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MUSEUM OF ZOOLOGY

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## Report No. 18 WHY DO FISH DIE IN MICHIGAN LAKES?

Complaints of dying and sick fish in various lakes of the state sooner or later reach the various offices of the Department of Conservation.

This trouble is a recurrent condition and seems to be rather general for the lakes of this state and others. There are, to be sure, differences in the lakes as to the severity and time of these epidemics, which may in turn be attributed directly or indirectly to many causes such as the number of fish in the lake, food supply, temperatures of the water, wind velocity, physical and chemical condition of the lake, breeding grounds and season, age of the fish, parasites, and mechanical injuries.

It has been our privilege to observe and study along with other investigations this situation in a single lake for several seasons without getting any very definite information concerning the cause of the extensive toll. It is our opinion that individuals who have investigated this situation share our views. Investigations of this nature can not readily be isolated and attacked by accurate experimental methods, because of the multifarious inter-related conditions.

From the present standpoint of our knowledge, the loss of fish during the spring or early summer seems to be inevitable and more or less natural. Whether this can ever be avoided or be reduced, except in isolated cases, still remains a question. Little can be accomplished in most cases by investigating fish deaths in natural waters. Nevertheless, severe or unusual epidemics should be reported, so as to give some idea of the frequency of the deaths in different lakes, and to yield opportunities for such investigations of natural fish mortality as can be made.

Wendell H. Krull Fish Pathologists

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