

PROBLEM

- The Great Lakes have lost over half of the coastal wetlands thought to exist over a century ago.
- Woodtick Peninsula, a barrier peninsula protecting Erie Marsh, is slowly losing mass and at risk of continued erosion.
- Dredging of Toledo Harbor navigation channel requires placement for ~800,000 CY/year. Open water disposal restrictions necessitate use of limited CDF capacity.

SOLUTION

- Toledo Harbor dredged material will be used to create additional wetland habitat on and adjacent to Woodtick Peninsula.
- Reef to provide erosion protection and habitat
- Modeling and monitoring to maximize benefits

IMPACT

- Cost-efficient placement for dredged sediment from Toledo Harbor federal navigation channel.
- Over 1000 acres of recently restored coastal marshland habitat of Woodtick Peninsula and adjacent wetlands will be protected.
- Demonstrated construction techniques for placement of fine-grained dredged material.

Beneficial Use of Dredged Material at Woodtick Peninsula for Coastal Wetland Creation and Protection



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WHAT'S NEXT

With additional resources, we will develop sound BU solutions for dredged material.

APPLICATIONS

- Engineering techniques applicable for dredged material placement in inaccessible areas
- Habitat incorporation with breakwaters
- Prediction of dredged material consolidation

STATUS

- Laboratory analysis of Toledo dredged material and Woodtick Peninsula core samples completed
- Consolidation modeling completed and will be documented in an ERDC Technical Note
- Reef EWN alternatives documented in ERDC Technical Note
- Monitoring plan incorporated into design documents

BENEFITS

- Demonstration of DM placement techniques
- Improved design based on consolidation predictions and incorporation of habitat features
- Economic benefits of Toledo Harbor maintenance and protection of restored wetlands
- Collaboration among USACE and State regulatory agencies
- Improved habitat, coastal resiliency and recreational opportunities