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INSTITUTE FOR FISHERIES RESEARCH  
DIVISION OF FISHERIES  
MICHIGAN DEPARTMENT OF CONSERVATION  
COOPERATING WITH THE  
UNIVERSITY OF MICHIGAN

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ANN ARBOR, MICHIGAN

Report No. 1253

REPORT OF THE GENERAL CREEL CENSUS FOR 1949

By K. G. Fukano

Abstract

This report includes the data for the twenty-third year of the general creel census in Michigan. Conservation officers obtained these catch records as a part of their duties. The number of anglers interviewed on the different types of waters were as follows: (1) Trout waters--12,451 anglers or 18.2 percent; (2) non-trout waters--52,265 fishermen or 76.5 percent; and (3) Great Lakes waters--3,649 anglers or 5.3 percent. Of the 68,365 anglers contacted 6,720 fishermen or 9.8 percent were non-residents and 11,303 or 16.5 percent were female anglers.

In trout waters brook trout continued to make up the bulk (68.3 percent) of the total catch. The three species of trout constituted 92.8 percent of all fish caught in trout waters. The catch per hour for all trout waters was 0.72 fish per hour which is a slight drop from the 1948 catch of 0.80 fish per hour.

The officers saw 29 different kinds of fish in the non-trout anglers' creel. Bluegill was the species caught in greatest numbers. Bluegill and yellow perch combined made up 72.0 percent of the total non-trout catch. For the entire state the catch per hour from non-trout waters was 1.28 fish.

The yellow perch made up the bulk of the catch from Great Lakes waters. Anglers fishing the Great Lakes and connecting waters experienced a catch of 3.06 fish per hour.

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REPORT OF THE GENERAL CREEL CENSUS FOR 1949

By K. G. Fukano

This report includes the data for the twenty-third year of the General Creel Census in Michigan. Conservation officers, as in past years, recorded the data on general census forms (see sample) as a part of their regular duties and usually incidental to patrol activities. The fine cooperation by the Division of Field Administration and the Game Division is greatly appreciated and the writer wishes especially to express his thanks to the conservation officers who collected the records and the Game Division for the use of sorting and tabulating machines.

The aim of the general creel census is to obtain a sample of the sport fishing in all parts of the state. Fishing records have been divided into three major groups: trout, non-trout, and Great Lakes waters and each in turn has been subdivided into lakes and streams. It is believed 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. The number of anglers interviewed on the different types of waters were as follows: (1) trout waters, 12,451 anglers (18.2 percent of all anglers contacted) of whom 911 fished on designated trout lakes and the remaining 11,540 fished on streams; (2) non-trout waters, 52,265 fishermen (76.5 percent) of whom 43,229 fished on lakes and 9,036 fished on streams;

(3) Great Lakes waters, 3,649 anglers (5.3 percent) of whom 2,711 fished in the Great Lakes and the other 938 fished in the connecting waters.

During 1949 the officers interviewed 68,365 anglers of whom 6,720 fishermen (9.8 percent of all anglers contacted) were non-residents; female anglers constituted 16.5 percent (11,303) of all those interviewed.

According to the March 31, 1950 tabulation of fishing licenses sold in 1949, of a total of 1,095,719 licenses 280,142 were non-resident (25.6 percent). Of these 153,679 (14.0 percent of all fishing licenses sold) were temporary non-resident fishing licenses. The difference in percentage of non-residents interviewed in the general creel census and non-resident licenses sold may be due in part to the probability that conservation officer is less likely to interview ten-day license holders because their fishing season is so short; also non-residents cannot fish through the ice in six southern Michigan counties from January 1 to the opening of the trout season. Based on the percentage of trout fishermen contacted (18.2 percent) and the total number of licenses sold (1,095,719) it may be estimated that approximately 199,000 anglers did some trout fishing in 1949. However, only 179,946 trout stamps were sold; this number constitutes 16.4 percent of the total fishing licenses sold. The discrepancy may be due in part to more law enforcement problems on trout waters; therefore, the officers spent more time on trout waters than the others and secured more records of this type of fishing. Also wives of resident, licensed trout fishermen do not need to purchase trout stamps nor do minors under 17.

Intensive stream and lake census records such as secured at the Hunt Creek and Pigeon River Experiment Stations, the Rifle River Area, and experimental lakes with liberalized fishing regulations have not been included in this report.

The term "fisherman-day" denotes the time which the angler had spent fishing that day prior to being interviewed by the conservation officer. The number of anglers or fishermen as used in this report should be understood to mean the number of fisherman-days, and not separate individuals. Only legal-size fish caught by sport anglers have been considered.

#### Detailed Analysis

During 1949 conservation officers interviewed 68,365 anglers, an increase of 1,038 (1.5 percent) over the records (67,327) collected in 1948. The 1949 records represent 168,100.6 hours of fishing, an increase of 7,591.2 hours (4.7 percent) over the (160,509.4) for the previous year. The number of fish caught in 1949 was 216,392, an increase of 32,678 fish (17.8 percent) above the previous year (183,714 fish). The catch per hour for all fishing was 1.3 fish in 1949 as compared to 1.1 fish per hour in 1948.

No records of fishing were submitted in 1949 from three counties, Eaton, Ingham, and Lenawee, which have only non-trout lakes and non-trout streams within their boundaries. A lack of fishing records from these counties and other counties from which there are only a few records tend to prejudice the statewide sample of fishing. In 1949 the goal of four hundred records per county was achieved by officers in 60 counties. The number of records submitted by counties are given in Table 2.

In this report the various types of waters are separated into Conservation Districts which were formerly called Field Administration Districts (see map). Data from Alger County (which lies in two Conservation Districts) have also been separated.

#### Fishing in Trout, Non-Trout, and Great Lakes Waters by Conservation Districts

The data for 1949 on the number and percentage of anglers using the various waters are given in Table 3.

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 fishermen 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.....	SEC.....	Residence:	
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	County	State	

Table 1

Total number of fishermen, total hours fished, total number of fish taken, and catch per hour for each conservation district and region, all waters, 1949

	Number of male anglers	Number of female anglers	Total anglers	Total hours fished	Number fish caught	Catch per hour
District 1	1,910	241	2,151	6,191.0	4,653	0.75
District 2	2,610	255	2,865	8,571.5	6,219	0.73
District 3	2,365	309	2,674	7,167.6	6,610	0.92
District 4	1,580	199	1,779	5,102.8	7,417	1.45
Region 1	8,465	1,004	9,469	27,032.9	24,899	0.92
District 5	7,079	1,531	8,610	21,342.4	14,838	0.70
District 6	3,530	695	4,225	9,712.2	12,098	1.25
District 7	7,555	1,782	9,337	22,857.2	18,172	0.80
District 8	5,872	1,145	7,017	16,208.9	22,374	1.38
District 9	3,784	1,109	4,893	10,244.3	19,097	1.86
Region 2	27,820	6,262	34,082	80,365.0	86,579	1.08
District 10	8,680	1,719	10,399	24,850.8	43,903	1.77
District 11	5,020	971	5,991	14,021.4	19,657	1.40
District 12	7,077	1,347	8,424	21,830.5	41,354	1.89
Region 3	20,777	4,037	24,814	60,702.7	104,914	1.73
State total	57,062	11,303	68,365	168,100.6	216,392	1.29

Table 2

Number of anglers interviewed by conservation officers during 1949, and 1948 by counties

County	Number of anglers in 1949	Number of anglers in 1948	County	Number of anglers in 1949	Number of anglers in 1948
Alcona	1,647	1,584	Lake	1,688	1,915
Alger	746	1,122	Lapeer	2,269	1,797
Allegan	1,024	750	Leelanau	193	301
Alpena	2,083	1,398	Lenawee	...	1,388
Antrim	305	569	Livingston	2,329	1,347
Arenac	540	676	Luce	513	169
Baraga	146	395	Mackinac	373	313
Barry	1,159	352	Macomb	262	376
Bay	758	940	Manistee	842	1,111
Benzie	224	504	Marquette	1,478	1,786
Berrien	167	211	Mason	703	770
Branch	474	387	Mecosta	657	833
Calhoun	521	129	Menominee	297	693
Cass	339	1,566	Midland	1,359	1,051
Charlevoix	550	655	Missaukee	1,168	1,035
Cheboygan	1,443	2,338	Monroe	204	85
Chippewa	315	605	Montcalm	1,394	452
Clare	825	1,248	Montmorency	1,717	1,749
Clinton	462	463	Muskegon	1,035	1,303
Crawford	1,027	1,341	Newaygo	1,155	1,896
Delta	584	757	Oakland	995	191
Dickinson	676	622	Oceana	940	767
Eaton	...	...	Ogemaw	921	965
Emmet	470	633	Ontonagon	131	633
Genesee	462	53	Osceola	839	1,018
Gladwin	1,350	1,753	Oscoda	1,240	1,202
Gogebic	1,413	948	Otsego	1,314	686
Grand Traverse	651	678	Ottawa	980	472
Graiot	229	276	Presque Isle	728	721
Hillsdale	103	225	Roscommon	2,478	3,294
Houghton	421	445	Saginaw	81	58
Huron	379	377	St. Clair	721	250
Ingham	...	87	St. Joseph	2,243	1,480
Ionia	149	141	Sanilac	1,695	413
Iosco	2,024	1,194	Schoolcraft	444	669
Iron	1,892	2,708	Shiawassee	437	452
Isabella	61	896	Tuscola	431	269
Jackson	527	297	Van Buren	729	810
Kalamazoo	198	203	Washtenaw	828	260
Kalkaska	747	1,014	Wayne	1,006	579
Kent	2,017	813	Wexford	400	349
Keweenaw	40	66			
				68,365	67,327

Table 3

Number and percentage of fishermen interviewed on trout, non-trout, and Great Lakes waters by conservation districts and regions, 1949

District or region	Trout waters		Non-trout waters		Great Lakes waters		Total anglers
	Number anglers	Percentage of anglers	Number anglers	Percentage of anglers	Number anglers	Percentage of anglers	
District 1	1,321	61.41	814	37.84	16	0.74	2,151
District 2	935	32.64	1,925	67.19	5	0.17	2,865
District 3	1,346	50.34	839	31.38	489	18.29	2,674
District 4	782	43.96	941	52.89	56	3.15	1,779
Region 1	4,384	46.30	4,519	47.72	566	5.98	9,469
District 5	1,726	20.05	6,844	79.49	40	0.46	8,610
District 6	1,526	36.12	2,678	63.38	21	0.50	4,225
District 7	2,314	24.78	6,960	74.54	63	0.67	9,337
District 8	1,050	14.96	5,967	85.04	...	...	7,017
District 9	512	10.46	4,097	83.73	284	5.80	4,893
Region 2	7,128	20.91	26,546	77.89	408	1.20	34,082
District 10	576	5.54	9,736	93.62	87	0.84	10,399
District 11	120	2.00	5,871	98.00	...	...	5,991
District 12	243	2.88	5,593	66.39	2,588	30.72	8,424
Region 3	939	3.78	21,200	85.44	2,675	10.78	24,814
State total	12,451	18.21	52,265	76.45	3,649	5.34	68,365

The greatest percentage of records for trout fishing in any district was taken in District 1 where 61.41 percent of the 2,151 anglers were contacted while fishing in trout waters. Districts 3 and 4 followed with 50.34 percent based on 2,674 angling-days and 43.96 percent based on 1,779 anglers respectively. The nine districts which make up Regions 1 and 2 furnished 92.46 percent of all the trout fishing. Also, the trout fishing in these two regions constituted 26.43 percent of all the fishing in that area. Trout anglers in Region 3 contributed the remaining 7.54 percent of all trout fishing records and these made up only 3.78 of all fishing recorded in this area.

District 11 had 98.00 percent non-trout reports based on 5,991 fisherman-days. District 10 followed with 93.62 percent based on 10,399 records and then District 8 with 85.04 percent based on 7,017 fisherman-days.

Of the twelve districts only one, District 11, does not border one of the Great Lakes or their connecting waters. Ten of the remaining eleven districts submitted some records on Great Lakes sport fishing; only District 8 failed to do so. Officers obtained relatively few records from Great Lakes sport fishing which is restricted somewhat to sheltered bays, island areas, and certain docking areas. District 12 furnished the highest percentage with 30.72 percent based on 8,424 fisherman-days. District 3 followed with 18.29 percent based on 2,674 anglers and District 9, with 5.80 percent based on 4,893 fisherman-days.

Number of Trout Caught in Trout Waters by Conservation Districts and Regions

As in the past brook trout made up the bulk of the total trout catch (68.27 percent). Rainbow trout (17.78 percent) and brown trout (13.95 percent) made up the remainder of the trout catch. There appears to be little correlation between these figures and the percentages of legal-sized trout of each species stocked during 1949 (brook trout, 27.2 percent, rainbow, 39.1 percent, and brown trout, 33.7 percent). The number and percentage of each of the three main



species of trout are given in Table 4. These figures indicate an increase in the percentage of brook trout (67.48 percent for 1948) and a decrease in the percentage of rainbow and brown trout (17.83 percent and 14.69 percent for 1948 respectively).

Table 4

Number and percentage of total trout catch made up by each of the three species of trout--all trout waters, by conservation districts and regions, 1949

District or region	Total brook		Total brown		Total rainbow		Total trout
	Number	Percentage	Number	Percentage	Number	Percentage	
District 1	1,731	77.52	170	7.61	332	14.87	2,233
District 2	1,839	91.36	113	5.61	61	3.03	2,013
District 3	2,450	83.59	107	3.65	374	12.76	2,931
District 4	1,696	79.96	117	5.52	308	14.52	2,121
Region 1	7,716	82.99	507	5.45	1,075	11.56	9,298
District 5	1,920	71.11	302	11.19	478	17.70	2,700
District 6	2,092	57.58	324	8.92	1,217	33.50	3,633
District 7	1,965	59.01	853	25.62	512	15.37	3,330
District 8	863	46.12	690	36.88	318	17.00	1,871
District 9	202	35.19	233	40.59	139	24.22	574
Region 2	7,042	58.16	2,402	19.84	2,664	22.00	12,108
District 10	244	42.07	188	32.41	148	25.52	580
District 11	31	20.81	46	30.87	72	48.32	149
District 12	370	86.45	4	0.93	54	12.62	428
Region 3	645	55.75	238	20.57	274	23.68	1,157
District total	15,403	68.27	3,147	13.95	4,013	17.78	22,563

Of the 15,403 brook trout recorded by officers in the 1949 general creel census 7,716 or 50.09 were reported caught in Region 1. A total of 7,042 brook trout or 45.72 percent was taken in Region 2. The remaining 645 or 4.19 percent were caught in Region 3.

In 1949 a total of 4,013 rainbow trout were recorded caught. Of this total 2,664 or 66.38 percent were taken in Region 2, 1,075 or 26.79 percent in Region 1, and 274 or 6.83 percent in Region 3.

The greatest percentage of brown trout (76.33 percent) were taken in Region 2. Region 1 and 3 followed with 16.11 and 7.56 percent respectively. Of the 22,563 trout reported, 94.87 percent were caught in Region 1 and 2.

Other Species Caught in Trout Waters

The three species of trout constituted 92.80 percent of all fish caught in trout waters. Thirteen other species of fish were reported as taken from trout waters and are listed in order of abundance as follows:

Sucker	958	Pike	46
Bluegill	273	Pumpkinseed sunfish	18
Yellow perch	153	Bullheads	15
Smallmouth black bass	80	Black crappies	10
Rock bass	69	Redhorse	6
Walleye	62	Muskellunge	<u>1</u>
Largemouth black bass	60	Total	1,751

Catch per Hour - Trout Waters  
by Conservation Districts and Regions

Trout anglers were recorded in all of the 12 districts. Trout fishermen, 18.2 percent of all anglers contacted in 1949, did not have as good fishing success (0.7 fish per hour) as they did in 1944, 1945, 1946, 1947, and 1948 when the catch per hour was 0.8 fish. As shown by the catch per hour, trout fishing was best in District 3. Separating trout waters into lakes and streams revealed that the catch per hour in trout streams was slightly better than the fishing quality in trout lakes (see Table 5). The highest catch per hour for both designated trout lakes (1.2 fish) and trout streams (1.0 fish) was recorded in District 3. The vast majority of trout anglers interviewed, 92.7 percent, were fishing in trout streams.

Table 5

General creel census data for trout lakes, trout streams, and all trout waters combined, by conservation districts and regions, 1949

	Trout lakes						Trout streams						All trout waters					
	Number anglers	Hours fished	Total fish caught	Catch per hour	Total trout caught	Trout catch per hour	Number anglers	Hours fished	Total fish caught	Catch per hour	Total trout caught	Trout catch per hour	Number anglers	Hours fished	Total fish caught	Catch per hour	Total trout caught	Trout catch per hour
District 1	...	...	...	...	...	...	1,321	3,674.8	2,365	0.64	2,233	0.61	1,321	3,674.8	2,365	0.64	2,233	0.61
District 2	47	180.0	125	0.69	62	0.34	888	2,194.4	1,959	0.89	1,951	0.89	935	2,374.4	2,084	0.88	2,013	0.85
District 3	317	621.5	748	1.20	741	1.19	1,029	2,430.5	2,428	1.00	2,190	0.90	1,346	3,052.0	3,176	1.04	2,931	0.96
District 4	93	268.8	225	0.84	225	0.84	689	1,960.4	1,978	1.01	1,896	0.97	782	2,229.2	2,203	0.99	2,121	0.95
Region 1	457	1,070.3	1,098	1.03	1,028	0.96	3,927	10,260.1	8,730	0.85	8,270	0.81	4,384	11,330.4	9,828	0.87	9,298	0.82
District 5	264	770.0	356	0.46	174	0.23	1,462	3,820.2	2,649	0.69	2,526	0.66	1,726	4,590.2	3,005	0.65	2,700	0.59
District 6	...	...	...	...	...	...	1,526	3,976.8	3,646	0.92	3,633	0.91	1,526	3,976.8	3,646	0.92	3,633	0.91
District 7	12	31.0	35	1.13	35	1.13	2,302	6,552.1	3,358	0.51	3,295	0.50	2,314	6,583.1	3,393	0.52	3,330	0.51
District 8	10	22.0	21	0.95	21	0.95	1,040	3,187.0	2,618	0.82	1,850	0.58	1,050	3,209.0	2,639	0.82	1,871	0.71
District 9	168	488.0	128	0.26	77	0.16	344	1,101.5	506	0.46	497	0.45	512	1,589.5	634	0.40	574	0.36
Region 2	454	1,311.0	540	0.41	307	0.23	6,674	18,637.6	12,777	0.69	11,801	0.63	7,128	19,948.6	13,317	0.67	12,108	0.61
District 10	...	...	...	...	...	...	576	1,426.0	585	0.41	580	0.41	576	1,426.0	585	0.41	580	0.41
District 11	...	...	...	...	...	...	120	351.0	149	0.42	149	0.42	120	351.0	149	0.42	149	0.42
District 12	...	...	...	...	...	...	243	739.5	435	0.59	428	0.58	243	739.5	435	0.59	428	0.58
Region 3	...	...	...	...	...	...	939	2,516.5	1,169	0.46	1,157	0.46	939	2,516.5	1,169	0.46	1,157	0.46
State total	911	2,381.3	1,638	0.69	1,335	0.56	11,540	31,414.2	22,676	0.72	21,228	0.68	12,451	33,795.5	24,314	0.72	22,563	0.67

Composition of Catch--Non-Trout Waters  
by Conservation Districts and Regions

During 1949 the officers saw 29 different kinds of fish in the non-trout angler's creel. Bluegills were caught in greatest numbers. Other important species recorded were: yellow perch, black crappie, pike, pumpkinseed sunfish, rock bass, largemouth black bass, sucker, walleye, and smallmouth black bass. These ten species comprised 97.38 percent of the total catch from non-trout waters and the remaining 19 species constituted 2.62 percent. The remaining species not listed in Table 6 in order of abundance are as follows:

Smelt	1,396	Warmouth bass	34
Bullheads	1,037	Lake trout	25
Rainbow trout	568	Brown trout	16
Carp	511	Chubs	15
White bass	130	Muskellunge	9
Catfish	117	Gar pike	2
Cisco	91	Blue pikeperch	1
Brook trout	72	Sheepshead	1
Dogfish	53	Sturgeon	<u>1</u>
Redhorse	44	Total	4,123

The three species of stream trout--brook, brown, and rainbow--made up only 0.42 percent of the total catch from non-trout waters.

The ten species most frequently caught in non-trout waters and their percentage abundance in the total catch for each Conservation District are given in Table 6. In each district these fish made up at least 81.6 percent of the total catch. Furthermore, they constituted more than 95 percent in ten of the districts.

Table 6

Percentage catch of the most important species from non-trout waters, by conservation districts, 1949

	Bluegill	Perch	Crappie	Pike	P'seed	Rock bass	L.M. bass	Sucker	Walleye	S.M. bass
District 1	9.63	34.71	19.05	8.01	2.64	2.42	4.00	1.63	13.90	2.20
District 2	10.00	34.65	23.27	19.86	0.49	1.72	1.47	1.13	4.00	2.50
District 3	22.04	33.81	1.50	7.41	1.43	0.39	1.04	0.20	24.38	4.94
District 4	2.86	74.20	0.11	8.39	0.55	3.63	0.17	0.72	4.06	0.52
Region 1	8.80	49.08	11.31	11.95	1.02	2.38	1.40	0.95	8.34	2.02
District 5	18.23	30.73	3.50	20.43	3.30	4.31	1.87	7.67	2.55	2.52
District 6	28.28	32.17	2.85	4.92	2.14	5.80	0.86	0.75	1.58	2.23
District 7	32.73	31.22	2.10	6.45	11.77	8.50	2.03	0.08	1.78	2.45
District 8	52.69	25.08	9.04	2.87	3.66	2.12	1.44	0.89	0.30	1.00
District 9	7.95	52.30	30.33	2.14	0.47	5.13	0.38	0.04	0.07	1.09
Region 2	30.36	33.82	10.28	6.76	4.43	4.89	1.35	1.71	1.11	1.73
District 10	76.90	10.14	6.56	1.42	2.05	0.75	1.45	0.01	0.01	0.16
District 11	65.69	13.64	5.08	2.73	5.83	2.62	1.92	0.19	0.25	0.79
District 12	52.38	15.23	8.07	2.03	5.24	3.44	1.99	5.31	...	0.63
Region 3	69.08	12.06	6.49	1.88	3.66	1.77	1.68	1.13	0.07	0.41
Entire state	47.60	24.38	8.51	4.78	3.78	3.16	1.51	1.37	1.17	1.11

Table 7

Percentage composition of the total catch for non-trout waters (most abundant game and pan fish only)

Species	1941	1942	1943	1944	1945	1946	1947	1948	1949
Bluegill	43.4	37.4	48.3	44.2	48.0	27.2	30.2	44.3	47.6
Yellow perch	24.6	23.8	17.8	21.1	18.4	53.7	40.0	23.1	24.4
Black crappie	5.1	5.8	8.3	5.8	9.2	4.3	6.8	9.3	8.5
Pike	2.8	3.4	3.3	4.6	5.3	2.8	3.0	4.3	4.8
Pumpkinseed sunfish	5.6	5.1	4.4	4.8	3.6	2.4	2.4	4.2	3.8
Rock bass	5.4	4.2	3.2	3.6	2.3	2.1	2.1	4.3	3.2
Largemouth black bass	2.5	2.2	2.5	2.6	2.6	1.0	1.2	2.2	1.5
Walleye	2.6	2.8	3.2	3.6	2.0	1.2	0.9	1.9	1.2
Smallmouth black bass	2.7	2.2	1.7	1.8	1.1	0.7	0.8	1.8	1.1
Total	94.7	86.9	92.7	92.1	92.5	95.4	87.4	95.4	96.1

The composition of the total non-trout catch has been determined by Conservation Regions also. Two methods of comparing the catch in the three regions have been used: (1) The percentage of the total state catch of each species caught tabulated by regions (Table 8), and (2) the percentage of each species in the total catch for each of the three regions (Table 9).

Table 8

Number and percentage of the total catch for the whole state of each of 10 species tabulated by conservation regions--all non-trout waters, 1949

Species	Region 1		Region 2		Region 3		Total fish	Total percentage
	Number	Percentage	Number	Percentage	Number	Percentage		
Bluegill	1,097	1.46	20,594	27.50	53,193	71.03	74,884	99.99
Yellow perch	6,119	15.96	22,939	59.82	9,288	24.22	38,346	100.00
Black crappie	1,410	10.53	6,973	52.10	5,001	37.37	13,384	100.00
Pike	1,490	19.81	4,587	60.98	1,445	19.21	7,522	100.00
Pumpkinseed sunfish	127	2.13	3,005	50.51	2,817	47.35	5,949	99.99
Rock bass	297	5.97	3,317	66.65	1,363	27.39	4,977	100.01
Largemouth black bass	175	7.35	913	38.33	1,294	54.32	2,382	100.00
Sucker	119	5.53	1,159	53.91	872	40.56	2,150	100.00
Walleye	1,040	56.43	750	40.69	53	2.88	1,843	100.00
Smallmouth black bass	252	14.42	1,177	67.33	319	18.25	1,748	100.00
Totals or percentages	12,126	7.92	65,414	42.70	75,645	49.38	153,185	100.00

Table 9

Number and percentage of each species caught in the total catch in each of the three conservation regions--all non-trout waters, 1949

Species	Region 1		Region 2		Region 3	
	Number	Percentage	Number	Percentage	Number	Percentage
Bluegill	1,097	8.80	20,594	30.36	53,193	69.08
Yellow perch	6,119	49.08	22,939	33.82	9,288	12.06
Black crappie	1,410	11.31	6,973	10.28	5,001	6.49
Pike	1,490	11.95	4,587	6.76	1,445	1.88
Pumpkinseed sunfish	127	1.02	3,005	4.43	2,817	3.66
Rock bass	297	2.38	3,317	4.89	1,363	1.77
Largemouth black bass	175	1.40	913	1.35	1,294	1.68
Sucker	119	0.95	1,159	1.71	872	1.13
Walleye	1,040	8.34	750	1.11	53	0.07
Smallmouth black bass	252	2.02	1,177	1.73	319	0.41
Totals or percentages	12,126	97.25	65,414	96.44	75,645	98.23

The bluegill was caught in greater numbers from non-trout waters than any other single species. More than 71 percent of all bluegills reported in the 1949 general creel census were taken in Region 3. The yellow perch was caught most frequently in Region 2 and next in Region 3, and lastly in Region 1. Nearly nine-tenths (98.5 percent) of all bluegills recorded and over eight-tenths (84.0 percent) of all yellow perch recorded in the 1949 general creel census were caught in the Lower Peninsula. Walleye was the species which was reported most often in Region 1. Yellow perch, black crappie, pike, pumpkinseed sunfish, rock bass, sucker, and smallmouth black bass were caught most frequently in Region 2. In Region 3 the bluegill and largemouth black bass were the species which were reported most often in the catch. In 1948 largemouth black bass were taken in greatest numbers in Region 2 and this species was the only one whose dominance in the catch was not followed by a similar dominance in the same region in succeeding years.

In all three regions the combined catch of bluegill and yellow perch constituted more than half of the total catch (57.9 percent in Region 1, 64.2 percent in Region 2, and 81.1 percent in Region 3). For the entire state these two species made up 72.0 percent of the total non-trout catch. Black crappie and pike were the other species which made up more than 10 percent of the total catch of any one region. The black crappie made up 11.3 percent in Region 1 and 10.3 percent in Region 2; pike made up 12.0 percent in Region 1.

Catch per Hour--Non-Trout Waters  
by Conservation Districts and Regions

For non-trout waters the highest catch per hour was recorded in Districts 10 and 9 with 1.8 fish per hour (Table 10). Other districts with catches of better than 1.0 fish per hour were Districts 4, 8, 6, 11, and 12. According to the catch per unit of effort, lake fishing was best in District 10, where the anglers

Table 10

General creel census data for non-trout lakes, non-trout streams, and all non-trout waters combined, by conservation districts and regions, 1949

	Non-trout lakes				Non-trout streams				All non-trout waters			
	Number anglers	Hours fished	Fish caught	Catch per hour	Number anglers	Hours fished	Fish caught	Catch per hour	Number anglers	Hours fished	Fish caught	Catch per hour
District 1	811	2,460.2	2,273	0.92	3	3.0	...	...	814	2,463.2	2,273	0.92
District 2	1,588	5,377.1	3,344	0.62	337	808.0	734	0.91	1,925	6,185.1	4,078	0.66
District 3	669	1,590.9	1,350	0.85	170	413.0	188	0.46	839	2,003.9	1,538	0.77
District 4	863	2,477.1	4,293	1.73	78	173.5	285	1.64	941	2,650.6	4,578	1.73
Region 1	3,931	11,905.3	11,260	0.95	588	1,397.5	1,207	0.86	4,519	13,302.8	12,467	0.94
District 5	6,071	14,870.7	10,192	0.69	773	1,789.0	1,603	0.90	6,844	16,659.7	11,795	0.71
District 6	2,502	5,293.1	8,080	1.53	176	396.3	206	0.52	2,678	5,689.4	8,286	1.46
District 7	5,791	13,095.6	11,296	0.86	1,169	3,051.0	2,725	0.89	6,960	16,146.6	14,021	0.87
District 8	5,840	12,739.4	19,470	1.53	127	260.5	265	1.02	5,967	12,999.9	19,735	1.52
District 9	1,110	2,053.5	2,286	1.11	2,987	5,770.3	11,712	2.03	4,097	7,823.8	13,998	1.79
Region 2	21,314	48,052.3	51,324	1.07	5,232	11,267.1	16,511	1.47	26,546	59,319.4	67,835	1.14
District 10	9,244	22,154.8	40,286	1.82	492	1,038.5	1,555	1.50	9,736	23,193.3	41,841	1.80
District 11	5,048	11,684.4	18,207	1.47	823	1,986.0	1,301	0.66	5,871	13,670.4	19,508	1.43
District 12	3,692	9,222.5	12,237	1.33	1,901	4,241.6	3,420	0.81	5,593	13,464.1	15,657	1.16
Region 3	17,984	43,061.7	70,730	1.64	3,216	7,266.1	6,276	0.86	21,200	50,327.8	77,006	1.53
State total	43,229	103,019.3	133,314	1.29	9,036	19,930.7	23,994	1.20	52,265	122,950.0	157,308	1.28



caught 1.8 fish per hour, followed by Districts 4, 6, and 11 with 1.7, 1.5, and 1.5 fish per hour respectively. For non-trout streams, District 9 yielded the highest catch per hour (2.0 fish) followed by Districts 4, 10, and 8 with 1.6, 1.5, and 1.0 fish per hour respectively. In 1949 the catch from non-trout waters for the entire state was 1.28 fish per hour, which is a rise of 0.13 fish per hour (1.15 fish per hour in 1948). The rise in catch per hour is due in part to the larger number of yellow perch reported from District 9 non-trout streams emptying into Saginaw Bay.

Composition of Catch--Great Lakes Waters

A total of 34,770 fish were recorded from Great Lakes waters. The yellow perch made up the bulk of the total catch, 90.6 percent (Table 11).

Table 11

Percentage composition of the total catch for Great Lakes waters  
(only the 7 most abundant species for 1949 are given)

Species	1942	1943	1944	1945	1946	1947	1948	1949
Yellow perch	84.23	76.67	72.16	86.46	65.73	82.48	86.26	90.64
Walleye	1.68	6.53	6.50	3.09	7.81	8.23	5.21	3.91
Smelt	0.05	...	0.04	...	0.44	0.01	...	1.04
Pumpkinseed sunfish	0.12	0.40	1.01	0.05	0.43	0.25	1.21	0.94
Pike	1.17	1.74	2.12	2.51	2.33	3.02	0.93	0.79
Black crappie	0.64	0.31	3.07	0.06	1.29	...	0.56	0.69
Rock bass	3.80	2.95	3.82	0.60	3.19	1.31	1.56	0.47
Totals	91.69	88.60	88.72	92.77	81.22	95.30	95.73	98.48

The following seven species are arranged according to their abundance in the catch: yellow perch, walleye, smelt, pumpkinseed sunfish, pike, crappie, and rock bass. These species constituted 98.5 percent of all fish caught from Great Lakes waters and 13 other species of fish were included in the remaining 1.5 percent.

The other species of fish are listed as follows:

Catfish	121	Sucker	10
Bullhead	112	Gizzard shad	8
Largemouth black bass	104	Dogfish	4
Smallmouth black bass	82	Carp	3
Bluegill	33	Whitefish	1
Herring	31	Sturgeon	1
Lake trout	15	Total	<u>525</u>

Catch per Hour--Great Lakes Waters  
by Conservation Districts and Regions

In 1949 fishing records from the Great Lakes and their connecting waters were submitted by officers in 10 districts. Only District 11 which does not border on the Great Lakes or their connecting waters and District 8 did not submit any catch records from the Great Lakes waters.

The greatest success in fishing Great Lakes waters was reported from District 10 (6.38 fish per hour). This high catch per hour is attributed to 1,474 yellow perch taken in 231.5 hours by 87 anglers in Ottawa County (Table 12). In seven of the districts the anglers experienced a catch of better than 2.5 fish per hour and the average for all Great Lakes waters was 3.1 fish per hour. Fishing in the Great Lakes proper was better than in the connecting waters (3.2 fish per hour and 2.5 fish per hour respectively).

Quality of Fishing, All Waters  
by Conservation Districts and Regions

The fishing quality is usually expressed in terms of the number of fish caught per hour of fishing and this varies considerably with the method of angling used by the fisherman as well as with the skill of the angler. Districts 12, 9, and 10 had catches per hour of 1.9, 1.9, and 1.8 fish respectively.

Table 12

General creel census data for Great Lakes and connecting waters, and such waters combined,  
by conservation districts and regions, 1949

	Great Lakes				Connecting waters				All Great Lakes waters			
	Number anglers	Hours fished	Fish caught	Catch per hour	Number anglers	Hours fished	Fish caught	Catch per hour	Number anglers	Hours fished	Fish caught	Catch per hour
District 1	16	53.0	15	0.28	...	...	...	...	16	53.0	15	0.28
District 2	5	12.0	57	4.75	...	...	...	...	5	12.0	57	4.75
District 3	489	2,111.7	1,896	0.90	...	...	...	...	489	2,111.7	1,896	0.90
District 4	31	73.5	300	4.08	25	149.5	336	2.25	56	223.0	636	2.85
Region 1	541	2,250.2	2,268	1.01	25	149.5	336	2.25	566	2,399.7	2,604	1.09
District 5	40	92.5	38	0.41	...	...	...	...	40	92.5	38	0.41
District 6	21	46.0	166	3.61	...	...	...	...	21	46.0	166	3.61
District 7	63	127.5	758	5.94	...	...	...	...	63	127.5	758	5.94
District 8	...	...	...	...	...	...	...	...	...	...	...	...
District 9	284	831.0	4,465	5.37	...	...	...	...	284	831.0	4,465	5.37
Region 2	408	1,097.0	5,427	4.95	...	...	...	...	408	1,097.0	5,427	4.95
District 10	87	231.5	1,477	6.38	...	...	...	...	87	231.5	1,477	6.38
District 12	1,675	5,121.0	19,039	3.72	913	2,505.9	6,223	2.48	2,588	7,626.9	25,262	3.31
Region 3	1,762	5,352.5	20,516	3.83	913	2,505.9	6,223	2.48	2,675	7,858.4	26,739	3.40
State total	2,711	8,699.7	28,211	3.24	938	2,655.4	6,559	2.47	3,649	11,355.1	34,770	3.06

In District 12 the high figure was due to the huge number of yellow perch (23,383) taken in Great Lakes waters by 2,588 anglers in 7,626.9 hours of fishing. The high quality of fishing in District 9 was also due to the number of yellow perch taken in Great Lakes waters (4,340) and in non-trout streams (6,191). In District 10 the high catch per hour was caused by the great percentage of fishermen angling in non-trout lakes with good success.

The best fishing in terms of fish caught per hour was in Region 3 with a catch of 1.7 fish per hour, whereas Regions 2 and 1 had catches per hour of 1.1 and 0.9 fish respectively. Furthermore, 104,914 fish (48.48 percent) of the total 216,392 fish recorded in the census were caught in Region 3, 86,579 fish (40.01 percent) were taken in Region 2, and the remaining 24,899 fish (11.51 percent) were caught in Region 1.

Residence of Anglers, All Waters

Of the 68,365 anglers recorded in the 1949 general creel census, there were 61,645 (90.17 percent) who resided in Michigan and the remaining 6,720 (9.83 percent) lived outside the state (Table 13).

Table 13

Number of fishermen, resident and non-resident, and percentage of non-resident fishermen in each conservation district, all waters, 1949

	Total number anglers	Resident anglers	Non-resident anglers	Percentage non-residents
District 1	2,151	1,561	590	27.43
District 2	2,865	2,554	311	10.86
District 3	2,674	2,132	542	20.27
District 4	1,779	1,566	213	11.97
Region 1	9,469	7,813	1,656	17.49
District 5	8,610	7,421	1,189	13.81
District 6	4,225	3,902	323	7.64
District 7	9,337	8,665	672	7.20
District 8	7,017	6,115	902	12.85
District 9	4,893	4,810	83	1.70
Region 2	34,082	30,913	3,169	9.30
District 10	10,399	9,056	1,343	12.91
District 11	5,991	5,568	423	7.06
District 12	8,424	8,295	129	1.53
Region 3	24,814	22,919	1,895	7.64
State total	68,365	61,645	6,720	9.83

Conservation officers in District 10 contacted the greatest number of non-resident anglers. In this district 1,343 anglers (12.9 percent of all fishermen interviewed in the district) were from outside the state. In District 5 the greatest percentage of non-resident anglers was contacted (13.8 percent). Officers in District 12 interviewed the fewest non-residents (129) and these anglers comprised only 1.5 percent of all fishermen recorded in the district.

In the 1949 general creel census anglers residing in all of the 83 counties of Michigan were recorded. Residents of Wayne County constituted 12.59 percent of all anglers interviewed in 1949. Other counties from which anglers were recorded in great numbers were Kent County (6.71 percent), Genesee County (4.38 percent), Oakland County (3.01 percent), Saginaw County (2.92 percent), and Ingham County (2.60 percent). Residents from the above mentioned counties accounted for 32.20 percent of all anglers contacted.

Out-of-state fishermen came from 34 states in the Union, District of Columbia, and the province of Ontario. The four states bordering Michigan furnished 95.99 percent of all non-resident anglers. Fishermen from Ohio made up 37.71 percent, from Indiana 36.04 percent, from Illinois 16.12 percent, and from Wisconsin 6.12 percent. The county of residence for Michigan fishermen and the state of residence for non-residents are given in Table 14.

Catch per Hour - Resident and  
Non-resident Anglers - All Waters

Resident anglers had a slightly higher catch per hour (1.30 fish) than did the non-resident anglers (1.15 fish).

Sex of Anglers - All Waters

A total of 11,303 female anglers was interviewed in 1949. Of all anglers contacted, 16.5 percent were female anglers, a difference of 2.2 percent from that of 1948 (18.7 percent in 1948).

Table 14

Residence of fishermen interviewed in the general creel census, 1949

County of residence	Number males	Number females	Number anglers	County of residence	Number males	Number females	Number anglers	State of residence	Number males	Number females	Number anglers
Michigan *	59	19	78	Keweenaw	18	3	21	Arizona	3	...	3
Alcona	270	53	323	Lake	293	35	328	Arkansas	1	...	1
Alger	320	31	351	Lapeer	1,061	168	1,229	California	3	...	3
Allegan	946	64	1,010	Leelanau	64	9	73	Connecticut	3	2	5
Alpena	710	125	835	Lenawee	80	16	96	Florida	20	2	22
Antrim	227	54	281	Livingston	663	85	748	Georgia	3	1	4
Arenac	213	23	236	Luce	517	34	551	Idaho	2	1	3
Baraga	73	9	82	Mackinac	112	14	126	Illinois	852	231	1083
Barry	415	59	474	Macomb	404	75	479	Indiana	1,830	592	2422
Bay	1,201	288	1,489	Manistee	329	68	397	Iowa	13	2	15
Benzie	142	11	153	Marquette	1,168	117	1,285	Kansas	3	3	6
Berrien	284	41	325	Mason	520	42	562	Kentucky	18	4	22
Branch	241	21	262	Mecosta	324	49	373	Maine	2	1	3
Calhoun	662	120	782	Menominee	253	19	272	Massachusetts	1	1	2
Cass	148	30	178	Midland	1,029	332	1,361	Minnesota	10	4	14
Charlevoix	204	27	231	Missaukee	470	68	538	Mississippi	9	3	12
Cheboygan	404	39	443	Monroe	158	45	203	Missouri	13	...	13
Chippewa	173	45	218	Montcalm	814	170	984	Montana	3	...	3
Clare	305	57	362	Montmorency	378	78	456	Nebraska	1	1	2
Clinton	308	103	411	Muskegon	1,053	190	1,243	Nevada	2	...	2
Crawford	388	28	416	Newaygo	531	89	620	New Jersey	7	1	8
Delta	430	27	457	Oakland	1,678	383	2,061	New Mexico	1	1	2
Dickinson	784	56	840	Oceana	368	52	420	New York	21	10	31
Eaton	147	35	182	Ogemaw	308	54	362	North Dakota	1	...	1
Emmet	299	34	333	Ontonagon	88	9	97	Ohio	1,940	594	2,534
Genesee	2,394	601	2,995	Osceola	644	74	718	Oklahoma	2	...	2
Gladwin	329	45	374	Oscoda	363	62	425	Pennsylvania	29	13	42
Gogebic	704	75	779	Otsego	346	71	417	South Carolina	1	...	1
Grand Traverse	406	50	456	Ottawa	327	64	391	Tennessee	10	1	11
Gratiot	567	139	706	Presque Isle	454	37	491	Virginia	7	2	9
Hillsdale	123	5	128	Roscommon	299	67	366	Washington	3	1	4
Houghton	347	22	369	Saginaw	1,542	453	1,995	West Virginia	12	4	16
Huron	172	40	212	St. Clair	370	77	447	Wisconsin	368	43	411
Ingham	1,371	408	1,779	St. Joseph	1,141	203	1,344	Wyoming	2	...	2
Ionia	303	46	349	Sanilac	516	105	621	Washington, D.C.	1	...	1
Iosco	466	113	579	Schoolcraft	256	24	280				
Iron	1,313	142	1,455	Shiawassee	404	95	499	Ontario	3	2	5
Isabella	197	59	256	Tuscola	380	53	433				
Jackson	785	157	942	Van Buren	280	30	310				
Kalamazoo	896	167	1,063	Washtenaw	588	108	696				
Kalkaska	198	54	252	Wayne	7,018	1,581	8,599				
Kent	3,737	851	4,588	Wexford	592	102	694				
				Total	51,862	9,783	61,645				
				Grand Total (Resident and non-res- ident)	57,062	11,303	68,365				
								Total	5,200	1,520	6,720

\* Conservation officer did not record the county of residence.

Table 15

Number of resident and non-resident anglers, number of hours spent fishing, number of legal-size fish caught, and the catch per hour for each group--all waters, by conservation districts, 1949

	Resident anglers				Non-resident anglers				All anglers			
	Total anglers	Total hours fished	Number legal fish	Catch per hour	Total anglers	Total hours fished	Number legal fish	Catch per hour	Total anglers	Total hours fished	Number legal fish	Catch per hour
District 1	1,561	4,397.7	3,553	0.81	590	1,793.3	1,100	0.61	2,151	6,191.0	4,653	0.75
District 2	2,554	7,660.0	5,343	0.70	311	911.5	876	0.96	2,865	8,571.5	6,219	0.73
District 3	2,132	5,595.6	4,986	0.89	542	1,572.0	1,624	1.03	2,674	7,167.6	6,610	0.92
District 4	1,566	4,555.8	6,164	1.35	213	547.0	1,253	2.29	1,779	5,102.8	7,417	1.45
Region 1	7,813	22,209.1	20,046	0.90	1,656	4,823.8	4,853	1.01	9,469	27,032.9	24,899	0.92
District 5	7,421	18,920.7	13,187	0.70	1,189	2,421.7	1,651	0.68	8,610	21,342.4	14,838	0.70
District 6	3,902	9,066.9	11,351	1.25	323	645.3	747	1.16	4,225	9,712.2	12,098	1.25
District 7	8,665	21,266.0	16,765	0.79	672	1,591.2	1,407	0.88	9,337	22,857.2	18,172	0.80
District 8	6,115	14,303.4	19,255	1.35	902	1,905.5	3,119	1.64	7,017	16,208.9	22,374	1.38
District 9	4,810	10,109.8	19,002	1.88	83	134.5	95	0.71	4,893	10,244.3	19,097	1.86
Region 2	30,913	73,666.8	79,560	1.08	3,169	6,698.2	7,019	1.05	34,082	80,365.0	86,579	1.08
District 10	9,056	22,265.0	39,830	1.79	1,343	2,585.8	4,073	1.58	10,399	24,850.8	43,903	1.77
District 11	5,568	13,010.4	18,442	1.42	423	1,011.0	1,215	1.20	5,991	14,021.4	19,657	1.40
District 12	8,295	21,475.5	40,777	1.90	129	355.0	577	1.63	8,424	21,830.5	41,354	1.89
Region 3	22,919	56,750.9	99,049	1.75	1,895	3,951.8	5,865	1.48	24,814	60,702.7	104,914	1.73
District totals	61,645	152,626.8	198,655	1.30	6,720	15,473.8	17,737	1.15	68,365	168,100.6	216,392	1.29

Comparison of 1949 General Creel Census

Data with that of Other Years

Tables 16 and 17 summarize the general creel census data for the past eight years. There was a decrease in the catch per hour for all waters from 1938 through 1940, but from 1941 to 1943 there was a slight but steady increase. The catch per hour for 1943 and 1944 was identical (1.16 fish per hour), but slipped to 1.12 fish in 1945, and rose in 1946 and 1947 (1.31 fish and 1.42 fish respectively). In 1948 the catch dropped to 1.14 fish per hour and climbed to 1.29 fish per hour in 1949.

Table 16

Comparison of data from the general creel census for the past eight years

	1942	1943	1944	1945	1946	1947	1948	1949	Simple average
<b>CATCH PER HOUR:</b>									
All waters	1.1	1.2	1.2	1.1	1.3	1.4	1.1	1.3	1.2
Resident	1.2	1.2	1.2	1.1	1.4	1.5	1.2	1.3	1.3
Non-resident	0.8	1.1	1.1	0.9	0.8	1.1	1.1	1.1	1.0
Trout waters	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.8
Resident	0.9	1.0	0.8	0.8	0.8	0.8	0.8	0.7	0.8
Non-resident	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.8	0.7
Non-trout waters	1.1	1.2	1.2	1.1	1.4	1.4	1.2	1.3	1.2
Resident	1.2	1.2	1.1	1.1	1.4	1.5	1.2	1.3	1.3
Non-resident	0.9	1.0	1.0	0.8	0.8	1.1	1.1	1.2	1.0
Great Lakes waters	1.7	1.6	1.8	2.2	1.6	2.7	2.9	3.1	2.2
Resident	2.0	1.5	1.8	2.2	1.6	2.7	3.1	3.2	2.3
Non-resident	0.9	1.8	2.1	1.4	0.6	1.9	1.6	1.2	1.4
<b>PERCENTAGE OF ALL ANGLERS REPRESENTED BY:</b>									
Non-residents	15.7	11.2	11.3	10.1	11.1	9.7	15.6	9.8	11.8
Female anglers	17.1	16.3	15.1	16.9	19.4	13.9	18.7	16.5	16.7
<b>PERCENTAGE OF TROUT ANGLERS REPRESENTED BY:</b>									
Non-residents	11.0	4.0	4.5	4.9	7.7	6.6	6.1	6.4	6.4
Female anglers	10.2	7.6	7.1	8.3	7.4	9.0	10.1	11.6	8.9
<b>PERCENTAGE OF NON-TROUT ANGLERS REPRESENTED BY:</b>									
Non-residents	17.3	12.5	13.8	11.7	12.5	11.5	18.6	10.9	13.6
Female anglers	19.1	17.8	16.3	18.4	21.9	15.9	21.3	17.7	18.6
<b>PERCENTAGE OF GREAT LAKES ANGLERS REPRESENTED BY:</b>									
Non-residents	9.7	13.3	4.9	6.7	6.1	2.9	12.7	6.3	7.8
Female anglers	11.6	13.1	19.3	16.5	18.2	9.4	17.0	16.1	15.2



Table 17  
 Catch per hour for all waters, trout waters, non-trout waters, and Great Lakes waters  
 by conservation districts and regions since 1942

	All waters									Trout waters									Non-trout waters									Great Lakes waters								
	1942	1943	1944	1945	1946	1947	1948	1949	Simple average	1942	1943	1944	1945	1946	1947	1948	1949	Simple average	1942	1943	1944	1945	1946	1947	1948	1949	Simple average	1942	1943	1944	1945	1946	1947	1948	1949	Simple average
District 1	0.6	0.7	0.6	0.8	0.7	0.6	0.8	0.8	0.7	1.0	0.7	0.8	0.9	0.8	0.7	0.7	0.6	0.8	0.5	0.7	0.5	0.7	0.8	0.4	0.8	0.9	0.7	0.2	0.4	0.2	0.1	0.1	0.5	0.9	0.3	0.3
District 2	0.8	1.2	0.6	0.6	0.7	0.5	0.9	0.7	0.8	1.3	1.0	0.6	0.9	0.6	0.5	0.7	0.9	0.8	0.6	1.3	0.5	0.5	0.6	0.5	0.9	0.7	0.7	...	...	1.5	2.3	3.4	1.8	2.9	0.3	0.3
District 3	0.8	0.7	0.9	1.6	0.9	0.9	1.1	0.9	1.0	0.9	0.7	0.8	0.9	0.8	0.9	1.1	1.0	0.9	0.7	0.7	0.8	0.9	0.9	0.6	1.2	0.8	0.8	0.3	1.0	1.0	4.1	1.2	1.0	1.0	0.9	1.3
District 4	1.9	1.2	1.2	0.9	0.8	1.0	1.3	1.5	1.2	1.1	1.3	0.9	0.8	1.0	1.1	1.2	1.0	1.0	1.5	0.9	1.4	0.8	0.7	0.8	1.4	1.7	1.2	3.1	2.3	1.2	1.5	0.7	1.1	1.1	2.9	1.7
Region 1	0.9	1.0	0.8	0.8	0.8	0.8	1.0	0.9	0.9	1.1	0.9	0.8	0.9	0.8	0.8	0.9	0.9	0.9	0.7	0.9	0.7	0.6	0.7	0.6	1.0	0.9	0.8	1.5	2.2	1.1	2.7	0.6	1.0	1.1	1.1	1.4
District 5	0.6	0.9	1.1	0.7	0.8	1.1	0.7	0.7	0.8	0.6	0.7	0.8	0.9	0.9	0.8	0.8	0.7	0.8	0.6	1.0	1.1	0.6	0.7	1.2	0.7	0.7	0.8	1.3	3.0	2.7	1.6	1.0	4.2	1.7	0.4	2.0
District 6	1.9	1.5	1.3	1.1	1.0	1.5	1.1	1.2	1.3	0.6	1.3	1.0	1.0	0.7	1.0	0.9	0.9	0.9	1.9	1.4	1.2	1.1	0.8	1.4	1.2	1.5	1.3	0.5	5.9	4.8	0.8	4.6	8.2	12.2	3.6	5.1
District 7	0.7	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.7	0.6	0.6	0.8	0.6	0.7	0.7	0.7	0.5	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.8	0.9	0.7	...	...	0.8	4.2	...	0.9	0.3	5.9	2.4
District 8	1.5	1.2	1.1	1.4	1.4	1.6	1.3	1.4	1.4	1.0	0.8	0.7	0.8	1.0	0.8	0.7	0.8	0.8	1.7	1.2	1.3	1.7	1.4	1.8	1.5	1.5	1.5	...	...	...	...	...	...	...	...	...
District 9	1.2	1.4	1.6	1.2	2.9	3.0	1.2	1.9	1.8	1.0	1.0	1.0	0.7	0.7	0.7	0.6	0.4	0.8	1.2	1.5	1.5	1.3	3.2	3.5	1.0	1.8	1.9	...	...	3.8	2.2	2.0	5.7	5.8	5.4	4.2
Region 2	1.1	1.0	1.0	0.9	1.5	1.5	1.0	1.1	1.1	0.7	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.8	1.1	1.0	0.9	0.9	1.6	1.7	1.0	1.1	1.2	0.5	5.7	3.3	2.5	2.4	7.1	5.5	4.9	4.0
District 10	1.3	1.4	1.6	1.6	1.2	1.6	1.6	1.8	1.5	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.6	1.3	1.4	1.7	1.6	1.2	1.6	1.7	1.8	1.5	...	2.9	9.0	...	2.8	...	...	6.4	5.3
District 11	1.3	1.1	1.3	1.1	1.2	1.0	1.1	1.4	1.2	1.2	1.6	0.6	0.5	0.6	...	0.5	0.4	0.8	1.3	1.1	1.3	1.1	1.2	1.0	1.1	1.4	1.2	...	...	...	...	...	...	...	...	...
District 12	1.4	1.4	1.7	1.6	1.6	2.5	2.2	1.9	1.8	0.7	1.9	0.6	0.4	0.4	0.6	...	0.6	0.7	1.2	1.4	1.4	1.2	1.1	1.3	1.4	1.2	1.3	1.6	1.4	1.9	2.0	2.0	4.0	3.9	3.3	2.5
Region 3	1.3	1.3	1.5	1.4	1.4	1.7	1.6	1.7	1.5	0.7	1.0	0.6	0.6	0.6	0.5	0.5	0.5	0.6	1.3	1.3	1.5	1.3	1.2	1.4	1.4	1.5	1.4	1.6	1.4	1.9	2.0	2.0	4.0	3.9	3.4	2.5
Entire state	1.1	1.2	1.2	1.1	1.3	1.4	1.1	1.3	1.2	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.8	1.1	1.2	1.1	1.1	1.4	1.4	1.1	1.3	1.2	1.7	1.6	1.8	2.2	1.6	2.7	2.9	3.1	2.2

Table 18

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
1948	1.14	0.80	1.15	2.92
1949	1.29	0.72	1.28	3.06
Simple average	1.20	0.86	1.25	2.19

During the past eight years the catch per unit of effort for trout waters has varied 0.2 fish per hour. The highest catch per hour during this period was in 1942 and 1943 (0.9 fish per hour) and in the next five years the catch per hour was 0.8 fish. In 1949 the catch slipped to 0.7 fish per hour.

The catch per hour for Great Lakes waters has remained consistently higher than that for trout and non-trout waters for the eight years these waters have been tabulated separately. In 1949 the difference in the catch per hour for Great Lakes waters (3.06 fish) and non-trout waters (1.28 fish) was about the same as in 1948. In the Great Lakes waters the anglers averaged 2.19 fish per hour for the 8-year period as compared to an average of 1.21 fish per hour in non-trout waters over the same period.

The appendix to this report in the form of detailed tables has been omitted as in 1941-1948. The detailed tables for the data herein presented are on file at the Institute for Fisheries Research, University Museums Annex, Ann Arbor, Michigan.

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