

Abstract

Lake trout populations in Michigan waters of Lake Michigan continue to remain dependent upon the hatchery product for recruitment. However, the proportion of unclipped trout has increased in the index catch in Grand Traverse Bay, which suggests natural recruitment is developing. The percentage of unmarked trout has doubled annually since 1980, and was 5.7% of the index catch in 1983. Ages of unmarked trout caught in Grand Traverse Bay in 1983 ranged from yearlings to 8 years old.

Little progress was made during 1976-82 in increasing stock density or number of year classes of adult lake trout. The standing stock of mature trout in 1982, as compared to the peak population density during 1976-81 in each statistical district, registered decreases of 79% in MM1, 48% in MM3, 70% in MM4, 52% in MM5, 40% in MM6, and 31% in MM7. Only in MM8 has the trout population steadily increased. In most statistical districts only five year classes of mature trout were observed in the 1982 index samples, which is equal to or less than that observed in 1976. For practical purposes the 1964-71 year classes are now extinct. Because there are few trout older than age VIII, reproductive potential is virtually dependent upon just three age groups -- VI through VIII.

Total annual mortality during 1976-82 nearly always was greater than the 40% rate recently recommended by the Lake Michigan Lake Trout Technical Committee to enhance trout rehabilitation prospects.

Although mean length within an age group varied between years, no change in growth of trout was found during 1975-82.