

ABSTRACT

DAM REMOVAL EFFECTS ON FISHERIES RESOURCES, HABITAT, AND SUMMER DIET OF TROUT IN THE PINE RIVER, MANISTEE COUNTY, MICHIGAN

By

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Stronach Dam was built in 1912 as a hydroelectric facility. The Pine River carries a high bedload of sand, which contributed to the filling of the reservoir and the 1953 decommissioning of the dam. The staged removal of Stronach Dam began in 1996 and is expected to be complete in 2003. Baseline habitat conditions were assessed in 1995 to delineate distinct zones: the Downstream Zone, the Impacted Zone, and the Non-Impacted Zone. Survey data has shown streambed elevation changes in the areas near the dam. Electrofishing results indicated that trout were most abundant upstream of the dam and were fast growing compared to state averages, but had a low overall biomass compared to similar rivers. White suckers were most abundant downstream of the dam and were slow growing. Annual monitoring of the habitat and fish population will continue throughout the removal process. A summer trout diet study showed that stomach fullness was generally high but declined over the summer. Trout fed similarly throughout the river within a single month. The most abundant prey items found in the diet were underused in comparison to their availability in the drift. Based on their growth and diet, trout biomass did not appear to be controlled by a low number of drifting macroinvertebrates. Further research needs to be conducted to determine the exact cause of limiting trout numbers.