

# The Successful Transformation of the Two Hearted River Watershed



*Before and After Images of the John's Creek Culvert. Photos Courtesy of The Nature Conservancy/Emily Clegg*

*Luce County – Michigan* Home to the Two Hearted River Watershed, Luce County is one of the least populated counties in Michigan. Though the area had been used for logging since the nineteenth century, the majority of the watershed is mostly undeveloped.

There are 53 species of fish who depend on the ecology of the river and its tributaries to access spawning and wintering habitats, but many culverts and other road-stream crossings blocked fish from access to upstream habitat. Collaborative and science-centered conservation made it possible for the watershed to be restored to its natural state.

The Nature Conservancy (TNC) came to own part of the area through a negotiation affectionately called “the Big UP Deal.” This historic land deal, technically known as the Northern Great Lakes Forest Project, meant that The Nature Conservancy owned a large portion of the Two Hearted Watershed. TNC, along with other partners, protected over 400 square miles of forest within the watershed. Uniquely, the project included land for forestry and recreation as well as conservation. See “The Big U.P. Deal” story for more information.

**“We went from a five-mile per hour, teeth-rattling, bone-jarring dirt road to a mostly smooth gravel road that we could travel at a more reasonable 25 miles per hour.”**

TNC, along with other key stakeholders, including the Luce County Road Commission, the Michigan Department of Natural Resources (DNR), the Superior Watershed Partnership and the East Branch Sportsmen’s Club, worked together to develop a plan. Using information from a variety of sources, The Superior Watershed Partnership devised a management plan in 2008 that identified one of the biggest threats facing the watershed as sedimentation (sand or dirt) from blocked or incorrectly designed road-stream crossings. The goal of the multi-partner project was to redesign road-stream crossings so they made less environmental impact and allowed fish passage upstream of the crossing.

The Nature Conservancy prioritized the need to update, replace or remove the majority of road-stream crossings throughout the Two Hearted River Watershed based on structural integrity, sediment amounts and fish passage. After mapping and prioritizing the sites, it took several years to obtain all the necessary grants for crossing repairs. TNC and their partners repaired the majority of culverts in the watershed. Their plan serves as a guide for other watersheds where road-stream crossings have caused disruption to fish and other species.

Very few roads in the watershed are paved. Most of the road-stream crossings targeted for repairs existed on rutted sand or gravel roads, but large equipment was still needed at these sites to make the extensive repairs.

Emily Clegg, aquatic project manager for TNC, explains the difficulty of simply getting the large equipment where it was needed, “The deteriorated state of the roads made getting heavy equipment to the necessary crossings extremely challenging. We spent a lot of money on gravel, grading and trimming just to get the equipment and structures to their new home without constantly being stuck or badly tearing up roads.

What began as a bridge and culvert project became a road improvement project as well. We went from a five-mile per hour, teeth-rattling, bone-jarring dirt road to a mostly smooth, gravel road that we could travel at a more reasonable 25 miles per hour.”



South Branch of the Two Hearted River road-crossing. Before: undersized culverts frequently overflowed, pulling sediment into the river. After: The new bridge has no affect on the natural flow of the river. *Photo Courtesy of The Nature Conservancy/Emily Clegg*

TNC continues to monitor the Two Hearted River Watershed for additional issues. The success of this project should encourage future conservation efforts across the Great Lakes Basin. It’s an exciting example of how scientific strategies and conservation efforts working in tandem can affect real change.

### **What Landowners Can Do**

Nature has a great capacity for taking care of itself, but sometimes our intrusions disrupt natural cycles. Landowners are an important part of ensuring those natural cycles continue. They should look for culverts and crossings on their property. During a rain or melt, check those areas – and others – to find where the water and sediment (sand or dirt) go. If you’re unsure about whether there’s an issue, think like a fish. Could they move upstream through those culverts? If not, the culvert may need restructuring for the health of the river. If you are concerned about a road-stream crossing, contact the National Resources Conservation Service office in Marquette or your local conservation district.

### **More Information**

<https://greatlakesinform.org/knowledge-network/general-resources/success-stories/774>

<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/michigan/newsroom/big-up-deal.xml>