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Sturgeon River Creel Census

By
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During the summer of 1948 the District Fisheries Biologist, assisted by Mr. James Nyburg conducted a creel census on the Sturgeon River in Cheboygan County. The census included that portion of the main stream below the dam at the Wolverine Rearing Ponds. No results from the West Branch, or from the main stream above Wolverine are included.

In recent years the Indian River Sportsman's Club and the Wolverine Sportsman's Association have become rather concerned over the quality of the fishing in the Sturgeon River. During the summer of 1947 these clubs conducted a voluntary creel census. Most of the work was done by the Indian River group, and by Mr. Charles Reid in particular. Results of this voluntary census indicated that the bulk of the anglers' catch during most of the open season consisted of recently planted trout. Of 822 trout recorded in the voluntary census, 641 or 78 percent were of hatchery origin, and 181 or 22 percent were wild or at least unmarked. These figures indicated that most of the fishing in mid-season was furnished by hatchery reared and recently planted fish. There seemed to be some question as to the supply of wild fish in the river, and consequently

it was decided that the District Biologist should spend a portion of his time on the river, making observations and securing a creel census.

Records of fishing were secured between May 22, 1948 and August 26, 1949. The census was conducted concurrently with other activities, and consequently not too many records were obtained. The most unfortunate lack is for records of early fishing between the opening of the season and May 22. However, other commitments made it impossible to be on the river at this time.

In the census 95 fishermen were checked. They had fished $225\frac{1}{2}$ hours and had caught 143 legal trout. The catch breaks down as follows:

	Marked	Percent	Unmarked	Percent
Rainbows	75	65.2	40	34.8
Brown	5	19.2	21	80.8
Brook	1	50.0	1	50.0
Totals	81	56.7	62	43.3

The catch per hour was 0.6 fish, which is less than the state average of 0.8 fish per hour recorded in 1948. It is probable that the general creel census does not record sufficient unsuccessful days.

If the catch on the Sturgeon is broken down further to show results per fisherman, the following tabulation results:

<u>Number of fish</u>	<u>Number of fishermen</u>
0	49
1	20
2	10
3	2
4	4
5	1
6	1
7	2
8	2
9	1
10	2
11	1

All of the fish were caught by 49 percent of the fishermen. Only 14 fishermen caught 4 or more trout on any particular trip but these fishermen accounted for 94 or 66 percent of the fish. To carry this thought even farther, a single fisherman fairly familiar with the stream caught 44 or 31 percent of all the fish.

In conducting the census it was soon apparent that fishing pressure on the river (at least during the 1948 season) was not nearly so heavy as might have been expected. The census takers spent many more hours on the river than the records would indicate. Between Wolverine and Indian River there are many access points, and the census was conducted by taking various stretches of river between access points. Usually, not more than 3 or 4 fishermen would be contacted between these places where roads cross or come close to the river.

Also, it was soon noticed that the mechanical difficulties of wading the river placed a considerable premium on the anglers' agility and skill. Consequently, many fishermen on the Sturgeon seem to fish only one or two holes, often fishing from the bank. There is not much fishing in the stretches between access points. The river is much too swift and twisting to permit satisfactory boat fishing although an occasional party does fish from a boat.

Certain other observations which may have some bearing on the quality of the angling need to be made. The bulk of the wild fish population consists of rainbows. Through most of the season the majority of the rainbows in the river are of less than legal size, or only slightly over legal size. The rainbow is a migratory fish, and probably most of them move down into Burt Lake about the time they

reach legal size. A few scale samples from Sturgeon River rainbows, taken in May and June, showed the legal sized fish to be in their third summer of life. They ranged in size from 7.9 to 10.1 inches. None showed evidence of lake growth. Most of the wild rainbows caught in the river appear to be in their second summer, and are of somewhat less than legal size. Growth of the rainbows in the river appears to be excellent. However, fish of legal size appear to be unavailable through much of the season. Some of two groups are available early in the season (young stragglers which have not as yet migrated; and probably a few spawners). Then at the close of the season wild rainbows are again available. Some of the yearlings will have reached legal size, and there is a movement of adults up from Burt Lake, usually commencing in late August. Present regulations make provision for this because the Sturgeon River is open to fishing for rainbows through the month of November.

Concerning natural reproduction in the stream, I believe most of the fish are produced above Wolverine, either in the West Branch or in the main stream. My observations during the summer of 1948 showed young of the year, both brown trout and rainbow trout, to be very numerous in the main stream above Wolverine. Below Wolverine, either they were far fewer, or else could not be so readily observed. The dam at Wolverine is not a barrier, particularly to downstream migration. Also we have records from tagged fish which have moved up over the dam.

The brown trout is apparently increasing in numbers in the Sturgeon. Assuming this to be true, it is a good thing for most browns will remain in the river throughout their life cycle, and consequently furnish more dependable fishing than do the rainbows.

Burt Lake probably acts as a reservoir for the Sturgeon River, and if the late summer upstream migration could be enlarged, much benefit would result. Lake run rainbows taken in the Sturgeon in late summer and early fall are beautifully conditioned fish, and superior to freshly planted hatchery fish, and also better conditioned than rainbows caught early in the season. Consequently it has been recommended that 5,000 adult (7 inch to 10 inch) fin-clipped rainbows be planted in Burt Lake each year for 5 years, the initial plant to be made in 1949. It is hoped that these fish will make some contribution to the fishing in the river. During the late summer and early fall of 1948 several marked rainbows were caught in the Sturgeon River. There is no way of being certain whether these fish came from planting of fingerlings and adults made in the lake proper in the spring of 1948 by the Federal Government, or whether they were fish that had moved downstream after having been planted in the river. However, their appearance was typical of lake grown rainbows, and in my opinion they originated from the planting made in the lake early in the spring.

It has also been suggested that a later opening date, such as May 15 might benefit the late summer and early fall fishing. Rainbows starting their third summer of life would be protected until all or nearly all had migrated downstream to the lake. These then would contribute to the upstream migration in the late summer and early fall, after one or more growing seasons in Burt Lake.

Thus we are presented with two alternatives for increasing the upstream migration in late summer and early fall; first, by plantings of legal sized fish in Burt Lake, or secondly, by increased protection for downstream migrants, which would later make a contribution to the upstream run. Probably the two programs should be tested separately. Local fishermen should be encouraged to report marked fish caught in

the Sturgeon since the adults being planted in Burt Lake are to be marked. It is quite possible that the capacity of Burt Lake to rear rainbow trout is quite limited. Certainly, the planted rainbows will have to face extensive competition with walleyes, northern pike, and larger trout. Consequently, returns might be so low as to make planting more or less futile. In that case, it seems probable that further protection for the downstream migrants would be in order, for the wild river reared fish would perhaps be a little more self sufficient.

Additional scale samples should be secured from the Sturgeon River rainbows of all size ranges, so that the validity of the observations in this report can be checked; that is, that most of the wild rainbows move down into Burt Lake in the early spring of their third summer, and that most of the available native rainbows in mid-season are yearlings of sub-legal size. Scale samples should also be secured from mature fish from Burt Lake proper. If the conclusions in this report are true, scales from Burt Lake rainbows should show evidence of stream growth.

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