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Report No. 1384

THE FISH AND FISHING IN THE CONNECTING WATERS OF  
LAKE HURON AND LAKE ERIE

by

Albert S. Hazzard

Abstract

Information available to the Institute on fish and fishing in the St. Clair River, Lake St. Clair and the Detroit River are summarized. The original purity of the Detroit River is indicated by large whitefish spawning runs from Lake Erie and by successful operations of a whitefish and pikeperch hatchery from 1876 to 1919 in the city of Detroit, using water from this river.

Creel census records demonstrate considerable difference in the character and quality of fishing in different parts of the system. Walleyes dominate the catch in the St. Clair River; Lake St. Clair produces mainly perch but also good bass fishing and the best muskellunge catches in Michigan; the Detroit River yields considerable variety but yellow perch, rock bass, walleyes, white bass and sheepshead are dominant. Based on a sizeable sample of the fishing in 1942 and 1943, the yield of the connecting waters on the American side was estimated to have been from 600,000 to 750,000 fish weighing from 170 to 200 tons. The average catch per hour for all waters was 0.47<sup>in 1942</sup> and 0.57 in 1943. The great majority of fishermen are from Wayne,

St. Clair and Macomb counties.

Summary of fish collection records show <sup>2</sup>67 species present including all the principal warm water game fish. The lower Detroit River still affords good fishing as demonstrated by general creel census figures of 1.69 fish per hour in 1952. Twelve kinds of game fish including rock bass, perch, crappie and pike were taken by trap nets in the vicinity of Sugar Island and considerable sport fishing was observed in that area.

Because of the proximity to Detroit, Windsor and other centers of population and because of the high potential recreational value of these waters for sport fishing, it is essential that the discharge of domestic and industrial wastes be better controlled by the United States and Canada.

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The following is a summary of the information in the files of the Institute bearing on the subject of fish and fishing in the St. Clair River, Lake St. Clair and the Detroit River. Relatively little work has been done on these waters since few need purchase a license to fish them (only those <sup>non-residents</sup> taking other than perch, catfish, bullheads, blue pike, sand pike, ciscoes and carp).

Early operation of fish hatchery on Detroit River. It is of interest to note that one of the first fish hatcheries in Michigan was established on the Detroit River in the city of Detroit in 1876. Water from the river was used to hatch the eggs of whitefish which ascended the stream in great numbers each fall until 1915 when it is reported that dredging of the river destroyed the spawning grounds. The water from the Detroit River was said to be of high quality and very suitable for hatching eggs except for some occasional turbidity caused by <sup>3 farms</sup> stones. In 1898 the Detroit hatchery was leased to the U. S. Bureau of Fisheries and was operated by them for the hatching of whitefish and pikeperch eggs until 1919. No reason was given in reports of the Commissioner of Fisheries for the discontinuance of the operation of this plant which was listed as a substation of the federal

hatchery at Northville. However in the Report of the International Joint Commission United States and Canada on Pollution of Boundary Waters (1951) it is stated (p. 33) "If the 1913 to 1948 trend in water pollution is permitted to continue the time will come when conditions will reach a point where it will be impossible to use these waters safely for domestic purposes." This statement might indicate that pollution as well as the destruction of the whitefish spawning run by dredging may have been responsible for the abandonment of the Detroit hatchery.

Fishing Record (Creel Census). In 1940 a summary was made of the general creel census for the connecting waters of Lake Huron and Lake Erie (Institute Report No. 742). From 1930 to 1940 a total of 1,702 fishing records had been secured by Michigan Conservation officers in connection with regular law enforcement patrol. The fishermen contacted had fished a total of 6,277 hours and had caught 4,551 fish mostly yellow perch but wall-eyes and pike were also well represented.

The scarcity of fishing information on these waters and their war-time recreational importance for the nearby industrial centers led to the organization in 1942 of a more intensive census. Forms for recording catches were distributed to the 77 boat livery operators (of a total of 84 then in operation on the American side) who were willing to cooperate in this census. After the initial contacts in May operators were re-visited in July, and it was found that only 17 of the livery owners had kept good records but these were considered a good sample. The local conservation officers also intensified their census efforts during this period. A total of 12,844 fishing records were secured in 1942 from all sources which showed a catch of 50,879 legal fish at an average rate of 0.68 fish per angler-hour. Again perch

were found to make up the bulk of the catch although walleyes (locally called pickeral) were most important in the St. Clair River. Lake St. Clair affords some of the best muskellunge fishing in this part of the country. Based upon this census it was estimated that the sport fishing catch in 1942 between Port Huron and Wyandotte exceeded 750,000 fish weighing over 400,000 pounds. (Institute for Fisheries Research reports No. 794 and No. 879).

This creel census was repeated in 1943. Because of war-time conditions, only 54 boat liveries were in operation and of these 10 kept reliable catch records. A total of 10,036 angling reports were secured showing a catch of 34,850 legal fish at an average rate of 0.57 fish per hour or somewhat less than in 1942. Because more large fish (walleyes) were recorded, the pounds per hour figure (0.47) was higher than in 1942. In 1942 yellow perch made up 68.8 percent of the recorded catch but in 1943 more records were obtained from the St. Clair River and this influenced the percentage composition of the catch as well as the average size previously referred to. In 1943 yellow perch made up 40.2 percent of the catch and walleyes 49.7 percent. The estimate of the total fishing yield for 1943 based on this sample census was 600,000 fish weighing over 170 tons. The census of both years showed that the fishing was done primarily by local people. Of all anglers interviewed 97.2 percent were residents of Wayne, St. Clair and Macomb counties. (Institute for Fisheries Research Report No. 997).

Fish present in the Connecting Waters. A thorough review of the records of fish found in these waters was made in 1948 for a report to the International Joint Commission referred to earlier. Also the tolerance limits to common pollutants was summarized. A total of 67 species of fish was recorded

including all of the principal warm water game fish such as bass, walleyes, pike and muskellunge. The general creel census for the Detroit River was also summarized from 1928 to 1947 and showed that 18 species of game and coarse fish have been commonly taken by anglers. Walleyes, yellow perch, white bass, rock bass and sheepshead have dominated the catch. (Institute for Fisheries Research Report No. 1191).

Recent Creel Census. Mr. K. G. Fukano of the Institute staff has brought the general creel census up to date by compiling the results from 1948 to 1952. They are given in the attached table. Records for the Detroit River are too few for direct comparison with those of earlier years. Yellow perch still dominate the catch in all waters except the St. Clair River where walleyes continue to be most important.

Recent study of the fish fauna and fishing in the lower Detroit River. Because of complaints of proposed dredging and dumping operations in the vicinity of Sugar Island near the mouth of the Detroit River, a study of the fish population and the anglers catch was made here in 1952. Netting took 12 kinds of game fish, 12 kinds of coarse or rough fish, 18 forage species and 3 so-called "obnoxious" species. The most abundant sport fish were: rock bass, perch, crappie, sunfish and pike. The creel census conducted by local conservation officers in this area showed a good average catch (1.69 in 1952) which is slightly above the average catch for the Great Lakes and connecting waters.

#### Conclusions from Data Available

1) The connecting waters between Lake Huron and Lake Erie, because of their size and proximity to Detroit, Windsor and other industrial centers

are of high importance. for recreational fishing.

2) There is a great variety of fishing afforded by the St. Clair River, Lake St. Clair and the Detroit River including the best muskellunge fishing in Michigan. The fish are of high quality and much sought by fishermen, especially residents of the counties in which the waters lie. The annual production of sport fish is in excess of 400,000 pounds. If a food and recreational value of \$1 per pound is given such fishing the annual value of these waters for fishing would certainly be at least \$400,000.

3) All reports indicate a progressive decline in water quality, especially since the end of World War II, because of the growth of population and industrial expansion and consequent increase in pollution.

4) If the high value of these waters for recreational fishing is to be maintained, it is imperative that early control and reduction of pollution be accomplished. There is grave danger of reduction or elimination of the more desirable fishes as has occurred in other waters as industrial and domestic waste dumping has increased.

General creel census summary for 1948-1952 for the Connecting Waters of Lake Huron and Lake Erie

Year	Number Anglers	Hours Fished	Fish Caught	Catch Per Hour	Sm. bass	Lm. bass	Bluegill	P <sup>1</sup> seed	Rock bass	Crappie
1948	367	1,034.0	2,346	2.27	53	4	--	39	65	123
1949	562	1,695.0	5,526	3.26	24	--	33	214	91	162
1950	550	1,941.0	5,588	2.88	--	--	--	14	18	15
1951	108	382.5	588	1.54	--	--	3	18	78	20
1952	90	289.0	613	2.12	22	--	--	9	33	11
<b>Total</b>	<b>1,677</b>	<b>5,341.5</b>	<b>14,661</b>	<b>2.74</b>	<b>99</b>	<b>4</b>	<b>36</b>	<b>294</b>	<b>285</b>	<b>331</b>

General creel census summary for St. Clair River (for last 5 years)

Year	Number Anglers	Hours Fished	Fish Caught	Catch Per Hour	Sm. bass	Yellow perch	Walleye	Census-taker
1948	43	105.0	86	0.82	--	--	86	McCord
1949	115	289.0	251	0.87	1	--	250	Duncan, McCox
1950	303	619.0	450	0.73	1	11	438	McCord
1952	82	233.0	244	1.05	--	9	235	Duncan
<b>Total</b>	<b>543</b>	<b>1,246.0</b>	<b>1,031</b>	<b>0.83</b>	<b>2</b>	<b>20</b>	<b>1,009</b>	

General creel census summary for Detroit River (for last 5 years)

Year	Number Anglers	Hours Fished	Fish Caught	Catch Per Hour	Yellow perch	Northern pike	Census-taker
1948	32	82.5	34	0.41	28	6	Peabody (All data)
1951	27	79.0	991	12.54	991	--	Peabody (All data)
<b>Total</b>	<b>59</b>	<b>161.5</b>	<b>1,025</b>	<b>6.35</b>	<b>1,019</b>	<b>6</b>	



General creel census summary for 1948-1952 for the Connecting Waters of Lake Huron and Lake Erie

Year	Yellow perch	Walleye	Northern pike	Musky	Dogfish	Catfish	White bass	Shad	Bullheads	Carp	Census-taker
1948	2,011	12	25	3	1	1	9	--	--	--	Boerman, Lee
1949	4,849	23	37	--	3	--	--	5	82	3	Boerman, McCord
1950	5,432	36	65	5	--	--	--	--	3	--	Berry, McCord
1951	346	114	9	--	--	--	--	--	--	--	Berry
1952	514	17	6	1	--	--	--	--	--	--	Berry
<b>Total</b>	<b>13,152</b>	<b>202</b>	<b>142</b>	<b>9</b>	<b>4</b>	<b>1</b>	<b>9</b>	<b>5</b>	<b>85</b>	<b>3</b>	

Year

1948  
1949  
1950  
1952  
Total

Year

1948 collected in February and March)  
1951 collected in January)  
Total

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1942. The organization of the creel census on Lake St. Clair, The St. Clair and Detroit Rivers. W. F. Carbine.

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