

The Effects of Trout Habitat Restoration
And the Cessation of Stocking on Big Bear Creek

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Abstract

The brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) fishery of Big Bear Creek, a tributary of the Loyalsock Creek in Lycoming County, Pennsylvania, has been declining over the past several decades. The construction of 38 boulder structures, in accordance with Rosgen, was completed in October 1999 in order to help the stream deal with a large sediment load from the removal of a 100 year old dam in 1996. The structures are intended to protect the stream banks, narrow and deepen the stream, and provide more trout habitat. Stocking of hatchery-raised trout was ended in 1999 in hopes that wild trout would provide a sufficient fishery within a few years.

This study determined the immediate impacts of habitat construction and will be used as a baseline for the next 4 years of study. No major changes occurred in water chemistry as a result of construction other than a rise in turbidity from 0 to 21 FAU (FAU = NTU), but even the turbidity returned to normal after construction. The density and makeup of the benthic macroinvertebrate community was not significantly impacted by construction. Construction caused a small scale migration of fish away from the disturbed areas, with electro-fishing catches of adult and age 0+ trout decreasing by 48% and 45%, respectively, in a site that underwent the construction of 4 structures.