

Original: Fish Division  
cc: Education-Game  
Mr. Stanley Shust 5-29-42

INSTITUTE FOR FISHERIES RESEARCH  
DIVISION OF FISHERIES  
MICHIGAN DEPARTMENT OF CONSERVATION  
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May 6, 1942

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ANN ARBOR, MICHIGAN

REPORT NO. 782

COMMERCIAL FISHING OF CRAYFISH IN GARDEN BAY, BIG BAY DE NOC,  
DELTA COUNTY, MICHIGAN

by

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Commercial crayfishing in Michigan was first brought to my attention in May, 1938, when Dr. Hazzard showed me correspondence on the subject between Mr. Westerman, Dr. Hazzard, and Conservation Officer Erwin Belfy. Officer Belfy's letter to Mr. Westerman contained notes on the method of fishing with box traps in Garden Bay, the prices received by the fishermen, and the market.

I wrote Officer Belfy inquiring about the fishery and asking for specimens of the crayfish caught. He referred my letter to Officer T. J. Mellon of Manistique, but it was answered by J. D. Stephansky, Assistant District Supervisor. Mr. Stephansky's letter included notations, written by Officer Belfy, on the types of "crabs" known to the fishermen, and informed me that specimens were being sent by John Potvin, Jr., the fire warden at Garden.

Fourteen specimens in ice were received from Warden Potvin on July 23, 1938. There were two species in the lot, Cambarus virilis

and C. propinquus. Both of these forms occur in the inland waters throughout the state, and in the Great Lakes. There were seven specimens of each, and all were males. The virilis averaged  $3 \frac{3}{4}$  inches in total length (tip of rostrum to end of telson); the propinquus averaged  $2 \frac{1}{8}$  inches in total length. These are approximately the maximum average sizes for these species. Little is known about the life history of C. virilis, but the propinquus specimens were probably one year old and would not have lived much more than four to six months longer. Without doubt the virilis represented the crayfish most sought after commercially. (The specimens are in the collection of the Museum of Zoology.)

On August 10, 1940, my wife and I visited Garden, Michigan, and saw a little of the crayfishing at first hand. Mr. Joe Hermes, who is apparently the leading exponent of the business on Garden Bay, kindly permitted us to accompany him and his two sons on his power boat while they examined some of his traps. We were out about three hours and have a few photographs of what we saw.

The traps are essentially as described by Officer Belfy. They are box traps made of laths, with a funnel, or cone-shaped entrance at each end. The dimensions are about 10" x 10" x 18". The space between the laths is about  $\frac{3}{8}$  inch, so that only relatively large crayfish are taken. The top is removable for insertion of bait and removal of the catch. A piece of concrete in each end makes the box sink to the bottom.

For bait, a piece of fish (chopped lawyers on the day we were there) is suspended on a wire hook from the top of the trap. Lines of as many as 300 traps are set in, roughly, 5 to 30 feet of water. Each trap is marked by a float at the end of a length of  $\frac{1}{4}$ " clothes line or light rope. They are examined and rebaited two or three times a week, and are

occasionally moved to other bottoms. Part of the lifting was done by rowboat, part from the power boat. In the latter case, the boat was throttled to slow speed and steered along the line of floats, which were about 100 feet apart. While one boy "gaffed" the floats with an iron hook and lifted the traps, the other removed crayfish and rebaited the traps for resetting in another place. The catch seemed to average, perhaps, 15 crayfish per trap.

The crayfish which were kept were practically all virilis, of about  $3\frac{1}{2}$ " to  $4\frac{1}{2}$ " total length. Smaller individuals were culled out and released in the Bay. These were practically all propinquus and had the reputation of being good perch and smallmouth bass bait.

The crayfish were packed into flat wooden boxes, about 200 to the box, and kept in a cool cellar, with perhaps a little ice on top of the box during hot weather. Twice a week Mr. Hermes drove down to Green Bay with his catch. He said he received about 25 cents per hundred crayfish from the wholesalers.

The main demand for these animals, apparently, is as a tidbit or delicacy to be eaten with beer in the Chicago-Milwaukee district. They are prepared by tearing away most of the cephalothorax and tossing the rest, claws, legs, and abdomen, into boiling salt water. They are cooked about five minutes, until they turn a bright red. We tried them that evening and considered them fully as good as the well-known shrimp, although a little harder to eat, since it is customary to serve them in the shells. Most of the meat, of course, is in the tail.

We saw and heard nothing to indicate that the small crayfish were used in any way except locally as bait. As stated above, practically all of the small ones we saw were of the species propinquus, which typically does not grow very large. Because of the spacing of the laths on the traps,

it is not likely that any considerable number of really small, young crayfish are caught. Moreover, Mr. Hermes said that he fished for crayfish only in the summer, when the fishing for perch, etc., was at low ebb. If this is true, I doubt that many adult females carrying eggs or young are taken, because other related species hatch their young during the late winter and early spring.

On the other hand, only scanty notes are available on the habits of Cambarus virilis. It is possible that this species may have habits quite different from those of better known forms. Collections of fishes made by Dr. C. L. Hubbs on September 7 and 8, 1940, in Little Bay de Noc, near the tip of Peninsula Point, contained a number of small C. virilis. Dr. Hubbs reported that he found unusually large numbers of the young crayfish in each seine haul. This may indicate that these shallow shore waters are used as nursery areas by this species.

Periodic quantitative collections and marking are two methods which would be well adapted to a study of the life cycle of C. virilis. I should be glad to cooperate with the Institute in any way in adding to our knowledge of these animals. I believe they constitute a relatively untouched natural resource in Michigan.

INSTITUTE FOR FISHERIES RESEARCH

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Report approved by: A. S. Hazzard

Report typed by: R. Bauch

Figure 1  
Baiting Crayfish Trap



Figure 2  
Lifting Crayfish Traps.  
Note float for the trap line.

