FINAL NARRATIVE REPORT

North Branch White River at 176th Avenue

Oceana County, Michigan

Background/Overview

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

   The Project addressed the need to remove the 10' failing corrugated metal pipe under 176th Avenue at the North Branch of the White River. The culvert was put in following the "Great Flood" of 1986 that washed away bridges in Oceana County and elsewhere. Installation of a bottomless structure would reconnect the North Branch to the White River, barrier-free along the entire 17 miles.

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?

   Yes, finally, in spite of being postponed and redesigned. Material price increases of 8-10%, a rebounding construction industry, lack of available and qualified contractors converged to halt the planned outcome of the Project being built in 2014. Additional stakeholders were required. Newfield Township officially committed as a financial partner when the decision to build a timber bridge was made. It was still nip-and-tuck right up until the start of construction, with cash flow factors still of great concern.

Two (2) significant events during construction hindered planned activities. Regardless, the original expectation was realistic and the final outcome perhaps more satisfying than imagined.

Outcomes

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

   The foundational activity was writing and submitting RFPs to gather enough stakeholders. Multiple partners would assure achievement of the intended outcome of installing a bottomless structure that would not hamper fish passage. Additional positive outcomes include unrestricted wildlife migration, a vastly improved spawning environment, sediment load elimination and public safety enhancements. All intended outcomes were achieved.

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

   The OCRC's Mission Statement is "To provide the public with reasonably safe roads and bridges, financially sound management, respect to the environment, addressing community and developmental sensitivity, and providing dependable and responsive services". Feedback typically is confined to notification of emergency and service personnel of road closure and reopening, adjacent property owners and interested officials often watching the project proceedings. Feedback received to date has been very positive, particularly from residents of the Township and the many motorists that use this rural road.

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

   The OCRC was delighted to again partner with the GLFT; the third time really was the charm. Without this award, the Project was likely to stall yet again, perhaps with deadly consequences. See the "Reflections" portion of this report.

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

   The OCRC has not been made aware of a standardized evaluation form or report, but would use one if made available. From this agency's perspective, however, the project is another good one. Findings are not limited:
   * The river has been returned to its natural channel
   * Gravel substrate has been uncovered
   * Aquatic connectivity re-established
   * Hydraulic conditions have stabilized

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

The most visible benefit is that gravel substrate, long buried by sediments, is now exposed. Silt formerly deposited through impoundment upriver can no longer occur. Small Brown trout are freely migrating, no longer impeded by a perched structure. It can be said that culvert removal projects provide "instant gratification", in a sense, because transformation in the watercourse begins within minutes. In Oceana County, through the work of the White River Watershed Partnership (WRWP), pre-project data collection occurs prior to each road stream crossing improvement. This provides a baseline for post-construction monitoring, providing proof that improvement has and is actually taking place.

Related Efforts

1. 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?

   In 2007, a small group of professionals came together to tour the North Branch White River sub-watershed. The team would eventually call itself the White River Watershed Task Force (WRWTF). The goal was to identify and prioritize road stream crossings for replacement. Concurrently, the White River Watershed Management Plan (WMP) was being written with the aid of a DEQ Part 319 grant. Professionals involved in that extensive and lengthy undertaking would later organize as a 501(c)3, the WRWP. The NBWR 176th Project became an add-on to the WRWTF's original eight (8) crossings, all replaced in the years 2011-2013, far ahead of schedule, because of multiple federal and private funders.

   As mentioned previously, because of size of the project, numerous stakeholders were needed. Joining the 1st funder, DOI-USF&WS, was the USDA Forest Service, then Newfield Township, and then the GLFT. Several other agencies were applied to without success. Going forward, this and future road stream crossing replacement projects in Oceana County have prioritized so that when and if funding is secured, a system is in place. As of this writing, 17 more RSX remain to be addressed in Oceana alone, an outcome that seems very distant.

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

   This RSX was the last culvert left on the North Branch, but not the last problem site. The Yale Road/NBWR crossing is a circa 1900 MDOT-classified jack arch bridge on cement headwalls that will get a facelift and new timber deck. This

rehabilitation will halt hundreds of tons of sediment from entering the river annually. Funding to finish the work is actively being pursued.

Communication/Dissemination

1. 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*.

   www.oceanaroad.org – Grant-Funded Culvert Removals power point presentation
   Upcoming articles in newsletters, newsprint, online
   Presentation that was just made at the MICorps conference by Dr. Thomas Tisue will be repeated
   Story boards have been presented at several Conservation District events, DEQ and DNR conferences, etc.

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

   This project was fairly high profile and saw a lot of visitors. It afforded me the opportunity to talk with residents, public officials and colleagues why culvert removals are so important and why they do not get done without organizations such as the Great Lakes Fishery Trust. Tourism and Agriculture are Oceana's twin sources of revenue, but each burdens the County's roads and bridges immeasurably, with no offsetting revenue going to the OCRC. I plan to write the annual article for the local newspaper outlining what was accomplished with road stream crossings replacement projects this year, ensuring GLFT will receive double credit twice this year.

Reflections

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

   Two (2) events occurred on this Project that were "firsts" in my career as a Project Director.

   A. While driving the second test pile, the piling shattered, then sheared. Fortunately, no one was injured. The test pile area was further excavated and, with no obstruction found. The pile was cut off and re-hammered. It shattered a second time

so it was clear the pile had found old bridge foundations. Several days were added to excavate all the material below grade, which became a change order adding considerable expense. We determined the bridge foundations and remaining superstructure was buried in place following the flood of 1986. The superstructure, based on excavated iron, was a Pony Truss-style bridge, dating to the late 1800s. The Road Commission had sandwiched a new 10' CMP between the footings.

B. The second significant event occurred when the last slab of monolithic foundation was excavated from the former riverbed. It evidently had acted as vertical shoring for the rotten culvert. The center 20' section then collapsed upon itself. Again, fortunately no one was trapped or injured. The culvert sides, over decades of high water, scouring and subsequent rusting simply could not withstand the weight of the roadway above, approximately 6' of gravel.

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

No general advice or recommendations, as this is a diverse group of professionals with different fields of expertise and levels of experience. For my part, attending events and conferences hosted by GLFT whenever possible to network. It is often difficult to get away, but well worth the time.

Specifically though, here in Oceana I instituted a policy beginning in 2013 to purchase the more expensive snake-proof mulch blanket for all grant-funded RSX restorations. This evolved after noticing Blue Racer mortality at two (2) sites where standard MDOT-grade straw blanket was specified. Another benefit of this double-layered jute mesh matting is that it holds seeding and retains moisture, resulting in revegetation in as few as 3 days, dependent on what type of seed is used.

Finally, it is imperative the Great Lakes Fishery Trust continues to fund projects of many types, especially culvert removals. The second half of this request would be make more money available. It is every grant writer's wish to have unlimited sources of funding to which to apply, even if unrealistic. It is so gratifying to witness how quickly the environment can be restored, "healed" when sound decisions are made and implemented. With needed funding and professional oversight, it is virtually assured a successful outcome will result.

Pictures & Attachments

1. Provide at least three (3) photos of the completed project.

2. The Great Lakes Fishery Trust requires each project it funds to have suitable permanent public acknowledgement of GLFT assistance. The GLFT has provided this sign to you and requires photo verification of the posting of the sign before it will process your final reimbursement request. The plaque was installed on November 12, 2015.


Funding
Support
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