Ohio Lake Erie Dredged Material Program

Great Lakes Dredging Team Meeting
May 22-23, 2017
State of Ohio Beneficial Use Challenges

- Eight federal navigation channels
- Seven use open-lake disposal
- 1.5 M cubic yards per year
- SB 1 July 2020 no open-lake disposal deadline
- 20% Reduction in sediment load by 2025
Beneficial Use Challenges

• Mostly fine-grained material (silts and clays)
• Dredged sediments are poorly characterized
  – Geotechnical properties
  – Contaminants
• Dredged material currently regulated as a Waste
• Public Perception
• Each port/harbor is unique – no silver bullet solution
• Toledo volume is excessive (800,000 to 1 M cubic yards)
• Available land for sediment processing
  – Dewatering
  – Transportation
• Short timeframe to implement projects
• Limited funding
• Potential impending budget cuts (federal and state)
Exploring Solutions

• Local Partners are Essential
  – Port Authorities and Local Communities***
  – Consultants
  – Local Industry
  – Academia

• State and Federal Agencies
  – OEPA, ODNR
  – U.S. EPA
  – USACE***
Potential Solutions
Dredged Material is a Resource, Not a Waste

- **Soil Processing Facilities**
  - Fill and cap material
  - Soil blending
- **Manufactured Products**
  - Component of another product (cement)
  - Ohio Materials Marketplace
- **Agricultural**
  - Agricultural (farm field) applications
- **Environmental Enhancement**
  - In-water wetland habitat restoration
  - Nature-based shorelines
Implementation Strategies

• OEPA, ODNR are changing Beneficial Use rules
• General permits
  – Soil background studies, sediment profiles
  – Establishing BMPs that work for industry
  – Addressing public perception
• Dredging Center for Innovation
  – Engaging farmers
  – Dewatering, yield, contaminant uptake
  – Implement larger-scale project
• Funding Capital Improvements
  – Port of Toledo, Port of Cleveland
  – Reduce dredge volumes
In-Water Habitat Restoration
Through Beneficial Use of Dredge Material

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Ohio Healthy Lake Erie Fund

• Port of Toledo - $ 5,350,000
  – Agricultural Field Improvement ($ 2.5 M)
  – Blended Soil Production
  – Infrastructure (Long-Term Pump Out and Sediment Processing Facilities at Facility 3)
    – Beneficial Use Habitat Restoration Project(s)
    – Streamside Feasibility/Pilot Project (City of Findlay)

• Port of Cleveland - $ 2,650,000
  – Sediment Management Demonstration Project (Bedload Sediment Interception) ($1.2 M)
  – CDF 12 “Plan B” Sediment Processing Facility ($ 1.45 M)
  – CDR 12 Expansion ($ 1.0 M)

• City of Sandusky - $ 1,000,000
  – Sandusky Bay Initiative ($1.0 M)
Potential Beneficial Use Restoration Projects

Cullen Park Wetland
City of Toledo

Facility 3 Wetland
City of Oregon

Magee Marsh Wetland
ODNR/Wildlife

South Sandusky Bay
City of Sandusky

Cedar Point Causeway
City of Sandusky

East Bay
City of Sandusky

Sheldon Marsh BN*
City of Sandusky

Perkins Beach BN*
Cleveland MetroParks

CDF-12
Port of Cleveland/Kurtz

Lorain West Wetland/NBS
City of Lorain

West Sandusky Bay
City of Sandusky/ODNR Wildlife

Bedload Interceptor
Port of Cleveland/Kurtz

Conneaut BN*
USACE/Port of Conneaut

Mentor Channel BN
City of Mentor?

Ashtabula Wetland*
Ashtabula Port

Fairport Harbor Wetland*
USACE/Lake County

Fairport Harbor BN*
USACE

Conneaut/PA NBS*
USACE/Port of Conneaut
PA Coastal Program

Geneva State Park BN
ODNR

North Perry/Madison BN

Port of Cleveland/MetroParks

Ashtabula NBS*
Ashtabula Port

Conneaut Harbor Wetland*
Port of Conneaut

GEOGRAPHIC INFORMATION SYSTEM - ODNR Office of Coastal Management, 2015
Map Prepared: July 2016

PREPARED BY:
ODNR Office of Coastal Management
Toledo – Maumee Bay
HLEF Wetland Restoration Projects

Restoration of critical waterfowl, wildlife, and fishery habitat in a highly urbanized and industrial environment
Sandusky Bay Initiative

- Improve Sandusky Bay water quality by reducing nutrient and sediment loads
- Enhance coastal wetland and fisheries habitat
- Where feasible, promote public access
- Work with local restoration partners
  - Coordinate and support innovative wetland and nature-based shoreline restoration and enhancement projects.
  - Beneficial use of dredge material
  - Implement a landscape-scale approach to systematically link projects to maximize nutrient and sediment reduction in the Bay
  - Fund initial design and engineering work with HLEF dollars
Sandusky Bay Initiative

64 square miles – 1 million acres agricultural land
Water flows from west to east through the Bay
Water depth ranges from < 6 to 9 feet
Federal navigation channel
Beneficial Use and In-Water Habitat Restoration

• Perform systematic analysis of Beneficial Use opportunities along entire 312 mile Ohio Lake Erie coastline.
• Similar to financial investments, develop a “portfolio of projects” that achieve desired goals and objectives.
  – Design for project linkages that yield cumulative benefits that achieve desired goals and benefits.
  – Avoid “Random Acts of Restoration”
  – Use technical expertise and guidance to identify and create new restoration (i.e. investment) opportunities.
  – Structure project investments based on short-, intermediate-, and long-term timeframes.
  – Will allow us to coordinate federal and non-federal match, dredging activity
### Project Title Type of Project Implementer/Local Partner* Status Funding Match Other Timing USACE 204 AOC Comments

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<tr>
<th>Project Title</th>
<th>Type of Project</th>
<th>Implementer/Local Partner*</th>
<th>Status</th>
<th>Funding</th>
<th>Match</th>
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Potential Beneficial Use Restoration Projects

- **Facility 3 Wetland**
  - City of Oregon

- **Cullen Park Wetland**
  - City of Toledo

- **Cedar Point Causeway**
  - City of Sandusky

- **Sheldon Marsh**
  - City of Sandusky

- **East Bay**
  - City of Sandusky

- **South Sandusky Bay**
  - City of Sandusky

- **Magee Marsh Wetland**
  - ODNR/Wildlife

- **West Sandusky Bay**
  - City of Sandusky/ODNR Wildlife

- **Riverside**
  - Port of Toledo

- **Cleveland MetroParks**
  - Perkins Beach BN* Cleveland MetroParks

- **Lorain West Wetland/NBS**
  - City of Lorain

- **Port of Cleveland/Kurtz**
  - Dike 14/Doan Brook* Port of Cleveland/Kurtz

- **Conneaut Harbor Wetland***
  - USACE/Lake County

- **Ashtabula Wetland***
  - Ashtabula Port

- **North Perry/Madison BN**
  - USACE

- **Geneva State Park BN**
  - ODNR

- **Port of Conneaut**
  - Conneaut BN* USACE/Port of Conneaut

- **Conneaut/PA NBS* USACE/Port of Conneaut PA Coastal Program**

- **Conneaut**
  - PA Coastal Program

- **Port of Conneaut**
  - Ashtabula NBS*

- **Ashtabula Port**
  - Ashtabula NBS*

- **USACE**

- **Cleveland**

- **Port of Cleveland**

- **BN**

- **ODNR**

- **NBS**

- **BN*”**

- **Mental Channel BN City of Mentor?”

- **BN*”**

- **Dike 14/Doan Brook* Port of Cleveland/Kurtz**

- **BN*”**

- **City of Mentor**
Questions?