The principal investigator of grants, cooperative agreements, and interagency agrees is required to submit to the US EPA project officer a semi-annual progress report. This report can be as brief as one as long as you can provide the requested information. Items listed below should be addressed as appropriate:

1. What work was accomplished for this reporting period? Report should quantify results as measurable products, i.e. numbers, acres, contacts, improvement in water quality, habitat, etc.

<table>
<thead>
<tr>
<th>Environmental Output</th>
<th>Implementing Partner</th>
<th>Target Number</th>
<th>Cumulative Results</th>
<th>% Complete</th>
<th>Acres Treated when complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tile Blowouts Repaired</td>
<td>Putnam County SWCD</td>
<td>45 repairs</td>
<td>50 Repairs</td>
<td>111%</td>
<td>900 acres</td>
</tr>
<tr>
<td>2-Stage Ditch Constructed</td>
<td>Putnam County SWCD</td>
<td>6,400 linear ft.</td>
<td>5,142 linear ft.</td>
<td>80%</td>
<td>5,400 acres</td>
</tr>
<tr>
<td>Grass Surface Drains Installed</td>
<td>Putnam County SWCD</td>
<td>57,000 linear ft.</td>
<td>54,284 linear ft.</td>
<td>95%</td>
<td>796 acres</td>
</tr>
<tr>
<td>Install Blind Inlets</td>
<td>Putnam County SWCD</td>
<td>7 blind inlets</td>
<td>7 blind inlets</td>
<td>100%</td>
<td>70 acres</td>
</tr>
<tr>
<td>Drainage Water Control Structures</td>
<td>Putnam County SWCD</td>
<td>25 Structures</td>
<td>3 structures</td>
<td>30%</td>
<td>496 acres</td>
</tr>
<tr>
<td>Implement Drainage Water Mgmt.</td>
<td>Putnam County SWCD</td>
<td>375 acres</td>
<td>118 acres</td>
<td>79%</td>
<td>150 acres</td>
</tr>
<tr>
<td>Cascading Waterway</td>
<td>Putnam County SWCD</td>
<td>1 waterway</td>
<td>0 waterway</td>
<td>0%</td>
<td>n/a</td>
</tr>
<tr>
<td>Quality Assurance Plan Completed</td>
<td>Ohio State University</td>
<td>1 QAPP</td>
<td>1 QAPP</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Woodchip Bioreactors</td>
<td>Ohio State University</td>
<td>2 Bioreactors</td>
<td>1 Bioreactors</td>
<td>50%</td>
<td>40 acres</td>
</tr>
<tr>
<td>Phosphorus Filters</td>
<td>Ohio State University</td>
<td>2 Filters</td>
<td>2 Filters</td>
<td>100%</td>
<td>40 acres</td>
</tr>
<tr>
<td>Subgrant Training and Kick off</td>
<td>Ohio EPA</td>
<td>7 grantees</td>
<td>7 grantees</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Execute Subgrant Agreements</td>
<td>Ohio EPA</td>
<td>14 agreements</td>
<td>14 agreements</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Install Drainage Wetlands</td>
<td>Pheasants Forever</td>
<td>1.25 acres</td>
<td>1.25 acres</td>
<td>100%</td>
<td>136 acres</td>
</tr>
<tr>
<td>Plant Cover/Manure Crops</td>
<td>Pheasants Forever</td>
<td>136 acres</td>
<td>136 acres</td>
<td>100%</td>
<td>136 acres</td>
</tr>
<tr>
<td>Saturated Buffers</td>
<td>Pheasants Forever</td>
<td>1 Buffer</td>
<td>1 Saturated Buffer</td>
<td>100%</td>
<td>60 acres</td>
</tr>
<tr>
<td>Riparian Restoration/Replanting</td>
<td>Pheasants Forever</td>
<td>3 acres</td>
<td>3 acres</td>
<td>100%</td>
<td>3 acres</td>
</tr>
<tr>
<td>Drainage Water Control Structures</td>
<td>Pheasants Forever</td>
<td>4 Structures</td>
<td>4 Structures</td>
<td>100%</td>
<td>136 acres</td>
</tr>
<tr>
<td>Implement Drainage Water Mgmt.</td>
<td>Pheasants Forever</td>
<td>136 acres</td>
<td>136 acres</td>
<td>100%</td>
<td>136 acres</td>
</tr>
<tr>
<td>Pre-Construction Site Assessment</td>
<td>Black Swamp Cons. 1</td>
<td>1 Assessment</td>
<td>1 Assessment</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Restore Floodplain and Stream</td>
<td>Black Swamp Cons. 2</td>
<td>3500 linear ft.</td>
<td>3500 linear ft.</td>
<td>100%</td>
<td>4.1 acres</td>
</tr>
<tr>
<td>Sediment and Erosion Control</td>
<td>Black Swamp Cons. 2</td>
<td>2 Structure</td>
<td>2 Structures</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Restore Natural Streambank</td>
<td>Black Swamp Cons. 2</td>
<td>3500 linear ft.</td>
<td>3500 linear ft.</td>
<td>100%</td>
<td>0.2 acres</td>
</tr>
<tr>
<td>Install In-stream Habitat Structures</td>
<td>Black Swamp Cons. 2</td>
<td>10 Structures</td>
<td>19 Structures</td>
<td>190%</td>
<td>n/a</td>
</tr>
<tr>
<td>Install Grade Structures</td>
<td>Black Swamp Cons. 2</td>
<td>2 Structures</td>
<td>2 Structures</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Stabilize Eroding Streambank</td>
<td>Black Swamp Cons. 2</td>
<td>500 linear ft.</td>
<td>3000 linear ft.</td>
<td>600%</td>
<td>2.8 acres</td>
</tr>
<tr>
<td>Environmental Output</td>
<td>Implementing Partner</td>
<td>Target Number</td>
<td>Cumulative Results</td>
<td>% Complete</td>
<td>Acres Treated when complete</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>---------------------------</td>
<td>---------------</td>
<td>--------------------</td>
<td>------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Remove/Treat Invasive Species</td>
<td>Black Swamp Cons. 2</td>
<td>15 Acres</td>
<td>30 Acres</td>
<td>200%</td>
<td>30 Acres</td>
</tr>
<tr>
<td>Plant trees, shrubs and/or live stakes in riparian areas</td>
<td>Black Swamp Cons. 2</td>
<td>30 Acres</td>
<td>30 Acres</td>
<td>100%</td>
<td>30 Acres</td>
</tr>
<tr>
<td>Reconstruct and Restore Wetlands</td>
<td>Black Swamp Cons. 2</td>
<td>20 Acres</td>
<td>45 Acres</td>
<td>225%</td>
<td>45 acres</td>
</tr>
<tr>
<td>Plant Wetland Species</td>
<td>Black Swamp Cons. 2</td>
<td>20 Acres</td>
<td>45 Acres</td>
<td>225%</td>
<td>45 acres</td>
</tr>
<tr>
<td>Remove Drainage Tile</td>
<td>Black Swamp Cons. 2</td>
<td>20 Acres</td>
<td>50 Acres</td>
<td>250%</td>
<td>50 Acres</td>
</tr>
<tr>
<td>Reconstruct &amp; Restore Wetlands</td>
<td>Black Swamp Cons. 3</td>
<td>10 Acres</td>
<td>10 Acres</td>
<td>100%</td>
<td>10 Acres</td>
</tr>
<tr>
<td>Plant Wetland Species</td>
<td>Black Swamp Cons. 3</td>
<td>20 Acres</td>
<td>20 Acres</td>
<td>100%</td>
<td>20 Acres</td>
</tr>
<tr>
<td>Remove Drainage Tile</td>
<td>Black Swamp Cons. 3</td>
<td>14 Acres</td>
<td>14 Acres</td>
<td>100%</td>
<td>14 Acres</td>
</tr>
<tr>
<td>Reconstruct and Restore Wetlands</td>
<td>Nature Conservancy</td>
<td>14 Acres</td>
<td>14 Acres</td>
<td>100%</td>
<td>14 Acres</td>
</tr>
<tr>
<td>Plant Wetland Species</td>
<td>Nature Conservancy</td>
<td>10 Acres</td>
<td>10 Acres</td>
<td>100%</td>
<td>10 Acres</td>
</tr>
<tr>
<td>Treat/Remove Invasive Species</td>
<td>Nature Conservancy</td>
<td>2 Acres</td>
<td>12 Acres</td>
<td>600%</td>
<td>12 acres</td>
</tr>
<tr>
<td>Install Large Rain Gardens</td>
<td>TMACOG</td>
<td>13,000 sq. feet</td>
<td>16,000 sq. feet</td>
<td>123%</td>
<td>0.7 acres</td>
</tr>
<tr>
<td>Installed Vegetated Infiltration</td>
<td>TMACOG</td>
<td>9,000 sq. feet</td>
<td>9000 sq. feet</td>
<td>100%</td>
<td>0.2 acres</td>
</tr>
<tr>
<td>Restored/naturalized stream channel</td>
<td>Toledo Metroparks</td>
<td>9,324 linear feet</td>
<td>9,222 linear feet</td>
<td>99%</td>
<td>10 acres</td>
</tr>
<tr>
<td>Trees/shrubs planted in riparian areas</td>
<td>Toledo Metroparks</td>
<td>155 acres</td>
<td>155 acres</td>
<td>100%</td>
<td>155 acres</td>
</tr>
<tr>
<td>Prairies restored in riparian areas</td>
<td>Toledo Metroparks</td>
<td>50 acres</td>
<td>65 acres</td>
<td>130%</td>
<td>65 acres</td>
</tr>
<tr>
<td>Remove/treat invasive species</td>
<td>Toledo Metroparks</td>
<td>25 acres</td>
<td>25 acres</td>
<td>100%</td>
<td>25 acres</td>
</tr>
<tr>
<td>New floodplain capacity created</td>
<td>Toledo Metroparks</td>
<td>5 acres</td>
<td>5 acres</td>
<td>100%</td>
<td>5 acres</td>
</tr>
<tr>
<td>Stabilize Eroding Streambanks</td>
<td>City of Defiance</td>
<td>6,900 linear ft.</td>
<td>5,700 linear feet</td>
<td>83%</td>
<td>10 acres</td>
</tr>
<tr>
<td>Restore Streambank</td>
<td>City of Defiance</td>
<td>3,700 linear ft.</td>
<td>3,700 linear feet</td>
<td>100%</td>
<td>3.5 acres</td>
</tr>
<tr>
<td>Reconstruct &amp; Restore Wetlands</td>
<td>City of Defiance</td>
<td>0.339 Acre</td>
<td>0.339 Acre</td>
<td>100%</td>
<td>0.449 acres</td>
</tr>
<tr>
<td>Plant Wetland Species</td>
<td>City of Defiance</td>
<td>1.2 Acres</td>
<td>1.2 Acres</td>
<td>100%</td>
<td>1.2 Acres</td>
</tr>
<tr>
<td>Install Water Control Device</td>
<td>City of Defiance</td>
<td>1 Device</td>
<td>1 Device</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Develop Project Fact Sheets</td>
<td>Nature Conservancy 1</td>
<td>4 Fact Sheets</td>
<td>4 Fact Sheets</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Conduct Public Meeting</td>
<td>Nature Conservancy 1</td>
<td>1 Meeting</td>
<td>1 Meeting</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Develop Press Release</td>
<td>Nature Conservancy 1</td>
<td>5 Press Release</td>
<td>5 Press Release</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Install Project Signs</td>
<td>Nature Conservancy 1</td>
<td>5 Signs</td>
<td>5 Signs</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Conduct Field Days</td>
<td>Nature Conservancy 1</td>
<td>2 Field Days</td>
<td>2 Field Days</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Conduct Workshops¹</td>
<td>Nature Conservancy 1</td>
<td>1 Workshop</td>
<td>0 Workshop</td>
<td>0%</td>
<td>n/a</td>
</tr>
<tr>
<td>Develop Newsletters</td>
<td>Nature Conservancy 1</td>
<td>4 Inserts</td>
<td>4 Inserts</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Conduct Presentations</td>
<td>Nature Conservancy 1</td>
<td>2 Presentation</td>
<td>2 Presentation</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Conduct Outreach Meetings</td>
<td>Nature Conservancy 1</td>
<td>6 Meetings</td>
<td>6 Meetings</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Develop Materials for Distribution</td>
<td>Nature Conservancy 1</td>
<td>3 Flyers</td>
<td>3 Flyers</td>
<td>100%</td>
<td>n/a</td>
</tr>
<tr>
<td>Subs. Tile Retrofit² to support CCW</td>
<td>Nature Conservancy 1</td>
<td>1 Retrofit</td>
<td>0 Retrofit</td>
<td>0%</td>
<td>70 ac.</td>
</tr>
<tr>
<td>Phosphorous Filter</td>
<td>Nature Conservancy 1</td>
<td>1 Filter</td>
<td>0 Filter</td>
<td>0%</td>
<td>17.5</td>
</tr>
</tbody>
</table>
Footnotes:
1. This workshop was eliminated due to the associated bioreactor not being able to be developed and installed.
2. One phosphorous filter was added to the workplan.

This project has multiple projects that are at varying levels of implementation. Although most planned activities have been completed, additional practice installation is expected during spring of 2020 due to late harvesting delayed some implementation especially in Putnam County.

2. What, if any, changes were made from the Object Class Categories listed in Sec. B of the SF424Aor Box 29 of the IA, as applicable?

*There have been no changes.*

3. If a problem was encountered what action was taken to correct it?

*Due to unforeseen delays related to both administrative and weather issues, Putnam SWCD has been unable to complete and construct a two-stage ditch. On October 4, 2019 we requested a 5 month no cost extension to allow Putnam SWCD to facilitate implementation of this practice. We are still awaiting approval.*

4. What work is projected for the new reporting period activity?

*We anticipate the following activities to be accomplished during the new reporting period covering 10/1/19 through 04/30/20:

- Ohio EPA will process 2 semi-annual reports and 4 quarterly fiscal reports
- Most work except the following has been completed: The cascading waterway (has been designed) construction was delayed until spring when it can be built and stabilized in the same short period. Additionally, Putnam County has four surface drains, nine water control structures and the seeding of a two-stage ditch to fully implement during the remaining grant period.
- The final project is projected to be complete by April complete on all projects by December 31, 2019.*

5. Is the project work on schedule? List activities from the Work Plan, and any required quality system documents and report as percent completed?
The table under Question #1 identifies progress each of the project partners have made towards meeting the deliverables they have been funded to produce. This project is a combination of 14 different projects funded with pass-through subgrants from Ohio EPA. Overall percentage of completion for each is included in the following:

a. **Putnam County SWCD** — Project is approximately 90% complete
b. **Ohio State University** — Project is complete and subgrant closed
c. **Pheasants Forever** — Project is complete and subgrant closed
d. **Black Swamp Conservancy** — Project is complete and subgrant is closed
e. **Nature Conservancy 1-Outreach Project** — Project is nearly 100% complete.
f. **Nature Conservancy 2-Lake Plain** — Project is complete and subgrant closed
g. **TMACOG** — Project is complete and subgrant closed.
h. **Toledo MetroParks** — Project is complete and subgrant closed.
i. **City of Defiance** — Project is complete and subgrant closed.
j. **Wright State University** — Project is complete and subgrant closed.
k. **Black Swamp Conservancy** — Project is complete and subgrant closed.
l. **Mercer SWCD** — Project is complete and subgrant closed.

Ohio EPA’s ongoing grants management and administration is being completed by the Division of Surface Water’s Nonpoint Source Management Program staff. To ensure compliance with all state and federal grant and subaward rules and guidelines grant management practices are consistent with those used by the Division to manage Section 319(h) and other federal GLRI grant funds. Several of these grantees operate on a reimbursement basis, thus some of their % spent may remain low until their project is completed and they request reimbursement. The following table reports expenditure rates.

<table>
<thead>
<tr>
<th>Project</th>
<th>Subgrant Sponsor/Recipient</th>
<th>Awarded</th>
<th>Expenditures</th>
<th>%Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUTNAM-FDSEDM14</td>
<td>Putnam County SWCD</td>
<td>$285,400</td>
<td>$201,676</td>
<td>71.0%</td>
</tr>
<tr>
<td>OSU1-FDSEDM14</td>
<td>Ohio State University CLOSED</td>
<td>$293,200</td>
<td>$285,066</td>
<td>97%</td>
</tr>
<tr>
<td>OSU2-FDSEDM14</td>
<td>Ohio State University CLOSED</td>
<td>$199,954</td>
<td>$199,954</td>
<td>100%</td>
</tr>
<tr>
<td>NATURE1-FDSEDM14</td>
<td>Nature Conservancy 1-Outreach</td>
<td>$125,000</td>
<td>$39,019</td>
<td>31%</td>
</tr>
<tr>
<td>NATURE2-FDSEDM14</td>
<td>Nature Conservancy 2-Lake plain CLOSED</td>
<td>$120,000</td>
<td>$94,622</td>
<td>79%</td>
</tr>
<tr>
<td>PHEASA-FDSEDM14</td>
<td>Pheasants Forever CLOSED</td>
<td>$325,000</td>
<td>$318,012</td>
<td>98%</td>
</tr>
<tr>
<td>SWAMP-FDSEDM14</td>
<td>Black Swamp Conservancy CLOSED</td>
<td>$100,000</td>
<td>$100,000</td>
<td>100%</td>
</tr>
<tr>
<td>TMACOG-FDSEDM14</td>
<td>TMACOG CLOSED</td>
<td>$250,000</td>
<td>$250,000</td>
<td>100%</td>
</tr>
<tr>
<td>SWAMP2-FDSEDM14</td>
<td>Black Swamp Conservancy #2 CLOSED</td>
<td>$507,500</td>
<td>$501,034</td>
<td>98.7%</td>
</tr>
<tr>
<td>DEFI-FDSEDM14</td>
<td>City of Defiance CLOSED</td>
<td>$400,000</td>
<td>$400,000</td>
<td>100%</td>
</tr>
<tr>
<td>WRIGHT-FDSEDM14</td>
<td>Wright State University CLOSED</td>
<td>$96,783</td>
<td>$92,298</td>
<td>95%</td>
</tr>
<tr>
<td>MERCER-FDSEDM14</td>
<td>Mercer SWCD CLOSED</td>
<td>$74,606</td>
<td>$72,029</td>
<td>97%</td>
</tr>
<tr>
<td>TOLMP-FDSEDM14</td>
<td>Toledo Metro Parks CLOSED</td>
<td>$458,000</td>
<td>$458,000</td>
<td>100%</td>
</tr>
<tr>
<td>SWAMP3-FDSEDM14</td>
<td>Black Swamp Conservancy #3 CLOSED</td>
<td>$301,471</td>
<td>$301,394</td>
<td>99%</td>
</tr>
</tbody>
</table>

**TOTALS** $3,536,924 $3,313,114 94.0%

6. Does the project funding rate support the work progress? Report as percent spent of budgeted amounts for Federal and Non-Federal.

As of 09/30/2019 federal expenditures/disbursements for this grant total $3,313,114. There are no non-federal funds attached to this project.

7. Is there a change in the principal investigator?

John Mathews is the principal investigator.
8. Will the project take longer than the approved project period?
   Yes, an extension was requested on October 4, 2019 to extend the project until July 22, 2020.

9. What is the date and amount of your latest drawdown request? If no request been submitted, please explain.
   The most recent drawdown on this grant was completed on 10/29/19 in the amount of $2,470.47.

10. What is the date of your latest entry into the Great Lakes Accountability System? If no recent entry has been submitted, please explain.
    The GLAS system was discontinued so we have not been making entries into the system. An EAGL report is attached.

Should you have any questions or require additional information please do not hesitate to contact me at my direct number 614-265-6685 or via email at john.mathews@epa.ohio.gov

Respectfully Submitted,

[Signature]

John Mathews
Manager Nonpoint Source and Stormwater Programs
Ohio Environmental Protection Agency-Division of Surface Water

cc:   Jennifer Martin, OEPA-DSW
     Martha Spurbeck, OEPA-DSW
     Jo Hodanbosi, OEPA-DSW

Attachment
<table>
<thead>
<tr>
<th>Measure of Progress</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 - Areas of Concern where all management actions necessary for delisting have been implemented (cumulative)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.1 - Number of people provided information on the risks and benefits of Great Lakes fish consumption by GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2 - Number of GLRI-funded projects that identify and/or assess impacts of emerging contaminants on Great Lakes fish and wildlife</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1.1 - Number of GLRI-funded Great Lakes rapid responses or exercises conducted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1.2 - Number of GLRI-funded projects that block pathways through which aquatic invasive species can be introduced to the Great Lakes ecosystem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1.3 - Number of GLRI-funded early detection monitoring activities conducted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2.1 - Number of aquatic/terrestrial acres controlled by GLRI-funded projects</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2.2.2 - Number of tributary miles protected by GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3.1 - Number of technologies and methods field tested by GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3.2 - Number of collaboratives developed/enhanced with GLRI funding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.1 - Projected phosphorus reductions from GLRI-funded projects in targeted watersheds (measured in pounds)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3.1.2 - Number of GLRI-funded nutrient and sediment reduction projects in targeted watersheds (measured in acres)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3.2.1 - Projected volume of untreated urban runoff captured or treated by GLRI-funded projects (measured in millions of gallons)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3.2.2 - Number of GLRI-funded projects implemented to reduce the impacts of untreated urban runoff on the Great Lakes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4.1.1 - Number of miles of Great Lakes tributaries reopened by GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1.2 - Number of miles of Great Lakes shoreline and riparian corridors protected, restored and enhanced by GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1.3 - Number of acres of Great Lakes coastal wetlands protected, restored and enhanced by GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1.4 - Number of acres of other habitats in the Great Lakes basin protected, restored and enhanced by GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.1 - Number of GLRI-funded projects that promote recovery of federally-listed endangered, threatened, and candidate species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.2 - Number of GLRI-funded projects that promote populations of native non-threatened and non-endangered species self-sustaining in the wild</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2.1 - Number of educators trained through GLRI-funded projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2.2 - Number of people educated on the Great Lakes ecosystem through GLRI-funded place-based experiential learning activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3.1 - Project evaluations completed and used to prioritize GLRI funding decisions each year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3.2 - Annual Great Lakes monitoring conducted and used to prioritize GLRI funding decisions each year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3.3 - GLRI-targeted watersheds, habitats and species identified and used to prioritize GLRI funding decisions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Some Measures are not included in the table above because EPA does not report on these Measures (3.1.3, 3.2.3) or these Measures are not reported on the project-level (1.1.2, 5.1.1, 5.1.2, 5.3.4, 5.3.5, 5.3.6, 5.3.7).
### Areas of Concern

- Ashtabula River
- Black River
- Clinton River
- Cuyahoga River
- Detroit River
- Eighteenmile Creek
- Fox River/S Green Bay
- Grand Calumet River
- Kalamazoo River
- Manistique River
- Maumee River
- Menominee River
- Milwaukee Estuary
- Muskegon Lake
- Niagara River
- Oswego River
- Presque Isle
- River Raisin
- Rochester Embayment
- Rouge River
- Saginaw River & Bay
- Sheboygan River
- St. Clair River
- St. Lawrence River
- St. Louis River & Bay
- St. Marys River
- Torch Lake
- Waukegan Harbor

### BUIs

- Restriction on fish & wildlife consumption
- Tainting of fish & wildlife flavor
- Degraded fish & wildlife populations
- Fish tumors or other deformities
- Bird & animal deformities or reproduction problems
- Degradation of benthos
- Restrictions on dredging activities
- Eutrophication or undesirable algae
- Restrictions – drinking water consumption, taste/odor problems
- Beach closings
- Degradation of aesthetics
- Added costs to agriculture or industry
- Degradation of phyto- and zooplankton
- Loss of fish & wildlife habitat

### Other AOC/BUI Keywords

- RAP
- recovery
- remove
- delist
- management action

### Toxics

- mussels
- birds
- spiders
- fish
- genomics
- metabolomics
- proteomics
- transcriptomics
- CECs
- organic
- alkyl
- nonyl
- phenol
- ethoxylates
- brominated
Fish Consumption

- biomonitoring
- cord
- blood
- advisories
- health
- protection
- chemicals
- persistent

bioaccumulative
- toxic
- reference dose
- risk assessment
- chronic
- acute
- disease
- consortium

medical
- doctor
- patient
- child bearing
- mother
- pregnant
- prenatal
- neonatal
- indigenous

Keywords – Focus Area 2 (mark or click box to select)

Invasive Species

- Baby’s Breath (Gypsophila scorzonerifolia)
- Bighead Carp (Hypophthalmichthys nobilis)
- Buckthorn (Rhamnus cathartica and Frangula alnus)
- Emerald Ash Borer (Agrilus planipennis)
- Eurasian Watermilfoil (Myriophyllum spicatum)
- Feral Swine (Sus scrofa)
- Garlic Mustard (Alliaria petiolata)
- Grass Carp (Ctenopharyngodon idella)
- Japanese Barberry (Berberis thunbergii)
- Japanese Knotweed (Fallopia japonica)
- Lyme Grass (Leymus arenarius)
- Mute Swan (Cygnus olor)
- Invasive strains of Phragmites (Phragmites australis)
- Parrot Feather (Myriophyllum aquaticum)
- Purple Loosestrife (Lythrum salicaria)
- Red Swamp Crayfish (Procambarus clarkii)
- Silver Carp (Hypophthalmichthys molitrix)
- Sea Lamprey (Petromyzon marinus)
- Starry Stonewart (Nitellopsis obtusa)
- Water Lettuce (Pistia stratiotes)
- Wild Parsnip (Pastinaca sativa)
- Dreissenid Mussels (includes Zebra and Quagga)

Other Invasive Species

- Monoecious Hydilla (Hydrilla verticillata)
- Water Chestnut (Trapa natans)
- Black Carp (Mylopharyngodon piceus)
- Northern Snakehead (Channa argus)
- Tench (Tinca tinca)
- Rudd (Scardinius erythrophthalmus)
Oriental Weatherfish (Misgurnus anguillicaudatus)
Eurasian Ruffe (Gymnocephalus cernuus)
Red Shiner (Cyprinella lutrensis)
Killer Shrimp (Dikerogammarus villosus)
Demon Shrimp (Dikerogammarus haemobaphes)
Rusty Crayfish (Orconectes rusticus)
Faucet Snails (Bithynia tentaculata)
Asian Clam (Corbicula fluminea)
Golden Mussel (Liothrypnna fortunei)
New Zealand Mudsnaill (Potamopyrgus antipodarum)

Commercial Shipping – ballast water and hull fouling
Recreational Boats – ballast, bilge, livewell, baitwell water, hull/trailer fouling
Other Recreational/Resource Users (hiking, birding, diving, hunting, shorefishing, waterplanes)
Aquatic Organisms legally traded and transported
Terrestrial Organisms legally traded and transported
Aquatic Organisms illegally traded and transported
Terrestrial organisms illegally traded and transported

Canals/waterways
Live Bait
Aquaculture and Private Pond/Lake Stocking
Water Garden
Aquarium/Pet
Cultural Release
Internet Commerce

exercise
rapid response

open waters
streams and tributaries
nearshore waters and connecting channels
inland lakes and wetlands
coastal wetlands
uplands
coastal shore

Keywords – Focus Area 3 (mark or click box to select)

Waste Storage Facility
Conservation Cover
Conservation Crop Rotation
Residue and Tillage Management, No-Till/Strip Till/Direct Seed
Residue Management, No-Till/Strip Till
Residue Management, Mulch Till
Contour Farming
Contour Buffer Strips
Cover Crop
Critical Area Planting
Residue Management, Seasonal
Residue and Tillage Management, Mulch Till
Grant ID: GL-00E01449
Project Title: Maumee River Sediment and Nutrient Reduction Initiative
Recipient Name: Ohio Environmental Protection Agency

☐ Diversion
☐ Riparian Forest Buffer
☒ Filter Strip
☐ Grassed Waterway
☐ Prescribed Grazing

☒ Drainage Water Management
☒ Nutrient Management
☒ Streambank stabilization
☒ Sediment reduction

Urban BMPs

☐ Porous Pavement
☒ Bio-Swales
☒ Rain Gardens
☐ Green Roofs

☒ Green Infrastructure
☐ Greenways
☒ Constructed wetlands
☐ Stormwater Trees

☐ Cisterns and similar devices
☒ Nutrient reduction
☒ Sediment Reduction
☒ Streambank stabilization

Keywords – Focus Area 4 (mark or click box to select)

Ecosystem

☐ open waters
☐ nearshore waters and connecting channels
☐ coastal wetlands
☐ coastal shore

☐ streams and tributaries
☐ inland lakes and wetlands
☐ uplands

Action Taken

☐ Protection
☐ Restoration

☐ Enhancement

Threat Being Addressed

☐ atmospheric deposition
☐ climate change
☐ dams and barriers
☐ development/shoreline alteration

☐ invasive species
☐ mining
☐ non-point source pollution

Keywords – Focus Area 5 (mark or click box to select)

Science Activity

☐ monitoring
☐ assessment

☐ modeling
☐ synthesis

☐ prioritization
☐ lab experiment
☐ field experiment
Grant ID: GL-00E01449
Project Title: Maumee River Sediment and Nutrient Reduction Initiative
Recipient Name: Ohio Environmental Protection Agency

Measure Lead: PO/PM: Date: 10/30/19

Ecosystem

☐ open waters
☐ nearshore waters and connecting channels
☐ coastal wetlands
☐ coastal shore

☐ streams and tributaries
☐ inland lakes and wetlands
☐ uplands

Other Keywords or Notes (please specify):

Focus Area Lead Approval:

<table>
<thead>
<tr>
<th>Measure Lead</th>
<th>Approval Needed?</th>
<th>Approved?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ted Smith</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jamie Schardt</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jackie Adams</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Kevin O’Donnell</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Karen Rodriguez</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Todd Nettesheim</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>