PROJECT FACT SHEET
for

Road-Stream Crossing Assessments in the Upper White River Watershed (VSM2016-06)

Grant funds: $3,951.10

Local match: $6,086.50

Duration: 1April 2016 – 30 September 2017

Applicant: White River Watershed Partnership (WRWP)
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Location: Muskegon, Newaygo, and Oceana Counties

Partners: Muskegon Community College
Muskegon Conservation District

Goals:

The project's main goals were 1) to compile information on the condition of 50 representative road-stream crossings in the upper White River watershed and 2) to enter that information into the State of Michigan database. Road stream crossing conditions have a critical influence on major stream characteristics, including fish-passage, habitat connectivity, thermal regime, and erosion/sediment transport. The White River Watershed Partnership proposed to develop data to identify and prioritize those crossings most in need of improvement, especially those located on cold water streams in the watershed's upper reaches, where connectivity, thermal characteristics, substrate texture, and water clarity are critical to spawning and recruitment of migratory game fish.

These data create the basis for discussions with County Road Commissions and other potential funding sources for assistance in remediating the worst situations.

A subsidiary goal was to enter into the state's database the results of assessments completed a number of years ago by the Muskegon Conservation District.

Achievement of these goals required training volunteers and a student researcher in the associated knowledge and skills set.

Accomplishments:

Volunteers from the WRWP produced formal assessments of 49 road-stream crossings (RSX) using standard protocols specified by the Michigan Department

of Natural Resources (M-DNR). Prior to conducting the assessments, volunteers underwent training by a M-DNR expert, who also monitored the quality of the volunteers' initial implementations of the protocols.

The results of the assessments included more than 60 characteristics for each RSX and 6 digital photos of each site. The entire set of some 3000 data points from the original paper data sheets have been entered into a digital database provided by the M-DNR project supervisor. The database entries also included keys to a digital file of 300 photos that allow the 6 required views from each site to be accessed efficiently.

In addition to the 49 *de novo* assessments, we also revisited several sites in Muskegon County that the Muskegon Conservation District previously identified as being sub-standard. The current status of these RSXs is included in the accompanying Final Project Report.

A Muskegon Community College student worked on this undertaking as an independent study project for which he earned three credits,after spending 50+ hours in the field and writing a final report. The student is now enrolled at Michigan State University where he is pursuing a degree in Environmental Engineering.

Findings from this project formed the basis for presentations at the Stewardship Network Conference (Lansing, Jan. 2017) and at the River Network's River Rally (invited; Grand Rapids, June 2017).

WRWP Team Leader with MCC student

Perched outlet creating fish passage barrier