

## Effects of Sediment Traps on Michigan River Channels

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### *Background*

Sand that is moved from excessive erosion caused by land development and deteriorating road-stream crossings is the primary source of pollution in many of Michigan's rivers. It is of particular concern in trout streams because it smothers the coarse gravel and cobbles that trout and salmon need to spawn. Sediment traps are deep holes dug into the bottom of streams and rivers (Photo 1) that are intended to catch excess sand as it moves downstream, with the expected result being cleaner gravel, cobble, and rocks below the trap as well as an increase in stream depth. While sediment traps have been widely used by Fisheries Division, our partner agencies, and non-profit groups to catch and remove excess sand in Michigan streams for years, they are costly to maintain and little information exists to evaluate their effectiveness in actually rehabilitating fish habitat. This project is designed to help fisheries managers determine if sediment trapping efforts are achieving their intended purpose throughout the state.



Photo 1. Excavation of a sediment trap in a Michigan stream.

### *What do the results show?*

In the streams and rivers that we surveyed in the Upper and Northern Lower Peninsulas, the excavation of sediment traps had only small effects on average depth and bottom condition in the streams studied, with changes occurring both upstream and downstream of the trap. These results suggest that sediment trap maintenance has not achieved the desired goals of increased depth and exposing coarse gravel, cobble, and rock substrates downstream of the traps studied.

*What do the results mean for fisheries managers and anglers?*

Overall, these results do not support the use of sediment traps as a stand-alone habitat restoration tool. Our findings and previous assessments of sediment traps suggest that fisheries managers carefully consider their stream or river and all potential management options, including stocking or addition of woody habitat, when deciding which will provide the best return on investment.