



**US Army Corps
of Engineers®**



**Great Lakes
Navigation System**

Great Lakes Navigation System Fact Sheets

April 2016



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Algoma Harbor, WI

Harbor Features

- Located on the west shore of Lake Michigan, about 68 miles from Green Bay via Sturgeon Bay Harbor and the Lake Michigan Ship Canal and about 115 miles north of Milwaukee
- Authorization: River & Harbor Act of 3 Mar 1871
- Recreational Harbor
- Project depth is 14 feet
- 1,102 foot long north pier and a 1,530 foot long south breakwater
- 2,000 feet of maintained channel
- Dredged material is placed in an upland site provided by locals on an as-needed basis.
- Major stakeholders include U.S. Coast Guard and Lafond Fisheries.

Project Requirements

- The harbor channels are stable and require only infrequent dredging; the harbor was last dredged in 1993. The community performed minimal dredging in 2012, but harbor access is still constricted.
- Maintenance dredging is currently required.
- The harbor's breakwater requires repair. Deterioration of the timber crib and loss of fill stone have created holes in the structure that allow waves and sediment to flow through the structure into the navigation channel.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational navigation as well as loss of 30 to 40 charter fishing operations in the area.
- Based on a recent UW Extension economic study, the harbor generates over \$3M annually for the Algoma community.

Transportation Importance

- This project serves primarily charter fishing and recreational navigation interests.
- Harbor of Refuge
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Algoma Harbor, WI Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	505		505		505	
Breakwater Repairs – by Contract	5,000		5,000		5,000	
Engineering and Design – Breakwater Repairs	400		400		480	
TOTAL	5,905	0	5,905	0	5,985	0

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Alpena Harbor, MI

Harbor Features

- Located at the mouth of Thunder Bay River, which empties into Thunder Bay, Lake Huron
- Authorization: River & Harbor Acts of 19 Sep 1890, 2 Mar 1919, 22 Sep 1922, 30 Aug 1935, 27 Oct 1965
- Deep draft commercial harbor
- Project depths – 25 feet from deep water in Thunder Bay to a point 300 feet lakeward of the Alpena Light; then 24 feet to 700 feet upstream from the light; 23 feet to the Second Avenue Bridge; then 18.5 feet to the upper limit of the federal project
- 2.17M tons of material shipped and received in 2014
- Approximately 700 feet of breakwater structures
- Approximately 12,000 feet of maintained channel
- Dredged material is typically placed in upland placement sites as needed.
- Major stakeholders include U.S. Coast Guard, Decorative Panels International (DPI), Everett Goodrich Trucking, Lafarge Corporation North America, Alpena Oil, and Seaway Marine Transport.



- If the harbor were closed to commercial traffic, commodities would have to be transported by rail. This would increase annual emissions rates by 15,000 lbs. of harmful particulate matter (PM-10) and increase costs by \$49,000 due to increased railroad related accidents.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$333K and \$1.10M annually.

Project Requirements

- Approximately 30,000 cubic yards of material must be dredged on a 5 to 10 year cycle; the harbor was last dredged in 2007.
- There are plans to dredge the harbor in 2016.
- Navigation structures are primarily maintained by the government floating plant.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$11.1B annually in business revenue while supporting 66,862 direct, indirect, and induced jobs that produce over \$678M per year in personal income in transportation and commodity related industries.

Transportation Importance

- U.S. Coast Guard Station Alpena is located in the harbor.
- Regionally significant receiving and shipping port on the Great Lakes
- Harbor of Refuge
- Commodities include cement, coal and petroleum products, sand, gravel, salt and limestone. The harbor receives large shipments of salt to supply many local municipalities for road deicing.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Alpena Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	850		850	850		
TOTAL	850	0	850	850	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Arcadia Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 193 miles northeast of Chicago, IL and 15 miles north of Manistee, MI
- Authorization: River & Harbor Act of 3 Mar 1905
- Shallow draft recreational harbor
- Project depth is 9 feet
- Approximately 1,100 feet of maintained federal channel between Lake Michigan and Bar Lake
- More than 2,400 feet of maintained piers
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Arcadia Township, County of Manistee, and several marinas and charter fishing interests.

Project Requirements

- Requires annual maintenance dredging of approximately 5,000 cubic yards. Arcadia Harbor was last dredged in 2010. Limited dredging was completed by the community in 2012, but access to the harbor is still constricted.
- The harbor currently requires maintenance dredging.

Consequences of Not Maintaining the Project

- Local economy would be devastated
- Loss of jobs locally
- Loss of destination for many transient boaters that fill the marinas
- Loss of recreational and charter fishing in the area
- Property values would plummet



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports over 60 recreational boat slips

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Arcadia Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	195		195		225	
TOTAL	195	0	195	0	225	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Ashland Harbor, WI

Harbor Features

- Located at the head of Chequamegon Bay, on the south shore of Lake Superior, about 65 miles east of Duluth, MN
- Authorization: River & Harbor Acts of 5 Aug 1886, 11 Aug 1888, 3 Mar 1899, 6 Jun 1900, 8 Aug 1917, 3 Jul 1930, 30 Aug 1935, 2 Mar 1945, 14 Jul 1960
- Deep draft commercial harbor
- Project depth of 25 to 27 feet in east basin and 20 to 21 feet in west channel
- Nearly 8,000 feet of breakwater structure
- Over one mile of maintained channel
- Major stakeholders include USGS (Kiyi Dock), C. Reis Coal, and Xcel Energy.

Project Requirements

- Approximately 25,000 to 45,000 cubic yards of material must be dredged on a 10 to 20 year cycle; the harbor was last dredged in 1993.
- Maintenance dredging is currently required within the harbor, and significant backlog shoaling is present.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of Great Lakes tour boat industry

Transportation Importance

- Locally significant receiving port on the Great Lakes
- Harbor of Refuge
- Significant tour boat industry located at this harbor

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Ashland Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	650		650		675	
Maintenance Dredging – Backlog Work Package	1,000		1,000		1,000	
TOTAL	1,650	0	1,650	0	1,675	0

Congressional Interests

- Representative Sean Duffy R-WI-7
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Ashtabula Harbor, OH

Harbor Features

- Located on Lake Erie in the city of Ashtabula, Ashtabula County, Ohio.
- Authorization: River & Harbor Acts of 1896, 1905, 1910, 1919, 1935, 1937, 1945, 1960 and 1965
- Deep draft commercial harbor
- Project depths are 29 to 30 feet in the entrance; 27 to 29 feet in the outer harbor and lower river; and 16 to 18 feet in the upper river.
- 5.0M tons of material shipped and received in 2013
- Ranked 17th among the Great Lakes Harbors
- Interconnected with 25 commercial ports: ships to 17 ports; receives from 5 ports; and ships and receives to/from 3 ports.
- Over 2.5 miles of breakwater structures
- 185 acre outer harbor and 2.1 miles of federal channel on the Ashtabula River
- Major stakeholders include the Norfolk Southern Ashtabula Coal Dock, Pinney Dock and Transport Company, U.S. Coast Guard, the Ashtabula Port Authority, and Sidley Stone Products.

Project Requirements

- Approximately 100,000 cubic yards of material must be dredged from the lower river and outer harbor every 2 to 3 years. This area was last dredged in 2015 when approximately 100,000 cubic yards of material were removed.
- The east and west breakwaters are deteriorated and require repairs. Government floating plant repairs to the east breakwater were completed in 2015.
- Great Lakes Restoration Initiative (GLRI) funded improvements to the east breakwater were incorporated into the government floating repairs in 2014-15. The improvements include providing tern habitat on top of the structure (2014) and using textured blocks to promote aquatic habitat (2015).



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$2.96B annually in business revenue while supporting 17,259 direct, indirect, and induced jobs that produce over \$611M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 85,540 tons of harmful particulate matter (PM-10) and increase costs by \$3,522,000 due to increased railroad related accidents, and \$2,559,000 due to increased trucking related accidents.
- Light loading; losses of between 1 and 2 feet of channel depth would result in increased transportation costs of between \$173,000 and \$2,087,000 annually.

Transportation Importance

- Major receiving and shipping port on the Great Lakes and a Critical Harbor of Refuge
- Commodities shipped or received include coal, iron ore, limestone, chemicals, ores and minerals.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016, and 2017
Ashtabula Harbor, Ohio Project Requirements and President's Budget (\$1,000)**

Work Package	GLRI Funds	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary		1,220	1,220			1,250	1,250
Maintenance Dredging – Backlog	9,540						
Sediment Sampling and Analysis							
E&D Outer Harbor	100						
Critical Maintenance of Navigation Structures and Obstruction Removal		1,060	1,060			1,065	1,065
Snagging & Clearing F/P							
TOTAL	9,640	2,280	2,280	0	0	2,315	2,315

Congressional Interests

- Representative David Joyce R-OH-14
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Au Sable Harbor, MI

Harbor Features

- Located on the west shore of Lake Huron, 8 miles north of Au Sable Point on northeast side of Saginaw Bay
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depth of 12 feet in the entrance channel and 10 feet in the inner channel
- Approximately 3,000 feet of maintained federal channel
- More than 2,000 feet of maintained piers
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Michigan DNR and Oscoda Fellow Marina.

Project Requirements

- Approximately 20,000 to 40,000 cubic yards of material must be dredged on a three to seven year cycle; the harbor was last dredged in 2010.
- Maintenance dredging is currently required within the harbor.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Au Sable Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	420		420		420	
TOTAL	420	0	420	0	420	0

Congressional Interests

- Representative Dan Kildee D-MI-5
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Barcelona Harbor, NY

Harbor Features

- Located on Lake Erie in the town of Westfield, Chautauqua County, New York
- Authorization: River & Harbor Act of 1945
- Shallow draft recreational harbor
- Project depths are 10 feet in the entrance channel and 8 feet in the harbor basin.
- The harbor is protected by the east and west breakwaters with a total length of 1,730 feet.
- Other features include public transient slips and launching facilities
- Major stakeholders include the town of Westfield, one private marina, commercial and charter fishing interests, a charter diving operation and the recreational boating community.

Project Requirements

- The harbor typically requires dredging every five to ten years.
- Sandy supplemental funded dredging of approximately 71,000 cubic yards of material from storm impacted harbor areas was completed in summer 2014.
- A section of steel sheet pile along the lakeside of the west breakwater unexpectedly failed in late October/early November 2015 resulting in a loss of fill material and inadequate support for the concrete cap. A subsequent storm in November 2015 resulted in the loss of the concrete cap and complete breach of the structure. Emergency repairs are required to repair the breach and prevent further unraveling of the structure. Repairs are planned for FY16.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Supports 9 charter fishing boats generating approximately \$73,500 in net income annually. Also supports 2 licensed commercial fishing boats and a chartered diving operation.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Barcelona Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary						
E&D/Constr. West Breakwater Repair			1,300	650	650	
Sandy Supplemental Maintenance Dredging						
TOTAL	0	0	1,300	650	650	0

Congressional Interests

- Representative Tom Reed R-NY-23
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Bay Port Harbor, MI

Harbor Features

- Located on Wild Fowl Bay on the east shore of Saginaw Bay, about 10 miles south of Caseville, MI
- Authorization: River & Harbor Act of 20 May 1965
- Shallow draft recreational harbor
- Project depth is 6 feet
- Approximately 5,750 feet of maintained federal channel
- The State of Michigan provides an upland placement site for dredged material on an as needed basis.
- Major stakeholders include Native American fishing interests.

Project Requirements

- Requires periodic maintenance dredging on an 8 to 12 year cycle. This harbor was last dredged in 2011 with 2010 funding.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Bay Port Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Bayfield Harbor, WI

Harbor Features

- Located on the south shore of Lake Superior, 85 miles east of Duluth, MN
- Authorization: River & Harbor Act of 17 May 1950
- Shallow draft recreational harbor
- Subsistence harbor providing ferry service to Madeline Island; ferries transport all food, fuel, and supplies to the island.
- Federal small boat basin approximately 6 acres in area
- Project depth for the entire boat basin is 10 feet
- Federal breakwaters are extensions of city piers by approximately 103 feet and 139 feet with two foot high parapets.
- Major stakeholders include the city of Bayfield, various marina owners, and two private ferry services to Madeline Island.

Project Requirements

- Requires periodic maintenance dredging on an infrequent basis; the harbor was last dredged in 1973.
- Harbor currently requires dredging.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of only commercial transportation option to Madeline Island



Transportation Importance

- The local community uses the local ferry service daily for commuting to Madeline Island.
- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Bayfield Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	250		250		250	
TOTAL	250	0	250	0	250	0

Congressional Interests

- Representative Sean Duffy R-WI-7
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Big Bay Harbor, MI

Harbor Features

- Located on the south shore of Lake Superior, 33 miles northwest of Marquette, MI and 38 miles east of the portage entry to the Keweenaw Waterway
- Authorization: 1945 River & Harbor Act
- Shallow draft recreational harbor
- Project depth is 12 feet in the entrance channel and 10 feet in the harbor basin.
- Approximately 500 feet of maintained federal channel
- More than 1,250 feet of maintained piers
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include the Michigan DNR, Marquette County Sportsman's Club, and various marinas.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Project Requirements

- Requires periodic maintenance dredging on a three to five year cycle of approximately 11,000 to 19,000 cubic yards.
- The harbor was last dredged in 2013 with funds provided by the State of Michigan under a contributed funds agreement with USACE.

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Big Bay Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Big Suamico Harbor, WI

Harbor Features

- Located off the Big Suamico River, which flows east into Green Bay, an arm of Lake Michigan
- Authorized: River & Harbor Act of 1937
- Shallow draft recreational harbor
- Project depth is 8 feet
- Approximately 3,700 feet of maintained federal channel
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Native American fishing interests and various marina owners.

Project Requirements

- Requires periodic maintenance dredging on a five to seven year cycle of approximately 9,000 to 13,000 cubic yards; the harbor was last dredged in 2002.
- The harbor currently requires maintenance dredging.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Big Suamico Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	570		570		570	
TOTAL	570	0	570	0	570	0

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Black River, Port Huron Harbor, MI

Project Features

- Flows southeast from Sanilac County into the St. Clair River at Port Huron
- Authorization: River & Harbor Acts of 19 Sep 1890, 13 Jul 1892, 22 Sep 1922, 3 Jul 1930, 30 Aug 1935, 3 Apr 1970
- Deep draft and shallow draft project
- Project depths of 20 feet in the main portion of the channel, 6 and 8 feet in the upper river channels
- Approximately 12,000 feet of maintained channel
- Dredged material is placed in upland placement sites as needed.

Project Requirements

- Periodic maintenance dredging on a five to ten year cycle of approximately 15,000 to 35,000 cubic yards; the river was last dredged in 2014.

Consequences of Not Maintaining the Project

- Significant loss of jobs locally
- Light loading associated with inadequate maintenance dredging, increasing vessel transportation costs.



Transportation Importance

- Locally significant receiving and shipping port on the Great Lakes
- Home port of U.S. Coast Guard's 225 foot long cutter Hollyhock. Hollyhock's primary missions include: aids-to-navigation, search and rescue, environmental protection, and ice breaking. The Hollyhock docks at the U.S. Coast Guard Station Port Huron.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Black River, Port Huron, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Candice R. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Black River Harbor, MI

Harbor Features

- Located at the mouth of the Black River on the south shore of Lake Superior, 39 miles west of Ontonagon, MI and 47 miles east of Ashland, WI
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depths are 10 feet in the approach channel, 8 feet in the access channel and 6 feet in the river channel
- Approximately 4,000 feet of maintained federal channel
- Approximately 1,300 feet of rubble mound breakwaters
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include U.S. Forest Service, Michigan DNR, Gogebic County, Marina concessionaire, along with charter, recreational, and Native American fishing interests.

Project Requirements

- Approximately 4,500 to 7,500 cubic yards of material must be dredged on a three to five year cycle; the harbor was last dredged in 2009.
- The harbor currently requires maintenance dredging.



Consequences of Not Maintaining the Project

- Further shoaling will limit or cease recreational and transient boating
- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge in a remote area of Lake Superior and supports fishing and recreational navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Black River Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	260		300		300	
TOTAL	260	0	300	0	300	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



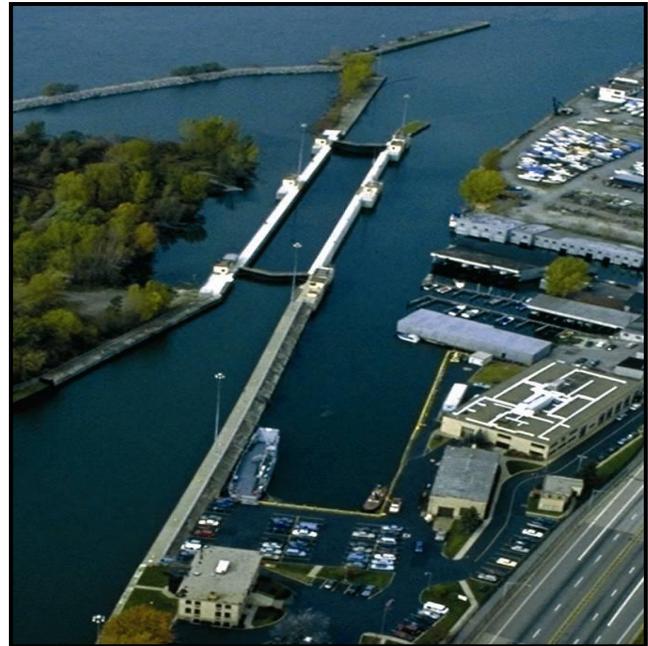
Black Rock Lock and Tonawanda Harbor, NY

Harbor Features

- Located on the Niagara River in the city of Buffalo, Erie County, New York
- Authorization: River & Harbor Acts of 1888, 1902, 1905, 1916, 1919, 1922, 1925, 1934, 1935, 1945 and 1954
- Deep draft commercial project
- Project depths are 21 feet in the Niagara River channel and 16 feet in Tonawanda Harbor channels.
- The Black Rock Lock and channel permit recreational craft and commercial vessels to travel between Buffalo Harbor and Tonawanda Harbor.
- The Black Rock Lock can accommodate recreational craft and commercial vessels up to 625 feet long with drafts up to 21 feet.
- 143K tons of material shipped and received in 2015
- The Bird Island pier is approximately 2 miles long and forms the west side of the Black Rock channel.
- The Black Rock channel is a 3.5 mile federal channel connecting Buffalo Harbor and Black Rock Lock.
- The Major stakeholders include U.S. Coast Guard, Marathon, Petroleum, NOCO Energy Corp., and United Refining Co.

Project Requirements

- In addition to routine operations and maintenance (O&M), critical requirements include the following: replacement of pintels, repair of lower west guide wall, and chamber resurfacing
- Maintenance dredging is conducted on an infrequent, as-needed basis. The Black Rock channel was last dredged in 2009 when approximately 115,000 cubic yards of material were removed. GLRI funded strategic navigation dredging was completed in 2015.



- A major rehabilitation of the Bird Island pier was completed by the Buffalo District floating plant in 2013. Additional repairs are required to repair areas not addressed in 2013.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$56.3M annually in business revenue while supporting 246 direct, indirect, and induced jobs that produce over \$15M per year in personal income in transportation and commodity related industries.
- Failure to adequately fund routine O&M could result in total or temporary closure of the lock.
- Elimination of the U.S. connection to the Intercoastal Waterway from Lake Erie.
- Inability for commercial and recreational vessels to reach destinations on the upper Niagara River.
- Failure to complete non-routine maintenance of aging components will result in continued degradation and eventual failure of the components and increased future maintenance costs.

Transportation Importance

- Asphalt is the primary commodity shipped or received through the lock.
- With 1,679 lockages in 2015, the lock provided safe passage for 2,314 vessels (296 commercial and 2,018 recreational).
- The lock provides the only means for deep draft commercial vessels to reach delivery ports on the upper Niagara River; including fuel storage facilities and refinery.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Black Rock Lock and Tonawanda Harbor, New York
Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Operation of Lock	1,556	1,556	1,125	1,125	1,200	1,200
Operational Routine Maintenance of Lock			605	605	580	580
E&D, Gate Anchorages Rehab					150	
E&D, Motor Control Center			50		50	
E&D, Bird Island Pier Reconstruction	300					
E&D Chamber Resurfacing	200		200		200	
Facility Security			55			
Replacement of Pintles			775		775	
Strategic Sustainability Performance Plan						
Structure Repair – Bird Island Pier (F/P)					500	
E&D, Lower W. Guide Wall Repair			300		300	
Periodic Inspection and Assessment	125	125				
Other Business Lines:						
Environmental Stewardship	5	5	5	5	5	5
TOTAL	2,186	1,686	3,115	1,735	3,760	1,785

Congressional Interests

- Representative Brian Higgins D-NY-26
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Bolles Harbor, MI

Harbor Features

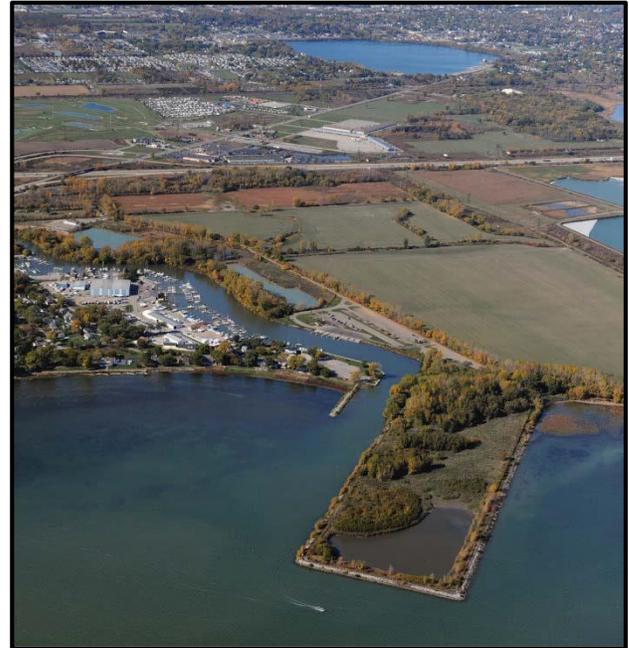
- Located on the west shore of Lake Erie at the mouth of La Plaisance Creek, 7 miles southwest of Monroe, MI.
- Authorization: River & Harbor Act of 6 Jul 1965
- Shallow draft recreational harbor
- Project depth is 8 feet at the downstream section of the project and 6 feet in the creek (upstream) section.
- Approximately 11,000 feet of maintained federal channel
- More than 600 feet of maintained revetments
- Major stakeholders include the Monroe Boat Club, charter fishing interests, and the Michigan DNR.
- Confined Disposal Facility (CDF) currently has sufficient capacity for the next 15 years.

Project Requirements

- Maintenance dredging of approximately 20,000 cubic yards on a three to five year cycle; the harbor was last dredged in 2010.
- The harbor currently requires maintenance dredging.
- Periodic maintenance of the CDF is required.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access to Great Lakes
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- There are multiple marinas located in the harbor that provide over 500 docks to recreational boaters.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Bolles Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	265		265		265	
CDF Maintenance			250		250	
Critical Breakwater Safety Maintenance			25		25	
TOTAL	265	0	540	0	540	0

Congressional Interests

- Representative Tim Walberg R-MI-7
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Buffalo Harbor, NY

Harbor Features

- Located on Lake Erie in the city of Buffalo, Erie County, New York.
- Authorization: River & Harbor Acts of 1826, 1866, 1874, 1896, 1899, 1900, 1902, 1907, 1909, 1910, 1912, 1919, 1927, 1930, 1935, 1945, 1960, 1962 and Water Resources Development Acts (WRDA) of 1986, 1988 and 2007
- Deep draft commercial harbor
- Project depths are 28 to 30 in the south entrance channel; 25 to 26 in the north entrance channel; 23 to 27 feet in the outer harbor; and 22 to 23 feet in the Buffalo River channel.
- 826k tons of material shipped and received in 2013
- Interconnected with 7 commercial ports: receives from 7 ports
- Over 4.5 miles of breakwater structures
- 5.5 miles of federal channel on the Buffalo River
- A confined disposal facility (CDF) is located adjacent to the south entrance channel.
- Major stakeholders include the Port of Buffalo, U.S. Coast Guard, Gateway Metroport, General Mills, Mobil Oil, Lafarge Cement, Sand Products, Holcim, Standard Elevator, and Whitebox Commodities.

Project Requirements

- Approximately 140,000 cubic yards of material must be dredged every 2 years. The harbor was last dredged in 2015 when approximately 110,000 cubic yards of material were removed.



- Great Lakes Legacy Act (GLLA) environmental dredging of approximately 462,000 cubic yards outside the federal channel, was completed in December 2014. A goal of the project is for future year Buffalo River dredging to be suitable for placement in the open lake, resulting in reduced O&M costs for the Buffalo Harbor in addition to significant environmental benefits.
- Initiation of a Dredged Material Management Plan (DMMP) is required to determine future sediment placement needs given the recent GLRI and GLLA projects.
- Deteriorated sections of the south breakwater and CDF #4 require repairs to restore proper function of the structures.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$904M annually in business revenue while supporting 5,490 direct, indirect, and induced jobs that produce over \$269M per year in personal income in transportation and commodity related industries.

Consequences of Not Maintaining the Project cont.

- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 22,005 tons of harmful particulate matter (PM-10) and increase costs by \$217,000 due to increased railroad related accidents, and \$2,986,000 due to increased trucking related accidents
- Light loading; losses of between 1 and 2 feet of channel depth would result in increased transportation costs of between \$860,000 and \$1,664,000 annually

Transportation Importance

- Major receiving and shipping port on the Great Lakes; and Critical Harbor of Refuge
- Commodities shipped or received include aggregates, limestone, salt, grain, cement, as well as ores and minerals

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Buffalo Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	GLRI Funds	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging	5,270					1,600	1,600
Interim Repair CDF #4	3,435	250	250				
DMMP				500			
E&D South Breakwater Repair (1,800 LF)				320	320		
Critical Maintenance of Coastal Navigation Structures & Obstruction Removal – CDF #4		1,040	1,040			1,050	1,050
Sediment Sampling and Analysis		160					
E&D, North Breakwater Repair						250	
Construction, South Breakwater Repair						4,000	
TOTAL	8,705	1,450	1,290	820	320	6,900	2,650

Congressional Interests

- Representative Brian Higgins D-NY-26
- Senator Charles Schumer D-NY
- Senator Kirsten Gillibrand D-NY



Burns Waterway Harbor, IN

Project Features

- Located on Lake Michigan in the city of Portage, Lake County, Indiana
- Authorization: River & Harbor Act of 1965
- Authorized depths are 30 feet in the approach channel, 28 feet in the outer harbor, and 27 feet in both harbor arms
- 7.9M tons of material shipped or received in 2013
- Ranked 10th among the Great Lakes ports
- Interconnected with 21 commercial ports: ships cargo to 6 ports, and receives from 18
- 5,830 linear feet of rubblemound breakwater structures
- 2.5 miles of federal channel combined within the approach, outer harbor, and east and west arms
- Major stakeholders include ArcelorMittal Steel, Tanco Terminals, and 29 other tenants - 14 of which are steel-related industries.

Project Requirements

- 86,000 cubic yards of sand must be annually removed from the approach channel during the permitted dredging window of July 1 to October 15. In 2015, 177,000 cubic yards of material were removed from the approach channel.
- Shoaling is the result of littoral sediment trapped by harbor structures. Development of long-term regional sediment management alternatives could reduce future dredging needs.
- In August 2015, a contract was awarded to dredge 65,000 cubic yards from the approach channel in summer 2016. In 2016, the contract will be modified to dredge an additional 25,000 cubic yards from the approach channel.
- In August 2016, the option year of the contract will be awarded to dredge an additional 80,000 cubic yards from the approach channel in early summer 2017.



- The rubblemound breakwater is the harbor's only protective structure. Three sections, totaling 600 feet overall, require repair work.

Consequences of Not Maintaining the Project

- Light loading: losses of between 2 and 3 feet of channel depth would increase transportation costs between \$3.5M and \$6.8M annually.
- Reduction of bulk commodities that pass through the harbor and generate \$7.1B annually in business revenue while supporting 38,926 direct, indirect, and induced jobs that produce over \$1.9B per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by nearly 53,400 tons of harmful particulate matter (PM-10) and increase costs by \$3.0M due to increased railroad related accidents, and \$1.1M due to increased trucking related accidents.

Transportation Importance

- Commodities are iron ore, steel products, limestone, grain, chemicals, fertilizers, and coal. The port handles over 15% of all U.S. steel trade with Europe.

Transportation Importance cont.

- ArcelorMittal’s Burns Harbor facility is one of the largest steelmaking facilities in North America. It operates two blast furnaces, has a total raw steelmaking capability of 4.7M tons annually, and primarily serves the automotive industry. Principal products made are hot-rolled, cold-rolled and coated-sheet products. Other markets served include appliances, construction, office furniture and rail cars.
- The harbor provides safe refuge for inland river barges traveling between Gary Harbor, Indiana Harbor, and Calumet Harbor.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Burns Waterway Harbor, IN - Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Project Condition Surveys	189	189	193	193	197	197
Maintenance Dredging of Harbor Approach Channel	1,000	2,280	1,659	1,659	1,600	1,600
Maintenance Dredging of Harbor Channel						
Remove Accumulated Sand from East Harbor Approach/ Baily Intake (NIPSCo)	3,100		3,480		3,480	
Structural Repair – Scour Hole Repair (by Gov’t Floating Plant)			535		1,237	1,237
Structural Repair – Outer North Breakwater (by Gov’t Floating Plant)	3,490		3,490		4,265*	
TOTAL	7,779	2,469	9,357	1,852	10,779	3,034

- Note: There is no excess government capacity to complete this repair in FY17 and is not recommended to be performed by contract. North Breakwater experience has shown that work is hampered by long lead time for quarrying stone, a short environmental window for performing the repair and the extensive amount of reworking of existing large stones in the structure to reestablish a proper slope.

Congressional Interests

- Representative Peter J. Visclosky D-IN-1
- Senator Dan Coats R-IN
- Senator Joe Donnelly D-IN



Burns Waterway Small Boat Harbor, IN

Project Features

- Located on Lake Michigan near the city of Portage, Lake County, Indiana.
- Authorization: Section 107 of the River & Harbor Act of 1960
- Project depths are 11 feet in the approach channel, 10 feet in the inner harbor, and 6 feet in the river channel
- Combined length of 1,688 linear feet of rubblemound breakwater structures
- 5,200 feet of federal channel in the harbor and channel leading to the public marina. The channel also serves numerous private marinas upstream of the public marina.

Project Requirements

- Structural repairs to the north breakwater were completed in FY10 using USACE hired labor forces. Both the north and west breakwaters remain in satisfactory condition.
- Due to the severe Hurricane Sandy storm on southern Lake Michigan on October 31, 2012, the outer harbor entrance received approximately 20,000 cubic yards of new sediment.
- Hydraulic dredging was completed in October 2013. Approximately 24,000 cubic yards of clean sand were removed, and placed offshore adjacent to the community of Ogden Dunes.
- Erosion control along the slopes adjacent to Burns Ditch is critically needed to help reduce the rate of shoal accumulation within the channel.



Consequences of Not Maintaining the Project

- The available depth within the navigation channel south of the harbor is slightly reduced by shoals resulting from slope erosion from the adjacent bluffs. Current light shoaling at the extreme edge of channel could adversely affect some recreational users. Funding of channel maintenance in all recreational harbors is lower priority than commercial harbors. The cost to remove the current small amount of shoaling is not economically justified, and therefore, not recommended.

Transportation Importance

- The harbor provides berthing and launching for hundreds of recreational boats. Several marinas are located upstream of the federal project. In addition, the harbor and channel provide safe refuge for recreational boats on southern Lake Michigan traveling between Michigan City and Chicago's Calumet Harbor during periods of adverse weather. The commercial harbors in the immediate area, such as Burns Harbor, Gary Harbor and Indiana Harbor do not have any facilities for the protection of recreational boats during intense periods of rapidly developing summer/fall thunderstorms.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Burns Waterway Small Boat Harbor, IN - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys / Caretaker Funds						
Sampling/Testing of Harbor Channel for Maintenance Dredging						
Maintenance Dredging of Harbor and Channel						
Structural Repair – North and West Breakwaters						
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Peter J. Visclosky D-IN-1
- Senator Dan Coats R-IN
- Senator Joe Donnelly D-IN



Calumet Harbor, IL and IN

Project Features

- Located on Lake Michigan in the city of Chicago, Illinois. The approach channel and outer harbor are located in Lake County, Indiana.
- Authorization: River & Harbor Acts of 1899, 1902, 1935, 1960, 1962, and 1965
- Authorized depths are 29 feet in the approach channel, 28 feet in the outer harbor, and 27 feet in the main river channel
- The federal navigation channel within the harbor is 4.40 miles long. The channel extends up the Calumet River to the Illinois Waterway (6.74 miles), and to Lake Calumet (1.30 miles).
- 12,153 linear feet of steel sheetpile and timber crib breakwater structures
- Chicago Confined Disposal Facility (CDF), with a nominal storage capacity of 1.3M cubic yards for contaminated sediment
- 11.7M tons of material shipped or received in 2013.
- Ranked 3rd among the Great Lakes harbors, constituting 75% of the Port of Chicago
- Interconnected with 36 commercial ports: ships to 29 ports, and receives from 22 ports
- Stakeholders include 30 industrial tenants as well as a U.S. Coast Guard Search and Rescue Station.

Project Requirements

- The ongoing DMMP is investigating future sediment disposal options; the study will be completed in FY16. If funded, the design of a new disposal facility could be completed in FY17. The first phase of the new confined disposal facility could be in place by the end of FY19, making the site ready to accept clean material dredged from the outer harbor for perimeter dike construction.
- During FY14, the Chicago CDF achieved the volume anticipated by the original project authorization. Based on the timeline required to bring a new disposal facility online, USACE has minimally 7 to 9 years of channel maintenance that will place sediment within the existing CDF.
- Facility life-extension measures are being employed to allow channel maintenance to continue.



- Authorized depth is maintained only in the center half-width of the outer harbor, and rock outcroppings remain that prevent dredging to full authorized depth by 1 to 2 feet. The loss of depth in river segments annually ranges between 1 to 4 feet.
- Both the outer harbor and river channel areas were dredged in 2014, and will be again in 2016.
- The timber crib shorearm breakwater maintains the outer harbor wave climate, and keeps the river mouth open for navigation. Its condition is poor, with concrete superstructure failure expanding due to crib degradation. Grout stabilization is needed to prevent further superstructure losses.

Consequences of Not Maintaining the Project

- Light loading losses of between 2 to 3 feet of channel depth results in increased transportation costs of between \$2M and \$3.5M annually.
- Reduction of bulk commodities that pass through the harbor and generate \$14.6B annually in direct business revenue while supporting 80,980 direct, indirect, and induced jobs that produce over \$2.3B per year in personal income.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by 238 tons of harmful particulate matter (PM-10) and increase costs by \$218,000, due to increased railroad related accidents, and \$23,000 due to increased trucking related accidents.

Consequences of Not Maintaining the Project cont.

➤ The pilot rock removal efforts funded in FY14 (performed in FY15) helped refine effective work methods, production rate and costs for prioritizing rock removal work effort into phases. Work is planned in FY 16 and 17 to attain the project depth in the outer harbor functional channel (mid-channel half width).

➤ The harbor is the primary link (of only two possible routes) between the Inland-Waterway system, the Great Lakes, and foreign ports. From this harbor, deep-draft ships can reach the Atlantic Ocean through the St. Lawrence Seaway, and barges can reach the Gulf of Mexico through the Illinois and Mississippi Rivers.

➤ The harbor is the best safe refuge on southern Lake Michigan due to its ease of entry during storms. It permits the safe operation of over 3,000 river barges annually between the Inland-Waterway system and Indiana, Gary, or Burns Waterway Harbor.

Transportation Importance

➤ Commodities are limestone, coke, coal, salt, grain, cement, liquid bulk, potash, and steel. Approximately 2.3M tons of coal are shipped to various Great Lakes ports.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Calumet Harbor, IL and IN - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys	373	373	381	389	389	389
Chicago CDF Water Quality Monitoring	105	105	105		107	107
Maintenance Dredging of Harbor Channel – Primary Work Package			1,850	2,290	380	380
Maintenance Dredging of Harbor Channel – Backlog Work Package					2,460	
Outer Harbor Lakebed Rock Removal – Functional Channel to Authorized Depth			8,720	4,500	5,520	
Structural Repairs to Detached and Shorearm Breakwaters by Gov't Floating Plant	1,245	1,245	1,375	1,367	1,251	1,251
Chicago Area Waterway System (CAWS) Dredged Material Management Plan	650	650	200		100	100
Storm Damage Repairs to Calumet Harbor Stone Dock: Lakefront Slope Armoring	715	715				
Chicago CDF Sediment Management (Grading & Piling)	600	600	600	460	600	600
CDF OPS Modification (Sediment Segregation Area)	40	40				
TOTAL	3,728	3,728	13,231	9,006	10,807	2,827

Congressional Interests

- Representative Robin Kelly D-IL-2
- Senator Richard Durbin D-IL
- Senator Mark Kirk R-IL



Cape Vincent Harbor, NY

Harbor Features

- Located along the St. Lawrence River in the village of Cape Vincent, Jefferson County, New York.
- Authorization: River & Harbor Acts of 1899 and 1945
- Deep draft recreational harbor
- Project depths are 20 feet in the entrance channel and 16 feet in the harbor basin
- The harbor is protected by a detached breakwater with a total length of 1,381 feet
- Major stakeholders include one marina, charter fishing interests and the recreational boating community.

Project Requirements

- Critical requirements include periodic project conditions surveys, sediment sampling and analysis.

Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Critical Harbor of Refuge
- Negative economic impacts, locally and regionally



Transportation Importance

- Harbor of Refuge
- Supports 13 charter fishing boats generating approximately \$106,158 in net income annually

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Cape Vincent Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Sediment Sampling and Analysis (+NEPA Compl)	170		0			
TOTAL	170	0	0	0	0	0

Congressional Interests

- Representative Elise Stefanik R-NY-21
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Caseville Harbor, MI

Harbor Features

- Located at the mouth of the Pigeon River on the east shore of Saginaw Bay, about 17 miles southwest of Port Austin, MI.
- Authorization: River & Harbor Act of 23 Oct 1962
- Shallow draft recreational harbor
- Project depth of 10 feet in the entrance channel and 8 feet in the inner channel
- Over 4,000 feet of maintained federal channel
- Approximately 1,800 feet of pier
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include the Michigan DNR, village of Caseville, and various marina owners.

Project Requirements

- Approximately 10,000 to 18,000 cubic yards of material must be dredged on a three to five year cycle; the harbor was last dredged in 2009.
- The harbor currently requires maintenance dredging.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Federal breakwater protects infrastructure including public boardwalk
- Potential safety issues for recreational boating community



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports 200 recreational boat slips

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Caseville Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	325		325		325	
TOTAL	325	0	325	0	325	0

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Cattaraugus Creek Harbor, NY

Harbor Features

- Located on Lake Erie at the mouth of Cattaraugus Creek, Cattaraugus County, New York.
- Authorization: River & Harbor Act of 1968
- Shallow draft recreational harbor
- Project depths are 8 feet in the entrance channel and 6 feet in the Cattaraugus Creek channel
- The harbor is protected by the north and south breakwaters with a total length of 2,450 feet.
- Construction of the project provided flood control benefits to the local community by removing shoals at the mouth of the creek and thereby reducing the threat of annual ice jam flooding.
- Maintenance for this project is cost-shared 59% federal and 41% local cost-share partner. The local cost-share partner is the New York State Office of Parks, Recreation and Historic Preservation (NYSPRHP).
- Major stakeholders include New York State Department of Environmental Conservation (NYSDEC), NYSPRHP, the Seneca Nation, private marinas, charter fishing interests and the recreational boating community.

Project Requirements

- Maintenance dredging is required on an infrequent basis. The project has not been dredged since construction in 1983. Dredging is currently required.
- Sections of the south and west breakwaters are starting to deteriorate and require repairs.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Supports 11 charter fishing boats generating approximately \$90,000 in net income annually

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Cattaraugus Creek Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
E&D, South and West Breakwater Repair	205		205		205	
Maintenance Dredging (Incl Sediment Sampling & Analysis)	590		590		590	
TOTAL	795	0	795	0	795	0

Congressional Interests

- Representative Chris Collins R-NY-27
- Representative Tom Reed R-NY-23
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Cedar River Harbor, MI

Harbor Features

- Located on Green Bay off of Lake Michigan, about 25 miles northwest of Menominee, MI.
- Authorization: River & Harbor Acts of 2 Aug 1882, 27 Oct 1965
- Shallow draft recreational harbor
- Project depth is 8 feet at the upstream limit and 10 feet in the outer harbor channel.
- Approximately 3,500 feet of maintained federal channel
- Approximately 2,400 feet of piers
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders are the Ruleau Brothers and Michigan DNR.

Project Requirements

- Approximately 20,000 to 40,000 cubic yards of material must be dredged on a three to five year cycle. The harbor was last dredged in 2013 with funds provided by the State of Michigan under a contributed funds agreement with USACE.
- The harbor currently requires maintenance dredging. After the 2013 dredging, the local community reported that a large shoal formed across the channel entrance.
- The east rubble mound breakwater requires modification to prevent sediment deposition in the navigation channel.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Cedar River Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	525		525		525	
East Rubblemound Breakwater – E&D	260		260		260	
East Rubblemound Breakwater – Contract	2,000		2,000		2,000	
TOTAL	2,785	0	2,785	0	2,785	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Channels in Lake St. Clair, MI

Project Features

- One of Great Lakes connecting channels. Two-way 14.5 mile vessel track located in the expansive shallow basin of Lake St. Clair.
- Authorization: River & Harbor Acts of 5 Aug 1886, 13 Jul 1892, 13 Jun 1902, 2 Mar 1919, 3 Jul 1930, 30 Aug 1945, 21 Mar 1956
- Deep draft commercial project
- Project depth is 27.5 feet
- Five year average (2009-2013) tonnage of 47M traverses these channels annually.
- Approximately 14.5 miles of federal channels
- Dickinson Island Confined Disposal Facility has provided a suitable placement site for all material dredged from the St. Clair River and Lake St. Clair since 1980 and is anticipated to have sufficient capacity for at least 25 more years.
- Major stakeholders include U.S. Coast Guard, and a majority of Great Lakes shipping interests.

Project Requirements

- The upper end of the channel near the mouth of the St. Clair River requires maintenance dredging on a 5 to 10 year cycle of approximately 75,000 to 150,000 cubic yards.
- The channels were last dredged in 2012 and there are plans to dredge in 2017.
- Occasional obstruction removal is required by the government floating plant.

Consequences of Not Maintaining the Project

- If the channel were closed to commercial traffic, commodities would have to be transported by rail or truck. This would increase annual emissions rates by over 1.6B lbs of harmful particulate matter (PM-10) and increase costs by \$25M due to increased railroad related accidents, or by \$51M due to increased trucking related accidents.



- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$5.84M and \$21.3M annually.
- Access between Lake Huron and the Detroit River would be cut off.
- Key component of the Great Lakes and St. Lawrence Seaway navigation system. Disruption of service would have severe maritime and economic impacts.

Transportation Importance

- Great Lakes connecting channel between the St. Clair River and the Detroit River.
- This project is vital to the Great Lakes and St. Lawrence Seaway shipping industry.
- Commodities transported through these channels include coal, iron ore, limestone, wood pulp, petroleum products, salt, and other general cargo.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Channels in Lake St. Clair, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys	179	179	180	180	180	180
Maintenance Dredging – Primary Work Package					1,400	1,400
Maintenance Dredging – Backlog Work Package						
CDF Repairs						
TOTAL	179	179	180	180	1,580	1,580

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Representative Sander M. Levin D-MI-9
- Representative Brenda Lawrence D-MI-14
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Channels in Straits of Mackinac, MI

Project Features

- One of the Great Lakes connecting channels; the Straits of Mackinac are located between Michigan's Upper and Lower Peninsulas and connect Lake Michigan with Lake Huron.
- Authorization: Adopted by Acts of 30 Aug 1935 and 23 Mar 1956
- Deep draft commercial project that provides for a 1,250 foot wide channel between Mackinac Island and Round Island; and for removal of the Poe Reef shoal.
- Project depth is 30 feet
- 70 to 80 million tons of commerce traverse these channels annually
- Approximately 3,500 feet in length
- Major stakeholders include a majority of Great Lakes shipping interests.

Project Requirements

- The channels were dug in hard bottom areas of the Straits of Mackinac; consequently, they require infrequent maintenance. It is anticipated that all future maintenance will consist of occasional strike removal operations.

Consequences of Not Maintaining the Project

- Significant loss of jobs locally, regionally, and internationally.
- Light loading; loss of channel depth results in increased transportation costs.
- Access between Lake Superior and the lower Great Lakes would be cut off.



- Key component of the Great Lakes and St. Lawrence Seaway navigation system. Disruption of service would have severe maritime and economic impacts.

Transportation Importance

- Key connecting channel between Lake Superior and the lower Great Lakes and the St. Lawrence Seaway.
- This project is vital to both domestic and international maritime interests using the Great Lakes and St. Lawrence Seaway.
- Commodities transported through these channels include coal, iron ore, limestone, wood pulp, petroleum products, salt, and other general cargo.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Channels in Straits of Mackinac, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Charlevoix Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 276 miles northeast of Chicago, IL and 75 miles northeast of Frankfort, MI.
- Authorization: River & Harbor Acts of 14 Aug 1876, 2 Aug 1882, 13 Jun 1902, 20 Jun 1938, 24 Mar 1977
- Deep draft commercial harbor
- Project depths of 18 feet in Lake Michigan and in inner channels to Lake Charlevoix
- Over 4,100 feet of structures including piers and revetments
- Approximately one mile of maintained channel
- Major stakeholders include U.S. Coast Guard, Beaver Island Ferry Service, Charlevoix City Marina, Rieth-Riley (Ironton), St. James Marine Company, St. Marys Cement, Sunshine Charters sailing, various fishing charters and sightseeing cruises.

Project Requirements

- Maintenance dredging required on a 10 to 15 year cycle; the harbor was last dredged in 1984.
- The harbor currently requires maintenance dredging.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreation and charter fishing
- Light loading; loss of channel depth results in increased transportation costs.



Transportation Importance

- Commodities shipped or received include coal, slag, petroleum products, lime and cement.
- Subsistence harbor – provides the only ferry service to Beaver Island, supporting over 600 people that live on the island year round.
- Harbor is home to the U.S. Coast Guard Station Charlevoix.
- Harbor is home to the 110 foot Keweenaw Star, a sightseeing cruise vessel.
- The Charlevoix City Marina was renovated in 2007 and on average brings in 1,500 visitors annually by boat.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Charlevoix Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	300		300		400	
TOTAL	300	0	300	0	400	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Cheboygan Harbor, MI

Harbor Features

- Located at the mouth of the Cheboygan River and empties into western Lake Huron approximately 16 miles southeast of the Straits of Mackinac.
- Authorization: River & Harbor Acts of 3 Jun 1896, 2 Mar 1907, 26 Aug 1937, 17 May 1950
- Deep draft commercial harbor
- Project depths of 21 feet in outer channel/turning basin, 18.5 feet above the turning basin and 8.5 feet above State Road Bridge.
- 74.9K tons of material shipped and received in 2013
- Approximately 775 feet of rubble mound breakwaters
- Approximately 12,000 feet of maintained channel
- Major stakeholders include U.S. Coast Guard, U.S. Fish and Wildlife Service, Michigan DNR, Arkona LLC, Cheboygan Dive Center, Durocher Marine (division of Kokosing), Moran Iron Works, Plaunt Transportation, Ryba Marine, Shepler's Ferry, TherCom Inc., U.S. Oil Fuel Terminal, U.S. Venture, and Walstrom Marine.

Project Requirements

- Maintenance dredging required on a 10 to 20 year cycle; the harbor was last dredged in late 2014/ spring of 2015.

Consequences of Not Maintaining the Project

- Light loading; loss of channel depth results in increased transportation costs.
- Narrowing of the maintained channel increases risk of vessel groundings in offshore approach channel.
- Could negatively affect U.S. Coast Guard and Homeland Security operations within the harbor.



Transportation Importance

- Significant receiving port on the Great Lakes
- Commodities shipped and/or received include sand, gravel, crushed stone, gasoline, fuel oil, and slag.
- Home port of the U.S. Coast Guard's only U.S. heavy ice breaking resource, the cutter Mackinaw, which is essential to keeping navigable waterways open in late fall/early winter and spring on the Great Lakes. The Mackinaw also plays a key role in buoy tending in spring and fall.
- Provides only ferry service to Bois Blanc Island; Marine bypass route for freight not permitted across Mackinac Bridge. Ferry carries people, cars, trucks, commodities and mail. Approximately 4 to 5 ferry trips are made daily from early spring through late fall.
- Harbor of Refuge
- Supports approximately 40 charter fishing boats and approximately 300 recreation boat slips
- Supports scuba diving training and shipwreck diving excursions
- Serves as gateway to 43 miles of inland waters that support a large amount of tourism in Cheboygan County

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Cheboygan Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Chicago Harbor, IL

Project Features

- Located on Lake Michigan in the city of Chicago, Cook County, Illinois
- Authorization: The River & Harbor Acts of 1870, 1880, 1912, 1919 and 1962.
- Authorized depths are 29 feet in the Lake Michigan harbor approach, 28 feet in the outer harbor, and 21 feet to Rush Street.
- The federal channel within the harbor is 2.2 miles and it connects to the deep draft Chicago River channel extending 4.0 miles to the North Avenue turning basin.
- The harbor is a part of the Port of Chicago, and is the secondary link between the Great Lakes, the Inland Waterway System, and foreign ports.
- 400K tons of material shipped and received in FY14
- Ranked 65th among the Great Lakes harbors.
- 20,357 lineal feet of timber crib, laid-up stone, and concrete caisson breakwater structures.
- Chicago Lock completes over 11,500 lockages annually, passing over 40,000 vessels.
- The harbor hosts a U.S. Coast Guard Station, Chicago Marine Police, and Illinois Conservation Police, Chicago Fire Dept. fire boat and city tug.
- Tour and Charter Boat Operations – 20 companies operate 55 boats, and host approximately 370,000 passengers annually.
- Privately-owned marinas moor 1,450 recreational boats within the harbor.

Project Requirements

- The 5,321 linear foot northeastern breakwater is the harbor's primary shield. It is in very poor condition. A 100 foot segment failed during the Hurricane Sandy Storm. A 200 foot segment was reconstructed utilizing Public Law 113-2 Disaster Relief Appropriations Act, 2013. Further degradation occurred during the Oct. 2012 Hurricane Sandy storm; repairs will occur in FY16.
- Chicago Lock has a Dam Safety Action Classification System rating of II. Several repairs are Urgent, and the project is considered Very High Risk.



Consequences of Not Maintaining the Project

- The Jardine Water Purification Plant is located in the harbor and serves 5M consumers in 118 municipalities.
- The lock limits Lake Michigan water flow into the Illinois Waterway. It provides flood damage reduction of \$1.4B to the downtown area from Chicago River.
- Navy Pier annually hosts 9M visitors and generates nearly \$138M in sales. Its operation employs 700 full-time and 2,000 part-time workers. 100+ private businesses operate there, employing 750 workers.
- Reduction of marine commerce that passes through the port and generate \$22.4B annually in business revenue while supporting 124,345 direct, indirect, and induced jobs that produce over \$3.50B per year in personal income in transportation and commodity related industries.
- If the port were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 12,900 tons of harmful particulate matter (PM-10) and increase costs by \$1.2M due to increased railroad related accidents, and \$126.K due to increased trucking related accidents.

Transportation Importance

- The harbor is a safe refuge on southern Lake Michigan for barges and vessels traveling north from or south to the Port of Chicago.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Chicago Harbor, IL - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys	105	75				
Lock Operations	2,300	2,300	2,335	2,335	2,382	2,382
Routine Lock Maintenance	270	270	340	340	347	347
Lock 5-year Periodic Inspection					95	95
Structural Repairs - Northeast Breakwater Crib Stabilization by Contract (900')	7,210		6,710		6,050	
Structural Repairs – Eastern Outer Breakwater Repairs by Gov't Floating Plant (500')			2,220			
Lighting System and Electrical Safety Improvements, Phase 2	300	30				
Concrete Resurfacing Chamber Walls, Guidewalls, Walkways	7,650		7,640		7,860	
North Pier Tunnel Stabilization	8,540		11,280		10,770	
Lock Gate Sill and Guide Wall Scour Holes, and Upper Gate Hinge Monitoring	470					
Lock Facility Security Lighting, Fire & Intrusion Alarms, Security Upgrades	370					
Electrical Repairs and Utility Tunnel Waterproofing and Lock Dewatering	590	590	1,060	1,060		
Utility Relocation Through Failing North Pier and Tunnel				620		
Gate Bays Ballasting and Seal Replacement				700		
TOTAL	27,805	3,265	31,585	5,055	27,504	2,824

Congressional Interests

- Representative Danny K. Davis D-IL-7
- Senator Richard Durbin D-IL
- Senator Mark Kirk R-IL



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Chippewa Harbor, MI

Harbor Features

- Located on Isle Royale, an island in northwest Lake Superior, Chippewa Harbor is situated approximately 50 miles north of Michigan's Upper Peninsula shoreline.
- Authorization: River & Harbor Acts of 2 Mar 1945, 17 Aug 1967
- Shallow draft recreational harbor; provides an entrance channel connecting the inner and outer harbors.
- Project depth is 14 feet
- Major stakeholders include the National Park Service, the Michigan DNR, and a variety of recreational interests.

Project Requirements

- This harbor requires very infrequent maintenance dredging because the channel was constructed in a hard bottom area.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of access to the National Park and other recreation opportunities in the area



Transportation Importance

- This project serves as an important Harbor of Refuge and supports the National Park Service on Isle Royale as well as recreational boating.
- The navigation channel provides subsistence ferry service to Isle Royale from both Michigan and Minnesota harbor facilities that generates income from regional visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Chippewa Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Cleveland Harbor, OH

Harbor Features

- Located on Lake Erie in the city of Cleveland, Cuyahoga County, Ohio.
- Authorization: River & Harbor Acts of 1875, 1886, 1888, 1896, 1899, 1902, 1907, 1910, 1916, 1917, 1935, 1937, 1945, 1946, 1958, 1960, 1962, Water Resources Development Acts of 1976 and 1986, Supplemental Appropriations Act of 1987 and the Energy & Water Appropriations Act of 1988
- Deep draft commercial harbor
- Project depths are 29 feet in the entrance channel; 27 and 28 feet in the east and west basin, respectively; 25 feet in the eastern outer harbor; 27 feet in the lower Cuyahoga River and Old River; 23 feet in the remainder of the Cuyahoga River; 18 feet in the turning basin
- 11.5M tons of material shipped and received in 2013
- Ranked 6th among the Great Lakes harbors
- 48th leading U.S. port
- Interconnected with 34 commercial ports: ships to 12 ports; receives from 19 ports; and ships and receives to/from 3 ports.
- Over 5.5 miles of breakwater structures
- 5.8 miles of federal channel on the Cuyahoga River and 1 mile of federal channel on the Old River
- Confined disposal facilities (CDFs) are located to the east of the harbor entrance
- Major stakeholders include Cleveland-Cuyahoga County Port Authority, Burke Lakefront Airport, U.S. Coast Guard, ArcelorMittal Steel, Bituminous Products, Cargill Deicing Technology, Carmeuse Lime & Stone, Cuyahoga Concrete Co., Essroc Cement Corp., Federal Marine Terminals Inc., Fleet Supplies Inc., Lafarge North America, Marathon Petroleum, Mid-Continent Coal & Coke, Ontario Stone Corp., Sand Products, Shelly Company, and St. Marys Cement.



Project Requirements

- Approximately, 225,000 cubic yards of material from the federal channel must be dredged each year. Dredging was last completed in 2015 and is scheduled for 2016.
- The sediment backlog within the Cuyahoga River channel was approximately 600,000 cubic yards in 2012.
- Severely deteriorated sections of the west breakwater, and wharf/utility pier must be repaired. Government floating plant repairs to 120 linear feet of the west breakwater were completed in 2015 and additional repairs are scheduled for 2016.
- Repairs to breakwaters totaling over \$45M as a result of Hurricane Sandy are scheduled to be completed by December 2016.
- USACE is required to manage dredged sediment in accordance with the Federal Standard (33 CFR Parts 335-337), which requires implementation of the least costly alternative consistent with sound engineering practices and selected through the Section 404(b)(1) Guidelines - including compliance with applicable Ohio water quality standards.

- The 2013 dredged sediment evaluation and December 2014 Clean Water Act Section 404(b)(1) evaluation concluded that most of the dredged sediment is suitable for open-lake placement based on the Clean Water Act Section 404(b)(1) guidelines. This has been reinforced by the 2015 sediment evaluation based on the 2014 and 2015 sampling. The application to the state for a 2016 water quality certification was based on this most recent evaluation.
- A designated placement site is nine miles offshore in the open-lake.
- It is critical that limited remaining CDF capacity be reserved for placement of dredged sediment unsuitable for open-lake placement in the future.
- USACE approved a Short-Term Decision Document recommending an alternative proposed by the Port of Cleveland in which the port would create additional confinement capacity at its existing CDF and take over disposal operations under a Section 217 tipping fee arrangement. Progress toward an agreement has been stalled due to litigation.
- A lawsuit was filed in April 2015 by the State of Ohio against USACE contending that the Corps failed to adequately consider the impacts of placing dredged sediment in the lake. The Port of Cleveland subsequently joined as a co-plaintiff against USACE.
- The Buffalo District continues to support beneficial use of dredged sediment at Cleveland Harbor.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$10.5B annually in business revenue while supporting 59,173 direct, indirect, and induced jobs that produce over \$2.17B per year in personal income in transportation and commodity related industries.

- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 226,135 tons of harmful particulate matter (PM-10) and increase costs by \$5,098,000 due to increased railroad related accidents, and \$6,383,000 due to increased trucking related accidents.
- Light loading; losses of between 1 and 2 feet of channel depth would result in increased transportation costs of between \$2.6M and \$6.8M annually.

Transportation Importance

- Major receiving and shipping port on the Great Lakes; and Critical Harbor of Refuge
- Commodities shipped or received include iron ore, limestone, sand and gravel, salt, cement and concrete, general cargo and liquid bulk.
- Major iron ore transshipment facility located at Cleveland's outer harbor. This facility provides iron ore to inland steel mills at lower delivery costs when compared to truck or direct rail delivery.

The Way Ahead

- Stakeholder meetings have ceased as a result of the litigation. The last meeting of the Dredging Task Force took place in March of 2015.
- Similarly, completing an EA/FONSI for the port's plan and finalizing a Section 217 agreement have been delayed pending the outcome on the lawsuit.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Cleveland Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary	2,230	2,230	2,800	2,800	2,800	2,800
Dredge Material Management Activity					400	400
E&D Long Term Management Plan			600	600		
Sediment Sampling and Analysis					280	280
Interim CDF Operation (formerly Maint.)			375	375	250	250
Critical Maintenance of Coastal Navigation Structures and Obstruction Removal			1,070	1,070	1,090	1,090
E&D, West Breakwater East End Section Repair					250	250
E&D, West Breakwater Repair			300	300		
Project Condition Surveys			545	545	535	535
Regional Economic Data Collection			250	250	250	250
Sandy Supplemental East Breakwater Repair	7,100*	7,100*				
Sandy Supplemental East Breakwater Repair – Dolosse	36,847*	36,847*				
TOTALS	46,177	46,177	5,940	5,940	5,855	5,855

*Funds allocated through Public Law 113-2 Disaster Relief Appropriations Act, 2013

Congressional Interests

- Representative Marcia Fudge D-OH-11
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Clinton River, MI

Project Features

- River starts in Oakland County, MI; it flows east about 60 miles and empties into Anchor Bay in the northwest part of Lake St. Clair.
- Authorization: River & Harbor Act of 5 Aug 1886, modified under Section 107 River & Harbor Act of 1960
- Shallow draft recreational harbor
- Project depth is 8 feet
- Approximately 8 miles of maintained federal channel
- Approximately 1,500 feet of breakwater
- The Clinton River Confined Disposal Facility was placed in operation in the 1980s and is anticipated to have sufficient capacity for at least the next 15 years.
- Major stakeholders include the Michigan DNR, the city of Mount Clemens, and various marina owners and private boaters.

Project Requirements

- Requires periodic maintenance dredging on a three to five year cycle of approximately 20,000 cubic yards; the channel was last dredged in 2009.
- The channel currently requires maintenance dredging.
- Periodic maintenance of the CDF is required.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of access to MDNR and County Sheriff facilities



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Home to the highest use DNR public access site (boat launch) in the State of Michigan. Provides multiple launch ramps and parking for 349 vehicles.
- Harbor contains about 50 commercial boat slips/dry storage bays.
- The harbor is home to the Macomb County Sheriff, Marine Division Headquarters.
- Michigan DNR operates a field office a few miles up the river.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Clinton River, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	660		660		660	
CDF Maintenance			250		250	
Critical Breakwater Safety Maintenance			25		25	
TOTAL	660	0	935	0	935	0

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Conneaut Harbor, OH

Harbor Features

- Located on Lake Erie in the city of Conneaut, Ashtabula County, Ohio
- Authorization: River & Harbor Acts of 1910, 1917, 1935 and 1962
- Deep draft commercial harbor
- Project depths are 28 to 29 feet in the outer harbor; 27 to 28 feet in the inner harbor; 22 to 23 feet in the western end of the outer harbor; and 8 feet in the access channel
- 4.8M tons of material shipped and received in 2013
- Ranked 18th among the Great Lakes Harbors
- Interconnected with 11 commercial ports: ships to 4 ports, and receives from 7 ports
- Over 2.2 miles of breakwater structures
- 142 acre outer harbor and 2,450 feet of federal channel in the inner harbor channel
- Major stakeholders include Conneaut Port Authority, U.S. Coast Guard, and Pittsburgh & Conneaut Dock Company

Project Requirements

- Approximately 120,000 cubic yards of material must be dredged every 2 to 3 years. The harbor was last dredged in 2013 when approximately 135,000 cubic yards of material were removed. Dredging is scheduled for 2016.
- Sections of the east and west breakwaters are deteriorated and in need of repairs.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$3.16B annually in business revenue while supporting 16,820 direct, indirect, and induced jobs that produce over \$850M per year in personal income in transportation and commodity related industries.



- Light loading; losses of between 1.5 and 2 feet of channel depth would result in increased transportation costs of between \$804,000 and \$1,675,000 annually.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 49,292 tons of harmful particulate matter (PM-10) and increase costs by \$3,555,000 due to increased railroad related accidents, and \$550,000 due to increased trucking related accidents.

Transportation Importance

- Major receiving and shipping port on the Great Lakes; and Harbor of Refuge
- Commodities shipped or received include coal, iron ore, limestone, lime, ores and minerals.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Conneaut Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary			1,350	1,350		
Sediment Sampling & Analysis					100	
Construction, East Breakwater End Section Repair			250	250	3,000	
Snagging and Clearing – Floating Plant						
Critical Maintenance of Navigation Structures and Obstruction Removal			1,065	1,065		
TOTAL	0	0	2,665	2,665	3,100	0

Congressional Interests

- Representative David Joyce R-OH-14
- Representative Mike Kelly R-PA-03
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Cooley Canal Harbor, OH

Harbor Features

- Located on Lake Erie at the mouth of Cooley Canal in the Jerusalem Township, Lucas County, Ohio.
- Authorization: Section 107 of the River & Harbor Act of 1960, as amended
- Shallow draft recreational harbor
- Project depth is 4 feet in the federal navigation channel.
- The harbor is protected by the east and west breakwaters with a total length of 1,650 feet.
- Major stakeholders include Lucas County, private marinas, charter fishing interests and the recreational boating community.

Project Requirements

- The harbor typically requires dredging every five to ten years. On average, approximately 10,000 cubic yards of material are dredged per event. It was last dredged in 2004 when 7,500 cubic yards of material were removed.
- Maintenance dredging is currently required.
- Non-federal dredging of the federal channel was completed in 2013.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Supports 66 charter fishing boats generating over \$350,000 in net income annually

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Cooley Canal Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary					600	
TOTAL	0	0	0	0	600	0

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Cornucopia Harbor, WI

Harbor Features

- Located at the mouth of the Siskiwit River on the south shore of Lake Superior, 49 miles east of Duluth, MN.
- Authorization: River & Harbor Acts of 26 Aug 1937, 3 Sep 1954
- Shallow draft recreational harbor
- Project depth is 10 feet between the piers and 8 feet in the turning basin and inner channels.
- Approximately 2,000 feet of maintained federal channel
- Approximately 1,500 feet of piers
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Siskiwit Marina, town of Bell Marina, Halvorson's Fisheries, Red Cliff Tribe Fisheries, and the Wisconsin DNR.

Project Requirements

- Requires periodic maintenance dredging on a three to five year cycle of approximately 5,000 to 10,000 cubic yards; the harbor was last dredged in 2008.
- The harbor currently requires maintenance dredging.
- Recent severe wave events have caused damage to the navigation structures which are now in need of repair.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Cornucopia Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	185		185		185	
Emergency Structure Repair by Gov't Floating Plant			450		450	
TOTAL	185	0	635	0	635	0

Congressional Interests

- Representative Sean Duffy R-WI-7
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Detour Harbor, MI

Harbor Features

- Located on the north shore of Lake Huron at the southern entrance to Detour Passage and the St. Marys River; about 40 miles east of the Mackinac Bridge.
- Authorization: River & Harbor Act of 1960
- Shallow draft recreational harbor
- Project depth of 10 feet in the entrance channel and 8 feet in the inner channel
- Over 4,000 feet of maintained federal channel
- Approximately 2,400 feet of breakwater
- Major stakeholders include the Michigan DNR and charter fishermen.

Project Requirements

- The harbor channels are stable and require infrequent maintenance dredging; the harbor was last dredged in 1981.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access to Great Lakes
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Detour Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Detroit River, MI

Project Features

- One of the Great Lakes connecting channels, flowing south from Lake St. Clair to Lake Erie.
- Authorization: River & Harbor Acts of 13 Jun 1902, 3 Mar 1905, 25 Jun 1910, 4 Mar 1913, 2 Mar 1907, 2 Mar 1919, 3 Jul 1930, 30 Aug 1935, 26 Aug 1937, 2 Mar 1945, 24 Jul 1946, 17 May 1950, 21 Mar 1956, 14 Jul 1960, 13 Aug 1986
- Deep draft commercial project
- Project depths vary from 25 to 29 feet
- Five year average (2009-2013) tonnage of 47M traverses the Detroit River annually
- Total of 76 miles of federal channels, including up-bound and down-bound channels
- For year 2013, 13.0M tons of material shipped and received in the Port of Detroit.
- Ranked 4th among the Great Lakes Harbors for the Port of Detroit
- 43rd leading U.S. port
- Contains water level compensating dikes
- Material dredged from the Detroit River is placed in the Pointe Mouille confined disposal facility located in Lake Erie.
- Major stakeholders include U.S. Coast Guard, Carmeuse Lime, Detroit Bulk Storage Inc., Detroit Steel, Edward C. Levy Co., J.W. Westcott Co., Harridon Terminal Inc., Holcim Inc., Koenig Fuel & Supply, Lafarge North America, Marathon Ashland Petroleum LLC, Michigan Marine Terminal, Morton Salt, Motor City Materials, Nicholson Terminal and Dock Co., Severstal North America, St. Marys Cement, the Rockdock LLC, and U.S. Steel Corp.

Project Requirements

- Obstruction removal is required on an annual basis.
- Requires periodic maintenance dredging (on a 1 to 2 year cycle) of approximately 300,000 cubic yards; the river was last dredged in 2015 and is planned to be dredged in 2017.



- Compensating dikes require periodic maintenance.
- Periodic maintenance of the CDF is required and is planned for 2016.

Consequences of Not Maintaining the Project

- If the channel were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 1.75B lbs of harmful particulate matter (PM-10) and increase costs by \$26M due to increased railroad related accidents, and \$54M due to increased trucking related accidents.
- Reduction of bulk commodities that pass through the Port of Detroit that generate \$17.8B annually in business revenue while supporting 82,961 direct, indirect, and induced jobs that produce over \$920M per year in personal income in transportation and commodity related industries.
- Light loading; loss of between 1 and 2 feet of channel depth in the Detroit River results in increased transportation costs of between \$5.89M and \$21.5M annually.
- Disruption of service would have severe maritime and economic impacts.

Transportation Importance

- Key component of the Great Lakes and St. Lawrence Seaway navigation system.
- Commodities transported through these channels include coal, iron ore, crude materials, manufactured goods, chemicals, steel products, petroleum products, food and farm products, as well as other general cargo, including overseas cargo.
- Great Lakes connecting channel between Lake St. Clair and Lake Erie.
- The Detroit River is the home port of the U.S. Coast Guard’s 140 foot long ice breaking cutter, Bristol Bay.

➤ Located along the banks of the Detroit River is the U.S. Coast Guard Sector Detroit Station, which is responsible for the operations of subordinate commands including: search and rescue, law enforcement, aids to navigation, ice breaking, ice rescue and maritime homeland security.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Detroit River, MI - Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Project Condition Surveys	1,048	1,048	1,050	1,050	1,070	1,070
Strike Removal	2,890	2,890	2,890	2,890	2,640	2,640
Maintenance Dredging – Primary Work Package	1,500	1,500			1,500	1,500
Maintenance Dredging – Backlog Work Package	1,700		1,700		1,700	
CDF Fill Management Activities	500	500	1,500	1,500	0	
Repair Compensating Dikes – by Gov. Floating Plant	550				0	
EGIS Development			20		20	
Other Business Lines						
Environmental Stewardship	31	31	35	35	37	31
Update Detroit Area Office Master Plan	31		30		31	
TOTAL	8,250	5,969	7,225	5,475	6,998	5,241

Congressional Interests

- Representative Debbie Dingell D-MI-12
- Representative John Conyers Jr. D-MI-13
- Representative Brenda Lawrence D-MI-14
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Duluth-Superior Harbor, MN and WI

Harbor Features

- Located at the western end of Lake Superior
- Authorization: River & Harbor Act of 3 Jun 1896
- Deep draft commercial harbor
- Project depths of 28 to 32 feet in the entrance; 27 feet deep in the iron-ore route channels, and 20 to 23 feet in inner channels
- 36.5M tons of material shipped and received in 2013
- Ranked 1st among the Great Lakes Harbors
- 17th leading U.S. port
- Tonnage is almost equally split between Duluth and Superior Entries.
- Over 10,000 feet of structures including breakwaters, piers and revetments.
- Over 18 miles of maintained channel
- The Erie Pier Confined Disposal Facility is located within the St. Louis Bay portion of the harbor. Only three to five years of capacity remain.
- Major stakeholders include U.S. Coast Guard, Azcon, BNSF, C. Reiss Coal, Calumet Superior, Canadian National, Cenex Harvest States, CHS, Cleveland-Cliffs, Cutler Magner, Duluth Lake Port, Gavilon Grain LLC, General Mills/Cargill, Greymont LLC, Hallet Dock, Hansen-Mueller Co., Holcim Inc., Lafarge North America, Marine Tech LLC, Midwest Energy, Murphy Oil, North American Salt Co., Northland Bituminous, and Riverland Aggregates.

Project Requirements

- Approximately 110,000 cubic yards of material must be dredged each year. The harbor was last dredged in 2015 and is scheduled to be dredged in 2016.
- Navigation structures are primarily maintained by the government floating plant.
- Superior entry north concrete pier requires repairs, government plant will begin in 2016.
- Superior entry requires ice plate repairs.
- Excessive freshwater corrosion rate impacting both federal and non-federal steel sheet pile navigation structures.



- Material scheduled to be dredged in 2016 will be placed in the 21st Avenue Embayment and Interstate Island.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generates \$18.9B annually in business revenue while supporting 103,257 direct, indirect, and induced jobs that produce over \$1.09B per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 500M lbs of harmful particulate matter (PM-10) and increase costs by \$18.8M due to increased railroad related accidents, and \$5.5M due to increased trucking related accidents.
- Light loading losses of between 1 and 2 feet of channel depth results in increased transportation costs of between \$1.0M and \$9.0M annually.

Transportation Importance

- Major international receiving and shipping port on the Great Lakes; and Harbor of Refuge
- \$2 Billion worth of cargo is shipped via the Duluth-Superior docks annually.

Transportation Importance cont.

➤ Home port of U.S. Coast Guard’s 225 foot long cutter Alder. Home to U.S. Coast Guard auxiliary station and a Marine Safety Unit, responsible for port safety and security, marine environmental protection, and commercial vessel safety missions under the auspices of the Dept. of Homeland Security.

➤ Commodities shipped or received include coal, coke, forest products, petroleum, grain, general cargo, steel, and scrap iron.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Duluth-Superior Harbor, MN and WI
Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Project Condition Surveys	604	604	605	605	610	610
Maintenance Dredging – Primary Work Package	2,856	2,856	3,000	3,000	3,060	3,060
Maintenance Dredging – Work Package	110		500	500	0	
Duluth-Superior Entry N. Pier Repairs – by Govt. Floating Plant			2,200	2,200	2,900	2,900
Erie Pier Fill Management Activities	750	750			0	
DMMP	200	200			0	
Regional Asset Management	250	250	250	250	250	
EGIS – Duluth Superior Harbor					20	
Other Business Lines						
Update Duluth Area Office Master Plan	31		30		31	
Recreation:						
Operation/Maintenance of Visitor Center	573	547	585	527	600	540
Repair Building Foundation	111		111		111	
Environmental Stewardship	72	72	59	59	62	56
Energy Sustainability Initiatives	642	321			0	
TOTAL	6,199	5,600	7,340	7,141	7,644	7,166

Congressional Interests

- Representative Rick Nolan D-MN-8
- Representative Sean Duffy R-WI-7
- Senator Al Franken D-MN
- Senator Amy Klobuchar D-MN
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Dunkirk Harbor, NY

Harbor Features

- Located on Lake Erie in the city of Dunkirk, Chautauqua County, New York
- Authorization: River & Harbor Acts of 1827, 1867, 1896, 1910, 1948 and Section 201 of the Flood Control Act of 1965
- Deep draft harbor
- Project depths are 17 feet in the outer channel, 16 feet in the inner channel, 8 feet in the access channel and 6 feet in the dock front recreation channels
- Over 1.3 miles of breakwater structures
- The outer, inner, access, and dock front federal channels total approximately 7,000 feet in length
- Major stakeholders include the NRG Energy power plant, City of Dunkirk, private marinas, charter fishing interests and the recreational boating community

Project Requirements

- Approximately 20,000 cubic yards of material must be dredged every 2 years to maintain a functional channel. The harbor was last dredged in 2009 when approximately 106,000 cubic yards of material were removed.
- Maintenance dredging is required to restore the channel to the authorized depth.
- Deteriorated sections of the north breakwater require repair to restore proper function of the structure.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Formerly active commercial harbor receiving coal for waterfront power plant; coal shipments ceased in 2005
- Harbor of Refuge
- Supports 24 charter fishing boats generating approximately \$196,000 in net income annually

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Dunkirk Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary	650		1,190		1,190	
Structure Repair – N. Breakwater (F/P)						
E&D North Breakwater Repair	250					
Project Condition Surveys						
TOTAL	900	0	1,190	0	1,190	0

Congressional Interests

- Representative Tom Reed R-NY-23
- Senator Charles Schumer D-NY
- Senator Kirsten Gillibrand D-NY



Eagle Harbor, MI

Harbor Features

- Located on the south shore of Lake Superior on the western shore of the Keweenaw Peninsula, about 35 miles northeast of the north entry to the Keweenaw Waterway.
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depth is 12 feet
- Federal harbor basin is approximately 4.2 acres
- Structures include a rubblemound breakwater near the old Coast Guard station and a steel revetment from the old Coast Guard ramp to the existing boat ramp.
- Major stakeholders include Eagle Harbor Township and local recreational boating interests.

Project Requirements

- Requires periodic maintenance dredging on an infrequent basis. The harbor was last dredged in 1973.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Eagle Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Erie Harbor, PA

Harbor Features

- Located on Lake Erie in the city of Erie, Erie County, Pennsylvania.
- Authorization: River & Harbor Acts of 1824, 1899, 1910, 1922, 1935, 1954, 1960 and 1962
- Deep draft commercial harbor
- Project depths are 29 feet in the entrance channel; 27 to 29 feet in the eastern harbor basin; and 18 to 21 feet in the western harbor areas.
- 575K tons of material shipped and received in 2013
- Interconnected with 7 commercial ports: receives from 7 ports
- The north and south piers total approximately 1.0 mile in length
- Harbor basin and 2.4 miles federal entrance channel
- A confined disposal facility (CDF) is located adjacent to the south pier
- Major stakeholders include the Erie-Western Pennsylvania Port Authority, U.S. Coast Guard, the Erie Sand and Gravel Company and private marinas.

Project Requirements

- The harbor was last dredged in 2015 when approximately 250,000 cubic yards of material were removed. Additional dredging is scheduled to be completed in FY16.
- Damage to the south pier was observed during post-Superstorm Sandy inspections. Sandy Supplemental funded repairs were completed in 2015.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$43.4M annually in business revenue while supporting 275 direct, indirect, and induced jobs that produce over \$12.7M per year in personal income in transportation and commodity related industries.



- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by almost 5,112 tons of harmful particulate matter (PM-10) and increase costs by \$296,000 due to increased railroad related accidents, and \$940,000 due to increased trucking related accidents.
- Light loading; losses of between 1 and 2 feet of channel depth would result in increased transportation costs of between \$183,000 and \$395,000 annually.

Transportation Importance

- Major receiving and shipping port on the Great Lakes; and a Critical Harbor of Refuge
- Commodities shipped or received include aggregates, sand products, limestone and miscellaneous products.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Erie Harbor, Pennsylvania - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary			1,500	1,500		
Dredged Material Maintenance Plan						
E&D, North Pier Repair					250	
Sandy Supplemental South Pier Repair	1,184*	1,184*				
TOTAL	1,184	1,184	1,500	1,500	250	0

*Funds allocated through Public Law 113-2 Disaster Relief Appropriations Act, 2013

Congressional Interests

- Representative Mike Kelly R-PA-3
- Senator Pat Toomey R-PA
- Senator Robert P. Casey D-PA



Fairport Harbor, OH

Harbor Features

- Located on Lake Erie in the city of Fairport, Lake County, Ohio.
- Authorization: River & Harbor Acts of 1825, 1896, 1905, 1919, 1927, 1930, 1935, 1937 and 1946
- Deep draft commercial harbor
- Project depths are 25 feet in the entrance and outer harbor; 24 feet in the lower river; 21 feet in the upper river; and 18 feet in the turning basin.
- 1.5M tons of material shipped and received in 2013
- Interconnected with 13 commercial ports: ships to 6 ports, and receives from 7 ports
- Over 2.2 miles of breakwater structures
- 360 acre outer harbor and 1.5 miles of federal channel on the Grand River
- Major stakeholders include the Fairport Harbor Port Authority, U.S. Coast Guard, private marinas, Carmuse Lime, Morton International, Northeastern Road Improvement Company, Osborne Concrete & Stone, R.W. Sidley Stone Products and Union Sand.

Project Requirements

- Approximately 150,000 cubic yards of material must be dredged every 1 to 2 years. The harbor was last dredged in 2015 when approximately 192,000 cubic yards of material were removed. Dredging is scheduled for FY16.
- Damage/deterioration to the east breakwater was observed following Superstorm Sandy. Sandy supplemental funded repairs to storm damaged sections are scheduled to be completed in 2016.
- The eastern 4,000 feet of the east breakwater is largely submerged and presents a potential hazard to navigation. The structure was last evaluated in 1979 and additional lighting was recommended to mitigate the hazard. A reevaluation is needed to determine if additional mitigation is required.



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$161M annually in business revenue while supporting 897 direct, indirect, and induced jobs that produce over \$40.1M per year in personal income in transportation and commodity related industries.
- Light loading; losses of between 1 and 2 feet of channel depth would result in increased transportation costs of between \$658,000 and \$1,478,000 annually.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by 92,825 tons of harmful particulate matter (PM-10) and increase costs by \$594,000 due to increased railroad related accidents, and \$3,885,000 due to increased trucking related accidents.

Transportation Importance

- Major receiving and shipping port on the Great Lakes; and a Critical Harbor of Refuge.
- Commodities shipped or received include limestone, aggregates, ores and minerals.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Fairport Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Sediment Sampling & Analysis			90	90		
Maintenance Dredging – Primary	1,215	1,215	1,200	1,200	1,700	1,700
Evaluate East Breakwater (Eastern 4,000')	100		100	100		
E&D/Construction, Addition of Safety Ladders to E. Pier						
Sandy Supplemental East Breakwater Repair	10,100*	10,100*				
TOTALS	11,415	11,315	1,390	1,390	1,700	1,700

*Funds allocated through Public Law 113-2 Disaster Relief Appropriations Act, 2013

Congressional Interests

- Representative David Joyce R-OH-14
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Frankfort Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 204 miles northeast of Chicago, IL and 28 miles north of Manistee, MI.
- Authorization: River & Harbor Acts of 23 Jun 1866, 3 Mar 1925, 26 Aug 1937, 27 Oct 1965
- Deep draft commercial harbor, primarily recreational use
- Project depths of 22 to 24 feet in the entrance and outer basin to Lake Betsie; 18 feet deep in the Lake Betsie basin and 10 feet deep in the Lake Betsie anchorage area
- Over 6,400 feet of structures including breakwaters, piers and revetments
- About one half mile of maintained channel
- Major stakeholders include U.S. Coast Guard, Frankfort Municipal Marina, and Luedtke Engineering.

Project Requirements

- Approximately 6,000 to 13,000 cubic yards of material must be dredged on a 5 to 10 year cycle; the harbor was last dredged in 2009.
- The harbor currently requires maintenance dredging.



Consequences of Not Maintaining the Project

- Significant loss of jobs locally
- Light loading associated with inadequate maintenance dredging, increasing vessel transportation costs.

Transportation Importance

- Locally significant receiving port on the Great Lakes
- U.S. Coast Guard Station Frankfort is located within the harbor
- Supports over 200 recreational boat slips
- Harbor of Refuge

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Frankfort Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	370		400		400	
Maintenance Dredging – Backlog Work Package	275		275		275	
Sediment Budget Analysis – Section 111	150		150		150	
TOTAL	795	0	825	0	825	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Grand Haven Harbor and Grand River, MI

Harbor Features

- Located on the east shore of Lake Michigan, 180 miles northeast of Chicago, IL and 23 miles north of Holland, MI. The Grand River originates in Jackson County, MI and flows 260 miles west into Lake Michigan.
- Authorization: River & Harbor Acts of 23 Jun 1866, and subsequent acts
- Deep draft commercial harbor
- Project depths of 23 feet in the entrance; 18 to 21 feet in the river channel and turning basin; 8 feet in the upper Grand River channel
- 751K tons of material shipped and received in 2013
- Over 9,000 feet of structures including piers and revetments
- Over 2.5 miles of maintained deep draft channel and 14.5 miles of shallow draft river channel
- Outer channel dredged material is used for beach nourishment. Inner channel material is placed upland in a site that enables reuse.
- Major stakeholders include U.S. Coast Guard, Construction Aggregate Corporation, Grand Haven Board of Light and Power, Meekoff Dock Inc., St. Marys Cement Inc., and Verplank Trucking.

Project Requirements

- Approximately 35,000 cubic yards of material must be dredged from the outer harbor annually. Approximately 20,000 to 40,000 cubic yards of material must be dredged from the inner channel on a 2 to 4 year cycle. The outer harbor was last dredged in 2015. Maintenance dredging in the inner and outer harbor is planned for 2016.



- The south pier was damaged by significant wave action associated with a major storm that impacted Southern Lake Michigan on October 31, 2014. Sustained winds of 50-60 mph and waves near 30 feet accelerated the deterioration on the breakwater to the point where significant repairs are needed to reduce risks to commercial navigation. Emergency funding was received in 2015 to initiate design of the project. The repairs are planned for 2016.
- Work was completed in 2011 on a section of the south revetment that was damaged in a 2009 storm, however a large section is still in need of repair. Additional damage occurred from a storm on October 31, 2014.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$1.57B annually in business revenue while supporting 9,518 direct, indirect, and induced jobs that produce over \$472M per year in personal income in transportation and commodity related industries.
- Light loading; loss of between 4 and 5 feet of channel depth results in increased transportation costs of between \$2.2M and \$3.2M annually.

Transportation Importance

- Significant regional receiving port on the Great Lakes
- Harbor of Refuge
- Large recreational tourism base that relies on the functionality of the harbor; the city of Grand Haven reports revenue of \$49M and 3,100 jobs that rely on harbor tourism.
- Commodities received include sand, gravel, salt, cement, gypsum, coal, and manufactured goods

- Adequate rail lines do not exist to deliver coal to the municipal power plant, which supplies power to over 13,500 customers.
- The harbor is home to the U.S. Coast Guard Sector Grand Haven Station, which is responsible for subordinate commands including: search and rescue, law enforcement, ice rescue, homeland security defense operations.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Grand Haven Harbor and Grand River, MI Project
Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging Outer Harbor – Primary Work Package	500	500	400	400	500	500
Maintenance Dredging Inner Harbor – Primary Work Package			600	600		
Maintenance Dredging – Backlog Work Package	1,000		1,000			
Sediment Budget Analysis – Section 111	150		150		150	
Repair to Damaged Section of South Pier - Contract						
South Pier Repair by Contract	2,100	250	1,800	1,800		
South Revetment Repair by Contract	1,800		1,800		1,800	
Other Business Lines						
Environmental Stewardship	22	22	15	15	17	11
Recreation						
TOTAL	5,572	772	5,765	2,815	2,467	511

Congressional Interests

- Representative Bill Huizenga R-MI-2
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Grand Marais Harbor, MI

Harbor Features

- Located on the south shore of Lake Superior, 93 miles west of Sault Ste. Marie, MI.
- Authorization: River & Harbor Acts of 14 Jun 1880, 17 May 1950
- Deep draft harbor, however, current use is primarily recreational
- Project depths of 20 feet in the entrance channel and 18 feet in the inner harbor channel
- Maintained depths of 15 to 17 feet
- Approximately 3,000 feet of maintained federal channel
- Approximately 4,000 feet of piers, and a 5,770 feet long pile dike, currently in ruins
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include USFWS, Michigan DNR, village of Grand Marais, and a variety of boating interests.

Project Requirements

- Requires infrequent maintenance dredging; the harbor was last dredged in 1973.
- In 2012 the remnants of a 300 foot section of timber cribbing were removed and a rubble mound breakwater was constructed at the southernmost end of the east pier.
- The local community used state and local funding to provide repairs and construct a new section of breakwater in 2012.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- This harbor is very scenic and provides a large tourism base for Michigan's Upper Peninsula.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Grand Marais Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	50					
Maintenance Dredging – Backlog Work Package	485					
Repairs to Pile Dike Breakwater – by Contract						
TOTAL	535	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Grand Marais Harbor, MN

Harbor Features

- Located on the north shore of Lake Superior, about 110 miles northeast of Duluth, MN.
- Deep draft harbor that currently serves recreational uses
- Authorization: River & Harbor Act of 1879
- Project depth of 20 feet at the harbor entrance, depths range between 16 to 18 feet within the harbor, and the project depth of the small boat harbor is 8 feet.
- Federal small boat basin of approximately 38 acres makes up the major portion of the project. A small federal channel behind the west breakwater is approximately 500 x 100 feet.
- Over 1,600 feet of breakwaters. Over 800 feet of concrete seawalls in the southeast corner of the harbor.
- Major stakeholders include the U.S. Coast Guard, Minnesota DNR, city of Grand Marais marina, a private yacht club leasing land from the U.S. Forest Service, and North House Folk School.

Project Requirements

- Requires periodic maintenance dredging on an infrequent basis. The harbor was last dredged in 2008.
- Reconfiguration of and dredging behind the west inner breakwater has been recommended by the local community to allow for easier access to docking and support facilities and to improve water quality in the area.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of use by U.S. Coast Guard station
- Loss of recreational and charter fishing in the area
- Loss of highly utilized boat launch

Transportation Importance

- This project serves as an important Harbor of Refuge as well as charter fishing and recreational navigation interests.
- This project provides access to Lake Superior for several governmental agencies with such functions as law enforcement, research, and search and rescue.
- Harbor is home to U.S. Coast Guard Station North Superior.
- Harbor is home to one of the remaining commercial fishing operations on Lake Superior.
- Harbor provides major recreational boat access.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Grand Marais Harbor, MN - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
Maintenance Dredging – Backlog Work Package						
Breakwater Repair By Contract	2,000		2,000		2,000	
TOTAL	2,000	0	2,000	0	2,000	0

Congressional Interests

- Representative Rick Nolan D-MN-8
- Senator Al Franken D-MN
- Senator Amy Klobuchar D-MN



Grand Traverse Bay Harbor, MI

Harbor Features

- Located on the south shore of Lake Superior at the mouth of the Traverse River on the eastern shore of Keweenaw Bay, about 20 miles northeast of the portage entry to the Keweenaw Waterway.
- Authorization: River & Harbor Act of 1945
- Shallow draft recreational harbor
- Project depth is 12 feet in the entrance channel and 12 feet in the Traverse River.
- Approximately 1,500 feet of maintained federal channel
- Approximately 1,438 feet of piers
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Schoolcraft Township, Native American fishing interests, and local boating interests.

Project Requirements

- Approximately 12,000 to 20,000 cubic yards of material must be dredged on a three to five year cycle; the harbor was last dredged in 2009.
- The harbor currently requires maintenance dredging.
- A solution to the stamp sand infiltration problem must be resolved before the harbor can be dredged again. The Corps along with the EPA and the State of Michigan are evaluating methods to reduce erosion of the stamp sands.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Grand Traverse Bay Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	380		380		390	
Critical Breakwater Safety Maintenance			25		25	
TOTAL	380	0	405	0	415	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Grays Reef Passage, MI

Project Features

- Located between Grays Reef and Vienna Shoal in the northeast end of Lake Michigan.
- Authorization: River & Harbor Act of 30 Aug 1935
- Federal navigation channel 3,000 feet wide
- Project depth is 25 feet
- 10.2M tons of material passed through the passage in 2013
- Major stakeholders include all Great Lakes shipping interests that use Lake Michigan ports.

Project Requirements

- The project requires occasional obstruction removal.
- The passage was last dredged in 1970.

Consequences of Not Maintaining the Project

- Significant loss of jobs locally, regionally, and internationally.
- Key component of the Great Lakes navigation system for Lake Michigan ports. Disruption of service would have severe maritime and economic impacts on those ports.



Transportation Importance

- Great Lakes passageway between Lake Michigan and Lake Huron
- Critical narrow passage between Grays Reef and Vienna Shoal
- Occasional condition surveys are essential to maintain safe commercial navigation through this passage.
- Commodities transported through these channels include coal, cement, iron ore, petroleum products, chemicals, lumber, sand and gravel, manufactured goods as well as other general cargo.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Grays Reef Passage, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



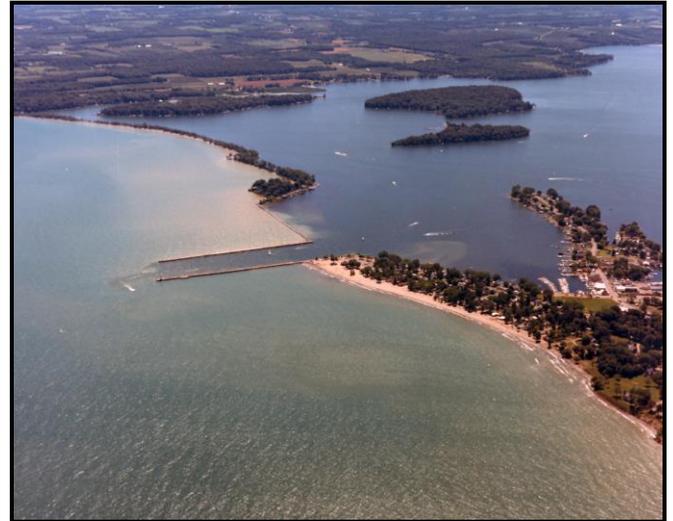
Great Sodus Bay Harbor, NY

Harbor Features

- Located on Lake Ontario in the Village of Sodus Point, Wayne County, New York
- Authorization: River & Harbor Acts of 1829, 1882, 1925, 1930, 1935 and 1962
- Deep draft recreational harbor
- Project depths range from 20 to 22 feet. The current maintenance depth is 10 feet
- The current maintenance depth is based on recreational needs only
- The harbor consists of an entrance channel that is approximately 5,000 feet long and extends from the lake into Sodus Bay
- The harbor entrance is delineated by the east breakwater and west pier with a total length of 4,575 feet
- Major stakeholders include charter fishing interests, U.S. Coast Guard, private marinas and the recreational boating community

Project Requirements

- The project was last dredged in 2004 when 42,500 cubic yards of material were removed.
- Maintenance dredging is currently required to maintain the functional harbor areas.
- Deteriorated sections of the east breakwater require repairs to restore proper function of the structures.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Critical Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Critical Harbor of Refuge
- Home to Auxiliary U.S. Coast Guard station
- Home to 802 slips, 4 boat launch lanes and 45 charter boats
- Generates economic benefits totaling \$9,528,946 and supports 152 jobs

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Great Sodus Bay Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
E&D, East Breakwater Repair	250		250		250	
Maintenance Dredging – Primary			830		830	
TOTAL	250	0	1,080	0	1,080	0

Congressional Interests

- Representative John Katko R-NY-24
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Green Bay Harbor, WI

Harbor Features

- Located at the mouth of the Fox River at the head of Green Bay in Lake Michigan.
- Authorization: River & Harbor Acts of 23 Jun 1866, 13 Jul 1892, 26 Jun 1910, 8 Aug 1917, 3 Mar 1925, 30 Aug 1935, 26 Aug 1937, 2 Mar 1945, 23 Aug 1962
- Deep draft commercial harbor
- Project depths of 26 feet for about 11.5 miles upstream from the entrance channel, 24 feet from Grassy Island to 0.5 mile upstream from the mouth of the Fox River, and 22 feet 0.5 miles upstream of the river mouth to 3.3 miles upstream of the river mouth.
- 2.4M tons of material shipped and received in 2013
- Over 14 miles of maintained channel
- Material is currently placed in either the Bay Port disposal facility under an agreement with the Brown County Port Department or in the Cat Island Dredged Material Disposal Facility.
- Major stakeholders include U.S. Coast Guard, C. Reiss Coal Co., Ace Marine, Flint Hills Resources, Fox River Dock Co., Georgia Pacific Corp., Graymont Western Lime Inc., Great Lakes Calcium Corp., K&K Integrated Logistics Inc., Lafarge Corp., RGL, Leicht Transfer & Storage Co., Noble Petro, Northeast Asphalt Terminal, Sanimax Corp., St. Marys Cement Inc., and U.S. Venture Inc.

Project Requirements

- Approximately 180,000 cubic yards of material must be dredged each year to provide for one-way vessel traffic; the harbor was last dredged in 2015.
- There are plans to dredge the harbor in 2016.
- The Renard Island CDF must be closed and turned over to the local sponsor. All required construction to facilitate turnover of the island have been completed and efforts are underway to complete turnover to Brown County.



- An EPA Superfund site is located within the federal channel. Close coordination with EPA and WDNR is required for maintenance dredging projects.
- The Cat Island project involves restoring a series of barrier islands in Green Bay Harbor. This project provides significant long-term capacity for material dredged from the bay. Construction was completed in 2013.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$2.36B annually in business revenue while supporting 14,052 direct, indirect, and induced jobs that produce over \$678M per year in personal income in transportation and commodity related industries.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$859K and \$2.0M annually; product diversion to Menominee, MI at a significant transportation cost.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 5.2M lbs of harmful particulate matter (PM-10) and increase costs by \$690,000 due to increased railroad related accidents, and \$529,000 due to increased trucking related accidents.

Transportation Importance

- Major receiving port on the Great Lakes
- Commodities include coal, limestone, cement, salt, pig iron, fuel oil, liquid asphalt, lumber, gypsum, petroleum products, heavy equipment and general cargo, including overseas cargo.
- Supports approximately 200 recreational boat slips

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Green Bay Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys	381	381	385	385	395	395
Maintenance Dredging – Primary Work Package	2,500	2,500	2,500	2,500	3,500	3,500
Maintenance Dredging – Work Package	1,600		1,600	1,600	1,600	
Renard Island CDF Closure-CG						
Other Business Lines						
Cat Island Disposal Construction – (Construction General)						
TOTAL	4,481	2,881	4,485	4,485	5,495	3,895

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Greilickville Harbor, MI

Harbor Features

- Located on the southwest shore of Grand Traverse Bay West Arm, Lake Michigan, 2 miles northwest of Traverse City, MI.
- Shallow draft recreational harbor
- Authorization: River & Harbor Acts of 1948 and 26 Jun 1964
- A portion of the inner basin was deauthorized in 1992.
- Project depths are 14 feet in the basin area and 10 feet in the mooring area.
- Approximately 1,220 feet of steel sheet pile breakwater and 750 feet of rubble mound breakwater structures
- Major stakeholders include Michigan DNR, Elmwood Township, local business owners and recreational boating interests.



Project Requirements

- Project requires infrequent maintenance dredging. Currently, there are no critical maintenance requirements.

Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Negative economic impacts locally

Transportation Importance

- This project supports recreational navigation interests.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Greilickville, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Hammond Bay Harbor, MI

Harbor Features

- Located on the western shore of Lake Huron, about 30 miles southeast of the Straits of Mackinac.
- Authorization: River & Harbor Act of 2 Mar 1945, 17 Aug 1967
- Shallow draft recreational harbor
- Project provides for a 12 feet deep entrance channel, and a 10 feet deep inner basin.
- More than 1,900 feet of breakwaters
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include the Michigan DNR, Native American fishing, and other fishing interests.

Project Requirements

- This harbor requires infrequent maintenance dredging, and was last dredged in 1994. It is estimated that approximately 20,000 cubic yards of material needs to be removed on a 15-20 year interval.
- Maintenance dredging is currently required within the harbor.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of Native American, recreational and charter fishing in the area
- Loss of recreational boating access to Lake Huron
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- This project serves as an important Harbor of Refuge and supports a variety of commercial and recreational fishing interests.
- The Michigan DNR has established a significant infrastructure around the harbor facilities that generate income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Hammond Bay Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	295		295		300	
TOTAL	295	0	295	0	300	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Harbor Beach Harbor, MI

Harbor Features

- Located on the west shore of Lake Huron about 60 miles north of Port Huron, MI.
- Authorization: River & Harbor Acts of 3 Mar 1871, 8 Aug 1917, 21 Jan 1927
- Deep draft commercial harbor
- Project depth of 23 feet in entrance channel and 21 feet in interior basin to provide safe vessel draft of 21 feet.
- Nearly 7,900 feet of breakwater structures
- About one half mile of maintained channel
- Major stakeholders include U.S. Coast Guard, city of Harbor Beach, U.S. Fish and Wildlife Service.

Project Requirements

- Approximately 65,000 to 130,000 cubic yards of material must be dredged on a 5 to 10 year cycle; the harbor was last dredged in 2010.
- Dredging is currently required to eliminate balance of shoaling in the harbor.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Negative impact to USCG operations
- Loss of recreational navigation



Transportation Importance

- U.S. Fish and Wildlife Service uses the harbor to restock the trout population for Lake Huron.
- U.S. Coast Guard leases slips from the city-owned marina and is responsible for the area from Port Sanilac to Caseville.
- Harbor supports one city-owned and one privately owned marina totaling 146 seasonal and transient slips.
- Dive and fishing charters operate out of city-owned marina.
- U.S. Coast Guard Station Harbor Beach resides within the harbor. They have expressed concerns about inadequate depth in the harbor to accommodate their vessels.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Harbor Beach Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	850		850		850	
Maintenance Dredging – Backlog Work Package	1,000		1,000		1,000	
TOTAL	1,850	0	1,850	0	1,850	0

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Harrisville Harbor, MI

Harbor Features

- Located on the west shore of Lake Huron, 20 miles north of Oscoda and 30 miles south of Alpena.
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational Harbor of Refuge
- Project depth is 12 feet in the entrance channel and 10 feet in the harbor basin
- Approximately 3,000 feet of maintained federal channel
- More than 2,600 feet of breakwaters
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include the Michigan DNR, city of Harrisville, Beyers Charter Service, and Blue Bird Charter Service.

Project Requirements

- Approximately 10,000 cubic yards of material must be dredged on a five to ten year cycle; the harbor was last dredged in 2000.
- The harbor currently requires maintenance dredging.
- Repairs to navigation structures are currently required.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community



Transportation Importance

- This project serves as an important Harbor of Refuge as well as charter fishing and recreational navigation interests.
- The local community has established infrastructure and business within easy walking distance of the harbor facilities that generate income from harbor users and visitors to the area.
- Supports nearly 100 recreational boating slips
- Supports 5 charter fishing boats

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Harrisville Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	290		290		295	
Structure Repair by Contract			500		500	
TOTAL	290	0	790	0	795	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



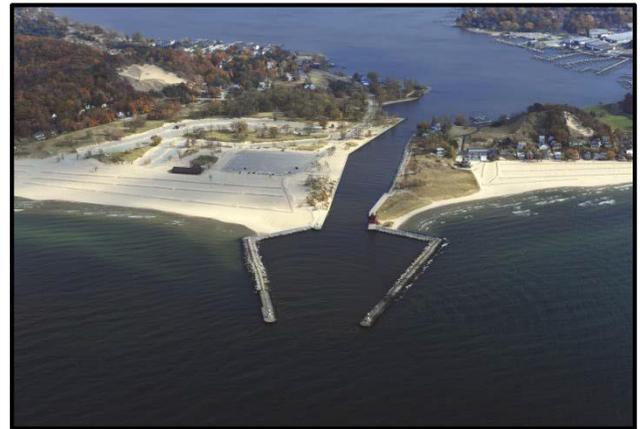
Holland Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan 95 miles northeast of Chicago, IL and 23 miles south of Grand Haven, MI.
- Authorization: River & Harbor Acts of 30 Aug 1852, 2 Mar 1867, 3 Mar 1899, 3 Mar 1905, 3 Jul 1930, 30 Aug 1935, 3 Sep 1954
- Deep draft commercial harbor
- Project depths of 23 feet in the entrance; 21 feet in inner channel and Lake Macatawa.
- 207K tons of material shipped and received in 2013
- Over 5,500 feet of structures including breakwaters, piers, and revetments
- Over 6.5 miles of maintained channel
- Outer harbor dredged material is used for beach nourishment.
- The city of Holland operates the Lakewood Road dredged material placement site which enables recycling of material dredged from the inner harbor and Lake Macatawa.
- Major stakeholders include U.S. Coast Guard, Brewer's City Dock Inc., Holland Public Works, Lake Michigan Contractors Inc., Padnos Iron and Metal, and Verplank Trucking.

Project Requirements

- Approximately 35,000 cubic yards of material must be dredged from the outer harbor annually. Approximately 45,000 to 65,000 cubic yards of material must be dredged from the Lake Macatawa channel on a 2 to 4 year cycle.
- Maintenance dredging of the outer harbor was completed in 2015.
- There are plans to dredge the outer harbor in 2016.



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate nearly \$68.6M annually in business revenue while supporting 408 direct, indirect, and induced jobs that produce \$19.4M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by nearly 7M lbs of harmful particulate matter (PM-10) and increase costs by \$27,000 due to increased railroad related accidents, and \$2.4M due to increased trucking related accidents.
- Light loading; loss of between 4 and 5 feet of channel depth results in increased transportation costs of between \$677K and \$1.0M annually.

Transportation Importance

- Major regional receiving port on the Great Lakes and Harbor of Refuge
- Commodities received include limestone, coal, scrap metals, sand, and gravel.
- U.S. Coast Guard Station Holland resides within the harbor.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Holland Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging of Outer Harbor – Primary Work Package	775	635	750	750	650	650
Maintenance Dredging of Inner Harbor – Primary Work Package						
Maintenance Dredging – Backlog Work Package	456		456		456	
Structural Repairs – by Govt. Floating Plant						
Sediment Budget Analysis – Section 111	150		150		150	
CDF Fill Management Activities						
TOTAL	1,381	635	1,356	750	1,256	650

Congressional Interests

- Representative Bill Huizenga R-MI-2
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Huron Harbor, OH

Harbor Features

- Located on Lake Erie in the city of Huron, Erie County, Ohio.
- Authorization: River & Harbor Acts of 1905, 1919, 1935, and 1962
- Deep draft commercial harbor
- Project depths are 29 feet in the lake approach channel, 27 to 28 feet in the entrance channel and 21 feet in the turning basin.
- 367k tons of material shipped and received in 2013
- Over 1 mile of navigation structures
- 2.0 miles of federal channel
- A confined disposal facility (CDF) is located adjacent to the west pier at the west end of the harbor.
- The CDF is filled to approximately 65% of capacity. Presently, this facility is not utilized for normal maintenance dredging.
- Major stakeholders include the Huron Port Authority, private marinas, WLH Rentals, Wheeling & Lake Erie Railway Company and Huron Lime Inc.

Project Requirements

- Approximately 190,000 cubic yards of material must be dredged every 1 to 2 years. The harbor was last dredged in 2015 when approximately 275,000 cubic yards of material were removed. Maintenance dredging is scheduled to be completed in 2016.
- Other requirements include repairs to the east arrowhead breakwater, repair to CDF weir, improved CDF access and an evaluation of the west pier.



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$63.2M annually in business revenue while supporting 360 direct, indirect, and induced jobs that produce over \$18.5M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 513,957 tons of harmful particulate matter (PM-10) and increase costs by \$14,141,000 due to increased trucking related accidents.
- Light loading; loss of between 3 and 4 feet of channel depth results in increased transportation costs of between \$292,000 and \$592,000 annually.

Transportation Importance

- Major receiving and shipping port on the Great Lakes; and a Harbor of Refuge
- Commodities received include limestone and grain.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Huron Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary			3,200	3,200		
E&D and Construction, CDF Weir Repair	500		500		500	
E&D, West Pier	50		50		50	
Structure Repair – East Arrowhead Breakwater (FP)			400			
Critical Maintenance of Coastal Navigation Structures					400	
TOTAL	550	0	4,150	3,200	950	0

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Indiana Harbor, IN

Project Features

- Located on Lake Michigan in the city of East Chicago, Lake County, Indiana.
- Authorized depths are 29 feet in the approach channel, 28 feet in the turning basin, 27 feet in the outer dock area, and 22 feet within the main and two branch channels.
- 4.7 miles of federal channel combined within the Indiana Harbor canal, the Calumet River branch, and the Lake George branch.
- 3,085 linear feet of laid-up stone and concrete caisson breakwater structures
- A confined disposal facility (CDF) with a storage capacity of 4.8M cubic yards.
- 12.3M tons of material shipped and received in 2013
- Ranked 5th among the Great Lakes harbors.
- Interconnected with 18 commercial ports: ships to 10 ports, and receives from 16 ports.
- Major stakeholders: ArcelorMittal Steel, US Gypsum, LaFarge Cement, and Amoco.

Project Requirements

- The project was not dredged between 1972 and 2012. Average shoaling depth within the channel areas is 4 feet. Dredging efforts began in 2012 after the completion of the CDF.
- FY15 funds removed 275,000 cubic yards from federal channel areas. FY16 funds will remove more than 200,000 cubic yards from federal channel areas and possibly 60,000 cubic yards of TSCA materials. In FY15, funds from ArcelorMittal were used to remove 40,000 cubic yards from non-federal areas.
- CDF groundwater pumping is performed to protect regional groundwater resources, and maintain the inward gradient required by the facility operating permit.

Consequences of Not Maintaining the Project

- Light loading losses of between 3 to 4 feet of channel depth results in increased transportation costs of between \$13.7M and \$19M annually.



- Reduction of bulk commodities that pass through the harbor and generate \$9.5B annually in business revenue while supporting 50,471 direct, indirect, and induced jobs that produce over \$2.3B per year in personal income in the transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 48,900 tons of harmful particulate matter (PM-10) and increase costs by \$4.9M due to increased railroad related accidents, and \$222.K due to increased trucking related accidents.

Transportation Importance

- Commodities include iron ore, limestone, coke, gypsum, steel, cement and concrete, petroleum products, and miscellaneous bulk products.
- ArcelorMittal's Indiana Harbor facility is the largest steelmaking complex in North America. It is fully integrated, operating five blast furnaces, and has a total raw steelmaking capability of 10M tons annually. It produces hot-rolled, cold-rolled and hot-dipped galvanized sheet products. Markets served include automotive, appliance, agricultural, construction, line and pipe tube, electrical/motor lamination, converters and steel service centers.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Indiana Harbor, IN - Project Requirements and President's Budget (\$1,000)**

Work Packages	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys	187	187	191	191	195	195
CDF Site Operations	5,597	5,597	4,660	4,660	4,196	4,196
CDF Annual Maintenance			590	590	605	605
Periodic Assessment of CDF perimeter dikes for Dam Safety	75	75			90	90
CDF Center Dike Modification					296	296
Maintenance Dredging of Federal Harbor Channel – Primary Work Package	7,155	7,155	4,083	4,083	4,367	4,367
Maintenance Dredging of Federal Harbor Channel – Backlog Work Package	2,750		2,800			
Structural Repairs to Easterly Breakwater (by Gov't. Floating Plant)	800	800	1,815	1,815	2,046	2,046
TOTAL	16,564	13,814	14,139	11,339	11,795	11,795

Congressional Interests

- Representative Peter J. Visclosky, D-IN-1
- Senator Daniel Coats, R-IN
- Senator Joe Donnelly, D-IN



Inland Route, MI

Project Features

- The Inland Route is a series of interconnected lakes and streams stretching across the northern tip of the Lower Peninsula of Michigan, and extending from Conway near Lake Michigan to Cheboygan on Lake Huron. Crooked and Indian Rivers are connecting channels in the waterway.
- Authorization: River & Harbor Act of 3 Sep 1954
- Shallow draft recreational project
- Project depth is 5 feet
- Approximately 35 miles of maintained federal channel
- Crooked River lock and weir at Alanson, MI is operated by the State of Michigan under a recreational lease.
- Dredged material is placed at an upland site, currently operated by the State of Michigan under lease agreement.
- Major stakeholders include the Michigan DNR, numerous boating associations and marinas and the Michigan Boating Industries Association.

Project Requirements

- Critical repairs of electrical and mechanical components of the Crooked River lock were initiated in 2009 and completed in 2010 utilizing funding received in the American Recovery and Reinvestment Act of 2009.
- Recommended completion of an updated Section 216 initiative to revisit potential transfer ownership of the project to local entity.
- Requires periodic maintenance dredging on a 7 to 12 year cycle of approximately 10,000 cubic yards; the channel was last dredged in 1999.
- Maintenance dredging is currently required.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access to Great Lakes
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- This project serves primarily charter fishing and recreational navigation interests.
- Local communities have established significant infrastructure around the project facilities that generates income from boaters and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Inland Route, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	600		600		615	
Critical Structure Safety Maintenance					25	
Section 216 Activities	220		220		220	
TOTAL	820	0	820	0	860	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Irondequoit Harbor, NY

Harbor Features

- Located on Lake Ontario, 5 miles east of Rochester, in the town of Irondequoit, Monroe County, New York.
- Authorization: River & Harbor Act (RHA) of 1958
- Shallow draft recreational harbor
- Project depths are 9 feet in the entrance channel and 8 feet in the harbor basin.
- The harbor is protected by the west breakwater and east jetty with a total length of 2,100 feet.
- Major stakeholders include charter fishing interests, private marina and the recreational boating community.

Project Requirements

- The harbor typically requires dredging every five to ten years. On average, approximately 15,000 cubic yards of sediment is dredged per event. It was last dredged in 2015 when approximately 22,000 cubic yards of material were removed.
- Sandy supplemental funded dredging of 15,000 cubic yards of material from storm impacted harbor areas was completed in summer 2014.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Home to 1,670 slips, 6 boat launch lanes and 5 charter boats
- Generates economic benefits totaling \$12,892,632 and supports 158 jobs

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Irondequoit Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys						
Maintenance Dredging						
Sandy Supplemental Maintenance Dredging						
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Louise Slaughter D-NY-25
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Kenosha Harbor, WI

Harbor Features

- Located on the west shore of Lake Michigan about 35 miles south of Milwaukee and about 54 miles north of Chicago, IL.
- Authorization: River & Harbor Act of 3 Mar 1899
- Commercial harbor that currently serves primarily recreational boat traffic
- The harbor also supports transitory barge traffic.
- Project depths between 21 feet and 27 feet
- Approximately 5,300 feet of breakwater and pier structures
- Approximately 5,000 feet of maintained channel
- Major stakeholders include the U.S. Coast Guard, the city of Kenosha, and the Wisconsin DNR.

Project Requirements

- Infrequent maintenance dredging is required at the outer end of the entrance channel.
- Hurricane Sandy added a significant amount of shoaling to the harbor in the fall of 2012. Dredging was completed in 2014 using Hurricane Sandy relief funds.
- Dredging placement is an upland site provided by the local sponsor.
- Structural repairs are required for the detached breakwater.
- The harbor currently requires dredging to remove a backlog of shoaling that is present within the harbor.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The harbor community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- U.S. Coast Guard Station Kenosha resides within the harbor.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Kenosha Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
Maintenance Dredging – Sandy Supplemental Funding						
Maintenance Dredging – Backlog Work Package	1,200		1,200		1,200	
E&D for Detached Breakwater	200		200		200	
Repairs to Detached Breakwater	5,000		5,000		5,000	
TOTAL	6,400	0	6,400	0	6,400	0

*Funds allocated through Public Law 113-2 Disaster Relief Appropriations Act, 2013

Congressional Interests

- Representative Paul Ryan R-WI-1
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Kewaunee Harbor, WI

Harbor Features

- Located on the west shore of Lake Michigan about 105 miles north of Milwaukee, WI and about 78 miles from Green Bay, via the Sturgeon Bay Harbor and the Lake Michigan Canal.
- Authorization: River & Harbor Acts of 3 Mar 1881, 25 Jun 1910, 30 Aug 1935, 14 Jul 1960
- Commercial harbor that currently serves primarily recreational boat traffic.
- The harbor also supports transitory barge traffic.
- Project depth is 20 feet
- Approximately 6,500 feet of breakwater and pier structures
- Approximately 5,500 feet of maintained channel
- Dredged material is placed in the Kewaunee CDF.
- Major stakeholders include the USACE government floating plant, city of Kewaunee, and the Wisconsin DNR.

Project Requirements

- Maintenance dredging of approximately 30,000 cubic yards is required on a three to five year cycle. This harbor was last dredged in 2014.
- Structures are in need of repair.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The harbor community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- This harbor is vital to supporting the government floating plant on Lake Michigan.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Kewaunee Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Structural Repairs – by Contract					750	
Maintenance Dredging – Primary Work Package						
Maintenance Dredging – Backlog Work Package	1,200		1,200		1,200	
Other Business Lines						
Environmental Stewardship	10	10	15	15	17	11
TOTAL	1,210	10	1,215	15	1,967	11

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Keweenaw Waterway, MI

Harbor Features

- Located in the Keweenaw Peninsula of the Upper Peninsula of Michigan, between Keweenaw Bay and Lake Superior. The west, upper entrance is 169 miles east of Duluth, MN and the east, lower entrance is approximately 60 miles west of Marquette, MI.
- Authorization: River & Harbor Acts of 3 Mar 1865, 3 Jul 1866, 10 Apr 1869, 2 Mar 1871, 27 Mar 1872, 3 Mar 1873, 5 Aug 1886, 19 Sep 1890, 15 Mar 1898, 25 Jun 1910, 2 Mar 1919, 30 Aug 1935
- Deep draft commercial harbor
- Project depth of 32 feet in the upper entrance channel, 28 feet in the lower entrance channel, and 25 feet in the interior channel.
- Over 24,300 feet of structures including breakwaters, piers, and revetments
- Over 18 miles of maintained channels
- The Keweenaw Waterway Confined Disposal Facility has adequate capacity for at least the next 25 years of dredging.
- Major stakeholders include USACE (Lily Pond Stone Dock), Mattila Rock & Dock LLC, and UP Power.



Consequences of Not Maintaining the Project

- Significant loss of jobs locally
- Light loading associated with inadequate maintenance dredging, increasing vessel transportation costs.

Transportation Importance

- Critical Harbor of Refuge on Lake Superior
- Commodities shipped or received include gasoline and various other products.

Project Requirements

- Approximately 10,000 to 30,000 cubic yards of material must be dredged on a 10 to 20 year cycle. The harbor was last dredged in 1994.
- Dredging is currently required to eliminate balance of shoaling in the waterway and is planned for 2017.
- Lower entry concrete pier and ice plates require repair.
- Rubble mound at upper entry requires repair.
- Repairs are required for safety ladders and torn steel at the north entry to the lily pond area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Keweenaw Waterway, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	882		882		882	882
Maintenance Dredging – Backlog Work Package						
Engineering & Design – Upper Entry	235		235		235	
Engineering & Design – Lower Entry	370		370		370	
Contract Structure Repair – Upper Entry	2,420		2,420		2,420	
Contract Structure Repair – Lower Entry	2,090		2,090		2,090	
Critical Breakwater Safety Maintenance			25		25	
Other Business Lines						
Recreation	18	18	18	13	18	13
Environmental Stewardship	15	10	15	15	17	11
TOTAL	6,030	28	6,055	28	6,057	906

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Knife River Harbor, MN

Harbor Features

- Located on the north shore of Lake Superior, near the mouth of the Knife River, about 18 miles northeast of Duluth, MN.
- Authorization: River & Harbor Acts of 2 Mar 1945, 3 Sep 1954, and 7 Mar 1974
- Shallow draft recreational harbor
- Project depths range between 8 and 10 feet
- Approximately 1,000 feet of maintained federal channel
- Approximately 215 foot rubble breakwater with a 30 foot timber crib on the end
- Major stakeholders include Lake County, town of Knife River, Knife River Marina, MNDNR and local boating interests.

Project Requirements

- Requires periodic maintenance dredging on an infrequent basis. The harbor was last dredged in 1976 and currently requires maintenance dredging.
- MNDNR has identified a design deficiency of the outer breakwalls and has requested USACE reconfigure them to reduce/eliminate wave action in the entrance channel and inner harbor.
- Corrections for design deficiencies which result in unsatisfactory entrance and mooring conditions were authorized in the Water Resources Development Act (WRDA) of 1996 and 2007. With receipt of necessary appropriations, the Corps could complete the Limited Reevaluation Report (LRR) to determine recommended deficiency corrections.



Consequences of Not Maintaining the Project

- Loss of important Harbor of Refuge
- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Negative economic impact locally and regionally
- Loss of commercial fishing

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Harbor contains a mobile boat crane, with a lifting capability of 35 tons.
- Boat service work is performed in marina shop.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Knife River Harbor, MN - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	150		150		150	
TOTAL	150	0	150	0	150	0

Congressional Interests

- Representative Rick Nolan D-MN-8
- Senator Al Franken D-MN
- Senator Amy Klobuchar D-MN



Lac La Belle, MI

Harbor Features

- Located in the northeastern tip of the Keweenaw Peninsula off the shore of Lake Superior. The harbor is about 40 miles northeast of Houghton, MI.
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depth is 12 feet in the entrance channel and 10 feet in the inner channel
- Approximately 4,500 feet of federal channel
- 1,000 feet of north and south breakwater
- Major stakeholders include local tourism businesses, marina.

Project Requirements

- Requires maintenance dredging of approximately 5,000 cubic yards every 5 years.
- The harbor was last dredged in 2013 with funds provided by the State of Michigan under a contributed funds agreement with USACE.
- North pier requires repair



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access to Lake Superior
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- Serves as an important Harbor of Refuge
- Recreational and charter fishing interests

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Lac La Belle, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	0		0		0	
North Pier Repair	235		235		235	
TOTAL	235	0	235	0	235	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



La Pointe Harbor, WI

Harbor Features

- Located on Madeline Island across from Bayfield, WI; approximately 85 miles east of Duluth, MN.
- Authorization: 1960 River & Harbor Act
- Shallow draft recreational harbor
- Project depth is 10 feet
- Approximately 200 feet of maintained federal channel
- 200 feet of breakwater
- Dredged material is placed upland.
- Major stakeholders include the town of La Pointe, Madeline Island Ferry Lines, and Nelson Construction.

Project Requirements

- Requires maintenance dredging of approximately 1,200 cubic yards every 5 or 6 years. The harbor was last dredged in 2014.
- Local interests have requested that project limits be expanded to allow for the larger ferry vessels that need to access this harbor. This would require Section 216 study and new authorization.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational boating and charter fishing in the area
- Loss of only commercial transportation option to the mainland
- Loss of emergency and all essential services to the local community



Transportation Importance

- This project serves as an important ferry hub, carrying commuters in the local community daily between Bayfield and La Pointe, WI.
- Subsistence harbor - This harbor provides all essential services to Madeline Island. It is vital to emergency services and schools.
- This project serves as an important Harbor of Refuge and supports charter fishing and recreational boating interests.
- The local community has established a significant infrastructure around the harbor that generates income from harbor users and visitors to the area.
- Serves as a gateway to the Apostle Islands National Lakeshore.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
La Pointe Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
Section 216 Initial Assessment			20		20	
TOTAL	0	0	20	0	20	0

Congressional Interests

- Representative Sean Duffy R-WI-7
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Leland Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan at the mouth of the Carp River, about 40 miles north of Frankfort, MI and 40 miles southwest of Charlevoix, MI.
- Authorization: River & Harbor Acts of 30 Aug 1935, 23 Oct 1962
- Shallow draft recreational harbor
- Project depth of 12 feet in the approach channel, 6 feet in the inner channel and 10 feet in the anchorage area
- Over 4 acres of maintained federal channel
- More than 1,200 feet of breakwaters and 470 feet of piers
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include the Leland Ferry Service, National Park Service, Leland Township, Michigan DNR and Leelanau County.

Project Requirements

- Requires annual maintenance dredging of approximately 17,000 cubic yards; the harbor was last dredged in 2014.
- Maintenance dredging is currently required; shoaling impacts ferry service.

Consequences of Not Maintaining the Project

- Loss of jobs locally and impact to local restaurants and shops
- Loss of commercial, tribal and charter fishing in the area
- Loss of only harbor of refuge for 80 mile stretch of Lake Michigan
- Impact to ferry service to North and South Manitou Islands



Transportation Importance

- This project serves as an important Harbor of Refuge and supports commercial, tribal and charter fishing.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports local ferry and National Park Service vessels that transport park personnel, materials and general public to North and South Manitou Islands.
- Only harbor of refuge for 80 mile stretch of Lake Michigan and provides fueling/mooring for commercial and recreational vessels.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Leland Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	275		275		280	
TOTAL	275	0	275	0	280	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Les Cheneaux Islands Channels, MI

Harbor Features

- Archipelago encompassing 36 islands aligning the northern shore of Lake Huron between Straits of Mackinac, Drummond Island & North Channel areas.
- Authorization: Authorized by the Chief of Engineers 15 Mar 1967, pursuant to Section 107 of the 1960 River & Harbor Act
- Shallow draft recreational harbor
- Project depth 7 feet
- Over 7.5 miles of maintained federal channel
- Dredged material placed at an upland site
- Major stakeholders include Michigan Boating Industries Association, U.S. Department of Interior (Government Island), Michigan DNR (State Lands-Island Property), marine historical properties, charter boats, recreational and tribal fisherman, as well as island residential populations.
- Historically, provided a protected passage for travelers from Mackinac Island to the St. Marys River and a Harbor of Refuge for tribal members, voyageurs, fishermen, ferries, water liveries and recreational boaters.

Project Requirements

- Requires infrequent maintenance dredging (every 20-30 years) of approximately 80,000 cubic yards; the harbor was last dredged in 2010.

Consequences of Not Maintaining the Project

- Loss of recreational and charter fishing in the area
- Loss of only means of access to channel of islands



Transportation Importance

- Subsistence harbor – Waterborne transportation is sole linkage as infrastructure between island residential and mainland services community.
- Multiple harbors in this project serve as Harbors of Refuge. The project also supports charter fishing and recreational navigation interests.
- The local regional area has established a significant infrastructure around the channels that generates income from users and area visitors.
- The channels provide subsistence access to approximately 900 island homes and for barge/workboat service for the transportation of supplies.
- Supports approximately 2,800 recreational boat slips throughout the 36 Les Cheneaux Islands.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Les Cheneaux Islands Channels, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Lexington Harbor, MI

Harbor Features

- Located on the west shore of Lake Huron about 20 miles north of Port Huron, MI.
- Authorization: River & Harbor Act of 27 Oct 1965
- Shallow draft recreational harbor
- Project depth is 10 feet in the approach channel and 8 feet in the anchorage area
- Over 217,000 square feet of maintained federal channel
- More than 2,400 feet of breakwaters
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Michigan DNR, Oldford's Marina, and various fishing charters and small boaters.

Project Requirements

- Approximately 20,000 to 30,000 cubic yards must be dredged on a 3 to 5 year cycle. Dredged material is placed on the beach for nourishment purposes.
- The harbor was dredged in 2014 with funds provided by the State of Michigan under a contributed funds agreement with USACE.
- Harbor currently in need of dredging
- Accretion of material within the harbor adjacent to the north breakwater has heightened local concerns about the condition of the structure. An engineering analysis is required to fully investigate any deficiencies and potential corrective actions.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access to Lake Huron
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- This project serves as an important Harbor of Refuge as well as charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports a public and private marina totaling 190 seasonal and transient slips.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Lexington Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package			270		270	
Sediment Budget Analysis – Section 11	150		150		150	
Engineering Analysis of North Breakwater Condition	200		200		200	
Critical Breakwater Safety Maintenance			25		25	
TOTAL	350	0	645	0	645	0

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Little Bay De Noc Harbor, MI

Harbor Features

- Located in the northwest corner of Lake Michigan at the mouth of the Whitefish River, about 85 miles northeast of Green Bay, WI.
- Authorization: River & Harbor Act of 1962
- Deep draft harbor that currently serves primarily recreational boat traffic
- Project depth 24 feet
- Over 2,400 feet of maintained federal channel
- Major stakeholders include charter fishermen, local recreational boating interests, and various marina owners.

Project Requirements

- Naturally deep harbor; maintenance dredging is seldom required.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Little Bay De Noc Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Little Lake Harbor, MI

Harbor Features

- Located on the south shore of Lake Superior, about 21 miles west of Whitefish Point and 30 miles east of Grand Marais, MI.
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depth is 12 feet
- Approximately 1,600 feet of maintained federal channel
- More than 1,100 feet of breakwaters
- Dredged material is placed along the beach and beach nourishment
- Major stakeholders include Michigan DNR, Native American fishermen, and a variety of sport fishing interests.



Project Requirements

- Requires annual maintenance dredging of approximately 18,000 cubic yards.
- The harbor was last dredged in 2013 with funds provided by the State of Michigan under a contributed funds agreement with USACE.
- Maintenance dredging is required.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access to Lake Superior
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Little Lake Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	525		525		540	
TOTAL	525	0	525	0	540	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Little River Harbor, NY

Harbor Features

- Located along the Niagara River in the City of Niagara Falls, Niagara County, New York
- Authorization: River & Harbor Act of 1954
- Shallow draft recreational harbor
- Project consists of an entrance channel approximately 1,200 feet long and 50 to 200 feet wide
- Project depth is 8 feet in the entrance channel
- Major stakeholders consist mainly of the recreational boating community

Project Requirements

- The harbor requires dredging on an infrequent basis. On average, approximately 10,000 cubic yards of sediment are dredged per event. The harbor was last dredged in 1988.
- The channel currently requires maintenance dredging.



Consequences of Not Maintaining the Project

- Failure to dredge will result in continued shoaling and reduced channel dimensions; resulting in unsafe navigation conditions.
- Potential safety issues for recreational boating community
- Negative economic impacts, locally and regionally

Transportation Importance

- Provides safe access between Little River and Niagara River

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Little River Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging			700		700	
TOTAL	0	0	700	0	700	0

Congressional Interests

- Representative Chris Collins R-NY-27
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Little Sodus Bay Harbor, NY

Harbor Features

- Located on Lake Ontario, in the town of Fair Haven, Cayuga County, New York.
- Authorization: River & Harbor Acts of 1852, 1866, 1871, 1881 and 1902
- Deep draft recreational harbor
- Project depth is 15.5 feet in the entrance channel. The current maintenance depth is 8 feet.
- The current maintenance depth is based on recreational needs only
- The harbor is protected by east and west piers and an east breakwater with a total length of 5,237 feet.
- Major stakeholders include commercial fishing interests, a private marina and the recreational boating community.

Project Requirements

- The harbor requires dredging on an infrequent basis. It was last dredged in 2005 when 12,000 cubic yards of material was removed.
- Sandy supplemental funded dredging of 25,000 cubic yards of material from storm impacted harbor areas was completed in Summer 2014.
- Maintenance dredging is required to maintain the functional channel areas.
- Deteriorated sections of the west pier require repairs to restore proper function of the structures.



Consequences of Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Provides safe passage between Little Sodus Bay and Lake Ontario
- Home to 550 slips, 8 boat launch lanes and 12 charter boats.
- Generates economic benefits totaling \$6,611,742 and supports 90 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Little Sodus Bay Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary			950		950	
E&D, Construction, West Pier Repair	250		250		250	
TOTAL	250	0	1,200	0	1,200	0

Congressional Interests

- Representative John Katko R-NY-24
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Lorain Harbor, OH

Harbor Features

- Located on Lake Erie in the city of Lorain, Lorain County, Ohio.
- Authorization: River & Harbor Acts of 1899, 1907, 1910, 1917, 1930, 1935, 1945, 1960, 1965 and the Water Resources Development Act of 1986
- Deep draft commercial harbor
- Project depths are 29 feet in the entrance channel; 28 feet in the outer harbor; 25 feet in the eastern and western outer harbor areas; 27 feet in the Black River channel; 17 to 21 feet in the turning basins.
- 988K tons of material shipped and received in 2013
- Interconnected with 9 commercial ports: ships to 1 port, and receives from 8 ports.
- Over 2.5 miles of breakwater structures
- 60 acre outer harbor and 2.6 miles of federal channel on the Black River
- A confined disposal facility (CDF) is located at the eastern end of the harbor.
- Major stakeholders include the Lorain Port Authority, private marinas, U.S. Coast Guard, American Metal Chemical Corp., Jonick Dock & Terminal, Republic Steel, IGR Henderson, and Terminal Ready Mix, Inc.

Project Requirements

- Approximately 200,000 cubic yards of material must be dredged every 3 years; 150,000 cubic yards from the lower reach and 50,000 from the upper reach. The harbor was last dredged in 2014 when approximately 165,000 cubic yards of material were removed. Dredging is scheduled for FY16.
- Material from the upper reaches of the Black River federal navigation channel requires placement in a CDF; this area was historically dredged every 3 years.



- Due to lack of commercial activity and limited CDF capacity, the upper reaches of the Black River federal navigation channel will not be regularly maintained until a need exists.
- Deteriorated sections of the east and west breakwater are in need of repair.
- Sandy supplemental funded repairs to storm damaged sections of the east arrowhead breakwater are scheduled to be completed in 2014-15.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$215M annually in business revenue while supporting 1,170 direct, indirect, and induced jobs that produce over \$60.1M per year in personal income in transportation and commodity related industries.

Consequences of Not Maintaining the Project cont.

- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 20,735 tons of harmful particulate matter (PM-10) and increase costs by \$35,000 due to increased railroad related accidents, and \$1,145,000 due to increased trucking related accidents.
- Light loading; loss of between 3 and 4 feet of channel depth results in increased transportation costs of between \$388,000 and \$806,000 annually

Transportation Importance

- Major receiving and shipping port on the Great Lakes; and a Critical Harbor of Refuge
- Commodities shipped or received include aggregates, limestone, chemicals, ores and minerals

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Lorain Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary			1,450	1,450		
Critical Maintenance of Coastal Navigation Structures					600	
Structure Repair – Breakwaters Floating Plant (F/P)			600			
Sandy Supplemental West Breakwater Repair	9,276*	9,276*				
TOTAL	9,276	9,276	2,050	1,450	600	0

*Funds allocated through Public Law 113-2 Disaster Relief Appropriations Act, 2013

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Ludington Harbor, MI

Project Features

- Located on the east shore of Lake Michigan, 156 miles northeast of Chicago, IL and 67 miles north of Grand Haven, MI.
- Authorization: River & Harbor Acts of 2 Mar 1867, 3 Mar 1899, 2 Mar 1907, 31 Dec 1970
- Deep draft commercial harbor
- Project depth of 27 to 30 feet in the entrance channel and 18 feet deep in the basins
- 401K tons of material shipped and received in 2013
- Over 8,700 feet of structures including breakwaters, piers and revetments
- Over one mile of navigation channel
- Major stakeholders include U.S. Coast Guard, Dow Chemical, Lake Michigan Car Ferry service (Badger), Pere Marquette Shipping, Reith and Riley Asphalt, and multiple charter boat fishing interests.

Project Requirements

- Approximately 56,000 to 75,000 cubic yards of material must be dredged on a 2 to 3 year cycle; the harbor was last dredged in 2011.
- There are plans to dredge the harbor in 2016.
- South breakwater head requires repairs, which are planned in 2016. Failure of the nose and head would threaten navigation. The south breakwater was further damaged by significant wave action associated with a major storm that impacted southern Lake Michigan on October 31, 2014. Sustained winds of 50-60 mph and waves near 30 feet accelerated the deterioration on the breakwater to the point where significant repairs are needed to reduce risks to commercial navigation.



Consequences of Not Maintaining the Project

- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$350K and \$660K annually.
- Reduction of bulk commodities that pass through the harbor that generate \$753M annually in business revenue while supporting 3,755 direct, indirect, and induced jobs that produce over \$49M per year in personal income in the transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by truck. This would increase annual emission rates by over 25M lbs of harmful particulate matter (PM-10) and increase costs by \$4.8M due to increased trucking related accidents.

Transportation Importance

- The U.S Coast Guard Station Ludington resides within the harbor.
- Regionally significant receiving port on the Great Lakes and Harbor of Refuge
- Home port to S.S. Badger ferry that maintains cross-Lake Michigan service. Since 1992 the Badger has carried 120,000 passengers, 30,000 passenger vehicles and 11,000 commercial trucks.

Transportation Importance Cont.

- Commodities received include limestone, sand and gravel, slag, as well as salts.
- Many recreational users reside within the municipal marina and utilize the boat launch on a daily basis. The municipal marina services approximately 1,100 transient boats per year.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Ludington Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	590		590	590	0	
South Breakwater Head Repair by Contract	750		750	750		
Sediment Budget Analysis – Section 111	150		150		150	
TOTAL	1,490	0	1,490	1,340	150	0

Congressional Interests

- Representative Bill Huizenga R-MI-2
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Mackinac Island Harbor, MI

Harbor Features

- Located between Biddle Point and Mission Point on the southeastern shore of Mackinac Island, MI in Lake Huron, along the northern channel limit of the Straights of Mackinac.
- Authorization: River & Harbor Acts of 25 Jun 1910, 17 Aug 1966
- Recreational harbor; no authorized channel
- Approximately 1,860 feet of rubble mound breakwaters originally constructed in 1914 and rehabilitated in 1987.
- Major stakeholders include Michigan DNR, local business owners and boating interests.

Project Requirements

- Periodic repairs to navigation structures are required.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational fishing
- Loss of recreational boating access to Great Lake
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community



Transportation Importance

- Maintenance of the federal breakwaters helps protect the Mackinac Island State Harbor from wave action.
- Subsistence harbor – waterborne transportation is sole linkage as infrastructure between island residential and mainland services community.
- Receives three ferry lines that serve Mackinaw City and St. Ignace. Over 500,000 passengers use the ferries on an annual basis.
- Supports approximately 76 recreation boat slips

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Mackinac Island Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Mackinaw City Harbor, MI

Harbor Features

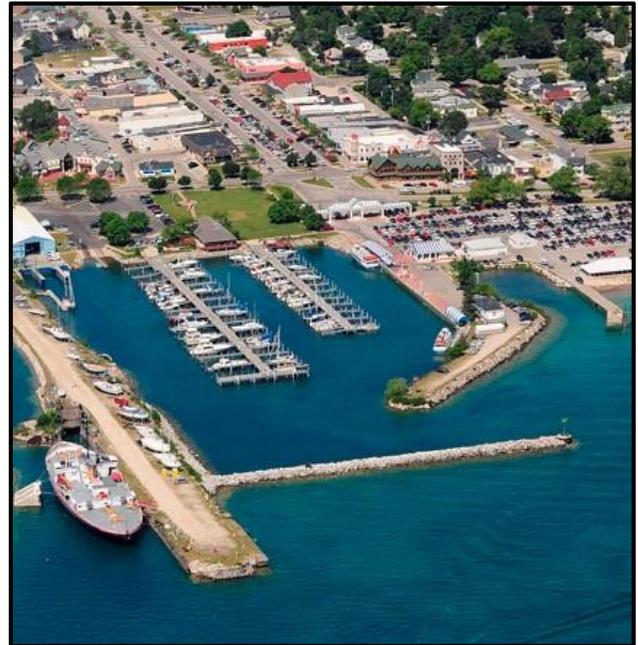
- Located on the western shore of Lake Huron along the southern channel limit of the straits of Mackinac.
- Authorization: River & Harbor Act of 15 Jan 1965
- Shallow draft recreational harbor
- Approximately 630 feet of rubble mound breakwaters including 300 feet of wave absorbing slope protection constructed in 1976.
- Major stakeholders include Michigan DNR, Mackinaw City, and ferry service companies.

Project Requirements

- Maintenance dredging required on an infrequent basis; the harbor was last dredged in 1968.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational fishing
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community



Transportation Importance

- Maintenance of the federal navigation channel supports the use of the Mackinaw City Municipal Marina.
- Supports approximately 104 recreation boat slips.
- This project serves as an important Harbor of Refuge as well as recreational navigation interests.
- Home port to three ferry lines that serve Mackinac Island. Over 500,000 passengers use the ferries on an annual basis.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Mackinaw City Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Manistee Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 179 miles northeast of Chicago, IL and 26 miles north of Ludington, MI.
- Authorization: River & Harbor Act of 2 Mar 1867, 19 Sep 1890, 25 Jul 1910, 3 Jul 1930, 2 Mar 1945, 14 Jul 1960
- Deep draft commercial harbor
- Project depths of 25 feet in the entrance, 23 feet in river channel.
- 271K tons of material shipped and received in 2013
- Over 6,000 feet of structures including breakwaters, piers, and revetments.
- About 2 miles of maintained channel
- Major stakeholders include U.S. Coast Guard, Seng Dock Co., Martin Marietta Corporation, Morton Salt, Rieth-Riley, T.E.S. Filer City Generating Station, and many northern Michigan county road commissions.

Project Requirements

- Approximately 80,000 to 120,000 cubic yards of material must be dredged on a 2 to 3 year cycle.
- The harbor was dredged in 2013.
- There are plans to dredge the harbor in 2016.

Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally
- Five major industrial facilities are served by the harbor, including a coal-fired power plant. Due to large quantities of commodities, materials are received via ship. Not all of the facilities have rail lines that are accessible for use.



- Shutdown of the Filer City Generating Station served by this harbor may impact electric grid stability in northern Michigan.
- Reduction of bulk commodities that pass through the harbor and generate \$18M annually in direct revenue while supporting 237 direct, indirect, and induced jobs that produce over \$15M per year in personal income
- Light loading; loss of channel depth results in increased transportation costs.
- Failure to maintain the harbor may impact consideration of this port as a potential site for future industrial facilities.

Transportation Importance

- Regionally significant receiving port on the Great Lakes
- Commodities received include sand, gravel, limestone, and coal
- Harbor of Refuge
- The harbor is home to the U.S. Coast Guard Station Manistee.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Manistee Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package			650	650	0	
Structural Repairs – by Govt. Floating Plant						
Sediment Budget Analysis – Section 111	150		150		150	
TOTAL	150	0	800	650	150	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Manistique Harbor, MI

Harbor Features

- Located on the north shore of Lake Michigan, 135 miles northeast of Green Bay, WI and 220 miles north of Milwaukee, WI.
- Authorization: River & Harbor Acts of 3 Mar 1905, 2 Mar 1907, 17 May 1950
- Authorized as a deep draft commercial harbor; harbor use is mostly recreational.
- Project depth is 19 feet in the entrance channel and 18 feet in the inner channel.
- Maintained depth is authorized at 12 feet
- Nearly 3,000 feet of breakwater and pier structures and approximately 4,000 feet of maintained channel.
- Dredged material is placed in upland placement sites as needed.
- Established commercial operations, which depend on the harbor, include: two commercial fishing operations; a tug-barge company providing fuels to Beaver Island; and a private recreational marina.
- Public recreational marine facilities dependent upon the harbor include the Manistique Municipal Marina and the Manistique River Boating Access Site.
- Major stakeholders include Manistique Papers, city of Manistique, Michigan DNR, commercial fishing enterprises, commodity barge operations, Beaver Island, Manistique Rentals Inc., charter and sports fishing interests, and recreational boating.

Project Requirements

- Infrequent maintenance dredging of the harbor is required; the harbor was last dredged in 2010 using Michigan regional dredging provision funding.
- There are plans to dredge the harbor in 2016.



Consequences of Not Maintaining the Project

- Loss of commercial fishing companies and commodity tug-barge service to Beaver Island.
- Loss of recreational boating facilities at the Manistique Marina (public) and the Northern Lights Marina (private).

Transportation Importance

- The harbor serves as a Harbor of Refuge and supports a variety of sport and charter fishing interests and public/private recreational boating facilities.
- The harbor also supports two commercial fishing companies.
- Subsistence harbor - supports a tug-barge company providing gasoline, diesel and home heating fuels to Beaver Island.
- Harbor generates revenue locally and regionally from both commercial and public marine infrastructure located within the navigational channel.
- The harbor is the only vessel launching facility within an eighty mile radius on the northern Lake Michigan/Upper Peninsula shoreline capable of launching law enforcement and search and rescue vessels.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Manistique Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package			850	850		
TOTAL	0	0	850	850	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Manitowoc Harbor, WI

Project Features

- Located on the west shore of Lake Michigan about 79 miles north of Milwaukee, WI, and about 106 miles from Sturgeon Bay Harbor and the Lake Michigan Ship Canal.
- Authorization: River & Harbor Acts of 2 Mar 1907, 30 Aug 1935, 26 Aug 1937, 23 Oct 1962, 14 Jul 1960 (Sec 107), 31 Dec 1968
- Deep draft commercial harbor
- Project depths vary from 22 to 25 feet in entrance and inner channels and a 12 foot deep channel at the upper end of the project. A 10 foot deep recreational navigation channel is adjacent to the CDF.
- 136K tons of material shipped and received in 2013
- Over 4,100 feet of structures including breakwaters and piers
- Over 2.5 miles of maintained channel
- The Manitowoc Harbor Confined Disposal Facility is located in Lake Michigan extending northward from the north breakwater.
- Major stakeholders include Burger Boat Building, Busch Agricultural Resources Inc., C. Reiss Coal Co., Lake Michigan Car Ferry, and St. Marys Cement.

Project Requirements

- Approximately 25,000 to 40,000 cubic yards of material must be dredged from the river channel on a 2 to 3 year cycle; the harbor was last dredged in 2014.
- Maintenance dredging currently required and there are plans to dredge the harbor in 2016.
- Periodic maintenance of the CDF is required; funding is needed to replenish protection stone and to repair existing walkways and handrails. Some of these repairs are within a section of the CDF that is open to public use.



- WRDA 2007 authorized the deepening of this harbor to 18 feet (in previously 12 foot depth area). To date this deepening has not been funded.

Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally
- Reduction of bulk commodities that pass through the harbor and generate \$1.02B annually in business revenue while supporting 6,217 direct, indirect, and induced jobs that produce over \$307M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail or truck. This would increase annual emission rates by 27 M lbs of harmful particulate matter (PM-10) and increase costs by \$6,000 due to increased railroad related accidents, and \$3.9M due to increased trucking related accidents.
- Light loading; loss of channel depth results in increased transportation costs

Transportation Importance

- Locally significant receiving port on the Great Lakes and Harbor of Refuge
- Commodities received include coal, cement, and bio fuels
- Boat building is a significant economic catalyst to the local economy

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Manitowoc Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	590		845	845	0	
Maintenance Dredging – Backlog Work Package	850		850		850	
CDF Fill Management/Maintenance	100					
Critical Breakwater Safety Maintenance					25	
TOTAL	1,540	0	1,695	845	875	0

Congressional Interests

- Representative Glenn S. Grothman R-WI-6
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Marquette Harbor, MI

Project Features

- Located in Marquette Bay on the south shore of Lake Superior, 160 miles west of Sault Ste. Marie, MI and 265 miles east of Duluth, MN.
- Authorization: River & Harbor Acts of 2 Mar 1867, 11 Aug 1888, 25 Jun 1910, 30 Aug 1955, 14 Jul 1960
- Deep draft commercial harbor
- Project depth of 27 feet in entrance channel and inner basins
- 1.02M tons of material shipped and received in 2013
- Over 4,500 feet of breakwater structure
- Over 3,000 feet of navigation channel
- Major stakeholders include U.S. Coast Guard, Board of Light and Power, Cliffs Natural Resources Inc., and We Energies.

Project Requirements

- Maintenance dredging is required infrequently; the harbor was last dredged in 1978.
- The harbor currently requires maintenance dredging.
- Navigation structures are primarily maintained by the government floating plant. Structural repairs were completed in FY15.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$475M annually in business revenue while supporting 2,589 direct, indirect, and induced jobs that produce over \$135M per year in personal income in transportation and commodity related industries.



- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 113M lbs of harmful particulate matter (PM-10) and increase costs by \$112,000 due to increased railroad related accidents, and \$4.8M due to increased trucking related accidents
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs between \$429,564 and \$916,042.

Transportation Importance

- Major regional receiving port on the Great Lakes
- Harbor of Refuge
- Commodities received include limestone, coal, and iron ore
- Harbor is home to the U.S. Coast Guard Station Marquette.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Marquette Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	625		625		800	
Repair Outer Breakwater – by Govt. Floating Plant	500	500				
TOTAL	1,125	500	625	0	800	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Menominee Harbor, MI and WI

Project Features

- Located on Lake Michigan at the mouth of the Menominee River on the western shore of Green Bay, 16 miles northwest of the mouth of Sturgeon Bay and 49 miles northeast of Green Bay Harbor, about 155 miles from Milwaukee via Sturgeon Bay Harbor and the Lake Michigan Ship Canal.
- Authorization: River & Harbor Act of 3 Mar 1871, with modifications in the ensuing years
- Deep draft commercial harbor
- Project depth is 26 feet in the entrance channel, 12 feet to 24 feet in the Menominee River, and the turning basin has a project depth of 21 feet.
- 204K tons of material shipped and received in 2013
- Over 3,300 feet of pier structures
- Over 10,000 feet of maintained channel
- Major stakeholders include K&K Warehousing, Marinette Fuel and Dock Co., Marinette Marine, and Menominee Paper Co.

Project Requirements

- Approximately 25,000 to 50,000 cubic yards of material must be dredged from the channel on a 5 to 10 year cycle. The harbor was last dredged in 2014.



Consequences of Not Maintaining the Project

- Significant loss of jobs locally
- Reduction of bulk commodities that pass through the harbor that generate \$240M annually in business revenue while supporting 1,363 direct, indirect, and induced jobs that produce over \$69.5M per year in personal income in transportation and commodity related industries.
- Light loading; loss of channel depth results in increased transportation costs.

Transportation Importance

- Locally significant receiving port on the Great Lakes.
- Commodities received include pig iron, pulp and paper, as well as coal
- Harbor of Refuge

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Menominee Harbor, MI and WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package						
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Reid Ribble R-WI-8
- Representative Dan Benishek R-MI-1
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Michigan City Harbor, IN

Project Features

- The harbor is located in Michigan City, Indiana in LaPorte County, Indiana.
- Authorization: River & Harbor Acts of 1836, 1870, 1899, 1905, 1927 & 1935. Section 107 of the River & Harbor Act of 1960. Section 123 of the River & Harbor Act of 1970, Water Resources Development Acts 1986 and 1996.
- Authorized navigation channel depths are 15 feet in the harbor entrance, 12 feet in the outer harbor, 10 feet in turning basin No. 1, 10 feet in Trail Creek from turning basin No. 1 to turning basin No. 2 and 6 feet in Trail Creek from turning basin No. 2 to E. Street.
- Harbor structures consist of 2,304 linear feet of timber crib breakwaters, a west pier 835 feet long and an east pier 2,276 feet long.
- The federal navigation channel within the harbor and Trail Creek is 2 miles long.

Project Requirements

- Trail Creek dredging is needed on a 6 to 8 year cycle. Approx. 55,000 cubic yards is currently needed to restore the authorized depth in the channel. Both Trail Creek sediment and the entrained water are of poor quality, which has hindered efforts to dredge the channel and increased the cost substantially. Not all of the material is suitable for beneficial reuse. Trail Creek was last dredged in July 2002, with disposal into a landfill that was closing.
- A Confined Disposal Facility (CDF) is needed for future disposal of the sediment in Trail Creek. The previous harbor CDF was capped after it reached capacity in 1979.
- The detached breakwater is the primary shield for safe vessel passage into and out of the harbor. Its condition is poor, and the concrete cap is progressively collapsing due to the timber crib deterioration beneath. Segments of the concrete cap are dislodged periodically.



- The outer harbor and entrance were last dredged of clean sand to 14 feet in September 2013, removing approximately 45,000 cubic yards of sand deposited by the Hurricane Sandy storm.
- Reconstruction of the east pier was completed in 2015 utilizing Public Law 113-2 Disaster Relief Appropriations Act, 2013.

Consequences of Not Maintaining the Project

- The USCG marine safety mission serves all vessels in southern Lake Michigan.
- The port is critical to the economic vitality of Michigan City. Due to recreational boating, the harbor generates minimally 118 jobs, \$3.2 million in labor income and \$5.3 million in value added to the local economy.

Transportation Importance

- The U.S. Coast Guard maintains law enforcement and search & rescue vessels within the port. The Coast Guard needs access to and from the port to conduct its Homeland Security missions on Lake Michigan.
- The harbor is the safe refuge on southern Lake Michigan for recreational boats because its detached breakwater provides protection for vessels entering the harbor. There are transient berths, gasoline, diesel fuel, water, electricity, sewage pump-out and launching.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Michigan City Harbor, IN - Project Requirements and President's Budget**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Survey / Caretaker Funding	25		25			
Maintenance Dredging of Outer Harbor and Entrance			830		830	
Maintenance Dredging of Trail Creek (Turning Basin No. 2 to E Street)	5,290		5,270		5,270	
Structural Repairs – Detached Breakwater (by Gov't. Floating Plant)	1,174		2,530		2,530	
Structural Repairs – East Pier Reconstruction (by Contract)						
TOTAL	6,489	0	8,655	0	8,630	0

Congressional Interests

- Representative Peter J. Visclosky, D-IN-1
- Senator Dan Coats, R-IN
- Senator Joe Donnelly, D-IN



Milwaukee Harbor, WI

Harbor Features

- Located on the west shore of Lake Michigan about 85 miles north of Chicago, IL.
- Authorization: River & Harbor Acts of 30 Aug 1935, 2 Mar 1945, 14 Jul 1960, 23 Oct 1962
- Deep draft commercial harbor
- Project depths of 30 feet in the approach channel, 28 feet in the entrance channel, 27 feet in a major portion of the south basin, 21 feet in the north basin.
- The project also provides for river channels with a depth of 27 feet in the Kinnickinnic and Milwaukee Rivers, lakeward of the first railway bridges on each river, a depth of 21 feet on the Menomonee River to 25th Street, the South Menomonee Canal to 13th Street, and Burnham Canal to 11th Street.
- 3.13M tons of material shipped and received in 2013
- Ranked 22nd among the Great Lakes Harbors
- Over 21,000 feet of structures including breakwaters, piers and revetments
- The Milwaukee Confined Disposal Facility (CDF) is located within the harbor in the southwest corner. A new Dredged Material Disposal Facility was completed in 2012 on top of the old CDF. It has 20 years of capacity.
- Major stakeholders include U.S. Coast Guard, Ace World Wide, Canadian Pacific Railway, Cargill Salt, Charter Wire, Chicago & Illinois River Marketing LLC, CP Railway, Construction Resources Management Inc., Edward E. Gillen Co., Federal Marine Terminals Inc., International Longshoremen's Assoc., Jacobus Co., Lafarge Corporation, Lake Express Ferry Service, Milwaukee Bulk Terminals, Milwaukee Intermodal Terminal, Milwaukee World Festivals, North American Salt Co., RSI Logistics, St. Marys Cement,



Support Terminal Services, U.S. Navy, FEDNAV, Union Pacific Railroad Company, Valero Inc., We Energies, and Wisconsin Lake Schooner.

Project Requirements

- Dredging is required on a 3 to 4 year cycle. The harbor was last dredged in 2015.
- There currently is a backlog of material that needs to be dredged from the harbor.
- Navigation structures are primarily maintained by the government floating plant; steel sheet pile substructure is exposed and showing signs of excessive deterioration; concrete cap section is out of alignment and beginning to fail.
- It is anticipated that the detached section of the breakwater will require major reconstruction.
- The Milwaukee CDF reached capacity in 2011. A new Dredged Material Disposal Facility was constructed on top of the old CDF by raising the elevation of the containment berms. Work on the facility was completed in 2012.

Consequences of Not Maintaining the Project

- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$1.0M and \$1.8M annually.
- Reduction of bulk commodities that pass through the harbor that generate \$4.84B annually in business revenue while supporting 28,858 direct, indirect, and induced jobs that produce over \$1.44B per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 127M lbs of harmful particulate matter (PM-10) and increase costs by \$833,000 due to increased railroad related accidents, and \$8.5M due to increased trucking related accidents.

Transportation Importance

- Major receiving and shipping port on the Great Lakes and serves as a Harbor of Refuge.

- Commodities include non-metal minerals, coal, corn, soybeans, peas, cement and concrete, sand and gravel, as well as manufactured goods.
- Transportation hub for car ferry service crossing Lake Michigan and a new terminal for cruise ships.
- The Port of Milwaukee is the inland waterway system’s most northern connection to the Great Lakes system. Due to its strategic location, accessibility to deep-draft vessels, river barges, and Class I railways, and its heavy lift cranes and large amounts of lay down space, the Port of Milwaukee is well-positioned to continue to play a key role in the growth of Midwest wind farms by handling wind energy equipment.
- The U.S. Coast Guard’s Sector Lake Michigan is located in Milwaukee, WI and is responsible for all Coast Guard missions on Lake Michigan and surrounding navigable waterways, including: Search and Rescue, Law Enforcement, Aids to Navigation, Marine Safety, and Homeland Security.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Milwaukee Harbor, WI - Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Project Condition Surveys	75	75				
Maintenance Dredging – Primary Work Package	785	785				
Maintenance Dredging – Backlog Work Package	2,225		2,225		2,225	
Repair North Detached Breakwater Section D – by Contract	7,000					
Design of North Breakwater Repairs – Sec. D	350		350	350	0	
E&D-Repairs to North Detached Breakwater – Section B & C	200		250		0	
Repair Breakwaters with Govt. Floating Plant	1,250	1,250	1,250	1,250	1,250	1,250
EGIS Development			20		20	
TOTAL	11,885	2,110	4,095	1,600	3,495	1,250

Congressional Interests

- Representative Gwen S. Moore D-WI-4
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Monroe Harbor, MI

Harbor Features

- Located on the lower reach of the Raisin River, which empties into Lake Erie, 36 miles south of Detroit, MI
- Authorization: River & Harbor Acts of 24 Feb 1835, 3 Jul 1930
- Deep draft commercial harbor
- Authorized depths of 21 feet from Lake Erie to the turning basin. The turning basin has an authorized depth of 18 feet. Project depth of 9 feet upstream from the turning basin.
- 2.43M tons of material shipped and received in 2013
- Approximately 28,000 feet of maintained federal channel
- 328 acres available -- zoned for heavy industrial
- 1,500 feet of private dock on the turning basin
- 2,200 feet of public dock on the river
- 1,600 feet of private dock on the river (Detroit Edison)
- Sterling State Park Confined Disposal Facility is located just north of the harbor; it has approximately 20 years of capacity.
- Property served by Canadian National and Norfolk Southern railroads
- Major stakeholders include Barnhart Crane & Rigging, DTE Energy, Gerdau MacSteel Inc., Michigan Paving and Materials Co. (MPMC), OmniSource Corp., Port of Monroe, and Ventower Industries.
- MPMC -- The complex has the ability to store 56 million gallons of asphalt products in eight, seven-million gallon tanks, and is the largest asphalt blending facility in the country.
- DTE -- The Monroe Plant is a clean coal-fired electrical generating station, which utilizes stack emission scrubbers and has a capacity of 3,000MW. In 2012 the facility received over 2 million tons of coal and over 100,000 tons of limestone. This is the largest coal blending facility in the world.



- Barnhart Crane & Rigging specializes in the transport of project cargo and operates 1,500 feet of dock on the turning basin. Barnhart began shipping wind tower sections for Ventower Industries in 2012.

Project Requirements

- Approximately 90,000 to 135,000 cubic yards of material must be dredged every 2 to 3 years. The harbor's main channel was last dredged in 2014. Maintenance dredging of the harbor turning basin is funded in FY16.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$543M annually in business revenue while supporting 3,095 direct, indirect, and induced jobs that produce over \$163M per year in personal income in transportation and commodity related industries.

Consequences of Not Maintaining the Project cont.

- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$3.5M and \$5.4M annually. Channel maintenance less than the authorized depth poses navigational safety issues for all harbor users.
- Restriction of normal vessel delivery to DTE has indirect impacts, including higher risk to operational reliability due to uncertain coal and limestone inventory and increased reliance on rail delivery.
- MPMC is the largest asphalt paving company in Michigan; their Monroe facility serves one of the largest asphalt pavers in Ohio. Increasing water borne shipment costs will increase the cost of road construction and paving throughout the Midwest.

Transportation Importance

- Major receiving port on the Great Lakes
- Commodities include petroleum products, coal, as well as stone and aggregates.
- A mix of coal is received at the DTE plant from three other Great Lakes ports: Superior, Sandusky, and Toledo. Limestone delivery from a northern Michigan quarry began in 2009.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Monroe Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging Main Channel – Primary Work Package	1,000	1,000	1,100	1,100	510	
Maintenance Dredging Turning Basin – Primary Work Package						
Maintenance Dredging – Backlog Work Package	510		510			
CDF Fill Management					500	500
TOTAL	1,510	1,000	1,610	1,100	1,010	500

Congressional Interests

- Representative Tim Walberg R-MI-7
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Morristown Harbor, NY

Harbor Features

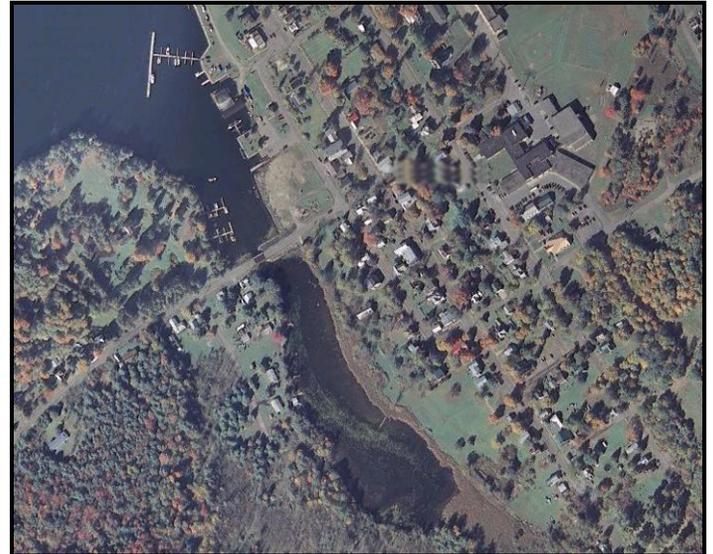
- Located on the St. Lawrence River, in the town of Morristown, St. Lawrence County, New York
- Authorization: River & Harbor Act of 1927
- Shallow draft recreational harbor
- Project depth is 9 feet in the entrance channel
- The harbor consists of an entrance channel 150 wide and approximately 800 feet long
- Major stakeholders include fishing interests, private marinas and the recreational boating community

Project Requirements

- Currently, there are no critical maintenance requirements

Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally



Transportation Importance

- Provides safe access between Morristown Bay and the St. Lawrence River

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Morristown, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Elise Stefanik R-NY-21
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Muskegon Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 114 miles northeast of Chicago, IL.
- Authorization: River & Harbor Acts of 13 Jun 1902, 3 Mar 1935, 30 Aug 1935, 23 Oct 1962
- Deep draft commercial harbor
- Project depths are 29 feet at the outer harbor entrance and 28 feet in the inner entrance channel. The project depth is 27 feet at the upstream limit of the federal project.
- 1.48M tons of material shipped and received in 2013
- Approximately 6,500 feet of maintained federal channel
- Dredged material from this harbor is used for beach nourishment.
- Over 6,200 feet of structures maintained, including breakwaters, piers, and revetments
- Major stakeholders include U.S. Coast Guard, Consumers Energy, city of Muskegon, Grand Valley State University, Lafarge Corporation, Lake Express Ferry Service, MDNR, NOAA, St. Marys Cement, Verplank, West Michigan Dock and Market, as well as multiple private marinas and charter fishing vessels.

Project Requirements

- Maintenance dredging of approximately 60,000 to 90,000 cubic yards is required on a 2 to 3 year cycle. The harbor was last dredged in 2013, and included use of Hurricane Sandy relief funds for removal of increased shoaling that occurred in the Fall of 2012 due to that storm event.
- There are plans to dredge the harbor in 2016.



- The north breakwater requires repairs, which are planned for 2016. Failure of the structure would threaten navigation. The north breakwater was further damaged by significant wave action associated with a major storm that impacted southern Lake Michigan on October 31, 2014. Sustained winds of 50-60 mph and waves near 30 feet accelerated the deterioration on the breakwater to the point where significant repairs are needed to reduce risks to commercial navigation.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$1.32B annually in business revenue while supporting 7,920 direct, indirect, and induced jobs that produce over \$386M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 98M lbs of harmful particulate matter (PM-10) and increase costs by \$264,000 due to increased railroad related accidents, and \$8M due to increased trucking related accidents.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$310,566 and \$566,576 annually.

Transportation Importance

- Harbor of Refuge
- Home to the U.S. Coast Guard Station Muskegon
- Major receiving port on the Great Lakes
- Commodities include primarily sand, gravel, limestone, cement, concrete, and coal
- Harbor serves as the port for Grand Rapids and the greater West Michigan Region for commercial and recreational traffic, education and environmental research.
- Harbor is home to the NOAA Great Lakes Environmental Research Laboratory Lake Michigan Field Station, Grand Valley State University Annis Water Resources Institute and the Michigan Alternative and Renewable Energy Center.

- Ten private marinas on Muskegon Lake, with more than 1,000 boat slips
- The city of Muskegon maintains one public marina and five public launches, including: Hartshorn Marina with 143 major boat slips, 30 small slips and 102 moorings.
- Muskegon State Park, Laketon Township and the city of North Muskegon each maintain public boat launch facilities.
- Harbor is home to Fisherman’s Landing, which is an 18.6-acre sport-fishing and recreational bass tournament camping facility.
- Home port to the Lake Express, a commercial terminal providing high speed cross lake ferry service to and from Milwaukee, WI.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Muskegon Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	1,000	1,000	650	650	0	
North Breakwater Nose Repairs – by Contract			750	750	0	
E&D for Repairs to N. Breakwater Connector			300	300		
Repairs to North Breakwater Connector					1,000	
Sediment Budget Analysis – Section 111	150					
TOTAL	1,150	1,000	1,700	1,700	1,000	0

Congressional Interests

- Representative Bill Huizenga-MI-2
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



New Buffalo Harbor, MI

Harbor Features

- Located at the mouth of the Galien River on the southeast shore of Lake Michigan in Berrien County, about 45 miles east of Chicago, IL.
- Authorization: River & Harbor Act of 1962
- Shallow draft recreational harbor
- Project depths are 10 feet in the entrance channel and 8 feet in the inner channel
- Approximately 2,100 feet of maintained federal channel
- More than 2,000 feet of breakwaters
- Dredged material is placed along the beach as beach nourishment
- Major stakeholders include the Michigan DNR, Galien Marina, the Michigan Boating Industries Association, Dunewood Condo Association, South Cove, Harbor Landings Condo Association, Harbor Pointe Shores Association, Lake Michigan Yacht Club, Light House Landings, The Moorings Condo Association, New Buffalo Yacht Club, Oselka's Snug Harbor, and Pleasure Island Marina.

Project Requirements

- Approximately 10,000 cubic yards of material must be dredged on a 1 to 2 year cycle.
- Maintenance dredging was completed in 2013 using Hurricane Sandy relief funds to remove shoaling that occurred in the fall of 2012 due to that storm event.
- Harbor is currently in need of maintenance dredging.



Consequences of Not Maintaining the Project

- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports 1,058 recreational boat slips

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
New Buffalo Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	270		270		275	
TOTAL	270	0	270	0	275	0

Congressional Interests

- Representative Fred Upton R-MI-6
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Oak Orchard Harbor, NY

Harbor Features

- Located on Lake Ontario at the mouth of Oak Orchard Creek, in the Hamlet of Point Breeze, town of Carlton, Orleans County, New York.
- Authorization: River & Harbor Act of 1945
- Shallow draft recreational harbor
- Project depths are 10 feet in the entrance channel and 8 feet in the harbor basin.
- The harbor is formed by the east and west jetties and a detached breakwater with a total length of 2,120 feet.
- Non-federal facilities includes 2 state and county marine parks offering seasonal and transient docking, launching and fish cleaning, 6 private marinas, 2 with fish cleaning stations, 2 restaurants, 3 rental cottage facilities, 1 motel, pump out facilities, fuel and travel-lifts.
- Major stakeholders include Orleans County, U.S. Coast Guard, private marinas, charter fishing interests and the recreational boating community.

Project Requirements

- Maintenance dredging is required every 3 to 5 years. The project was last dredged in 2004 when 10,700 cubic yards of sediment were removed.
- Sandy supplemental funded dredging of approximately 15,000 cubic yards of material from storm impacted harbor areas was completed in Summer 2014.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Provides safe recreational access between Lake Ontario and Oak Orchard Creek.
- Orleans County Sheriff Marine Patrol and Coast Guard Auxiliary unit located at Orleans County Marine Park
- Hosts annual harbor festivals and fishing derbies
- Home to 422 slips, 6 boat launch lanes and 38 charter boats.
- Generates economic benefits totaling \$7,087,101 and supports 117 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Oak Orchard Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Chris Collins R-NY-27
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Oconto Harbor, WI

Harbor Features

- Located on the west shore of Lake Michigan in Green Bay about 40 miles north of the city of Green Bay, WI and about 20 miles south of Marinette, WI.
- Authorization: River & Harbors Act of 2 Aug 1882, 25 Jun 1910
- Primary use is as a recreation harbor
- Project depth 15 feet
- Over 3,900 feet of federal navigation channels
- Major stakeholders include several marinas and yacht clubs, and various businesses.

Project Requirements

- Maintenance dredging is required infrequently.
- The harbor was last dredged in 1992; maintenance dredging is currently required.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves charter fishing and recreational navigation interests.
- The harbor community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Harbor of Refuge

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Oconto Harbor, WI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	1,350		1,350		1,350	
TOTAL	1,350	0	1,350	0	1,350	0

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Ogdensburg Harbor, NY

Harbor Features

- Located on the St. Lawrence River, at the mouth of the Oswegatchie River, in the city of Ogdensburg, St. Lawrence County, New York.
- Authorization: River & Harbor Acts of 1910, 1919 and 1935
- Deep draft commercial harbor
- Project depths are 19 feet in the upper entrance channel and city front channel, 21 feet in the lower basin and 27 feet in the lower entrance channel.
- 153K tons of material shipped and received in 2013
- Interconnected with 2 commercial ports: receives from 2 ports
- Major stakeholders include U.S. Coast Guard, Ogdensburg Bridge and Port Authority, and the recreational boating community.

Project Requirements

- The harbor requires dredging on an infrequent basis, and was last dredged in 1984.
- USACE has initiated a study under Section 107, Small Navigation Projects program. The Ogdensburg Bridge and Port Authority is the non-federal sponsor. A determination of federal interest was completed by the USACE, Buffalo District on August 31, 2011 and found a positive interest in moving forward to the cost-shared feasibility study phase. A Feasibility Cost-Sharing Agreement was signed in March 2013 and the feasibility study is underway.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$76.8M annually in business revenue while supporting 435 direct, indirect, and induced jobs that produce over \$22.5M per year in personal income in transportation and commodity related industries.



- If the harbor were closed to commercial traffic, commodities would have to be transported by rail. This would increase annual emission rates by over 17 tons of harmful particulate matter (PM-10) and increase costs by \$44,000 due to increased railroad related accidents.
- Light loading; losses of between 3 and 4 feet of channel depth would result in increased transportation costs of between \$95,000 and \$143,000 annually.

Transportation Importance

- Ogdensburg is the only U.S. port on the St. Lawrence River and is the northernmost port in New York
- Commodities shipped or received include road salt and corn gluten.
- Critical Harbor of Refuge
- Home to Auxiliary U.S. Coast Guard station

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Ogdensburg Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Sediment Sampling & Analysis	70		70		70	
TOTAL	70	0	70	0	70	0

Congressional Interests

- Representative Elise Stefanik R-NY-21
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Olcott Harbor, NY

Harbor Features

- Located on Lake Ontario at the mouth of Eighteen Mile Creek in the village of Olcott, Niagara County, New York.
- Authorization: River & Harbor Acts of 1867 and 1913 and Water Resources Development Act of 1986
- Shallow draft recreational harbor
- Project depth is 12 feet in the federal navigation channel.
- The channel is 140 feet wide and approximately 1,400 feet long
- The harbor entrance is protected by the east and west piers with a total length of 1,723 feet.
- Major stakeholders include the town of Newfane, private marinas, charter boats, charter fishing interests and the recreational boating community.

Project Requirements

- The harbor typically requires dredging every five to ten years. It was last dredged in 1997 when 9,900 cubic yards of material were removed.
- Maintenance dredging is currently required.
- Sandy supplemental funded dredging of approximately 12,000 cubic yards of material from storm impacted harbor areas was completed in Summer 2014.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Critical Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Home to 124 slips, 6 boat launch lanes and 14 charter boats.
- Generates economic benefits totaling \$5,780,656 and supports 109 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Olcott Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary					600	
TOTAL	0	0	0	0	600	0

Congressional Interests

- Representative Chris Collins R-NY-27
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Ontonagon Harbor, MI

Project Features

- Located about 140 miles east of Duluth, MN, on the south shore of Lake Superior, at the mouth of the Ontonagon River, MI.
- Authorization: River & Harbor Acts of 2 Mar 1867, 23 Jun 1874, 13 Jun 1902, 2 Mar 1907, 3 Mar 1909, 26 Aug 1937, Act of 1962
- Deep draft commercial harbor
- Project depth is 23 feet in the entrance channel of Lake Superior, 22 feet in the inner harbor channel, 30 feet in the sedimentation basin, and 21 feet at the western upstream portion of the channel
- Over 4,800 feet of structures including piers and revetments
- About 4,000 feet of maintained channel
- Major stakeholders include Oldenburg Group, and Ontonagon County.

Project Requirements

- Approximately 40,000 cubic yards of material must be dredged each year; the harbor was last dredged in 2011.
- Maintenance dredging is currently required within the harbor, and there are plans to dredge the harbor in 2016.
- Local interests have raised concerns that navigation structures are contributing to deteriorated wave conditions within the harbor and erosion adjacent to shoreline outside the harbor.



Consequences of Not Maintaining the Project

- Lack of maintenance dredging is inhibiting development of new commercial users of the harbor.
- Significant loss of jobs both locally and regionally in an already economically depressed area.
- Failure to dredge will result in continued shoaling and reduced channel dimensions.

Transportation Importance

- Harbor of Refuge
- There is local interest in re-establishing movement of wood products and copper out of the harbor via marine transportation.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Ontonagon Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	750		850	850	0	
TOTAL	750	0	850	850	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Oswego Harbor, NY

Harbor Features

- Located on Lake Ontario in the city of Oswego, Oswego County, New York.
- Authorization: River & Harbor Acts of 1870, 1907, 1930, 1935, 1940, 1948, 1954 and 1962
- Deep draft commercial harbor
- Project depths are 27 feet in the lake approach channel; 25 feet in the outer harbor; 24 feet in the lower Oswego River channel; and 21 feet in the upper Oswego River channel, and east and west Ouster Harbor areas.
- 536K tons of material shipped and received in 2013
- Interconnected with 7 commercial ports: receives from 7 ports
- Over 2.5 miles of breakwater structures
- 280 acre outer harbor and 3000 feet of federal channel in the Oswego River
- Major stakeholders include Port of Oswego Authority, U.S. Coast Guard, NRG Energy, Sprague Energy, Lafarge Cement, Essroc Cement and private marinas.

Project Requirements

- Approximately 72,000 cubic yards of material must be dredged every 3 to 4 years. The harbor was last dredged in 2008 when 71,000 cubic yards of material were removed. Dredging is scheduled for FY16.
- Sandy supplemental funded dredging of approximately 60,000 cubic yards of material from storm impacted harbor areas was completed in Summer 2014.
- The east and west arrowhead and detached breakwaters are severely deteriorated and require significant repairs.



- Additional damage/deterioration of the detached breakwater was observed following Superstorm Sandy. Sandy supplemental funded repairs to the storm damaged sections, which were completed in 2015.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$2.07B annually in business revenue while supporting 24,740 direct, indirect, and induced jobs that produce over \$619M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by truck. This would increase annual emission rates by over 23,321 tons of harmful particulate matter (PM-10) and increase costs by \$2,289,000 due to increased trucking related accidents.
- Light loading; losses of between 3 and 4 feet of channel depth would result in increased transportation costs of between \$120,000 and \$297,000 annually.

Transportation Importance

- Major receiving port on the Great Lakes; and a Critical Harbor of Refuge
- Commodities shipped or received include petroleum, cement, chemicals, ores and minerals
- Home to 536 recreational slips, 6 boat launch lanes, and 29 charter boats.
- Generates recreational economic benefits totaling \$7,190,951 and supports 111 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Oswego Harbor, New York - Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary			1,285	1,285		
Construction, West Arrowhead Breakwater	4,900		4,900		4,900	
Sandy Supplemental Breakwater Repair	23,641*	23,641*				
Sandy Supplemental Maintenance Dredging						
TOTAL	28,541	23,641	6,185	1,285	4,900	0

*Funds allocated through Public Law 113-2 Disaster Relief Appropriations Act, 2013

Congressional Interests

- Representative John Katko R-NY-24
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Pensaukee Harbor, WI

Harbor Features

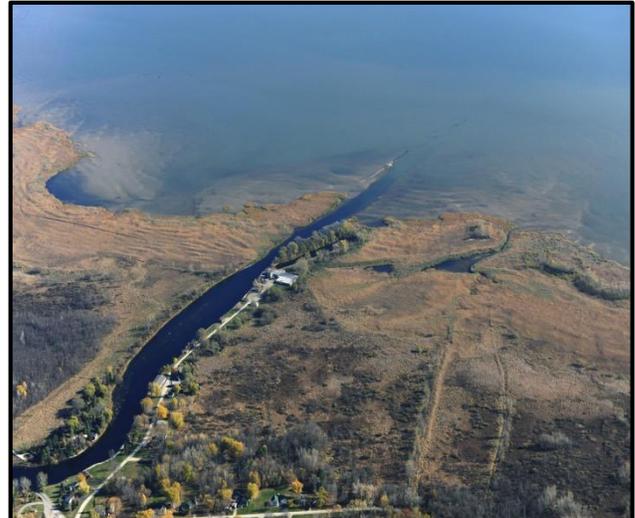
- Located on the western shore of Green Bay, WI about 20 miles north of the port of Green Bay.
- Authorization: River & harbor Act of 26 Aug 1937
- Shallow draft recreational harbor
- Project depth is 8 feet
- Nearly one mile of federal navigation channel stretching from the mouth of the Pensaukee River into Lake Michigan.
- Major Stakeholders include commercial and recreational fishermen.

Project Requirements

- This project requires infrequent maintenance dredging; the harbor was last dredged in 1993.
- Maintenance dredging is currently required in this harbor.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves primarily charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Pensaukee Harbor, WI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	667		667		685	
TOTAL	667	0	667	0	685	0

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



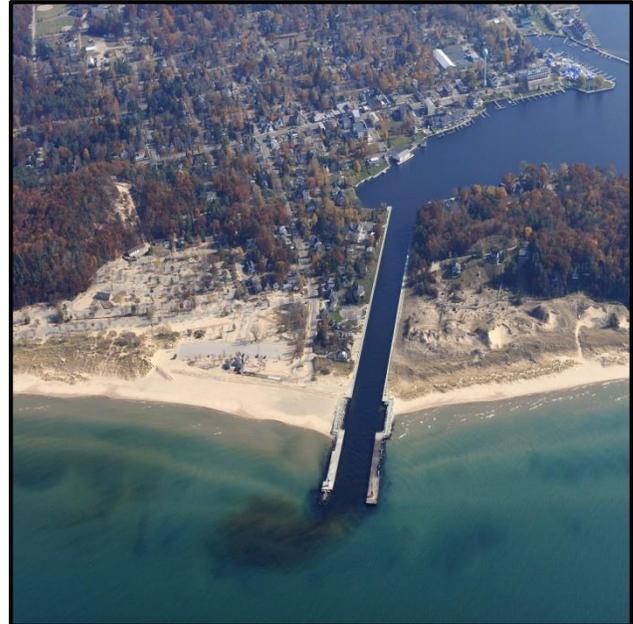
Pentwater Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 146 miles northeast of Chicago, IL and 14 miles south of Ludington, MI.
- Authorization: River & Harbor Acts of 2 Mar 1867, 3 Mar 1873, 5 Jul 1884, 13 Jul 1982, 2 Mar 1907
- Primary use is recreational
- Project depth is 16 feet
- Approximately 2,500 feet of maintained federal channel, between Lake Michigan and Pentwater Lake.
- More than 4,000 feet of maintained piers and revetments
- The north and south harbor piers and revetments were reconstructed in 1999 and 1996, respectively. Wave attenuators were also added during reconstruction.
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Snug Harbor Marina, Charlie's Marina, the village of Pentwater, Michigan DNR, Pentwater Yacht Club as well as other local businesses and charter boats.

Project Requirements

- Historically, has required maintenance dredging of approximately 12,500 cubic yards on a near annual basis; the harbor was last dredged in 2010. The community performed limited dredging in 2012.
- Maintenance dredging is currently required



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Decline of recreational boating
- Significant loss of seasonal retail, marina, and village revenues as well as jobs
- Decline in local real estate values from reduced boating access

Transportation Importance

- This project serves as an important Harbor of Refuge and supports Lake Michigan recreational boating interests. Revenues from these activities flow into the local community, retailers and to the marine industry.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Pentwater Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	230		260		265	
TOTAL	230	0	260	0	265	0

Congressional Interests

- Representative Bill Huizenga R-MI-2
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



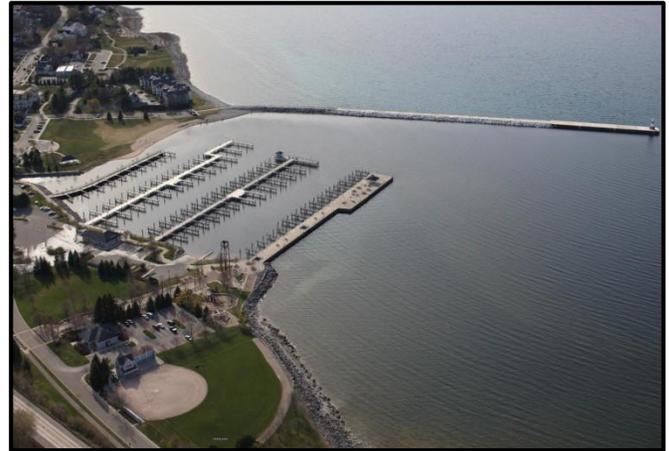
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Petoskey Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan about 50 miles south of the Straits of Mackinac.
- Authorization: River & Harbor Acts of 18 Aug 1894, and 13 Jun 1903
- No authorized navigational channel or project depth
- Recreational harbor
- Approximately 1,345 feet of breakwater
- Major stakeholders include the city of Petoskey, Emmet County, Michigan DNR, and Michigan Boating Association.



Project Requirements

- A full reconstruction of the breakwater was completed in 2010 after a 2006 storm caused a partial failure of the old breakwater. Breakwater reconstruction was partially funded by the American Recovery and Reinvestment Act of 2009.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Petoskey Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Point Lookout Harbor, MI

Harbor Features

- Located on the Au Gres River on the west shore of Lake Huron at the entrance to Saginaw Bay, about 17 miles northeast of the mouth of the Saginaw River.
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depth is 12 feet in the entrance channel in Lake Huron, 10 feet in the inner harbor channel, and 6 feet at the upstream end of the project
- Approximately 3 miles of maintained federal channel
- More than 7,800 feet of breakwaters
- Dredged material is placed in an upland placement site, which is provided by the State of Michigan as needed.
- Major stakeholders include Michigan DNR, various sport fishing interests and Au Gres Dock.

Project Requirements

- Requires periodic maintenance dredging of approximately 20,000 cubic yards on a 5 to 6 year cycle; the harbor was last dredged in 2014 with funds provided by the State of Michigan under a contributed funds agreement with USACE.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Point Lookout Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Kildee D-MI-5
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Port Austin Harbor, MI

Harbor Features

- Located on Lake Huron at the tip of the thumb of Michigan, about 80 miles northeast of Saginaw, MI
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depth for the entrance channel is 12 feet and the harbor basin is 10 feet deep.
- Federal channel does not go further than mouth of Bird Creek.
- More than 2,300 feet of breakwaters
- Dredged material is placed in an upland placement site.
- Major stakeholders include Michigan DNR Marina, 6 private marinas, village of Port Austin Marina, Port Austin Township Marina, Huron County Park & Beach, and various sport fishing interests.

Project Requirements

- Requires infrequent maintenance dredging of approximately 15,000 cubic yards on a 10 to 15 year cycle; the harbor was last dredged in 2010.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area; harbor supports 12 charter fishing boats.
- Federal breakwaters protect the Michigan DNR Marina, and Huron County's Bird Creek Park and public beach.



- Reduction or loss of handicap access
- Potential safety issues for recreational boating community
- Loss of safe harbor during storm events
- Loss of recreational boating access to Lake Huron

Transportation Importance

- This project serves as an important Harbor of Refuge as well as charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports 100 recreational boat slips (The State of Michigan installed new dock facilities in 2010)

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Port Austin Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Port Clinton Harbor, OH

Harbor Features

- Located on Lake Erie at the mouth of the Portage River in the city of Port Clinton, Ottawa County, Ohio
- Authorization: River & Harbor Act of 1872
- Shallow draft recreational harbor
- Project depth is 10 feet in the federal navigation channel
- The channel is 5,000 feet long; it is 100 feet wide for the outer 4,200 feet and 200 feet wide for the inner 800 feet
- The harbor is protected by parallel east and west jetties with a total length of 4,180 feet
- Major stakeholders include city of Port Clinton, Jet Express Ferry, private marinas, charter fishing interests and the recreational boating community

Project Requirements

- The channel currently requires maintenance dredging.
- Deteriorated sections of the east jetty require repairs to restore proper function of the structures.
- Additional damage/deterioration of the east jetty was observed following Superstorm Sandy.
- Sandy supplemental funded repairs to the storm damaged sections of the east jetty are scheduled to be completed in 2016.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Supports commercial ferry service to Put-in-Bay and Middle Bass Islands.
- Supports 78 seasonal charter fishing boats generating approximately \$1.2M in annual revenue.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Port Clinton Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Sediment Sampling & Analysis	70					
Maintenance Dredging			870		870	
E&D, Inside East Jetty Repair	200		200		200	
Structure Repair Outer E. Jetty						
Sandy Supplemental Jetty Repair	150*	150*	800*	800*		
TOTAL	420	150	1,870	800	1,070	0

*Funds allocated through Public Law 113-2 Disaster Relief Appropriations Act, 2013

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Port Ontario Harbor, NY

Harbor Features

- Located on Lake Ontario, Port Ontario, Oswego County, New York
- Authorization: River & Harbor Act of 1945
- Shallow draft recreational harbor
- Project depths are 8 feet in the entrance channel and 6 feet in the harbor basin
- The harbor is protected by the north and south breakwaters with a total length of 1,690 feet
- In accordance with project documentation, all operation and maintenance, including sand bypassing, is to be undertaken by the USACE on an as-needed basis. The cost of operation and maintenance is to be shared between the local sponsor, New York State Office of Parks, Recreation, and Historic Preservation (65%), and USACE (35%)
- Major stakeholders include private marina, charter fishing interests and the recreational boating community

Project Requirements

- Since construction in 1987, approximately 300,000 cubic yards of sand has accumulated on the south side of the south breakwater. Sand bypassing is required to move this material to reduce shoreline erosion north of the harbor



Consequences of Not Maintaining the Project

- Failure to complete sand bypassing could potentially result in additional erosion of the shoreline north of breakwater system
- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Home to 68 slips, 2 boat launch lanes and 8 charter boats.
- Generates economic benefits totaling \$1,554,937 and supports 26 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Port Ontario Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Sediment Sampling and Analysis	70					
E&D, Construction Sand Bypass			1,300		1,300	
TOTAL	70	0	1,300	0	1,300	0

Congressional Interests

- Representative Richard Hanna R-NY-22
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



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Port Sanilac Harbor, MI

Harbor Features

- Located on the west shore of Lake Huron, about 30 miles north of Port Huron, MI.
- Authorization: River & Harbor Act of 2 Mar 1945
- Shallow draft recreational harbor
- Project depths are 12 feet in the entrance channel and 6 feet in the harbor basin
- More than 2,500 feet of breakwaters
- Dredged material is placed on the beach as beach nourishment.
- Major stakeholders include Michigan DNR, Port Sanilac Marina, Bark Shanty Marina and Boat Club, and various charter fishing interests.

Project Requirements

- Requires maintenance dredging on a three to five year cycle of approximately 10,000 cubic yards; the harbor was last dredged in 2010.
- Maintenance dredging is currently required
- Minor breakwater maintenance is currently required

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports one Michigan DNR and two private marinas totaling 214 seasonal and transient slips.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Port Sanilac Harbor, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Maintenance Dredging – Primary Work Package	250		250		255	
Critical Breakwater Safety Maintenance			25		25	
TOTAL	250	0	275	0	280	0

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Port Washington Harbor, WI

Project Features

- Located on the west shore of Lake Michigan, about 53 miles south of Manitowoc and about 29 miles north of Milwaukee, WI.
- Authorization: River & Harbor Acts of 11 Jul 1870, 14 Aug 1876
- Deep draft commercial harbor
- Project depth of 21 feet in entrance and inner channels and 18 foot depths in inner basins. Project depths providing access to the marina and launch ramp vary between 8 and 10 feet.
- About 3,000 feet of structures including breakwaters and piers
- Over one-half mile of maintained channel
- Major stakeholders include We Energies.

Project Requirements

- Approximately 11,000 to 16,000 cubic yards of material must be dredged from the inner basins on a 10 to 15 year cycle; the harbor was last dredged in 2003, and the harbor currently requires dredging.
- Local interests have expressed concerns regarding the structural stability of the north breakwater. An operational condition assessment was completed for the structure in 2013, which identified areas of deterioration.
- In 2014, funding was provided to replenish armor stone along the lakeside of the north breakwater.
- The city of Port Washington has provided \$1M to the Detroit District to make critical repairs to the cellular structures of the breakwater under a contributed funds agreement. This work is expected to begin in 2016.
- Additional armor stone is needed on the harbor side of the north breakwater.



Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally
- Light loading associated with inadequate maintenance dredging, increasing vessel transportation costs.

Transportation Importance

- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Harbor of Refuge

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Port Washington Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package			225		225	
Maintenance Dredging – Backlog Work Package	417					
Full Structural Repair of North Breakwater – by Contract	4,000		2,500		2,500	
TOTAL	4,417	0	2,725	0	2,725	0

Congressional Interests

- Representative Glenn S. Grothman R-WI-6
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Port Wing Harbor, WI

Harbor Features

- Located on the south shore of Lake Superior, about 34 miles east of Duluth, MN.
- Authorization: River & Harbor Acts of 12 Jun 1902, 30 Jun 1948
- Recreational harbor
- Project depth of 15 feet in the entrance channel and 8 feet in the upstream portion of the federal project (south and east ends)
- About 2,500 feet of maintained federal channel
- About 2,000 feet of piers
- Dredged material is placed on the beach as beach nourishment
- Major stakeholders include Port Wing Marina, Everett Fisheries, and various charter fishermen.



Project Requirements

- Requires maintenance dredging on a three to five year cycle of approximately 15,000 to 25,000 cubic yards; the harbor was last dredged in 2008.
- The harbor currently requires maintenance dredging.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Port Wing Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	190		190		195	
TOTAL	190	0	190	0	195	0

Congressional Interests

- Representative Sean Duffy R-WI-7
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Portage Lake Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 146 miles northeast of Chicago, IL and 40 miles north of Ludington, MI.
- Authorization: River & Harbor Act of 3 Mar 1879
- Recreational harbor
- Project depth is 18 feet
- Over 2,000 feet of maintained federal channel, between Lake Michigan and Portage Lake
- More than 4,400 feet of maintained piers and revetments
- Dredged material is placed along the beach as beach nourishment
- Major stakeholders include the city (village) of Onekama, Michigan DNR, Michigan Boating Association, Portage Lake Harbor Commission, Three Harbor Marinas, and a variety of charter and sport fishing interests.

Project Requirements

- Approximately 22,000 cubic yards of material must be dredged on a 3 to 5 year cycle. Harbor is currently in need of dredging.
- Local community completed dredging of the federal channel in 2013 with funding from State of Michigan.
- Recent condition assessments have identified serious structural deficiencies on both the north and south revetments. Design and physical repairs are required. However due to cost considerations, the structures may have to be repaired in phases over several years.
- The state of Michigan has submitted a letter of intent to contribute funds (\$800,000) for the USACE to complete design of the project and partial repairs to the navigation structures.



Consequences of Not Maintaining the Project

- Loss of jobs locally; the harbor supports approximately 200 jobs.
- Loss of tourism, recreational and charter fishing in the area; the harbor supports 11 charter fishing boats and 4 commercial docking facilities.
- Potential safety issues for recreational boating community if channel closes.

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Supports approximately 250 recreational boat slips with more than 500 private on shore docks.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Portage Lake Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	215		215		220	
Structural Repair – by Contract	6,000		6,000		6,250	
Design for Revetment Repairs	250		0		0	
TOTAL	6,465	0	6,215	0	6,470	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Presque Isle Harbor, MI

Harbor Features

- Located on the south shore of Lake Superior near Marquette, MI.
- Authorization: River & Harbor Acts of 3 Jun 1896, 13 Jun 1902, 30 Aug 1935, 14 Jul 1960
- Deep draft commercial harbor
- Project depths of 30 feet in the approach, 28 feet in the inner basin
- 8.3M tons of material shipped and received in 2013
- Ranked 9th among the Great Lakes harbors
- Over 2,800 feet of breakwater
- Major stakeholders include Cleveland Cliffs Tilden, Empire Mines, Lafarge Construction Materials, and Lake Superior & Ishpeming Railroad.

Project Requirements

- Requirement for maintenance dredging limited to a 10 to 15 year cycle. The harbor was last dredged in 1984.
- The harbor currently requires maintenance dredging, and there are plans to dredge the harbor in 2016.
- Navigation structures are primarily maintained by the government floating plant.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$6.03B annually in business revenue while supporting 31,371 direct, indirect, and induced jobs that produce over \$433M per year in personal income in transportation and commodity related industries.



- If the harbor were closed to commercial traffic, commodities would have to be transported by rail. This would increase annual emission rates by over 97M lbs of harmful particulate matter (PM-10) and increase costs by \$3.2M due to increased railroad related accidents.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$22K and \$605K annually.
- Deterioration of breakwater would cause hazards to vessel navigation and mooring and endanger harbor infrastructure.

Transportation Importance

- Major receiving port on the Great Lakes
- Commodities include iron ore, coal, and limestone.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Presque Isle Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	596		596	596	0	
Maintenance Dredging – Backlog Work Package	500		500			
TOTAL	1,096	0	1,096	596	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Put-In-Bay Harbor, OH

Harbor Features

- Located on Lake Erie on the north side of South Bass Island, Ottawa County, Ohio
- Authorization: River & Harbor Act of 1937
- Shallow draft commercial harbor
- Project depths are 14 feet in the entrance channel and 8 feet in the harbor basin
- Five year average (2008-2012) tonnage of 7.6K tons of material shipped and received
- Ranked 73rd among the Great Lakes Harbors based on five year average (2008-2012) tonnage
- Major stakeholders include Put-In-Bay Township Port Authority, Jet Express Ferry, commercial shipping interests, charter fishing interests and the recreational boating community

Project Requirements

- Maintenance dredging is required very infrequently. The project was last dredged in 2000 when 5,000 cubic yards of sediment were removed

Consequences of Not Maintaining the Project

- Potential safety issues for commercial and recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally



Transportation Importance

- Provide safe access point to South Bass Island and town of Put-In-Bay for residents, tourists, commercial ferries and commercial shippers.
- Destination for commercial ferry service departing from Port Clinton Harbor, OH
- Commodities shipped or received include gasoline, distillate fuel oil, limestone and manufactured products.
- Harbor of Refuge
- Supports 4 seasonal and 50 transient charter fishing boats generating approximately \$62,000 in annual revenue.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Put-In-Bay Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Sediment Sampling and Analysis	70					
TOTAL	70	0	0	0	0	0

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Rochester Harbor, NY

Harbor Features

- Located on Lake Ontario in the city of Rochester, Monroe County, New York
- Authorization: River & Harbor Acts of 1829, 1882, 1910, 1935, 1945 and 1960
- Deep draft commercial harbor
- Project depths are 24 feet in the approach channel, 23 feet in the entrance channel and 21 feet in the Genesee River
- 104K tons of material shipped and received in 2013
- Protective structures include the east and west piers that total approximately 1.1 miles in length
- Lake approach, entrance, and Genesee River federal channels total approximately 2.7 miles in length
- Major stakeholders include the Rochester-Monroe County Port Authority, Port of Rochester, U.S. Coast Guard, and Essroc Cement Corporation

Project Requirements

- Approximately 220,000 cubic yards of material must be dredged every 2 years. The harbor was last dredged in 2015 when approximately 290,000 cubic yards of material was removed. Maintenance dredging is scheduled to be completed in 2016.
- Sandy supplemental funded dredging of approximately 200,000 cubic yards of material from storm impacted harbor areas was completed in Summer 2014.
- Approximately 1000 feet of the east pier is severely deteriorated and in need of repairs.



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$610M annually in business revenue while supporting 3,681 direct, indirect, and induced jobs that produce over \$183M per year in personal income in the transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by truck. This would increase annual emission rates by over 9,001 tons of harmful particulate matter (PM-10) and increase costs by \$1,401,000 due to increased trucking related accidents.
- Light loading; losses of between 3 and 4 feet of channel depth would result in increased transportation costs of between \$347,000 and \$4,020,000 annually.

Transportation Importance

- Receiving and shipping port on the Great Lakes; and a Critical Harbor of Refuge
- Location of U.S. Coast Guard station
- Cement is the major commodity shipped and received

- Home to 1,034 recreational slips, 5 boat launch lanes, and 26 charter boats.
- Generates recreational economic benefits totaling \$9,961,798 and supports 141 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Rochester Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary			2,320	2,320		
E&D, Constr., East Pier Repair	4,750		4,750		4,750	
TOTAL	4,750	0	7,070	2,320	4,750	0

Congressional Interests

- Representative Louise Slaughter D-NY-25
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Rocky River Harbor, OH

Harbor Features

- Located on Lake Erie at the mouth of the Rocky River, in the city of Rocky River, Cuyahoga County, Ohio.
- Authorization: River & Harbor Acts of 1872, 1937 and 1965
- Shallow draft recreational harbor
- Project depths are 10 feet in the entrance channel and anchorage basin and 6 to 8 feet in the river channel
- The project consists of a 5,000 foot long navigation channel and an anchorage basin
- The harbor is protected by the east pier with a total length of 900 feet
- Major stakeholders include private marinas, fishing interests and the recreational boating community.

Project Requirements

- Maintenance dredging is required every 3 to 4 years. The project was last dredged in 2004 when 18,400 cubic yards of material were removed.
- Approximately 45,000 cubic yards of material must be dredged to restore the functional harbor areas.
- The channel currently requires maintenance dredging.

Consequences of Not Maintaining the Project

- Failure to dredge will result in continued shoaling and reduced channel dimensions; resulting in unsafe navigation conditions
- Potential safety issues for recreational boating community
- Negative economic impacts, locally and regionally



Transportation Importance

- Provides safe access between Rocky River and Lake Erie.
- The harbor is used by thousands of boaters annually and includes a public launch facility with 190 trailer capacity and 6 launch ramps.
- Other features include 640 seasonal and 20 transient recreational boat slips
- Supports 2 seasonal charter fishing boats generating approximately \$31,000 in annual revenue.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Rocky River Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary			920		920	
TOTAL	0	0	920	0	920	0

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Rouge River, MI

River Features

- Rouge River originates in Oakland and Washtenaw Counties, MI. The river is 30 miles long, flows southeast through Wayne County, and joins the Detroit River at the westerly limit of the city of Detroit. The navigation channel is located on the lower 2 ½ miles of the river.
- Authorization: River & Harbor Acts of 8 Aug 1917, 30 Aug 1935, 3 Jul 1958, 23 Oct 1962
- Deep draft commercial harbor
- Project depth is 21 feet in the cut-off and main Rouge channel to 17 to 25 feet in the Old Rouge channel.
- 6.7M tons of material shipped and received in 2013
- Ranked 12th among the Great Lakes harbors, when considered separately from Port of Detroit
- Total of 4.5 miles of federal channels and one turning basin
- Pointe Mouille confined disposal facility is located in Lake Erie and has sufficient capacity to accommodate Rouge River dredged material for the next 25 years.
- Major stakeholders include Ajax Paving Industries Inc., Great Lakes Aggregates Inc., Harridon Terminal Inc., Honeywell International Inc., Jefferson Marine Terminal, Michigan Marine Terminal, Motor City Materials LLC, Nicholson Terminal & Dcko Co., Severstal North America, Marathon Oil, U.S. Gypsum, and Warner Petroleum.

Project Requirements

- Rouge River historically requires maintenance dredging of 50,000 to 60,000 cubic yards on a 2 to 5 year cycle; the river was last dredged in 2012 to address portions of the channel that experienced up to 3 feet of shoaling.



- The project currently requires maintenance dredging, and there are plans to dredge the harbor in 2016.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$9.46B annually in business revenue while supporting 53,949 direct, indirect, and induced jobs that produce over \$2.58B per year in personal income in transportation and commodity related industries.
- If the channel were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by 548M lbs of harmful particulate matter (PM-10) and increase costs by \$3.8M due to increased railroad related accidents, and \$14.5M due to increased trucking related accidents.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of \$4M to \$8.6M annually.

Transportation Importance

- Major receiving port on the Great Lakes.
- Commodities include iron ore, petroleum products, coal, slag, cement, limestone, lignite, fuel oil, coke, salt, sand, and gravel.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Rouge River, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	960	960	900	900	0	
CDF Maintenance					0	
TOTAL	960	960	900	900	0	0

Congressional Interests

- Representative John Conyers Jr. D-MI-13
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Saginaw River, MI

River Features

- Saginaw River is formed by the union of the Tittabawassee and Shiawassee Rivers, is 22 miles long, and flows northerly into the south end of Saginaw Bay in Lake Huron. The cities of Saginaw and Bay City are on the river.
- Authorization: River & Harbor Acts of 25 Jun 1910, 3 Jul 1930, 26 Aug 1937, 20 Jun 1938, 3 Sep 1954, 23 Oct 1962, 27 Oct 1965
- Deep draft commercial harbor
- Project depths varying from 27 feet in the Saginaw Bay entrance channel to 22 to 26 feet in the Saginaw River channel, and 20 feet in two of the turning basins.
- 2.49M tons of material shipped and received in 2013
- Ranked 25th among the Great Lakes harbors
- Total of 26 miles of federal channels and 5 turning basins
- Material dredged from the upper river federal navigation channel is placed in the Upper Saginaw Dredged Material Disposal Facility, which was constructed in 2008. It is located adjacent to the river approximately 10 miles upstream of the river mouth.
- Material dredged from the federal navigation channels in the lower river and bay is placed in the Saginaw Bay Confined Disposal Facility, located one mile northeast of the mouth of the river in Saginaw Bay.
- Major stakeholders include U.S. Coast Guard, ADM, Bay Aggregates, Bit-Mat Products of Michigan, BMT Terminals, Burroughs Materials Corp., Carrolton Concrete Mix Inc., Conagra, Consumers Energy, C. Reiss Coal, Dow Chemical, Essroc Italcementi Group, Gavidon Grain LLC, General Motors, International Materials, Lafarge North America, Lee Wood Terminal, Marathon Petroleum Co. LLC, Morton Salt, Mosaic, Northern Star Minerals, Peavey Grain, Potash Corp Saskatchewan, and Saginaw Bay Fertilizer.



- Additional major stakeholders include Saginaw Asphalt Paving Co., Saginaw Rock Product, and Sand & Stone Inc., Saginaw River Alliance, Sargent Docks & Terminal Company, SIFTO North American Salt, Triple Clean Liquifuels, and Wirt Stone Docks.

Project Requirements

- Entrance channel in Saginaw Bay requires annual maintenance dredging of approximately 180,000 cubic yards. The upper river channel requires maintenance dredging of 50,000 to 100,000 cubic yards on a 2 to 3 year cycle.
- Maintenance dredging was conducted in 2015, and will be conducted again in 2016.
- The remaining capacity of the Bay CDF has been assessed as part of a Dredged Material Management Plan and at least 20 years of dredged material placement capacity remain.
- A study is ongoing which is looking at the economic feasibility of potentially deepening portions of the Saginaw River authorized navigation channels.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$2.28B annually in business revenue while supporting 13,095 direct, indirect, and induced jobs that produce over \$665M per year in personal income in transportation and commodity related industries.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$1.4M and \$3.4M annually.

Transportation Importance

- Major receiving port on the Great Lakes
- All Mid-Michigan and thumb of Michigan fertilizer shipped through Saginaw River.
- Commodities include coal, limestone, petroleum products, gypsum, salt, cement, food and grains, as well as fertilizers - potash, urea, DAP, and Ag lime

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Saginaw River, MI - Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Project Condition Surveys	371	371	375	375	383	383
Maintenance Dredging – Primary Work Package	2,100	2,100	2,200	2,200	3,200	3,200
Maintenance Dredging – Work Package	2,000		2,000	2,000	5,300	
CDF Fill Management	280	280			270	270
DMMP Development						
Upper Saginaw CDF Operations	250	250	200	200	120	120
TOTAL	5,001	3,001	4,775	4,775	9,273	3,973

Congressional Interests

- Representative Dan E. Kildee D-MI-5
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Sandusky Harbor, OH

Harbor Features

- Located on Lake Erie in the city of Sandusky, Erie County, Ohio.
- Authorization: River & Harbor Acts of 1899, 1902, 1919, 1927, 1935, 1945 and 1960
- Deep draft commercial harbor
- Project depths 26 feet in the Mosely Channel; 25 feet in the Bay Channel; 22 feet in the Dock Channel; and 21 feet in the Straight Channel.
- 3.0M tons of material shipped and received in 2013
- Ranked 24th among the Great Lakes harbors
- Interconnected with 11 commercial ports: ships to 8 ports, and receives from 3 ports
- Over 2 miles of breakwater structures
- The Moseley, Bay, Dock and Straight federal channels total 5.95 miles in length
- Major stakeholders include Norfolk Southern, Sandusky Dock Corp., George Gradel Co., Cedar Point Amusement Park, commercial ferries and private marinas.

Project Requirements

- Approximately 140,000 cubic yards of material must be dredged annually. The harbor was last dredged in 2015 when approximately 347,000 cubic of material was removed. Maintenance dredging is scheduled to be completed in Fall 2016.
- Sandy supplemental funded dredging of an additional 85,000 cubic yards of material from storm impacted harbor areas was completed in 2013.
- Sections of the east jetty and spur dike have deteriorated and require repairs. Repairs to the spur dike by government floating plant will be initiated in FY16.



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$604M annually in business revenue while supporting 3,495 direct, indirect, and induced jobs that produce over \$30.1M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 5,633 tons of harmful particulate matter (PM-10) and increase costs by \$812,000 due to increased railroad related accidents, and \$68,000 due to increased trucking related accidents.
- Light loading; losses of between 1 and 2 feet of channel depth would result in increased transportation costs of between \$583,000 and \$1,224,000 annually.

Transportation Importance

- Major receiving and shipping port on the Great Lakes and a Harbor of Refuge.
- Coal is the major commodity shipped

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Sandusky Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary	1,600	1,600	1,700	1,700	1,618	1,618
Structure Repair – East Jetty (F/P)			600	600		
Sandy Supplemental Maintenance Dredging						
TOTAL	1,600	1,600	2,300	2,300	1,618	1,618

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Saugatuck Harbor and Kalamazoo River, MI

Harbor Features

- Located on the east shore of Lake Michigan about 90 miles northeast of Chicago, IL and 22 miles north of South Haven, MI.
- Authorization: River & Harbor Acts of 3 Jun 1896, 2 Mar 1907, 25 Jun 1910
- Recreational harbor
- Project depth is 16 feet in the entrance channel and 14 feet in the Kalamazoo River
- Over 2 miles of maintained federal channel, between Lake Michigan and Kalamazoo Lake
- Nearly 4,000 feet of maintained piers and revetments
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Tower Marine, Corral Cables, The King Co., and Sargent Marina.

Project Requirements

- Approximately 42,000 cubic yards of material must be dredged on a 3 to 4 year cycle; the outer harbor was last dredged in 2013.
- Maintenance dredging was completed in 2013 using Hurricane Sandy Relief Funds to remove shoaling that occurred in the Fall of 2012 due to that storm event.
- The harbor currently requires dredging.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The harbor also serves cruise vessels.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Saugatuck Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	370		370		375	
TOTAL	370	0	370	0	375	0

Congressional Interests

- Representative Fred Upton R-MI-6
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



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Saxon Harbor, WI

Harbor Features

- Located on the southern shore of Lake Superior about 90 miles east of Duluth, MN.
- Authorization: River & Harbor Act of 1958
- Shallow draft harbor
- Project depth in outer channel is 10 feet, inner basin and side channel is 8 feet.
- Project length total is 3,800 feet
- Approximately 1,000 feet of breakwaters
- Dredged material placed in upland site
- Major stakeholders include several marinas and yacht club, and various businesses.



Project Requirements

- Periodic maintenance dredging of approximately 7,000 cubic yards is required every 4 to 7 years; the harbor was last dredged in 2008.
- The harbor currently requires maintenance dredging.

Transportation Importance

- This project serves as a Harbor of Refuge and supports charter fishing and recreational navigation interests.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Saxon Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	250		250		255	
TOTAL	250	0	250	0	255	0

Congressional Interests

- Representative Sean Duffy R-WI-7
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Sebewaing River, MI

Project Features

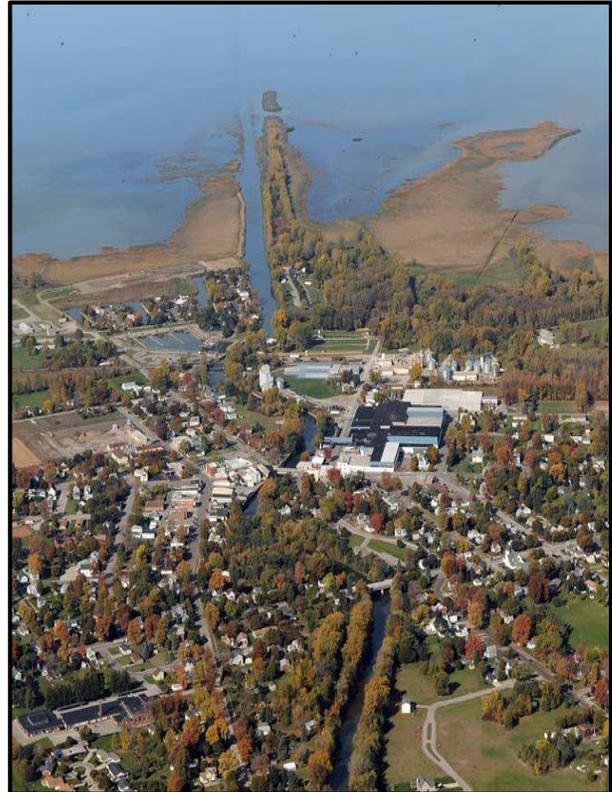
- Located on Saginaw Bay in the thumb of Michigan on the west shore of Lake Huron, about 20 miles northeast of the mouth of the Saginaw River.
- Authorization: River & Harbor Act of 3 Jun 1896
- Shallow draft recreational project
- Project depth is 8 feet
- Over 15,000 feet of maintained federal channel
- The Sebewaing Confined Disposal Facility was turned over to the local community.
- Major stakeholders include the Village of Sebewaing, Michigan DNR and Crooked Creek Marina.

Project Requirements

- Requires periodic maintenance dredging on a 3 to 5 year cycle of approximately 9,000 to 15,000 cubic yards.
- Portions of this river were last dredged in 2014 with funds provided by the State of Michigan under a contributed funds agreement with USACE.
- The river currently requires additional maintenance dredging.
- Flood risk management component (levee system) of the project requires repairs. Levee along the north embankment underwent a major reconstruction in 2012, however extensive vegetation removal is still needed. The south embankment still requires repair.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area



Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Sebewaing River, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package			1,000		1,000	
Maintenance Dredging – Backlog Work Package						
Other Business Lines						
Routine Operations & Maintenance	50	50	40	40	52	52
South Levee Master Plan						
Levee Repair and Replacement (south embankment)	200		4,000		4,000	
North Levee Repair	100		1,000			
South Levee SSP Repair	275		275		475	
EGIS Implementation			25		20	
TOTAL	625	50	6,340	40	5,547	52

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Sheboygan Harbor, WI

Harbor Features

- Located on the west shore of Lake Michigan about 26 miles south of Manitowoc and about 55 miles north of Milwaukee, WI.
- Authorization: River & Harbor Act of 2 Mar 1907
- Authorized as a commercial harbor but currently serves primarily recreational boat traffic.
- Project depth is 25 feet in the entrance channel, 21 feet in the inner harbor channel and turning basin up to the 8th Street bridge, and 15 feet upstream of the 8th Street bridge.
- More than 6,300 feet of breakwater and pier structures
- Approximately 4,000 feet of maintained channel
- Dredged material is placed on the beach as beach nourishment, and upland as needed.
- Major stakeholders include the U.S. Coast Guard, Wisconsin DNR, city of Sheboygan and various charter and sport fishing interests.

Project Requirements

- Maintenance dredging of approximately 7,000 to 12,000 cubic yards is required on a five to ten year cycle; the harbor was last dredged by the EPA in 2012.
- The harbor currently requires dredging to remove a balance of shoaling in the harbor.
- This harbor is a Superfund site, therefore the EPA conducted environmental dredging in 2012. Their work re-established maintained depths in the federal navigation channel of 15 feet in the outer harbor and 11 feet in the inner harbor.
- South breakwater requires repair. Due to the magnitude of the estimated cost (\$13.5M), the breakwater may have to be repaired in phases over several years.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as a Harbor of Refuge and supports charter fishing and recreational navigation interests.
- Starting in 2012 the harbor also began serving the Great Lakes cruise ship industry, serving as a docking port for the Wisconsin shoreline.
- The harbor community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Sheboygan Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	965		965		500	
Maintenance Dredging – Backlog Work Package	1,200		1,200		0	
Initial Phase of Repair of South Pier	4,875		4,875		4,875	
TOTAL	7,040	0	7,040	0	5,375	0

Congressional Interests

- Representative Glenn S. Grothman R-WI-6
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Silver Bay, MN

Harbor Features

- Located on the north shore of Lake Superior, 55 miles northeast of Duluth, MN.
- Authorization: Section 2 of the River & Harbor Act of 2 Mar 1945 and Water Resources Development Act (WRDA) of 2007
- Shallow draft recreational harbor, no authorized project depth, only breakwaters.
- Approximately 2,730 feet of rubble mound breakwater structure with 660 feet of concrete walkway on breakwater, encompassing a 12 acre commercial basin; marina is approximately 7 acres.
- Major stakeholders include city of Silver Bay, Marina Concessionaire, Minnesota DNR, and recreational boating interests.

Project Requirements

- Currently, there are no critical maintenance requirements.

Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Major economic implications to the community if the harbor were to close, as the harbor provides recreational activities for tourists traveling from the Twin Cities.
- Potential functional loss of critical Harbor of Refuge
- Negative economic impacts locally



Transportation Importance

- Critical Harbor of Refuge
- This project supports recreational navigation interests.
- The harbor supports a marina providing 108 seasonal boat slips.
- Breakwater also provides protection for the taconite loading facility, over 5.4 million tons shipped annually.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Silver Bay, MN - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Rick Nolan D-MN-8
- Senator Amy Klobuchar D-MN
- Senator Al Franken D-MN



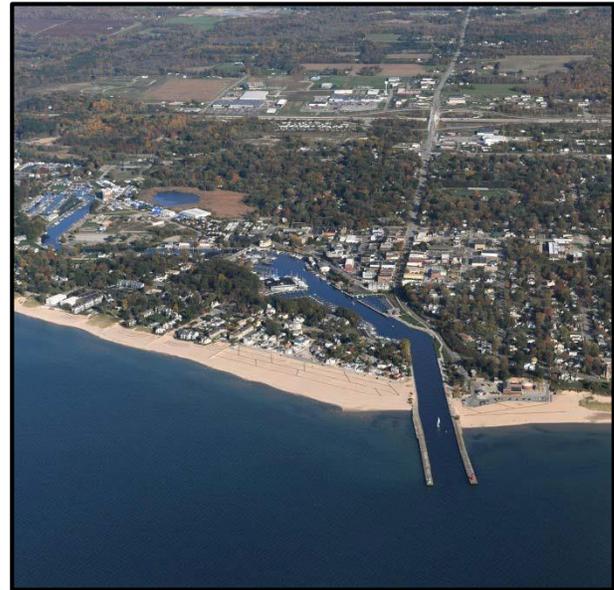
South Haven, MI

Harbor Features

- Located on the east shore of Lake Michigan, 77 miles northeast of Chicago, IL.
- Authorization: River & Harbor Acts of 11 Aug 1888, 3 Mar 1905, 30 Aug 1935
- Authorized as a commercial harbor, but current use is primarily recreational.
- Project depths of 21 feet in the entrance channel and 19 feet in the river.
- Approximately 3,100 feet of maintained federal channel
- More than 4,300 feet of maintained structures, including breakwaters, piers, and revetments.
- Major stakeholders include All Seasons Marina, Friends Goodwill, South Haven Yacht Club, River Bend Boat Club, Oak Harbor, River Noire, South Haven Municipal Marina, Black River Yacht Club, Black River Park Boat Launch, Boat Yard Basin and Woodland Harbor.

Project Requirements

- Requires periodic maintenance dredging of 18,000 cubic yards on a two to four year cycle.
- Maintenance dredging was completed in 2013 using Hurricane Sandy Relief Funds to remove shoaling that occurred in the Fall of 2012 due to that storm event.
- The harbor was impacted by a major storm that impacted southern Lake Michigan on October 31, 2014.
- The harbor currently requires dredging to remove a balance of shoaling in the harbor.



Consequences of Not Maintaining the Project

- Significant loss of jobs locally
- Loss of commercial fishing in the area

Transportation Importance

- Harbor of Refuge
- This project serves primarily commercial fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.
- Harbor supports 1,000 seasonal and transient boat slips.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
South Haven, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	355		355		365	
Sediment Budget Analysis – Section 111	150		150		150	
TOTAL	505	0	505	0	515	0

Congressional Interests

- Representative Fred Upton R-MI-6
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



St. Clair River, MI

Project Features

- One of Great Lakes connecting channels; 40 miles long, flowing south from Lake Huron and discharging into Lake St. Clair.
- Authorization: River & Harbor Acts of 13 Jul 1892, 3 Jul 1930, 2 Mar 1945, 24 Jul 1945, 21 Mar 1956
- Deep draft commercial project
- Great Lakes connecting channel between Lake St. Clair and Lake Huron with 55M tons of commerce passing through annually (average from 2009-2013).
- Project depths vary from 27.1 to 30.0 feet
- Serves ports of Marysville, Marine City and St. Clair
- 8.2M tons of material shipped and received in 2013, for ports of Marysville, Marine City and St. Clair
- Ranked 10th among the Great Lakes harbors
- Over 44 miles of federal channels
- Dickinson Island Confined Disposal Facility has provided a suitable placement site for all material dredged from the St. Clair River since 1980 and is anticipated to have sufficient capacity for at least 25 more years.
- Major stakeholders include U.S. Coast Guard, Blue Water Aggregates, DTE Energy, Marine City Ferry, Marysville Ethanol LLC, St. Clair Aggregates, and all connecting channels users.

Project Requirements

- Requires periodic maintenance dredging of 25,000 to 40,000 cubic yards on the lower river channels on a 3 to 8 year cycle. The St. Clair River channels were last dredged in 2015.
- Obstruction removal is required on an annual basis.



Consequences of Not Maintaining the Project

- If the channel were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 1.9B lbs of harmful particulate matter (PM-10) and increase costs by \$28M due to increased railroad related accidents, and \$64M due to increased trucking related accidents.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$12.9M and \$30.7M annually.
- Key component of the Great Lakes and St. Lawrence Seaway navigation system.
- Disruption of service would have severe maritime and economic impacts.

Transportation Importance

- Contains three major receiving ports on the Great Lakes.
- Commodities transported through these channels include coal, limestone, wood pulp, iron ore, petroleum products, salt, and other general international cargo

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
St. Clair River, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys	201	201	205	205	210	210
Maintenance Dredging – Primary Work Package	900	900				
Maintenance Dredging – Backlog Work Package						
Strike Removal – by Govt. Floating Plant	460	460	460	460	470	470
TOTAL	1,561	1,561	665	665	680	680

Congressional Interests

- Representative Candice S. Miller R-MI-10
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



St. James Harbor, Beaver Island, MI

Harbor Features

- Located in St. James Bay on Beaver Island, MI in Lake Michigan about 31 miles northwest of Charlevoix, MI.
- Authorization: River & Harbor Act of 2 Mar 1945
- Recreational harbor
- Project depth is 14 feet
- Approximately 750 feet of maintained federal channel
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Michigan DNR, Beaver Island Ferry Service, a variety of boating interests and the Michigan Boating Association.

Project Requirements

- This project requires infrequent maintenance dredging; the harbor was last dredged in 1957.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of only commercial transportation option to the mainland
- Loss of emergency and all essential services to the local community



Transportation Importance

- Subsistence harbor - This harbor provides all essential services to the island. It is vital to emergency services and schools.
- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
St. James Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



St. Joseph Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 60 miles east of Chicago, IL, and 24 miles south of South Haven, MI.
- Authorization: River & Harbor Acts of 3 Mar 1875, 14 Jun 1880, 3 Mar 1899, 30 Aug 1935, 2 Jun 1937, Mar 1945, 3 Jul 1958
- Deep draft commercial harbor
- Project depths of 21 feet in the entrance and inner channel; 18 feet in the inner river channel and turning basin.
- 256K tons of material shipped and received in 2013
- Over 5,300 feet of structures including piers and revetments
- Over 1.5 miles of maintained channel
- Outer channel dredged material is used for beach nourishment. Inner channel material is placed upland.
- Major stakeholders include U.S. Coast Guard, Central Dock Company, Dock 63, and Lafarge North America.

Project Requirements

- Approximately 40,000 cubic yards of material must be dredged from the entrance channel annually. Approximately 30,000 to 60,000 cubic yards of material must be dredged from the inner harbor on a 2 to 4 year cycle.
- The harbor was last dredged in 2015 in the outer harbor.
- There are plans to dredge the inner and outer harbor in 2016.



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$840M annually in business revenue while supporting 5,057 direct, indirect, and induced jobs that produce over \$251M per year in personal income in transportation and commodity related industries.
- Light loading; loss of between 4 and 5 feet of channel depth results in increased transportation costs of between \$1.6M and \$3.9M.

Transportation Importance

- Regionally significant receiving port on the Great Lakes.
- Commodities received include limestone, sand, gravel, armor stone, cement, slag, salt, and petroleum products.
- Project serves as an important Harbor of Refuge
- Harbor is home to the U.S. Coast Guard Station Saint Joseph.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
St. Joseph Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging of Outer Harbor – Primary Work Package	990	800	815	815	750	750
Maintenance Dredging of Inner Harbor – Primary Work Package			775	775		
Maintenance Dredging – Backlog Work Package	225		225		225	
Sediment Budget Analysis, Section 111	150		150		150	
TOTAL	1,365	800	1,965	1,590	1,125	750

Congressional Interests

- Representative Fred Upton R-MI-6
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



St. Marys River, MI

Project Features

- One of Great Lakes connecting channels; flowing southeast between the State of Michigan and the Province of Ontario, Canada from the eastern end of Lake Superior into the northern end of Lake Huron.
- Authorization: River & Harbor Acts of 11 Jul 1870, 5 Aug 1886, 13 Jul 1892, 13 Jun 1902, 2 Mar 1905, 3 Mar 1907, Mar 1909, 25 Jul 1912, 4 Mar 1915, 22 Sep 1922, 21 Jan 1927, 3 Jul 1930, 26 Jun 1934, 30 Aug 1935, 7 Mar 1942, 15 Jun 1943, 2 Mar 1945, 24 Jul 1946, 21 Mar 1956, 9 Jul 1956
- Deep draft commercial channel
- Project depths varying from 27.5 to 30.0 feet in the St. Marys River, Lake Superior, and Lake Huron approaches.
- Total of 75 miles of federally maintained deep draft channels
- Project includes two active locks and two canals that handle over 80M tons of cargo annually and a hydropower plant of 20,000 kilowatt capacity.
- Major stakeholders include U.S. Coast Guard, Algoma Steel, Gardiner Marine Ltd., Great Lakes Power, Kemp Coal Dock, MCM Marine, Purvis Marine Ltd., and nearly all Great Lakes shipping interests.

Project Requirements

- Approximately 55,000 to 85,000 cubic yards of material must be dredged on a 4 to 6 year cycle; the river was last dredged in 2015 (Courses 5 and 6).
- Obstruction removal by the government plant is required in hard bottom channels of the St. Marys River on an annual basis.
- Shipping companies have identified the St. Marys River downstream of the locks as the controlling depth segment of the entire Great Lakes Navigation.



- USACE has developed a multi-year asset renewal plan to modernize the existing infrastructure of the locks to provide reliable infrastructure through the year 2035. The purpose is to improve the efficiency of lock operations and reduce the risks of downtime and vessel delays. This effort will focus on the Poe and MacArthur Locks, but other infrastructure at the facility is also included in the plan. Major items in the plan include replacement of the steam system, rehabilitation of the Poe and MacArthur Lock electrical systems, and many miscellaneous improvements and upgrades.
- The guidewalls along the West Neebish Island navigation channel (rock cut) are failing at various locations. The government plant completed a limited repair of the walls over the last three years, with additional repairs planned for 2016.
- Recent analysis has shown that the Poe Lock embedded gate anchorages have exceeded their design life. Repairs are planned to be initiated in 2016.

Consequences of Not Maintaining the Project

- If the channel were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 952M lbs of harmful particulate matter (PM-10) and increase costs by \$29M due to increased railroad related accidents, and \$24M due to increased trucking related accidents.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$12.1M and \$33.9M annually.
- Key component of the Great Lakes and St. Lawrence Seaway navigation system.
- Disruption of service would have catastrophic maritime and economic impacts.

Transportation Importance

- Only connecting channel between Lake Superior and the lower Great Lakes and the St. Lawrence Seaway.
- St. Marys Falls Canal and Locks provide for vessel passage around the 21-foot drop of the river over the falls at Sault Ste. Marie, MI.
- This canal serves both domestic and foreign flag vessels transiting the Great Lakes.
- Commodities transported through these channels include iron ore, coal, limestone, petroleum and petroleum products, chemicals and related products, primary manufactured goods, food and farm products, manufactured equipment, machinery, and machine products.
- The U.S. Coast Guard Sector Sault Ste. Marie is located along the banks of the St. Marys River. This sector is responsible for all Coast Guard missions on Lake Superior, Northern Lakes Michigan and Huron and the surrounding navigable waterways, including: search and rescue, law enforcement, aids to navigation, marine safety, and homeland security. Aiding in these operations, from their home port in Sault Ste. Marie, MI, are the U.S. Coast Guard Cutters Katmai Bay and Buckthorn.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
St. Marys River, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Lock Operations & Maintenance	13,481	13,481	13,700	13,700	14,000	14,000
Project Condition Surveys	2,327	2,327	2,330	2,330	2,376	2,376
Strike Removal	3,245	3,245	3,245	3,245	3,245	3,245
Lower River Dredging	4,500	4,500				
Dam Safety Inspections	110	110				
St. Marys River Rock Cut Repairs (Gov't Plant)	1,500	1,500	1,000	1,000	1,100	1,100
St. Marys River Nav Structure Maintenance (Gov't Plant)	700	700				
EGIS Implementation			30		30	
Soo Locks Asset Renewal						
Poe Lock Embedded Anchorage Replacement			6,000	6,000	2,500	
Mac Lock Embedded Anchorage Replacement					3,300	
Mac Lock Stop Log Refurbishment			2,250		2,250	
Design Davis Pump Well Rehabilitation					300	
Design Steamplant Rehabilitation					300	
Poe/Mac Lock Lifting Beams	950				950	
Design Poe Lock Gate 1 Replacement	500				500	
Design Emergency Generator Replacement					500	
Facility Safety Repair (Fire Alarm, Heat/Vent)					1,100	
West Center Pier Repair	2,850		3,000	3,000	3,000	3,000
Poe Miter/Quoin Block Replacement			3,000	300	2,900	2,900
Replace Mac Lock Controls	3,500	3,500				
Design for Poe Lock Electrical System Rehab	500	500				
Poe Lock Electrical System Rehab	4,600		4,600	4,600		
Mac Lock Tainter Valve Bulkheads	800	800	200	200		
Waterline Replacement	2,500	2,500				
Dewatering Well/Pipe Repairs	1,350	1,350				
Sustainability Energy Conservation Measures	1,009	1,009				
Major Rehab Report	1,000	1,000	500	500		
New Miter Gate Lifting Pendants			500	500		

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Other Business Lines						
Recreation: Visitors Center	977	304	956	353	968	364
Hydropower						
-Hydropower Operations	902	902	925	925	953	953
-Hydropower Maintenance	1,259	1,260	1,285	1,285	1,325	1,325
-Power Canal/Headrace Repairs	300		1,710	1,710		
-Hydropower Repairs & Upgrades	3,200	1,750			3,290	
- Sustainability Energy Conservation Measures	113	113				
Environmental Stewardship	57	57	50	50	180	41
Update Soo Area Office Master Plan	31	31	50		52	
Lock Security Contract	1,260	1,260	1,300	1,300	1,150	1,150
Lock Grounds/Snow Removal Contract	991	991	1,062	1,062	1,095	1,095
CIPR Security Requirements (joint)	736		2,334		2,405	
TOTAL	55,248	43,190	50,027	42,060	49,769	31,549

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI
- Numerous other representatives and senators throughout the Great Lakes with interests in ports that share interconnectivity with the St. Marys River.



Sturgeon Bay Harbor and Lake Michigan Ship Canal, WI

Harbor Features

- Located on the west shore of Lake Michigan about 52 miles northeast of Green Bay and about 128 miles north of Milwaukee, WI.
- Authorization: River & Harbor Acts of 3 Mar 1873, 13 Jul 1892, 13 Jun 1902, 30 Aug 1935, 2 Mar 1945
- Deep draft commercial harbor
- Project depths of 22 to 23 feet in the entrance channel and canal; 20 feet in turning basin at Sturgeon Bay.
- Over 15,100 feet of structures including breakwaters and revetments
- Over 8.5 miles of maintained channel
- Major stakeholders include U.S. Coast Guard, Bay Shipbuilding, and Palmer Johnson.

Project Requirements

- Approximately 80,000 cubic yards of material must be dredged on a 5 year cycle. Maintenance dredging was last conducted in 2015.
- Dredging is currently required to eliminate balance of shoaling in the harbor and is planned for 2017.
- Section N of the south revetment was repaired in 2010 using ARRA funding. Additional repair work, including stone repair and replenishing of crib fill stone is required on the north and south breakwaters. Due to cost considerations, the south breakwater may have to be repaired in phases over several years.

Consequences of Maintaining the Project

- Significant loss of jobs both locally and regionally
- Light loading associated with inadequate maintenance dredging, increasing vessel transportation costs.



Transportation Importance

- Locally significant receiving and shipping, and shipbuilding port on the Great Lakes.
- Harbor of Refuge
- Commodities shipped or received include iron ore, cement and concrete.
- An integral winter berthing facility for the Great Lakes fleet to conduct winter maintenance.
- Sturgeon Bay Harbor is home port of the U.S. Coast Guard Cutter Mobile Bay. The harbor also houses an auxiliary station and a Marine Safety Detachment Unit that is responsible for executing the Coast Guard's Port Safety and Security, Marine Environmental Protection, and Commercial Vessel Safety missions under the Department of Homeland Security.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Sturgeon Bay Harbor and Lake Michigan Ship Canal, WI
Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	800	800	800		800	800
Maintenance Dredging – Backlog Work Package	800		800		800	
Structure Repair (E&D)					180	
Other Business Lines						
Recreation	21	21	21	19	21	19
TOTAL	1,621	821	1,621	19	1,801	819

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Sturgeon Point Marina, NY

Harbor Features

- Located on Lake Erie, 29 miles southwest of Buffalo, in the town of Evans, Erie County, New York.
- Authorization: River & Harbor Act of 1960
- Shallow draft commercial/recreational harbor, federally constructed and locally operated and maintained
- Project depths are 8 feet in the entrance channel and 4 to 6 feet in the harbor basin
- The harbor is protected by east and west breakwaters with a total length of 840 feet and a shoreline revetment with a total length of 580 feet
- Existing Local Cooperation Agreement (LCA), dated October 26, 1987 between the USACE, Buffalo District and town of Evans states, “the Government annually shall pay the town one hundred percent of the incurred operation and maintenance costs allocated to commercial navigation.”
- The LCA also states that in the event that annual appropriations are insufficient to meet expenditures for the current fiscal year, either party may terminate the agreement or suspend performance
- Major stakeholders include the town of Evans, charter fishing interests and the recreational boating community.

Project Requirements

- Annual Corps reimbursement to the non-federal sponsor, the town of Evans, for sand bypassing and/or dredging
- Federal funds were last appropriated in FY05



Consequences of Not Maintaining the Project

- Failure to dredge will result in continued shoaling and reduced channel dimensions; resulting in unsafe navigation conditions
- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts to local economy

Transportation Importance

- Harbor of Refuge
- Supports 11 charter fishing boats generating approximately \$90,000 in net income annually

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Sturgeon Point Marina, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Annual Sand By-Pass			20		20	
TOTAL	0	0	20	0	20	0

Congressional Interests

- Representative Chris Collins R-NY-27
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY



Taconite Harbor, MN

Harbor Features

- Located on the north shore of Lake Superior, 78 miles northeast from Duluth, MN.
- Shallow draft recreational harbor
- Authorization: Section 107 of the River & Harbor Act of 1960 and Water Resources Development Act (WRDA) of 2007
- No authorized project depth, only structures
- Approximately 585 feet of rubble mound breakwater structure
- Major stakeholders include Minnesota DNR, recreational boating interests, and commercial fishermen.

Project Requirements

- Currently, there are no critical maintenance requirements.
- There is a need to move a large (20 ton) armor stone that is impacting the navigation channel.

Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of critical Harbor of Refuge
- Negative economic impacts locally
- Negative impact by loss of commercial and charter fishing business



Transportation Importance

- Critical Harbor of Refuge
- Project supports recreational navigation interests and commercial fishing interests.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Taconite Harbor, MN - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Rick Nolan D-MN-8
- Senator Amy Klobuchar D-MN
- Senator Al Franken D-MN



Tawas Bay Harbor, MI

Harbor Features

- Located on the west shore of Lake Huron, about 45 miles northeast of the mouth of the Saginaw River.
- Authorization: River & Harbor Act of 13 Aug 1968
- Shallow draft recreational harbor
- Project depths of 12 feet in the entrance channel, and 10 feet in the inner basin.
- More than 1,750 feet of breakwaters
- Dredged material is typically placed in an upland placement site, which is provided by the State of Michigan as needed.
- Major stakeholders include Michigan DNR, U.S. Coast Guard, and various boating and sport fishing interests.



Project Requirements

- Requires infrequent maintenance dredging; the harbor has not required maintenance dredging since it was originally constructed in 1978.

Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational opportunities and charter and sport fishing in the area
- Loss of recreational boating access to the Great Lakes
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Tawas Bay Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
TOTAL	0	0	0	0	0	0

Congressional Interests

- Representative Dan Kildee D-MI-5
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



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Toledo Harbor, OH

Harbor Features

- Deep draft commercial harbor located on Lake Erie in the city of Toledo, Lucas County, Ohio
- Authorization: River & Harbor Acts of 1899, 1910, 1935, 1950, 1954, 1958 and 1960
- 7 miles of federal channel on the river and 18 on the bay. Project depths are 28 feet in the bay; 27 feet in the lower Maumee River; and 25 feet in the upper Maumee River
- 8.8M tons of material shipped and received in 2013
- Ranked 7th among the Great Lakes harbors
- 55th leading U.S. port
- Interconnected with 35 commercial ports: ships to 18 ports; receives from 11 ports; and ships and receives to/from 6 ports.
- Federal Confined Disposal Facilities (CDF) include Island 18 and Site 3
- Major stakeholders include the Toledo-Lucas County Port Authority, City of Toledo, U.S. Coast Guard, St. Mary's Cement Inc., Midwest Terminals of Toledo International, Kuhlman, The Andersons, ADM Grain Company, BP Husky Refining LLC, Seneca Petroleum Company, CSX, Lafarge Cement, Arms Dock, Geo. Gradel Co., Westway Terminal Co. LLC, Bituminous Products Co., and Ironhead Marine Inc.

Project Requirements

- A minimum of 850,000 cubic yards of material must be dredged each year to retain minimum channel clearance. The harbor was last dredged in 2015 when approximately 860,000 cubic yards of material was removed. Dredging is scheduled to be completed in 2016.
- Repairs to deteriorated sections of the Island 18 CDF stone perimeter are required. Planning/E&D will be completed in 2016; and repair by government floating plant will be initiated.



Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor and generate \$7.07B annually in business revenue while supporting 39,208 direct, indirect, and induced jobs that produce over \$1.37M per year in personal income in transportation and commodity related industries.
- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 63,204 tons of harmful particulate matter (PM-10) and increase costs by \$4,758,000 due to increased railroad related accidents, and \$382,000 due to increased trucking related accidents.
- Light loading; loss of between 2 and 3 feet of channel depth results increased transportation costs of between \$4,062,000 and \$8,035,000 annually.

Transportation Importance

- Major receiving and shipping port with direct access to inter-modal connections
- Critical Harbor of Refuge
- Cargo includes coal, petroleum, aggregates, metal products, limestone, grain, chemicals, iron ore, steel products, cement, ores, minerals and sugar
- Growing port with ongoing improvements and commodity diversification

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Toledo Harbor, Ohio - Project Requirements and President’s Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President’s Budget
Project Conditions Survey	603	603	615	615	605	605
Maintenance Dredging – Primary-Maumee Bay	2,715	2,715	4,120	4,120	4,000	4,000
Maintenance Dredging – Backlog-Maumee Bay						
Maintenance Dredging – Primary-Maumee River	1,390	1,390	1,300	1,300	1,300	1,300
Critical Maintenance of Coastal Navigation Structures & Obstruction Removal – Island 18 CDF			1,055	1,055		
E&D/Const. Island 18 Stone Repair			200	200		
Master Plan for Island 18 (ENS)	75	75	75	75		
TOTAL	4,783	4,783	7,365	7,365	5,905	5,905

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Toussaint River, OH

Harbor Features

- Located on Lake Erie at the mouth of the Toussaint River, Carroll Township, Ohio
- Authorization: River & Harbor Act of 1960 and Water Resources Development Act (WRDA) of 2007
- Shallow draft recreational harbor
- Project depth is 4 feet in the federal navigation channel
- Maintenance dredging work for this project is cost shared 72% federal and 28% local. The local project sponsor is Carroll Township
- The former Erie Army Depot utilized an area near the Toussaint River project as a military munitions range from 1918 – 1967. The Army National Guard, located at Camp Perry, currently utilizes a portion of this range as part of daily operations.
- The possible presence of military munitions must be considered during maintenance dredging activities.
- Under WRDA 2007 the costs of operation and maintenance activities related to the presence of unexploded ordnance, are carried out at federal expense.
- Formerly Used Defense Sites (FUDS) program funds are used to address safety items during maintenance dredging of the federal project and for ordinance remediation of the beach areas adjacent to the river. All dredging costs associated with ordinance safety are funded 100% by the FUDS program.
- Major stakeholders include fishing interests and the recreational boating community.

Project Requirements

- Maintenance dredging is required every three to four years.



- The project was last dredged in 2004 when 24,000 cubic yards of material were removed.
- Approximately 40,000 cubic yards of material must be dredged to restore the functional harbor areas.
- Maintenance dredging is the primary critical requirement.

Consequences of Not Maintaining the Project

- Failure to complete periodic dredging will result in continued shoaling and reduced channel dimensions; resulting in unsafe navigation conditions.
- Potential safety issues for recreational boating community
- Negative economic impacts, locally and regionally

Transportation Importance

- Provides safe access between Toussaint River and Lake Erie.
- Other features include 400 seasonal and 50 transient recreational boat slips.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Toussaint River, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Technical Assistance for Locals			35			
Sediment Sampling and Analysis	60					
Maintenance Dredging – Primary (Requires Cost Share)			740		740	
TOTAL	60	0	775	0	740	0

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Two Harbors, MN

Harbor Features

- Located on the north shore of Lake Superior, 27 miles northeast of Duluth, MN.
- Authorization: River & Harbor Acts of 5 Aug 1885, 30 Aug 1935, 7 Nov 1945, 14 Jul 1960
- Deep draft commercial harbor
- Project depth is 30 feet in the entrance channel and 28 feet at the upstream end of channel
- 16.7M tons of material shipped and received in 2013
- Ranked 2nd among the Great Lakes harbors
- 37th leading U.S. port
- Approximately 2,500 feet of maintained federal channel
- More than 2,500 feet of maintained breakwaters
- Major stakeholders include U.S. Coast Guard, Canadian National, MDNR, city of Two Harbors, and multiple commercial fishermen.

Project Requirements

- Requires periodic maintenance dredging on an infrequent basis. The harbor was last dredged in 1976.
- East breakwater requires repairs to the concrete, ice plates, joints, and handrails.
- Navigation structures are primarily maintained by the government floating plant; Stone along west breakwater must be replaced to maintain functionality of the structure.

Consequences of Not Maintaining the Project

- Reduction of bulk commodities that pass through the harbor that generate \$11.8B annually in business revenue while supporting 60,975 direct, indirect, and induced jobs that produce over \$290M per year in personal income in transportation and commodity related industries.



- If the harbor were closed to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 207M lbs of harmful particulate matter (PM-10) and increase costs by \$5.4M due to increased railroad related accidents.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$6.4M and \$12.2M annually.
- Failure of the breakwater structure protecting many docks and wharfs

Transportation Importance

- Major shipping port on the Great Lakes
- Serves as a Harbor of Refuge
- Commodities include mostly iron ore
- MDNR invested \$1M into rebuilding the boat launch in 2012, which attracts nearly 100 boats every weekend during the boating season
- One of the major recreational boat accesses on northern Lake Superior.
- Recreational small craft harbor in design stage for the area. Will serve as a key component of MDNR Harbor System on Lake Superior.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Two Harbors, MN - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package					0	
Maintenance Dredging – Backlog Work Package						
Structural Repair – by Govt. Floating Plant			1,000	1,000	0	
Design East Breakwater Repair	180		180		180	
TOTAL	180	0	1,180	1,000	180	0

Congressional Interests

- Representative Rick Nolan D-MN-8
- Senator Amy Klobuchar D-MN
- Senator Al Franken D-MN



Two Rivers Harbor, WI

Harbor Features

- Located on the west shore of Lake Michigan about 82 miles north of Milwaukee and about 101 miles from Green Bay, WI.
- Authorization: River & Harbor Acts of 3 Mar 1871, 2 Mar 1907, 30 Aug 1935, 3 Jul 1958
- Deep draft commercial harbor, yet the primary use is recreational
- Project depth is 18 feet in the entrance channel and inner basin and 10 feet in the East Twin River
- Approximately 6,000 feet of maintained federal channel
- More than 2,700 feet of piers and revetments
- The material from lower portions of the harbor is placed on the beach as nourishment. The inner harbor material needs to be placed in an upland placement site.
- Major stakeholders include U.S. Coast Guard, Suzy Q Fish Market, city of Two Rivers and a variety of charter and sport fishing interests.

Project Requirements

- Approximately 40,000 cubic yards of material are dredged from this harbor on a five year cycle. The lower portion was last dredged in 2009. The community performed minimal dredging in 2012.
- The harbor currently requires dredging.
- The south breakwater requires repairs. The breakwater was damaged during the winter of 2015. Extreme ice conditions caused stone protection on the structure to fail and settle leaving a cantilevered walkway on top of the structure. This is a serious life safety issue as the general public has access to this portion of the breakwater.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Two Rivers Harbor, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	1,030		1,030		1,050	
Emergency South Breakwater Structure Repair			1,500		1,500	
TOTAL	1,030	0	2,530	0	2,550	0

Congressional Interests

- Representative Glenn S. Grothman R-WI-6
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Vermilion Harbor, OH

Harbor Features

- Located on Lake Erie at the mouth of the Vermilion River in the city of Vermilion, Erie County, Ohio
- Authorization: River & Harbor Acts of 1836, 1875, 1905 and 1958
- Shallow draft recreational harbor
- Project depths are 12 feet in the east lake approach channel and entrance channel and 8 feet in the west lake approach channel and upper river channel
- The harbor is protected by east and west piers and a detached breakwater with a total length of 2,560 feet
- Major stakeholders include Vermilion Port Authority, private marinas, charter fishing interests and the recreational boating community.

Project Requirements

- The harbor typically requires dredging every two to three years. It was last dredged in 2004 when 32,000 cubic yards of material were removed.
- Maintenance dredging is currently required.
- Non-federal dredging of the federal channel was completed in 2013.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Supports 13 seasonal charter fishing boats generating approximately \$202,000 in annual revenue.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
 Vermilion Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging	875				500	
TOTAL	875	0	0	0	500	0

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



Washington Island, WI

Harbor Features

- Located about 2 miles to the northeast of the tip of the Door Peninsula in Wisconsin.
- Authorization: River & Harbor Act of 26 Aug 1937
- Two recreational harbors – Detroit Harbor and Jackson Harbor
- Project depth of Detroit Harbor is 14 feet and Jackson Harbor is 12 feet.
- Approximately 4,000 feet of maintained federal channel
- Major stakeholders include the Washington Island Ferry Line, U.S. Coast Guard, and a variety of charter and sport fishing interests.

Project Requirements

- Requires infrequent maintenance dredging. The harbor was last dredged in 1939.
- Since the channel was originally dredged (1939) the Washington Island Ferry Line has consistently updated and increased the size of its ferries to meet the growing requirements of commerce on the Island. Consequently, the current largest ferries have drafts of 12 feet plus, depending upon loaded cargo. This results in unsafe transits for the ferries during times of low lake levels or adverse weather conditions.
- To satisfy the requirements of the larger ferries, the locals worked with the State of Wisconsin to deepen the federal navigation channel at Detroit Harbor to a depth of 17 feet under a USACE permit. The authorized depth remains 14 feet and will be maintained to 14 feet with any federal O&M funding that is provided. It is believed that the current 12 foot project depth at Jackson Harbor is adequate.
- Limited shoaling has occurred and the projects currently require only minimal dredging to remove a balance of shoaling within the federal channels.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of only commercial transportation option to the mainland
- Loss of emergency and all essential services to the local community.

Transportation Importance

- Subsistence harbor – This harbor provides all essential services to the town. It is vital to emergency services and schools.
- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Washington Island, WI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	150					
TOTAL	150	0	0	0	0	0

Congressional Interests

- Representative Reid Ribble R-WI-8
- Senator Ron Johnson R-WI
- Senator Tammy Baldwin D-WI



Waukegan Harbor, IL

Project Features

- Located on Lake Michigan in the city of Waukegan, Lake County, Illinois.
- Authorization: River & Harbor Acts of 1880, 1882, 1902, 1945, 1965, and 1970.
- Deep draft commercial harbor, with a federal channel length of 1.35 miles.
- Authorized depths are 22 feet in the Lake Michigan harbor approach, and 18 feet in the
- 6,051 linear feet of timber crib, steel sheet pile, or concrete caisson breakwater structures, plus 1,076 linear feet of steel pile revetments.
- 77.7K tons of material shipped and received in 2013
- Ranked 57th among the Great Lakes ports.
- Interconnected with 4 commercial ports: ships to 2 ports, receives from 4 ports.
- Local stakeholders include National Gypsum, and St. Mary's Cement Inc.



Project Requirements

- Due to the long-term beach accretion north of the shorearm breakwater, the shoaling rate for the approach channel has increased to 80,000 cubic yards per year. If dredging work is not funded every year, winter storms will close the port to all commercial traffic. Funding for low tonnage harbors has been a low national priority.
- A Dredged Material Management Plan is needed to develop alternatives to reduce this \$1.4M per year approach channel dredging need.
- In 2016, a contract will be awarded to replace the concrete superstructure on the east end of the North Pier.

Consequences of Not Maintaining the Project

- Loss of 8 feet of depth in the approach channel from winter storms results in port closure. The increased transportation cost of shipping materials via other methods is over \$2M annually.

- Without annual dredging both the National Gypsum Drywall Plant and the LaFarge Cement Terminal will permanently close. St. Mary's Cement would attempt to truck materials from Milwaukee and continue to operate.
- Reduction of bulk commodities that pass through the harbor and generate \$591.9M annually in business revenue while supporting 3,568 direct, indirect, and induced jobs that produce over \$177.4M per year in personal income in transportation and commodity related industries.
- By closing to commercial traffic, commodities would have to be transported by rail and truck. This would increase annual emission rates by over 543 tons of harmful particulate matter (PM-10) and increase costs by \$95K due to increased railroad related accidents, and \$185K due to increased trucking related accidents.

Transportation Importance

- Commodities are bulk cement and gypsum rock.
- The harbor is a safe refuge on southern Lake Michigan for barges and vessels traveling north from or south to the Port of Chicago.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Waukegan Harbor, IL - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Project Condition Surveys	100		40			
Maintenance Dredging of Harbor Approach Channel	1,340	1,530	1,439	1,439	1,580	1,580
Advance Maintenance Dredging North of Approach Channel			1,000		1,450	
Structural Repairs - North Pier by Government Plant	1,966		2,360	2,360	0	
Dredged Material Management Plan	100		100			
TOTAL	3,506	1,530	4,939	3,799	3,030	1,580

Congressional Interests

- Representative Robert Dold, R-IL-10
- Senator Richard Durbin, D-IL
- Senator Mark Kirk, R-IL



West Harbor, OH

Harbor Features

- Located in the “islands” area of southwestern Lake Erie, eight miles northeast of Port Clinton, OH
- Authorization: River & Harbor Act of 1965
- Shallow draft recreational harbor
- Project depths are 10 feet in the entrance channel; and 8 feet in the access channel and inner channel
- The harbor consists of a series of channels totaling approximately 13,000 feet in length
- The harbor is protected by east and west arrowhead breakwaters with a total length of 2,925 feet.
- Major stakeholders include charter fishing interests, private marinas and the recreational boating community.

Project Requirements

- Maintenance dredging is required very infrequently. The project was last dredged in 2004 when 48,000 cubic yards of material were removed.
- Approximately 55,000 cubic yards of material must be dredged to restore the functional harbor areas.
- Maintenance dredging is the primary critical requirement.



Consequences of Not Maintaining the Project

- Failure to dredge will result in continued shoaling and reduced channel dimensions; resulting in unsafe navigation conditions
- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Supports 124 seasonal charter fishing boats generating approximately \$1.9M in annual revenue.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
West Harbor, Ohio - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging - Primary			1,020		1,020	
TOTAL	0	0	1,020	0	1,020	0

Congressional Interests

- Representative Marcy Kaptur D-OH-9
- Senator Rob Portman R-OH
- Senator Sherrod Brown D-OH



White Lake Harbor, MI

Harbor Features

- Located on the east shore of Lake Michigan, 120 miles northeast of Chicago, IL and 45 miles south of Ludington, MI.
- Authorization: River & Harbor Acts of 1 Mar 1867, 3 Mar 1873, 5 Jul 1884, 13 Jul 1892, 2 Mar 1907
- Recreational harbor
- Project depth is 16 feet
- Almost 2,000 feet of maintained federal channel, between Lake Michigan and White Lake.
- Nearly 4,800 feet of maintained piers and revetments
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include the White Lake Association, city of Montague, Michigan DNR and Fruitland Township.

Project Requirements

- Approximately 9,000 cubic yards of material must be dredged on a 5 year cycle; the harbor was last dredged in 2010.
- Maintenance dredging is currently required.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and recreational navigation interests.
- The local community has established a significant infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
White Lake Harbor, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	300		300		305	
TOTAL	300	0	300	0	305	0

Congressional Interests

- Representative Bill Huizenga R-MI-2
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Whitefish Point Harbor, MI

Harbor Features

- Located on the south shore of Lake Superior, about 55 miles east of Grand Marais, MI and 40 miles west of Sault Ste. Marie, MI.
- Authorization: River & Harbor Act of 2 Mar 1945, 17 Aug 1967
- Shallow draft recreational harbor
- Project depth is 12 feet
- Approximately 8 acres of maintained federal channel
- More than 1,500 feet of breakwaters
- Dredged material is placed along the beach as beach nourishment.
- Major stakeholders include Michigan DNR, Great Lakes Shipwreck Historical Society, Native American fishermen, and a variety of sport fishing interests.

Project Requirements

- Maintenance dredging of approximately 28,000 cubic yards is required every 2 to 6 years; the harbor was last dredged in 2010.
- Harbor currently in need of maintenance dredging.



Consequences of Not Maintaining the Project

- Loss of jobs locally
- Loss of recreational and charter fishing in the area
- Loss of recreational boating access to Lake Superior
- Loss of safe harbor during storm events
- Potential safety issues for recreational boating community

Transportation Importance

- This project serves as an important Harbor of Refuge and supports charter fishing and Native American navigation interests.
- The local community has established infrastructure around the harbor facilities that generates income from harbor users and visitors to the area.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Whitefish Point, MI - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary Work Package	300		300		305	
Critical Breakwater Safety Maintenance			25		25	
TOTAL	300	0	325	0	330	0

Congressional Interests

- Representative Dan Benishek R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI



Wilson Harbor, NY

Harbor Features

- Located on Lake Ontario at the mouth of Twelve Mile Creek in the town of Wilson, Niagara County, New York
- Authorization: River & Harbor Acts of 1945 and 1968
- Shallow draft recreational harbor
- Project depths are 8 feet in the entrance channel and 6 feet within the Tuscarora Bay
- The channel is approximately 4,900 feet long, 80 feet wide, and suitably widened at bends.
- The harbor is protected by parallel east and west piers with a total length of 1,331 feet.
- Major stakeholders include town of Wilson, charter fishing interests, private marinas and the recreational boating community.

Project Requirements

- The harbor typically requires dredging every three to five years. It was last dredged in 2000 when 5,100 cubic yards of material was removed.
- Sandy supplemental funded dredging of approximately 11,000 cubic yards of material from storm impacted harbor areas was completed in Summer 2014.
- Additional material must be dredged to maintain the functional harbor areas
- Maintenance dredging is the primary critical requirement.
 - Deteriorated sections of the west pier require repairs to restore proper function of the structure.



Consequences of Not Maintaining the Project

- Potential safety issues for recreational boating community
- Potential functional loss of Harbor of Refuge
- Negative economic impacts, locally and regionally

Transportation Importance

- Harbor of Refuge
- Home to 476 slips, 2 boat launch lanes and 15 charter boats.
- Generates economic benefits totaling \$4,720,298 and supports 69 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2015, 2016 and 2017
Wilson Harbor, New York - Project Requirements and President's Budget (\$1,000)**

Work Package	FY15 Requirement	FY15 Appropriation	FY16 Requirement	FY16 Appropriation	FY17 Requirement	FY17 President's Budget
Maintenance Dredging – Primary	785		725		725	
E&D, Constr West Pier Repair			300		100	
TOTAL	785	0	1,025	0	825	0

Congressional Interests

- Representative Chris Collins R-NY-27
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY