Ohio EPA applied for and received an FY16 Great Lakes Restoration Initiative Grant #GL-00E02976 in the amount of $400,000 to implement the Maumee AOC Habitat Restoration initiative. All of the subgrants funded under this project have completed work and their subgrants are closed.

This project successfully accelerated the identification and implementation of habitat restoration projects within AOC subwatersheds that contribute to BUI removal and ultimately AOC delisting. The project provided a coordinated effort to better identify and organize habitat restoration watershed planning which will result in the restoration of habitat impaired subwatersheds (HUC-12) within the Maumee AOC boundaries.

Ohio EPA successfully administered 5 subgrant agreements. Those five subrecipients produced HUC 12 restoration plans for 13 subwatersheds. The table below lists the subgrants awarded under this project and the amount of funds that were spent on each project:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Subgrant Sponsor/Recipient</th>
<th>Amount Awarded</th>
<th>Amount Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUCAS-FDMAUM16</td>
<td>Lucas SWCD</td>
<td>$39,615</td>
<td>$39,614</td>
</tr>
<tr>
<td>OTTAWA-FDMAUM16</td>
<td>Ottawa SWCD</td>
<td>$39,947</td>
<td>$39,947</td>
</tr>
<tr>
<td>LUCASCO-FDMAUM16</td>
<td>Lucas County</td>
<td>$27,155</td>
<td>$27,155</td>
</tr>
<tr>
<td>TOLDEO-FDMAUM16</td>
<td>City of Toledo</td>
<td>$26,898</td>
<td>$19,709</td>
</tr>
<tr>
<td>PCS-FDMAUM16</td>
<td>Partners for Clean Streams</td>
<td>$36,917</td>
<td>$28,970</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td><strong>$170,532</strong></td>
<td><strong>$155,395</strong></td>
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</tbody>
</table>

Like many older communities in the Lake Erie basin, existing stormwater infrastructure in Lucas County consists of storm sewers, retention ponds, combined sewer overflows and other traditional and at times detrimental practices. Communities within the county are at important decision points as they contemplate remedies for their aging stormwater infrastructure. A key objective of this project was to successfully demonstrate cost-effective “green’ alternatives to influence local decision makers to retrofit
traditional stormwater infrastructure with rain gardens, vegetated bioswales, wetland treatment areas, pervious pavement and other applicable practices.

This project accelerated the adoption of infrastructure as recommended in the Lower Maumee River watershed action plan, enhanced stormwater practices as recommended in section 6 (and other stream specific segments) of both the Maumee Area of Concern Stage Two Watershed Restoration Plan and the state conditionally endorsed Lower Maumee River watershed action plan. This project also builds upon the interest and momentum generated by stormwater modeling that was completed by Tetratech under contract to US EPA in the Swan Creek sub-watershed using the SUSTAIN stormwater model.

Fact sheets for all subgrant-funded projects are included in later sections of this report. This project has resulted in the implementation and demonstration of multiple innovative stormwater BMP’s, installed by the project sponsors. The resulting surge in public awareness and educational activities directed at community leaders on the value of these practices has been considerable.

Ohio EPA staff completed at least one site visit with each of the 17 GLRI/SWIF subgrantees and verified project completion on all subgrant funded projects prior to closing out the respective subgrant.

This project has realized considerable success in multiple ways. For example, subgrantees performing under this GLRI grant successfully completed the following:

- Installed 33,500 square feet of permeable pavement
- Installed 8,150 square feet of biofiltration areas
- Installed 12,900 square feet of community scale rain gardens
- Installed 1 passive stormwater treatment train
- Installed 2 rainwater collection and reuse systems
- Restored 7 acres of wetlands
- Constructed 4,074 linear feet of 2-stage channel
- Installed 1 tree filter bioretention system
- Installed 9,750 square feet of vegetated infiltration area
- Installed 765 square feet of bioswale
- Provided 177 days of Canada goose/gull control at Maumee Bay State Park with specifically trained dogs
- Planted 4,800 native Ohio wetland plugs and 30 native shrubs along floodplains adjacent to Wolf Creek
- Conducted significant public education and outreach activities

<table>
<thead>
<tr>
<th>Activity/Expenditures</th>
<th>Federal Funds</th>
<th>State Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subgrant Funded Project Reported Expenses</td>
<td>$681,622</td>
<td>$541,623</td>
</tr>
<tr>
<td>Subgrant Expenditure Percentages</td>
<td>91.0%</td>
<td>64.5%¹</td>
</tr>
</tbody>
</table>

¹ Toledo Metroparks originally proposed a project #12GLRI-LUCA-10 that was to include more than $250,000 in in-kind match. Unfortunately, that project was delayed to the extent that it would fall outside the grant period. As a result, Toledo Metroparks submitted a workplan revision for a wetlands restoration that included less match. Ohio EPA approved the workplan revision but failed to reduce the overall match commitment figure in federal Grant #GL-00E01132. The State Match figure above reflects this reduction.
12GLRI-LUCA-02

Maumee Bay Nature Center Wetland Rain Garden

Project Sponsor
Maumee Bay Nature Center
Great Lakes Restoration Initiative (GLRI) Grant
$6,987.49

Local Project Contact
Laurel Ashley
Maumee Bay Nature Center
1400 State Park Road
Oregon, OH 43616

Environmental Results
Installation of a multiple barrel rainwater storage system
Reconstruction and restoration of 2 acres of wetlands as a rain garden
Planting of 2 acres of wetland species
Treatment/removal of 2 acres of invasive species
Lone Oak Subdivision-
Storm Water Treatment Demonstration Project

**Project Sponsor**
Village of Whitehouse
Great Lakes Restoration Initiative (GLRI) Grant
$78,265 Federal
$26,088 Local Match

**Local Project Contact**
Jordan Daugherty
Village of Whitehouse
6925 Providence Street
Whitehouse, OH 43571

**Environmental Results**
Retrofitted a 500-foot long street with a cul-de-sac using pervious pavement to demonstrate storm water best management practices on local residential streets.
The demonstration project included installation of both porous asphalt and permeable concrete at different locations to compare effectiveness and durability of two different materials.
Rain Garden P.P.

**Project Sponsor**
Lucas County Engineer
Great Lakes Restoration Initiative (GLRI) Grant
$37,400 Federal
$11,782 Local Match

**Local Project Contact**
Brian Miller
Lucas County Engineer
1049 South McCord Road
Holland, OH 43528

**Environmental Results**
Installed 2,900 square feet of permeable pavement
Installed 6,720 square feet of rain gardens
Project specific education and outreach
12GLRI-LUCA-06

Oregon Bio-retention Facility Community Demonstration Project

**Project Sponsor**  
City of Oregon  
Great Lakes Restoration Initiative (GLRI) Grant  
$103,228.70

**Local Project Contact**  
Paul Roman  
City of Oregon  
5330 Seaman Road  
Oregon, OH 43616

**Environmental Results**  
Installation of 4,950 square feet of bioretention cell demonstrations at a highly visible port of the City of Oregon’s Recreation Complex

Project specific education and outreach
12GLRI-LUCA-08

UT Passive Stormwater Treatment Demonstration

Project Sponsor
University of Toledo
Great Lakes Restoration Initiative (GLRI) Grant
$32,898 Federal

Local Project Contact
Cyndee Gruden
University of Toledo
2801 West Bancroft Street
Toledo, Ohio 43606

Environmental Results
Installed and planted 765 square feet of bioswale
Installed curb, curb cuts and flume to direct flow to bio-infiltration system

Ohio EPA
Division of Surface Water Nonpoint Source Program
614-644-2020
Blue Creek Conservation Area Wetland Restoration

**Project Sponsor**
Metroparks of the Toledo Area
Great Lakes Restoration Initiative (GLRI) Grant
$48,225 Federal

**Local Project Contact**
Joe Fausnaugh
Metroparks of the Toledo Area
5100 W. Central Avenue
Toledo, Ohio 43615

**Environmental Results**
Restored 5 acres of wetland
Planted 5 acres of wetland species
Conducted public education and outreach

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The Ins and Outs of Wetland Mechanics

The image shows a wetland with signage and information about wetland mechanics.
Harroun Community Park Storm Water Demonstration

Project Sponsor
City of Sylvania
Great Lakes Restoration Initiative (GLRI) Grant
$82,162 Federal
$3,429 Local Match

Local Project Contact
Kevin Aller, P.E.
City of Sylvania
6730 Monroe Street
Sylvania, OH 43560

Environmental Results
Installed approximately 1,700 square feet of bio-retention cell
Conducted public education and outreach
12GLRI-LUCA-21S

UT Tree Filter Bioretention Demonstration

**Project Sponsor**
University of Toledo
Great Lakes Restoration Initiative (GLRI) Grant
$35,154 Federal

**Local Project Contact**
Cyndee Gruden
University of Toledo
2801 West Bancroft Street
Toledo, Ohio 43606

**Environmental Results**
Installed tree filter bioretention system.
12GLRI-LUCA-22S

Permeable Pavement

Project Sponsor
Lucas County Engineer
Great Lakes Restoration Initiative (GLRI) Grant
$39,600 Federal
$7,400 Local Match

Local Project Contact
Brian Miller
Lucas County Engineer
1049 South McCord Road
Holland, OH 43528

Environmental Results
Installed 3,600 square feet of permeable pavement
Project specific education and outreach
12GLRI-LUCA-23S

Centennial Leadership Center - Building for the Future

**Project Sponsor**
Boy Scouts of America-Erie Shores Council
Great Lakes Restoration Initiative (GLRI) Grant
$45,728 Federal

**Local Project Contact**
Ed Caldwell
Boy Scouts of America-Erie Shores Council
5600 West Sylvania Avenue
Sylvania, Ohio 43623-3307

**Environmental Results**
Installed 2,900 square feet of permeable pavement
Installed 3,100 square feet of community rain garden

**Division of Surface Water**
Nonpoint Source Program
614-644-2020
12GLRI-LUCA-24S

Artists’ Village Storm Water Project

Project Sponsor
Toledo Botanical Garden
Great Lakes Restoration Initiative (GLRI) Grant
$48,675 Federal
$86,698 Local Match

Local Project Contact
Karen Ranney Wolkins
Toledo Botanical Garden
5403 Elmer Drive
Toledo, Ohio 43615

Environmental Results
Installed 2,500 square feet of permeable pavement
Installed 200 square feet of community rain garden
Installed 2,250 square feet of vegetated infiltration areas
12GLRI-LUCA-25

Blue Creek Conservation Area Ditch Restoration

**Project Sponsor**
Metroparks of the Toledo Area
Great Lakes Restoration Initiative (GLRI) Grant
$79,755 Federal

**Local Project Contact**
Joe Fausnaugh
Metroparks of the Toledo Area
5100 W. Central Avenue
Toledo, Ohio 43615

**Environmental Results**
Installed 4,074 linear feet of two-stage ditch
Conducted public education and outreach
Toledo Avenue Parking Lot-Storm Water Treatment Demonstration Project

Project Sponsor
Village of Whitehouse
Great Lakes Restoration Initiative (GLRI) Grant
$18,000 Federal
$116,288 Local Match

Local Project Contact
Jordan Daugherty
Village of Whitehouse
6925 Providence Street
Whitehouse, OH 43571

Environmental Results
Constructed 1,500 square feet of bioswale/bioretention cells
Nutrient Reduction for Lake Erie Maumee Bay State Park

Project Sponsor
Ohio Department of Natural Resources
Great Lakes Restoration Initiative (GLRI) Grant
$5,675

Local Project Contact
Mark Hoffhines
ODNR, Ohio State Parks
2045 Morse Road
Columbus, Ohio 43229

Environmental Results
Provided 117 days of Canada goose/gull control with specifically trained dogs
Installed 4 project specific signs at Conducted public education and outreach

Division of Surface Water Nonpoint Source Program
614-644-2020
12GLRI-LUCA-32

Wolf Creek Floodplain Enhancement Project

**Project Sponsor**
City of Oregon
Great Lakes Restoration Initiative (GLRI) Grant
$19,870 Federal

**Local Project Contact**
Paul Roman
City of Oregon
5330 Seaman Road
Oregon, OH 43616

**Environmental Results**
Planted 4,800 native Ohio wetland plugs and 30 native shrubs along floodplains adjacent to Wolf Creek
Project specific education and outreach

Division of Surface Water Nonpoint Source Program
614-644-2020
Alternative Street Improvement Demonstration Project

Project Sponsor
City of Toledo Public Utilities
   Department
Great Lakes Restoration Initiative (GLRI) Grant
$142,000 State SWIF Match
$273,365 Local Match

Local Project Contact
Andy Stepnick
City of Toledo
600 Jefferson Avenue #300
Toledo, OH 43604

Environmental Results
Retrofit one of the numerous unimproved streets with a system of 30 vegetated bioswales. System includes different covers for the bioswales so that varying effectiveness can be monitored.
South Erie Street Rain Garden Demonstration Project

Project Sponsor
Toledo Division of Environmental Services
Great Lakes Restoration Initiative (GLRI) Grant
$7,999 State SWIF Match

Local Project Contact
Regina Collins
Toledo Division of Environmental Services
348 South Erie Street
Toledo, OH 43604

Environmental Results
Installed 2,900 square feet of rain garden, which acts as a natural stormwater management system for water running down Kraus Street.