Final report for Project #2018.1805

Pigeon River Road Stream Crossing Inventory

Ottawa Conservation District
August 10, 2020

SYNOPSIS

- **The Pigeon River Trout Habitat Assessment Project**
- **Ottawa Conservation District**
- **Project Team** Benjamin Jordan, Megan Boos, Frank Shroyer
    - Benjamin Jordan – Project Manager
    - Megan Boos – Project Administrator
    - Frank Shroyer – Project Assistant
    - Habitat Assessment Technicians: Ethan Teranes, Frederick Jaeger, Nick VanderStelt, Chory Pope, Caleb Staskiewicz
- **Contact Person** Benjamin Jordan, Ottawa Conservation District, Benjamin.
- **Grant Amount** $14,612.15
- **Time Frame** August 2018 – August 2020
- **Focus Areas** EHSFP Habitat Protection and Restoration (including Dam Management)
- **Brief Project Summary** The Ottawa Conservation District sought to complete a road stream crossing inventory and habitat assessment for the Pigeon River Watershed, as well as to document potential sites for future restoration work. This data will be submitted to all grant partners including the GLFT, the Ottawa County Road Commission, Ottawa County Water Resources Commission, and the Department of Natural Resources. Information gathered in this project is being included in the Pigeon River Watershed Management Plan and will be used in future efforts to secure funding.

Project in Context

The Pigeon River Watershed covers almost 62 square miles of western Ottawa County and sits between the Lower Grand River and Macatawa River Watersheds. Despite having a history of fluctuating water quality, parts of the Pigeon River are listed as designated trout streams by the Michigan Department of Natural Resources. Data on the condition of road stream crossings

throughout the watershed didn't exist prior to the project, which represented a large gap of knowledge concerning potential impacts to habitat and fish passage. Conducting this inventory allowed us to identify perched, plugged, or improperly sized culverts, as well as sources of degradation from activities such as agricultural use.

Goals of the Effort

The Ottawa Conservation District identified and mapped over 100 road stream crossings in the Pigeon River using GIS. The primary goal of the project was to conduct a road stream crossing inventory and collect data on at least 75 of these crossings, with a focus on the main stream channel and larger tributaries. Secondary goals were to collect information regarding quality of available habitat, and areas where agricultural best management practices (BMPs) could be put in place to reduce non-point source pollution. This data would then be used to inform decision making at the Ottawa County Road Commission and Water Resources Commission, and to be included in future restoration grant applications.

Results

Throughout the duration of the project the Ottawa Conservation District was able to meet or exceed all grant deliverables. The OCD inventoried 93 road stream crossings and input data into an access database to be shared with all grant partners. Other sites were identified and visited but not inventoried due to several factors including 1) no crossing existed(or underground) 2) crossing was located on a dry run or small drainage ditch and had negligible restoration potential 3) the site was located on private property and could not be reached. The OCD also completed a habitat assessment and macroinvertebrate sampling on 10 locations throughout the Pigeon River and documented a number of potential agricultural BMP sites. During the project duration the OCD received a grant from the Michigan Department of Environment, Great Lakes, and Energy to write a watershed management plan (WMP) for the Pigeon River Watershed. Data collected in this project will be included in the Pigeon River WMP and can be used in future 319 grant applications once the WMP is completed and approved.

Products and Resources

All inventory data collected through this project will be uploaded to the Michigan DNRs statewide Road Stream Crossing Inventory. A link to this inventory will be provided to all grant partners when available. A hard copy of the data will be disseminated to project partners through a Microsoft Access file. We will provide a summary of our findings and future efforts on the Ottawa CD website at www.ottawacd.org/pigeon_river_project.html.

FINAL NARRATIVE REPORT

Background/Overview

1. Briefly summarize the project description as outlined in the original proposal.

   The project focused on 1) Completing a road stream crossing inventory on at least 75 sites throughout the Pigeon River Watershed, 2) Sharing data with the Ottawa County Road Commission, Water Resources Commission, and the MDNR to be included in the Michigan Road Stream Crossing Inventory, 3) Conducting a habitat assessment at 10 sites throughout the watershed, 4) Identifying potential sites for agricultural BMPs to be installed in future restoration efforts.

2. Was the project completed as originally intended? If not, indicate how the final outcome(s) differed from what was anticipated. Does your experience suggest that original expectations were realistic? What factors hindered or helped progress?

   All grant deliverable were met during the project including data collection at more than 90 road stream crossings, habitat assessments and macroinvertebrate sampling at 10 locations, and the identification of multiple potential BMP sites throughout the watershed. One of the largest factors in our success was having access to a great crew of technicians to conduct data collection and entry, as well as partner organizations that have done similar work and provided us with guidance throughout the process.

Outcomes

3. Whether they were intended or unintended, what do you consider the most important benefits or outcomes of this habitat restoration project?

   This project allowed us to fill knowledge gaps related to water quality, the availability of habitat, and potential impediments to fish passage throughout the watershed. One of the most important outcomes of this project was that the OCD secured funding from Michigan EGLE to write a watershed management plan for the Pigeon River Watershed. We feel that this project played a role in securing this funding, and data collected during the project will be used in the WMP. This data will also be used by the Road Commission and Water Resources Commission to identify priority areas for maintenance, cleanups, and culvert replacements.

4. What activities were pursued in relationship to intended outcomes, and to what extent did you achieve the intended outcomes listed in your proposal?

   All listed outcomes were achieved throughout the project duration. We successfully inventoried over 90 road stream crossings, identified potential BMP sites, sources of erosion and degradation, and even collected some supplementary macroinvertebrate sampling throughout the watershed.

5. What audience(s) were you particularly hopeful of reaching? To what extent did you reach them? Did you receive any feedback?

   The audience we had in mind for the project were our partner organizations such as the Ottawa County Water Resources Commission, the Ottawa County Road Commission, The

GLFT, the Michigan Department of Natural Resources, the Michigan Department of Environment, Great Lakes, and Energy, Trout Unlimited, etc. The goal was to share collected data with these organizations for future decision-making, and so that we could further partner on future restoration efforts. Copies of this data will be shared with all project partners and will be included on the Michigan DNRs statewide road stream crossing inventory.

6. What relationships or opportunities were developed or strengthened through the work?

   This project allowed us to strengthen our relationship with local government, the Road and Water Resources Commission, and the Michigan DNR. Our data will be some of the first submitted to the DNR's developing statewide road stream crossing inventory. We were also able to develop relationships with landowners throughout the watershed which has been extremely helpful in our effort to write our watershed management plan.

7. Was an evaluation included as part of this project? If so, what were the key findings? (Please attach a copy of the evaluation report.)

   This was primarily an inventory project and did not have an evaluation portion. Evaluation of success will be part of all future restoration efforts in the watershed.

Related Efforts

8. Was this project a standalone effort or was there a broader effort beyond the part funded by the GLFT? Have other funders been involved either during the time of your GLFT grant or subsequently?

   This project was part of a broader effort to document conditions in the Pigeon River Watershed. The Road Stream Crossing inventory will be a small section in the overall Pigeon River Watershed Management Plan (funded by Michigan EGLE), and will be part of the Michigan DNR's statewide inventory. Information collected will be used in future grant applications for habitat improvement projects, and watershed wide restoration projects.

9. Has there been any spinoff or follow-up work related to this project? Did this work inspire subsequent, related restoration projects involving you or others?

   As described above the information gathered will be included in the Pigeon River WMP. We have also identified several crossings that the Ottawa County Road Commission and Ottawa County Water Resources Commission may be able to prioritize for future maintenance or replacement. We are also exploring the option of applying for GLFT funding to directly address culverts that are adversely affecting habitat and fish passage.

Communication/Dissemination

10. List publications, presentations, websites, and other forms of formal dissemination of the project deliverables, tools, or results, including those that are *planned* or *in process*.

All data collected will be shared with partners through a Microsoft Access file. It will also be submitted to the MDNR for their statewide Road Stream Crossing Inventory database that is currently in development. The data will also be included in the Pigeon River Watershed Management Plan, scheduled to be completed in 2021. The Pigeon River WMP will be a public document and links will be provided through the OCD website, as well as through EGLE.

http://ottawacd.org/pigeon_river_project.html

11. Please characterize your efforts to distribute and encourage use of products, processes, programs, etc. developed through this grant.

    We are in close contact with our Road and Water Resources Commissions and will highly encourage them to review the data and use it in their culvert/crossing maintenance prioritizations.

Reflections

12. Please describe any unanticipated benefits, challenges or surprises, and/or important lessons learned over the course of the project.

    See responses to questions 3 and 4. One of the biggest lessons we learned is that there's only so much information you can gather from a map. Some of the streams and tributaries identified on a map ended up being small, dry or intermittent stormwater ditches. Some of the "roadside ditches" identified on a map ended up being sizeable channels with the potential for habitat restoration and fish passage. We also learned that data collection such as this is extremely important for a variety of reasons. There are so many road stream crossings throughout the county that local government organizations can't possibly keep up on needed maintenance, replacements, and other issues affecting the watershed. This data will be helpful in helping them to identify and prioritize issues they may not have known about.

13. What recommendations (if any) would you make to other project directors working on similar efforts or to the GLFT?

    The biggest recommendation we could make is that data collection and entry is done by qualified personnel, and should follow consistent, high quality standards. We made sure that staff was consistent for each field season and that no work was being completed without the direct supervision of the full time watershed coordinator.

Pictures

14. Provide at least three photos of the completed project (if applicable).

    Several photos showing technicians collecting road stream crossing data will be attached.

15. The GLFT requires each project it funds to have suitable permanent public acknowledgement of GLFT assistance. If applicable, the GLFT will provide a sign to you (via mail) and requires photo verification of the posting of the sign before it will process your final reimbursement request.

    The installation of on-site signage is not planned for this project. The mention of GLFT support has always been part of our outreach and education effort, as well as all social media posts, press releases, and partner meetings. We will also mention the GLFT in the road stream crossing inventory section of the Pigeon River WMP.

Attachments

16. Please attach any reports or materials developed through the grant.

    The following items are attached:

    - Project Profile for Grant # 2018.1805
    - Final financial report form
    - Supporting financial documentation
    - Project photos
    - Inventory data will be submitted via an access database file