

White River Watershed Partnership
VSMP Project Fact Sheet

Name: Upper White River Volunteer Monitoring Project **Code:** VSM2013-01

Funds: grant, \$10,463; match, \$9,400

Duration: July 2013 – June 2015

Applicant: White River Watershed Partnership (WRWP)
4388 Duck Lake Road
Whitehall MI 49461
Dr. Thomas Tissue
231 421 4408

Project location: Parts of Muskegon, Newaygo, and Oceana Counties within the White River watershed

Partners: White River Steelheaders, Oceana County Road Commission, Muskegon Conservation District, White Lake Association, Kropscott Environmental Farm, M-DEQ, M-DNR, FSW, NRCS, Muskegon Community College

Summary: The major project goal was to conduct twice-yearly sampling and family-level identification of benthic macroinvertebrates at 12 sites in the upper North Branch and middle Main Branch of the White River. Auxiliary goals included 1) riparian habitat assessments at these same sites; 2) before-and-after stream crossing assessments at sites undergoing culvert replacements; 3) recruitment and training of volunteers; and 4) various education and outreach activities and publications.

Accomplishments: In addition to the monitoring activities and measurable results reported below, we accomplished 1) the establishment of a website for the WRWP; 2) the publication of periodic newsletters; 3) training events for more than 20 volunteers; and 4) presentations at MiCorps Conferences and national professional organizations.

Through our own research, we also developed a novel means of obtaining stream gradients on the scale of miles using readily accessible Google Maps tools. We applied the technique to the Carlton Creek and Cobmoosa Creek sub-watersheds, and presented the results at the 2014 MiCorps Conference. We are submitting an abstract of a poster presentation based on this work to the 2016 National Water Quality Monitoring Conference.

Monitoring activities: We conducted 1) macroinvertebrate sampling and family-level identification at 12 sites; 2) riparian habitat assessments at many of these same sites; 3) four road-stream crossing assessments, including detailed physical surveys at reference sites; and 4) numerical modeling of erosion and sediment transport in the Cobmoosa Creek sub-watershed.

Measurable results: We produced 1) stream quality indices based on macroinvertebrate order-level identifications at 12 sites, measured twice annually for two years; 2) detailed before-and-after standardized assessments and physical surveys at road-stream crossings undergoing culvert replacements; 3) preliminary erosion rate and sediment transport estimates for the Cobmoosa Creek sub-watershed using USACE's WEPP numerical modeling software; and 4) longitudinal gradient (pitch) profiles for the Carlton Creek and Cobmoosa Creek sub-watersheds, and for the Main Branch from Hesperia Dam to Pines Point.