***Project Title**:* Phase 1 of the Lower Green Bay and Fox River AOC Fish and Wildlife Habitat and Populations Assessment

***Fiscal Agent**:*

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***DUNS#**:* 782431803

***Project Location**:* Lower Green Bay and Fox River Area of Concern (Brown County, WI)

***Proposed Work**:*

This project will support a two-year, two-phase project to assess baseline fish and wildlife habitat conditions and document potential habitat restoration opportunities in the Lower Green Bay and Fox River Area of Concern (LGB&FR AOC) and its immediately contributing watershed.

This Scope of Work is for the first phase of a two-phase project that Wisconsin Department of Natural Resources (WDNR) intends to fund over the course of two years. Phase I of the project will focus primarily (but not exclusively) on finding, organizing, and evaluating existing data related to fish and wildlife habitat and populations within the delineated LGB&FR AOC. Additional information will be compiled on historical conditions, habitat dynamics, and (primarily in Phase 2) restoration opportunities within the designated AOC boundary and in ecologically relevant portions of the contributing watershed. The primary focus will be on the area within 1 km of the ordinary high water mark (hereafter defined as the AOC project area), but the boundaries may be modified during the project planning process, particularly with respect to the watershed planning component led by The Nature Conservancy (TNC). The watershed planning sub-project may extend further upstream in the Lower Fox River Watershed in order to address breeding habitat for mobile species like northern pike (*Esox lucius*) and important sources of pollutants that directly affect fish and wildlife populations within the AOC boundary. A significant output of Phase 1 will be the identification of data and information needs, some of which will be addressed during Phase 2 of the project.

Phase 2 will synthesize historical and current fish and wildlife habitat and population data and will outline potential opportunities for restoration within the AOC and ecologically relevant portions of the contributing watershed. Results will help inform decision makers about the current state of the AOC and will provide a suite of potential opportunity areas where habitat and populations can be enhanced.

The specific goals of the project are to:

1. Assess the current status of the fish and wildlife habitat in the AOC;
2. Identify specific opportunities for protection, restoration, and rehabilitation of fish and wildlife habitat in the AOC and contributing watershed and secondarily identify opportunities to reduce excessive nonpoint pollution potentially impacting fish and wildlife;
3. Develop monitoring protocols for measuring the status of fish and wildlife habitat in the AOC

During all phases of the project, UWGB and TNC staff will maintain close communication with WDNR staff and will solicit information and recommendations from experts on the conservation of fish and wildlife populations in the AOC.

***Deliverables for Phase 1/Year 1**:*
Since this project agreement is between UW-Green Bay and WDNR, UW-Green Bay assumes all responsibility for any deliverables listed below, including any that are being completed under a subcontract award from UW-Green Bay. UW-Green Bay should ensure that subcontracts have adequate provisions to ensure completion of deliverables listed below.

1. A quality assurance project plan (QAPP) that is approved by WDNR and U.S. Environmental Protection Agency (EPA). As noted below, the QAPP will further outline in more detail deliverables, final products, and project expectations. The QAPP will serve as an extension of this SOW, as necessary. Project-specific outcomes that are not identified below will be identified during the project planning process. The QAPP will be one of the first tasks of Phase 1. This document will further detail the project deliverables, final products, and project expectations.
2. Quarterly written updates that address
    - Amount of money spent that quarter;
    - Deliverables and work accomplished during the quarter;
    - Any problems that were encountered and how they were resolved; and
    - Planned tasks/deliverables for the next quarter

    Updates will be e-mailed to DNR project manager
3. Consultations with DNR for target refinement and regarding completion of the project goals (frequency and logistics of these consultations will be outlined in QAPP)
4. List of recommended quantitative AOC delisting targets for fish and wildlife BUIs (recommended targets will be developed collaboratively with DNR).
5. Stakeholder debriefing/input meetings (how many and process to be outlined in QAPP)
6. A comprehensive status assessment report, including
    - Maps of habitat conditions and identification of critical biotic and abiotic elements of the LGB&FR ecosystem;
    - Maps and descriptions of all public and privately owned habitats of significance within the AOC project area (i.e., within 1 km of the shoreline);

- Annotated lists (including relevant local occurrences) of all known and expected species of vertebrates, vascular plants, and invertebrates of conservation concern or special ecological significance within the project area;
- Catalogue of current and historical conservation projects within the project area;
- Recommended metrics and monitoring protocols (in accordance with DNR consultations);
- Identified data gaps (based on data reviews; metadata should be included); and
- Recommendations for which types of monitoring are needed (at the end of Year 1, UWGB will consult with DNR about prioritizing monitoring for Year 2)

7. Progress report on the initial stages of a contributing watershed assessment. When completed (during Phase 2) this component of the project will identify watershed-based fish and wildlife habitat opportunities that would support delisting of fish and wildlife beneficial use impairments (BUI) in the AOC and lead to an integrated list of potentially feasible habitat restoration projects within specific watersheds.

Project-specific outcomes that are not identified here will be identified during the project planning process. One of the first tasks of Phase 1 will be to complete the QAPP, which will further outline in more detail deliverables, final products, and project expectations. Any field data collection efforts associated with this project must be discussed with DNR in advance of the field work and supported by an approved QAPP.

Planned Deliverables for Phase 2/Year 2:

8. Quarterly written updates that address
   - Amount of money spent that quarter;
   - Deliverables and work accomplished during the quarter;
   - Any problems that were encountered and how they were resolved; and
   - Planned tasks/deliverables for the next quarter

   Updates will be e-mailed to DNR project manager
9. Final report on the contributing watershed assessment
10. A plan to fill in data gaps identified in Year 1 (monitoring/field work)
11. A final and updated comprehensive status assessment report
12. A ranked list of potential habitat projects that are necessary to address the Loss of Fish and Wildlife Habitat and Degraded Fish and Wildlife Populations BUIs

Communication with WDNR Project Manager

Any problems that the UW-Green Bay encounters with the project that have the potential to affect the project timeline must be reported immediately to the WDNR Project Manager.

Budget*:*

ITEM	YEAR 1	YEAR 2
Personnel/Salaries/Fringe Benefits		
UW-Green Bay		

Personnel/Salaries	$73,819	$70,519	
Fringe Benefits	$21,101	$20,986	
Sub total	**$94,920**	**$91,505**	
UW-Green Bay			
Travel	$1,975	$2,000	
Supplies	$500	$500	
Other Costs	$50	$50	
Sub total	**$2,525**	**$2,550**	
Contracts			
Sub-award 1 (NEW Water)	$13,000	$13,000	
Sub-award 2 (The Nature Conservancy)	$126,489	$92,100	
Sub total	**$139,489**	**$108,029**	
Total Direct Charges	**$236,939**	**$199,154**	
Indirect Charges UW-Green Bay (15%)	$14,238	$13,726	
Total Cost (by year)	**$251,172**	**$212,880**	
Total planned cost for project over 2 years			**$464,052**

Note that only Year 1 funds are provided as part of this grant agreement. Year 2 funds will be awarded at a later time in an addendum to this grant, pending successful completion of Year 1 deliverables. Year 2 is included in this Scope of Work for project planning purposes only.

Budget Narrative

Salaries:

UW-Green Bay: UW-Green Bay contributors to this project will include Data Specialist Erin Giese, GIS/Mapping Technician Michael Stiefvater, Program Assistant Kimberlee McKeefry, Principal Investigators Robert Howe and Amy Wolf, and graduate student assistants. Giese (20 hr/week) will be responsible for assembling, organizing, and archiving information about fish and wildlife habitat in the LGB&FR AOC. Giese also will assist with training and coordination of field workers and will be responsible for managing the data and metadata that they collect. A student assistant (10-20 hr/week) will be hired to help Giese with the information management tasks. Stiefvater (5 hr/week on this project) will organize existing maps and aerial photographs, in addition to generating new maps based on information acquired during the project. McKeefry (approximately 8 hr/week) will administer the hiring of student field assistants and other logistics, including preparation of reports and archived materials and purchasing supplies. Wolf (approximately one-month summer salary) will oversee UW-Green Bay contributions to the project and will be responsible for preparing relevant parts of the final report and other deliverables. Howe will collaborate with Wolf on project oversight; his time will be contributed as match through his appointment as Director of the Cofrin Center for Biodiversity (CCB).

Bobbie Webster will also contribute to the project as part of her appointment as Natural Areas Ecologist for the CCB. Field assistants (two to three full-time summer researchers) will be students in the UW-Green Bay Environmental Science and Policy graduate program or advanced undergraduates, all of whom will be required to pass rigorous training and testing protocols used in previous Great Lakes coastal research projects. Fringe benefits for UW-Green Bay contributors vary by employee class according to contractual rates established by the University of Wisconsin System.

UW-Green Bay
Travel: Travel costs in the UW-Green Bay portion of the budget will cover trips to and from field sites by summer student researchers.

Supplies: Supplies and equipment include costs of miscellaneous field supplies and computer storage devices like external disk drives.

Other Costs: Other costs include printing and copying.

Indirect Costs: Indirect costs will be applied to salaries and fringes only at the off-campus rate of 15%.

***Contracts*:**

GBMSD (NEW Water): Scientists from the Green Bay Metropolitan Sewerage District (now called NEW Water) will contribute information from ongoing water quality studies in the AOC; this information will be used to identify changes in habitat conditions for aquatic species and will help document long-term changes in environmental stressors of the lower Green Bay ecosystem.

TNC: Biologists from The Nature Conservancy (TNC) will collaborate with UW-Green Bay staff during all phases of this project, and will contribute information and expertise to the proposed deliverables. In particular, TNC collaborators will lead the contributing watershed assessment and will be instrumental in delivering the list of potentially feasible habitat projects that could be implemented to achieve de-listing status. As part of the watershed assessment objective, TNC will oversee two complementary tasks: 1) digitizing available soil phosphorus (P) data from Nutrient Management Plans that have not yet been digitized (small portion of Calumet County in watershed and additional data available for Outagamie or Brown County that has not previously been mapped) and 2) mapping drain tiled agricultural fields and the water/nutrient flow paths from those fields to the AOC. Soil P mapping and cover drain tile mapping within the project area and extending into major watersheds that affect fish and wildlife BUIs will also be completed as part of this contract.

Timeline:

All work is done in a reimbursement basis. The grantee will invoice the WDNR, and the WDNR will reimburse the grantee following the acceptable completion (as noted by WDNR review of acceptance) of the tasks and deliverables outlined in the table below:

Timeframe	**Deliverables Scheduled to be Completed (those listed after Dec. 31, 2015 would be planned and are not currently covered under this Phase 1 grant agreement)**
December 15, 2014-December 31, 2014	• Quarterly update and invoice (Q1) due January 8, 2015 • First draft of QAPP
January 1, 2015 - March 31, 2015	• Quarterly update and invoice (Q2) due April 9, 2015 • Approved QAPP
April 1, 2015 - June 30, 2015	• Quarterly update and invoice (Q3) due July 9, 2015 • Preliminary list of species known to occur in AOC • Preliminary maps of important fish and wildlife habitats in AOC
July 1, 2015 - September 31, 2015	• Quarterly update and invoice (Q4) due October 8, 2015 • Updated lists of species and habitats based on field verification
October 1, 2015 - December 31, 2015	• Quarterly update and invoice (Q5) due January 7, 2016 • Progress report on contributing watershed assessment • Species lists of vertebrates, vascular plants, and invertebrates of conservation concern or special ecological significance • Maps and list of significant habitats in AOC • Recommendations for assessment/monitoring protocols due • AOC delisting targets for fish and wildlife due
January 1, 2016 - March 31, 2016	• Quarterly update and invoice (Q6) due April 7, 2016 • Preliminary map and list of habitat conservation and restoration projects
April 1, 2016 - June 30, 2016	• Quarterly update and invoice (Q7) due July 7, 2016 • Updated recommendations for assessment/monitoring metrics
July 1, 2016 - September 31, 2016	• Quarterly update and invoice (Q8) due October 6, 2016 • Final report on the contributing watershed assessment
October 1, 2016-December 31, 2016	• Quarterly update and invoice (Q9) due January 5, 2017 • Final map and list of habitat conservation and restoration projects • **Final reporting & deliverables due w/in 60 days of end date**

***Acknowledgement of Grant Funding*:**

For any materials (presentations, handouts, promotional materials, etc.) that are produced as part of this grant, UW-Green Bay and contractors will acknowledge that this project was done with

funding from the WDNR Office of Great Lakes and the Great Lakes Restoration Initiative. Logos will be provided for this purpose.