

Original: Fish Division
cc: Education-Game
Mr. Krumholz
Mr. Carbine
INSTITUTE FOR FISHERIES RESEARCH
DIVISION OF FISHERIES
MICHIGAN DEPARTMENT OF CONSERVATION
COOPERATING WITH THE
UNIVERSITY OF MICHIGAN

W

ALBERT S. HAZZARD, PH.D.
DIRECTOR

August 24, 1942

ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

REPORT NO. 808

CARP SEINING OPERATIONS IN LAKE ST. CLAIR

by

W. F. Carbine, L. A. Krumholz,

and W. R. Crowe

The carp is considered a pest by most sport fishermen. It is believed that most of the complaints about carp are due to ignorance and prejudice. In Europe the carp is an important table-fish and in this country commercial carp fishery is an important industry. In an effort to obtain more information on carp seining as practiced in Lake St. Clair so as to be in a better position to judge future complaints and to recommend control measures, it was decided that several members of the Institute staff should spend a day or two with Mr. Stanley Lupinski, the only commercial fisherman in the American waters of Lake St. Clair. Mr. Lupinski operates under a permit issued by the Conservation Department and his work is supervised by a deputy conservation officer of the Department.

On June 11, 12, and 13, Messrs. Carbine and Crowe made a trip to Fair Haven to make arrangements to go out with Mr. Lupinski. Because of cold and rainy weather Mr. Lupinski was unable to seine on any of these days. However, fish collections were made by Messrs. Carbine and Crowe in Anchor Bay and in the Clinton River. A list of the species of fish taken at this time is presented in the appendix at the end of this report.

On June 15, 16, and 17 Messrs. Carbine and Krumholz again made a trip to Lake St. Clair for the purpose of taking creel census and to go out with Mr. Lupinski. Mr. Lupinski was unable to fish on June 15 or 16 because of cold weather and a strong north wind, but we were able to accompany him on June 17.

At this time we wish to acknowledge the assistance and cooperation extended to us by Conservation Officer Bowman, the carp seining supervisor, Charles Wetter and Mr. Lupinski and his crew.

Mr. Lupinski uses a 3,200-foot seine with stretched mesh of $4 \frac{3}{4}$ inches. The bag or "pot" is of 3-inch stretched mesh and is 20 feet wide, 8 feet deep and 40 feet long. The seine is usually set parallel to shore and pulled in by gasoline-powered winches. The complete seining operation usually takes from 6 to 10 hours.

Carp usually spawn in shallow marsh waters during May, June, and sometimes into July. Spawning activities are usually accompanied by splashing and "rolling," creating considerable disturbance in the water. During the spring and early summer Mr. Lupinski generally locates the schools of carp by looking for the splashing and muddy water created by the spawning and feeding. The size of the school is indicated by the area of roily water and by the amount of splashing observed. Mr. Lupinski informed the writers that in late summer feeding grounds are baited with corn, and observations on the size of the schools of carp present on the grounds are made at night. Seining in late summer and fall is often done at night.

Mr. Lupinski is not allowed to fish in spawning areas known to be used by any Centrarchids. The spawning habits and breeding period of walleyes, northern pike, and muskellunge are such that it is unlikely that carp destroy many of their eggs. Bass are probably able to defend their nests and keep carp away. Undoubtedly carp do feed accidentally on the spawn of some species of fish due to their method of feeding. If a school of carp did happen to be in the same area used for spawning by any species of fish, it is likely that they would destroy at least a part of the spawn. Some indication of this is found in the literature (notably the Ecology and Economics of Oneida Lake Fish, by Adams and Hankinson). The writers are certain that observations on Lake St. Clair would indicate that carp undoubtedly do some damage on the spawning grounds of other species of fish. The damage that carp may do to the spawn and spawning beds of other fish is probably not serious. Adams and Hankinson provide statistics to prove that some species of fish actually increased in numbers after carp became established, showing that they are not a serious menace to most species. The writers were told by several responsible people that large concentrations of carp have been present in several known bass spawning areas during the bass spawning season this year. We were also told that Mr. Lupinski usually fishes these bass spawning areas before the bass spawn and was unable to do so this year because his equipment was not in shape. We were led to believe (and it is probably true) that this seining before the bass start to spawn does result in the improvement of the bass spawning area.

Despite the "unknown quantity" of the predations of the carp on the spawn and spawning beds of game fish, it is known that carp eggs, young, and adult carp are preyed upon by other species of fish. Fishermen have reported that northern pike are sometimes found to contain carp and goldfish. Northern pike and muskellunge have been observed feeding on small carp and goldfish in the display ponds at the Drayton Plains Hatchery. One northern pike that was found dead in the seine on June 17 was found to contain a large goldfish. Small carp (1/2-3/4 inches long) were found in large numbers in the Clinton River and in Casmere Bay (Lake St. Clair). All species of game fish are capable of feeding on these small carp.

Because of the muddy water it was impossible for the writers to make observations on spawning beds. The aquatic plants were extremely abundant in the area seined. Most of the higher aquatic plants (Potamogeton, Typha were dominant) were uprooted and broken during seining operations. The dense growth of algae made seining difficult because it collected in huge mats and ropes on the seine. Mr. Lupinski usually stops seining in localities when the aquatic plants get high because these plants cause the seine to roll.

Observations indicated that about 50 per cent of the carp and goldfish had not spawned by June 17. Many of the largemouth bass had already spawned, because out of about a dozen handled, only one was obviously a green female. No smallmouth bass were actually examined by the writers but the conservation officers and Mr. Lupinski claimed that the smallmouth bass had been spawning for several weeks, and should have nearly completed their spawning for this year. It is common knowledge among fish culturists that smallmouth spawn earlier than largemouth. Most of the bluegills and pumpkinseeds handled apparently had not spawned.

Apparently only one fish, a northern pike, was killed in the seining operation. Several sunfish, bass, crappies, goldfish and carp were found gilled in the net, but all were removed alive. Mr. Wetter claimed that at times large numbers of game fish are killed during seining operations.

It was estimated that approximately 400-500 pounds of small carp and goldfish were taken in the seine haul. All carp and goldfish, regardless of size, are placed in the live car. The spaces between the slats of the live car are approximately $2\frac{1}{2}$ inches and will allow all carp under about $\frac{1}{4}$ pounds to escape. Perhaps it would be to the advantage of the Fish Division to establish a fish meal plant, cannery or freezing plant at Lake St. Clair to take advantage of this available supply of rough fish that could be used at hatcheries. It has been suggested by several fishermen and conservation officers that it might pay to have a crew of fishermen fish for the state. The fish obtained could be used to take the place of Balto used at the fish hatcheries. Wisconsin has found this to be a paying proposition.

The following species of fish were taken in the seine by Mr. Lupinski on June 17. Most of the fish were identified by Mr. Walter Crowe. The counts on all fish taken were made by Mr. Wetter. Specimens saved for the reference collection of the Institute and for the Museum of Zoology are indicated by an asterisk.

- 3 northern pike
- 23 black bass (largemouth and smallmouth)
- *30 sunfish (bluegill and pumpkinseed)
- *16 calico bass (white and black crappie)
- * 5 channel catfish
- * many redhorse (Moxostoma anisurum)
- *12 bullheads (brown)
- * many spotted suckers
- 2 dogfish
- 1,200 pounds carp
- * many goldfish

Incidentally, it might be mentioned that Mr. Wetter was way off on the count of game fish, although his count of the carp may be accurate enough. The writers were certain that about 100 bass, 100 crappie, and over 200 sunfish were in the seine. Perhaps Mr. Wetter could do better if he used a tally sheet, although we realize that it would still be difficult to make exact counts on seven or eight species of fish simultaneously.

The fish that were taken by Messrs. Carbine and Crowe on June 12 and 13 are listed below. Specimens of all of these were preserved for the collections of the Institute and the University Museums.

Smallmouth bass
Yellow perch
Black-nosed shiner
Straw-colored shiner
Blunt-nosed minnow
Menona killifish
Johnny darter (subspecies eulepis)
Lake emerald shiner
Spot-finned shiner
Smelt
Sand darter
Common sucker fry
Redhorse (M. erythrurum)
Trout perch
Iowa darter
Tadpole madtom
Rainbow darter
Carp fry

A total of 31 species of fish have been collected in Lake St. Clair to date.

INSTITUTE FOR FISHERIES RESEARCH

By W. F. Carbine, L. A. Krumholz,
and W. R. Crowe

Report approved by: A. S. Hazzard

Report typed by: R. Bauch