranging from about $525 million to close to $700 million per year in recent years. Since establishment of the fund in 1986, the St. Lawrence Seaway Development Corporation's (SLSDC) operations and maintenance expenditures related to the seaway also are funded from the HMTF. Since 1996, the administrative cost of collecting the tax by U.S. Customs and Border Protection (CBP) is also funded from the HMTF.[12] SLSDC and CBP expenditures from the HMTF have been relatively minor compared to the USACE's expenditures related to harbor operation and maintenance. Annually, about $15 million to $20 million has been appropriated from the HMTF to the SLSDC and $3 million to CBP.

Ancillary activities directly related to maintenance dredging or some other activity related to keeping a waterway unobstructed are also recoverable from the HMTF.[13] For instance, since 1996, HMTF funds can be used to recover the federal share of construction costs for dredged material disposal facilities and about $10 million to $15 million annually has been spent on construction of these facilities.[14] Some HMTF funds also go towards channel surveying and waterway management studies related to navigation. The USACE keeps one of its own dredges on standby for emergency dredging purposes, at a cost to the HMTF of about $5 million per year. In some harbors, drift material or aquatic weeds can be a navigation hindrance and HMTF funds are used for their removal. Maintenance of harbor breakwaters and jetties is also recoverable from the HMTF. HMTF monies have been used for the maintenance of certain bridges over waterways which are the responsibility of the Corps.

In addition to the locks operated and maintained by the SLSDC, the HMTF is used to fund the operation and maintenance of a few other locks not subject to the inland waterway fuel tax and not funded by the Inland Waterway Trust Fund. These include the Soo Locks on the St. Marys River in Michigan, the Chittenden Locks on the Lake Washington Ship Canal in Seattle, the Bonneville Lock and Dam on the Columbia River in Oregon (navigation portion only, not hydropower), the Black Rock Lock at Buffalo, the Troy Lock on the Hudson River in New York, multiple locks on the Okeechobee Waterway in Florida, and a few other locks along the Louisiana coast.

Shallow vs. Deep Draft Channels

The USACE distinguishes HMTF expenditures for deep draft versus shallow draft harbors and channels. Deep draft is greater than 14 feet, and shallow draft is 14 feet or less. On a yearly basis, since 1987, between 81% and 90% of HMTF expenditures have been spent on deep draft harbors

[11] HMTF expenditures discussed in this report are based on data obtained from the USACE for FY1999-FY2008. These data are also available in annual reports to Congress on the status of the HMTF available at http://www.iwr.usace.army.mil/inside/products/pub/publications.cfm.

[12] As per section 683 of the North American Free Trade Agreement Implementation Act (P.L. 103-182).

[13] Eligible operation and maintenance activities are defined at 33 U.S.C. 2241(2).

[14] As per section 201 of WRDA 1996 (P.L. 104-303).

and channels (thus, between 10% and 19% have been spent on shallow draft waterways). Over the last decade, about 16% of total HMTF expenditures have been spent on maintenance of shallow draft channels. Most shallow draft facilities are primarily recreational in nature and therefore contribute little (if any) revenue to the HMTF.

Expenditures by State

As **Table 4** indicates, nearly one-fifth of HMTF funds over the last decade have been spent in Louisiana. HMTF expenditures for Louisiana amount to over 2.5 times the expenditures for the second-ranking state, Texas, which accounts for about 8% of the expenditures. Michigan ranks fifth and is the only state without a salt water port in the top 15 (Ohio is the next state with only freshwater ports and ranks 17th). Although North Carolina is relatively expensive in terms of HMTF withdrawals, ranking 10th and accounting for 3% of expenditures, relatively little commercial cargo is shipped on North Carolina waterways. North Carolina ranks 28th in waterborne tonnage among the 30 coastal and Great Lakes states where the HMT is collected.[15] In 2007, North Carolina ports handled about 8% more cargo than Rhode Island ports, but its harbor maintenance costs for the same fiscal year were nearly 20 times greater than Rhode Island's. The top 20 states in **Table 4** account for 92% of HMTF expenditures from FY1999-FY2008.

Table 4. USACE HMTF Expenditures by State/Territory

FY1999-FY2008

State/Territory	Total Expenditures, FY1999-FY2008	% of Total
LA	$1,337,545,344	19.5%
TX	$528,914,950	7.7%
FL	$463,824,357	6.8%
CA	$454,587,858	6.6%
MI	$368,793,819	5.4%
WA	$360,905,495	5.3%
NY	$335,275,282	4.9%
OR	$315,371,259	4.6%
AL	$308,013,423	4.5%
NC	$203,995,135	3.0%
PA	$203,939,882	3.0%
VA	$199,879,311	2.9%
MD	$196,123,467	2.9%
DE	$175,487,487	2.6%
SC	$169,894,554	2.5%
GA	$165,198,241	2.4%
OH	$158,648,355	2.3%

[15] Based on 2007 data. USACE, *Waterborne Commerce Statistics.*

State/Territory	Total Expenditures, FY1999-FY2008	% of Total
MA	$156,619,760	2.3%
MS	$126,022,146	1.8%
AK	$103,421,238	1.5%
WI	$95,927,602	1.4%
IL	$78,650,897	1.1%
NJ	$71,275,946	1.0%
RI	$53,671,428	0.8%
IN	$42,308,218	0.6%
MN	$35,487,755	0.5%
AR	$26,486,590	0.4%
CT	$25,985,732	0.4%
ME	$21,157,401	0.3%
TN	$20,858,107	0.3%
DC	$12,306,056	0.2%
HI	$11,341,176	0.2%
WV	$10,722,657	0.2%
NH	$10,039,049	0.1%
MO	$7,345,887	0.1%
VT	$5,702,513	0.1%
KY	$3,426,413	0.0%
AS	$2,511,858	0.0%
MP	$1,673,199	0.0%
PR	$861,850	0.0%
ND	$197,016	0.0%
IA	$67,464	0.0%
Total	$6,870,466,176	100%

Source: USACE, Institute for Water Resources.

Notes: Some states/territories have no expenditures for these years. AS is American Samoa, MP is Northern Mariana Islands, and PR is Puerto Rico.

Expenditures per Channel

A list of the most expensive channels in terms of HMTF expenditures explains the state ranking. Significant factors in determining O&M costs are the amount of sand and silt moved either by a river or by coastal wave action, the total length of a channel, and number of locks. As **Table 5** indicates, the most expensive channel is the Mississippi River from Baton Rouge to the river's end at the Gulf of Mexico. This shipping channel is about 250 miles long. It accounts for 43% of Louisiana's total HMTF expenditures and about 8% of the nation's total. Hurricane Katrina may have increased the need for maintenance dredging on the waterway, but even prior to its landfall in August 2005, over twice as much HMTF expenditures were directed to Louisiana than the

other leading states. Mobile Harbor in Alabama is the second most expensive, followed by the St. Marys River channel in Michigan. The St. Marys River separates Michigan from Canada, and locks on this river allow navigation between Lake Superior and Lake Huron. Other channels with locks funded from the HMTF, as identified above, are also relatively expensive and some are included among the top 25. The top 25 projects account for nearly half (49%) of total HMTF expenditures.

Table 5. Top 25 Corps Projects Requiring the Most HMTF Expenditures

FY1999-FY2008

USACE Project Name	State	Total Expenditures	% of Total
Mississippi River - Baton Rouge to Gulf	LA	$569,255,421	8.3%
Mobile Harbor	AL	$237,965,413	3.5%
St. Marys River	MI	$171,830,189	2.5%
Atchafalaya River and Bayous Chene (Morgan City)	LA	$170,549,189	2.5%
C and LW Rivers Below Vancouver, WA and Portland, OR	OR	$170,246,210	2.5%
Calcasieu River and Pass (Lake Charles)	LA	$169,437,833	2.5%
Delaware River, Philadelphia to the Sea	PA	$168,603,475	2.5%
Mississippi River - Gulf Outlet (MRGO)	LA	$165,273,740	2.4%
Sabine-Neches Waterway (Port Arthur, Beaumont)	TX	$140,012,326	2.0%
Intracoastal Waterway, Delaware River to Chesapeake Bay	DE	$128,293,084	1.9%
Savannah Harbor	GA	$123,447,085	1.8%
Columbia River at Mouth, OR and WA	WA	$118,840,779	1.7%
Baltimore Harbor and Channels	MD	$118,797,481	1.7%
Grays Harbor and Chehalis River	WA	$115,080,421	1.7%
Norfolk Harbor	VA	$96,059,577	1.4%
Houston Ship Channel	TX	$86,893,259	1.3%
Cape Cod Canal	MA	$77,146,947	1.1%
Charleston Harbor	SC	$75,709,695	1.1%
Tampa Harbor	FL	$73,591,646	1.1%
Wilmington Harbor	NC	$69,060,101	1.0%
Anchorage Harbor	AK	$66,334,135	1.0%
Lake Washington Ship Canal	WA	$62,923,861	0.9%
Manteo (Shallowbag) Bay, NC	NC	$60,250,976	0.9%
Oakland Harbor	CA	$57,531,876	0.8%
New York Harbor (Drift Removal)	NY	$56,945,637	0.8%

Source: USACE.

Notes: Project name as listed by USACE but with modification by CRS in some cases for clarity.

High Expense, Low Use Shipping Channels

Some of the project names listed in **Table 5** may not be recognizable to harbor maintenance taxpayers because they are not harbors or channels commonly used by shippers. One example is the Oregon Inlet on the Outer Banks of North Carolina (which the USACE refers to as the Manteo-Shallowbag Bay). Over the last decade, over $60 million ($6 million per year) has been spent to dredge the inlet in an attempt to maintain the channel to its authorized depth of 14 feet and width of 400 feet. Maintaining the channel to these dimensions, let alone keeping it open, is a challenge because of the notorious amount of sand that naturally moves along North Carolina's barrier islands. Essentially, the navigation channel acts as a trap for the moving sand and must be constantly removed, if the channel is to be kept passable. Although no cargo is moved through this channel, commercial fisherman, charter boat operators, and recreational craft use the inlet. The nearby fishing ports of Wanchese and Stumpy Point, North Carolina ranked 33rd in commercial fish landings in 2007 (22.4 million pounds).[16]

Oregon Inlet is exceptional in its dredging requirements but there are many more harbors, while individually costing less to maintain, collectively cost shippers hundreds of millions to maintain, even though no goods are shipped through them. Yaquina Bay and Harbor in Oregon is one example. This harbor has received over $25 million in HMT revenues over the last decade. No cargo has been shipped through this harbor in years, but it does rank 20th in commercial fish landings and is a major recreational harbor.

Grays Harbor (Westport) in Washington State is the 15th most expensive harbor channel to maintain, yet, in 2007, it ranked 133 among U.S. ports in terms of the amount of cargo it handled. Over the last decade, $115 million ($11.5 million per year) has been spent keeping the channel to its authorized depth of 48 feet. About one ocean going ship and two or three coastal barges call at this port per week. For comparison, the nearby ports of Seattle and Tacoma (Sea/Tac) have withdrawn a combined total of $16.8 million over the last decade from the HMTF ($1.7 million per year), yet these ports handle about 75 ocean going ships and thousands of barges per week and handle 44 times more cargo than does Grays Harbor. Per ship call, maintenance dredging costs at Sea/Tac amount to less than $500, while at Grays Harbor they amount to over $250,000. Although little cargo moves through Grays Harbor, it is much more significant to commercial fishermen and recreational boaters. In 2007, it ranked 13th in commercial landings of fish (98.3 million pounds).[17]

A similar situation occurs further down the coast at Humboldt Harbor (Eureka), California, which, like Grays Harbor, is highly dependent on trade in wood products. This harbor handles even less cargo than Grays Harbor, 722,000 short tons in 2007,[18] which is not enough cargo even to make the list of the top 150 U.S. ports. Even so, about $4.5 million per year is spent from the HMTF for maintenance dredging, making it the 33rd most expensive harbor to maintain. In 1998, the port embarked on a deepening project from 40 to 48 feet but ship traffic has declined since then. About one ocean going ship calls at this port per month. Barge traffic is a little more frequent. Barges do not have the same draft requirements as oceangoing ships.[19]

[16] USACE, *Waterborne Commerce of the United States*, 2007, Part 5, National Summaries, Table 5-3, p. 5-7.

[17] USACE, *Waterborne Commerce of the United States*, 2007, Part 5, National Summaries, Table 5-3, p. 5-7.

[18] A short ton is equal to 2,000 pounds.

[19] Necessary under keel clearance is generally two to three feet depending on whether the channel bottom is soft or hard.

Other high cost waterways are canals that see little or no use by cargo shippers, at least not the big ships that would require the depths to which the canals are maintained. One example is the Cape Cod Canal, built in 1914 by a private financier who figured vessels would prefer the shorter route through the canal than the more circuitous and precarious route around the Cape. It was sold to the federal government in 1928 because not enough vessel operators preferred the canal route to make it commercially viable. Today, shippers are paying $7.7 million per year for the USACE to maintain it. The only cargo shipped through the canal on a regular basis is fuel oil in barges. The Cape Cod Canal costs nearly twice what it costs to maintain the Port of Boston's channels but handles less than half the cargo.

Another example of an expensive canal of little use to shippers is the Lake Washington Ship Canal (LWSC) that connects the Puget Sound with Lake Washington. Although located in Seattle, no shippers use the canal because all of the Port of Seattle's cargo terminals are located on the Sound, thus ships have no reason to transit the canal. The canal's cargo traffic is limited to intraport barge movement of sand and gravel, but it has cost HMT taxpayers $63 million to maintain over the last ten years which, like Grays Harbor, is tens of millions more than the costs to maintain the Ports of Seattle and Tacoma shipping channels combined. On a daily basis, an average of 100 pleasure boats (see **Figure 2** below), transit the canal, accounting for about 82% of the canal's traffic. (Boaters prefer to dock in freshwater as there are no tides to contend with). Based on the number of vessels of all types that have transited the canal over the last decade (538,135 vessel transits), each vessel would have to pay $117 per transit if the maintenance costs were to be recovered from the canal's users. This indicates the nominal value that shippers are providing recreational boaters each time they pass through the canal. If recreational boaters were charged a fee based on the size of their boat, some say, it could correlate well with their lock usage and likely their ability to pay.

Figure 2. Pleasure Boaters Awaiting Free Lock Passage Through the LWSC

Source: USACE, LWSC website.

Neither of these canals is as expensive to shippers as the Chesapeake and Delaware Canal (a.k.a. the C&D Canal) which has cost HMT taxpayers over $128 million in the last decade to maintain, almost three-fourths of what it has cost to dredge the entire Delaware Bay from the Port of Philadelphia to the Atlantic Ocean. As its name implies, the canal connects the Delaware Bay with the Chesapeake Bay, cutting across the State of Delaware. The canal was built because it was thought ships would take this short cut between the ports of Baltimore and Philadelphia.

While the C&D Canal carries about 15 million short tons of cargo per year, ports along the Delaware Bay handle over 125 million short tons. The C&D Canal costs almost six times more, on a per ton basis, than the cost to maintain the entire Delaware Bay.[20]

Great Lakes Harbor Maintenance Costs

Great Lakes carriers and ports refer to a lack of adequate dredging as a crisis in their waterway system, noting that many ships are "light loading" (carrying less cargo than the ship's capacity to reduce draft).[21] Lower than normal precipitation has affected lake levels in some years. The Great Lakes Maritime Task Force, a coalition promoting Great Lakes shipping, asserts $200 million per year in maintenance funding is needed to restore the system to its authorized dimensions, but have only been appropriated about $90 million per year. While Great Lakes harbors and channels have accounted for 14% of total HMTF withdrawals over the last decade, shipping on the Great Lakes represents less than 10% of the total foreign and domestic tonnage shipped through ports subject to the HMT. Maintenance costs amount to about 60 cents per ton of cargo carried (based on 1998-2007 data) which, as **Figure 3** indicates, makes the Great Lakes system one of the less efficient waterways. Because Great Lakes shipping consists mostly of relatively low dollar value raw materials (iron ore, coal, and limestone), it does not generate much HMT revenue (in 2005, Great Lakes ports accounted for only 0.3% of the nation's total value of waterborne imports). Thus, under the present financing scheme, the Great Lakes region relies heavily on coastal port use by importers to maintain its harbors.

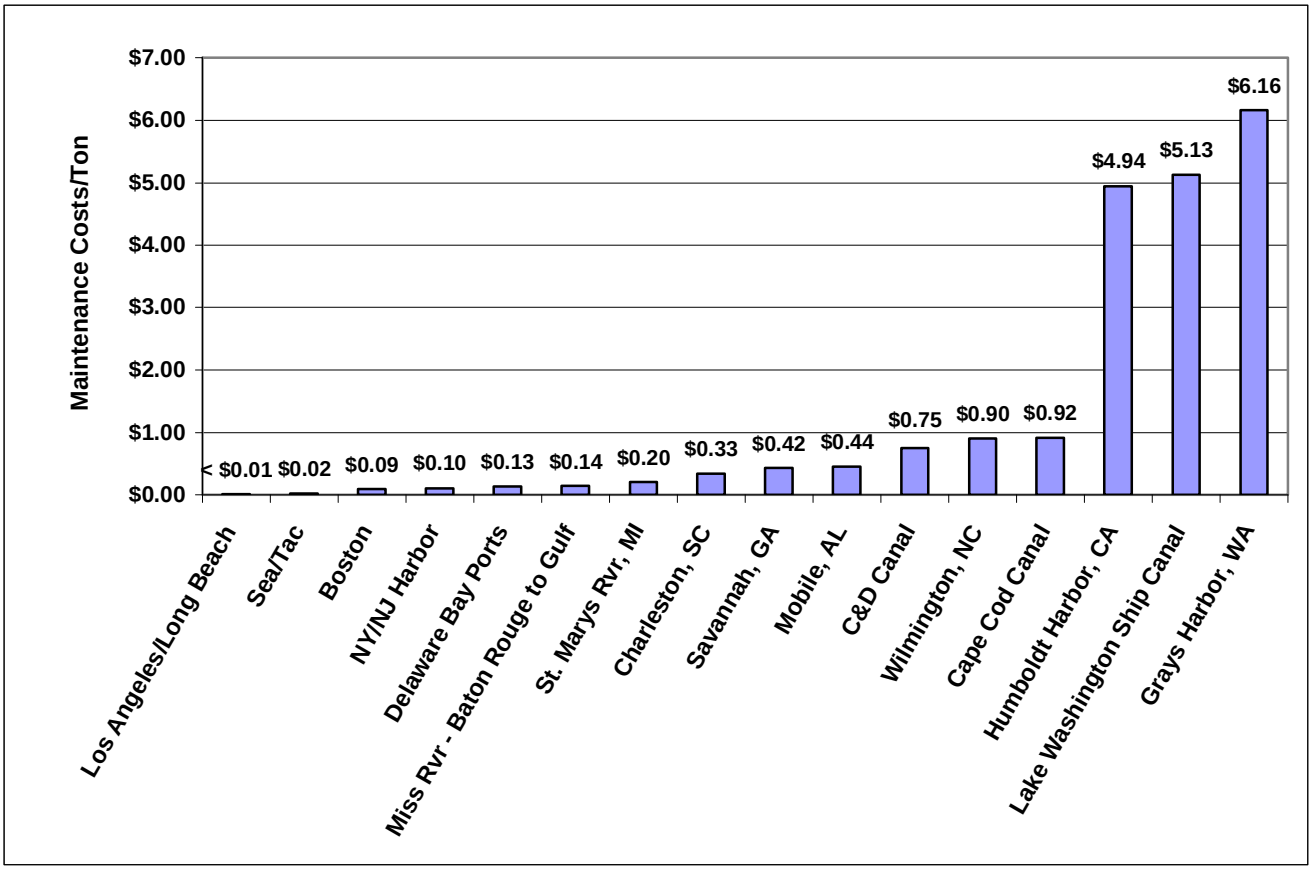
Wide disparities exist among harbors when maintenance costs are compared on a per ton basis, as there is little need for channel maintenance at some of the busiest ports in the country while some rarely used ports or channels require extensive maintenance. **Figure 3** illustrates this disparity among selected U.S. harbors. Harbors that handle little or no cargo may generate economic benefits for nearby communities through recreational boating or commercial fishing activity. However, recreational and fishing vessels do not require the same channel depths and widths as ships, and paying for their maintenance by increasing shipping costs can be seen as a shift of finite resources from those who pay the tax as a user fee to those who do not.

[20] Another canal that could be included here is the Mississippi River Gulf Outlet (MRGO) which, as indicated in **Table 2**, ranks eighth in maintenance expense. Although built to provide a shorter route to the Port of New Orleans, most ships continued using the Mississippi River channel. MRGO has recently been closed to navigation and suspected by many as contributing to the flooding of parts of New Orleans by Hurricane Katrina. This waterway is discussed in CRS Report RL33597, *Mississippi River Gulf Outlet (MRGO): Issues for Congress*, by (name redacted) and (name redac ted) . See also http://www.mrgo.gov for the latest information on MRGO's closure.

[21] For further information, see http://www.glmtf.org.

Figure 3. HMTF Expenditures Per Ton of Cargo on Selected Waterways

2003-2007



Source: USACE Waterborne Commerce Statistics, HMTF Annual Reports to Congress.

Notes: The figure for Los Angeles/Long Beach equates to $0.003/ton. HMTF Expenditures based on FY2003-2007, Cargo tonnage based on CY2003-2007.

High Use, Low Expense Shipping Channels

While significant amounts of HMT funds are spent at harbors and channels that see little or no ship traffic, says the Corps, the busiest shipping channels in the country are not being maintained to their authorized depths and widths. As mentioned above, according to the Corps analysis, full channel dimensions are available less than an average of 35% of the time at the 59 highest use U.S. harbors.[22] Most, if not all, of the busiest ports in the country generate more than sufficient HMT revenue to cover Corps O&M expenditures at their port, even at exceptionally dredging-intensive ports like those on the Mississippi River in Louisiana. While the top ten ports account for nearly 70% of the total value of foreign goods shipped through U.S. ports, these ports have received about 16% of total HMTF expenditures over the last decade. In terms of ship traffic,

[22] USACE, FY2010 Budget Justification, p. RIO-12. The budget document indicates that the Office of Management and Budget requested this analysis from the Corps to justify increasing dredging expenditures. Further details on this analysis are not available, so it is not known, for instance, how much narrower or shallower the channels are compared to their authorized depths and widths.

80% of oceangoing ships arriving in the United States call at one of the nation's twenty busiest ports, but these twenty ports, based on a rough calculation, account for less than 40% of total HMTF expenditures. As indicated above, a good portion of the HMT revenues that shippers generate are used to dredge channels used mostly by either recreational boaters or commercial fishermen, which do not pay the HMT. Given the amount of HMT collections unspent on harbor maintenance and the amount spent on shallow draft or little used deep draft harbors, a rough estimate is that only 30 to 45 cents of every HMT tax dollar paid is being spent on harbors that shippers readily use.[23]

Some might argue that to target one group of harbor users for assessing a fee and then to distribute revenues mostly, or entirely, in the case of some harbors, for the benefit of other users, undermines the "trust fund" and "user fee" concept. Moreover, since fishing and marinas are commercial enterprises and private recreational boaters (and especially yacht owners) are not indigent harbor users, it might be asked why these users could not also contribute to the cost of maintaining the harbors they use. As originally introduced, the HMT would have been assessed on commercial fishermen. An amendment exempting commercial fishing from paying the tax was agreed to during Senate committee consideration.[24] Recreational boaters currently pay federal fuel taxes and import duties, which are used, among other things, to fund boat safety programs and recreational boat docking and sewage disposal facilities, but are not used to fund dredging activity. This fund, the Sport Fish Restoration and Boating Safety Trust Fund, generates an equivalent amount of revenue on an annual basis as the HMT.

Port Cross-Subsidization: Advantages, Disadvantages

Because the HMTF provides a national pool of funds for channel dredging rather than a port specific one, naturally deep harbors subsidize shallower ports. Thus, the present funding system levels the playing field among ports with different dredging requirements. Some might contend that it draws traffic away from more efficient ports to less efficient ports, in terms of dredging costs, thereby raising the Nation's overall cost of moving goods through the marine transportation system. Cross-subsidies among ports would be eliminated if funds generated at a particular port were reserved solely for that port's local dredging needs rather than becoming part of a nation-wide fund. However, a port-specific funding system would favor busy ports over ports that are underutilized. With more ship traffic, larger ports would not have to charge as much per ship or shipment to recover dredging costs as smaller ports (for example, the tremendous difference in dredging costs per ship call between Grays Harbor and SeaTac cited earlier). Some small ports would either have to close or service only small ships. Thus, a national pool of funds provides maintenance funds to smaller ports that otherwise would be economically unviable. However, smaller ports could reduce the overland transport costs for nearby importers or exporters, thereby promoting economic development in the region. There are also river systems that have significant levels of industry along them and the inability to move bulk cargoes out of smaller ports could diminish U.S. exports. Smaller ports can also provide shippers the option of moving cargo through less congested ports. For instance, Chrysler recently announced that it would begin

[23] More precise data comparing port maintenance costs with port traffic data may be available from the Corps as part of its "Coastal Inlets Research Program," which includes development of a "Channel Prioritization Tool" with information on depth utilization by commercial shipping and cargo value estimates for each channel and a "Coastal Structure Management, Analysis, and Ranking Tool." The Corps received $2.3 million in FY2009 for this effort and requested $3 million in FY2010. See USACE FY2010 Budget Justification, pp. RIO – 14 – 16.

[24] 132 *Congressional Record* S3391.

exporting cars to Asia through Grays Harbor in Washington, in part, for this reason.[25] If not handling cargo, smaller ports can still service the maritime industry in other ways. Smaller ports can be strategically located in terms of providing a "harbor of refuge" for vessels in distress, as a base for Coast Guard search and rescue operations, or as a homeport for government research vessels. For example, the National Oceanic and Atmospheric Administration (NOAA) recently announced that it would be moving its West Coast vessels from Seattle to Yaquina Bay and Harbor in Oregon.

Legislative Activity in the 111th Congress

In the 111th Congress, several bills were introduced to either change the tax rate or how revenues from the tax are spent. H.R. 3486, H.R. 638, S. 551, and S. 1509 would repeal the tax on domestic waterborne non-bulk cargo and cargo imported from Canada through the Great Lakes for the purported purpose of mitigating highway congestion by diverting shipments from truck to water modes. Groups supporting this legislation contend that in addition to the HMT rate, the administrative burden of filing the tax discourages potential waterborne shippers, because they do not pay a separate tax when shipping by truck or rail. Others question to what extent this is true, however. Most truck shippers are not located on waterways and therefore would require a truck move to and from the loading and discharge ports to utilize waterborne transportation. These truck and cargo transferring costs could be a significant cost impediment for truck shippers to utilize waterborne transportation, regardless of the HMT.

H.R. 3447 would do away with the requirement that HMTF spending be appropriated by Congress giving the USACE more autonomy over the amount spent yearly on harbor maintenance. H.R. 4844/S. 3213 would provide a "spending guarantee" modeled after the Airport and Airway Trust Fund. The intent is to match annual spending levels with annual HMT collections. Opponents of these proposals argue that they would inhibit Congress' ability to adjust funding priorities from year to year.

H.R. 2355 would increase the tax rate to 0.4375% ($4.38 per $1,000 in cargo value) and expand use of the fund for landside port improvements in addition to the waterside maintenance performed by the Corps. Increasing the capacity of highways and railroads leading to seaports has been an issue as Congress debates reauthorization of surface transportation funding programs, but minus a federal fuels tax increase, a major stumbling block has been how to increase federal funds for surface transportation improvements.[26]

[25] American Shipper, Online, "Chrysler to Export Cars From Grays Harbor," December 21, 2009.

[26] For further discussion, see CRS Report R40629, *Freight Issues in Surface Transportation Reauthorization*, by (name redacted) and (name redacted).

The Obama Administration, in its FY2010 budget submission, requested that a pilot project be created to examine the feasibility of having local users finance the maintenance dredging of channels with little or no commercial traffic.[27] Congress reduced the amount of funding for this program from $1.5 million to $1.4 million.[28] The Administration requested an additional $1.5 million for FY2011 and indicated that a report documenting the pilot's program findings would be prepared.[29]

The American Recovery and Reinvestment Act of 2009 (P.L. 111-5) provided $4.6 billion for the USACE Civil Works Program, of which $2.3 billion was appropriated for operation and maintenance. A Corps Recovery Act spending plan indicates that $670 million in O&M work will be derived from the HMTF.[30]

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[27] See FY2010 USACE Budget Justification, p. RIO-42, which indicates that the pilot project would focus on the Atlantic Coast and Chesapeake Bay. See also written testimony of Terrence C. Salt, Acting Assistant Secretary of the Army for Civil Works before the Subcommittee on Energy and Water Development, Senate Committee on Appropriations, June 18, 2009.

[28] See H.Rept. 111-278, p. 87.

[29] FY2010 USACE Budget Justification, p. RIO-45.

[30] This Recovery Act plan is available at http://www.usace.army.mil/recovery/Documents/FinancialOperationalReviewReport.pdf.