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Dr. L. N. Allison
Hans Peterson - 3-18-43
C. A. Eagle, Dist. Supervisor
Field Adm., Atlanta, Mich.

INSTITUTE FOR FISHERIES RESEARCH
DIVISION OF FISHERIES
MICHIGAN DEPARTMENT OF CONSERVATION
COOPERATING WITH THE
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ALBERT S. HAZZARD, PH.D.
DIRECTOR

ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

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DISEASE OF NORTHERN PIKE IN FLETCHER POND, SOUTH BRANCH
THUNDER BAY RIVER AND WATERS PLANTED FROM IT.

Early in November, 1942, Mr. Lawrence Tennis stated in a letter that the percentage of northern pike from Fletcher Pond with an "ulcer disease" was increasing. He reported that about one per cent were affected last year whereas nearly ten per cent were infected this year.

The specimens sent by Mr. Tennis exhibited large lesions that contained pus and blood. The skin covering the lesions was denuded of scales. The flesh beneath the skin had not been involved in most cases, indicating that the disease was of external origin. Although the ulcers superficially resemble those of furunculosis, the mode of attack is different, furunculosis ulcers begin in the flesh beneath the skin, breaking through after the flesh is destroyed.

Bacteriological smears were made and a variety of bacteria were found but none that could be identified as causing the disease.

Diseased northern pike from Fletcher Pond were collected on January 28th from fishermen at Jack's Landing. The fishermen refuse to count the diseased pike in their bag limit and leave them on the ice. Mr. Tennis was asked to remove these fish from the ice and either burn or bury them. Bacteriological cultures and smears made from the lesions of the diseased pike collected at this time again resulted in a variety of forms. No attempt to sub-culture the various colonies formed was made due to the press of other work.

Pike exhibiting various stages of the disease were observed. Some lesions evidently were in very early stages as only tiny haemorrhagic spots could be seen. From the series of diseased fish studied, it appears that the haemorrhagic spots enlarge and merge forming a large bloody sore from which the scales are lost. Pus develops in the bloody sore and finally, the muscle tissue becomes involved.

A similar disease of pike in eastern Ontario, Canada, has recently been reported by G. B. Reed and G. C. Toner (Red Sore Disease of Pike, - Canadian Jour. Res., Vol. 19, May, 1941; Proteus Hydrophilus Infections of Pike, Trout, and Frogs, - Canadian Jour. Res., June, 1942). They describe the disease as "characterized externally by red areas to open necrotic lesions of the skin on any part of the body or fins," and "The disease in pike is extremely varied.

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In its mildest form it varies from reddened points in the skin suggesting slight petechial haemorrhage to deep red areas several square centimeters in extent, the scales frequently being displaced. In the more severe form it appears as red, slimy, necrotic areas extending through the skin and in some instances deep into the muscle. The visceral organs, in gross appearance, are unchanged or in some instances the kidney appears darker in colour and softer in texture than the normal."

This description is very similar to the disease of pike observed in Fletcher Pond. Experiments are to be undertaken this summer (1943) to determine whether the same organism that caused the disease in Ontario is identical to that causing the disease in Fletcher Pond.

The same disease of pike was found on fish sent in by Mr. Glenn Karr from Shamrock Lake, Oscoda County, on October 5th, 1942. Mr. Karr reported that many northern pike in the lake were afflicted. Conservation Officer William Cronk of Hillman said that the disease was also found on some northern pike caught in Avalon Lake, Montmorency County.

It is significant that the northern pike in both Shamrock and Avalon Lakes were transferred from Fletcher Pond. It seems highly probable that the disease was present in Fletcher Pond at the time of transfer and that the disease was introduced into Shamrock and Avalon Lakes in this manner. The spread of fish disease from one water to another often is accompanied by serious damage to fish populations. It is evident that Conservation Law #6401, Sec. 9 must be strictly enforced and that both the fish to be transferred and the water system from which they are to be removed be thoroughly investigated by the Institute for Fisheries Research before a permit is issued.

INSTITUTE FOR FISHERIES RESEARCH

by Leonard N. Allison
Fish Pathologist

Report approved by: A. S. Hazzard

Report typed by: T. Maki