STUDY PERFORMANCE REPORT

State: Michigan **Project No.:** F-80-R-15

Study No.: 230702 **Title:** Effects of sediment traps on Michigan river channels

Period Covered: October 1, 2013 to September 30, 2014

Study Objectives: The objective of this study is to quantify the effect of sediment removal efforts on the channel morphology of select Michigan streams. Specifically, we will identify the rate and spatial extent of change in riverbed elevation and substrate conditions. We will relate these data to hydrologic, gradient, and valley characteristics of each stream. We will assess suitability of different river types for sediment traps, and provide recommendations for spacing traps along rivers to better achieve desired results.

Summary: The data from this study show that excavation of sediment traps generally had only small effects on mean channel depth and substrate in the streams studied, with changes occurring both upstream and downstream of the trap. The lateral position of the channels examined remained constant, indicating little side cutting had occurred. Changes in channel area remain variable and appear as likely to occur at transects proximal to the sediment traps as at transects located further upstream or downstream. These results suggest that sediment trap maintenance has not achieved the desired goals of increased downcutting and exposure of coarse substrates downstream of the sediment traps studied.

Findings: Jobs 4 and 5 were scheduled for 2013-14, and progress is reported below.

Job 4. Title: Write annual performance report.−This progress report was prepared.

Job 5. Title: Write research manuscript.−A research manuscript describing the final results of this study is in progress and will be completed by December 31, 2014.

Prepared by: Todd C. Wills
Date: September 30, 2014