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FISH DIVISION

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Report No. 72

CONCERNING THE OIL POLLUTION OF BEAR LAKE, MUSKEGON COUNTY,
MICHIGAN

In response to a request by Mr. Milton P. Adams, Executive Secretary and Engineer, Stream Control Commission, an investigation of the effect of the oil pollution on the fish life of Bear Lake, Muskegon County, Michigan, was undertaken.

This is a rather long, narrow lake having an area of about 360 acres and lies in a northeast-southwest position. It receives Bear Creek at the northeast end and has an outlet into Muskegon Lake at the southwest end. According to the local water works superintendent, the prevailing wind is from the west or southwest.

The lake was visited by us on May 28, 1931, after a heavy storm had swept it the day before. Bear Creek which runs through the oil fields receives quantities of oil which are discharged into the lake, making it an eyesore to the general public and giving one, who is at all interested in natural beauty, a very depressing feeling. A study of the situation however, revealed the following facts.

The oil apparently accumulates on the lake and, for the most part, stays at the end of the lake, which receives Bear Creek, because of the direction of the prevailing wind. The lake cleans itself at irregular intervals as the result of wave action. The shore at this end is very low and sandy or swampy and covered with vegetation. The waves carry the oil into the living sedges and dead sedges, resulting from the growth during the previous season, where the oil is caught. When the lake is calm

the dead sedges dry out and the oil is absorbed by them. At the time of our visit there was no oil in the water along the shore line and only the small bay at the extreme end of the lake was covered with a thin layer of it.

In spite of the fact that sedges were covered with oil it does not seem to prevent their growth. This observation is supported by the vast amount of accumulated vegetation of the previous season.

There was no evidence of a fish epidemic and on the day of our visit after the storm, five dead bluegills were found along the shore. A few skeletons of fish were found which indicated a loss at some previous time. We doubt very much whether the loss was of alarming proportions or out of proportion to the loss in other lakes of the same size. According to the Superintendent of the local water works the loss of fish this year was nothing as compared to losses which occurred some seasons before an oil pollution occurred.

We were attracted to the little bay covered with oil, mentioned above, by fish activity. After watching for some time it was found that the bay was alive with bass which were spawning. Many bluegills and a few minnows were observed in the water where the oil was thickest, and they seemed to be perfectly content.

At the edge of the shelf in the same region water plants characteristic of water with a depth of from 6 to 12 feet were found in abundance. According to the Superintendent at the local water works plant was very good fishing at this end of the lake and was much frequented by fishermen.

An excellent spawning bed frequented by bass was being destroyed as the result of some construction work at the water works plant at the time of our visit.

Although we are very desirous of aiding the Stream Control Commission in pollution control work at all times, we must state that our investigation yielded no evidence that at the present time the oil pollution is killing fish in Bear Lake. We are,

however, anxious to follow conditions at this lake as they develop during the summer. (We can not promise to make a further field study, owing to financial stringency). If time permits, we shall attempt some experiments to determine what effect this particular crude oil has on fish.

Examination made and report prepared by Dr. Wendell H. Krull, Fish Pathologist of the Institute.

INSTITUTE FOR FISHERIES RESEARCH

Carl L. Hubbs.

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*Report to:
Stream Control Commission, Lansing*

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