

ABSTRACT

This study of the muskellunge (*Esox masquinongy*) in Lake St. Clair covers the period of 1978–86 and was preceded by an earlier segment covering the years from 1969–76. Tag returns showed evidence of at least two distinct groups of muskellunge in Lake St. Clair. One group, which spawns in the north, disperses southward to inhabit the entire western side of the lake. This was also apparent in sport catch records which indicated that post-spawning muskellunge moved progressively southward throughout the summer season. Another group resides and apparently spawns in the southeastern (Ontario) part of the lake. Although these two stocks appear to be segregated, some muskellunge in the western area of Lake St. Clair were observed straying outside their normal home range.

The growth rate of muskellunge has not changed significantly since 1969 based on an analysis of length-at-age data. Length-weight regression did suggest that the fish may be getting heavier as compared to earlier years. However, this apparent increase is most likely due to the timing and size of the samples analyzed and the fact that the data collected were biased over time by a succession of minimum size limit increases which now extend lake wide.

The current regulations for Lake St. Clair muskellunge emphasize a trophy-size fishery. These regulations seem adequate at this time to ensure continuance of successful natural reproduction, good growth rates, and increases in the numbers and size of muskellunge available to anglers. However, further monitoring is necessary to maintain this world famous fishery at current levels.