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February 28, 1948

Report No. 1156

THE RESULTS OF THE AU SABLE VOLUNTEER CREEL CENSUS,
1947 TROUT SEASON

by

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Records of trout fishing results in the Au Sable River drainage were kept for the third consecutive year by 20 volunteers who tallied the time spent by themselves, and their guests or clients, and the trout catches made in various portions of the drainage during the 1947 season. The data were kept on mimeographed sheets distributed to individuals, guides, cabin owners and fishing clubs who mailed in the records at the end of each month or at the close of the season.

The data were collected from that part of the Au Sable drainage lying above and including the South Branch of the Au Sable, and the stream area from which the records were taken is similar to that covered by the volunteer census of the preceding two years. For this (Table 1) area, a total of 2,379 angling days were reported, of which 545 or 22.9 percent were days on which no legal trout were captured. During this time a total of 9,265.5 hours of angling were recorded, or between 40 and 50 percent less time than was listed in 1946 (over 21,000 hours). The total catch listed amounted to 7,974 trout, or 0.96 trout

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Table 1.--Au Sable Volunteer Creel Census, 1948, for all streams, all months and all fishing. (Under species totals, numbers in parentheses indicate percentage of total catch made up by that type and species).

| Stream and month | Number of anglers (and number taking no fish) | Total hours of fishing | Number of marked trout caught | | | Number of unmarked trout caught | | | Total trout caught | Catch per hour |
|------------------------|---|------------------------|-------------------------------|-------------------|------------------|---------------------------------|--------|---------|---------------------|----------------|
| | | | brook | brown | rainbow | brook | brown | rainbow | | |
| Main Stream | | | | | | | | | | |
| April | 105(18) | 521.0 | 1 | 50 ³ | 15 ¹ | 65 | 127 | 35 | 293 ¹ | 0.56 |
| May | 257(36) | 977.0 | 3 | 182 ⁵ | 42 ¹ | 110 | 823 | 112 | 1,272 ⁸ | 1.30 |
| June | 219(22) | 637.5 | 20 | 101 ⁷ | 25 ¹ | 76 | 450 | 90 | 762 ⁸ | 1.19 |
| July | 186(21) | 502.0 | 13 | 112 ¹ | 41 | 89 | 291 | 100 | 646 ¹ | 1.29 |
| Aug. | 58(10) | 237.5 | 9 | 36 | 31 | 55 | 116 | 26 | 273 | 1.15 |
| Sept. | 13(1) | 27.5 | ... | 3 | 1 | 5 | 9 | 3 | 21 | 0.76 |
| Totals, averages | 838(108) | 2,902.5 | 46 | 484 ¹⁶ | 155 ⁶ | 400 | 1,816 | 366 | 3,267 ²² | 1.13 |
| | | | (1.3) | (14.9) | (4.8) | (12.2) | (55.6) | (11.2) | (100.0) | |
| North Branch | | | | | | | | | | |
| April | 143(59) | 652.5 | 67 | 51 | 7 | 55 | 55 | 2 | 237 | 0.36 |
| May | 293(88) | 1,246.0 | 134 ¹ | 129 | ... | 261 | 200 | 32 | 756 ¹ | 0.61 |
| June | 500(176) | 2,030.0 | 225 ³ | 33 ¹ | 78 | 220 | 476 | 190 | 1,222 ⁴ | 0.60 |
| July | 195(33) | 810.5 | 393 | 20 | 7 | 325 | 318 | 3 | 1,066 | 1.32 |
| Aug. | 254(61) | 1,077.5 | 123 | ... | 3 | 299 | 265 | ... | 690 | 0.64 |
| Sept. | 7(1) | 33.0 | 8 | ... | ... | 9 | 5 | ... | 22 | 0.67 |
| Totals, averages | 1,392(418) | 5,849.5 | 950 ⁴ | 233 ¹ | 95 | 1,169 | 1,319 | 227 | 3,993 | 0.68 |
| | | | (23.8) | (5.8) | (2.4) | (29.3) | (33.0) | (5.7) | (100.0) | |
| South Branch | | | | | | | | | | |
| May | 4(0) | 14.0 | ... | 3 | ... | 8 | 15 | ... | 26 | 1.86 |
| June | 53(7) | 146.0 | ... | 81 ⁸ | 3 ¹ | 46 | 159 | 14 | 303 ¹¹ | 2.08 |
| July | 19(5) | 52.0 | ... | 23 | ... | 7 | 35 | 1 | 66 | 1.27 |
| Aug. | 6(1) | 19.0 | 4 | 1 | 5 | 5 | 7 | 1 | 23 | 1.21 |
| Totals, averages | 82(13) | 231.0 | 4 | 108 ⁸ | 8 ¹ | 66 | 216 | 16 | 418 ¹¹ | 1.81 |
| | | | (1.0) | (25.8) | (1.9) | (15.8) | (51.7) | (3.8) | (100.0) | |
| East Branch | | | | | | | | | | |
| April | 5(0) | 11.0 | 51 | ... | ... | ... | ... | ... | 51 | 4.64 |
| May | 1(0) | 2.0 | ... | ... | ... | 1 | 1 | 2 | 4 | 2.00 |
| June | 10(0) | 22.0 | 30 | 1 ¹ | ... | 2 | ... | ... | 33 ¹ | 1.50 |
| July | 2(1) | 5.0 | 3 | ... | ... | 1 | ... | ... | 4 | 0.80 |
| Aug. | 6(1) | 10.0 | 4 | 7 | 5 | 2 | 1 | 1 | 20 | 2.00 |
| Totals, averages | 24(2) | 50.0 | 88 | 8 ¹ | 5 | 6 | 2 | 3 | 112 ¹ | 2.24 |
| | | | (78.5) | (7.1) | (4.5) | (5.4) | (1.8) | (2.7) | (100.0) | |
| Big Creek | | | | | | | | | | |
| May | 4(0) | 16.0 | 2 | ... | ... | 8 | 13 | ... | 23 | 1.44 |
| July | 39(2) | 216.5 | 24 | 5 | 2 | 49 | 52 | 29 | 161 | 0.74 |
| Totals, averages | 43(2) | 232.50 | 26 | 5 | 2 | 57 | 65 | 29 | 184 | 0.78 |
| | | | (14.1) | (2.7) | (1.1) | (31.0) | (35.3) | (15.8) | (100.0) | |
| All Streams | | | | | | | | | | |
| April | 253(77) | 1,184.5 | 119 | 101 ³ | 22 ¹ | 120 | 182 | 37 | 581 ⁴ | 0.49 |
| May | 559(124) | 2,255.0 | 139 ¹ | 314 ⁵ | 42 ¹ | 388 | 1,052 | 146 | 2,081 ¹⁰ | 0.93 |
| June | 782(205) | 2,835.5 | 275 ³ | 216 ¹⁷ | 106 ¹ | 344 | 1,085 | 294 | 2,320 ²⁴ | 0.82 |
| July | 441(62) | 1,586.0 | 433 | 160 ¹ | 50 | 471 | 696 | 133 | 1,943 ¹ | 1.23 |
| Aug. | 324(75) | 1,344.0 | 140 | 44 | 44 | 361 | 389 | 28 | 1,006 | 0.75 |
| Sept. | 20(2) | 60.5 | 8 | 3 | 1 | 14 | 14 | 3 | 43 | 0.71 |
| Grand totals, averages | 2,379(545) | 9,265.5 | 1,114 ⁴ | 838 ²⁶ | 265 ¹ | 1,698 | 3,418 | 641 | 7,974 ³⁹ | 0.96 |
| | | | (14.0) | (10.5) | (3.3) | (21.3) | (42.9) | (8.0) | (100.0) | |

1/ etc. - Numbers indicate the number of 1946-marked hatchery trout included in totals.

per hour of angling. This quality index figure is higher than that noted in 1946 (0.88 legal trout per hour), but slightly less than the catch per hour reported in 1945 (1.08 legal trout per hour).

Marked hatchery trout made up 27.8 percent of the reported catch for the entire stream system as compared with 27.7 percent of the total catch recorded in the 1946 census.

The 7,974 trout were divided among the species and types as follows:

| | |
|-----------------|-------------------------------------|
| brook trout - | 1,114 hatchery fish (14.0 percent); |
| | 1,698 wild fish (21.3 percent); |
| brown trout - | 838 hatchery fish (10.5 percent); |
| | 3,418 wild fish (42.9 percent); |
| rainbow trout - | 265 hatchery fish (3.3 percent); |
| | 641 wild fish (8.0 percent). |

Hatchery fish were distinguished from wild fish by either the missing dorsal fin (1947 plantings), or the missing right pectoral fin (1946 plantings) which were clipped before release of hatchery trout in the streams.

A small "carry-over" from the 1946 plantings was reported. Of the 1,114 hatchery brook trout, four fish were from the 1946 release; among the 838 hatchery brown trout listed 26 fish came from the 1946 planting; nine of the 265 hatchery rainbow trout caught were planted in 1946. The remainder of the hatchery fish in each instance was comprised of dorsal-clipped, 1947-planted trout.

During 1947 a total of 40,456 trout was released in the Au Sable drainage in the general area covered by the Volunteer creel census. This total was made up of 20,400 brook trout, 14,956 brown trout and 5,100 rainbow trout, or an approximate ratio of 4 brook trout to 3 brown trout to 1 rainbow trout. The approximate ratio of the species in the reported catch of hatchery trout was the same as in the planting, i.e., 1 rainbow trout to 3 brown trout to 4 brook trout, while the approximate ratio of wild fish in the catch was 1 rainbow trout to 6 brown trout to 3 brook trout.

For the data from all streams combined, it appears that in 1947 April fishing was the least productive (0.49 legal trout per hour). Fishing was better in May, rising to 0.93 legal trout per hour, but fell back slightly in June to 0.82 trout per hour. The best fishing came during July when 1.23 legal trout per hour were taken. Quality declined sharply during August to 0.75 trout per hour, and even lower for Labor Day when 0.71 fish per hour was the quality index. The most fishing (782 angling days, 2,835.5 hours) was listed for June, also the most trout (2,320).

As in past years, the quality of the fishing differed noticeably on the various parts of the Au Sable system, although some of this difference probably results from too few reports from certain waters. On the Main Stream 3,267 trout were recorded as the result of 2,902.5 hours of fishing on 838 days of angling, with a quality index of 1.13 legal trout per hour. The percentage of the catch made up of hatchery fish was as follows:

brook trout - 46, or 1.3 percent;

brown trout - 484, or 14.9 percent;

rainbow trout -155, or 4.8 percent.

The wild brook, brown and rainbow trout comprised 12.2 percent, 55.6 percent and 11.2 percent respectively of the total recorded catch. Combined together hatchery trout made up 21.0 percent of the total catch, wild trout 79.0 percent.

On the North Branch of the Au Sable on 1,392 days of angling 5,849.5 hours were spent to catch 3,993 trout at the rate of 0.68 legal

trout per hour. The various species of hatchery trout in the catch were as follows:

brook trout - 950, or 23.8 percent;
brown trout - 233, or 5.8 percent;
rainbow trout - 95, or 2.4 percent.

The wild trout in the catch were:

brook trout - 1,169, or 29.3 percent;
brown trout - 1,319, or 33.0 percent;
rainbow trout - 227, or 5.7 percent.

Of the entire catch of the North Branch, 1,278 or 32.0 percent, consisted of hatchery trout, while 68.0 percent of the total catch was wild fish.

Records listed for the South Branch of the Au Sable show that on 82 angling days in which 231.0 hours were expended, a total catch of 418 trout resulted, or 1.81 legal trout per hour of fishing. This catch was divided as follows:

brook trout - hatchery fish - 4, or 1.0 percent,
wild fish - 66, or 15.8 percent;
brown trout - hatchery fish - 108, or 25.8 percent,
wild fish - 216 or 51.7 percent;
rainbow trout - hatchery fish - 8, or 1.9 percent,
wild fish - 16, or 3.8 percent

Of the entire catch, hatchery fish constituted 42.6 percent of the total; wild fish, 57.4 percent.

On the East Branch of the Au Sable, 24 angling days were tallied, and in this time a total of 50.0 hours of fishing produced 112 trout, or a catch per hour of 2.24 legal trout. The total catch was made up of 88 hatchery brook trout (78.5 percent), 8 hatchery brown trout (7.1 percent),

5 hatchery rainbow trout (4.5 percent), 6 wild brook trout (5.4 percent), 2 wild brown trout (1.8 percent), and 3 wild rainbow trout (2.7 percent). On this stream hatchery trout constituted 91.1 percent of the total catch. It is doubtful if there were enough records from the East Branch to be representative of fishing on that stream. The same may also be true for the records from Big Creek although more reports are available in this case.

From Big Creek and its branches in Crawford County, 184 legal trout were removed in 232.50 hours of fishing on 43 angling days for a catch per hour of 0.78 legal trout. Hatchery fish made up the following proportion of the catch: brook trout, 14.1 percent; brown trout, 2.7 percent; rainbow trout, 1.1 percent; all hatchery fish, 17.9 percent. Brook, brown and rainbow trout of wild origin made up the following percentages of the Big Creek catches: 31.0 percent, 35.5 percent and 15.8 percent respectively; all wild fish, 82.1 percent.

As mentioned earlier the proportion of marked hatchery fish in the total recorded catch of the Au Sable drainage for 1947 was 27.8 percent (in 1946 hatchery fish made up 27.7 percent of the total catch). Marked hatchery brook trout made up 14.0 percent; marked hatchery brown trout, 10.5 percent; and marked hatchery rainbow trout, 3.3 percent. Wild unmarked fish constituted 72.2 percent of the total catch as follows:

wild brook trout - 21.3 percent;

wild brown trout - 42.9 percent;

wild rainbow trout - 8.0 percent.

Stated in a different manner, 39.6 percent of the brook trout catch in 1947 was composed of hatchery trout, and 19.7 percent of the brown trout catch, and 29.2 percent of the rainbow trout catch. In 1946, the

three species of hatchery reared fish made up 42.7, 19.5, and 28.5 percent of the total catch of the three species respectively. Apparently there was little change as the percentages in the two years were quite similar, despite a wide variation for the total catch recorded (18,771 in 1946, 7,974 in 1947).

There has been some indication through personal interviews and a small amount of correspondence that there is a somewhat higher percentage of "carry-over" from one season to another than is to be inferred from the 39 right-pectoral marked, 1946 planted trout reported. It appears that the "carry-over" is best among the brown trout, particularly in the deeper, heavier waters to be found above the Mio Pond and the Alcona Pond, and possibly in these waters the "carry over" of brown trout may be higher than has been found to be the rule elsewhere. Of 26 brown trout caught during 1947 by B. B. Spencer, hydro operator at the Alcona Dam, 10 were wild fish, 11 were dorsal-marked fish of the 1947 plantings and 5 were right-pectoral marked brown trout which had survived from the 1946 releases. A more detailed investigation of the over-winter survival has been started, utilizing groups of 1,000 tagged brown trout which will be released at different times of the year to determine what planting season will yield the most fish to the angler in this heavier water.

Records of night fishing (Table 2) again were listed so the results of the after-dark angling could be separated. There were 375 reports of night fishing recorded on the various streams during which time a total of 866.0 hours were expended. Night fishermen caught 584 legal trout, divided as follows:

| | |
|--------------------------|-----------------------|
| 106 hatchery brook trout | 100 wild brook trout |
| 45 hatchery brown trout | 293 wild brown trout |
| 9 hatchery rainbow trout | 31 wild rainbow trout |

Table 2.--Night fishing results, 1948 trout season, Au Sable Volunteer Creel Census.
(Under species totals, numbers in parentheses indicate percentage of total catch made up by that type and species).

| Stream and month | Number of anglers (and number taking no fish) | Total hours of night fishing | Number of marked trout caught | | | Number of unmarked trout caught | | | Total trout caught | Catch per hour |
|------------------------|---|------------------------------|-------------------------------|--------------|-------------|---------------------------------|---------------|--------------|--------------------|----------------|
| | | | brook | brown | rainbow | brook | brown | rainbow | | |
| Main Stream | | | | | | | | | | |
| May | 1(0) | 1.5 | ... | ... | ... | ... | 1 | ... | 1 | 0.67 |
| June | 53(7) | 108.5 | 4 | 22 | 2 | 10 | 62 | 12 | 112 | 1.01 |
| July | 40(5) | 91.5 | ... | 11 | ... | 8 | 57 | 12 | 88 | 0.96 |
| Aug. | 10(6) | 34.0 | 6 | 5 | 3 | 12 | 13 | 4 | 43 | 1.26 |
| Totals, averages | 104(18) | 235.5 | 10 (4.1) | 38 (15.6) | 5 (2.0) | 30 (12.3) | 133 (54.5) | 28 (11.5) | 244 (100.0) | 1.04 |
| North Branch | | | | | | | | | | |
| May | 3(0) | 7.5 | 6 | ... | ... | ... | 5 | ... | 11 | 1.47 |
| June | 58(7) | 289.0 | 56 | ... | 1 | 33 | 79 | ... | 169 | 0.58 |
| July | 49(23) | 176.0 | 34 | ... | 1 | 36 | 31 | 1 | 103 | 0.58 |
| Aug. | 34(14) | 106.0 | ... | ... | ... | ... | 20 | ... | 20 | 0.19 |
| Totals, averages | 144(44) | 578.5 | 96 (31.7) | ... | 2 (0.7) | 69 (22.8) | 135 (44.5) | 1 (0.3) | 303 (100.0) | 0.52 |
| South Branch | | | | | | | | | | |
| June | 10(5) | 11.0 | ... | 3 | ... | 1 | 8 | ... | 12 | 1.09 |
| July | 15(5) | 37.0 | ... | 3 | ... | ... | 17 | 1 | 21 | 0.57 |
| Totals, averages | 25(10) | 48.0 | ... | 6 (18.2) | ... | 1 (3.0) | 25 (75.8) | 1 (3.0) | 33 (100.0) | 0.67 |
| East Branch | | | | | | | | | | |
| August | 2(1) | 4.0 | ... | 1 (25.0) | 2 (50.0) | ... | ... | 1 (25.0) | 4 (100.0) | 1.00 |
| All streams | | | | | | | | | | |
| May | 4(0) | 9.0 | 6 | ... | ... | ... | 6 | ... | 12 | 1.33 |
| June | 121(19) | 408.5 | 60 | 25 | 3 | 44 | 149 | 12 | 293 | 0.72 |
| July | 104(33) | 304.5 | 34 | 14 | 1 | 44 | 105 | 14 | 212 | 0.70 |
| Aug. | 46(21) | 144.0 | 6 | 6 | 5 | 12 | 33 | 5 | 67 | 0.47 |
| Grand totals, averages | 375(73) | 866.0 | 106 (18.2) | 45 (7.7) | 9 (1.5) | 100 (17.1) | 293 (50.2) | 31 (5.3) | 584 (100.0) | 0.67 |

Apparently there was little night fishing done during May (9.0 hours, 12 trout). The most night fishing was done in June (408.5 hours), followed by July (304.5 hours) and August (144.0 hours). Similarly the largest catches after dark were recorded in that order (June, 293; July, 212; August, 67). About 5/8 of the night fishing recorded was on the North Branch, about 1/4 on the Main Stream and the remainder from the South and East Branches.

According to the Volunteer's records, after-dark angling was best on the Main Stream, where 235.5 hours of fishing yielded 244 trout (40 brook trout, 171 brown trout and 33 rainbow trout) for a catch per hour of 1.04 legal fish per hour. On the East Branch, 4.0 hours of fishing yielded 2 brown trout and 2 rainbow trout, for 1.00 fish per hour at night. Night fishermen on the South Branch fished 48.0 hours and caught 33 trout for a catch per hour of 0.67 legal trout. Night fishermen on the North Branch fished 578.5 hours after dark and captured 303 legal trout, a removal rate of 0.52 legal fish per hour. The catch was divided among the species as follows: brook trout, 165; brown trout, 135; rainbow trout, 3.

Combining all records for night fishing, it can be shown that 27.4 percent of the total catch consisted of marked hatchery trout, almost the same as for daylight fishing.

During the 1947 season, night fishermen made up 15.7 percent of the anglers and the night fishing hours constituted 9.3 percent of the total fishing. The catch of 1947 night fishermen was 7.3 percent of the total catch (584/7,974). A smaller proportion of night fishermen were unsuccessful (19.4 percent) than was noted for the total fishing recorded (22.9 percent). The data listed for night fishing by the Au Sable

anglers for 1947 is similar in its trend to that obtained in previous years. Although night fishing has constituted from 3.5 to 15.7 percent of the total angling pressure recorded, the catch of night fishermen has never amounted to more than 7.3 percent of the total recorded catch.

The following individuals kept records on the Au Sable drainage during the past season, and the author wishes to extend his thanks for their time and trouble in this cooperation: Arnold Hubbell, Earl Madsen, J. Glen Day, Rainbow Club, Franklin Hills, Dan Babbit, Geo. Griffiths, M. Burtch (Camp Ginger Quill), W. T. Miller (Big Creek Lodge), R. Milnes, Jr., P. G. Lantz, Norval Stephan, Geo. Bielski, Jr., Ed Caid, A. J. Scott, Robt. Steckling, Joseph Hirschfield, J. G. O'Brien, K. E. Harris (Lakewood Ohio, 1635 Cordova Ave.), W. E. Myers. It is to be hoped that this group and their angling acquaintances will continue to keep such records, as these tabulations of the Au Sable fishing provide the least expensive means of keeping informed concerning the angling trends for both the Fish Division and the anglers.

During 1948 it is planned to extend the scope of the volunteer census to that part of the Au Sable drainage in the vicinity of Mio. Cooperation in furnishing reports has been promised by various members of the Mio Sportsmen's Club.

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