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REPORT ON INTENSIVE TROUT STREAM
CREEL CENSUSES IN THE UPPER PENINSULA IN 1937

by

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During the past few months, correspondence with the U. S. Forest Service office at Escanaba, Michigan, disclosed the fact that a small amount of intensive creel census work had been done on two streams within National Forest boundaries during the 1937 trout season. The Forest Service at our request furnished us with the records collected in order that the results might be analyzed and compared with those from similar censuses in the Lower Peninsula.

The two streams under intensive creel census were the East Branch of the Tahquamenon River (censused only from April 24 - May 30) in T. 46 N., R. 6 W., Sec. 20 and 21 for a distance of approximately two miles, and Eighteen Mile Creek in Delta County (censused for the entire season) in T. 42 N., R. 19 W., Sec. 21 for a distance of approximately 1.4 miles.

East Branch of the Tahquamenon River

During the period April 24-May 30, 1937, a total of 50 fishermen (49 males, 1 female) fished this stream for 137 hours. Thirty (3) of them, or 60 per cent, caught no fish. Sixty-six (66) legal brook trout

were taken for a catch per hour of 0.48 brook trout. Undersized fish taken were almost the same (64) in number. (See Table 1).

The average size of the legal brook trout taken was 9.5 inches; the average weight was found to be 6.9 ounces. (See Table 1).

The number of fishermen taking 0 to 15 trout are shown in Table 2. Of fishermen catching fish, the greatest percentage (18) took one fish, 8 per cent took two fish, 4 per cent took four fish, and 2 per cent captured five, six, seven, eight and fifteen fish. There were no catches reported of three or nine to fourteen fish.

As might be expected during the first month of the trout season, most of the anglers were Michigan residents (96 per cent). One angler from Tennessee and one from Virginia were recorded.

Of the Michigan anglers, 43 (or 86 per cent of the total) were from Chippewa (37) and Luce (6) counties, while the Lower Peninsula was represented by one fisherman from Bay County, and two each from Mason and Oceana counties.

Eighteen Mile Creek

The summarized results of the 1937 trout season on a 1.4 mile stretch of Eighteen Mile Creek are to be found in Table 3, assembled by two-week intervals.

A total of 99 anglers used this censused portion of the stream for 378.25 hours and caught 227 legal brook trout and 131 undersized fish. Forty-eight (48) anglers (48 per cent) caught no fish. The catch per hour for the entire season was 0.60 brook trout--reasonably good fishing compared with other streams.

The average size of the legal brook trout varied from 7.1 inches during July 3-16 to 10.3 inches in the opening two weeks. The average

for the entire season was 8.7 inches. The average weight for all brook trout taken was 6.3 ounces.

The number and percentage of fishermen taking from 0 to 15 trout is presented in Table 4. In this stream a larger percentage of anglers were able to take from one to four fish than has been usually observed. Anglers catching from five to eleven fish were also more numerous especially in the category taking eleven fish (5 per cent of the total). Also, one per cent of the anglers took fourteen and fifteen fish respectively.

The anglers using this stream were predominantly (94 per cent) from Michigan. Out-of-state fishermen were as follows: Illinois (2), Indiana, Ohio, and Wisconsin (1 each).

The resident anglers were distributed as follows:

<u>Upper Peninsula (78)</u>	<u>Lower Peninsula (16)</u>
Delta - 75	Kent - 11
Marquette - 1	Lenawee - 1
Schoolcraft - 2	Montcalm - 1
	Oakland - 1
	Washtenaw - 1
	Wayne - 1

Although the Lower Peninsula anglers are seen to be distinctly in the minority on these two Upper Peninsula trout streams, they outnumber the Upper Peninsula fishermen many times who have been recorded south of the Straits on the trout streams of the Lower Peninsula. In the past three seasons (1937, 1938 and 1939), it has been exceptional to find an Upper Peninsula angler on a Lower Peninsula trout stream.

Yield to anglers in terms of pounds of trout per mile of stream

Unfortunately the U. S. Forest Service could not furnish the water acreage under census, so these streams will be compared on the basis of pounds per mile of stream.

During the first five weeks of the 1937 trout season, a total of 28.5 pounds of trout were removed from a two-mile stretch of the East Branch of the Tahquamenon or a yield of $14\frac{1}{4}$ pounds of trout per mile of stream for the first five weeks of the 1937 trout season. The quality of the fishing in terms of pounds of trout removed per hour of fishing was 0.21 pounds. This figure is more than twice as great as was found for the combined results of the 1939 Hunt Creek Creel Census (Report 555, Table 6, p. 15). This figure (0.21 pounds of fish per hour of angling) is probably higher than the entire season's results would have shown, as this represents only the first five weeks of the trout season when presumably the fishing was at the best.

On Eighteen Mile Creek, a total of 88.8 pounds of trout were taken by the anglers, or a yield of 63.5 pounds per mile of stream. The quality of the fishing in terms of pounds of fish per hour of angling was 0.17 pounds, or approximately twice as great as for all sections of Hunt Creek in 1939.

Comparison with 1937 creel censuses on the Lower Peninsula

For purposes of comparison, general data from the intensive creel censuses of 1937 on six Lower Peninsula streams, as well as the data for the two Upper Peninsula trout streams, are presented in Table 5. From this table it can be seen that the fishing was much lighter on the two streams of the Upper Peninsula.

The percentage of fishermen taking no fish was of much the same magnitude in both localities. The catch per hour on the East Branch of the Tahquamenon was approximately the same (0.48) as the Pigeon, North Branch of the Au Sable, and Canada Creek, but higher than the Little Manistee and South Branch of the Pine (Alcona). The catch per hour in the Pine River (Lake) was greater (0.77).

The catch per hour on Eighteen Mile Creek was higher (0.60) than any stream in the Lower Peninsula except the Pine River (0.77). The quality of the fishing on Eighteen Mile Creek as measured by the catch per hour, was undoubtedly the best of any of the streams censused in 1937. The Pine River (Lake County) probably should be excluded from these comparisons because of the extremely heavy plantings of legal trout made during the season in 1937; also it is known that not all fishermen, particularly those catching no fish, were properly recorded in the Pine River census.

The average time spent in fishing was about the same in both the Upper and Lower Peninsula. The average size of the trout taken was about one inch greater in the Upper Peninsula if the Pine River data are excluded from consideration. However, data from a full season on the East Branch of the Tahquamenon might have brought this average size of the brook trout considerably lower.

If the number of anglers per mile of stream censused (Table 6) is compared, it is again obvious that the angling pressure was much lighter on the two streams of the Upper Peninsula. Also, even if the Pine River data is excluded (for reasons given above), the number of trout taken per mile of stream censused was greater in all but two of the Lower Peninsula streams.

From a general standpoint it is possible to tentatively conclude that any superiority to be offered by Upper Peninsula trout fishing is probably due to the much lighter angling pressure in that general area.

TABLE 1. INTENSIVE CREEL CENSUS, EAST BRANCH OF TAHQUAMENON RIVER,

APRIL 24-MAY 30, 1937

Name of stream	Number of fishermen			Number taking no fish		Total hours fished	Total number legal fish caught	Catch per hour	Catch per fisherman	Average size	Average weight	No. of under-sized fish caught	Ave. No. of hours per day
	Male	Female	Total	No.	%								
East Branch Tahquamenon	49	1	50	30	60	137.00	66 *	0.48	1.3	9.5	6.9 oz.	64 *	2.7

* All trout taken brook trout.

TABLE 2. NUMBER OF FISHERMEN TAKING 0 TO 15 TROUT FROM
 THE EAST BRANCH OF THE TAHQUAMENON RIVER, APRIL 24-MAY 30, 1937

Name of stream	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
East Branch Tahquamenon	30	9	4		2	1	1	1	1							1
Percentage	60	18	8		4	2	2	2	2							2

TABLE 3. INTENSIVE CREEL CENSUS, 1937 TROUT SEASON,
EIGHTEEN MILE CREEK, DELTA COUNTY (UPPER PENINSULA)

Date	Number of fishermen			Taking no fish		Total No. of hours fished	Total No. of legal fish caught *	Catch per fisher- men	Catch per hour	Average size	Average weight**	No. of under-sized fish caught	Average No. of hours per fisher- man day
	♂	♀	Total	No.	%								
Apr. 24-May 7	11	...	11	8	73	35.50	6	0.5	0.2	10.3	5.3	0	3.2
May 8-21	22	1	23	15	65	84.25	48	2.1	0.6	9.4	7.1	17	3.7
May 22-June 4	23	...	23	10	43	82.25	45	2.0	0.5	9.8	7.0	25	3.6
June 5-18	4	...	4	3	75	7.00	11	2.8	1.6	8.0	3.3	12	1.8
June 19-July 2	6	...	6	...	...	37.25	46	7.7	1.2	8.4	8.2	7	6.2
July 3-16	6	...	6	3	50	20.25	6	1.0	0.3	7.1	3.7	5	3.4
July 17-30	11	1	12	4	33	42.75	28	2.3	0.7	7.2	4.1	46	3.6
July 31-Aug. 13	2	...	2	1	50	6.50	2	1.0	0.3	9.5	4.0	3	3.3
Aug. 14-27	7	...	7	4	57	38.50	16	2.3	0.4	7.8	4.6	16	5.5
Aug. 28-Sept. 6	5	...	5	...	...	24.00	19	3.8	0.8	8.3	5.3	...	4.8
Total and average	97	2	99	48	48	378.25	227	2.3	0.6	8.7	6.3	131	3.8

* All fish were brook trout.

** Weight in ounces.

TABLE 4. NUMBER AND PERCENTAGE OF FISHERMEN TAKING
FROM 0 TO 15 TROUT FROM EIGHTEEN MILE CREEK, 1937

TROUT SEASON

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Apr. 24-May 7	8	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...
May 8-21	15	3	1	...	...	...	...	...	1	...	1	1	...	...	1	...
May 22-June 4	10	4	2	2	2	1	...	1	...	...	...	1	...	...	...	...
June 5-13	3	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
June 19-July 2	...	...	...	1	2	...	...	...	...	1	...	1	...	...	...	1
July 3-16	3	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...
July 17-30	4	...	3	1	1	3	...	...	...	...	...	...	...	...	...	...
July 31-Aug. 13	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Aug. 14-27	4	1	...	...	1	...	...	...	...	...	...	1	...	...	...	...
Aug. 28-Sept. 6	0	...	1	2	1	...	...	1	...	...	...	...	...	...	...	...
Total	48	10	10	8	7	4	...	2	1	1	1	5	...	...	1	1
Percentage	48	10	10	8	7	4	...	2	1	1	1	5	...	...	1	1

TABLE 5. COMPARISON OF CREEL CENSUS DATA FROM
TWO UPPER PENINSULA TROUT STREAMS AND SIX LOWER
PENINSULA TROUT STREAMS FOR THE 1937 TROUT SEASON

Stream	Total fisher- men	Percentage taking no fish	Total hours fished	Number of legal fish caught	Catch per hour	Catch per fisherman	Number of undersized fish returned	Hours per fisherman day	Average size of trout in inches
East Branch Tahquamenon ¹ / ₂	50	60	137.00	66	0.48	1.3	64	2.7	9.5
Eighteen Mile Creek	99	48	378.25	227	0.60	2.3	131	3.8	8.7
Pine River (Lake)	2,010	31	8,459.50	6,576	0.77	3.3	1,550	4.2	9.3
Pigeon River	1,153	50	3,962.50	1,912	0.46	1.7	2,649	3.5	8.4
North Branch Au Sable	1,904	53	6,654.50	3,143	0.47	1.7	958	3.5	8.4
Little Manistee	659	53	2,583.75	1,036	0.40	1.6	1,048	3.9	8.6
South Branch Pine (Alcona)	728	73	...	517	0.20	0.7	561	3.0	7.8
Canada Creek	455	49	1,393.25	673	0.48	1.5	1,221	3.1	8.5

¹/₂ April 24-May 30, 1937, all others for entire trout season.

TABLE 6. NUMBER OF FISHERMEN AND NUMBER OF LEGAL TROUT TAKEN
 PER MILE OF STREAM CENSUSED, 1937 INTENSIVE TROUT STREAM CREEL
 CENSUS

Stream	Approximate mileage censused	Total fishermen	Total legal trout taken	Fishermen per mile	Legal trout taken per mile
East Branch Tahquamenon ¹	2.0	50	66	25	33
Eighteen Mile Creek	1.4	99	227	71	162
Pine River	8.0	2,010	6,576	251	822
Pigeon River	12.0	1,153	1,912	96	159
North Branch Au Sable	4.6	1,904	3,143	413	683
Little Manistee	3.6	659	1,036	183	288
South Branch Pine	2.3	728	517	316	225
Canada Creek	5.0	455	673	91	135

¹ Censused April 24-May 30 only.