

## Harvest, Movement, Return to the Creel, and Growth of Chinook and Coho Salmon in Lake Huron, 1985-88

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*Abstract.*—Sportfishing effort at 14 Lake Huron sample areas ranged from 2.7 million angler hours in 1988 to 3.4 million hours in 1986. The sport harvest of chinook salmon ranged from 84,000 fish in 1986 to 105,000 in 1988. During 1986-88 the lake-wide chinook harvest and catch rate increased by 25% and 56%, respectively, while total angler effort declined by 20%. The mean age of chinook salmon harvested in the sport fishery ranged from 2.8-2.9 lake years. The return of marked chinook salmon to the sport fishery in the Michigan waters of Lake Huron was 31 fish per 1,000 stocked. The return of chinook to the sport fishery declined the further south in Lake Huron a stocking site was located. Chinook salmon stocked at Rogers City contributed the most to the Lake Huron sport fishery (46.0 fish per 1,000 stocked), while fish stocked at Lexington contributed the least (13.7 fish per 1,000 stocked). In general, chinook contributed the most to the sport fishery in the area where they were stocked. All four lots of marked chinook were found to reside in southern Lake Huron during the spring (April-June). Later during the sportfishing season (July-September), chinook moved north, and were found along most of the western shoreline of Lake Huron. The return of the 1984 year class of chinook salmon to all Lake Huron fisheries during its life cycle (1985-88) was estimated to be 60 fish per 1,000 stocked. The mean total length and weight of fin-clipped chinook salmon at the end of their life cycle (age 0.4) in Lake Huron was 34.2 inches and 14.8 pounds. The importance of coho salmon to the Lake Huron sport fishery was much less than chinook salmon. The coho salmon harvest ranged from 4,900 to 7,500 fish. Twenty-four percent of the coho salmon harvested by Lake Huron anglers during 1987 were of hatchery origin. The return of marked coho salmon to the Lake Huron sport fishery was estimated to be 2.6 fish per 1,000 stocked. Coho salmon stocked at Tawas made the greatest contribution to the Lake Huron sport fishery (5.9 fish per 1,000 stocked), while coho stocked at Seymour Creek made the least contribution (1.2 fish per 1,000 stocked). Coho were also found to reside in southern Lake Huron during the spring (April-June) and moved north later during the sportfishing season (July-September). The mean total length and weight of fin-clipped coho salmon at the end of their life cycle (age 1.1) in Lake Huron was 22.1 inches and 4.0 pounds.

The Michigan Department of Natural Resources (MDNR) first stocked Pacific salmon into Lake Huron during 1967 and 1968. Adult coho salmon (*Oncorhynchus kisutch*) were planted into two Lake Huron

tributary streams (Au Gres and Carp rivers) in 1967, and yearlings were planted into two tributaries (Carp and Thunder Bay rivers) in 1968 (Borgeson 1970). Also during 1968, the first introductions of fingerling chinook