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INSTITUTE FOR FISHERIES RESEARCH
DIVISION OF FISHERIES
MICHIGAN DEPARTMENT OF CONSERVATION
COOPERATING WITH THE
UNIVERSITY OF MICHIGAN

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CONCERNING THE VALUE OF "DEADHEADS" IN THE STREAMS OF MICHIGAN

In general, it is the opinion of the Institute for Fisheries Research that deadheads (sunken logs) are beneficial in the streams in Michigan because they may form pools and cover for fish, places of attachment, shelter and feeding grounds for important forms of fish food and finally in some cases, acting as deflectors, may expose and keep clean gravel beds which are used by trout, bass and other game and forage fish for spawning.

A. Formation of pools and shelter. This feature of the action of deadheads is well illustrated in the Pine River near the Wexford County line. At this point logs partially buried occur along the margins of the streams and are piled up at the bends, resulting in excellent shelter for fish and acting in many cases as deflectors. According to our observations, deadheads function in the same way in the Pigeon and Sturgeon rivers, as well as in numerous other streams down which logs have been driven.

Mr. Milton Trautman, formerly Assistant Director of the Institute, in a trip down the Muskegon River from Newaygo to Pridgeton, observed that small-mouth bass seemed to find practically their only shelter in many parts of this section of the river in the lee of partly submerged deadheads. In the streams mentioned above, it is our opinion that the removal of deadheads destroys practically the only shelter and in many cases would destroy the pools which are now kept open by partly submerged logs.

B. Effect upon the food supply. In his studies of the Pine River in the section recently acquired by the state, Mr. J. W. Leonard found that, particularly in the sand sections, nearly all the food in the river is located on partly

submerged logs along the margins or in the silty backwaters formed by such logs. These places produce an exceptional amount of fish food, especially snails, which cling to the logs and which feed on the accumulations of algae found. The logs were also found to be densely populated with certain species of mayflies, and underneath these logs seemed to be a favorite habitat for crayfish. It is our opinion that the removal of deadheads in such a section of river would make it a veritable desert for fish life unless some compensating stream improvement were installed.

Deadheads where partly submerged also frequently improve the food supply by acting as deflectors, thereby washing away the sand and keeping exposed gravel or rock bottom which we have found to be immensely more productive than sand.

It is our belief that deadheads contribute to the food supply very considerably in many streams of the state by functioning in the manner described.

C. Effect upon spawning beds. Partly submerged deadheads help to improve spawning conditions for game fish, especially trout and small-mouth bass, by acting as deflectors and keeping clean gravel beds which are used by these species. Such beds are also made more attractive for spawning fish because of the nearby shelter beneath partly submerged logs or in the drift accumulated on them. Deadheads have been observed to function in this way in the Pine River, in the Sturgeon and in the North Branch of the Boardman.

It is our opinion, supported by observations on a number of streams in Michigan, that the Conservation Department should attempt by whatever means is expedient and available to prevent the removal of deadheads, both in trout and non-trout streams, unless it can be demonstrated that shelter, food supply and spawning places will not be impaired by the removal of such logs.

Deadheads which are completely buried in the stream bottom obviously have no importance to the fish life in the streams and theoretically could be removed

without damaging the waters. However, the digging operations necessary for the removal of such logs would certainly be detrimental by disturbing the food supply in the bottom above such logs and probably, what is more serious, by roiling the water and causing sediment to be carried downstream, smothering food organisms, filling pools and silting in spawning beds. If logs are hauled out on the banks to dry, some bank erosion and destruction of bank vegetation may also occur.

It is our conclusion therefore that the removal from Michigan streams of deadheads where partly submerged or entirely buried cannot help but have some detrimental effect upon the fish life in these waters. The extent of such damage will vary depending upon conditions in the stream involved. The value of any stream for fishing and other recreational use should be given due consideration in determining whether or not the value of these sunken logs to the operators outweighs the benefit to the public of unimpaired fishing conditions.

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