

**Commercial and Sport Fisheries for Lake Whitefish
in Michigan Waters of Lake Superior, 1983-96**

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Abstract.—Lake whitefish were harvested in Michigan waters of Lake Superior by state-licensed commercial trap netters, tribal commercial gill netters, and sport anglers. Catch and effort statistics were obtained from state summaries, tribal reports, and creel survey estimates. Biological data were analyzed for trap net and sport fisheries. Commercial catches increased from 1983 to 1986, fluctuated between 1987 and 1992, then generally decreased through 1996. Average annual commercial catch was 354,364 kg during 1983-96. Average annual sport catch at Keweenaw Bay, Marquette, and Munising was less than 4,000 fish (~2,000 kg) during 1985-96. Total annual mortality rates were generally below the target maximum rate of 55% at Ontonagon, Big Bay, Marquette, Munising, and Grand Marais. Higher mortality rates were estimated for Upper Entry and Keweenaw Bay stocks. Weight-length regression coefficients and von Bertalanffy growth coefficients were generally similar regardless of fishing area or year. Calculations of total allowable catch did not match actual harvests, mostly because commercial fishing effort was variable and unpredictable from year to year. Annual estimates of mean length and mean age of fish in trap-net catches were greater than means for sport-caught fish. Compared to sport-caught whitefish, those in trap nets were significantly longer for ages near the age of recruitment to commercial gear (age 5) at Marquette, and for a broader range of ages at Munising. At Keweenaw Bay there were instances where sport-caught fish were longer at age than those in trap nets. Among like-aged fish from different fishing areas, whitefish from Marquette and Munising were generally longest for commercial fisheries and those from Keweenaw were longest for sport fisheries. Length-at-age was generally greatest in 1983 and 1984 for lake whitefish in trap nets, and in 1988 for sport catches. There did not appear to be much conflict between sport and commercial trap-net fisheries where they occurred together.

Lake whitefish *Coregonus clupeaformis* is the most important commercial species in Michigan waters of Lake Superior in terms of value per kg and number of kg landed. Annual