



# Howard Marsh Metropark

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**Building Partnerships to Restore Lake Erie Coastal Wetlands**





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## Building Partnerships to Restore Lake Erie Coastal Wetlands

### Outline:

- Significant of Lake Erie Coastal Wetlands
- Howard Mash – Background & Acquisition
- Park Planning & Key Stakeholders
- Park Construction – a visual tour



# Significance of Lake Erie Coastal Wetlands

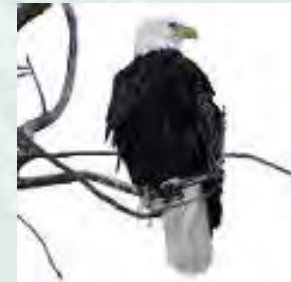
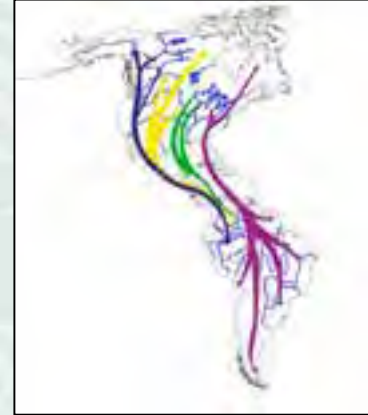
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# Significance: Wildlife Habitat

Habitat for 300+ species of resident and migratory songbirds, shorebirds and waterfowl





# Significance: Fish Habitat

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Habitat for over 60 species of fish for all or part of their life cycle





## Significance: Water Quality

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- 1 new acre of restored coastal wetland can remove 13 pounds of phosphorus per year (Mitsch & Wang 2000)



# Significance: Economics and Tourism

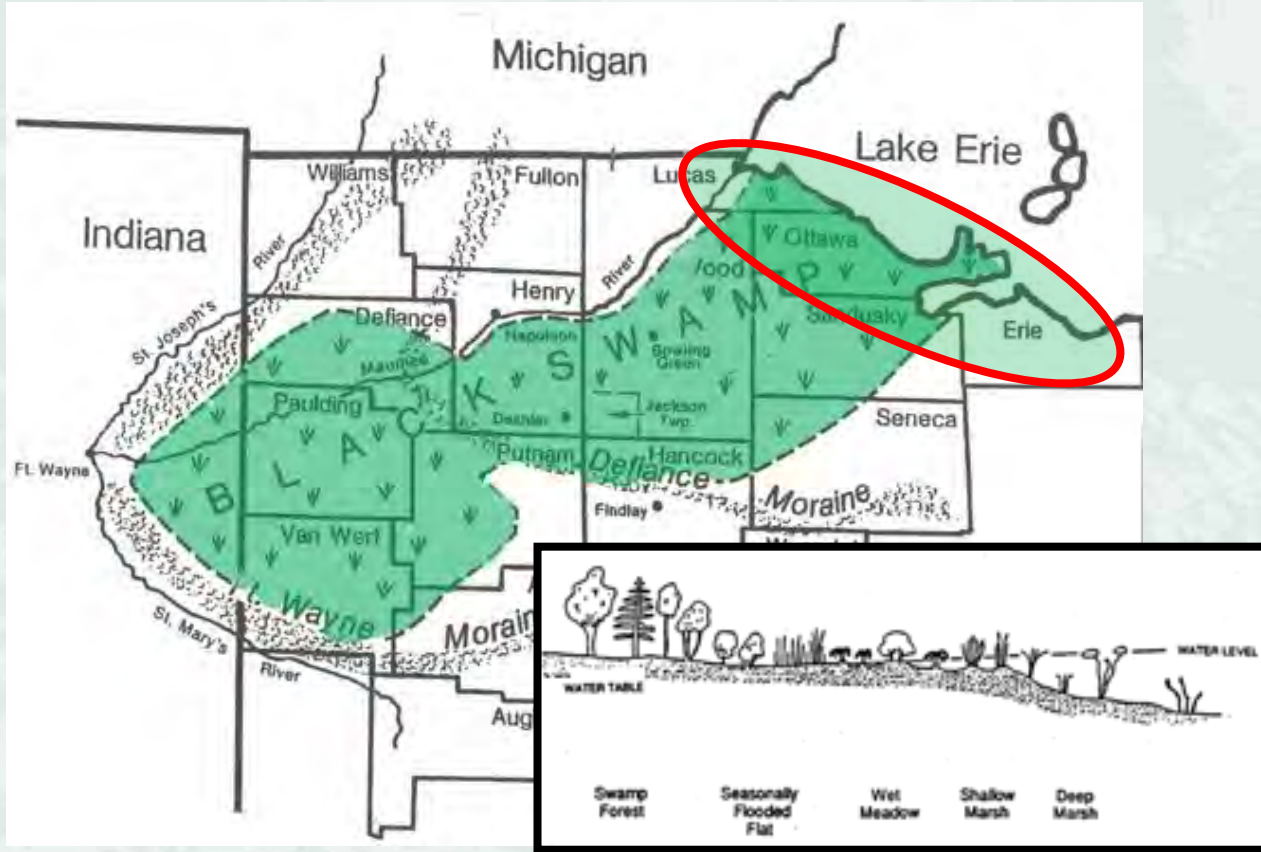
- 80,000 annual visitors for birdwatching
- \$30 million annual contribution to Northwest Ohio Economy





# Lake Erie Coastal Wetlands

Historic Extent: 300,000 acres (470 square miles)

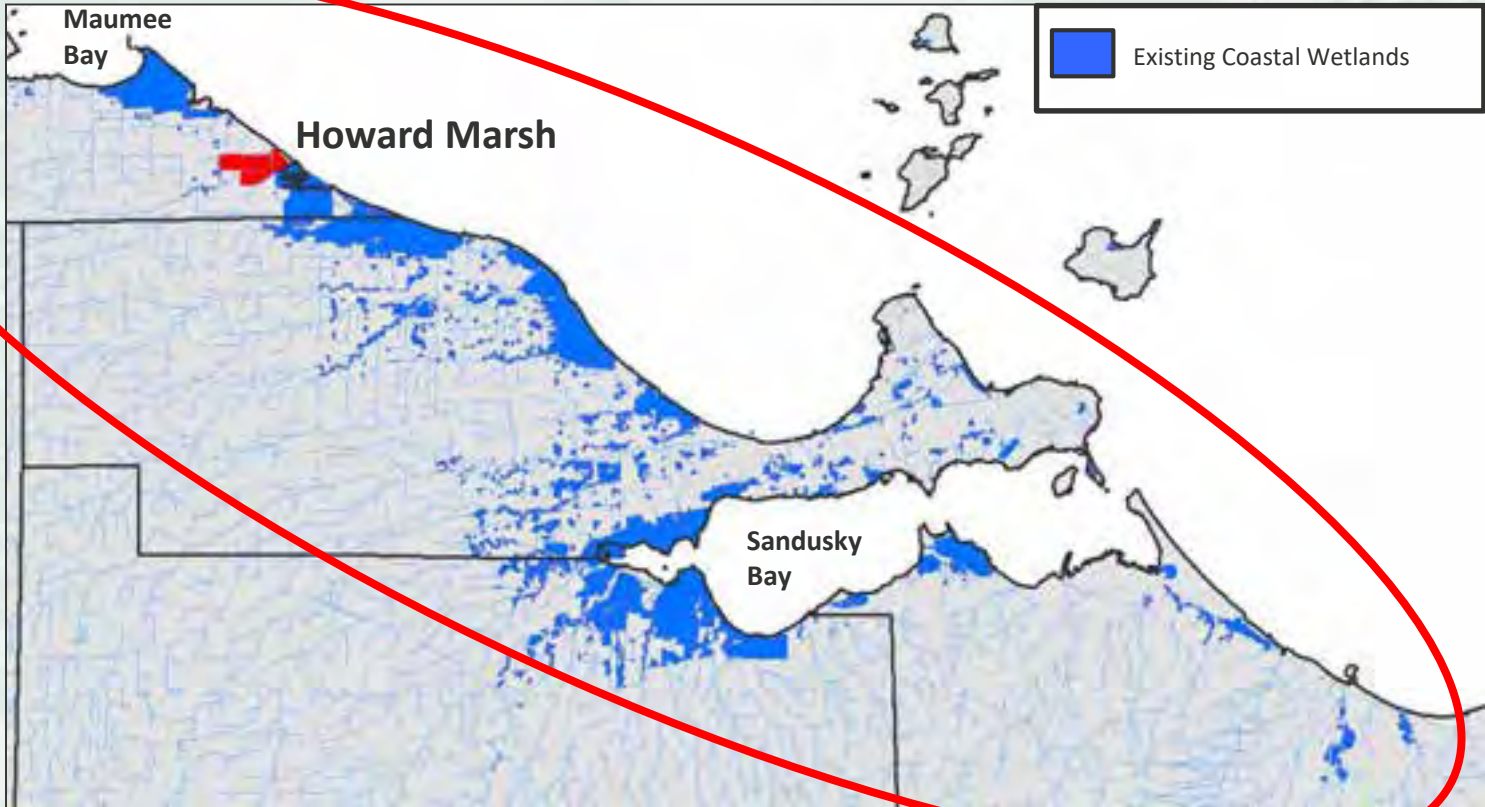






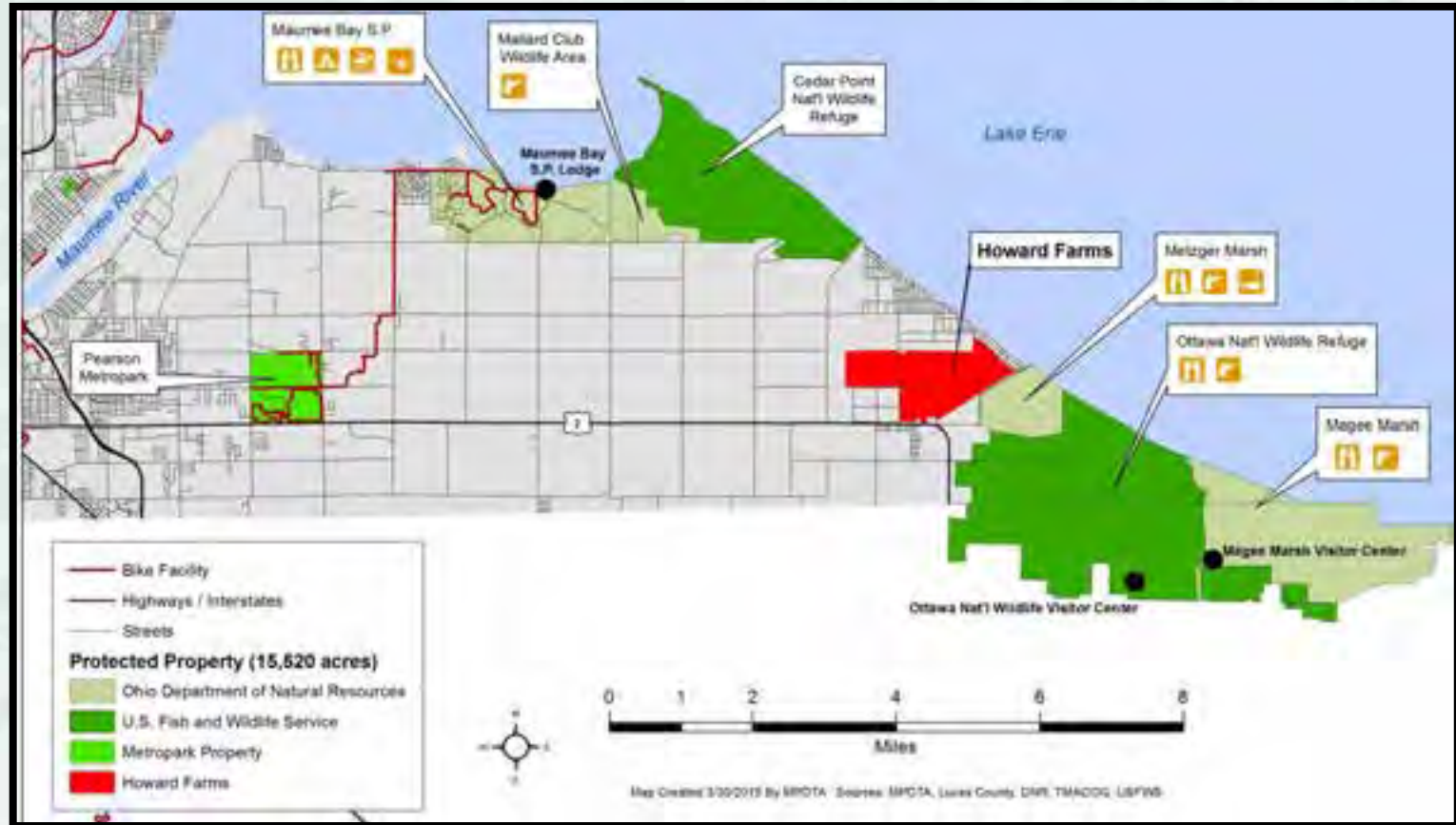
# Landscape Changes: 90% wetland loss (ditching and tiling)

Current Extent: 31,000 acres (48 square miles)





# Howard Marsh: Regional Context





# Howard Farms: Acquisition

- 987-acre farm purchased by Metroparks in 2008 for \$6 million (current size: 995 acres)

Funding Source	Amount
Ohio Division of Wildlife	\$3.0 million
Clean Ohio Fund	\$1.8 million
Metroparks Toledo	\$1.2 million





# Howard Farms Site Considerations: Elevation





# Howard Farms Site Considerations: Drainage





# Park Planning & Development: May 2013 to May 2016

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- Core Planning Team:



- Technical Advisory Committee: 12+ organizations (June – August 2013)
- Public Input: 2 meetings & comment period (August – October 2013)
- Permitting, Engineering & Design (2013-2016)
- Outside Technical Review (2013-2016)



# Howard Marsh Park Development: Project Givens

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- **Coastal Wetlands**: Majority of site will be restored to coastal wetlands with hydrologic connection to Lake Erie
- **Public Access**: Site will be open for public use including recreational hunting
- **Drainage**: Will meet drainage needs of surrounding community



# Project Givens: Coastal Wetlands

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## Key Objectives:

- Emergent marsh
- Submerged aquatic
- Deepwater aquatic
- Fish passage to Lake Erie
- Upland nesting habitat
- Reforestation / songbird habitat

## Key Stakeholders:

- Ohio Division of Wildlife
- NOAA
- Ducks Unlimited
- The Nature Conservancy
- US Fish & Wildlife Service
- Black Swamp Bird Observatory
- USGS Great Lake Science Center
- U of Toledo Lake Erie Center





# Project Givens: Public Access

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## Key Objectives:

- Passive recreation
- Hunting & fishing
- Paddling
- Park interpretation & education
- Accessibility
- Regional destination

## Key Stakeholders:

- Lucas County tax payers
- Regular park users
- Hunters
- Anglers
- Birders
- Local businesses



# Project Givens: Drainage

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## Key Objectives:

- Maintain existing drainage
- Maintain existing flood protection
- Improve water quality

## Key Stakeholders:

- Jerusalem Township
- Reno Beach-Howard Farms Conservancy District
- Lucas County Commissioners
- Lucas County Engineer
- US Army Corps of Engineers



# Park Development: Final Concept Plan (~750 acres)



## Habitat

- 3 wetland units or “cells”
- 571 acres wetlands
- 116 acres uplands
- 6 miles deep water channels (“blueways”)

## Visitor Use Amenities

- 6 miles hiking trails
- 0.24 miles boardwalks
- Boat launch / portages
- Fishing platforms
- Restroom building



# Park Development: Permits & Approvals

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- US Army Corps of Engineers
  - Section 401 & 408
- Ohio Dam Safety – Class 1
- Drainage modifications
  - Reno Beach-Howard Farms Conservancy District
  - Lucas County Commissioners
  - Lucas County Engineer
- NEPA / State Historic Preservation
- Wards Canal cofferdam installation
  - US Coast Guard
  - Ohio Division of Watercraft
- Floodplain (Lucas County)
- Ohio EPA
  - Stormwater / Drinking water
- Building / electrical
  - Lucas County
- Park entrance & signange
  - ODOT / Lucas County





# Park Development: Timeline and Funding

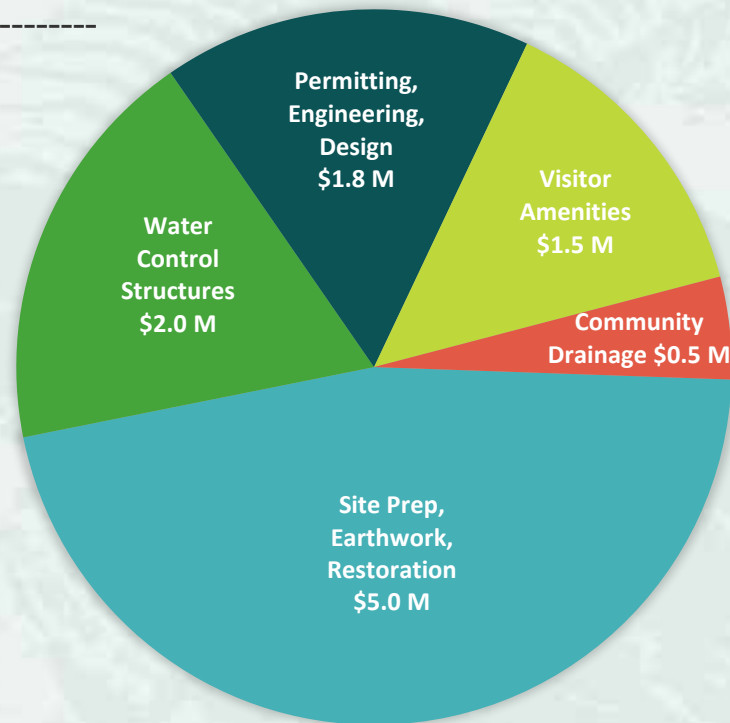
**Permitting, Engineering & Design:** May 2013 – May 2016

**Construction:** June 2016 – March 2018

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**\$10.8 million**

<b>Metroparks Toledo</b>	\$4 million
<b>Ohio Division of Wildlife</b>	\$4 million
<b>NOAA</b>	\$2.8 million
<b>Smithgroup</b>	Park Design & Engineering
<b>Ducks Unlimited</b>	Wetland Design & Engineering





# Monitoring: Pre-construction & Post-construction

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## Key Monitoring Objectives:

- Wildlife populations
- Fish community
- Aquatic invertebrates
- Vegetation / plant communities
- Water quality
- Construction process

## Key Stakeholders:

- NOAA
- Ducks Unlimited
- The Nature Conservancy
- Black Swamp Bird Observatory
- Ohio Sea Grant
- Ottawa Soil & Water Conservation District
- University of Toledo
- Toledo Zoo



## Construction Phase: Begins June 23, 2016

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# Earthwork: Balanced Cut & Fill (700,000 cubic yards)

Tile Search / Core Trench



Soil Compaction & Testing



Placing Embankment







# Main Pump Station: Under Construction

Mobilization



Cofferdam Installation



Construction





# Main Pump Station: Completed

Marsh Side:



Pumps: 20,000 gpm capacity



Canal Side: Fish Passage





# Park Construction: Visitor Amenities

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## Transformation: Before Construction

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## Transformation: After Construction

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## Before and After: Main Pump Station

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2014



2018





## Before and After: Unit 1

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2016



2018





## Before and After: Unit 4

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2016



2018







## Before and After: Vegetated Bench

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2016



2018





# Public Infrastructure: Boardwalk Construction

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2017



2018





# Public Infrastructure: Wheelchair Accessible Kayak Launch

2017



2018





**“Build it and they will come.” 10 days, 10,000 people!**

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# “Build it and they will come.” 228 bird species and counting

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