

Recipient: Marinette, WI  
Report Date: 12-31-2017

Grant Type: Intergovernmental Agreement-WDNR  
For Channel Restoration

**City of Marinette, Wisconsin – South Channel Habitat Improvement Project**  
**Quarterly Report #7**  
**Great Lakes Restoration Initiative Grant**  
**WDNR PO#: 37000-000000358 – EPA Grant #: GL-00E01568**  
**Quarter Ending December 31, 2017**

Submitted January 9, 2018

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Characterization of Grant (EPA Grant #: GL-00E01568)

This Grant is an intergovernmental Agreement between the Wisconsin Department of Natural Resources (WDNR) and the City of Marinette, Wisconsin. In a cooperative effort with members of the WDNR, the City will utilize this funding to assist in the restoration of the Menominee River South Channel.

The Menominee River South Channel is located downstream of the Menominee River Turning Basin and between the Sixth Street Slip and the Ogden Street Bridge within the Lower Menominee River Area of Concern (AOC), Marinette, Wisconsin.

This project will create and enhance habitat in the South Channel by implementing the final design and specifications provided by the United States Fish and Wildlife Service (USFWS) via their consultants Anderson Engineering of Minnesota, LLC, and Inter-Fluve, Inc. Invasive species control and native seeds, plants, trees, and shrubs will be planted to improve bank habitat and establish diverse native plant communities in the channel. Woody debris will be integrated into the toe of the bank to establish improved fish habitat. In addition, opening/clearing existing small channels to wetlands will increase northern pike spawning habitat. Great blue heron and osprey nesting platforms will be installed on the islands located in the western portion of the study area. Bat houses, wood duck boxes, and eastern bluebird boxes will also be installed. In addition, the streambed elevation will be lowered at the Ogden Street Bridge to improve flows from the South Channel into Menekaunee Harbor. The project includes three years of vegetation monitoring and maintenance to assure that native vegetation is established and project and AOC goals are met.

The adjacent shoreline is owned by Tyco International and City of Marinette on the south side and Waupaca Foundry on the north side. East of Ogden Street is the Menekaunee Harbor. A City-owned trail runs from the Harbor south to Red Arrow Park, an existing public beach, which borders Seagull Bar State Natural Area to the south. Fish and wildlife habitat in the South Channel and Menekaunee Harbor has been degraded by invasive plant species, contaminated sediment, and excessive sedimentation.

The Wisconsin Department of Natural Resources (WDNR) is currently partnering with the City to implement a restoration project at Menekaunee Harbor (95% complete) to improve sediment quality, provide additional fish and wildlife habitat, and increase human recreational and economic

opportunities around the Harbor. The remediation of arsenic-contaminated sediments in the South Channel is now complete, providing the opportunity to accelerate ecological restoration along the Channel and improve the connectivity between Menekaunee Harbor and the main channel of the Lower Menominee River and the overall habitat value to fish and wildlife in the AOC.

The South Channel was identified as a target area for restoration in the 2013 Fish and Wildlife Population and Habitat Management and Restoration Plan Update (WDNR and MDEQ, 2013), available online at: <http://dnr.wi.gov/topic/greatlakes/documents/Menominee2013FishAndWildlifePlan.pdf>. The Plan listed three required activities related to the South Channel:

- Complete a habitat restoration and protection project in the South Channel for increased fish and wildlife habitat.
- Increase the hydrologic connection between South Channel and Menekaunee Harbor by removing sediment, debris and excess riprap under the Ogden Street Bridge.
- Conduct biological monitoring of the South Channel (segment 6a) to document ecological recovery.

Completion of the habitat restoration project would first require arsenic levels in the sediment to be reduced to 20 parts per million (ppm) or below. At the time the update was written, Tyco International, owners of Ansul Incorporated, were in the process of implementing a Resource Conservation and Recovery Act (RCRA) project to address arsenic-contaminated sediment in the turning basin and the South Channel. The Administrative Order on Consent required Tyco to remove sediment with equal to or greater than 50 ppm arsenic if practical (USEPA, 2012). It also allowed Tyco to leave sediment with arsenic concentrations between 50 and 20 ppm in place and monitor its natural recovery (dilution) to a concentration of 20 ppm arsenic or less by November 1, 2023, (USEPA, 2012). However, the 20 ppm arsenic concentration could be reached earlier through additional active remediation.

A Great Lakes Legacy Act (GLLA) Betterment Agreement between Tyco, the United States Environmental Protection Agency (USEPA), and WDNR was signed in May 2014. The agreement calls for additional dredging of all soft and semi-consolidated sediments that have arsenic concentrations greater than 20 ppm remaining after the 2013 completion of the RCRA component of the project. This agreement acts to speed recovery of the aquatic ecosystem, thus allowing for earlier Beneficial Use Impairment (BUI) removal and AOC delisting. Once the GLLA Betterment Project Agreement was signed, planning could proceed for the habitat restoration project in the South Channel. The USFWS Great Lakes Restoration Initiative (GLRI) funding earmarked for the project shifted toward design of the habitat project rather than monitoring of the natural recovery.

The USFWS hired Anderson Engineering of Minnesota, LLC, with sub-consultant Inter-Fluve, Inc., to complete the South Channel habitat design and held a project kick-off meeting in September 2014. In 2014, Anderson Engineering and Inter-Fluve gathered and analyzed preliminary data and began work on concept designs. The US Army Corps of Engineers (USACE) began modeling current and future conditions for flow and scour. Regular meetings and conference calls between the project partners and interested local stakeholders have ensured that the project progresses smoothly and AOC goals are being met. The final designs and specifications are now available for implementation of this project.

A long-term AOC priority is to increase the hydrologic connection and fish passage under Ogden Street Bridge between the South Channel and Menekaunee Harbor. This includes removing debris and excess riprap that was placed there before the arsenic cleanup to keep contaminated sediment from moving

downstream to Menekaunee Harbor. Part of that material was moved in October 2014, leaving a depth of about one foot under the bridge. The design for this restoration project includes the removal of additional material to an elevation of 577 feet, or as much as can be removed without impacting an existing sanitary line near the bridge. Sediment sampling efforts in 2015 showed that the material under the bridge is close to the desired design elevation, and consists primarily of debris and rock, not sediment as initially thought.

Input from the Citizens Advisory Committee (local RAP implementation group) and WDNR and Michigan Department of Environmental Quality (MDEQ) staff has been included to ensure plans are consistent with Remedial Action Plan (RAP) delisting targets. Efforts to restore fish and wildlife habitat will contribute to the removal of the Loss of Fish & Wildlife Habitat and Degradation of Fish & Wildlife Populations BUIs (WDNR and MDEQ 2015).

#### A. Marinette Project Characterization

- Historic Information
  - The City established a formal contract with a Robert E. Lee in March, 2016, to bid the project, construction oversight and contract administration of the construction phase of the project designed by Anderson Engineering.
  - Plans and specifications for the restoration project were finalized in April 2016. The project bid opening occurred on May 4, 2016. Two bids were received and they were \$2,528,686.00 and \$3,025,833.11. Due to the extreme pricing of the current design all bids were rejected by the City of Marinette and WisDNR.
  - The City of Marinette, WisDNR, and REL/NES conducted a project scoping meeting to determine what portions of the project should be removed and what portions of the current project that needed to be completed to meet AOC goals.
  - NES/REL reviewed the plans and current conditions and proposed an alternate design that fit within current funding.
  - The NES/REL plans and specifications for the alternate restoration project were finalized in June of 2016. The project bid opening occurred on June 28, 2016. Two bids were received and they were \$893,371.01 and \$2,653,557.20. WisDNR and the City of Marinette approved the low bid with alternates and awarded the project to Applied Ecological Services, for the amount of \$910,587.01.
  
- Historic Information
  - City of Marinette, AES, and REL are working on creating the contract documents for this project.
  - Project is slated to begin in early August, 2016.
  - NES completed herbicide treatments throughout the site to control reed canary grass in June and July 2016.
  - Applied Ecological Services (AES) began working on Restoration portion of this project on August 15, 2016.
  - AES installed required silt fence and erosion control measures throughout the site.
  - AES completed debris pick up and site preparation in the subemergent, emergent and various other zones.
  - AES completed multiple herbicide treatments throughout the restoration project area, and in all zones.
  - AES installed carp fencing at the subemergent and emergent zones.

- AES installed goose fencing on the perimeter of the emergent zones.
  - AES installed plantings within the subemergent and emergent zones.
  - AES began prepping various other zones.
  - AES installed brush piles per plans and specifications.
  - AES began the excavation under Ogden Street Bridge by removing larger rock and placing it along the abutment for abutment protection.
  - AES installed various bird houses on site.
  - AES completed all site debris removal operations
  - AES completed excavation under Ogden Street Bridge
  - AES completed all bird, bat, osprey, and heron structures on site
  - AES completed all planned site structures
  - AES completed all site preparation in all planned zones
  - AES completed all plantings for plugs, plants, shrubs and trees that were available in 2016
    - AES will need to install remaining plugs, plants, shrubs and trees in spring of 2017
  - AES completed mesic forest restoration zone rehabilitation, including clearing grubbing, fill installation, topsoil installation, plantings, seeding and mulching.
  - Seeding of all areas, with the exception of zones that had excess reed canary grass. Those zones will be seeded in spring of 2017 after additional invasive species control is completed prior to installation.
  - AES completed installing all trees, shrubs, and plants in all remaining zones.
  - AES completed all remaining site preparation in all remaining zones.
  - AES completed seeding all remaining zones.
  - AES installed all remaining goose grid in all remaining areas.
  - AES has completed all remaining work items associated with this project.
  - AES has begun the maintenance portion of this project.
- Current Information
    - AES continued the maintenance portion of the project throughout the duration of this quarter.
    - Invasive species control was completed.

#### B. Project Schedule and Budget Status

Grant (WDNR PO#: 37000-0000000358 – EPA Grant #: GL-00E01568)

B.1 Schedule/Percent Completed: 76.22%      B.2 Funds Expended to Date: \$914,608.04

2016 South Channel Restoration Project Design Schedule

B.2 Schedule/Percent Completed: 100%

2016 South Channel Restoration Project Construction Schedule

B.3 Schedule/Percent Completed: 95%

Reporting Summary Checklist

<b>Work Plan Activities</b>	<b>Deliverables</b>	<b>To Be Completed By</b>	<b>Progress (% Complete)</b>
Quarterly Reports (based on 15 quarterlies)	Prepare and Submit Quarterly	Quarterly	(53%)
Construction Pay Requests (Based on 15 pay requests)	Review and Submit Monthly Construction Pay Requests	Monthly	(53%)
Construction Meeting Minutes	Summary	On-going	(100%)
Closeout Documentation	Final Report, Final Reimbursement Requests	On or before December 2019	(0%)

C. Budget:

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The total WDNR grant award is \$1,200,000.00\* which is a 100% grant of the total expenditure. See attached Grant Expenditure Breakdown.

D. Attachments:

1. GLRI Grant Expenditure Breakdown

Attachment A to Invoice

WDNR GLRI GRANT

GRANT NUMBER 9DMA0000117 SOUTH CHANNEL HABITAT IMPROVEMENT PROJECT

Date November 21, 2017

EPA GRANT NUMBER GL-00E01568

Date	Invoice #	Cost Incurred This Invoice	Job Cost Incurred To date	Cost Incurred to Grant	Remaining Grant	Current Grant Request
Total WDNR Grant Value					\$ 1,200,000.00	
6/22/2016	REL-#70609	\$44,536.52	\$44,536.52	\$44,536.52	\$1,155,463.48	\$0.00
8/15/2016	REL-#70860	\$25,031.23	\$69,567.75	\$69,567.75	\$1,130,432.25	\$0.00
8/31/2016	AES Const #1	\$63,541.62	\$133,109.37	\$133,109.37	\$1,066,890.63	\$0.00
9/30/2016	AES Const #2	\$74,923.94	\$208,033.31	\$208,033.31	\$991,966.69	\$0.00
10/6/2016	REL-#71118	\$17,228.01	\$225,261.32	\$225,261.32	\$974,738.68	\$0.00
10/31/2016	AES Const #3	\$163,586.04	\$388,847.36	\$388,847.36	\$811,152.64	\$0.00
11/30/2016	AES Const #4	\$219,748.99	\$608,596.35	\$608,596.35	\$591,403.65	\$0.00
12/6/2016	REL-#71419	\$14,849.53	\$623,445.88	\$623,445.88	\$576,554.12	\$0.00
1/11/2017	AES Const#5	\$54,150.00	\$677,595.88	\$677,595.88	\$522,404.12	\$0.00
1/23/2017	REL-#71630	\$5,939.37	\$683,535.25	\$683,535.25	\$516,464.75	\$0.00
3/29/2017	REL-#71891	\$1,891.92	\$685,427.17	\$685,427.17	\$514,572.83	\$0.00
4/30/2017	AES Const#6	\$4,247.93	\$689,675.10	\$689,675.10	\$510,324.90	\$0.00
5/31/2017	AES Const#7	\$22,263.25	\$711,938.35	\$711,938.35	\$488,061.65	\$0.00
6/8/2017	REL-#72152	\$4,456.29	\$716,394.64	\$716,394.64	\$483,605.36	\$0.00
6/30/2017	AES Const#8	\$150,741.86	\$867,136.50	\$867,136.50	\$332,863.50	\$0.00
7/21/2017	REL-#72336	\$5,932.93	\$873,069.43	\$873,069.43	\$326,930.57	\$0.00
7/31/2017	AES Const#9	\$8,943.00	\$882,012.43	\$882,012.43	\$317,987.57	\$0.00
8/31/2017	AES Const#10	\$8,943.00	\$890,955.43	\$890,955.43	\$309,044.57	\$0.00
9/25/2017	REL-#72644	\$4,871.42	\$895,826.85	\$895,826.85	\$304,173.15	\$0.00
9/30/2017	AES Const#11	\$4,471.50	\$900,298.35	\$900,298.35	\$299,701.65	\$0.00
10/31/2017	AES Const#12	\$8,004.00	\$908,302.35	\$908,302.35	\$291,697.65	\$8,004.00
11/3/2017	REL-#72990	\$6,305.69	\$914,608.04	\$914,608.04	\$285,391.96	\$6,305.69

Total Request \$ 14,309.69

Percent Complete 76.22%