

## McKinstry Creek Trout Habitat Enhancement Survey

Scott Cornett, Region 9 Fisheries

5/1/2024

On July 18 and 19, 2023, McKinstry Creek, located in northeastern Cattaraugus County, was sampled at five sites by NYSDEC Region 9 Fisheries staff and angler volunteers to evaluate two stream restoration projects to determine their effectiveness to support a high abundance of adult wild trout. These sites were compared to an adjacent site containing high-quality natural habitat. In 2005, a section of the stream that was threatening Goosneck Road was relocated and stabilized utilizing various rock structures for grade control, bank stabilization and pool creation, and included riparian plantings (Figure 1). This project was done by Cattaraugus County DPW. In 2007, a much larger project was completed by NYSDOT as part of required mitigation work. This project, located downstream of McKinstry Road, involved the rebuilding of several thousand feet of badly degraded stream channel which had become disconnected from its flood plain and was eroding excessively. This project also involved many in-stream structures, mainly utilizing large rock for grade control and pool creation along with extensive riparian plantings (Figure 2). Unfortunately, a significant amount of the NYSDOT work downstream of our sampling sites is now inundated by several large beaver ponds. The site sampled where habitat enhancement had not occurred was located upstream of Goosneck Road. This high-quality wild trout stream is managed with Wild-Quality fishing regulations and virtually the entire stream has Public Fishing Rights easements.

We utilized two-pass sampling methodology for this assessment. Electrofishing at our three sites located within the 2007 NYSDOT project (1,180-feet combined) produced 89 adult (yearling-and-older) wild brown trout and 54 adult wild rainbow trout. At the 2005 Cattaraugus County DPW project, 21 adult wild brown trout and 25 adult wild rainbow trout were captured at one sampling site (530-feet). A total of 52 adult wild brown trout and 45 adult wild rainbow trout were captured in the 535-foot site located upstream of Goosneck Road. Sampling conditions were good both days and capture efficiencies were good to excellent at all sites (74-96%).

Based on our electrofishing catch, the estimated adult wild trout abundances in this survey were 643 trout/mile for the 2007 NYSDOT project site, 460 trout/mile at the 2005 Cattaraugus County DPW project site, and 980 trout/mile at the site with high-quality natural habitat upstream of Goosneck Road. These results indicate that the high-quality natural habitat section was holding substantially more adult wild trout than either of the “restored” habitat sites. When they were originally built, both “restored” sites contained deep pools and substantially more quality habitat than they do today. Many of the pools have since filled in and most of the rock structures were not built in a way to retain gaps and undercuts as fish habitat, and thus are no longer providing shelter for adult trout. The exceptions to this are a couple engineered rock riffles in the NYSDOT project section which still have deep pools and some trout shelter. While the “restored” project sections are now functioning better in regard to their flood plain connection and stability, because of the way they were designed and the structures that were used, these sections are not supporting the abundance of adult wild trout that good natural habitat can on this stream. This



emphasizes the need to protect the existing quality habitat, and in sites needing restoration, to utilize alternative means of restoring high quality adult trout habitat.

*Figure 1. 2005 Cattaraugus County DPW stream restoration site, 2007.*



*Figure 2. 2007 NYSDOT stream restoration site, 2007.*

