



**Final Narrative Report for GLFT Grant Number #2012.1261
-Reconnecting Lake Huron Fish with Rifle River Tributaries-**

Huron Pines

October 9, 2015

BACKGROUND/OVERVIEW

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

This project reconnected 12 miles of upstream aquatic habitat, reduced sediment inputs by approximately 10 tons/year and restored natural river processes at four priority road/stream crossings in the Rifle River Watershed. Undersized culverts were replaced with appropriately sized and aligned structures, including a new timber bridge over OG23: Houghton Creek at Flynn Road. The project benefits resident and migratory Lake Huron fish and other native aquatic species by increasing access to coldwater habitat and protecting water quality by addressing inputs of sediment and other pollutants at each road/stream crossing project site. Local communities benefit by this investment in the natural resources that support food production, provide clean water and offer tourism and outdoor recreation opportunities. The regional economy also benefited through the significant amount of federal funding leveraged for restoration activities in the Northern Saginaw Bay Watershed.

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?

The four proposed road/stream crossings have all been restored as planned, and the associated project deliverables have been fully achieved. The final designs and project costs estimated for sites AR101, OG27 and OG30 were reasonably accurate. However, project expenses for the timber bridge at OG23: Houghton Creek/Flynn Road were significantly higher than anticipated. Therefore, GLFT granted Huron Pines a no-cost extension that allowed the necessary time to raise additional funding, which was secured through the Michigan DNR-Aquatic Habitat Grant Program. Construction work at OG23 was consequently completed in September, 2015. Cooperation from the Ogemaw County Road Commission and other project partners was a valuable factor in the successful completion of this project.

OUTCOMES

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

The outcomes of the project were fully met through the replacement of four undersized culverts with properly sized and aligned structures to restore aquatic habitat connectivity and reduce pollutant inputs from road runoff and erosion of road embankments, streambanks and stream channels. Huron Pines completed the following activities in order to successfully complete these projects:

- Administered competitive bid process to hire engineering contractor for all four sites and a construction contractor for site AR101: Cursten Creek/Wildwood Road and for OG23: Houghton Creek/Flynn Road.
- Developed contracts with the engineering firm, private construction contractors and the Ogemaw County Road Commission.
- Prepared permits and approvals, including NEPA/NHPO approvals, MDEQ permits, and MDNR Natural Rivers zoning permits.
- Coordinated with partners throughout the construction process to ensure projects were completed as designed and in accordance with project timelines, budgets, and permit requirements.
- Raised additional funding in response to unanticipated expenses related to the timber bridge construction at OG23: Houghton Creek/Flynn Road
- Completed pre/post project macroinvertebrate sampling and cross-section and longitudinal profile surveys at OG27: Wilkins Creek/Campbell Road. Completed pre-project cross-section and longitudinal profile surveys at OG23: Houghton Creek/Flynn Road (post-project monitoring scheduled for fall 2016).
- Huron Pines will be designing and installing interpretive signage at the Houghton Creek/Flynn Road project site, which will educate the public about the project and acknowledge partners and funding sources, including the Great Lakes Fishery Trust. We are also planning a public ribbon cutting ceremony at Houghton Creek/Flynn Road, tentatively planned for the morning of November 10, 2015.

4. What audiences were you particularly hopeful of reaching? To what extent did you reach them? Did you receive any feedback?

Huron Pines worked with the Ogemaw County Road Commission to restore several crossings through this project, with a goal of improving aquatic habitat and reducing sediment inputs. Beyond these four projects we hope the educational value of this partnership will lead the road commission to incorporate considerations for aquatic connectivity and water quality in future road commission projects. The Ogemaw County Road Commission is proud of the road/stream crossing projects replaced through this project and featured several of these sites on its annual tour held on October 7, 2015.

Huron Pines communicated regular project updates at meetings of the Rifle River Watershed Technical Committee and the Rifle River Restoration Committee. Attendees of these groups include federal and state natural resource agency representatives, other nongovernmental

organizations, community leaders, local business owners and individual watershed residents. We have also promoted this project through the Huron Pines website, electronic newsletter and social media outlets. We will be installing interpretive signage at the site of the new timber bridge at OG23: Houghton Creek/Flynn Road.

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

A strong relationship between the Ogemaw County Road Commission and Huron Pines has emerged as a result of this project. In addition to the three Ogemaw County sites that were included in this project, Huron Pines and the Ogemaw County Road Commission have completed two additional road/stream crossing improvements (OG12 Andrews Creek/Heath Road and OG31 Prior Creek/Esmond Road). Huron Pines also worked closely with Michigan DNR, Michigan DEQ, the USFWS and other partners and funders to successfully complete this project in accordance with applicable regulations and up-to-date Best Management Practices.

6. Was an evaluation included as part of this project? If so, what were the key findings?

Huron Pines completed pre/post project macroinvertebrate sampling and cross-section and longitudinal profile surveys at OG27: Wilkins Creek/Campbell Road. Completed pre-project cross-section and longitudinal profile surveys at OG23: Houghton Creek/Flynn Road (post-project monitoring scheduled for fall 2016).

Post project monitoring results at OG27 were very similar to pre-project monitoring data, with the notable exception that the plunge pool immediately downstream from the outlet has filled in with sand and more closely matches the natural gradient of the stream. Macroinvertebrate community did not seem to change for better or for worse. We expect this may be because not enough time has passed to observe such a biological response, or perhaps the effects of the old culvert on macroinvertebrates (many of which have flying adult stages) were minimally affected by the old crossing structure to begin with.

At the four road/stream crossing sites restored through this project, old undersized culverts previously acting as fish passage barriers have been successfully replaced with new structures designed to pass at minimum a 100-year storm event flow. The project engineer, Huron Engineering and Surveying, Inc., has inspected each project site and confirmed in writing that each project was completed in accordance with engineered designs.

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

Perhaps the most important outcome of this project is the benefit of increased aquatic habitat connectivity for fish and other aquatic organisms, which was a primary goal of this project. Fish need access to different habitat types to spawn, forage and find refuge from environmental stressors. Reconnecting the Rifle River and its cold headwater tributaries will promote self-sustaining fish populations. Access to cold, stable, groundwater fed streams may become particularly important for sensitive aquatic wildlife as we face an uncertain climate that may include more extreme temperature and precipitation patterns. The 10 miles

of upstream aquatic habitat restored through this project also contain high-quality spawning sites that will benefit resident trout and migratory Lake Huron fishes including steelhead and white sucker. Another significant benefit of the project was the building long-term relationships with partners such as the road commission, which extend far beyond the scope of this individual project.

RELATED EFFORTS

8. Was this project a stand-alone 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 the Northern Saginaw Bay Restoration Initiative, an ongoing effort Huron Pines is leading to protect and restore water quality, enhance wildlife habitat and strengthen communities throughout the Northern Saginaw Bay Watershed. Through the initiative Huron Pines and partners have raised more than \$2 million between 2010 and 2015 to complete on-the-ground restoration projects and engage the public in watershed planning and restoration activities. The attached Rifle River Watershed project sheet maps and summarizes the conservation work that Huron Pines has led in the Rifle River Watershed since 2010. Major funding sources are also listed on this project sheet.

Other funders that contributed to the four road/stream crossings completed through this agreement included National Fish and Wildlife Foundation-Sustain Our Great Lakes Program; U.S. Fish and Wildlife Service, Michigan Department of Natural Resources and in-kind contributions from the Ogemaw County Road Commission for the three project sites in Ogemaw County and from the Wildwood Twelve Property Owners Association for site AR101: Cursten Creek/Wildwood Drive.

9. Has there been any spin-off work or follow-on work related to this project?

Restoration of road/stream crossing sites AR101, OG23, OG27 and OG30 would not have been successfully completed without this GLFT funding, which helped cover project expenses and also helped leverage the additional federal and state funding necessary to cover remaining costs. Huron Pines, the Ogemaw County Road Commission and other partners have developed a strong working relationship through this project that had led to additional conservation work. In addition to the four sites restored through this GLFT grant, Huron Pines and the Ogemaw County Road Commission restored two additional sites in the Rifle River Watershed (OG33: Crow Creek/Townline Road and OG12 Andrews Creek/Heath Road). Additionally, the successful Rifle River Watershed Project helped Huron Pines secure additional funding to expand the effort into the adjacent Au Gres and Tawas River Watersheds. In 2015, Huron Pines and the Iosco County Road Commission partnered to restore three road/stream crossings in the Tawas River Watershed and are already planning to restore five more road/stream crossings in the Au Gres River Watershed during the period 2016-2018. Huron Pines completed the new Rifle River Watershed Management Plan during the project period and we plan to pursue future funding to support implementation of this plan. Huron Pines is also leading a Rifle River prosperity Network project that aims to better connect local businesses, community leaders and resource professionals in the watershed.

COMMUNICATION/DISSEMINATION

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

Huron Pines has published regular project updates through our print and electronic newsletters, the Huron Pines website and at presentations to the Rifle River Watershed Technical Committee, Rifle River Restoration Committee, other partner meetings and at community events. Huron Pines will be designing and installing an interpretive sign at the OG23: Houghton Creek/Flynn Road project site to educate the public about the project and acknowledge funders and partners. We are also organizing a ribbon cutting ceremony at site OG23 on November 10, 2015. We expect attendees of the ribbon cutting will include funders and partners, local legislators, community officials and member of the general public.

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

Education and outreach are important components of Huron Pines' strategy to fulfil our mission to conserve the forests, lakes and streams of Northeast Michigan. Through this project we met with landowners and the Ogemaw County Road Commission to build partnerships and secure local investment in the road/stream crossing projects. We also met with resource professionals and watershed residents through the Rifle River Watershed Technical Committee to discuss project designs, share project updates and celebrate accomplishments.

REFLECTIONS

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

Restoring aquatic habitat connectivity was a major goal of this project, but one unanticipated benefit was just how quickly native species would take advantage of the road/stream crossing improvements. Within hours of setting the new structure at AR101: Cursten Creek/Wildwood Road, Huron Pines, landowners and construction contractors witnessed adult brook trout passing through the culver to access upstream habitat that had been inaccessible for decades.

The largest challenge during this project was the much higher than anticipated expense of installing the new timber bridge at OG23 Houghton Creek/Flynn Road. Due to the need for additional funding in order to complete the project, Huron Pines requested and was granted an extension of this project period through September, 2015. Fortunately, we were able to secure that funding from the Michigan DNR Aquatic Habitat Grant Program and move forward with the project in accordance with the revised timeline.

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

There is a lot of preparatory work involved with road/stream crossing replacement work. Huron Pines recommends completing preparatory tasks as soon as possible to allow

sufficient time to adjust to challenges that arise. These preparatory tasks includes building relationships and developing partner contracts, completing engineering designs, preparing permit applications and securing adequate project funding as early in the process as possible.

ATTACHMENTS

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

- Project Profile for GLFT Grant Number #2012.1261
- Final Financial Report for GLFT Grant Number #2012.1261
 - Supporting documentation of expenses since the previous reporting period
- Rifle River Watershed project map and summary sheet
- Project photographs – AR101, OG23, OG27, OG30