

INSTITUTE FOR FISHERIES RESEARCH

DIVISION OF FISHERIES
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COOPERATING WITH THE
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CATCH RECORDS CAN HELP ALL OF US

Here is a project for sportsmen's clubs which
will produce important information for the
members and for the Fish Division

by

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How was the fishing on your favorite trout stream last summer?
Did you generally bring home a few for the frying pan, or did your
time and effort result in too many empty creels?

Put these questions to a dozen anglers on any of our major trout
streams and the chances are that you will get almost as many different
answers, varying from "excellent fishing" to "no fish in our streams
any more." The thinking trout fisherman realizes that many factors
enter into the capture of a mess of trout, such as individual skill,
weather, season, previous angling pressure on the stream, and the
recency of hatchery plantings. Therefore to obtain a reasonably true
picture of the angling quality one needs catch records from all types
of anglers covering the entire trout season. An average catch per hour
figure determined from such data provides a more accurate guide to
angling quality than the statements of a small number of individuals.

(Handwritten initials)

Since the number of fish caught per hour, or the number caught per angler reflects the general angling quality of the streams, such data are needed by the Fish Division if the trout streams are to be managed to provide as good or better fishing than we now have.

Just how such a project works is exemplified by the voluntary creel census of the Main Au Sable River and its tributaries conducted for the past three years through cooperative effort between the Grayling Sportsmen's Club and the Fish Division. At the close of the 1944 trout season a number of complaints were received that the angling quality in the Au Sable drainage was slipping badly; almost as many letters praising the fishing also were received. In addition, there was considerable controversy on the effect of night fishing.

Ideally, an intensive creel census of the whole river system would have been desirable, but the cost of such a census wherein every angler using the various streams is contacted would be financially prohibitive when the number of private cabins and the numerous bridges and fishing sites is taken into consideration. These same factors rule out an intensive creel census on many short sections of the drainage, in addition to the difficulty of choosing a sample area representative of the whole river system.

The best solution appeared to lie in the collection of numerous angling records from as many parts of the drainage as possible throughout the entire trout season. Although it is realized that the entire fishing effort and the total catch is never reported, enough records are obtained to give a reasonably good cross section of the angling quality and the species composition of the trout catch each year. The

idea and the mechanics of collecting the data were explained to the club in March, 1945 by District Fisheries Supervisor H. L. Peterson and the writer, and this group agreed to back the plan and to interest as many of their members in the work as possible.

A simple form on which to record fishing results was prepared. Angling records for a single stream for a single month are kept on one sheet to simplify final tabulations. The sheets are set up so that the angling results of several anglers for one day may be listed. The first line includes the number of anglers, the number catching no fish, the total hours of fishing, and the number of marked and unmarked brook, brown and rainbow trout captured. Night fishing is indicated by a circle around the records of anglers fishing after dark. Blank record sheets were distributed by the Club to all interested guides, resort operators, cabin owners and anglers who fished the Au Sable River and its tributaries and they tallied their personal angling results and that of their clients or guests each day. At the end of every month the completed records were mailed to a central point, and tabulated at the end of the trout season. A copy of each season's report has been provided for all who took part in the recording in the various years. ¹✓

In Table 1 will be found a brief summary of the census results on the Au Sable drainage (the Main Stream and its tributaries upstream from and including the South Branch) during 1945, 1946, and 1947. In the three years from 15 to 54 different individuals have kept angling records.

¹✓ Much of the success of the census was due to the interest and activity of Mr. Franklin Hills of Grayling. District Biologist Leonard Allison and District Fisheries Supervisor Hans Peterson also aided materially in distributing record forms and in contacting anglers.

Table 1

Angling results on the upper Au Sable River drainage as determined
from Volunteer Creel Census records reported for the 1945, 1946 and 1947 seasons.

Year (and number of volunteers)	Total days of fishing recorded	Number of angling days unsuccessful (percentage)	Total hours of fishing	Legal trout caught ¹			Total catch	Catch per hour	Catch per angling day	% of total catch made up by hatch- ery fish
				Brook	Brown	Rainbow				
1947 (20)	2,379	545 (22.9)	9,265.50	2,812 (1,114)	4,256 (838)	906 (265)	7,974 (2,217)	0.96	3.3	27.8
1946 (54)	4,564	970 (21.0)	21,314.75	6,289 (1,240)	9,750 (2,626)	2,732 (1,287)	18,771 (5,153)	0.88	4.1	27.7
1945 (15)	1,644	226 (13.7)	7,208.25	3,353	4,004	452	7,809	1.08	4.7	...

¹
✓ - Numbers in parentheses are the numbers of marked hatchery reared trout reported for the various species. Hatchery fish were distinguishable in 1946 by the missing right pectoral fin; in 1947 by the missing adipose fin.

The total days of fishing in the three years have ranged between 1,644 and 4,564 days and between 7,208.25 and 21,314.75 hours of angling fairly well distributed throughout the season. The total catch reported has ranged between 7,809 trout and 18,771 trout. Angling quality has stayed close to one trout per hour of angling, varying between a catch per hour of 1.08 trout in 1945 and 0.88 trout in 1946.

During 1946 and 1947 all hatchery-reared fish released in the Au Sable drainage were given distinctive marks before planting by clipping a different fin each year (the right pectoral fin in 1946, the dorsal fin in 1947). Au Sable anglers listed the marked trout in their catches separately, and from these data it appears that between 27 and 28 percent of the total catch on the upper part of the drainage consists of hatchery-reared trout of legal size released during the current year.

The results of night fishing, which is followed chiefly by anglers interested in fooling and fighting the better than average size brown trout which inhabit most of the drainage, are shown in Table 2. Inspection of the night fishing records and comparison with the total records of all angling indicate that in none of the three years did the percentage of night fishermen exceed 16 percent of the total anglers, and their catch has never exceeded 7.3 percent of the total recorded catch in any year. The catch per hour for night fishing ranged between 0.67 (1947) and 0.72 (1946) fish, somewhat less than the average quality noted for all fishing. The percentage of hatchery fish in the creels of after-dark anglers was approximately the same as for all angling in 1947, slightly less in 1946. The general conclusion, on the basis of the volunteer data, is that the night fishermen are not taking more than

Table 2

Summary of night-fishing trends on the upper Au Sable drainage as determined from Volunteer Creel Census records reported for the 1945, 1946 and 1947 trout seasons.

Year	Total nights of night fishing	Unsuccessful nights (percentage)	Total hours of night fishing	Legal trout caught ^{1/}			Total catch	Catch per hour	Catch per night of angling	% of total catch made up by hatchery fish
				brook	brown	rainbow				
1947	375	73 (19.5)	866.00	206 (106)	338 (93)	40 (9)	584 (160)	0.67	1.6	27.5
1946	412	77 (18.7)	1,507.75	132 (15)	747 (147)	205 (84)	1,084 (246)	0.72	2.6	22.5
1945	60	16 (26.1)	224.00	2	154	2	158	0.71	2.6	...

^{1/} - Numbers in parentheses are the numbers of marked hatchery trout reported for the various species.

their share of the fish, although it is highly probable that their catches are of a larger average size.

The foregoing records obtained by voluntary creel census have provided the Fish Division with information of a general nature concerning angling quality, percentage of hatchery fish in the angler's catch, and the relative amount and the success of night fishing on the Au Sable drainage. Previous to 1945 only hearsay evidence was available concerning the angling quality and its trends on this important trout stream.

From the data available it appears that the catch per hour, at least for those whose records are listed, is relatively good, as it ranges between 0.88 and 1.08 legal trout per hour of angling. (The state average for trout waters from the general census conducted by conservation officers has ranged from 0.8 to 0.9 trout per hour of angling in these years). The total catch in 1946 and 1947 consisted of approximately 72 percent wild fish and 28 hatchery fish. Concerning night fishing, there was no evidence of a disproportionate catch by the after-dark anglers in any year.

Similar volunteer census records were kept during the 1947 trout season by the Indian River Sportsmen's Club listing the angling success of the club members on the Sturgeon River, Black and Pigeon Rivers (Cheboygan County). While space does not permit presentation of their results, it is of interest to note ^{that} their records showed considerable difference in the percentage of hatchery fish entering the anglers' catches on the three streams -- a fact worth knowing for the hatchery supervisor in his management plans.

Another organization which has given assistance to the Fish Division during the ^{past} two years in the matter of trout catch records has been the

Marquette Rod and Gun Club. They have furnished data on the angling success on the Dead River Storage Basin particularly in relation to the "carry over" of fall plantings of marked legal brown trout.

These three instances are good examples of ^a simple, continuous, active project which could be undertaken by any sportsmen's club, large or small, for one or more local streams. The expense to the club would be nil. The main contribution consists of about five minutes time from the individual angler at the end of each fishing day to record his hours and his catch, and those of his fishing companions. An adequate series of records from the same waters over a period of several years would be of value to both the Fish Division and to the local anglers. If the results show consistently poor fishing, action on the part of the biologists and administrators could be taken in the form of stream improvement, adjustment of the stocking policy, or change in fishing regulations.

All sportsmen who take part in such a project can feel that they are helping to place trout stream management on a sound basis of facts and figures. Although the amount of data submitted by each individual may be small in itself, when combined with that of numerous other anglers, the totals have significance. So, to all of you trout fishermen, tight lines, and keep a record of your fishing in the future. The figures you accumulate will be of interest and value to both yourself and to the Department of Conservation.

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