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An Assessment of the Clinton River Walleye Population

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Abstract.—The 1990 and 1991 walleye *Stizostedion vitreum* spawning runs in the lower Clinton River and spillway channel were surveyed using DC boomshocker and trap nets. A total of 2,078 walleye were collected during 22 hours of shocking, for a catch per unit effort (CPUE) of 94.4 walleye per hour. A total of 181 walleye were collected in 35 trap net lifts representing a CPUE of 5.2 walleye. Annual population estimates for 1990 and 1991 were 8,418 and 7,406, respectively. These were generated using the Schnabel method based on recaptures of tagged walleye. Estimates for the contribution of stocked fingerlings to the run ranged from 52% to 67%. Visible lymphocystis was present on 20% of the fish examined. The walleye population in the Clinton River has not increased substantially since the early 1980s, and may be largely maintained by stocking. Fisheries managers must closely evaluate the benefits of continued maintenance walleye stocking in the Clinton River.

Since 1977, walleye *Stizostedion vitreum* fingerlings have been reared in ponds at Selfridge Air National Guard Base (SANGB) near Mt. Clemens, Michigan, in a cooperative program between the Michigan Department of Natural Resources (MDNR), Lake St. Clair Advisory Committee (LSCAC), United States Air National Guard, and the Lake St. Clair Walleye Association (LSCWA). The majority of fingerlings produced in these ponds have been stocked into the Clinton River with the goal of establishing a self-sustaining spawning run. Since the early 1980s, there have been occasional reports of spawning concentrations of walleye below a weir in the spillway channel, a flood diversion channel from the Clinton River into Lake St. Clair (Figure 1). In the late 1980s, these accounts became more frequent and were often accompanied by complaints of snagging, netting, spearing, and other illegal harvest of walleye in the spillway channel during spawning season. In response to these reports and related concerns about the status of the walleye spawning run in Clinton River, an assessment of the walleye run was conducted during spring 1990 and 1991. The objective of this assessment was to document the size of the walleye spawning run in the Clinton River.

Methods

Walleye were collected from the Clinton River spillway using a pulsed DC electrofishing boat with boom-mounted electrodes. All electrofishing was conducted in site 1 (Figure 1) between Harper Road and the spillway weir, a distance of approximately 0.5 mile. Electrofishing took place during daylight, between 0900 and 1430. Walleye were also collected with a six foot deep trap net set in the