

USDA Forest Service

Natural Resource Manager



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Topic: Natural Resource Manager (NRM) Watershed Improvement Tool (WIT) and the Region 9 Huron Manistee National Forest Osborn Creek restoration project (OCWR)

Summary: Like most watersheds in the Northern Lower Peninsula of Michigan, the OCWR is subjected to a complex mix of threats. Included among these are intensive agriculture, development, deteriorating roads, and undersized culverts. WIT aided in the identification of the following three issues that were addressed: water quality, habitat fragmentation, and stream channel shape and function.

In the restoration project area water quality was being threatened. Threats to water quality existed in the form of stream sedimentation, channel erosion, and increased stream temperatures. Despite the large amount of agriculture within the watershed, most sedimentation was attributable to the road system. Culverts were undersized and poorly aligned, and promoted sedimentation and channel damage. During higher flows, the culverts were barriers to aquatic animal passage and lead to habitat fragmentation. Also undersized culverts caused ponding of surface waters, increased water temperatures, downstream channel scour and bank erosion. Replaced culverts protected stream channel shape and hydrologic function, prevented sedimentation and increases the water temperature, and provided for aquatic organism passage. This eliminated habitat fragmented and protected the water quality.

Key Points: WIT manages data, observations and planning details about sites that need to be, or have been, restored or improved with the intent of benefiting watershed and aquatic ecosystem health and function. WIT includes inventory, planning, treatment, and monitoring information for both aquatic and upland improvement sites. The primary users of WIT are biologists and hydrologists. In 2014 WIT was integrated with Wildlife, Fish and Rare Plant Management System (WFRP).

Key Features: WIT is a watershed restoration activity tracker. It includes data about disturbed-site observations, project goals and objectives, planned and accomplished treatments, project costs and funding, and post-project monitoring. It addresses site conditions, administrative plans and actions, and outcomes. The mapping and reporting products are designed to deliver or summarized improvement information that has value to project.