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INSTITUTE FOR FISHERIES RESEARCH  
UNIVERSITY OF MICHIGAN

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FISH DIVISION

DEATH OF FISH IN MILLPOND AT FENTON

On August 3, 1933, Mr. A. T. Stewart of the Drayton Plains Fish Hatchery brought into the office of the Institute two bluegills, one small pumpkinseed and several long-eared sunfish (a dwarf species) from the Shiawassee River millpond at Fenton, Genesee County. ~~The larger of these~~ fish had been kept on ice since having been taken the previous afternoon, and were received in good condition. The larger bluegill was taken in by hand in a nearly dead condition, while the others were found freshly dead.

Mr. Stewart explained that the fish in this millpond have been showing distress during the very hot weather by coming to the surface, audibly lapping as though for air, considerable numbers dying. Accompanying this there was a considerable mortality.

During the same period, large slimy sheets of a black color could be seen breaking loose from the bottom, with the release of gas bubbles, and leaving clear patches of bottom. Elsewhere also bubbles could be seen rising.

These observations on the fish and on the bubbling bottom strongly indicate a septic condition on the bottom, which during the hot weather has led to (1) anaerobic decomposition of the organic material, (2) the production of unsaturated gases, (3) the depletion of the dissolved oxygen supply in the water, and (4) the distress or death of the fish life of the pond.

The fact that neither the pumpkinseed nor the long-eared sunfish showed on hasty examination any apparent cause for death confirms the view that they were killed by unsatisfactory water conditions.

The bluegills both showed diseased gill tissue. The smaller one, which was found dead, showed only a few shortened gill filaments, which had likely been healed over from a previous infection ~~and disease~~. The larger bluegill, however, showed a large area of gill tissue, which under the microscope appeared to be in an acutely diseased condition—bad enough to account for its dying condition. Disease, perhaps related to the high temperatures and bad water conditions, may therefore have contributed to the deaths of fish in this pond.

Septic conditions such as evidenced in this millpond are ordinarily caused by stream pollution. Mr. Stewart mentioned hearing that for some reason some of the city sewage has been diverted into the quiet millpond. Such a condition, or the discharge of creamery wastes or other strong organic wastes into the millpond or into the river above, would suffice to account for the observed conditions.

If the fish deaths continue, and if the fish continue to lap at the surface, temporary relief might be obtained by running a boat back and forth, propelled by an outboard motor half out of the water. The worst conditions are to be expected at dark of the night, so some of this surface churning at night would be most promising. Picking up the dead fish would be playing safe, as there are some indications of disease.

Cleaning out the thick weeds and the bottom deposits might help, but might also destroy the food and shelter for the fish, and might make the condition of the stream very bad, even far below Fenton, while the work was in progress.

If pollution enters the millpond or the river within a few miles upstream, a permanent solution of the difficulty will likely involve the alleviation of this pollution.

INSTITUTE FOR FISHERIES RESEARCH

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