

copy to: Adams, M.P.
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INSTITUTE FOR FISHERIES RESEARCH
UNIVERSITY MUSEUMS
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

Report 306

August 16, 1935

DEATH OF FISH IN PINE RIVER, GRATIOT COUNTY, MICHIGAN

On August 15, the Institute for Fisheries Research received a quart jar containing 3 fish specimens, and the following letter relative to these specimens:

Ithaca, Michigan

Am sending today via parcel post 3 specimens of fish taken from Pine River at St. Louis, Mich. on August 3rd. Several thousand fish consisting of 95% suckers and balance of pike were found dead in the Mill Pond on the morning of August 3rd. Pike ranged in size from 8 in. to 12 pounds. All fish were dead and none were found dying. All were found in the area from new bridge on U.S. # 27 at St. Louis to a point not exceeding 1/2 mile upstream. The writer has inspected these waters since that time and has found no dead fish. I might add that the refuse from St. Louis Refinery empties into the river below the bridge referred to, although very close to Bridge. No fish were found at that location.

.....
C. B. Smith, Conservation Officer

An examination of the specimens gave the following identifications and results:

1	<u>Moxostoma rubreque</u>	-Greater Redhorse	8.10"	standard length
1	" "	" "	7.70"	" "
1	<u>Esox lucius</u>	- pike	5.60"	" "

A gross examination of these fish disclosed no obvious, heavy parasitization, nor evidence of death through a bacteriological disease.

Former investigations of the Pine River has shown that under certain conditions, the effluents from the sugar plant refineries at Alma and St. Louis are at times disastrous to fish life. From this former evidence and the statements in the letter, it appears most probable that the fish sent us and those found dead on August 3 were killed by decomposition (and consequent oxygen removal) of the effluent from one or both of these plants. It can, of course, not be stated definitely that this was the case;

for in order to make so definite a statement it would have been necessary for us to have investigated the killing at the time or shortly after the dying of the fish.

The letter does not state whether the refineries were emptying effluent into the stream shortly before or during the dying of the fish. Effluent from the plant could still be the cause of this fish mortality, even though the plants were not pouring wastes into the stream at the time of the dying of the fish, for a previous accumulation of sludge will remain on the stream bottom in a more or less harmless state for several months, to become lethal to fish during a warm period, and especially when disturbed by recent rains.

That no fish were dying at the source of the effluent is not strange. It takes sometime for bacteria to develop in sufficient numbers to remove enough oxygen from the water to kill fish. For that reason one seldom finds dying or even distressed fish immediately below the source of pollution.

INSTITUTE FOR FISHERIES RESEARCH

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