



**US Army Corps  
of Engineers®**



**Great Lakes  
Navigation System**

# Great Lakes Navigation System Five Year Development Plan Fact Sheets

Stakeholders Meeting  
December 7, 2006  
Cincinnati, Ohio

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## Alpena Harbor, MI

### Harbor Features

- Located at the mouth of the Thunder Bay River which empties into the Thunder Bay, Lake Huron.
- Deep draft commercial harbor.
- Authorized depths – 25' from deep water in Thunder Bay to a point 300' lakeward of the Alpena Light; then 24' to 700' upstream from the light; 23' deep to the Second Avenue Bridge; then 18.5' deep to the upper limit of the Federal project.
- 97<sup>th</sup> leading U.S. port with 3.3M tons of material shipped or received in 2004.
- Ranked in the top 25 among the Great Lakes Harbors.
- Approximately 700 feet of breakwater structures.
- Approximately 12,000 feet of maintained channel.
- Dredged material is placed in upland placement sites as needed.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Lafarge Corporation, Alpena Oil, Seaway Marine Transport, DPI, and Everett Goodrich Trucking.

### Project Needs

- Although dredged infrequently, there is a critical current requirement for a cycle of dredging as vessel operators have been forced to cancel trips as a result of shoaling at the harbor entrance.
- Rubblemound breakwater is in excellent condition as a result of the maintenance program completed in FY01, but still requires annual inspections.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$570,000 and \$1,600,000 annually.

### Transportation Importance

- Locally significant receiving and shipping port on the Great Lakes.
- Commodities include cement, coal and petroleum products, sand, 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) 2007 and 2008  
Alpena Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	37	37			
CDFs					
Maintenance Dredging	392	392			
Structures					
Environmental Activities					
<b>TOTALS</b>	<b>429</b>	<b>429</b>	<b>0</b>	<b>0</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Project depth of 25 to 27 feet below LWD in east basin and 20 to 21 feet below LWD in west channel.
- 80,000 tons of material shipped or received in 2004.
- Nearly 8,000 feet of breakwater structure.
- Over one mile of maintained channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers Association, and Excel Energy.



### Project Needs

- Approximately 15,000 to 20,000 cubic yards of material must be dredged on a 10 to 20 year cycle.
- Navigation structures are primarily maintained by Government floating plant.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$22,000 and \$60,000 annually.

### Transportation Importance

- Locally significant receiving port on the Great Lakes.
- Commodities received include coal and lignite.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Ashland Harbor, WI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations				42	
CDF's					
Maintenance Dredging				350	
Structures				270	
Environmental Activities					
<b>TOTALS</b>	<b>0</b>	<b>0</b>		<b>662</b>	

\* FY08 President's Budget will not be available until February 2007



## Ashtabula Harbor, OH

### Harbor Features

- Located on Lake Erie in the city of Ashtabula, Ashtabula County, Ohio.
- Deep draft commercial harbor.
- Authorized depths are 22-30 feet in the Outer Harbor and 16-18 feet in the river.
- 51<sup>st</sup> leading U.S. port with 10.9M tons of material shipped or received in 2004.
- Ranked 7<sup>th</sup> among commercial Federal harbors on the Great Lakes.
- 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 U.S. Coast Guard, the Ashtabula Port Authority, Norfolk Southern Ashtabula Coal Dock, Pinney Dock and Transport Company and Sidley Stone Products.

### Project Needs

- Approximately 93,000 cubic yards of material must be dredged every 2-3 years.
- The lack of a suitable disposal area for contaminated sediments has prevented dredging of the navigation channel between the 5<sup>th</sup> Street Bridge and the upstream limit of the Federal channel.
- The U.S. Environmental Protection Agency is removing the contaminated sediments upstream of the 5<sup>th</sup> Street Bridge under the Great Lakes Legacy Act. This dredging began in September 2006, with completion scheduled in the fall of 2007.
- If the Corps of Engineers cannot complete the dredging downstream of the bridge, the contaminated sediments will migrate downstream, impacting maintenance of the channel serving the coal dock, and also eventually the facilities in the outer harbor.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.



- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$774k and \$2.2M annually.

### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include coal, iron ore, limestone, chemicals, ores and minerals.
- Tonnage increased almost 10 percent between 2002 and 2004.
- The port is a perennial leader on the Great Lakes for the shipment of coal.
- In 2004, it received 4.2M net tons of iron ore destined for Warren, Ohio.
- Bulk commodities that pass through Ashtabula Harbor generate approximately \$126M annually in direct revenue which supports over 1,601 jobs.
- These jobs generate over \$59M per year in personal income.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Ashtabula Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	26	26	0		
E&D, Environmental Dredging				200	
Construct, Environmental Dredging	10,900		10,900	11,900	
E&D Repair of East and West Pier heads	100		100		
Maintenance Dredging	815	650	165		
Construct Repair of 800 LF of East Breakwater	690		690		
Structure Repair – East Breakwater				900	
<b>TOTALS</b>	<b>12,531</b>	<b>676</b>	<b>11,855</b>	<b>13,000</b>	

\* FY08 President's Budget will not be available until February 2007



## Black Rock Lock and Tonawanda Harbor, NY

### Harbor Features

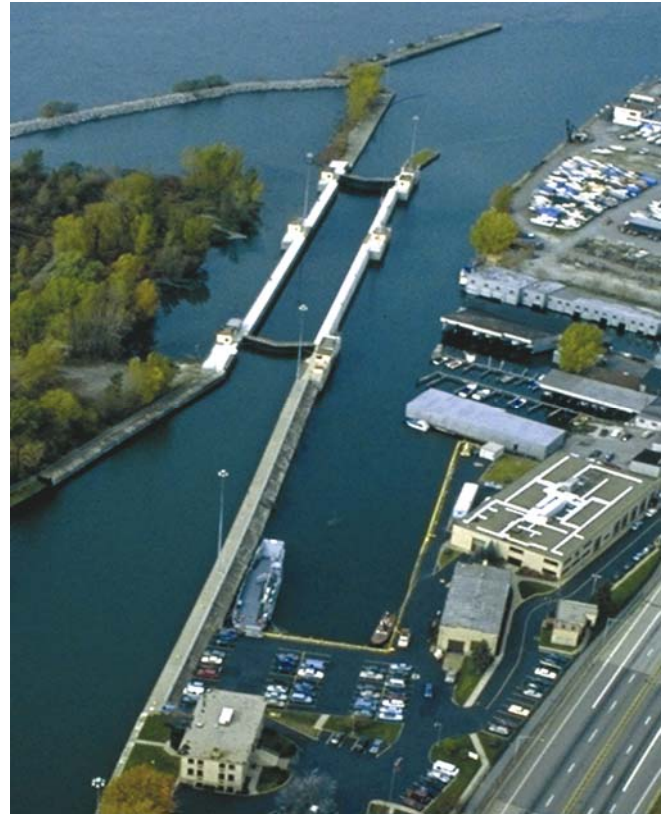
- Located on Niagara River in the city of Buffalo, Erie County, New York.
- Deep draft commercial project.
- The Black Rock Lock and Channel permit pleasure craft and commercial vessels to travel between Buffalo Harbor and Tonawanda Harbor.
- The Black Rock Lock can accommodate pleasure craft and commercial vessels up to 625 feet long with drafts up to 21 feet.
- The Bird Island Pier is approximately 2.0 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.
- Major stakeholders include U.S. Coast Guard, Marathon Ashland Petroleum, NOCO Energy Corp., United Refining Co., and NRG Huntley Power Plant.

### Project Needs

- The Lock requires the following repairs: structure repair of lower west guide wall, resurfacing of concrete chamber walls, operating and guard gate sill repairs, operating and guard gate fendering, and middle gate removal.
- Significant repairs are required to the Bird Island Pier due to severe deterioration of the sub-structure stone caused by wave action, ice forces and inadequate stone protection.

### Consequences of Not Maintaining the Project

- Total or temporary closure of the lock.
- Significant loss of jobs both locally and regionally.
- Eliminate US connection to Intercoastal Waterway from Lake Erie.



- Inability for commercial vessels to reach delivery destinations on the Upper Niagara River.

### Transportation Importance

- Commodities shipped or received through the lock include coal and petroleum.
- The lock provides the only means for deep draft commercial vessels to reach delivery ports on the upper Niagara River; including a major coal power generation plant, fuel storage facilities and refinery.
- Bulk commodities that pass through Black Rock Lock and Tonawanda Harbor generate approximately \$5M annually in direct revenue which supports over 72 jobs.
- These jobs generate over \$2.7M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Black Rock Lock and Tonawanda Harbor, New York Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operation of Lock	650	650	0	758	
E&D, Bird Island Pier Repair	200		200	300	
E&D and Construction, Removal of Middle Gates	700		700	800	
Construction, Lower Gate Fendering	200		200	200	
Structure Repair – Bird Island Pier	190		190	400	
Construction, Repair Lower Operating Gate Sill	150		150	150	
Construction, Repair Lower Guard Gate Sill	150		150	200	
Project Conditions Survey	26	26	0	35	
Maintenance of Lock	400	400	0	425	
Facility Security	50	50	0	50	
Snagging and Clearing				40	
Water Control Data Collection				36	
Environmental Compliance				200	
<b>TOTALS</b>	<b>2,716</b>	<b>1,126</b>	<b>1,590</b>	<b>3,594</b>	

\* FY08 President's Budget will not be available until February 2007



## Buffalo Harbor, NY

### Harbor Features

- Located on Lake Erie in the city of Buffalo, Erie County, New York.
- Deep draft commercial harbor.
- Authorized depths are 23-30 feet in the Outer Harbor and 22 feet in the river.
- 129<sup>th</sup> leading U.S. port with 1.6M tons of material shipped or received in 2004.
- Ranked 31<sup>st</sup> among commercial Federal harbors on the Great Lakes.
- Over 4.5 miles of breakwater structures.
- 5.5 miles of Federal Channel on the Buffalo River.
- A confined disposal facility is located at the south entrance channel.
- Major stakeholders include the Port of Buffalo, U.S. Coast Guard, General Mills, Exxon-Mobil, Lafarge Cement and Founders Supplies, Incorporated.

### Project Needs

- Approximately 140,000 cubic yards of material must be dredged every two years.
- Severely deteriorated sections of the North and South breakwaters must be repaired. The most critical repairs are needed on a portion of the South breakwater that experienced considerable damage over the past winter and has visible areas of slope failure.
- The CDF has a remaining capacity of approximately 20 years; however, some sections of the steel sheet piling that form the perimeter of the CDF are out of alignment and need repair.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$208k and \$518 annually.



### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include aggregates, limestone, grain, cement, ores and minerals.
- Buffalo moved the most coal ever across its docks in 2005.
- The Port of Buffalo is working on three major projects which could further increase shipping traffic.
- In 2005, specialty shipments from Brazil and Germany were received for a new press at the Ford stamping plant nearby in Woodlawn.
- Bulk commodities that pass through Buffalo Harbor generate approximately \$12.1M annually in direct revenue which supports over 152 jobs.
- These jobs generate over \$5.6M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Buffalo Harbor, New York Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	44	44	0	95	
Repair 250 LF of the South Breakwater	340		340		
E&D Repair of 1000 LF of the North Breakwater	250		250		
Sediment Sampling and Analysis	130	130	0		
Water Control Data Collection	38	38	0	40	
Snagging and Clearing	20	20	0	20	
Structure Repair – CDF No. 4	100	100	0		
Structure Repair – South Breakwater				800	
Maintenance Dredging				1,100	
Environmental Compliance (CDF)				15	
Environmental Compliance (CDF – Risk Assessment)	100		100	15	
E&D South Breakwater Repair				300	
E&D North Breakwater Repair				150	
<b>TOTALS</b>	<b>1,022</b>	<b>332</b>	<b>690</b>	<b>2,535</b>	

\* FY08 President's Budget will not be available until February 2007



## Burns Waterway Harbor, IN

### Project Features

- Located on Lake Michigan in the city of Portage, Lake County, Indiana. .
- Controlling depths are -30 ft. L.W.D in the approach channel, -28 ft. in the outer harbor, and -27 ft. in both harbor arms.
- 56<sup>th</sup> leading U.S. port with 9.8M tons of material shipped or received in 2004.
- Ranked 3<sup>rd</sup> in tonnage on Lake Michigan, and 10<sup>th</sup> in tonnage among all 62 Federal commercial harbors on the Great Lakes.
- 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 Mittal Steel, Tanco Terminals, and 29 other tenants - 14 of which are steel-related industries.

### Project Needs

- Accumulated sediments within harbor contain ammonia, phosphorus and arsenic at levels above strict Indiana environmental guidelines. Disposal options are currently under negotiation with state regulators.
- There is 80.K cubic yards of sediment in the western half of the East Arm. Average loss of depth in the area is nearly 3.0’
- There is 82.K cubic yards of sediment in the outer basin; the channel is maintained at authorized depths only in the center half-width. Average shoaling depth outside of the center half-width of the channel is 2.0’.
- Sediment accumulation of 92.K cubic yards in the western half of the West Arm has resulted in an average loss of depth of 2.0’.
- The rubblemound breakwater is the harbor’s only protective structure. Its current condition is good, after a 10-year restoration effort. Only one remaining 1,300’ section still needs repairs. Prior to this major repair effort, the breakwater was thoroughly inadequate and permitted dangerous conditions within the harbor.



### Consequences of Not Maintaining the Project

- Light loading - loss of between 3 and 4 feet of channel depth due to shoaling and lake level results in increased transportation costs of between \$4.4M and \$6.8M annually.

### 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.
- Mittal Steel’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.
- Bulk commodities that pass through Burns Harbor generate nearly \$180.M annually in direct revenue which supports nearly 2,300 jobs.
- These jobs generate nearly \$84.M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Burns Waterway Harbor, IN Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Harbor Routine Operations	146	-	146	152	
Dredging Outer Harbor and West Arm	-	-	-	1,813	
Outer Breakwater Repairs	883	883	-	1,715	
Dredging East Harbor Arm	-	-	-	1,742	
<b>TOTALS</b>	<b>1,029</b>	<b>883</b>	<b>146</b>	<b>5,422</b>	

\* FY08 President's Budget will not be available until February 2007



## 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
- Controlling depths are -29 ft. L.W.D in the approach channel, -28 ft. in the outer harbor, and -27 ft. in the main river channel.
- The harbor is central element of the Port of Chicago, the 35<sup>th</sup> leading U.S. port and the largest on Lake Michigan. 63% of the Port's annual tonnage passes through Calumet Harbor. This harbor alone is the 46<sup>th</sup> leading U.S. port, with 15.4M tons shipped or received in 2004.
- Calumet Harbor alone ranks 2<sup>nd</sup> in tonnage on Lake Michigan, and 5<sup>th</sup> of the 62 Federal commercial harbors on the Great Lakes.
- 12,153 linear feet of steel sheetpile and timber crib breakwater structures.
- 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 L. Calumet (1.30 miles).
- Chicago Confined Disposal Facility (CDF), which has a total storage capacity of 1.3M cubic yards of contaminated sediment.
- 30 industrial tenants operate in the harbor, as well as a USCG Search and Rescue Station.

### Project Needs

- The CDF contains nearly 1.0M cubic yards. It will be completely filled within four dredging cycles (100.K cubic yards each), or eight years. The Dredged Material Management Plan (DMMP) is investigating future disposal options.
- Authorized depth is maintained only in the center half-width of the harbor channel. The average shoaling depth elsewhere is 2.0'.
- The detached breakwater is the harbor's primary shield. Its condition is poor and has a high probability of failure due to steel fatigue from over 71 years of service. The structure has lost 6-10" of protective height. Two breaches have previously occurred - both were large (3 cells - over 120' wide), and expanded rapidly.



### Consequences of Not Maintaining the Project

- Light loading - loss of between 3 and 5 feet of channel depth due to shoaling and lake level results in increased transportation costs of between \$1.7M and \$4.3M annually.

### Transportation Importance

- Commodities are limestone, coke, coal, salt, grain, cement, liquid bulk, potash, and steel.
- 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 Harbors.
- Bulk commodities that pass through the harbor generate nearly \$556.M annually in direct revenue which supports nearly 5,000 jobs.
- These jobs generate nearly \$185.M per year in personal income.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Calumet Harbor, IL and IN Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Harbor Routine Operations	280	-	280	300	
Chicago CDF Water Quality Monitoring	115	115	-	121	
Chicago CDF DMMP	390	390	-	410	
Harbor Dredging	1,714	1,714	-	-	-
Calumet River Dredging	-	-	-	1,436	
Breakwater Repair, Reach C	2,000	2,000	-	1,585	
<b>TOTALS</b>	<b>4,499</b>	<b>4,219</b>	<b>280</b>	<b>3,852</b>	

\* FY08 President's Budget will not be available until February 2007



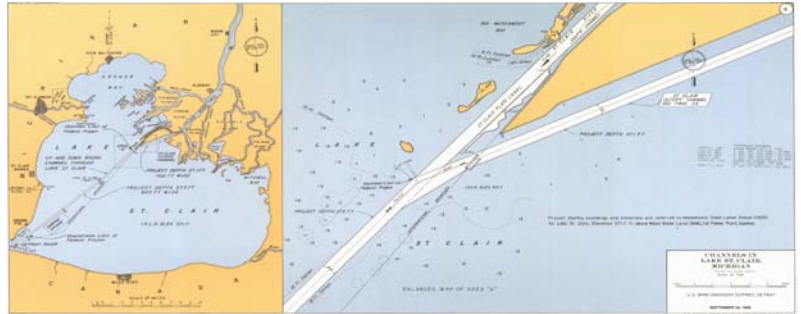
## Channels in Lake St. Clair, MI

### 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.
- Deep draft commercial project.
- Project depth is 27.5 feet.
- 70 to 80 million tons of commerce traverse 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, Lake Carriers' Association, and a majority of Great Lakes shipping interests.

### Project Needs

- The upper end of the channel near the mouth of the St. Clair River requires periodic maintenance dredging (on a 5 to 10 year cycle).
- Occasional obstruction removal is required.



### Consequences of Not Maintaining the Project

- Significant loss of jobs locally, regionally, and internationally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$80,000 and \$600,000 annually.
- Access between Lake St. Clair 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.
- The Great Lakes and St. Lawrence Seaway shipping community are dependent on services provided by this project.
- Commodities transported through these channels include coal, limestone, wood pulp, petroleum products, salt, and other general cargo.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Channels in Lake St. Clair, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	87	87		190	
CDFs	170		170	170	
Maintenance Dredging					
Structures					
Environmental Activities					
<b>TOTALS</b>	<b>257</b>	<b>87</b>	<b>170</b>	<b>360</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths – 18 feet in Lake Michigan; 18 feet in inner channels to Lake Charlevoix.
- Ranked 33<sup>rd</sup> among the Great Lakes Harbors and 133<sup>rd</sup> nationwide with about 1.5M tons of commerce in 2004.
- Over 4,100 feet of structures including piers and revetments.
- Approximately one mile of maintained channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, and Beaver Island Ferry Service.

### Project Needs

- Maintenance dredging required on a 10 to 15 year cycle.
- Obstruction removal by hired labor plant required annually in entrance channel.
- Navigation structures are primarily maintained by Government floating plant.

### Consequences of Not Maintaining the Project

- Significant loss of jobs locally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$11,000 and \$34,000 annually.



### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include cement, concrete, and coal.
- Provides for the only ferry service to Beaver Island.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Charlevoix Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	21	21		38	
CDFs					
Maintenance Dredging					
Obstruction Removal	116	116		150	
Environmental Activities					
<b>TOTALS</b>	<b>137</b>	<b>137</b>		<b>188</b>	

\* FY08 President's Budget will not be available until February 2007



## Cleveland Harbor, OH

### Harbor Features

- Located on Lake Erie in the city of Cleveland, Cuyahoga County, Ohio.
- Deep draft commercial harbor.
- Authorized depths are 28 feet in the Outer Harbor and 23 feet in the river.
- 44<sup>th</sup> leading U.S. port with 15.8M tons of material shipped or received in 2004.
- Ranked 1<sup>st</sup> among 11 commercial Federal harbors on Lake Erie.
- 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.
- A confined disposal facility (CDF) is located to the east of the harbor entrance.
- Major stakeholders include Cleveland-Cuyahoga County Port Authority, Burke Lakefront Airport, Mittal Steel, U.S. Coast Guard, Lake Carriers Association, Lafarge Corp., Cargill, and the Flats Industry Association.

### Project Needs

- Minimum of 225,000 cubic yards of material must be dredged each year.
- Severely deteriorated West Pierhead and sections of the East and West breakwaters as well as the pier at the Corps Area Office must also be repaired.
- The existing CDF is near capacity and must be raised to provide interim capacity. A comprehensive study and subsequent long-term measures are needed to provide an additional 20 years of dredged material management capacity.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$4.0M and \$9.0M annually.



### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include iron ore, limestone, sand and gravel, cement and concrete, general cargo and liquid bulk.
- Major iron ore transshipment facility has been moved to 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 harbor ships more than 1M tons of salt annually, which is mainly used by local municipalities for road deicing.
- Bulk commodities that pass through Cleveland Harbor generate approximately \$151M annually in direct revenue which supports over 2,495 jobs.
- These jobs generate over \$92M per year in personal income.
- Translake passenger/freight ferry service between Cleveland Harbor and Port Stanley, Ontario is set to commence in late 2007 or early 2008. The ferry is expected to be able to transport up to 250,000 passengers, 42,000 vehicles and 25,000 trucks annually.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Cleveland Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Maintenance Dredging	2,160	1,860	300	2,350	
Critical Advance Maintenance Dredging	150	150	0	180	
Construction, Dike 10B Dredge Material Placement Management	450	150	300	370	
Initiate E&D of new CDF	150		150	250	
Construction, Interim CDF (Dike 12)	1,400	200	1,200	1,400	
Snagging & Clearing	40	40	0	40	
Dredged Material Management Plan	250	250	0	120	
Project Condition Surveys	44	44	0	110	
Structure Repair - Breakwater - 300 LF	690		690	1,200	
Construction, West Pierhead Repair				3,000	
E&D, East Breakwater Repair (Sta 84-94)	100		100	200	
E&D, Ohio Area Office Finger Pier Repair	200		200	250	
E&D, East Breakwater West End Section Repair	200		200	250	
Environmental Compliance				15	
Complete E&D, West Pierhead Repair	250		250		
E&D, Ohio Area Office Finger Pier - Electrical Repair	100		100		
<b>TOTALS</b>	<b>6,184</b>	<b>2,694</b>	<b>3,490</b>	<b>9,735</b>	

\* FY08 President's Budget will not be available until February 2007



## Chicago Harbor, IL

### Project Features

- Located on Lake Michigan in the city of Chicago, Cook County, Illinois
- Controlling depths -29' in the Lake Michigan harbor approach, -28' in the outer harbor, and -21' between the Chicago Lock, into the Chicago River and northward to the North Avenue Turning Basin.
- This harbor is part of the Port of Chicago, the 35<sup>th</sup> leading U.S. port and the largest on Lake Michigan. 74.8K tons were directly shipped or received from this harbor in 2004.
- 20,357 linear feet of timber crib, laid-up stone, and concrete caisson breakwater structures
- The Federal channel within the harbor is 2.20 miles. The channel extends from the harbor up both the North Branch Canal and the North Branch Chicago River, to the North Avenue Turning Basin (4.02 miles).
- Chicago Lock completes over 11,500 lockages annually, passing over 40,000 vessels.
- The harbor hosts a USCG Station, Chicago Marine Police, and Illinois Conservation Police, Chicago Fire Dept.'s Fire Boat and the Chicago Water Management Dept.'s work tug.

### Project Needs

- The Federal channel is at authorized depths within the approach channel and river sections in line with and adjacent to the lock. No other dredging has been performed in 20 years.
- The northwestern breakwater is the harbor's primary shield. It is in poor condition, several crib sections have failed, and the loss of additional sections is anticipated. This is caused by dry rot in the timber cribs, which has resulted from the low lake water levels in recent years.
- The lock gates leak in violation of a US Supreme Court decree regarding Great Lakes' water diversion. All four gates have out-lived their design life (68 years in service) and are unreliable. Previously approved Federal funding for this work has been suspended indefinitely.



### Consequences of Not Maintaining the Project

- The Jardine Water Purification Plant is located in the harbor and serves nearly 5.0M consumers in 118 municipalities. It is the world's largest water treatment plant.
- The lock protects L. Michigan from draining away into the Mississippi River. It provides flood protection on the Chicago River for the downtown area, protecting \$1.40B in real estate.
- Navy Pier annually hosts 9.M visitors and generates nearly \$138.M in sales. Its operation employs 700 full-time and 2,000 part-time workers. Over 100 private businesses operate there, employing at least 750 additional part- and full-time workers
- 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.

### Transportation Importance

- Commodities handled are general cargo, petroleum, newsprint, salt, and cement.
- The harbor is a safe refuge on southern Lake Michigan for barges and vessels traveling north from or south to the Port of Chicago.
- Bulk commodities that pass through Chicago Harbor generate nearly \$1.1M annually in direct revenue, support 15 jobs, and generate \$549.K per year in personal income.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Chicago Harbor, IL Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Harbor Routine Operations	80	-	80	80	
Lock Operations	1,497	1,497	-	1,575	
Routine Lock Maintenance	207	207	-	220	
West Lock Gates Replacement	7,000	-	7,000	7,000	
West Lock Gates Replacement (cost escalation)	-	-	-	1,000	
Northeast Breakwater Crib Stabilization and Repair	1,600.	200	1,400	2,984	
<b>TOTALS</b>	<b>10,384</b>	<b>1,904</b>	<b>8,480</b>	<b>12,859</b>	

\* FY08 President's Budget will not be available until February 2007



## Conneaut Harbor, OH

### Harbor Features

- Located on Lake Erie in the city of Conneaut, Ashtabula County, Ohio.
- Deep draft commercial harbor.
- Authorized depths are 22-28 feet in the Outer Harbor and 27 feet in the Inner Harbor.
- 63<sup>rd</sup> leading U.S. port with 8.0M tons of material shipped or received in 2004.
- Ranked 13<sup>th</sup> among commercial Federal harbors on the Great Lakes.
- 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 the Pittsburg and Conneaut Dock Company.

### Project Needs

- Approximately 100,000 cubic yards of material must be dredged every 2-3 years.
- Future maintenance needs include, repairs to the east breakwater end section and continued breakwater maintenance.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$828k and \$2.0M annually.



### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include coal, iron ore, aggregates, limestone, ores and minerals.
- Bulk commodities that pass through Conneaut Harbor generate approximately \$99.0M annually in direct revenue which supports over 1,354 jobs.
- These jobs generate over \$50.1M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Conneaut Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	33	33	0		
Complete Construction of West Pier Repair	1,100	1,000	100		
Maintenance Dredging	750		750	840	
Structure Repair – Breakwater				500	
E&D East Breakwater Repair				250	
<b>TOTALS</b>	<b>1,883</b>	<b>1,033</b>	<b>850</b>	<b>1,590</b>	

\* FY08 President's Budget will not be available until February 2007



## Detroit River, MI

### Project Features

- One of the Great Lakes connecting channels; 31 miles long, flowing south from Lake St. Clair to Lake Erie.
- Deep draft commercial harbor.
- Authorized depths varying from 21.0 (a portion of up-bound channel) to 29.5 feet.
- 42nd leading U.S. port with 16.9M tons of material shipped or received in 2004.
- Port of Detroit is Ranked 4th among the Great Lakes Ports.
- Contains various water level and compensating dikes and structures.
- A total of 76 miles of Federal channels, including up-bound and down-bound channels.
- 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, Lake Carriers Association, Nicholson Terminal and Dock Co., Harridon Terminal, Inc., Motor City Materials, Detroit Bulk Storage, Inc., J.W. Westcott Co., Michigan Marine Terminal, Carmeuse Lime, Edward O. Levy Co., Holcium Inc., Koenig Fuel & Supply, Lafarge North America, Marathon Ashland Petroleum, LLC, Morton Salt, St. Marys Cement, The Rockdock, LLC, and U.S. Steel Corp.

### Project Needs

- Requires periodic maintenance dredging (on a 2 to 3 year cycle) of approx. 100,000 cubic yards.
- Obstruction removal is required on an annual basis.
- The compensating dikes need repairs.



### Consequences of Not Maintaining the Project

- Significant loss of jobs locally, regionally, and internationally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$1,300,000 and \$2,800,000 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

- Commodities transported through these channels include coal, iron ore (taconite), limestone, steel products, petroleum products, and other general cargo, including overseas cargo.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
 Detroit River, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	725	725		848	
CDFs	260		260	260	
Maintenance Dredging	1,790	1,790		2,000	
Strike Removal	2,216	2,216		2,175	
Structures	600	600		600	
Environmental Activities: Grassy Island				250	
<b>TOTALS</b>	<b>5,591</b>	<b>5,331</b>	<b>260</b>	<b>6,133</b>	

\* FY08 President's Budget will not be available until February 2007



## Duluth-Superior Harbor, MN & WI

### Harbor Features

- Located at the western end of Lake Superior.
- Deep draft commercial harbor.
- Authorized depths – 32 to 28 feet in the entrance; 27 feet deep in the iron-ore route channels and 20 to 23 feet in inner channels.
- 18<sup>th</sup> leading U.S. port with 45.4M tons of material shipped or received in 2004.
- Ranked 1<sup>st</sup> among the Great Lakes Harbors.
- 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 Duluth-Superior Harbor.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Canadian National, BNSF, Midwest Energy, General Mills/Cargill, Lafarge North America, Murphy Oil, Seaway Port Authority, Cutler Magner, and Hallet Dock.

### Project Needs

- Approximately 100,000 cubic yards of material must be dredged each year.
- Navigation structures are primarily maintained by Government floating plant.
- A water filtration component needs to be installed in Erie Pier CDF to allow for direct release of water into the harbor.

### Consequences of Not Maintaining the Project

- Significant loss of jobs locally, regionally, and internationally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$3,200,000 and \$8,000,000 annually.
- 



- The port has an annual \$210M economic impact; 2,000 jobs are dependent on the port.
- \$2 Billion worth of cargo is shipped via the Duluth-Superior docs annually.

### Transportation Importance

- Major international receiving and shipping port on the Great Lakes.
- Commodities shipped or received include iron ore (taconite), coal, limestone, petroleum, and grain and general cargo, including steel and scrap iron.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Duluth-Superior Harbor, MN & WI  
Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	477	477		475	
CDFs	125	125		250	
Maintenance Dredging	2,883	2,883		2,500	
Structures	1,705	1405	300	900	
Environmental Activities					
<b>TOTALS</b>	<b>5,190</b>	<b>4,890</b>	<b>300</b>	<b>4,125</b>	

\* FY08 President's Budget will not be available until February 2007



## Dunkirk Harbor, NY

### Harbor Features

- Located on Lake Erie in the city of Dunkirk, Chautauqua County, New York.
- Deep draft commercial harbor.
- Authorized depths are 27 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 and a number of recreational interests; including charter fishing and recreational marinas.

### Project Needs

- Approximately 26,000 cubic yards of material must be dredged every 2 years.
- In order to maintain adequate channel depth for commercial vessels, an estimated 15,000 cubic yards of maintenance dredging would be required in FY07.
- The Outer breakwater in poor condition due to storm and ice damage and will require repairs in the next 3-5 years.
- Sections of the North breakwater are also in poor conditions and will require repairs.

### Consequences of Not Maintaining the Project

- Negative economic impacts, locally and regionally.
- Further shoaling will limit or cease commercial use, costing approx. \$4.3M/yr in lost revenue.



### Transportation Importance

- Receiving and shipping port on the Great Lakes.
- Coal is the major commodity received.
- Bulk commodities that pass through Dunkirk Harbor generate approximately \$2.2M annually in direct revenue which supports over 22 jobs.
- These jobs generate over \$800k per year in personal income.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Dunkirk Harbor, New York Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	19	19	0		
Maintenance Dredging	462		462	416	
Sediment Sampling and Analysis				60	
Structure Repair-North Breakwater				250	
<b>TOTALS</b>	<b>481</b>	<b>19</b>	<b>462</b>	<b>726</b>	

\* FY08 President's Budget will not be available until February 2007



## Erie Harbor, PA

### Harbor Features

- Located on Lake Erie in the city of Erie, Erie County, Pennsylvania.
- Deep draft commercial harbor.
- Authorized depths are 29 feet in the Entrance Channel and 25-28 feet in the harbor.
- 143<sup>rd</sup> leading U.S. port with 1.1M tons of material shipped or received in 2004.
- Ranked 37<sup>th</sup> among commercial Federal harbors on the Great Lakes.
- 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 is located adjacent to the South pier.
- Major stakeholders include the Erie-Western Pennsylvania Port Authority, U.S. Coast Guard and the Erie Sand and Gravel Company.

### Project Needs

- Dredging is conducted on an in-frequent, as-needed basis. Approximately 84,000 cubic yards of material are removed per dredging event.
- The North pier will require repair within the next 5-7 years.

### Consequences of Not Maintaining the Project

- Loss of jobs both locally and regionally.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$397k and \$629k annually.



### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities received include limestone, aggregates, and coal.
- Bulk commodities that pass through Erie Harbor generate approximately \$11.8M annually in direct revenue which supports over 169 jobs.
- These jobs generate over \$6.2M per year in personal income.
- Plans are being developed for a translake freight ferry service connecting Erie, PA and the Nanticoke, ON via Lake Erie.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Erie Harbor, Pennsylvania Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	22	22	0		
Maintenance Dredging	615	0	615		
<b>TOTALS</b>	<b>637</b>	<b>22</b>	<b>615</b>		

\* FY08 President's Budget will not be available until February 2007



## Fairport Harbor, OH

### Harbor Features

- Located on Lake Erie in the city of Fairport, Lake County, Ohio.
- Deep draft commercial harbor.
- Authorized depths are 25 feet in the Outer Harbor and 21-24 feet in the river.
- 108<sup>th</sup> leading U.S. port with 2.8M tons of material shipped or received in 2004.
- Ranked 26<sup>th</sup> among commercial Federal harbors on the Great Lakes.
- 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, Carmuse Lime, Morton International, Incorporated, Northeastern Road Improvement Company, Osborne Concrete & Stone, and Sidley Stone Products.

### Project Needs

- Approximately 120,000 cubic yards of material must be dredged every 1-2 years.
- The 925 feet of East breakwater starting at the harbor's entrance is in particularly poor structural condition. Repairs will be required.
- The easternmost 2,000 feet of the East breakwater is completely deteriorated to the point where the entire structure has settled below the water surface.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$868k and \$1.5M annually.

### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include limestone, aggregates, ores and minerals.
- Bulk commodities that pass through Fairport Harbor generate approximately \$33.3M annually in direct revenue which supports over 467 jobs.
- These jobs generate over \$17.3M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Fairport Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	26	26	0		
Structure Repair – East Breakwater	590	590	0	925	
Maintenance Dredging	1,625	1,225	400		
E&D and Construction, Addition of Safety Ladders to East Pier	100	100	0		
<b>TOTALS</b>	<b>2,341</b>	<b>1,941</b>	<b>400</b>	<b>925</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths – 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.
- 44,000 tons of material shipped or received in 2004.
- 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, Lake Carriers' Association, and Luedtke Engineering.



### Project Needs

- Approximately 30,000 to 40,000 cubic yards of material must be dredged on a 5 to 10 year cycle.
- Navigation structures are primarily maintained by Government floating plant.

### 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.
- Commodities received include asphalt and petroleum based products.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Frankfort Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations				37	
CDF					
Maintenance Dredging				200	
Structural Repairs					
Environmental Activities					
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>237</b>	

\* FY08 President's Budget will not be available until February 2007



## Grand Haven Harbor, and Grand River, MI

### Harbor Features

- Located on the east shore of Lake Michigan, 108 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.
- Deep draft commercial harbor.
- Authorized depths – 23 feet in the entrance; 18 to 21 feet in the river channel and turning basin; 8 feet in the upper Grand River channel.
- 125<sup>th</sup> leading U.S. port with 1.8M tons of material shipped or received in 2004.
- Ranked 29<sup>th</sup> among the Great Lakes Harbors.
- 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, Lake Carriers' Association, Verplank Trucking, Meekoff Dock, Construction Aggregate Corporation, St. Marys Cement, and Grand Haven Power.

### Project Needs

- Approximately 35,000 to 45,000 cubic yards of material must be dredged from the harbor entrance annually. Approximately 25,000 to 35,000 cubic yards of material must be dredged from the inner channel on a 2 to 4 year cycle.
- Navigation structures are primarily maintained by Government floating plant.



- The upland placement site requires periodic maintenance to enable continued recycling of dredged material.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$174,000 and \$390,000 annually.

### Transportation Importance

- Major regional receiving port on the Great Lakes.
- Commodities received include sand, gravel and coal.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
 Grand Haven Harbor and Grand River, MI  
 Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	40	40		196	
CDF				125	
Maintenance Dredging	415	415		450	
Structural Repairs					
Environmental Activities					
<b>TOTALS</b>	<b>455</b>	<b>455</b>		<b>771</b>	

\* FY08 President's Budget will not be available until February 2007



## Green Bay Harbor, WI

### Harbor Features

- Located at the mouth of the Fox River at the head of Green Bay in Lake Michigan.
- Deep draft commercial harbor.
- Authorized depths – 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, then 18 feet to the city of DePere.
- 116<sup>th</sup> leading U.S. port with just under 2.4M tons of material shipped or received in 2004.
- Ranked 28th among the Great Lakes Harbors.
- Over 12 miles of maintained channel.
- Material is currently placed in the Bay Port disposal facility under an agreement with the Brown County Port Authority, since the Green Bay Confined Disposal Facility at Renard Island is currently near capacity.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Koch Materials Co., Great Lakes Calcium Corp., Fox River Dock Co., Anamax Corp., St. Marys Cement Co., Western Lime Corp., C. Reiss Coal Co., Leicht Transfer & Storage Co., U.S. Oil Co., K&K Warehousing, Lafarge Corp., Construction Resource Management, and Georgia Pacific Corp.

### Project Needs

- At least 100,000 cubic yards of material must be dredged each year to provide for one-way vessel traffic.
- The existing CDF needs to be closed and turned over to the local sponsor. Planning, design and coordination is currently underway.



- Completion of the 204 Cat Island initiative. The project involves building a barrier island with dredged material. This project will provide significant long-term capacity for clean dredged material.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$540,000 and \$1,400,000 annually.

### Transportation Importance

- Major receiving port on the Great Lakes.
- Commodities include coal, limestone, cement, concrete, petroleum products, lumber, and general cargo, including overseas cargo.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Green Bay Harbor, WI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	395	395		305	
CDFs – Renard Island	480		480	825	
Maintenance Dredging	2,732	2212	520	4,000	
Structures					
Environmental Activities					
Studies: Cat Island Section 204	225		225	225	
<b>TOTALS</b>	<b>3,832</b>	<b>2,607</b>	<b>1,225</b>	<b>5,355</b>	

\* FY08 President's Budget will not be available until February 2007



## Harbor Beach Harbor, MI

### Harbor Features

- Located on the west shore of Lake Huron about 60 miles north of Port Huron, MI.
- 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.
- 82,000 tons of material shipped or received in 2004.
- Nearly 7,900 feet of breakwater structures.
- About one half mile of maintained channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, and Detroit Edison.



### Project Needs

- Approximately 30,000 to 40,000 cubic yards of material must be dredged on a 10 to 20 year cycle.
- Navigation structures are primarily maintained by Government floating plant.

### Consequences of Not Maintaining the Project

- Significant loss of jobs locally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$27,000 and \$64,000 annually.

### Transportation Importance

- Locally significant receiving port on the Great Lakes.
- Commodities received include coal and clay and refractory materials.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Harbor Beach Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations					
CDFs					
Maintenance Dredging					
Structures					
Environmental Activities					
<b>TOTALS</b>	<b>0</b>	<b>0</b>		<b>0</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths – 23 feet in the entrance; 21 feet in inner channel and Lake Macatawa.
- Ranked among top 75 Great Lakes Harbors with 544,000 tons of material shipped or received in 2004.
- 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 Lakewood Road dredged material placement site enables recycling of material dredged from the inner harbor and Lake Macatawa.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Verplank Trucking, Padnos Iron and Metal, Holland Public Works, and Brewers Dock.

### Project Needs

- Approximately 25,000 to 30,000 cubic yards of material must be dredged from entrance annually. Approximately 20,000 to 35,000 cubic yards of material must be dredged from the Lake Macatawa channel on a 2 to 4 year cycle.
- Navigation structures are primarily maintained by Government floating plant.
- The Lakewood Road dredged material placement site requires periodic maintenance to continue to provide capacity.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$114,000 and \$271,000 annually.

### Transportation Importance

- Major regional receiving port on the Great Lakes.
- Commodities received include limestone, scrap metals, sand, gravel, and coal.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Holland Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	131	131		97	
CDF					
Maintenance Dredging	418	418		425	
Structural Repairs				165	
Environmental Activities					
<b>TOTALS</b>	<b>549</b>	<b>549</b>		<b>687</b>	

\* FY08 President's Budget will not be available until February 2007



## Huron Harbor, OH

### Harbor Features

- Located on Lake Erie in the city of Huron, Erie County, Ohio.
- Deep draft commercial harbor.
- Authorized depths are 29 feet in the Lake Approach Channel, 28 feet in the Entrance Channel and 21 feet in the Turning Basin.
- 139<sup>th</sup> leading U.S. port with 1.3M tons of material shipped or received in 2003.
- Over 1.0 mile of navigation structures.
- 2.0 miles of Federal Channel.
- A confined disposal facility is located adjacent to the West Pier at the west end of the harbor.
- Major stakeholders include the Huron Port Authority, Norfolk Southern, ConAgra Food Ingredients Co. and Huron Lime Inc.

### Project Needs

- Approximately 122,000 cubic yards of material must be dredged every 1-2 years.
- Evaluation of the West pier is required to check for possible undermining of the structure due to wave action.
- The CDF is filled to approximately 75% of capacity. Presently, this facility is not utilized for normal maintenance dredging.
- Repairs to the CDF weir are also required.



### Consequences of Not Maintaining the Project

- Loss of jobs both locally and regionally.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$124k and \$321k annually.

### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include iron ore, limestone and grain.
- Bulk commodities that pass through Huron Harbor generate approximately \$12.5M annually in direct revenue which supports over 205 jobs.
- These jobs generate over \$7.6M per year in personal income.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Huron Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	30	30	0		
Maintenance Dredging	960	660	300	900	
Environmental Compliance (CDF-Risk Assessment)				60	
Environmental Compliance (CDF)				10	
E&D Weir Repair				100	
<b>TOTALS</b>	<b>990</b>	<b>690</b>	<b>300</b>	<b>1,070</b>	

\* FY08 President's Budget will not be available until February 2007



## Indiana Harbor, IN

### Project Features

- Located on Lake Michigan in the City of East Chicago, Lake County, Indiana.
- Controlling depths are -29 ft. L.W.D in the approach channel, -28 ft. in the turning basin, -27 ft. in the outer dock area, and -22 ft. within the main and two branch channels.
- 40<sup>th</sup> leading U.S. port with 18.2M tons of material shipped or received in 2004
- Ranked 1<sup>st</sup> in tonnage among the 25 Federal commercial harbors on Lake Michigan, and 2<sup>nd</sup> in tonnage of the 62 Federal commercial harbors on the Great Lakes.
- 3,085 linear feet of laid-up stone and concrete caisson breakwater structures.
- 4.7 miles of Federal Channel combined within the Indiana Harbor Canal, the Calumet River Branch, and the Lake George Branch.
- A confined disposal facility (CDF) is under construction on the L. George branch.
- Major stakeholders include Mittal Steel, US Gypsum, LaFarge Cement, and Amoco.

### Project Needs

- The project has not been dredged since 1972 due to the lack of a suitable disposal facility for the highly contaminated sediment. Average shoaling depth in the channel areas is 3.0'.
- The capacity of the new CDF will be 4.8M cubic yards. It will accommodate the backlog, anticipated dredging at berthing and other non-federal areas, and maintenance dredging for twenty years into the future.
- Indiana Harbor is one of the 43 areas of concern (AOC) identified by the International Joint Committee for the Great Lakes. The harbor is the only AOC that fails all fourteen criteria established by USEPA.
- Harbor clean-up dredging was scheduled to begin in 2009 after completion of the CDF. Constrained federal funding levels for CDF construction will further delay this effort.



### Consequences of Not Maintaining the Project

- Light loading - loss of between 3 and 5 feet of channel depth due to shoaling and lake level results in increased transportation costs of between \$7.6M and \$14.7M annually.

### Transportation Importance

- Commodities are iron ore, limestone, coke, gypsum, steel, cement and concrete, petroleum products, and miscellaneous bulk products.
- Mittal'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 10.M tons annually. Products produced are hot-rolled, cold-rolled and hot-dipped galvanized sheet products. The markets served include automotive, appliance, agricultural, construction, line and pipe tube, electrical/motor lamination, converters and steel service centers.
- Bulk commodities that pass through Indiana Harbor generate nearly \$321.M annually in direct revenue which supports nearly 4,600 jobs.
- These jobs generate nearly \$169.M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Indiana Harbor, IN Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Harbor Routine Operations	145	-	145	150	
CDF Operations Plan Development	295	295	-		
CDF Operations Contract Assembly	-	-	-	610	
P&S for Dredging	250	250	-	-	-
CDF Dikes 2 Construction	3,050	3,050	-	-	-
CDF Dikes 3 & Interior Layout P&S and Construction	8,550	3,500	5,050	5,050	
CDF Groundwater Gradient Control System P&S and Construction	14,950	5,505	9,445	9,150	
CDF Groundwater Treatment Plant P&S, Construction/Operation	2,500	2,500	-	2,500	
CDF South Cutoff Wall P&S and Construction	13,050	3,750	9,300	9,050	
CDF Air Monitoring – Present Activities and Future Plan	1,000	1,000	-	700	
CDF Waste Water Treatment Plant P&S	400	400	-	-	-
CDF Waste Water Treatment Plant Construction	-	-	-	10,350	
<b>TOTALS</b>	<b>44,190</b>	<b>20,250</b>	<b>23,940</b>	<b>37,560</b>	

\* FY08 President's Budget will not be available until February 2007



## Keweenaw Waterway, MI

### Harbor Features

- Located on Lake Superior across the Keweenaw Peninsula in the upper peninsula of Michigan. The west entrance is 169 miles east of Duluth, MN.
- Deep draft commercial harbor.
- Project depth of 23 feet in entrance channel and 21 feet in interior basin.
- 2,000 tons of material shipped or received in 2004.
- 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 U.S. Coast Guard, Lake Carriers' Association, UP Power, and Canadian National.

### Project Needs

- Approximately 25,000 to 35,000 cubic yards of material must be dredged on a 10 to 20 year cycle.
- Navigation structures are primarily maintained by Government floating plant.



### 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 and harbor of refuge on the Great Lakes.
- Commodities shipped or received include numerous varieties of products and materials.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Keweenaw Waterway, MI  
Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	46	0	46	45	
CDFs					
Maintenance Dredging					
Structures	450	0	450	450	
Environmental Activities					
<b>TOTALS</b>	<b>496</b>	<b>0</b>	<b>496</b>	<b>495</b>	

\* FY08 President's Budget will not be available until February 2007



## Lorain Harbor, OH

### Harbor Features

- Located on Lake Erie in the city of Lorain, Lorain County, Ohio.
- Deep draft commercial harbor.
- Authorized depths are 28 feet in the Outer Harbor and 27 feet in the river.
- 104<sup>th</sup> leading U.S. port with 3.0M tons of material shipped or received in 2004.
- Ranked 25<sup>th</sup> among commercial Federal harbors on the Great Lakes.
- 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, U.S. Coast Guard, Amcor Marine, American Metal Chemical Corp., Gold Bond/U.S. Gypsum, Jonick Dock & Terminal, Lorain Tubular Co., National Gypsum Co., Republic Technologies Int., and terminal Ready Mix, Inc.

### Project Needs

- Approximately 180,000 cubic yards of material must be dredged every 2-3 years.
- Recent dredging has been restricted by the limited CDF capacity. Additional dredging is needed to achieve full and safe channel dimensions in the lower river and turning basin.
- The breakwater structures are in various levels and disrepair, with the most critical repairs required to the East and West arrowhead breakwaters.
- An evaluation of the Lorain Lighthouse is necessary to inspect for evidence of unstabilized settlement that could potentially threaten the structure.
- The implementation of fill management plans will be necessary in 2007 to extend the useful life of the CDF to receive dredged material in 2008.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$346k and \$897k annually.

### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include iron ore, aggregates, limestone, chemicals, ores and minerals.
- Bulk commodities that pass through Lorain Harbor generate approximately \$33.9M annually in direct revenue which supports over 574 jobs.
- These jobs generate over \$21.2M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Lorain Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	33	33	0		
Dredged Material Management Plan	250	250	0		
Structure Repair – East and West Breakwaters	590	590	0		
Evaluate West Breakwater Extension Shorearm	50	50	0		
Construction, CDF Maintenance	350	350	0		
Environmental Compliance	10	10	0		
Maintenance Dredging	495		495	930	
E&D, CDF Maintenance				110	
<b>TOTALS</b>	<b>1,778</b>	<b>1,283</b>	<b>495</b>	<b>1,040</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Project depth of 27 to 29 feet in the entrance channel and 18 feet deep in the basins.
- Ranked among top 75 Great Lakes Harbors with 453,000 tons of material shipped or received in 2004.
- Over 8,700 feet of structures including breakwaters, piers and revetments.
- Over one mile of navigation channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Lake Michigan Car Ferry service (Badger), Reith and Riley Asphalt, Dow Chemical, and Pere Marquette Shipping.

### Project Needs

- Approximately 35,000 to 45,000 cubic yards of material must be dredged on a 2 to 3 year cycle.
- Navigation structures are primarily maintained by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$55,000 and \$128,000 annually.

### Transportation Importance

- Regionally significant receiving port on the Great Lakes.
- Home to ferry that maintains cross-Lake Michigan service.
- Commodities received include sand and gravel, slag, and salts.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Ludington Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	177	177		87	
CDF					
Maintenance Dredging				350	
Structural Repairs	600		600	600	
Environmental Activities					
<b>TOTALS</b>	<b>777</b>	<b>177</b>	<b>600</b>	<b>1,037</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths – 25 feet in the entrance; 23 feet in river channel.
- Ranked 40<sup>th</sup> among the Great Lakes Harbors with 940,000 tons of material shipped or received in 2004.
- Over 6,000 feet of structures including breakwaters, piers, and revetments.
- About 2 miles of maintained channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Seng Dock Co., Martin and Marietta, Bondu Corporation, Morton Salt, and Packaging Corporation.

### Project Needs

- Approximately 30,000 to 40,000 cubic yards of material must be dredged on a 2 to 3 year cycle. This project requires critical maintenance dredging in FY07.
- Navigation structures are primarily maintained by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; because of the current shoaling in Manistee, transportation costs exceed \$560,000 annually.

### Transportation Importance

- Regionally significant receiving port on the Great Lakes.
- Commodities received include sand, gravel, and coal.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Manistee Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	47	47		47	
CDF					
Maintenance Dredging	400		400	500	
Structural Repairs	209		209	209	
Environmental Activities					
<b>TOTALS</b>	<b>656</b>	<b>47</b>	<b>609</b>	<b>756</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths varying from 22 to 25 feet below LWD 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 adjacent to the CDF.
- 282,000 tons of material shipped or received in 2004.
- 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 U.S. Coast Guard, Lake Carriers' Association, Burger Boat Building, Manitowoc Portland Cement Co., and Lake Michigan Car Ferry.



### Project Needs

- Approximately 20,000 to 30,000 cubic yards of material must be dredged from the river channel on a 2 to 3 year cycle.
- Navigation structures are primarily maintained by Government floating plant.
- Periodic maintenance of the CDF is required.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$100,000 and \$240,000 annually.

### Transportation Importance

- Locally significant receiving port on the Great Lakes.
- Commodities received include coal, cement and concrete.
- Boat building is a significant economic catalyst to the local economy.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Manitowoc Harbor, WI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	108	108		20	
CDF					
Maintenance Dredging	542	542			
Structural Repairs	142	0	142	210	
Environmental Activities					
<b>TOTALS</b>	<b>792</b>	<b>650</b>	<b>142</b>	<b>230</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Project depth of 27 feet below LWD in entrance channel and inner basins.
- Ranked 32<sup>nd</sup> among the Great Lakes Harbors with about 1.5M tons of commerce in 2004.
- Over 4,500 feet of breakwater structure.
- Over one-half mile of navigation channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, and Wisconsin Electric.

### Project Needs

- Maintenance dredging is required infrequently.
- Navigation structures are primarily maintained by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$150,000 and \$325,000 annually.

### Transportation Importance

- Major regional receiving port on the Great Lakes.
- Commodities received include limestone, coal, and lignite.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Marquette Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations				37	
CDF					
Maintenance Dredging					
Structural Repairs				350	
Environmental Activities					
<b>TOTALS</b>	<b>0</b>	<b>0</b>		<b>387</b>	

\* FY08 President's Budget will not be available until February 2007



## Menominee Harbor, MI & 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.
- Deep draft commercial harbor.
- Authorized depths varying from 21 to 24 feet below LWD in entrance and inner channels.
- 401,000 tons of material shipped or received in 2004.
- Over 3,700 feet of pier structures.
- Over 2 miles of maintained channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, K&K Warehousing, Marinette Marine, and Marinette Fuel and Dock Co.



### Project Needs

- Approximately 20,000 to 25,000 cubic yards of material must be dredged from the channel on a 5 to 10 year cycle.
- Navigation structures are primarily maintained by Government floating plant.

### 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.
- Commodities received include pig iron, pulp and paper and coal.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Menominee Harbor, MI & WI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations				50	
CDF					
Maintenance Dredging				550	
Structural Repairs					
Environmental Activities					
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>600</b>	

\* FY08 President's Budget will not be available until February 2007



## Milwaukee Harbor, WI

### Harbor Features

- Located on the west shore of Lake Michigan about 85 miles north of Chicago, IL.
- Deep draft commercial harbor.
- Project depths – 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 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 Menominee River to the 25<sup>th</sup> Street, the South Menominee Canal to 13<sup>th</sup> Street, and Burnham Canal to 11<sup>th</sup> Street.
- 99<sup>th</sup> leading U.S. port with 3.2M tons of material shipped or received in 2004.
- Ranked 24th among the Great Lakes Harbors.
- Over 21,000 feet of structures including breakwaters, piers and revetments.
- The Milwaukee Confined Disposal Facility is located within the harbor in the southwest corner.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Ace World Wide, Cargill Salt, Charter Wire, CP Railway, Edward E. Gillen Co., Federal Marine Terminals, Inc., International Longshoremen's Assoc., Jacobus Co., Lafarge Corporation, Milwaukee Bulk Terminals, Lake Express Ferry Service, Milwaukee Intermodal Terminal, Milwaukee World Festivals, North American Salt Co., RSI Logistics, Specialty Restaurants Corp., St. Marys Cement, Support Terminal Services, U.S. Navy, Union Pacific Railroad Company, and Wisconsin Lake Schooner.

### Project Needs

- Dredging is completed on a 3 to 4 year cycle and the harbor is currently in need of critical dredging.



- Navigation structures are primarily maintained by Government floating plant, and it is anticipated that one section of the breakwater will require major reconstruction.
- A Dredge Material Management Plan needs to be completed to document additional capacity needs in the CDF to support a combined Legacy Act project with the EPA and Port of Milwaukee.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$900,000 and \$2,200,000 annually.

### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities include non-metal minerals, coal, corn and soybeans, cement and concrete, sand and gravel, and iron and steel products.
- Transportation hub for car ferry service crossing Lake Michigan, and a new terminal for cruise ships.
- The port generates revenues of \$80M annually and directly supports 1,000 jobs.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Milwaukee Harbor, WI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	176	176		179	
CDFs	230		230	3,000	
Maintenance Dredging	770		770	840	
Structures	490		490	850	
Environmental Activities					
<b>TOTALS</b>	<b>1,666</b>	<b>176</b>	<b>1,490</b>	<b>4,869</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths – 21 feet in Lake Erie up to the turning basin in the Raisin River, which has an 18' depth.
- 150<sup>th</sup> leading U.S. port with just under 1M tons of material shipped or received in 2004.
- Ranked 38th among the Great Lakes Harbors.
- Approximately 28,000 feet of maintained Federal channel.
- Sterling State Park Confined Disposal Facility is located just north of the harbor.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Detroit Edison, Hickman Williams & Co., Holcim, Inc., The King Company, Inc., La-Z-Boy, Inc., The Mickow Corp., MACSTEEL, Michigan Paving and Materials Co, and Visteon Corp.

### Project Needs

- Dredging of approximately 50,000 to 80,000 cubic yards is completed on a 2 to 3 year cycle. Although maintenance dredging was completed in FY06, significant shoaling remains.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$800,000 and \$1,800,000 annually.

### Transportation Importance

- Major receiving port on the Great Lakes.
- Commodities include mostly petroleum products and coal.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Monroe Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	75		75	92	
CDF					
Maintenance Dredging	425		425	458	
Structural Repairs					
Environmental Activities					
<b>TOTALS</b>	<b>500</b>	<b>0</b>	<b>500</b>	<b>550</b>	

\* FY08 President's Budget will not be available until February 2007



## Muskegon Harbor, MI

### Harbor Features

- Located on the east shore of Lake Michigan, 114 miles northeast of Chicago, IL.
- Deep draft commercial harbor.
- Authorized depths – 29 and 28 feet.
- 111<sup>th</sup> leading U.S. port with just under 2.7M tons of material shipped or received in 2004.
- Ranked 27<sup>th</sup> among the Great Lakes Harbors.
- 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, Lake Carriers' Association, Verplank, Express Ferry Service, Consumers Energy, and Medusa Cement.

### Project Needs

- Maintenance dredging is required on a 2 to 3 year cycle.
- Navigation structures are primarily maintained by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$150,000 and \$350,000 annually.

### Transportation Importance

- Major receiving port on the Great Lakes.
- Commodities include primarily sand and gravel, limestone, cement and concrete, and coal.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Muskegon Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	14	14		66	
CDFs					
Maintenance Dredging	556		556	500	
Structures	200	200		275	
Environmental Activities					
<b>TOTALS</b>	<b>770</b>	<b>214</b>	<b>556</b>	<b>841</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths varying from 19 to 21 feet in entrance and inner channels.
- 130,000 tons of material shipped or received in 2004.
- Over 4,800 feet of structures including piers and revetments.
- About 3/4 mile of maintained channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Smurfit-Stone Container, and White Pine Power.

### Project Needs

- Approximately 40,000 cubic yards of material must be dredged each year.
- Navigation structures are primarily maintained by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally in an economically depressed area.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$370,000 and \$770,000 annually.

### Transportation Importance

- Locally significant receiving port on the Great Lakes. Harbor provides main economic catalyst for the area.
- Commodities include coal and lignite.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Ontonagon Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	31	31		68	
CDF					
Maintenance Dredging	520	520		575	
Structural Repairs				450	
Environmental Activities					
<b>TOTALS</b>	<b>551</b>	<b>551</b>	<b>0</b>	<b>1,093</b>	

\* FY08 President's Budget will not be available until February 2007



## Oswego Harbor, NY

### Harbor Features

- Located on Lake Ontario in the city of Oswego, Oswego County, New York.
- Deep draft commercial harbor.
- Authorized depths are 25 feet in the Outer Harbor navigation channel, 27 feet in the Lake Approach Channel and 21-24 feet in the Oswego River.
- Over 1.94 miles of breakwater structures.
- 280 acre outer harbor and 3000 feet of Federal Channel in the Oswego River.
- Major stakeholders include Port of Oswego, U.S. Coast Guard, NRG Energy, Sprague Energy Corporation, Lafarge Cement and Essroc Cement.

### Project Needs

- Approximately 33,000 cubic yards of material must be dredged 2-4 years.
- The East and West arrowhead breakwaters are severely deteriorated and will require significant repairs.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$40k and \$80k annually.



### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include petroleum, cement, chemicals, ores and minerals.
- In 2005, the Port of Oswego showed continued growth and diversification through the addition of two new cargoes: soybeans and windmill components.
- The windmill components included wind turbines and towers for the Maple Ridge Wind Farm Project. Northeast of Syracuse, the project is the largest green energy project in the Northeastern United States.
- Bulk commodities that pass through Oswego Harbor generate approximately \$5.9M annually in direct revenue which supports over 78 jobs.
- These jobs generate over \$2.9M per year in personal income.
- Plans are being developed for a translake freight ferry service between the Port of Oswego and the Port of Hamilton via Lake Ontario.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Oswego Harbor, New York Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	19	19	0		
Maintenance Dredging	635	525	110		
E&D, East and West Arrowhead Breakwater Repair	300	300	0		
Structure Repair – East and West Arrowhead Breakwaters				2,000	
Construct, West Arrowhead Breakwater Repair				3,500	
Sediment Sampling and Analysis				100	
<b>TOTALS</b>	<b>954</b>	<b>844</b>	<b>110</b>	<b>5,600</b>	

\* FY08 President's Budget will not be available until February 2007



## Presque Isle Harbor, MI

### Harbor Features

- Located on the south shore of Lake Superior near Marquette, MI.
- Deep draft commercial harbor.
- Authorized depths – 30 feet in the approach, 28 feet in the inner basin.
- 53<sup>rd</sup> leading U.S. port with 10.4M tons of material shipped or received in 2004.
- Ranked 8<sup>th</sup> among the Great Lakes Harbors.
- Over 4,500 feet of breakwater.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Lake Superior & Ishpeming Railroad, Cleveland Cliffs Tilden, and Empire Mines.

### Project Needs

- Need for maintenance dredging limited to a 10 to 15 year cycle. Channels are currently at authorized depths.
- Navigation structures are primarily maintained by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- 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 (taconite), coal and limestone.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Presque Isle Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations					
CDF					
Maintenance Dredging					
Structural Repairs	292	292			
Environmental Activities					
<b>TOTALS</b>	<b>292</b>	<b>292</b>		<b>0</b>	

\* FY08 President's Budget will not be available until February 2007



## Rochester Harbor, NY

### Harbor Features

- Located on Lake Ontario in the city of Rochester, Monroe County, New York.
- Deep draft commercial harbor.
- Authorized depths are 24 feet in the Approach Channel, 23 feet in the Entrance Channel and 21 feet in the Genesee River.
- 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, Essroc Cement Corporation and Shellet-Genesee Shipping Group.

### Project Needs

- Approximately 227,000 cubic yards of material must be dredged every 2 years.
- Currently, the controlling channel depth is approximately 2-4 ft. less than the authorized depth. In order to maintain adequate channel depth for commercial vessels an estimated 150,000 cubic yards of maintenance dredging will be required in FY07.

### Consequences of Not Maintaining the Project

- Negative economic impacts, locally and regionally.
- Further shoaling will limit or cease commercial use, costing supported industries \$1.4M annually.



### Transportation Importance

- Receiving and shipping port on the Great Lakes.
- Cement is the major commodity shipped and received.
- Bulk commodities that pass through Rochester Harbor generate approximately \$2.2M annually in direct revenue which supports over 29 jobs.
- These jobs generate over \$1.1M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Rochester Harbor, New York Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	22	22	0		
Maintenance Dredging	1,105	920	185		
<b>TOTALS</b>	<b>1,127</b>	<b>942</b>	<b>185</b>		

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths varying from 21 feet in the Cut-off and Main Rouge channel to 18 to 15 feet in the Old Rouge channel.
- Ranking included with Port of Detroit as 42<sup>nd</sup> leading U.S. port with 11.2M tons of material shipped or received in 2004 on Rouge River alone (16.9M tons overall for port).
- Ranked 7<sup>th</sup> among the Great Lakes Ports if considered separately from Port of Detroit.
- A 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 for the next 25 years.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Harridon Terminal, Inc., Michigan Marine Terminal, and Nicholson Terminal & Dock Co.

### Project Needs

- Rouge River requires maintenance dredging of 50,000 to 60,000 cubic yards on a 2 to 3 year cycle.



### 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

- Major receiving port on the Great Lakes.
- Commodities include iron ore (taconite), petroleum products, coal, slag, cement and concrete, and limestone.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Rouge River, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	20	20		105	
CDFs	160		160	160	
Maintenance Dredging				1,056	
Structures					
Environmental Activities					
<b>TOTALS</b>	<b>180</b>	<b>20</b>	<b>160</b>	<b>1,321</b>	

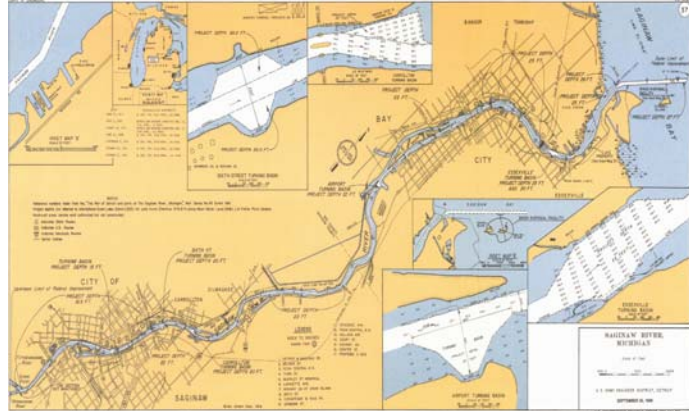
\* FY08 President's Budget will not be available until February 2007



## Saginaw River, MI

### River Features

- Saginaw River is formed by the union of the Tittabawassee and Shiawassee Rivers, 22 miles long, and flows northerly into the south end of Saginaw Bay, Lake Huron. The cities of Saginaw and Bay City are on the river.
- Deep draft commercial harbor.
- Authorized depths varying from 27 feet below LWD in the Saginaw Bay entrance channel to 22 to 26 feet in the Saginaw River channel.
- 77<sup>th</sup> leading U.S. port with 5.5M tons of material shipped or received in 2004.
- Ranked 18<sup>th</sup> among the Great Lakes Ports.
- A total of 26 miles of Federal channels and 5 turning basins.
- Saginaw Bay confined disposal facility is located about one mile northeast of the mouth of the river in Saginaw Bay and has sufficient capacity for the next 25 years.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Bay Aggregates, Bit-Mat Products of Michigan, Consumers Energy, Dow Chemical, Essroc Italcementi Group, Lee Wood Terminal, Saginaw Bay Fertilizer, Triple Clean Liquifuels, Wirt Transportation Company, BMT Terminals, Burroughs Materials Corp., International Materials, Lafarge North America, Saginaw Asphalt Paving Co., Saginaw Rock Products, Sargent Docks & Terminal Company, Wirt Stone Docks, and Saginaw River Alliance.



### Project Needs

- Entrance channel in Saginaw Bay requires annual maintenance dredging of approx. 100,000 to 150,000 cubic yards. The upper river channel requires maintenance dredging of 50,000 to 100,000 cubic yards on a 2 to 3 year cycle.
- Material dredged from the upper river must be placed upland. A Dredged Material Disposal Facility is currently under construction and will provide capacity for the material dredged from the upper Saginaw River channel.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$275,000 and \$615,000 annually.

### Transportation Importance

- Major receiving port on the Great Lakes.
- Commodities include coal, limestone, petroleum products, chemicals and related products, and cement and concrete.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Saginaw River, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	324	324		294	
Operations: Legal defense	150		150	150	
CDF					
Maintenance Dredging	3,318	3,318		3,605	
Structural Repairs					
Environmental Activities					
<b>TOTALS</b>	<b>3,792</b>	<b>3,642</b>	<b>150</b>	<b>4,049</b>	

\* FY08 President's Budget will not be available until February 2007



## Sandusky Harbor, OH

### Harbor Features

- Located on Lake Erie in the city of Sandusky, Erie County, Ohio.
- Deep draft commercial harbor.
- Authorized depths vary from 21-26 feet in the Federal Channels.
- 96<sup>th</sup> leading U.S. port with 3.4M tons of material shipped or received in 2004.
- Ranked 22<sup>nd</sup> among commercial Federal harbors on the Great Lakes.
- Over 2.0 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 and commercial ferries.

### Project Needs

- Approximately 240,000 cubic yards of material must be dredged each year.
- Maintenance and repair of the east jetty will be required in the next 5-7 years.

### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 2 and 3 feet of channel depth results in increased transportation costs of between \$387k and \$679k annually.



### Transportation Importance

- Major receiving and shipping port on the Great Lakes.
- Commodities shipped or received include coal, ores and minerals.
- Bulk commodities that pass through Sandusky Harbor generate approximately \$51.1M annually in direct revenue which supports over 514 jobs.
- These jobs generate over \$19.0M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Sandusky Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	37	37	0		
Maintenance Dredging	1,010	360	650	1,050	
<b>TOTALS</b>	<b>1,047</b>	<b>397</b>	<b>650</b>	<b>1,050</b>	

\* FY08 President's Budget will not be available until February 2007



## South Haven, MI

### Harbor Features

- Located on the east shore of Lake Michigan, 77 miles northeast of Chicago, IL.
- Authorized as a commercial harbor, but current use is primarily recreational.
- Authorized depths – 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 U.S. Coast Guard and Lake Carriers' Association.

### Project Needs

- Project condition surveys.
- Annual inspection of the breakwaters with periodic structural maintenance by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs locally.
- Loss of commercial fishing in the area.

### Transportation Importance

- 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.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
South Haven, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	0			22	
CDFs					
Maintenance Dredging				280	
Structures					
Environmental Activities					
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>302</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths – 21 feet in the entrance and inner channel; 18 feet in the inner river channel and turning basin.
- Ranked in the top 50 among the Great Lakes Harbors with 748,000 tons of material shipped or received in 2004.
- 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, Lake Carriers' Association, Huron Cement Co., Dock 63, and Consumers Asphalt.

### Project Needs

- Approximately 30,000 to 40,000 cubic yards of material must be dredged from the entrance annually. Approximately 15,000 to 20,000 cubic yards of material must be dredged from the inner channel on a 2 to 4 year cycle.
- Navigation structures are primarily maintained by Government floating plant.
- Dredge Material Management Plan efforts need to be completed to facilitate continued use of the placement site for material dredged from the inner channel.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$400,000 and \$900,000 annually.

### Transportation Importance

- Regionally significant receiving port on the Great Lakes.
- Commodities received include sand, gravel, cement, and concrete.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
St. Joseph Harbor, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	62	62		167	
Operations: Legal Defense	125	0	125	100	
CDF	267		267	267	
Maintenance Dredging	388	388		500	
Structural Repairs					
Environmental Activities					
<b>TOTALS</b>	<b>842</b>	<b>450</b>	<b>392</b>	<b>1,034</b>	

\* FY08 President's Budget will not be available until February 2007



## St. Marys River, MI

### Project Features

- One of Great Lakes connecting channels; 63 miles long, 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.
- Deep draft commercial channel.
- Authorized depths varying from 27.5 to 28.5 feet in the St. Marys River, Lake Superior and Lake Huron approaches.
- A total of 75 miles of Federally maintained deep draft channels.
- Project also operates two locks and two canals which handle over 80M tons of cargo annually and a hydropower plant of 14,000 kilowatt capacity (45,000 kilowatt ultimate capacity).
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, MCM Marine, Purvis Marine Ltd., Gardiner Marine Ltd., Kemp Coal Dock, Algoma Steel, Great Lakes Power, and all Great Lakes shipping interests.

### Project Needs

- Requires periodic maintenance dredging (on a 4 to 6 year cycle) of approx. 100,000 cy.
- Obstruction removal is required on an annual basis.
- The Poe upper gates need to be replaced.



### Consequences of Not Maintaining the Project

- Significant loss of jobs locally, regionally and internationally.
- 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 other Great Lakes and the St. Lawrence Seaway.
- The 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 taconite, coal, limestone, petroleum and petroleum products, chemicals and related products, primary manufactured goods, food and farm products, and manufactured equipment, machinery and products.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
St. Marys River, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	2,242	2,242	0	2,178	
CDFs				200	
Strike Removal	2,320	2,320	0	2,390	
Lock Operations	5,377	5,377	0	4,844	
Lock Maintenance	6,572	6,572	0	5,913	
Lock Repairs	1,074	1,074	0	4,975	
Stop Logs	2,600	0	2,600	2,200	
<b>TOTALS</b>	<b>20,185</b>	<b>17,585</b>	<b>2,600</b>	<b>22,700</b>	

\* FY08 President's Budget will not be available until February 2007



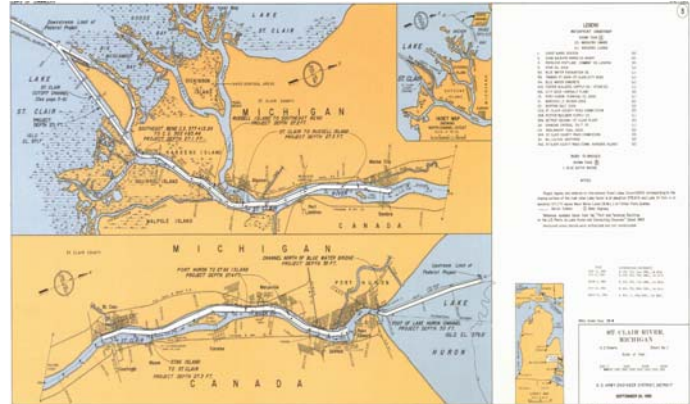
## St. Clair River, MI

### Project Features

- One of Great Lakes connecting channels; 40 miles long, flowing south from Lake Huron and discharging into Lake St. Clair.
- Deep draft commercial project.
- Authorized depths vary from 27.1 to 30 feet.
- Serves ports of Marysville, Marine City and St. Clair, totaling 10.8M tons of material shipped or received in 2004.
- St. Clair Harbor is ranked 77th among U.S. Ports with 5.3M tons, Marysville Harbor is ranked 138th with 1.4M, and Marine City is ranked 86th with 4.1M tons shipped in 2004.
- 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, Lake Carriers' Association, Detroit Edison, Marysville Ethanol LLC, Marine City Ferry, DTE Energy, Blue Water Aggregates, St. Clair Aggregates and all connecting channels users.

### Project Needs

- Requires periodic maintenance dredging on the lower river channels (on a 2 to 3 year cycle).
- Obstruction removal is required on an annual basis.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$300,000 and \$1,000,000 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

- Great Lakes connecting channel between Lake St. Clair and Lake Huron with 70 to 80 millions tons of commerce passing through annually.
- Contains three major receiving ports on the Great Lakes.
- Commodities transported through these channels include coal, limestone, wood pulp, petroleum products, salt, and other general international cargo.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
St. Clair River, MI - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations	170	170		234	
CDFs				125	
Strike Removal	1,301	1,301		1,381	
Structures					
Environmental Activities					
<b>TOTALS</b>	<b>1,471</b>	<b>1,471</b>	<b>0</b>	<b>1,740</b>	

\* FY08 President's Budget will not be available until February 2007



## 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.
- Deep draft commercial harbor.
- Authorized depths – 22 to 23 feet in the entrance channel and canal; 20 feet in turning basin at Sturgeon Bay.
- 129,000 tons of material shipped or received in 2004.
- Over 15,100 feet of structures including breakwaters and revetments.
- Over 8.5 miles of maintained channel.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, Bay Shipbuilding, and Palmer Johnson.

### Project Needs

- Approximately 20,000 to 30,000 cubic yards of material must be dredged on a 5 to 10 year cycle.
- Navigation structures are primarily maintained by Government floating plant.



### 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

- Locally significant receiving and shipping, and shipbuilding port on the Great Lakes.
- Commodities shipped or received include iron ore, cement and concrete.
- A primary winter berthing facility for the Great Lakes fleet.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Sturgeon Bay Harbor and Lake Michigan Ship Canal, WI  
Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations				80	
CDFs					
Maintenance Dredging					
Structures				550	
Environmental Activities					
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>630</b>	

\* FY08 President's Budget will not be available until February 2007



## Toledo Harbor, OH

### Harbor Features

- Deep draft commercial harbor located on Lake Erie in the City of Toledo, Lucas County, Ohio.
- 7 miles of Federal Channel on the river and 18 on the bay. Authorized depths are 28 feet in the bay, 27 feet in the lower and 25 feet in the upper river.
- 55<sup>th</sup> leading U.S. port (2004) with 9.9M tons of material shipped or received.
- 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, Hansen Mueller Co., BP Products North America, Inc., Center Terminal Company of Toledo, Middleport Terminal Inc., Seneca Petroleum Company, Sunoco MidAmerica M&R, CSX, Lafarge Cement, Arms Dock, and Ironhead Marine Inc.

### Project Needs

- Restoration of authorized project dimensions would require removal of approximately 3.5 million cubic yards of material (2006 data).
- A minimum of 850,000 cubic yards of material must be dredged each year to retain minimum channel clearance.
- The Federal CDF site 3 is approaching design capacity and will require careful dredged material management, through maintenance and expansion, in order to ensure future capacity.
- The Federal Island 18 CDF is need of repairs to deteriorating stone to ensure that the unsuitable material is not released into the harbor.



- The Maumee Bay Habitat Restoration Section 204 project is a key component of the dredged material management plan.

### Consequences of Not Maintaining the Project

- If the project is not maintained, it will negatively impact the port reputation and ability to attract major new markets such as ethanol. If the port closes, it would result in closure of major mid-west manufacturing facilities and the loss of 500 local and 50,000 regional jobs.
- Light loading results in decreased revenues and can increase transportation costs between \$222k and \$785k annually.

### Transportation Importance

- Major receiving and shipping port with direct access to inter-modal connections.
- 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.
- Port jobs generate over \$69.5M per year in personal income.



**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Toledo Harbor, Ohio Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Project Conditions Survey	85	85	0	115	
Maintenance Dredging – Maumee Bay	3,495	2,695	800	2,740	
Maintenance Dredging – Maumee River	1,855	980	875	1,120	
Critical Advance Maintenance Dredging – Maumee Bay	150	150	0		
Critical Advance Maintenance Dredging – Maumee River	100	100	0		
E&D Island 18 Stone Repair	200	0	200		
<b>TOTALS</b>	<b>5,885</b>	<b>4,010</b>	<b>1,875</b>	<b>3,975</b>	

\* FY08 President's Budget will not be available until February 2007

NOTE: Beneficial Use of Dredged Material (Pilot) \$300k in FY08 is in the Environmental Stewardship FYDP



## Two Harbors, MN

### Harbor Features

- Located on the north shore of Lake Superior, 27 miles northeasterly from Duluth, MN.
- Deep draft commercial harbor.
- Authorized depths – 28 and 30 feet.
- 49<sup>th</sup> leading U.S. port with just under 13.5M tons of material shipped or received in 2004.
- Ranked 6th among the Great Lakes Harbors.
- Approximately 2,500 feet of maintained Federal channel.
- More than 2,500 feet of maintained breakwaters.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, and Canadian National.

### Project Needs

- Project condition surveys.
- Navigation structures are primarily maintained by Government floating plant.



### Consequences of Not Maintaining the Project

- Significant loss of jobs both locally and regionally.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$3,300,000 and \$6,700,000 annually.
- Failure of the breakwater structure protecting many docks and wharfs.

### Transportation Importance

- Major shipping port on the Great Lakes.
- Commodities include mostly iron ore (taconite).

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Two Harbors, MN - Project Needs and President's Budget (\$1,000)**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Operations				18	
CDFs					
Maintenance Dredging					
Structures	198	198		350	
Environmental Activities					
<b>TOTALS</b>	<b>198</b>	<b>198</b>		<b>368</b>	

\* FY08 President's Budget will not be available until February 2007



## Waukegan Harbor, IL

### Project Features

- Located on Lake Michigan in the city of Waukegan, Lake County, Illinois
- Authorized depths -22' L.W.D. in the Lake Michigan harbor approach, and -18' in the outer harbor and inner basin areas.
- 571.K tons shipped or received in 2004.
- 6,051 linear feet of timber crib, steel sheet pile, or concrete caisson breakwater structures, plus 1,076 linear feet of steel pile revetments.
- The Federal channel length within the harbor is 1.35 miles.
- Local stakeholders include National Gypsum and Lafarge Cement.

### Project Needs

- The Federal channel in the outer harbor is maintained at authorized depths east of the northern pier. The channel area inside the pier has not been dredged for over 25 years due to the contamination present in the inner harbor. The average loss of depth between the piers is nearly 5.0'. 60K yards of material are planned for removal when an upland disposal site can be successfully located.
- The Federal Channel in the inner harbor is part of a Superfund site due to PCB contamination. 230.K cubic yards of contaminated sediment will be removed. USEPA is currently working to perform this cleanup using Great Lakes National Program Office funding, with matching funds from local entities. The average loss of depth in the inner harbor areas is nearly 3.8'.
- The concrete surface of the north pier is severely damaged, is dangerous to pedestrian foot traffic, and contributes to the timber crib degradation that threatens stability of the structure. The shoreward sections of the north breakwater are also several damaged, and unsafe for pedestrian foot traffic.



### Consequences of Not Maintaining the Project

- Light loading - loss of between 4 and 5 feet of channel depth due to shoaling and lake level results in increased transportation costs of between \$2.3M and \$3.0M annually.
- A municipal water filtration plant is located in the harbor.
- Two privately-owned marinas moor approximately 1,000 recreational boats within the harbor.

### Transportation Importance

- Commodities handled 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.
- Bulk commodities that pass through the harbor generate nearly \$8.5M annually in direct revenue which supports 117 jobs.
- These jobs generate nearly \$4.3M per year in personal income.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2007 and 2008  
Waukegan Harbor, IL Project Needs and President's Budget**

<b>Work Package</b>	<b>FY07 Need</b>	<b>FY07 Budget</b>	<b>Δ</b>	<b>FY08 Need</b>	<b>FY08 Budget*</b>
Harbor Routine Operations	80	-	80	80	
Project Condition Surveys	37	20	17	40	
Outer Harbor Dredging	704	704	-	718	
Inner Harbor Dredging	1,000	-	1,000	-	
<b>TOTALS</b>	<b>1,821</b>	<b>724</b>	<b>1,097</b>	<b>838</b>	

\* FY08 President's Budget will not be available until February 2007