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COOPERATING WITH THE  
UNIVERSITY OF MICHIGAN

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REPORT OF THE GENERAL CREEL CENSUS FOR 1954

By

K. G. Fukano

This report covers the twenty-eighth year of the General Creel Census in Michigan. Conservation officers obtained the data as a part of their regular duties and usually incidental to patrol activities. The writer wishes to thank the conservation officers of the Division of Field Administration who collected the records, Dr. James W. Moffett of the U. S. Fish and Wildlife Service for the use of the IBM key-punch machine, and Mr. John J. Freysinger of the University of Michigan School of Public Health for the use of IBM sorting and tabulating equipment.

The aim of the census is to obtain a sample of the sport fishing in all parts of the state. During 1954, the officers obtained records on 70,109 angler trips. The records have been divided into three major categories--trout, non-trout, and Great Lakes waters--and each category 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 numbers of anglers interviewed were as follows: (1) trout waters, 8,481 (12 percent of all anglers contacted), of whom 580 fished on designated trout lakes and the remaining 7,901 fished on streams; (2) non-trout waters, 54,395 (78

percent), of whom 47,366 fished on lakes and 7,029 fished on streams; (3) Great Lakes waters, 7,233 (10 percent), of whom 4,440 fished in the Great Lakes and 2,793 fished in the connecting waters.

Of the 70,109 anglers interviewed by officers, 9,702 (14 percent) were non-residents; female anglers constituted 16 percent (10,986) of all those interviewed.

Of a total of 1,185,659 fishing licenses sold in 1954, 307,399 (26 percent) were non-resident. ✓ About one-half of these, 153,182 (13 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 officers are less likely to interview the 10-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 day of the trout season.

Intensive stream and lake census records (from special research projects) have not been included in this report. The term "fisherman-day" denotes the time which the angler had spent fishing prior to being interviewed by the conservation officer. The number of anglers as used in this report is the number of fisherman-days and not separate individuals. Only legal-size fish caught by sport fishermen have been considered.

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✓ From "1954 License Sales by Counties," issued by the Michigan Department of Conservation, 1955.

### Detailed Analysis

During 1954, conservation officers interviewed 70,109 anglers (Table 1), an increase of 7,820 (13 percent) over the 62,289 anglers contacted in 1953. The records for 1954 represent 169,243.4 hours of fishing--an increase of 21,135.3 hours (14 percent) from the 148,108.1 hours recorded the previous year. The number of fish recorded in 1954 was 251,953--an increase of 60,467 (32 percent) above the previous year (191,486). In 1954 the catch per hour for all fishing was 1.5, which is 0.2 fish per hour above that recorded in 1953.

No records of fishing were submitted in 1954 from three counties: Genesee, Tuscola and St. Clair; the first two counties have mainly non-trout waters within their boundaries and the latter has mainly Great Lakes waters. The lack of fishing records from these counties, and the paucity of records from a few others tend to bias the statewide sample of fishing. The numbers of anglers contacted, arranged by counties, are given in Table 2.

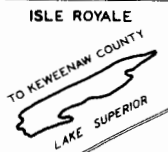
In this report the various types of waters are separated by Conservation Districts (Fig. 1). Data from Alger County (which is in both Districts 3 and 4) have been separated according to the district to which the reporting officer has been assigned.

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

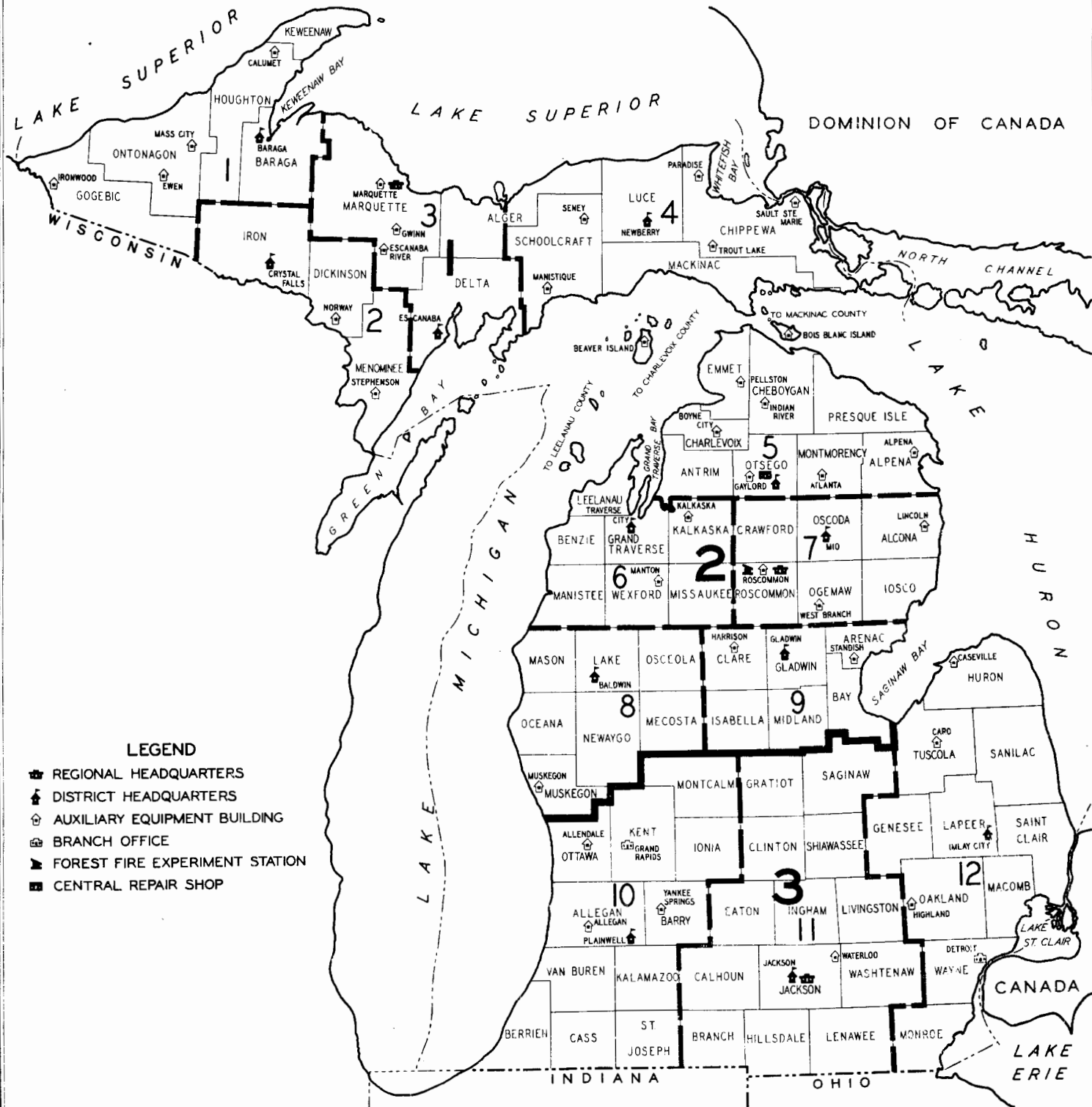
The data for 1954 on the number and percentage of anglers interviewed while fishing in the various waters are given in Table 3. The nine districts which make up Regions I and II furnished 91 percent of all the records on trout fishing. The trout fishing in these two regions constituted 19 percent of all the fishing there. Trout anglers in Region III made up 9 percent of all trout fishing and these anglers accounted for only 3 percent of all fishing recorded in this region.

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
- AUXILIARY EQUIPMENT BUILDING
- BRANCH OFFICE
- FOREST FIRE EXPERIMENT STATION
- CENTRAL REPAIR SHOP

Fig. 1

The greatest percentage of trout anglers interviewed in any district was in District 4 where 44 percent of the 3,563 anglers were contacted while fishing in trout waters. Districts 1 and 2 followed with 38 percent of 1,586 angling-days and 29 percent of 2,641 angling-days, respectively.

The largest percentage of non-trout anglers was recorded in District 11 (98 percent non-trout anglers, based on 11,770 fisherman-days). District 10 followed with 94 percent non-trout fishermen, based on 8,492 anglers, and District 8 with 92 percent of 6,905 fisherman-days.

Of the 12 districts, only District 11 does not border one of the Great Lakes or their connecting waters. Six of the remaining 11 districts submitted some records on Great Lakes sport fishing. Officers obtain relatively few records of Great Lakes fishing because it is restricted somewhat to sheltered bays, island areas, and certain docking areas and because anglers are not required to purchase a fishing license to take fish from the Great Lakes. More than half of the anglers interviewed in District 12 were fishing Great Lakes waters (65 percent of 9,041 fisherman-days); District 9 had 16 percent based on 4,337 angler-days; and District 4 had 14 percent of 3,563 fisherman-days.

Number of Trout Caught in Trout Waters, by Conservation Regions

Of the total trout catch, brook trout constituted 69 percent; rainbow trout, 20 percent; and brown trout, 11 percent (Table 4) In 1953 these percentages were 62, 25, and 13, respectively.

Of 12,720 brook trout reported in 1954, Region I contributed 7,836 (62%); Region II, 4,253 (33%); Region III, 631 (5%).

In 1954, 3,736 rainbow trout were recorded: 2,735 (73%) in Region II, 514 (14%) in Region I, and 487 (13%) in Region III.

In 1954 the 2,009 brown trout taken were divided in the following manner: Region II--1,463 or 73 percent, Region III--404 or 20 percent, and Region I--142 or 7 percent.

Of the 18,465 trout reported from trout waters, 92 percent were caught in Regions I and II combined.

Other Species Caught in Trout Waters

The three species of trout--brook, brown, and rainbow--constituted 97 percent of all fish taken in trout waters. The numbers of each of 14 other species reported taken from trout waters are as follows:

Suckers	271	Lake trout	3
Bluegill	148	Largemouth bass	3
Round whitefish	106	Smallmouth bass	3
Yellow perch	45	Black crappie	1
Rock bass	38	Bullhead	1
Walleye	19	Pumpkinseed	<u>1</u>
Northern pike	9	Total	655
Redhorse	7		

Catch per Hour--Trout Waters,  
by Conservation Districts

Trout fishermen caught (0.8 fish per hour, as compared to 0.6 fish per hour in 1953. Catches of more than one trout per hour were recorded in Districts 1, 2, 12 and 4 (Table 5). The fishing quality was better for designated trout lakes than for trout streams, when the data for trout waters were separated. Most trout fishermen (93 percent) fished

the streams. The highest catch per hour for trout lakes (1.0 trout) was recorded in District 4 and District 2 had the highest catch per hour (1.1) for trout streams.

Composition of Catch--Non-trout Waters,  
by Conservation Districts and Regions

During 1954 officers recorded 31 kinds of fish in the non-trout anglers' catch. Bluegills and yellow perch combined constituted 68 percent of the total non-trout catch (Table 6). Other important species recorded were: black crappie, northern pike, pumpkinseed, rock bass, rainbow trout, largemouth bass, walleye, and smallmouth bass. The above 10 species comprised 95 percent of the total catch from non-trout waters and the remaining 21 species made up 5 percent. The total catch of species not listed in Table 6 was as follows:

Suckers	4,447	Redhorse	47
Bullhead	2,047	American smelt	34
Carp	461	Bowfin	25
Sauger	303	Lake whitefish	22
Brook trout	136	Burbot	19
Brown trout	86	Stoneroller	5
Catfish	64	Warmouth	5
Freshwater drum	62	Muskellunge	3
Lake trout	59	Round whitefish	1
White bass	59	Sturgeon	<u>1</u>
Shallowwater cisco	47	Total	7,933

Brook, brown and rainbow trout made up 2 percent of the total catch from non-trout waters.

The 10 species most frequently caught in non-trout waters and their percentage abundance in the total catch for each conservation district are given in Table 7. In each district these fish made up at least 90 percent of the total catch and they constituted more than 95 percent in eight of the districts.

The species composition of the catch in non-trout waters also has been tabulated by conservation regions. Two methods of comparing the catch in the three regions have been used: the percentage of the total state catch of each species taken in each region (Table 8) and the percentage of the catch in each region made up by each species (Table 9).

The bluegill was caught in greater numbers than any other species in non-trout waters. Of the 57,987 bluegills taken, 67 percent were caught in Region III. More than half of the yellow perch were taken in Region II. Over 96 percent of all bluegills recorded, and over 82 percent of all yellow perch recorded were caught in the Lower Peninsula. More walleyes were recorded in Region I than in the other regions, even though far fewer fishing records were available from Region I (9,940) than from Region II (30,866) and Region III (29,303). More yellow perch, northern pike, pumpkinseed, rock bass, and smallmouth bass were caught in Region II than in the other regions. Region III led the other two regions in numbers of bluegills, black crappies, and rainbow trout.

The combined catch of bluegills and yellow perch made up more than 60 percent of the total catch in each of the three regions (64 percent in Region I, 66 percent in Region II, and 70 percent in Region III). For the non-trout waters of the entire state these two species constituted 68 percent of the total. Northern pike was the only other species which made up more than 10 percent of the total catch of any one region (13 percent in Region I).



Catch per Hour--Non-trout Waters,  
by Conservation Districts

For non-trout waters the highest catch per hour was recorded in District 9 with 2.1 fish per hour (Table 10). Seven districts had catches of better than 1.0 fish per hour. According to the catch per hour, fishing in the non-trout lakes was best in District 4 where the anglers caught 1.8 fish per hour, followed by Districts 8, 11, and 6 with 1.7, 1.6, and 1.4 fish per hour, respectively. For non-trout streams District 9 yielded the highest catch per hour (3.2 fish), followed by Districts 12, 11, and 10 with 2.1, 1.6, and 1.2 fish per hour respectively. In 1954 the catch from non-trout waters for the entire state was 1.3 fish per hour, as compared to 1.4 in 1953.

Composition of Catch--Great Lakes Waters

Of a total of 74,196 fish recorded from Great Lakes waters, the yellow perch made up 90 percent of the total catch (Table 11). The following seven species are arranged according to their abundance in the catch: yellow perch, rock bass, bullheads, white bass, smallmouth bass, northern pike, and walleye. These species constituted 98 percent of all fish caught from Great Lakes waters. The numbers of each of the 16 other species that made up the remaining 2 percent were as follows:

Pumpkinseed	778	Bluegill	7
Round whitefish	173	Rainbow trout	7
Largemouth bass	117	Bowfin	5
Black crappie	99	Muskellunge	4
Catfishes	70	American smelt	3
Freshwater drum	69	Shallowwater cisco	2
Gizzard shad	27	Lake whitefish	2
Sucker	8	Sauger	<u>1</u>
		Total	1,372

Catch per Hour--Great Lakes Waters,

by Conservation Districts

In 1954 officers from six districts submitted fishing records from the Great Lakes and their connecting waters (Table 12). The highest catch per hour (11.1) was reported from District 6. This high figure is due largely to the capture of 1,284 yellow perch in 113 hours by 52 anglers in Manistee County. In four of the districts the anglers had catches of better than 2.0 fish per hour and the average for all Great Lakes waters was 3.3 fish per hour (4.5 in the Great Lakes and 1.0 in connecting waters).

Quality of Fishing--All Waters,

by Conservation Districts and Regions

Districts 9, 12, and 11 had catches per hour of 2.9, 2.8, and 1.6 fish, respectively (Table 1). The high figure in District 9 was due to the large number of yellow perch taken in non-trout streams (6,978) and in Great Lakes waters (11,355). In District 12 the high catch per hour was caused by the large percentage of fishermen angling in Great Lakes waters with good success and in District 11, by the high percentage of fishermen angling in non-trout waters with good success.

The highest rate of capture (1.9 fish per hour) was recorded in Region III, whereas Regions II and I had catches per hour of 1.3 and 1.0 fish, respectively. Of the total 251,953 fish recorded in the 1954 creel census, 134,660 or 53 percent were caught in Region III; 90,107 or 36 percent were taken in Region II; and the remaining 27,186 or 11 percent were caught in Region I.

Residence of Anglers--All Waters

In the 1954 general creel census, 60,407 anglers (86 percent) were residents of Michigan and the other 9,702 anglers (14 percent) were

non-residents (Table 13). The greatest number of non-resident anglers was contacted in District 10 where 1,881 anglers (22 percent) were non-residents. However, Districts 3 and 2 had higher percentages of non-resident anglers (26 and 24, respectively). The smallest percentage of non-resident anglers (2) was in District 9.

Anglers residing in all 83 counties of Michigan were recorded in 1954. Residents of Wayne County constituted 13 percent; anglers from Kent County, 4 percent; fishermen from Ingham County, 4 percent; anglers from Kalamazoo County, 3 percent; and from Saginaw County, 3 percent. Residents from these five counties accounted for 27 percent of all anglers contacted.

Non-resident anglers came from 32 states, the Province of Ontario, and the Territory of Alaska. Anglers from the four states bordering Michigan made up 97 percent of the non-resident fishermen. Anglers from Ohio made up 44 percent; from Indiana, 34 percent; from Illinois, 15 percent; and from Wisconsin, 4 percent. The number of anglers by county or state of residence is given in Table 14 and 14a.

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

Resident anglers had a higher catch per hour (1.5) than did the non-resident anglers (1.1). Comparison of resident and non-resident anglers is given in Table 15.

Sex of Anglers--All Waters

In 1954 a total of 10,986 female anglers was interviewed, which was 16 percent of the total 70,109 anglers contacted (Table 16).

Comparison of 1954 Data  
with that of Other Years

Tables 16 to 20 summarize the general creel census data for the past 10 years. The catch per hour for all waters has ranged from 1.1 fish in

1945 and 1948 to 1.6 in 1950 (Table 17). For 1954 the catch for all waters was 1.5 fish per hour which is 0.2 fish above the simple average for the 10-year period.

During the past 10 years the catch per hour of trout in trout waters has ranged from 0.6 to 0.8 trout per hour (Table 18). The high catch during this period was in 1945, 1946, 1948, and 1954 with 0.8 trout per hour and the low was recorded in 1950 and 1953.

For non-trout waters the highest catch per hour was recorded in 1950 with 1.6 fish and the lowest, in 1945 and 1948 with 1.1 fish per hour (Table 19). For 1954 the catch for non-trout waters was 1.3 fish per hour which is 0.1 fish below the simple average for the 10-year period.

The catch per hour has been consistently higher for the Great Lakes waters than for trout or non-trout (inland) waters (Table 20). In the 10-year period anglers fishing the Great Lakes waters have averaged 2.9 fish per hour as compared to an average of 1.4 fish per hour in non-trout waters. In Great Lakes waters the catch has ranged from 1.6 in 1946 to 4.8 fish per hour in 1950. The 1954 catch per hour was 0.4 fish better than the unweighted mean for the 10-year period.

The appendix to this report, in the form of detailed tables, has been omitted as in recent years. The tables are on file at the Institute for Fisheries Research.

INSTITUTE FOR FISHERIES RESEARCH

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Table 1.--Total number of fishermen, hours fished, number of fish taken, and catch per hour for each conservation district and region, all waters, 1954

	Number of male anglers	Number of female anglers	Total anglers	Hours fished	Fish caught	Catch per hour	$\frac{\sum X}{N}$ ✓
District 1	1,404	182	1,586	3,649.2	3,543	1.0	1.0
District 2	2,359	282	2,641	7,232.5	6,639	0.9	1.0
District 3	1,836	314	2,150	7,356.0	3,934	0.5	0.6
District 4	3,178	385	3,563	10,081.7	13,070	1.3	1.4
Region I	8,777	1,163	9,940	28,319.4	27,186	1.0	1.1
District 5	6,561	1,447	8,008	22,809.0	15,711	0.7	0.8
District 6	4,702	937	5,639	12,235.5	16,737	1.4	1.4
District 7	4,922	1,055	5,977	12,341.0	9,742	0.8	0.8
District 8	5,761	1,144	6,905	14,315.0	21,965	1.5	1.7
District 9	3,606	731	4,337	9,084.8	25,952	2.9	2.6
Region II	25,552	5,314	30,866	70,786.2	90,107	1.3	1.4
District 10	7,160	1,332	8,492	19,201.5	24,459	1.3	1.3
District 11	9,863	1,907	11,770	25,342.8	39,662	1.6	1.7
District 12	7,771	1,270	9,041	25,593.5	70,539	2.8	2.6
Region III	24,794	4,509	29,303	70,137.8	134,660	1.9	1.8
State total	59,123	10,986	70,109	169,243.4	251,953	1.5	1.5

✓ This symbol denotes the mean catch per hour per angler.

Table 2.--Number of anglers interviewed by conservation officers during 1954 and 1953, by counties

County	1954	1953	County	1954	1953
Alcona	1,037	780	Lake	1,228	653
Alger	1,268	490	Lapeer	144	553
Allegan	1,131	512	Leelanau	625	224
Alpena	2,248	999	Lenawee	1,442	882
Antrim	427	564	Livingston	1,530	2,106
Arenac	1,549	1,030	Luce	847	1,136
Baraga	211	389	Mackinac	618	149
Barry	1,388	1,808	Macomb	2,825	877
Bay	145	210	Manistee	1,303	272
Benzie	644	277	Marquette	1,105	1,079
Berrien	236	8	Mason	646	485
Branch	1,655	1,924	Mecosta	1,117	1,322
Calhoun	1,275	2,037	Menominee	160	136
Cass	1,118	1,624	Midland	714	344
Charlevoix	941	1,429	Missaukee	865	549
Cheboygan	1,369	1,904	Monroe	691	...
Chippewa	850	621	Montcalm	1,062	1,103
Clare	764	926	Montmorency	1,690	768
Clinton	210	486	Muskegon	1,307	1,460
Crawford	449	509	Newaygo	1,278	691
Delta	27	68	Oakland	1,287	829
Dickinson	801	864	Oceana	735	534
Eaton	1,044	978	Ogemaw	364	738
Emmet	386	614	Ontonagon	333	492
Genesee	...	...	Osceola	594	676
Gladwin	538	591	Oscoda	1,163	1,016
Gogebic	583	776	Otsego	295	377
Grand Traverse	847	1,457	Ottawa	303	1,089
Gratiot	814	534	Presque Isle	652	574
Hillsdale	848	1,106	Roscommon	2,010	1,891
Houghton	345	261	Saginaw	237	324
Huron	1,292	269	St. Clair	...	...
Ingham	724	925	St. Joseph	529	1,291
Ionia	125	74	Sanilac	2,282	591
Iosco	954	1,455	Schoolcraft	998	843
Iron	1,680	1,514	Shiawassee	311	838
Isabella	627	...	Tuscola	...	77
Jackson	221	1,360	Van Buren	565	301
Kalamazoo	1,277	228	Washtenaw	1,459	1,803
Kalkaska	695	340	Wayne	520	157
Kent	758	478	Wexford	660	479
Keweenaw	114	161			
			Total	70,109	62,289

Table 3.--Number and percentage of fishermen interviewed on trout, non-trout, and Great Lakes waters, by conservation districts and regions, 1954

	Trout waters		Non-trout waters		Great Lakes water		Total number of anglers
	Number	Percentage	Number	Percentage	Number	Percentage	
District 1	607	38	979	62	...	...	1,586
District 2	770	29	1,871	71	...	...	2,641
District 3	364	17	1,759	82	27	1	2,150
District 4	1,578	44	1,487	42	498	14	3,563
Region I	3,319	34	6,096	61	525	5	9,940
District 5	1,429	18	6,540	82	39	✓0	8,008
District 6	1,138	20	4,422	79	79	1	5,639
District 7	1,042	17	4,935	83	...	...	5,977
District 8	576	8	6,329	92	...	...	6,905
District 9	207	5	3,448	79	682	16	4,337
Region II	4,392	14	25,674	83	800	3	30,866
District 10	490	6	8,002	94	...	...	8,492
District 11	273	2	11,497	98	...	...	11,770
District 12	7	0	3,126	35	5,908	65	9,041
Region III	770	3	22,625	77	5,908	20	29,303
State total	8,481	12	54,395	78	7,233	10	70,109

✓ Less than 0.5.

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, 1954

	<u>Brook trout</u>		<u>Brown trout</u>		<u>Rainbow trout</u>		Total number of trout
	Number	Percentage	Number	Percentage	Number	Percentage	
District 1	1,324	88	27	2	154	10	1,505
District 2	1,824	89	60	3	175	8	2,059
District 3	495	86	16	3	61	11	572
District 4	4,193	96	39	1	124	3	4,356
Region I	7,836	92	142	2	514	6	8,492
District 5	2,000	52	260	7	1,554	41	3,814
District 6	994	47	301	14	824	39	2,120
District 7	655	51	459	36	162	13	1,276
District 8	540	52	335	33	151	15	1,026
District 9	64	30	108	50	43	20	215
Region II	4,253	50	1,463	17	2,735	33	8,451
District 10	386	40	216	22	361	38	963
District 11	217	41	188	35	126	24	531
District 12	28	100	...	...	...	...	28
Region III	631	41	404	27	487	32	1,522
State total	12,720	69	2,009	11	3,736	20	18,465



Table 5.--General creel census data for trout lakes, trout streams, and all trout waters combined, by conservation districts and regions, 1954

	Trout lakes							Trout streams							All trout waters						
	Number of anglers	Hours fished	Total fish caught	Catch per hour	Total trout caught	Trout catch per hour	$\frac{\sum X}{N}$	Number of anglers	Hours fished	Total fish caught	Catch per hour	Total trout caught	Trout catch per hour	$\frac{\sum X}{N}$	Number of anglers	Hours fished	Total fish caught	Catch per hour	Total trout caught	Trout catch per hour	$\frac{\sum X}{N}$
District 1	...	...	...	...	...	...	...	607	1,419.2	1,505	1.1	1,505	1.1	1.0	607	1,419.2	1,505	1.1	1,505	1.1	1.0
District 2	37	90.5	65	0.7	65	0.7	0.7	733	1,816.1	2,017	1.1	1,994	1.1	1.0	770	1,906.6	2,082	1.1	2,059	1.1	1.0
District 3	30	65.5	38	0.6	35	0.5	0.5	334	1,224.0	539	0.4	537	0.4	0.4	364	1,289.5	577	0.4	572	0.4	0.4
District 4	327	757.2	754	1.0	728	1.0	1.3	1,251	3,491.5	3,866	1.1	3,628	1.0	1.2	1,578	4,248.7	4,620	1.1	4,356	1.0	1.2
Region I	394	913.2	857	0.9	828	0.9	1.2	2,925	7,950.8	7,927	1.0	7,664	1.0	1.0	3,319	8,864.0	8,784	1.0	8,492	1.0	1.0
District 5	115	212.0	263	1.2	137	0.6	1.4	1,314	5,067.5	3,800	0.7	3,677	0.7	0.9	1,429	5,279.5	4,063	0.8	3,814	0.7	0.9
District 6	...	...	...	...	...	...	...	1,138	2,827.5	2,171	0.8	2,120	0.7	0.8	1,138	2,827.5	2,171	0.8	2,120	0.7	0.8
District 7	71	159.0	55	0.3	55	0.3	0.4	971	2,501.0	1,264	0.5	1,221	0.5	0.5	1,042	2,660.0	1,319	0.5	1,276	0.5	0.5
District 8	...	...	...	...	...	...	...	576	1,420.7	1,028	0.7	1,026	0.7	0.7	576	1,420.7	1,028	0.7	1,026	0.7	0.7
District 9	...	...	...	...	...	...	...	207	458.2	226	0.5	215	0.5	0.4	207	458.2	226	0.5	215	0.5	0.4
Region II	186	371.0	318	0.9	192	0.5	1.0	4,206	12,274.9	8,489	0.7	8,259	0.7	0.7	4,392	12,645.9	8,807	0.7	8,451	0.7	0.7
District 10	...	...	...	...	...	...	...	490	1,291.5	966	0.7	963	0.7	0.8	490	1,291.5	966	0.7	963	0.7	0.8
District 11	...	...	...	...	...	...	...	273	696.5	535	0.8	531	0.8	0.9	273	696.5	535	0.8	531	0.8	0.9
District 12	...	...	...	...	...	...	...	7	21.0	28	1.3	28	1.3	1.4	7	21.0	28	1.3	28	1.3	1.4
Region III	...	...	...	...	...	...	...	770	2,009.0	1,529	0.8	1,522	0.8	0.8	770	2,009.0	1,529	0.8	1,522	0.8	0.8
State total	580	1,284.2	1,175	0.9	1,020	0.8	1.1	7,901	22,234.7	17,945	0.8	17,445	0.8	0.8	8,481	23,518.9	19,120	0.8	18,465	0.8	0.9

∇ This symbol denotes the mean catch per hour per angler.

Table 6.--Percentage of the total catch contributed by the 10 species taken most frequently in non-trout waters, 1945-1954

Species	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Mean, 1945-1954
Bluegill	48	27	30	45	48	44	42	40	43	37	40
Yellow perch	19	54	40	23	24	29	34	33	27	31	31
Black crappie	9	4	7	10	9	8	6	8	9	8	8
Northern pike	5	3	3	4	5	3	3	3	4	5	4
Pumpkinseed	4	3	3	4	4	4	4	5	5	5	4
Rock bass	2	2	2	4	3	3	3	4	4	3	3
Rainbow trout	√0	0	0	0	0	0	0	0	0	2	0
Largemouth bass	3	1	1	2	2	1	2	2	2	2	2
Walleye	2	1	1	2	1	1	2	2	1	1	1
Smallmouth bass	1	1	1	2	1	1	1	1	1	1	1
Total	93	96	88	96	97	94	97	98	96	95	95

√ Less than 0.5.

Table 7.--Percentage of the total catch contributed by the 10 species taken most frequently in non-trout waters, by conservation districts and regions, 1954

	Bluegill	Yellow perch	Black crappie	Northern pike	Pumpkinseed	Rock bass	Rainbow trout	Largemouth bass	Walleye	Smallmouth bass	Total fish
District 1	13	32	3	7	2	3	3	3	23	2	2,038
District 2	18	34	13	21	2	1	...	1	6	3	4,557
District 3	8	53	...	16	2	✓0	10	2	7	1	3,128
District 4	12	67	0	8	3	6	0	0	2	1	7,390
Region I	13	51	4	13	2	3	2	1	7	2	17,113
District 5	10	22	1	31	17	7	2	4	2	1	11,612
District 6	34	40	1	6	3	6	3	2	1	2	12,622
District 7	33	36	1	6	9	10	1	1	1	1	8,423
District 8	33	46	8	3	3	3	0	1	1	0	20,937
District 9	13	53	19	1	3	2	0	1	...	0	14,338
Region II	25	41	7	8	6	5	1	2	1	1	67,932
District 10	61	12	8	1	6	1	7	1	0	0	23,493
District 11	57	10	10	1	6	3	1	2	0	0	39,127
District 12	22	51	14	0	2	1	1	0	0	1	10,972
Region III	53	17	10	1	5	2	3	2	0	0	73,592
State total	37	31	8	5	5	3	2	2	1	1	158,637

- 19 -

✓ Less than 0.5.

Table 8.--Numbers caught and percentage of the total state catch contributed by the 10 species taken most frequently in non-trout waters, by conservation regions, 1954

Species	REGION I		REGION II		REGION III		Total
	Number	Percentage	Number	Percentage	Number	Percentage	
Bluegill	2,236	4	16,838	29	38,913	67	57,987
Yellow perch	8,792	18	27,869	57	12,432	25	49,093
Black crappie	674	5	4,679	37	7,249	58	12,602
Northern pike	2,136	25	5,692	67	727	8	8,555
Pumpkinseed	411	5	4,063	49	3,871	46	8,345
Rock bass	547	10	3,202	61	1,529	29	5,278
Rainbow trout	387	12	747	24	2,006	64	3,140
Largemouth bass	178	7	1,171	47	1,170	46	2,519
Walleye	1,125	55	821	41	88	4	2,034
Smallmouth bass	268	23	687	60	196	17	1,151
Totals or percentages	16,754	11	65,769	44	68,181	45	150,704

Table 9.--Numbers caught and percentage of the catch in each region contributed by the 10 species taken most frequently in non-trout waters, 1954

Species	REGION I		REGION II		REGION III	
	Number	Percentage	Number	Percentage	Number	Percentage
Bluegill	2,236	13	16,838	25	38,913	53
Yellow perch	8,792	51	27,869	41	12,432	17
Black crappie	674	4	4,679	7	7,249	10
Northern pike	2,136	13	5,692	8	727	1
Pumpkinseed	411	2	4,063	6	3,871	5
Rock bass	547	3	3,202	5	1,529	2
Rainbow trout	387	2	747	1	2,006	3
Largemouth bass	178	1	1,171	2	1,170	2
Walleye	1,125	7	821	1	88	✓0
Smallmouth bass	268	2	687	1	196	0
Totals or percentages	16,754	98	65,769	97	68,181	93

✓  
Less than 0.5.

Table 10.--General creel census data for non-trout lakes, non-trout streams, and all non-trout waters combined, by conservation districts and regions, 1954

	NON-TROUT LAKES					NON-TROUT STREAMS					ALL NON-TROUT WATERS				
	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\Sigma X}{N}$	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\Sigma X}{N}$	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\Sigma X}{N}$
District 1	947	2,174.0	1,983	0.9	1.0	32	56.0	55	1.0	0.8	979	2,230.0	2,038	0.9	1.0
District 2	1,551	4,478.9	3,889	0.9	1.1	320	847.0	668	0.8	0.9	1,871	5,325.9	4,557	0.9	1.1
District 3	1,729	5,866.0	3,126	0.5	0.6	30	103.0	2	0.0	0.0	1,759	5,969.0	3,128	0.5	0.6
District 4	1,356	3,761.0	6,940	1.8	1.9	131	371.0	450	1.2	1.1	1,487	4,132.0	7,390	1.8	1.9
Region I	5,583	16,279.9	15,938	1.0	1.1	513	1,377.0	1,175	0.9	0.9	6,096	17,656.9	17,113	1.0	1.1
District 5	6,024	16,361.3	10,803	0.7	0.8	516	1,094.2	809	0.7	0.8	6,540	17,455.5	11,612	0.7	0.8
District 6	4,257	8,915.0	12,399	1.4	1.4	165	318.0	223	0.7	0.6	4,422	9,233.0	12,622	1.4	1.4
District 7	4,862	9,513.0	8,385	0.9	0.9	73	168.0	38	0.2	0.2	4,935	9,681.0	8,423	0.9	0.9
District 8	6,043	12,294.0	20,497	1.7	1.8	286	601.0	440	0.7	0.8	6,329	12,895.2	20,937	1.6	1.8
District 9	1,968	3,714.3	4,017	1.1	1.1	1,480	3,232.3	10,321	3.2	3.0	3,448	6,946.6	14,338	2.1	1.9
Region II	23,154	50,797.8	56,101	1.1	1.2	2,520	5,413.5	11,831	2.2	2.1	25,674	56,211.3	67,932	1.2	1.3
District 10	7,632	16,990.2	22,374	1.3	1.3	370	919.8	1,119	1.2	1.1	8,002	17,910.0	23,493	1.3	1.3
District 11	9,388	20,477.3	32,476	1.6	1.7	2,109	4,169.0	6,651	1.6	1.6	11,497	24,646.3	39,127	1.6	1.7
District 12	1,609	3,815.5	4,415	1.2	1.1	1,517	3,057.0	6,557	2.1	1.9	3,126	6,872.5	10,972	1.6	1.5
Region III	18,629	41,283.0	59,265	1.4	1.5	3,996	8,145.8	14,327	1.8	1.7	22,625	49,428.8	73,592	1.5	1.5
State total	47,366	108,360.7	131,304	1.2	1.3	7,029	14,936.3	27,333	1.8	1.8	54,395	123,297.0	158,637	1.3	1.4

✓ This symbol denotes the mean catch per hour per angler.

✓ Less than 0.05.

Table 11.--Percentage of the total catch contributed by the seven species taken most frequently in Great Lakes waters, 1945-1954

Species	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Mean, 1945-1954
Yellow perch	86	66	83	86	91	96	94	84	85	90	86
Rock bass	1	3	1	2	√0	0	1	6	4	2	2
Bullheads	1	1	1	0	0	0	0	...	1	2	1
White bass	1	2	...	0	...	...	...	1	1	1	1
Smallmouth bass	2	3	1	1	0	1	1	2	1	1	1
Northern pike	2	2	3	1	1	0	1	0	2	1	1
Walleye	3	8	8	5	4	1	1	4	1	1	4
Total	96	85	97	95	96	98	98	97	95	98	96

√ Less than 0.5.

Table 12.--General creel census data for Great Lakes and connecting waters, by conservation districts and regions, 1954

	GREAT LAKES					CONNECTING WATERS					ALL GREAT LAKES WATERS				
	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\sum X}{N}$ ✓	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\sum X}{N}$	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\sum X}{N}$
District 3	27	97.5	229	2.3	2.5	...	...	...	...	...	27	97.5	229	2.3	2.5
District 4	224	874.0	453	0.5	0.6	274	827.0	607	0.7	0.6	498	1,701.0	1,060	0.6	0.6
Region I	251	971.5	682	0.7	0.8	274	827.0	607	0.7	0.6	525	1,798.5	1,289	0.7	0.7
District 5	39	74.0	36	0.5	0.6	...	...	...	...	...	39	74.0	36	0.5	0.6
District 6	79	175.0	1,944	11.1	11.5	...	...	...	...	...	79	175.0	1,944	11.1	11.5
District 9	682	1,680.0	11,388	6.8	6.7	...	...	...	...	...	682	1,680.0	11,388	6.8	6.7
Region II	800	1,929.0	13,368	6.9	6.9	...	...	...	...	...	800	1,929.0	13,368	6.9	6.9
District 12	3,389	12,080.5	52,631	4.4	4.8	2,519	6,619.5	6,908	1.0	1.1	5,908	18,700.0	59,539	3.2	3.2
Region III	3,389	12,080.5	52,631	4.4	4.8	2,519	6,619.5	6,908	1.0	1.1	5,908	18,700.0	59,539	3.2	3.2
State total	4,440	14,981.0	66,681	4.5	4.9	2,793	7,446.5	7,515	1.0	1.0	7,233	22,427.5	74,196	3.3	3.4

✓ This symbol denotes the mean catch per hour per angler.



Table 13.--Number of resident and non-resident fishermen, and percentage of non-resident fishermen in each conservation district, all waters, 1954

	Total anglers	Resident anglers	Non-resident anglers	Percentage non-resident
District 1	1,586	1,241	345	22
District 2	2,641	1,997	644	24
District 3	2,150	1,595	555	26
District 4	3,563	2,951	612	17
Region I	9,940	7,784	2,156	22
District 5	8,008	6,885	1,123	14
District 6	5,639	4,615	1,024	18
District 7	5,977	5,385	592	10
District 8	6,905	6,030	875	13
District 9	4,337	4,261	76	2
Region II	30,866	27,176	3,690	12
District 10	8,492	6,611	1,881	22
District 11	11,770	10,027	1,743	15
District 12	9,041	8,809	232	3
Region III	29,303	25,447	3,856	13
State total	70,109	60,407	9,702	14

Table 14.--Residence of Michigan fishermen interviewed in the general creel census, 1954<sup>1</sup>

County of residence	Number of males	Number of females	Total	County of residence	Number of males	Number of females	Total
Alcona	161	31	192	Lapeer	249	47	296
Alger	312	10	322	Leelanau	228	22	250
Allegan	516	69	585	Lenawee	907	167	1,074
Alpena	551	90	641	Livingston	328	48	376
Antrim	301	68	369	Luce	779	42	821
Arenac	342	51	393	Mackinac	150	22	172
Baraga	105	5	110	Macomb	1,443	222	1,665
Barry	274	60	334	Manistee	388	66	454
Bay	853	141	994	Marquette	857	63	920
Benzie	277	15	292	Mason	465	52	517
Berrien	550	84	634	Mecosta	416	67	483
Branch	569	83	652	Menominee	136	7	143
Calhoun	1,489	307	1,796	Midland	1,057	172	1,229
Cass	211	35	246	Missaukee	245	27	272
Charlevoix	262	39	301	Monroe	490	24	514
Cheboygan	364	42	406	Montcalm	585	90	675
Chippewa	345	36	381	Montmorency	418	80	498
Clare	312	50	362	Muskegon	1,253	167	1,420
Clinton	371	74	445	Newaygo	294	48	342
Crawford	143	15	158	Oakland	1,185	229	1,414
Delta	101	7	108	Oceana	300	40	340
Dickinson	695	57	752	Ogemaw	157	27	184
Eaton	701	125	826	Ontonagon	199	14	213
Emmet	205	47	252	Osceola	312	38	350
Genesee	1,489	326	1,815	Oscoda	310	40	350
Gladwin	198	8	206	Otsego	203	28	231
Gogebic	325	25	350	Ottawa	273	41	314
Grand Traverse	614	101	715	Presque Isle	363	61	424
Gratiot	793	153	946	Roscommon	135	27	162
Hillsdale	579	78	657	Saginaw	1,627	334	1,961
Houghton	229	35	264	St. Clair	199	41	240
Huron	425	70	495	St. Joseph	226	28	254
Ingham	2,269	540	2,809	Sanilac	339	64	403
Ionia	221	58	279	Schoolcraft	486	26	512
Iosco	64	19	83	Shiawassee	310	63	373
Iron	1,029	89	1,118	Tuscola	206	50	256
Isabella	447	89	536	Van Buren	222	19	241
Jackson	470	90	560	Washtenaw	774	156	930
Kalamazoo	1,746	279	2,025	Wayne	7,488	1,681	9,169
Kalkaska	215	46	261	Wexford	467	59	526
Kent	2,522	520	3,042				
Keweenaw	31	9	40				
Lake	109	25	134				
				<b>Total</b>	<b>50,254</b>	<b>8,600</b>	<b>58,854</b>

<sup>1</sup>The residence of 1,350 males and 203 females was not recorded, therefore they are not included in Tables 14 and 14a.

Table 14a.--Residence of out-of-state fishermen interviewed in the general creel census, 1954

State, Province or Territory of residence	Number of males	Number of females	Total
Alabama	3	1	4
California	11	...	11
Colorado	1	...	1
Florida	24	5	29
Georgia	2	...	2
Illinois	1,145	318	1,463
Indiana	2,534	775	3,309
Iowa	9	2	11
Kansas	7	...	7
Kentucky	29	8	37
Maine	2	...	2
Maryland	1	1	2
Massachusetts	1	...	1
Minnesota	4	3	7
Mississippi	1	1	2
Missouri	27	12	39
Nebraska	3	...	3
New Jersey	4	...	4
New York	17	8	25
North Carolina	3	...	3
North Dakota	1	...	1
Ohio	3,308	982	4,290
Oklahoma	4	1	5
Oregon	3	...	3
Pennsylvania	37	16	53
South Carolina	...	3	3
South Dakota	1	...	1
Tennessee	1	...	1
Texas	6	...	6
Virginia	9	2	11
West Virginia	16	4	20
Wisconsin	298	39	337
Ontario	6	2	8
Alaska	1	...	1
<b>Total</b>	<b>7,519</b>	<b>2,183</b>	<b>9,702</b>

Table 15.--Number of resident and non-resident anglers, number of hours fished, number of fish caught, and the catch per hour for each group--all waters, by conservation districts, 1954

	Resident anglers					Non-resident anglers				
	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\sum X}{N}$	Number of anglers	Hours fished	Fish caught	Catch per hour	$\frac{\sum X}{N}$
District 1	1,241	2,864.7	2,551	0.9	0.9	345	784.5	992	1.3	1.3
District 2	1,997	5,443.0	4,597	0.8	1.0	644	1,789.5	2,042	1.1	1.2
District 3	1,595	5,529.0	2,800	0.5	0.5	555	1,827.0	1,134	0.6	0.7
District 4	2,951	8,391.7	11,182	1.3	1.5	612	1,690.0	1,888	1.1	1.2
Region I	7,784	22,228.4	21,130	1.0	1.1	2,156	6,091.0	6,056	1.0	1.1
District 5	6,885	20,223.3	13,988	0.7	0.8	1,123	2,585.7	1,723	0.7	0.9
District 6	4,615	10,264.5	14,291	1.4	1.5	1,024	1,971.0	2,446	1.2	1.2
District 7	5,385	11,233.0	8,964	0.8	0.8	592	1,108.0	778	0.7	0.7
District 8	6,030	12,692.2	19,422	1.5	1.7	875	1,623.7	2,543	1.6	1.4
District 9	4,261	8,963.8	25,870	2.9	2.6	76	121.0	82	0.7	0.7
Region II	27,176	63,376.8	82,535	1.3	1.4	3,690	7,409.4	7,572	1.0	1.1
District 10	6,611	15,075.5	19,178	1.3	1.3	1,881	4,126.0	5,281	1.3	1.2
District 11	10,027	22,210.3	35,786	1.6	1.7	1,743	3,132.5	3,876	1.2	1.3
District 12	8,809	25,073.5	68,946	2.7	2.6	232	520.0	1,593	3.1	2.8
Region III	25,447	62,359.3	123,910	2.0	1.9	3,856	7,778.5	10,750	1.4	1.4
State total	60,407	147,964.5	227,575	1.5	1.6	9,702	21,278.9	24,378	1.1	1.2

$\frac{\sum X}{N}$  This symbol denotes the mean catch per hour per angler.

Table 16.--Comparison of data from the general creel census, 1945-1954

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Mean, 1945-1954
<b>CATCH PER HOUR:</b>											
All waters	1.1	1.3	1.4	1.1	1.3	1.6	1.4	1.4	1.3	1.5	1.3
Resident	1.1	1.4	1.5	1.2	1.3	1.7	1.4	1.4	1.3	1.5	1.4
Non-resident	0.9	0.8	1.1	1.1	1.1	1.1	1.0	1.1	1.0	1.1	1.0
Trout waters	0.8	0.8	0.8	0.8	0.7	0.6	0.8	0.7	0.6	0.8	0.7
Resident	0.8	0.8	0.8	0.8	0.7	0.6	0.8	0.7	0.7	0.8	0.8
Non-resident	0.7	0.7	0.6	0.7	0.8	0.6	0.7	0.7	0.6	0.8	0.7
Non-trout waters	1.1	1.4	1.4	1.2	1.3	1.6	1.5	1.4	1.4	1.3	1.4
Resident	1.1	1.4	1.5	1.2	1.3	1.7	1.6	1.5	1.4	1.3	1.4
Non-resident	0.8	0.8	1.1	1.1	1.2	1.2	1.0	1.1	1.1	1.1	1.1
Great Lakes waters	2.2	1.6	2.7	2.9	3.1	4.8	3.2	2.6	3.0	3.3	2.9
Resident	2.2	1.6	2.7	3.1	3.2	4.9	3.4	2.6	3.1	3.3	3.0
Non-resident	1.4	0.6	1.9	1.6	1.2	2.7	1.3	2.8	1.3	2.3	1.7
<b>PERCENTAGE OF ALL ANGLERS REPRESENTED BY:</b>											
Non-residents	10	11	10	16	10	10	11	10	15	14	12
Females	16	19	14	19	17	16	17	16	16	16	17
<b>PERCENTAGE OF TROUT ANGLERS REPRESENTED BY:</b>											
Non-residents	5	8	7	6	6	7	6	5	8	6	6
Females	8	7	9	10	12	10	10	10	9	8	9
<b>PERCENTAGE OF NON-TROUT ANGLERS REPRESENTED BY:</b>											
Non-residents	12	13	11	19	11	12	13	12	17	16	14
Females	18	22	16	21	18	18	19	18	18	17	19
<b>PERCENTAGE OF GREAT LAKES ANGLERS REPRESENTED BY:</b>											
Non-residents	7	6	3	13	6	4	8	5	5	4	6
Females	17	18	10	17	16	13	18	14	16	15	15

Table 17.--Catch per hour for all waters, by conservation districts and regions, 1945-1954

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Mean, 1945-1954
District 1	0.8	0.7	0.6	0.8	0.8	0.9	0.8	0.8	0.8	1.0	0.8
District 2	0.6	0.7	0.5	0.9	0.7	1.1	0.7	0.9	1.0	0.9	0.8
District 3	1.6	0.9	0.9	1.1	0.9	0.7	0.9	0.9	0.8	0.5	0.9
District 4	0.9	0.8	1.0	1.3	1.5	1.6	1.4	1.4	1.1	1.3	1.2
Region I	0.8	0.8	0.8	1.0	0.9	1.1	1.0	1.1	1.0	1.0	1.0
District 5	0.7	0.8	1.1	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.8
District 6	1.1	1.0	1.5	1.1	1.2	1.9	1.3	1.2	1.5	1.4	1.3
District 7	0.6	0.6	0.7	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8
District 8	1.4	1.4	1.6	1.3	1.4	1.9	1.8	2.1	1.8	1.5	1.6
District 9	1.2	2.9	3.0	1.2	1.9	2.6	3.3	2.8	2.8	2.9	2.5
Region II	0.9	1.5	1.5	1.0	1.1	1.5	1.4	1.3	1.3	1.3	1.3
District 10	1.6	1.2	1.6	1.6	1.8	2.0	1.8	2.0	1.4	1.3	1.6
District 11	1.1	1.2	1.0	1.1	1.4	1.7	1.8	1.3	1.4	1.6	1.4
District 12	1.6	1.6	2.5	2.2	1.9	2.4	1.4	1.7	1.9	2.8	2.0
Region III	1.4	1.4	1.7	1.6	1.7	2.1	1.6	1.7	1.4	1.9	1.7
Entire state	1.1	1.3	1.4	1.1	1.3	1.6	1.4	1.4	1.3	1.5	1.3

Table 18.--Catch of trout per hour for trout waters, by conservation districts and regions, 1945-1954

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Mean, 1945-1954
District 1	0.9	0.8	0.7	0.7	0.6	0.9	0.7	0.7	0.7	1.1	0.8
District 2	0.8	0.6	0.5	0.7	0.8	0.8	0.7	1.0	1.9	1.1	0.9
District 3	0.8	0.8	0.8	1.1	1.0	0.6	1.1	0.5	0.5	0.4	0.8
District 4	0.7	1.0	1.0	1.2	1.0	1.1	1.3	1.0	0.7	1.0	1.0
Region I	0.8	0.8	0.7	0.9	0.8	0.8	1.0	0.8	0.7	1.0	0.8
District 5	0.9	0.8	0.7	0.7	0.6	0.6	0.7	0.6	0.6	0.7	0.7
District 6	0.9	0.6	1.0	0.9	0.9	0.7	0.7	0.9	0.6	0.7	0.8
District 7	0.6	0.7	0.7	0.7	0.5	0.4	0.5	0.5	0.4	0.5	0.6
District 8	0.7	1.0	0.8	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7
District 9	0.6	0.6	0.6	0.5	0.4	0.1	0.3	0.3	0.5	0.5	0.4
Region II	0.8	0.7	0.8	0.7	0.6	0.5	0.6	0.6	0.6	0.7	0.7
District 10	0.6	0.6	0.5	0.5	0.4	0.6	0.5	0.5	0.7	0.7	0.6
District 11	0.4	0.5	...	0.5	0.4	0.6	0.4	0.5	0.5	0.8	0.5
District 12	0.4	0.4	0.6	...	0.6	0.6	0.3	0.5	0.8	1.3	0.6
Region III	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.5	0.6	0.8	0.6
Entire state	0.8	0.8	0.7	0.8	0.7	0.6	0.7	0.7	0.6	0.8	0.7

Table 19.--Carch per hour for non-trout waters, by conservation districts and regions, 1945-1954

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Mean, 1945-1954
District 1	0.7	0.8	0.4	0.8	0.9	1.0	0.9	0.8	0.9	0.9	0.8
District 2	0.5	0.6	0.5	0.9	0.7	1.1	0.7	0.8	0.9	0.9	0.8
District 3	0.9	0.9	0.6	1.2	0.8	0.9	0.8	1.0	0.8	0.5	0.8
District 4	0.8	0.7	0.8	1.4	1.7	1.8	1.5	1.6	2.1	1.8	1.4
Region I	0.6	0.7	0.6	1.0	0.9	1.2	0.9	1.2	1.2	1.0	0.9
District 5	0.6	0.7	1.2	0.7	0.7	0.9	0.6	0.7	0.7	0.7	0.8
District 6	1.1	0.8	1.4	1.2	1.5	2.4	1.5	1.3	1.7	1.4	1.4
District 7	0.6	0.6	0.6	0.8	0.9	1.2	1.1	1.1	1.0	0.9	0.9
District 8	1.7	1.4	1.8	1.5	1.5	2.1	2.0	2.3	1.9	1.6	1.8
District 9	1.3	3.2	3.5	1.0	1.8	2.3	3.3	2.4	2.4	2.1	2.3
Region II	0.9	1.6	1.7	1.0	1.1	1.7	1.5	1.4	1.4	1.2	1.4
District 10	1.6	1.2	1.6	1.7	1.8	2.1	1.9	2.0	1.4	1.3	1.7
District 11	1.1	1.2	1.0	1.1	1.4	1.7	1.8	1.3	1.4	1.6	1.4
District 12	1.2	1.1	1.3	1.4	1.2	1.1	1.3	1.3	1.2	1.6	1.3
Region III	1.3	1.2	1.4	1.4	1.5	1.7	1.7	1.5	1.4	1.5	1.5
Entire state	1.1	1.4	1.4	1.1	1.3	1.6	1.5	1.4	1.4	1.3	1.4



Table 20.--Catch per hour for Great Lakes waters, by conservation districts and regions, 1945-1954

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Mean, 1945-1954
District 1	0.1	0.1	0.5	0.9	0.3	...	...	0.9	...	...	0.3
District 2	2.3	3.4	1.8	2.9	4.8	...	...	...	...	...	1.5
District 3	4.1	1.2	1.0	1.0	0.9	2.5	0.4	2.0	1.6	2.3	1.7
District 4	1.5	0.7	1.1	1.1	2.9	4.9	1.6	2.8	1.2	0.6	1.8
Region I	2.7	0.6	1.0	1.1	1.1	4.2	0.9	2.3	1.3	0.7	1.6
District 5	1.6	1.0	4.2	1.7	0.4	0.5	0.7	0.5	2.1	0.5	1.3
District 6	0.8	4.6	8.2	12.2	3.6	2.9	5.0	4.3	7.0	11.1	6.0
District 7	4.2	...	0.9	0.3	5.9	...	5.0	...	0.5	...	1.7
District 8	...	...	...	...	...	2.8	...	...	...	...	0.3
District 9	2.2	2.0	5.7	5.8	5.4	5.7	4.9	4.4	5.4	6.8	4.8
Region II	2.5	2.4	7.1	5.5	4.9	5.1	4.7	3.7	4.9	6.9	4.8
District 10	...	2.8	...	...	6.4	6.6	...	10.2	4.0	...	3.0
District 12	2.0	2.0	4.0	3.9	3.3	4.7	2.3	2.2	2.9	3.2	3.1
Region III	2.0	2.0	4.0	3.9	3.4	4.8	2.3	2.4	2.9	3.2	3.1
Entire state	2.2	1.6	2.7	2.9	3.1	4.8	3.2	2.6	3.0	3.3	2.9

Table 21--Total fishing time reported (thousands of hours) and catch per hour in different waters, 1928-1954

Year	Thousands of hours reported	Catch per hour			
		All waters	Trout waters	Non-trout waters	Great Lakes waters
1928	48	1.1	1.2	1.1	...
1929	52	1.0	1.2	0.9	...
1930	74	0.9	0.9	0.9	...
1931	63	0.9	1.0	0.9	...
1932	38	1.3	1.1	1.3	...
1933	47	1.0	0.7	1.3	...
1934	53	1.7	0.8	1.8	...
1935	59	1.6	0.8	1.9	...
1936	67	1.4	0.8	1.7	...
1937	62	1.5	0.8	1.7	...
1938	82	1.3	0.9	1.4	...
1939	109	1.1	0.8	1.1	...
1940	98	1.0	0.8	1.0	...
1941	118	1.0	0.8	1.1	...
1942	151	1.1	0.9	1.1	1.7
1943	103	1.2	0.9	1.2	1.6
1944	152	1.2	0.8	1.1	1.8
1945	144	1.1	0.8	1.1	2.2
1946	145	1.3	0.8	1.4	1.6
1947	96	1.4	0.8	1.4	2.7
1948	161	1.1	0.8	1.2	2.9
1949	168	1.3	0.7	1.3	3.1
1950	130	1.6	0.6	1.6	4.8
1951	123	1.4	0.8	1.5	3.2
1952	123	1.4	0.7	1.4	2.6
1953	148	1.3	0.6	1.4	3.0
1954	169	1.5	0.8	1.3	3.3
Unweighted mean	103	1.2	0.8	1.3	2.7