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Fish Population Surveys of St. Marys River, 1975-95, and Recommendations for Management

David G. Fielder
and
James R. Waybrant

Michigan Department of Natural Resources
Alpena Great Lakes Fisheries Research Station
160 East Fletcher
Alpena, MI 49707-2344

Abstract.–In August 1995, St. Marys River was sampled with graded-mesh gill nets to determine status of the fish populations and to provide some comparisons to previous surveys (1975, 1979, and 1987). A total of 53 net sets were fished in both U.S. and Canada. An additional 36 sets were performed in April, May and June 1995. Results indicate the abundance of many species (as determined by gill net catch per unit of effort) has not changed appreciably from previous surveys. Abundance of most fishes was very similar to 1975 and 1979 levels, however, some species such as yellow perch were significantly more abundant in 1987. Smallmouth bass also had a significantly greater catch rate in the last two surveys compared to the first two. Growth was slow for most species compared to the state average, and is attributed to the short growing season and the cold, oligotrophic nature of the water. The exception was lake herring, which grew better than state average. Measurements of condition were average for most species and areas. Mortality of certain key species such as walleye, northern pike, lake herring, and yellow perch (for southern portions of the river) was found to be high. Despite the stable nature of fish abundance in the river, long term angler dissatisfaction has been noted and declines in the fishery have been documented between 1987 and 1991 (the only two years surveyed). Some possible reasons include apportionment of the harvestable surplus among large numbers of users and multiple, competing fisheries such as a commercial fishery in the Canadian waters of Potagannissing Bay, tribal subsistence fisheries, intensive sport fisheries and possibly by cormorant predation. Management recommendations include the joint determination of maximum acceptable mortality levels for key game species and the apportionment of harvest among the various fisheries (sport, subsistence and commercial).

A substantial sport fishery exists in St. Marys River. Rakoczy (1992) estimated that roughly 600,000 angler hours were spent fishing this river during 1987. This was equivalent to 25% of Michigan's entire Lake Huron sport fishing effort. We estimate that 10.5 million dollars in economic activity was generated that year as a result of sport fishing [based on 161,879 angler trips (Rakoczy 1992) and $65/trip expenditure (U.S. Department of Interior 1993)]. Since 1991, when the sport fishery was last surveyed, Michigan Department