

ACHIEVING THE CHIEF OF ENGINEERS GOAL OF 70% BENEFICIAL USE BY 2030: OPPORTUNITIES FOR COST SHARING



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Beneficial Use of Dredged Material Program Vision



Dredge Material is a valuable resource

- Increased dredging investments create beneficial use of dredge material management opportunities
- Benefits the ecosystem, economy, and can effectively and efficiently deliver the USACE mission.

There are opportunities to expand beneficial use within the Federal Standard

- Operational strategy should inherently include beneficial use placement options.
- If material is needed to implement a project, beneficial use from dredging operations should be considered as an option in the planning and execution strategy.

Partner collaboration is key to our success

- Innovative pursuit, both internally and externally, with partners and stakeholders will:
 - Maximize available solutions, strategies, and tools
 - Develop and apply new approaches and technologies

National Policy for Beneficial Use of Dredged Material

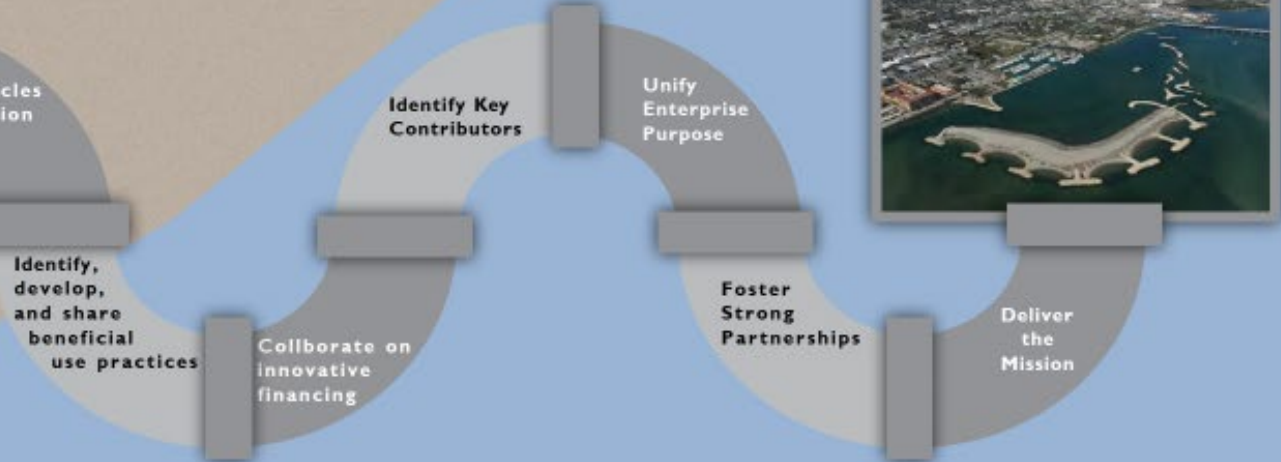
Congressionally established by section 125 of WRDA 2020 in doing so, Congress has underscored the importance of the Beneficial Use of Dredged Material Program

Dredged material is valued as a resource not to be wasted but used for benefits to the ecosystem, economy, and project delivery



Address key obstacles to execution

Over the next 3-5 years, the Corps will expand the beneficial use of dredged material program. Achieving this vision will require all of us to be innovative and work alongside our partners, both internally and externally, to ensure we are finding the best use of sediments derived from our Navigation mission.





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GREAT LAKES DREDGING



Annual Dredging Need: 3.3 M cubic yds in the Great Lakes' federal harbors and channels

Typical Dredging Program: 20-30 projects annually, 3-5 M cubic yds

Dredging Costs vary from \$4/cu yd - \$30/cu yd. Factors that influence cost include:

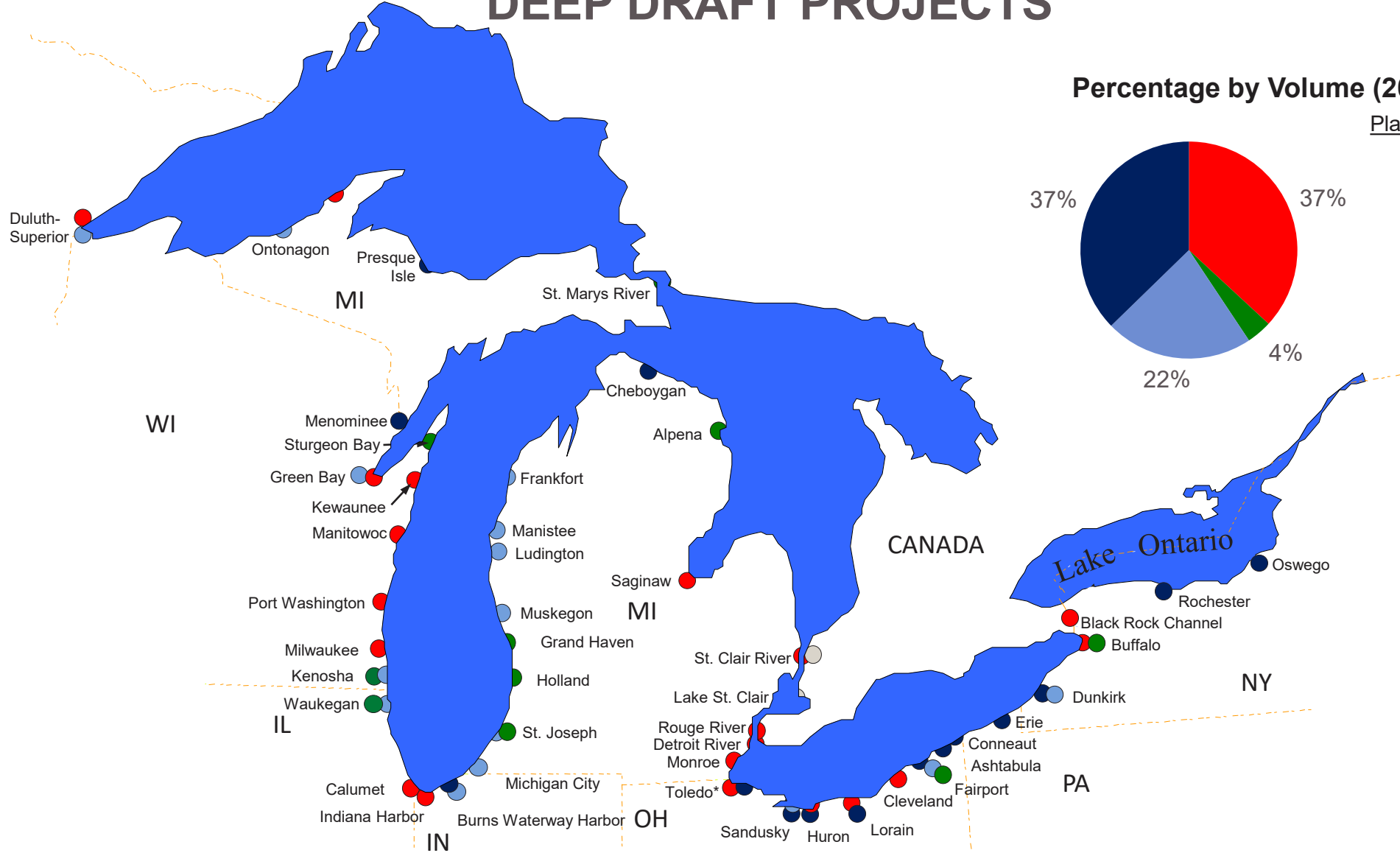
- Environmental requirements (dredging windows, limitations on open-lake disposal, state 401 environmental certificates)
- Many small quantity harbors (vs more cost-effective large quantity harbors)
- Contractor mobilization costs
- Short dredging season and weather delays in outer harbors during dredging season (equipment is smaller and thus cannot handle rough conditions as much as oceanic coastal equipment)
- Material placement – especially where double handling is required

Key stakeholders for engagement: Lake Carriers' Assoc; GL Ports Association; Port directors; harbor committees; state agencies, local cities/communities; industries in the port/harbor



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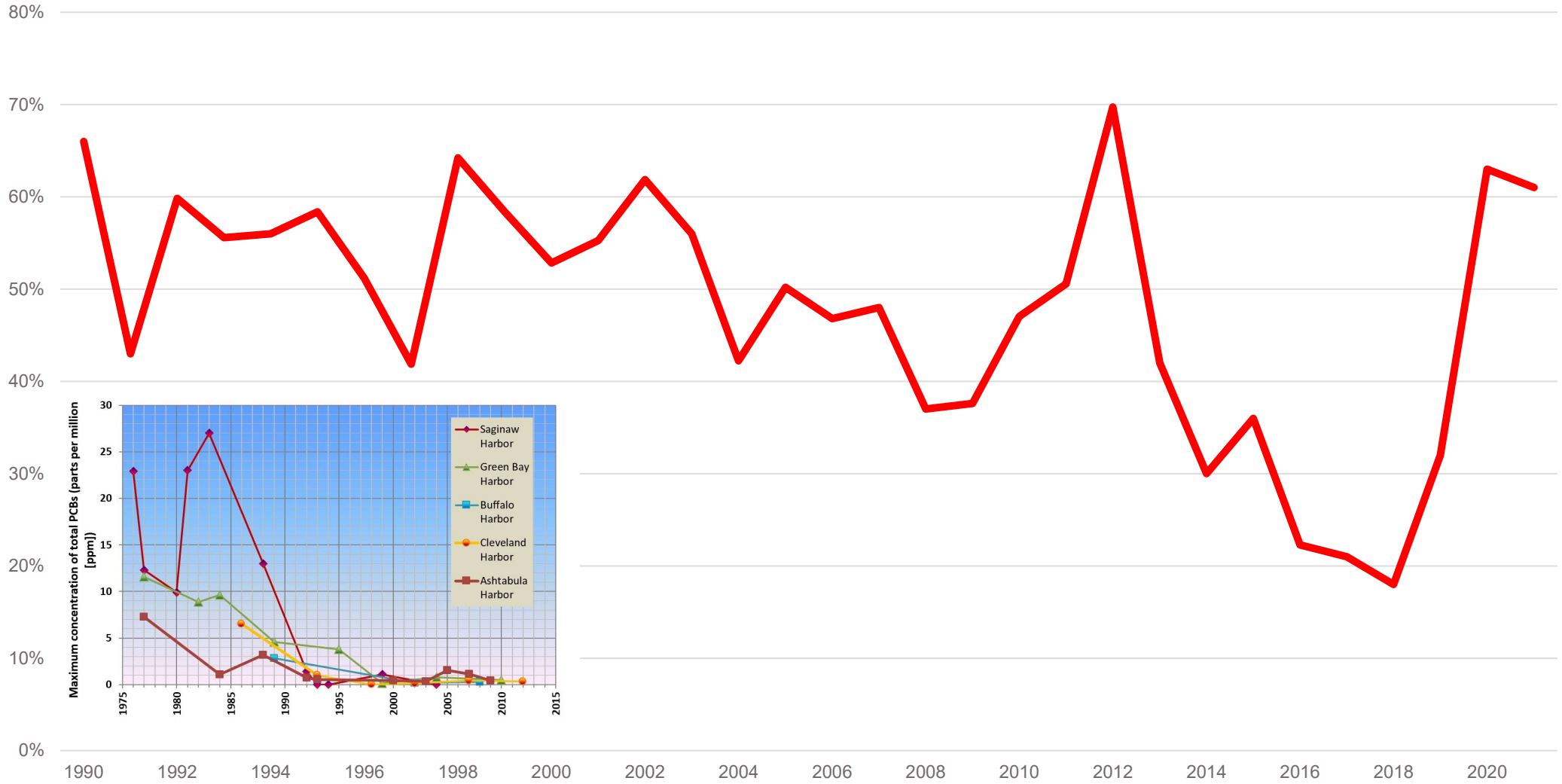
CURRENT DREDGED MATERIAL PLACEMENT METHODS DEEP DRAFT PROJECTS





PERCENT OF DREDGED MATERIAL TO CDF

% of Dredged material from GL Harbors placed in CDFs



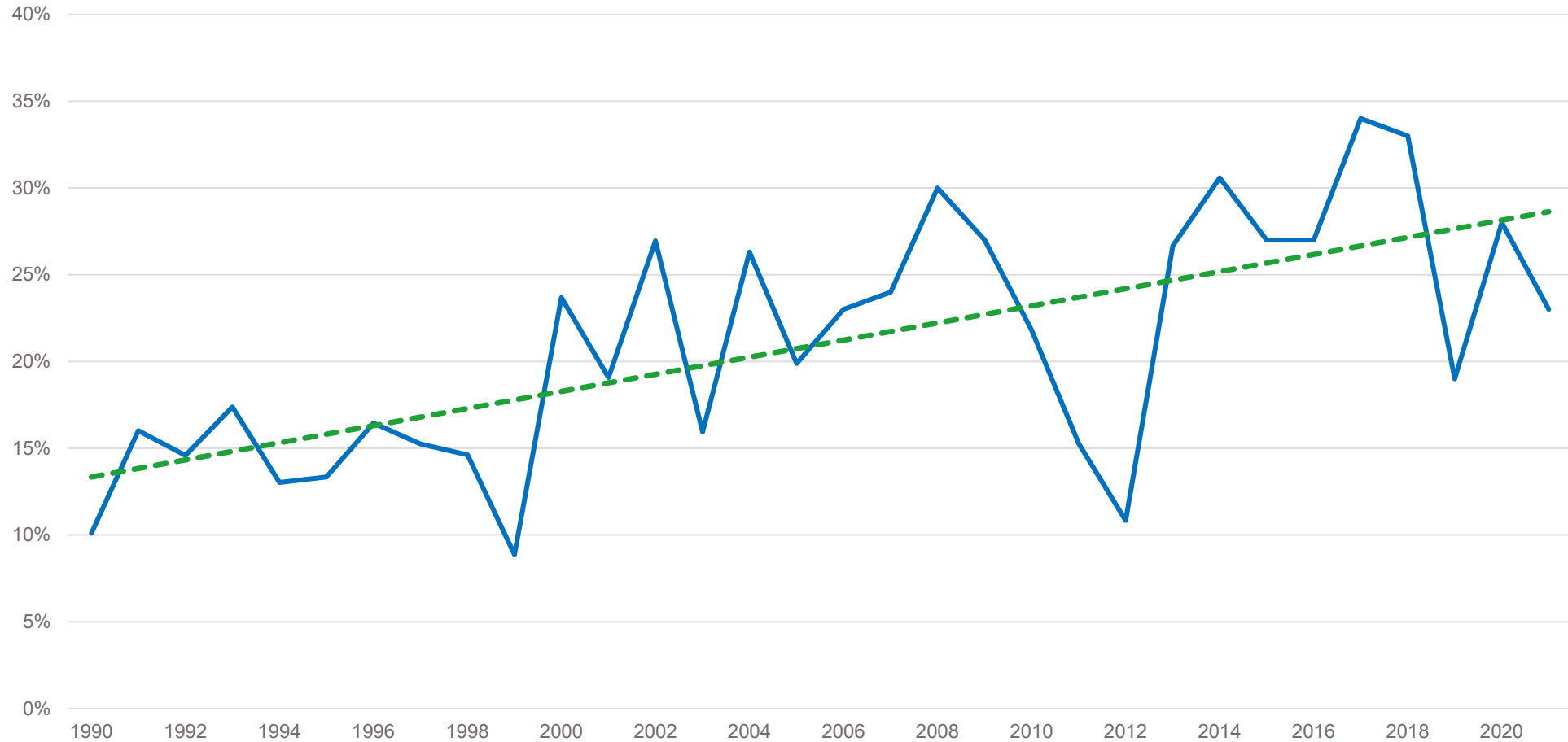


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BENEFICIAL USE OF DREDGED MATERIAL



% of Dredged Material from GL Harbors Beneficially Used *



* Beneficial use assumed to include all Nearshore and Upland Placement



OPPORTUNITIES TO COST-SHARE UNDER P3



Section 217(d) of the Water Resources Development Act of 1996, Public Law 104-303, as amended (33 U.S.C. 2326a(d)), provides that the Government may carry out a program to evaluate and implement opportunities for public-private partnerships in the design, construction, management, or operation of dredged material placement facilities in connection with construction or maintenance of Federal navigation projects and these public-private partnerships may be implemented through agreements with a non-Federal interest, a private entity, or both, the Government may reimburse the private entity, subject to appropriations, for the placement of dredged material in such a facility through the payment of a subsequent use fee sufficient to repay funds contributed by the private entity plus a reasonable return on investment and the Government's share of the fee shall be equal to the percentage of the total cost of the facility that would otherwise be borne by the Government; and

WHEREAS, Section 101 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2211), provides that the Government shall contribute a percentage of the cost of construction, operation, maintenance, for navigation features based on channel depth, and the non-Federal interest shall furnish the necessary lands, easements, and rights-of-way



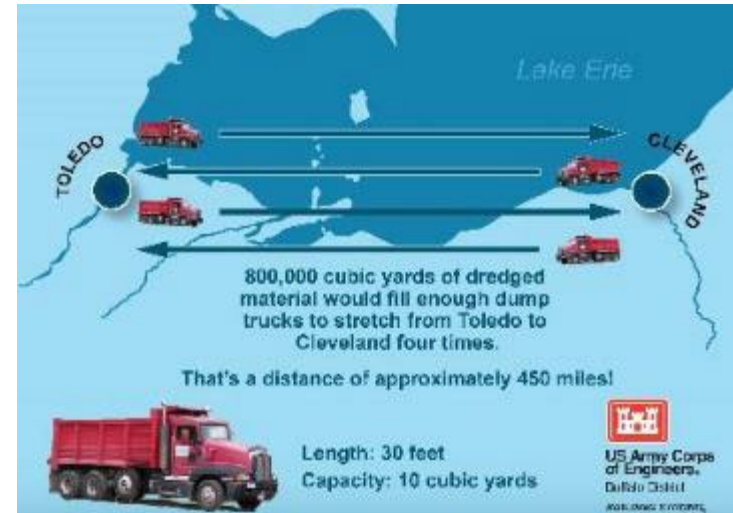
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OHIO DREDGING

1. 8 Commercial Harbors on Lake Erie
2. 1.5M Cubic Yards on Average Annually Dredged
 - ~3.3M CY for the entire Great Lakes
3. 800K Cubic Yards (Average) from Toledo Harbor
 - Most in the Great Lakes
4. July 2020 State of **Ohio Law** Limits Open Lake Placement
5. Current Placement Method 7/8 Harbors **Open Lake Placement** prior to July 2020
 - Federal Standard (affects authorization) is still open lake for 7/8 harbors
 - Cleveland is the exception (CDF placement)
6. Sandusky, Fairport, Conneaut, Ashtabula, unable to be dredged in 2021 as alternative placement sites are not ready to be used



Toledo Dredging Requirement: Volume equivalent to 40-story building on football field



...or enough dump trucks stretching bumper to bumper from Toledo to Cleveland 4 times!





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LRB DREDGING FY23



| Contract | | Sediment Placement Location | | | | | |
|---------------|--------------------|-----------------------------|------------|-----------|----------------|-----------|--------------------------------------------------|
| Harbor | Total Dredged (CY) | Open Lake | Near-shore | CDF | Beneficial Use | Ave \$/CY | Notes |
| Ashtabula, OH | 80,000 | | | | 80,000 | \$16.82 | Placement in Section 204 Wetland Site |
| Cleveland, OH | 270,000 | | | 150,000 | 120,000 | \$33.16 | Federal CDF & Port Upland Facility |
| Conneuat, OH | 0 | | | | | | Non-federal Upland facility (bids not awardable) |
| Fairport, OH | 76,500 | | 50,000 | | 26,500 | \$26.38 | Non-federal Upland facility |
| Huron, OH | 121,000 | | | 121,000 | | \$9.91 | Federal CDF |
| Lorain, OH | 55,000 | | | 55,000 | | \$27.98 | Federal CDF (mechanical placement required) |
| Sandusky, OH | 140,000 | | | | 140,000 | \$9.88 | Placement in City/State Cedar Point Wetland Site |
| Toledo, OH | 800,000 | | | 800,000 | | \$7.35 | Port CDF |
| Erie, PA | 150,000 | | | | | NYA | |
| Buffalo, NY | 100,000 | 150,000 | | | 100,000 | NYA | Placement in Section 204 Wetland Site |
| Rochester, NY | 260,000 | 260,000 | | | | \$7.51 | |
| Oswego, NY | 30,000 | 30,000 | | | | \$23.24 | |
| Totals | 2,082,500 | 440,000 | 50,000 | 1,126,000 | 466,500 | | |
| | | 21% | 2% | 54% | 22% | | |



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LRB DREDGING OUTYEARS



ANTICIPATED OUT YEAR (FY24 & BEYOND) BUFFALO DISTRICT DREDGING PROGRAM (COMMERCIAL HARBORS)

| Program Targets | | | | Sediment Placement Location | | | | |
|-----------------|-------------------|----------------------|--------------------------|-----------------------------|------------|-----------|----------------|--------------------------------------------|
| Harbor | Target Frequency | Target Quantity (CY) | Ave Annual Quantity (CY) | Open Lake | Near-shore | CDF | Beneficial Use | Notes |
| Ashtabula, OH | Every 2 Years | 110,000 | 55,000 | | | | 55,000 | Placement in Section 204 Wetland Site |
| Cleveland, OH | Annual | 250,000 | 250,000 | | | 150,000 | 100,000 | Port CDF & Port Upland Facility |
| Conneuat, OH | Annual | 80,000 | 80,000 | | | | 80,000 | Non-federal Upland facility |
| Fairport, OH | Every 2 Years | 180,000 | 90,000 | | 25,000 | | 65,000 | Non-federal Upland facility |
| Huron, OH | Every 2 Years | 220,000 | 110,000 | | | 110,000 | | Federal CDF |
| Lorain, OH | Annual | 110,000 | 110,000 | | | | 110,000 | Non-federal Upland facility |
| Sandusky, OH | Annual | 130,000 | 130,000 | | | | 130,000 | Placement in City/State Wetland Site (TBD) |
| Toledo, OH | Annual | 760,000 | 760,000 | | | 760,000 | | Port CDF |
| Erie, PA | Every 5 Years +/- | 150,000 | 30,000 | 30,000 | | | | |
| Buffalo, NY | Every 2 Years | 100,000 | 50,000 | | | | 50,000 | Placement in Section 204 Wetland Site |
| Rochester, NY | Every 2 Years | 200,000 | 100,000 | 100,000 | | | | |
| Oswego, NY | Every 4 Years | 72,000 | 18,000 | 18,000 | | | | |
| Totals | | | 1,783,000 | 148,000 | 25,000 | 1,020,000 | 590,000 | |
| | | | | 8% | 1% | 57% | 33% | |



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Buffalo District 2023 Projected Dredging Costs Ohio Harbors

(all figures based on current USACE estimates as of 1/2/22)



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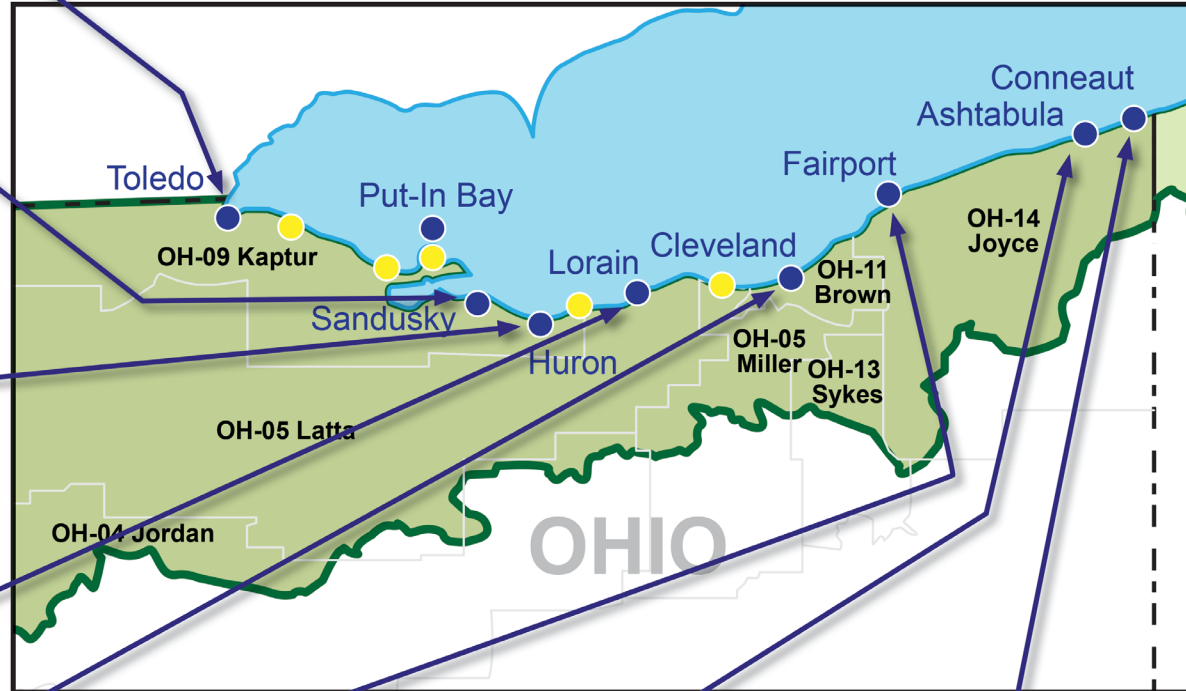
Toledo Harbor
Federal Standard = \$4,371,000
2020 Rule = \$5,872,000
Increase = \$1,501,000

Sandusky Harbor
Federal Standard = \$1,101,000
2020 Rule = \$1,101,000
Increase = \$0

Huron Harbor
Federal Standard = \$1,503,000
2020 Rule = \$1,906,000
Increase = \$403,000

Lorain Harbor
Federal Standard = \$952,000
2020 Rule = \$2,370,000
Increase = \$1,418,000

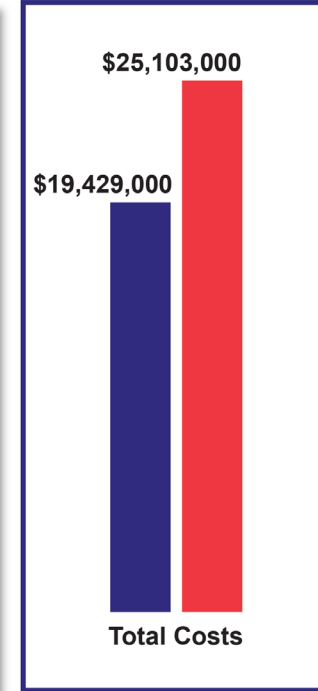
Cleveland Harbor
Federal Standard = \$8,523,000
2020 Rule = \$8,523,000
Increase = \$0



Fairport Harbor
Federal Standard = \$1,187,000
2020 Rule = \$2,338,000
Increase = \$1,151,000

Ashtabula Harbor
Federal Standard = \$1,085,000
2020 Rule = \$2,901,000
Increase = \$0

Conneaut Harbor
Federal Standard = \$807,000
2020 Rule = \$2,008,000
Increase = \$1,201,000



Legend
● Commercial Harbors
● Recreational Harbors
■ Congressional Districts

* Sandusky Harbor: Amount above the Federal Standard to be covered by the State of Ohio.



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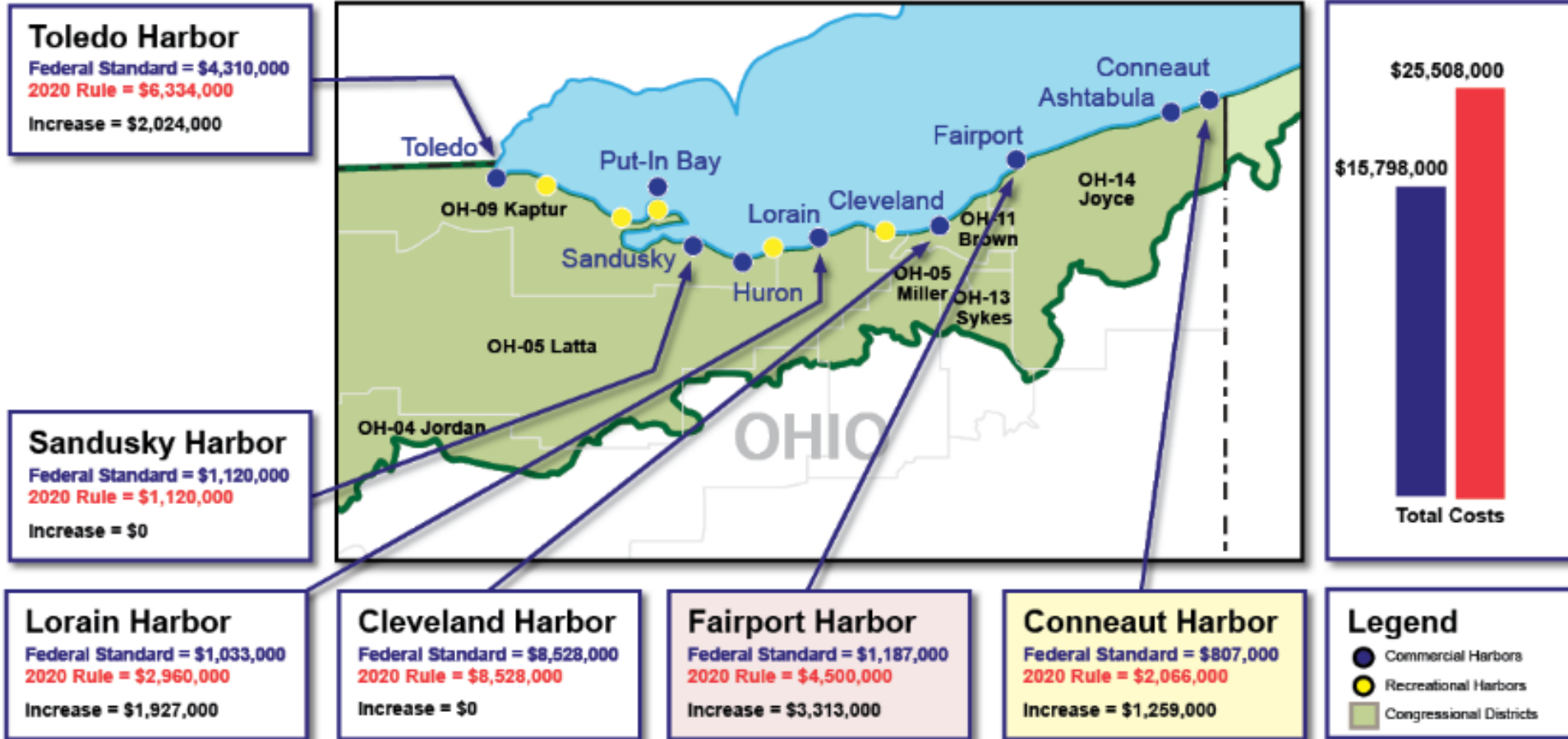


Buffalo District 2024 Projected Dredging Costs Ohio Harbors



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(all figures based on current USACE estimates as of 1/31/23)



* Sandusky Harbor: Amount above the Federal Standard to be covered by the State of Ohio.

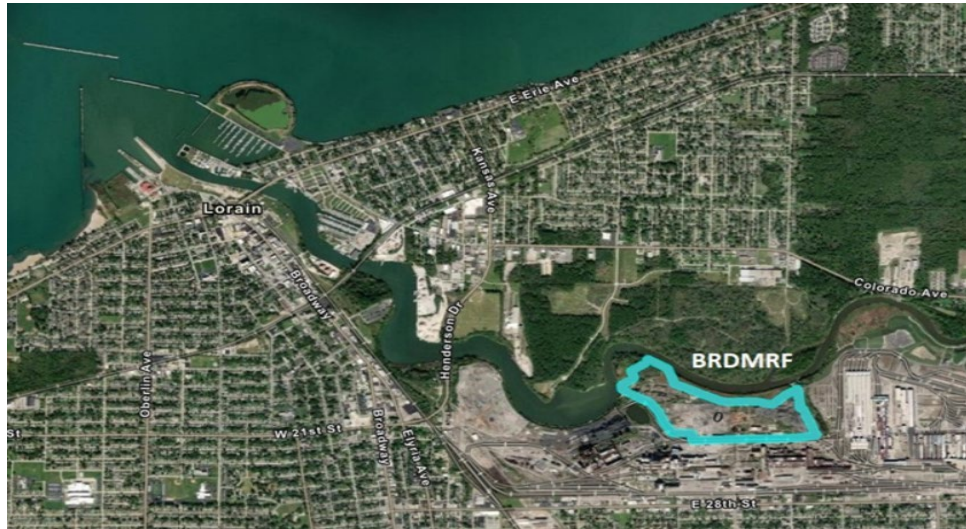
* Fairport Harbor: Harbor is not funded in the FY24 President's budget.



LORAIN HARBOR: BLACK RIVER DREDGED MATERIAL RE-USE FACILITY (BRDMRF)



| Measure | Dredge Sediment Placement (CY per year) | Dredging Cycles |
|------------------------------|-----------------------------------------|-----------------|
| Limited Open-Water Placement | 10,000 | 1 – 20 |
| BRDMRF | 65,000 | 1 – 20 |



Requires 217 Agreement for dredged sediment placement at non-federal facility.



Top photo: BRDMRF location along south side of Black River. Bottom photo: BRDMRF Dewatering GeoPool Pilot Study (Source: Coldwater Consulting, LLC, 2020).



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TOLEDO HARBOR: CONFINED DISPOSAL FACILITY





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GREAT LAKES DREDGED MATERIAL CENTER FOR INNOVATION



USACE Contractor, Ryba Marine, placed dredged material into the Toledo-Lucas County Port Authority's Riverside Facility. This demonstration project, funded by the Ohio Healthy Lake Erie Initiative, is aimed at helping to promote alternatives to open-lake disposal. The ultimate goal is to show the agricultural community there are benefits to using dredged material for crop growth.



Dredged Material being pumped into Facility



Barge of Dredged Material Transported to Facility

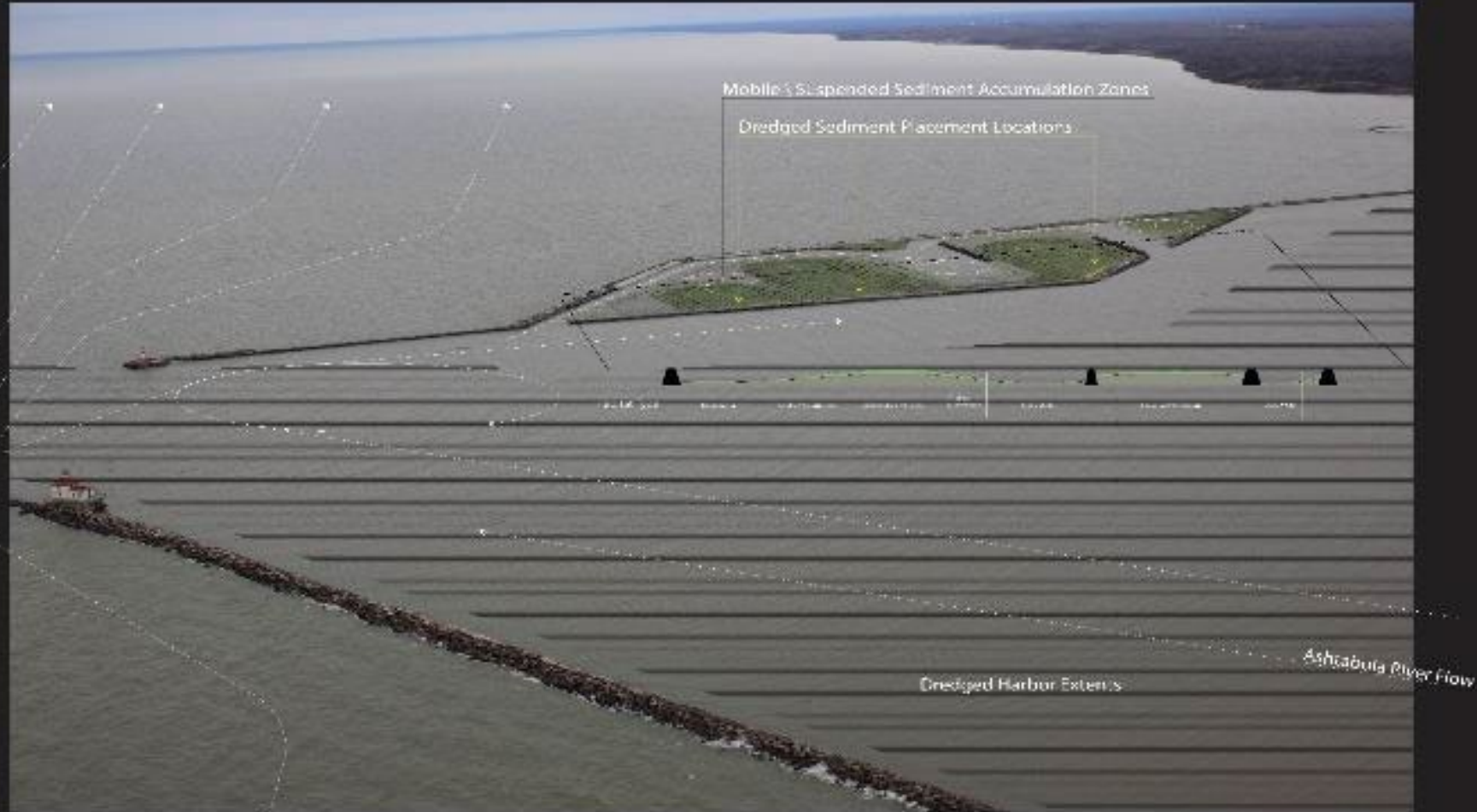


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ASHTABULA, OH: SECTION 204 PROJECT



HEALTHY PORT FUTURES | ASHTABULA - Dynamic Sediment Management | Habitat Wetland Concept | 18 Acres | ~ 100 cy



Longshore Drift

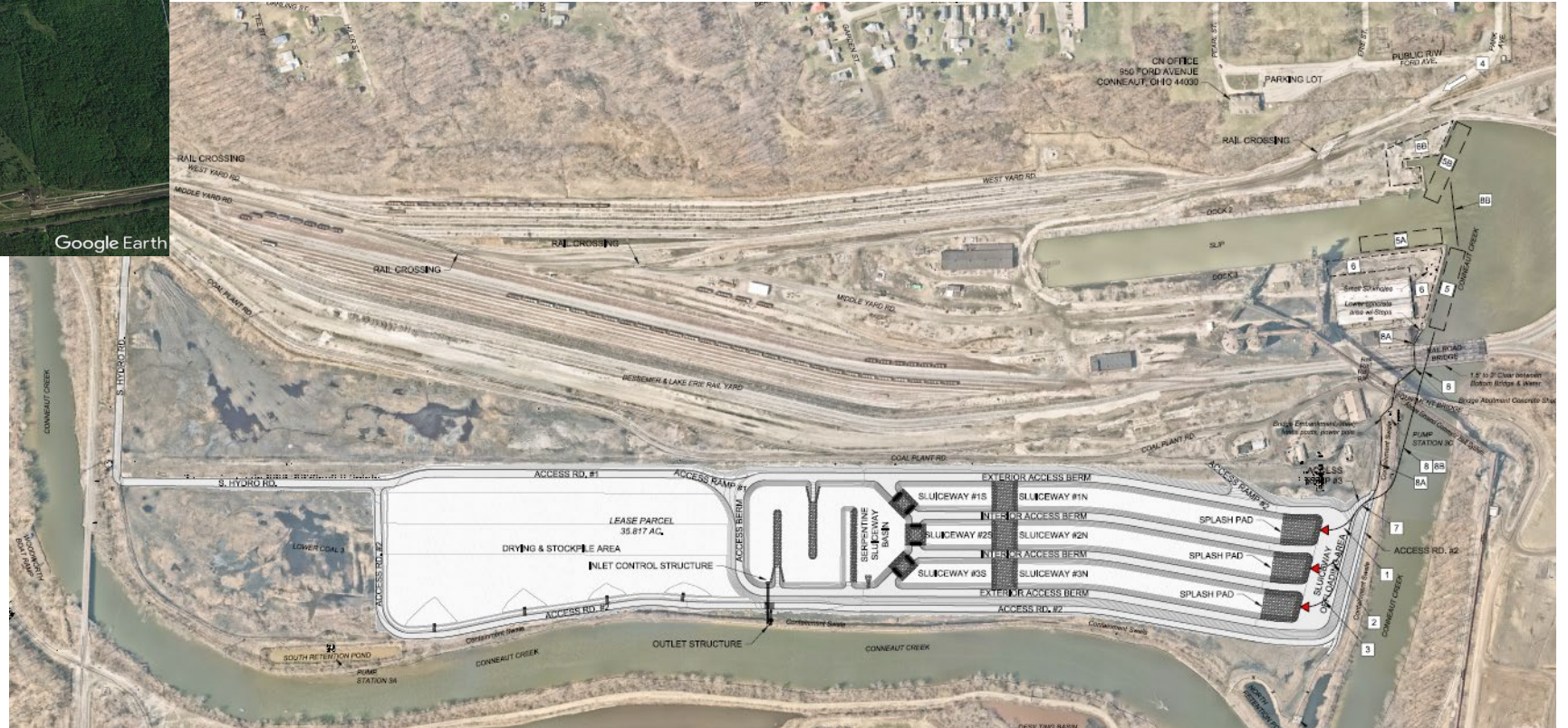
Dredged Harbor Extent

Ashtabula River Flow

Mobile's Suspended Sediment Accumulation Zones

Dredged Sediment Placement Locations

CONNEAUT HARBOR: UPLAND PROCESSING FACILITY





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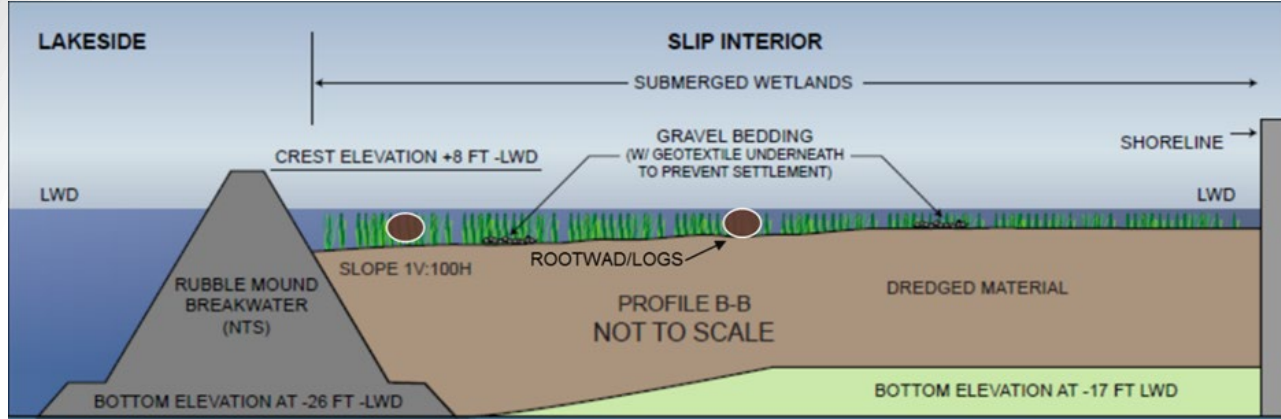
SANDUSKY HARBOR WETLAND CREATION





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BUFFALO HARBOR



PROJECT PURPOSE:

Construction of breakwater and placement of clean, dredged materials into an abandoned shipping slip to create habitat

BUDGET INFORMATION:

| | |
|-------------------------------|--------------|
| Authorized Total Project Cost | \$13,273,000 |
| Non-Federal Sponsor Cost | \$4,375,000 |
| Federal Cost | \$8,898,000 |
| Federal Funding Received | \$8,898,000* |
| FY24 President Budget | \$0 |

*Federal Funds are Great Lakes Restoration Initiative (GLRI).

CURRENT STATUS:

The project is currently in the construction phase. The breakwater construction is now underway. USACE and ECHDC executed the PPA in January 2022. The current phase is cost-shared 65% Federal and 35% Non-Federal.



QUESTIONS?

