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NOTES ON "WALLEYE RUN" IN THE BELLAIRE RIVER, ANTRIM COUNTY, MICHIGAN  
WITH RECOMMENDATIONS FOR FUTURE STUDIES

by

George N. Washburn

During field studies in the spring of 1944, the writer had the opportunity to make observations on the Bellaire River (T. 30 N., R. 8 W., Secs. 24 and 25), Antrim County, during the "walleye run."

After contacting the local conservation officer, Leslie Miles, at which time a discussion of the walleye problem took place, a boat trip was made down this stream on April 6, 1944. With the help of G. Neuman, a local sportsman, a mile of stream, commencing at the M-88 bridge in the village of Bellaire and ending at Lake Bellaire, was inspected. A total of 75 walleyes were observed over this stretch of stream. These fish were usually found singly or in small schools (2 to 6 fish each) swimming along quietly or remaining motionless near the bottom. All of the fish observed were of large size (estimated at 4 to 10 pounds each). One fish, captured in a dip net, was a nine pound female.

Night observations were made on April 6, 7 and 8, assisted by the local conservation officer and the county sheriff, H. Tanner. Though many walleyes were seen, none appeared to be actually spawning. There was no significant pairing of fish and likewise no fighting or splashing, usually characterizing spawning activities. The fish observed were in

shallow, fast water and were undoubtedly there for spawning purposes.

The Bellaire River was again visited on May 29, 1944 at points where large numbers of walleyes were observed during the April "run." Several attempts to secure walleye fry samples were made at this time in order to determine if a successful spawning of these fish had actually occurred in April. Fine mesh nets were employed but not a single specimen was collected, though it is possible that the fry could have moved downstream into Lake Bellaire by this time.

#### General Remarks

The Bellaire River connects Central (Intermediate) Lake with Lake Bellaire, the water flowing from Central Lake into the latter. Located in the village of Bellaire, about mid-way between the two lakes, is a dam (Charlevoix Light and Power Company) acting as a fish barrier between the two bodies of water, and fish moving from Lake Bellaire can ascend only to the base of the dam. It is in this stretch of stream where walleyes moving out of Lake Bellaire were observed.

The stream proper is 50 to 100 feet in width and has a depth of 3 to 6 feet with a moderate current (estimated at one to two miles per hour). In the upper portion of the stream immediately below the dam, the bottom consists of sand, gravel and rubble, while near the outlet the bottom is chiefly of sand and pulpy peat almost entirely covered with aquatic vegetation and lumbering debris. Also, here the stream is much wider and more sluggish in movement. Most of the observed walleyes were in the "fast" water near the dam. (Note: The water was quite shallow and observations were much easier at this location.) If spawning occurs in this river, it is probable that it takes place in the fast "spillway waters," as other studies show that in instances of lake spawning walleyes prefer windswept rubble bottomed shores where there is a considerable amount of water agitation.

Future Studies Needed on This Problem

Interested sportsmen of this locality have requested that a transfer of walleyes be made over the dam during the spring run as they feel that it would materially improve the walleye fishing in the lake above (Central) which is according to the writer's knowledge already a good walleye fishing lake though it has its "ups and downs."

Until further studies are made on this problem, it would be undesirable to transfer fish. This is in agreement with the opinion of the local conservation officer, who feels that the walleye fishing in Lake Bellaire has improved in recent years and an increase in the population has occurred. If so, then it would indicate that natural reproduction has taken place and it would be undesirable to remove these "spawners" from the lower Lake.

Recommendations

That an intensive study of the problem be conducted in the future, as soon as adequate personnel is available, to determine if there is successful walleye spawning in the Bellaire River and to what extent spawning occurs along the shores of Lake Bellaire proper is recommended.

To attack a problem of this type, close observation during the spawning season would be necessary. A trained fisheries worker would undoubtedly make periodic examination of the adult fish in the stream to determine what proportion become "spent" fish and attempt to secure both eggs and fry at different stages of development throughout the spawning season. It would also be necessary to make similar observations and examinations periodically along the shores of Lake Bellaire at night (by the use of a light) to determine to what extent spawning occurred in the lake.

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