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THE GENERAL CREEL CENSUS OF FISHING, 1947

by

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History and Method of the General Creel Census

Since 1927, the Michigan Department of Conservation has been keeping a record of the sport fishing within the state. This has been a pioneer effort. Although a general annual inventory of the game-fish yield would seem to be a self-evident need, it was Michigan's privilege to initiate this policy, which has later been adopted in varying degrees by other states.

To Harold Titus, long a member of the Conservation Commission, belongs the credit for appreciating the need of this inventory, and for having it established. Various individuals within the Department of Conservation and the University of Michigan have contributed suggestions, but we owe the creel census essentially to Mr. Titus.

One method of obtaining fishing records would have been to use a stub attached to the fishing license as a creel census form which the fisherman would have been required to send in. This is the method which is now being used to obtain kill records from hunters of small game and deer. But, for fish, the Department started out on a different system--that of asking the Conservation Officers to keep creel records. This method has certain advantages in connection with the long fishing season and the comparatively

high number of fish which an angler may take. If fishermen were asked to make out a report at the end of the year, unusual catches would most certainly be recorded in disproportionate numbers, because the report usually would be made from memory and the big catches would be most often recalled.

The conservation officers, in their normal rounds, each year contact thousands of fishermen incidental to enforcement of the fishing laws. The number of reports to be submitted by an individual officer, as well as the localities from which records are taken, are left to his discretion. Each officer, on the average, gets records on about 200 to 500 anglers per year. These records tend to be somewhat concentrated during seasons of heavy fishing, but each officer usually obtains widespread coverage of the various waters in his county.

Fishermen are interviewed by the officer and are asked to report their catch for the day up to the time they are approached. The officer records on general creel forms (see Figure 1) the number of each kind of fish taken, the hours spent on the lake or stream, and the angler's county of residence (or state if he is a non-resident). These reports are sent to the offices of the Institute for Fisheries Research where the records are transferred to punch cards for machine sorting and tabulating. The fishing records are divided into three major groups which represent trout waters, non-trout waters, and Great Lakes waters. Each in turn has been subdivided into lakes and streams. Experience has shown that this division of the data gives the best available indication of the fishing quality and, to some degree, fishing intensity in the six types of water administered by the state.

For 1947, the 21st year of the general creel census in Michigan, the numbers of fishermen interviewed on the different types of waters were as

follows: (1) Trout waters, 7,781 anglers (21.6 percent of all anglers contacted) of whom 686 fished on designated trout lakes and the remaining 7,095 fished on streams; (2) Non-trout waters, 25,285 fishermen (70.2 percent) of whom 20,669 fished on lakes and 4,616 fished on streams; (3) Great Lakes waters, 2,953 anglers (8.2 percent) of whom 2,675 fished on the Great Lakes and the other 278 fished on the connecting waters.

The total number of anglers interviewed by the officers was 36,019, of which 3,496 (9.7 percent) were non-residents. Female anglers (5,020) constituted 13.9 percent.

Records for the various types of waters have been tabulated according to Conservation Department districts (See Figure 2).

The greatest percentage of records for trout fishing was taken in District 1, where 78.8 percent of the 982 anglers fished in trout waters. Districts 4 and 3 followed with 56.7 percent of 1,168 anglers and 39.6 percent of 2,736 fishermen, respectively. The nine districts which make up Regions 1 and 2 furnished 95.6 percent of all the trout fishing recorded. Also, the trout fishing in these regions constituted 29.9 percent of all the fishing. Trout anglers in Region 3 contributed the remaining 4.4 percent of all trout fishing records, and these anglers constituted only 3.1 percent of all fishing recorded in this area.

District 11 had the greatest percentage of non-trout fishing records, with 100 percent, based on 2,223 fishermen. District 10 followed with 93.9 percent of 5,026 records, and then District 9 with 85.2 percent of 3,488 fishermen.

Of the 12 districts, only one, District 11, does not border one of the Great Lakes or their connecting waters. Of the remaining 11 districts

only Districts 8 and 10 failed to submit records on Great Lakes sport fishing. Except in sheltered bays and in island areas sport fishing is not widely practiced in Great Lakes waters. Also some of the officers may not spend so much time in checking the fishing there, since residents are not required to have a fishing license to fish the Great Lakes.

District 12 furnished the highest percentage of fishing on Great Lakes waters, with 41.5 percent of 3,882 fishermen. District 3 followed with 34.7 percent of 2,736 anglers, and District 4, with 16.0 percent of 1,168 fishermen-days.

Quality of Fishing--All Waters

The catch per unit of fishing effort is used to indicate the fishing quality. The usual catch per unit of effort is stated in terms of the number of fish caught per hour of fishing. This varies considerably with the type of angling as well as with the skill of the angler. Districts 9 and 12 had catches of 2.8 and 2.5 fish per hour, respectively. In District 9 the high figure was due to the huge number of yellow perch taken in non-trout streams in Arenac County near Saginaw Bay. The high quality of fishing in District 12 was due mainly to 12,103 yellow perch caught in 1,929 hours of fishing in Saginaw Bay off Huron County. Region 3 furnished a catch of 1.8 fish per hour, the best in the state, whereas Regions 2 and 1 produced 1.5 and 0.8 fish per hour, respectively.

Number of Trout Taken--Trout Waters

Brook trout, as in past years, made up the bulk (72.6 percent) of the total trout catch. Rainbow trout (14.8 percent) and brown trout (12.6 percent)

made up the remainder. Of the 11,081 brook trout recorded by conservation officers, 5,559 or 50.2 percent were reported in Region 1. The greatest percentage of all rainbow and brown trout was taken in Region 2 (80.6 percent and 84.3 percent, respectively). Of the 15,271 trout reported, 97.6 percent were taken in Regions 1 and 2.

Catch per Hour--Trout Waters

Trout anglers were recorded in all the districts except in District 11. Trout fishermen, 21.6 percent of all anglers contacted, had the same degree of success (0.8 fish per hour) in 1947 as they had in 1944, 1945, and 1946. As indicated by the catch per hour, trout fishing in streams and lakes combined was best in District 4. Separate consideration of trout lakes and trout streams revealed that the 0.8 fish per hour record in trout streams was slightly better than the catch (0.7) in trout lakes. District 6 produced the best stream fishing, followed closely by District 3.

Kinds of Fish--Non-Trout Waters

During 1947 the officers saw 23 different species of fish in the non-trout angler's creel. As in 1946, the yellow perch led in total catch, in contrast to 1945 and earlier years when the bluegill was in the lead. Perch have taken the lead during the past two years as a result of the huge numbers of yellow perch taken in Arenac County from non-trout streams emptying into Saginaw Bay. The other important species recorded in decreasing order of abundance were: bluegill, black crappie, smelt, carp, pike, pumpkinseed sunfish, rock bass, largemouth black bass, bullhead,

yellow pikeperch, smallmouth black bass, and sucker. The above 13 species comprised 99.1 percent of the total non-trout catch, and the remaining 15 species constituted 0.9 percent.

In the two regions of the Lower Peninsula the catch of the bluegill and yellow perch together made up more than half of the total. For the entire state these two species constituted 70.8 percent of the total catch from non-trout waters. The other species which make up more than 10 percent of the total catch in any one region were the northern pike, which made up 29.9 percent in Region 1, and the smelt, which constituted 10.5 percent in Region 2.

Catch per Hour--Non-Trout Waters

The highest catch per hour for non-trout waters was recorded in District 9, with 3.2 fish per hour. Districts 8, 10, 6, 12, 5, and 11 had catches of better than 1.0 fish per hour. According to catch per unit of effort, lake fishing was best in District 8, where the anglers caught 1.8 fish per hour, followed by Districts 10, 6, and 12 with 1.7, 1.5, and 1.3 fish per hour, respectively. For non-trout streams District 9 yielded the highest catch per hour (4.2 fish per hour) followed by Districts 5, 12, and 10 with 2.5, 1.8, and 1.7 fish per hour respectively.

Composition of Catch--Great Lakes Waters

Of the 23,322 fish recorded from the Great Lakes waters, the yellow perch constituted the bulk of the total catch--82.5 percent. The following six species made up 93.5 percent of the total catch: yellow perch, yellow pikeperch, pike, herring, smallmouth black bass, and rock bass. The remaining 1.5 percent was made up of ten species.

Catch per Hour--Great Lakes Waters

The highest catch per unit of effort on Great Lakes waters was reported from District 6 (8.2 fish per hour). In four of the districts the anglers experienced a catch of 4.0 fish per hour or better and the average for all Great Lakes waters was 2.7 fish per hour.

Residence of Anglers--All Waters

Residents from all counties in the state were represented in the census. More than 1,000 anglers were reported from four counties as follows: Wayne--3,479 (9.7 percent); Kent--1,670 (4.6 percent); Genesee--1,533 (4.3 percent); and Delta--1,025 (2.8 percent).

In addition to the resident anglers the conservation officers interviewed fishermen from 22 states in the Union, the District of Columbia, and the Province of Ontario. The four states bordering Michigan furnished 96.0 percent of all the non-resident anglers. Fishermen from Ohio made up 37.7 percent, from Indiana, 34.0 percent, from Illinois, 19.3 percent, and from Wisconsin, 5.0 percent.

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Table 1. Total number of fishermen, total hours fished, total number of legal-sized fish taken, and catch per hour, for each Conservation

Department District and Region, all waters, 1947

	Number of male anglers	Number of female anglers	Total number of anglers	Total hours fished	Number of legal-sized fish caught	Catch per hour
District 1	932	90	982	2,691.5	1,566	0.58
District 2	1,572	97	1,669	5,480.5	2,842	0.52
District 3	2,468	268	2,737	7,907.0	6,757	0.85
District 4	1,013	155	1,168	3,429.1	3,492	1.02
Region 1	5,985	570	6,555	19,508.1	14,657	0.75
District 5	4,085	774	4,859	12,502.2	14,019	1.12
District 6	2,734	481	3,215	8,524.0	12,870	1.51
District 7	3,009	662	3,671	9,742.9	6,411	0.66
District 8	2,640	460	3,100	7,881.2	12,374	1.57
District 9	3,037	451	3,488	8,485.8	23,644	2.79
Region 2	15,505	2,828	18,333	47,136.1	69,318	1.47
District 10	4,262	764	5,026	14,005.2	22,487	1.60
District 11	1,863	360	2,223	5,721.1	5,913	1.03
District 12	3,384	498	3,882	9,409.6	23,358	2.48
Region 3	9,509	1,622	11,131	29,135.9	51,698	1.77
District total	30,999	5,020	36,019	95,780.1	135,673	1.42

Table 2. Number of trout taken--all trout waters, by regions

Region	Brook trout	Brown trout	Rainbow trout	All trout
1	5,559	264	336	6,159
2	5,288	1,550	1,911	8,749
3	234	109	20	363
Total	11,081	1,923	2,267	15,271

Table 3. Number of the 13 species most often caught

--all non-trout waters, by regions

Species	Region 1	Region 2	Region 3	Total
Yellow perch	1,472	32,490	4,485	38,447
Bluegill	170	7,831	21,019	29,020
Black crappie	237	3,837	2,501	6,575
Smelt	...	6,049	...	6,049
Carp	...	7	3,397	3,404
Pike	1,195	1,417	307	2,879
Pumpkinseed sunfish	16	1,015	1,311	2,342
Rock bass	173	1,287	551	2,011
Largemouth black bass	73	603	459	1,135
Bullhead	14	791	232	1,037
Yellow pikeperch	372	497	28	897
Smallmouth black bass	98	464	202	764
Sucker	34	595	60	689
Total	3,814	56,883	34,552	95,249

Table 4. Catch per hour for all waters, trout waters, non-trout waters, and Great Lakes waters, as indicated by the general creel census since 1928

Year	All waters	Trout waters	Non-trout waters	Great Lakes waters
1928	1.09	1.17	1.05	...
1929	0.96	1.17	0.88	...
1930	0.88	0.93	0.85	...
1931	0.91	0.97	0.88	...
1932	1.26	1.10	1.32	...
1933	0.97	0.68	1.28	...
1934	1.73	0.79	1.80	...
1935	1.58	0.80	1.85	...
1936	1.40	0.79	1.66	...
1937	1.46	0.76	1.68	...
1938	1.29	0.91	1.41	...
1939	1.06	0.83	1.12	...
1940	0.99	0.78	1.04	...
1941	1.00	0.77	1.06	...
1942	1.14	0.89	1.11	1.67
1943	1.16	0.90	1.17	1.60
1944	1.16	0.79	1.13	1.81
1945	1.12	0.83	1.05	2.16
1946	1.31	0.80	1.37	1.56
1947	1.42	0.79	1.44	2.72
Simple average	1.19	0.87	1.26	1.92

CREEL CENSUS—Michigan Department of Conservation

Check, If Trout Stream ----- If Non Trout Stream ----- If Lake ----- Date ----- 19

Name of Lake or Stream ----- County -----

Number fisherman in party:		Total hours fished by party (See instructions)	NUMBER OF TAGGED OR FIN-CLIPPED TROUT IN CATCH			TOTAL NUMBER AND SPECIES CAUGHT												T. ----- R. -----	
Male	Female		Brook	Brown	Rainbow	Brook Trout	Brown Trout	Rainbow Trout	Largemouth Bass	Bluegills	Smallmouth Bass	Sunfish	Yellow Perch	Rock Bass	Walleye	Crappies	Northern Pike	SEC. -----	
																		Residence: -----	
																		County	State



ISLE ROYALE
TO KEWEENAW COUNTY
LAKE SUPERIOR

MICHIGAN
DEPARTMENT OF CONSERVATION
FIELD ADMINISTRATION DIVISION

SCALE OF MILES
0 5 10 15 20 25 30

REGIONAL AND DISTRICT MAP



- LEGEND**
- 🏠 REGIONAL HEADQUARTERS
 - 🏠 DISTRICT HEADQUARTERS
 - 🏠 DISTRICT SUB-HEADQUARTERS
 - 🏠 AUXILIARY EQUIPMENT BUILDING
 - 🏠 FOREST FIRE EXPERIMENT STATION
 - 🏠 CENTRAL REPAIR SHOP