

## ABSTRACT

Steelhead (Salmo gairdneri) are not native to the Great Lakes but have been introduced since the late 1800s. Steelhead in the Great Lakes make their spawning migrations in the fall or spring. In 1975 the State of Indiana introduced the Skamania strain of steelhead which migrate during the summer months. The Skamania strain has been very successful in Indiana. In 1984 the State of Michigan introduced four strains of summer steelhead (Rogue, Skamania, Siletz, and Umpqua) into several Great Lakes tributaries to expand the existing steelhead river fishing season to the summer. This thesis tested the hypothesis that the introduction of summer steelhead expanded river steelhead fishing into the summer months. Volunteer research anglers were used to report fishing activities as a means of documenting summer steelhead returns. A creel census was also employed on one of the stocked rivers to document returns. The summer steelhead did significantly expand the river steelhead fishing season. Volunteer angler data and creel census results showed first date of river catch was July with a peak in August. This provided for about 2 months of new angling for river steelhead. The Rogue strain returned first (1984) and the other three strains returned by the third summer (1986). Steelhead and salmon sport catches were statistically different between lake and river

locations with salmon generating more of a lake fishery and steelhead generating more of a river fishery. Summer steelhead contributed a significantly greater proportion of lake catch than Great Lakes steelhead. The lengths of fish at a known age were similar between summer and Great Lakes steelhead, indicating similar growth rates. The level of catch per unit effort generated by the summer steelhead introductions was very low. Future stocking efforts will require larger stocking numbers and annual releases in consistent locations. Some additional potential benefits and problems of summer steelhead introductions exist.