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FACTORS WHICH MAY AFFECT FISHING FOR NORTHERN PIKE

by

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The practice of lowering the water level of certain lakes at various times has been carried on for a number of years in Michigan. The effects vary from lake to lake. Houghton Lake, for example, has a limited amount of spawning territory available for pike and the low water level in some years may be responsible, in part at least, for poor pike fishing in future years. Hamlin Lake, again, presents an entirely different problem.

Hamlin Lake has one large and a number of smaller inlet streams. Presumably pike would be able to ascend any of these in early spring to reach suitable spawning grounds, whether the lake is at high or low level.

Hamlin Lake also has a great deal of shallow, weedy shoal where some pike spawning may occur. If the lake level is lowered approximately two feet each fall and if the average ice thickness is one foot, then a total of three feet of the shallow, weedy portion of the lake has been eliminated, because it is entirely possible that northern pike may spawn under the ice just before the breakup occurs. It is also felt that the shallowest water would usually present the best conditions for northern pike spawning. It is in this shallow water that rushes, etc., grow, and it is expected that this area may be ideal for pike spawning.

The cannibalistic nature of the northern pike precludes the possibility of their being present in very large numbers in any lake. The number of forage fish (minnows, suckers, or young game fish) necessary to produce 10,000 adult northern pike would stagger the imagination. An example of this along similar lines is to be found in the large numbers of antelopes (and similar forms) and the relatively few lions present in Africa. If the lions increased appreciably in numbers they would soon be without food. Likewise, it appears almost impossible to expect to find very large numbers of pike in a lake containing a well balanced fish population. Of course, larger numbers of pike could be supported by many of our lakes, but this would mean that species such as the walleye, large- and smallmouth black bass and muskellunge that compete with the northern pike for food would necessarily have to be absent, or present in much reduced numbers. Many of our lakes that formerly produced good pike fishing have been damaged in several ways: 1. The introduction of competing species, such as the walleye, large- and smallmouth bass. 2. The fluctuation of the water level of a lake which may eliminate either permanently or temporarily (during spawning season) pike spawning grounds. 3. The elimination of pike spawning grounds either by filling, drainage, or by preventing the migration of spawning pike. I do not know which of these three factors are most important, but all doubtless enter into the picture.

It is also realized that other factors are hazardous to the successful completion of the early life history and spawning of the pike. First among these may be listed the vulnerability of the spawning pike to the poacher who, with his spear, has removed many pike during the spawning season. Also, during this period, the blue heron and other fish predators may find "easy pickings" on adults or young. It is also the habit of the

spawning pike to deposit its eggs in the shallow waters of marshes. A sudden drop of the water level (especially during a dry spring) may leave many millions of eggs or fry high and dry. Also, a freeze may kill the eggs or fry at this time.

A tremendous mortality occurs in the northern pike during the first month or two after ^{the eggs} ~~hatching~~. It is for this reason, if none other, that every spawning area should be available during the spawning season.

The cyclic nature of northern pike fishing has been demonstrated in several Michigan lakes. It is believed that this is tied up in some way with spawning, and the balance between the pike and forage fish, and the balance between the pike and its competitors. If a poor hatch results in one or more successive spawning seasons, the competitors increase in numbers. If the competitors are capable of maintaining their lead due to more successful spawning habits, an abundance of food, and the fact that fewer pike are present to prey upon them, the chances are that the pike may be forced to play "second fiddle" for some time. It may also be possible that some factor such as disease, poor spawning facilities, predation, etc., may decrease the numbers of forage fishes to such an extent that small pike may not be able to obtain enough of the proper sized food organisms, and the resultant cannibalism may diminish their numbers. In other words, the relation between the pike and its competitors and the pike and its forage fish are important factors. It is also likely that more pike are now removed by fishermen than in former years when certain lakes had a reputation as excellent pike lakes, and when the pike was not so highly prized.

Another explanation for poor pike fishing in certain lakes may be that many pike are caught before they have had an opportunity to spawn

even once. Perhaps if the legal length were increased, many more pike would be available as spawners and fishing would be more satisfactory because more sizable fish would be taken. It is also possible that a more productive balance between species would result from this move.

From 1935 through 1940, the average length of all northern pike (over 15,000) reported in the general census was 20.7 inches. In 1939 and 1940 a total of 496 adult northern pike were caught in weirs at Houghton Lake on their spawning run. The average size of these fish was 21.8 inches (315 males averaged 20.9 inches and 181 females averaged 23.4 inches). This indicates that the average size of the spawning fish was larger than the average size of fish that were caught by fishermen. Northern pike probably do not become mature until two, or perhaps three, years old. In Michigan, northern pike reach legal size sometime in their second summer (Beckman). Therefore, many northern pike are caught before having had a chance to spawn once.

To improve pike fishing in any particular lake, many factors must be considered. The following remarks are therefore in order for Hamlin Lake, as well as any other pike lake.

1. Maximum productivity in most lakes can probably be obtained by stable (firmly established) water levels, subject only to normal fluctuation. Fluctuations in the level of Hamlin Lake no doubt have some effect upon the fish and fish food organisms.

2. The custom of lowering and raising the water level at Hamlin Lake is probably necessary at present because of the damage to docks, boathouses, etc., due to ice action. Under present practice, it is doubtful whether the lake level could be raised in time to improve spawning facilities for northern pike, because pike usually start to

spawn before all of the ice is out of a lake. Any attempt to raise the water level before the ice disappears might result in more property damage than the benefit derived from improving spawning conditions for pike. Any raise in water level after the pike spawn may benefit the young by insuring them with a means of return to the lake, or again it may expose the young to the ravages of predators.

3. It seems doubtful whether pike fishing would be improved to any great extent in Hamlin Lake by maintaining natural water levels because of the limitations that nature places upon the numbers of this fish. It must be remembered, also, that any appreciable increase in the numbers of the northern pike will reduce the numbers of other desirable fish.

I believe that pike fishing could be improved to a certain extent by maintaining a constant water level, but comparatively few fishermen would actually benefit from the increase. If walleye, bass and perhaps even perch fishing would decline as a result of an increase in the number of northern pike, fewer fishermen would be able to obtain a mess of fish and probably more complaints would be received about poor fishing. No one is ever satisfied. If good perch, bluegill, or bass fishing is to be had in a lake, someone, or all, would also want walleyes, pike, muskies, calicoes, trout and/or other species planted. Few people realize that a lake, like a piece of land, will produce just so much, and it stands to reason that fewer pike (and fewer pounds of pike) than bass will be produced, and fewer bass than bluegills.

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