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MICHIGAN DEPARTMENT OF CONSERVATION
COOPERATING WITH THE
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REPORT OF THE GENERAL CREEL CENSUS FOR 1946

by

Kiyoshi G. Fukano

This report covers the twentieth year of the General Creel Census in Michigan. The conservation officers obtained 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 members of the Division of Field Administration is greatly appreciated and the writer wishes especially to express his appreciation to the conservation officers, who collected the data.

The aim of the general creel census is to obtain a sample of the sport fishing in all parts of the state. The fishing records have been divided into three main groups: trout, non-trout, and Great Lakes waters and these have been subdivided into lakes and streams. The separate tabulations of the data, it is believed, give 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, 6,634 fishermen (14.4 per cent of all anglers contacted) of whom 549 fished on designated trout lakes and the remaining 6,085 fished on streams; (2) non-trout waters, 34,987 anglers (76.0 per cent) of whom 25,228 fished on lakes and 9,759 fished on streams; (3) Great Lakes waters, 4,420 fishermen (9.6 per cent) of whom 2,811 fished in the Great Lakes and the other 1,609 fished in the connecting waters.

CREEL CENSUS—Michigan Department of Conservation

Check, If Stream If Lake County

Name of Lake or Stream Township

SPECIES CAUGHT	LEGAL SIZE		UNDERSIZE	
	Number	Av. Lgth.	Number	Av. Lgth.
Brook Trout.....				
Rainbow Trout.....				
Brown Trout.....				
Largemouth Bass.....				
Bluegills.....				
Smallmouth Bass.....				
Sunfish.....				
Yellow Perch.....				
Rock Bass.....				
Pike Perch (Walleye).....				
Crappies (Speckled Bass).....				
Northern (Grass) Pike.....				
.....				
.....				

Date 19.....

Number of fishermen Male.....
in party: Female.....

Residence: City.....
State.....

One card to be used for each fishing party contacted,
whether or not any fish are caught.

Number of fishermen in party who did not catch
fish?.....

Kind of Fishing :

Ice?..... Still Fishing?.....

Boat?..... Trolling?.....

Shore?..... Casting?.....

Bait used: Natural.....
Artificial.....

If taken by spear, dipnet or other means, state
how.....

(Use other side of Cards for Remarks)

(Enter other kinds taken on blank spaces above)

TIME FISHED	A.M. →	12	1	2	3	4	5	6	7	8	9	10	11	12
	P.M. →													

Draw line through hours and quarter hours fished

200M—5-1-42



Of the 46,041 anglers interviewed by officers, 5,142 (11.2 per cent) were non-residents; women constituted 19.4 per cent of all those contacted. According to the final tabulation of fishing licenses sold in 1946, of a total of 989,332 licenses 263,711 were non-resident (26.7 per cent). The difference in percentage of non-residents contacted in the general creel census and non-resident licenses sold may be due in part to the number of anglers contacted fishing non-trout streams in Arenac County (5,256) none of whom were non-residents. Also there is the probability that the conservation officer is less likely to obtain creel data from 10-day licensees and this could account for part of this discrepancy.

Table 1

Total number of fishermen, total hours fished, total number of legal-sized fish taken, and catch per hour for each Field Administration District and Region, all waters, 1946

	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	3,027	278	3,305	13,032.5	8,763	0.67
District 2	1,467	143	1,610	5,129.1	3,486	0.68
District 3	1,741	175	1,916	6,278.1	5,912	0.94
District 4	1,909	427	2,336	8,182.8	6,366	0.78
Region 1	8,144	1,023	9,167	32,622.5	24,527	0.75
District 5	3,783	713	4,496	14,116.3	10,768	0.76
District 6	1,437	200	1,637	5,314.4	5,208	0.98
District 7	4,208	972	5,180	14,266.5	7,995	0.56
District 8	2,629	476	3,105	9,320.2	12,356	1.33
District 9	4,238	2,708	6,946	21,756.4	63,013	2.90
Region 2	16,295	5,069	21,364	64,773.8	99,340	1.53
District 10	4,117	798	4,915	13,580.1	16,993	1.25
District 11	4,174	916	5,090	15,026.8	18,802	1.25
District 12	4,370	1,135	5,505	19,472.4	30,543	1.57
Region 3	12,661	2,849	15,510	48,079.3	66,338	1.38
District total	37,100	8,941	46,041	145,475.6	190,205	1.31

Records of intensive lake and stream censused have not been included in this report. Only legal-size fish caught by sport anglers have been considered. The term "fisherman-day" denotes the time which the angler had spent fishing that day prior to being interviewed by the conservation officer.

Detailed Analysis

During 1946 the officers interviewed 46,041 fishermen, an increase of 3,758 anglers (8.9 per cent) from the records collected in 1945. The 1946 records represent 145,475.6 hours of fishing, an increase of 1,561.7 hours (1.1 per cent) over that for the previous year. The number of fish caught in 1946 was 190,205, an increase of 29,190 fish (18.1 per cent) from the previous year. The catch per unit of effort was 1.3 fish per hour in 1946 as compared to 1.1 fish per hour in 1945.

No records of fishing were submitted in 1946 from four counties: Kalamazoo, Kalkaska, Saginaw, and Tuscola. Although the latter contains within its border few lakes and streams, there is an abundance of good perch fishing in the Quanicassee River in the spring. In Kalamazoo County there are many lakes and streams which afford a good deal of fishing for warm-water fishes and in Kalkaska County there are a fair number of trout streams and non-trout lakes. A lack of records from these counties and other counties from which there are only a few records tend to prejudice the statewide sample of fishing. The goal of four hundred records per county was attained by officers in thirty-eight counties in 1946. The number of records submitted by counties are found in Table 2.

In this report the various types of waters are separated into Field Administration Districts. Since the conservation officers gather the data from which this report is written, it is thought that the report would be better understood by them if Field Administration Districts were used instead of Hatchery Districts as has been done in the past. Three counties,

Table 2

Number of reports submitted by Conservation Officers
during 1945, and 1946 by counties

County	Number of reports for 1946	Number of reports for 1945	County	Number of reports for 1946	Number of reports for 1945
Alcona	192	244	Lake	121	291
Alger	582	346	Lapeer	804	250
Allegan	620	617	Leelanau	223	242
Alpena	280	591	Lenawee	867	1,004
Antrim	195	367	Livingston	313	791
Arenac	5,706	270	Luce	179	273
Baraga	484	256	Mackinac	591	283
Barry	243	677	Macomb	278	196
Bay	67	147	Manistee	395	411
Benzie	37	754	Marquette	654	549
Berrien	370	675	Mason	62	119
Branch	657	691	Mecosta	280	34
Calhoun	355	224	Menominee	426	323
Cass	464	499	Midland	216	320
Charlevoix	596	287	Missaukee	405	524
Cheboygan	1,307	1,201	Monroe	77	529
Chippewa	1,011	149	Montcalm	383	343
Clare	209	379	Montmorency	966	681
Clinton	337	767	Muskegon	968	291
Crawford	386	36	Newaygo	368	192
Delta	680	431	Oakland	946	767
Dickinson	420	469	Oceana	625	191
Eaton	329	106	Ogemaw	205	173
Emmet	556	281	Ontonagon	344	194
Genesee	932	957	Osceola	298	391
Gladwin	333	752	Oscoda	382	903
Gogebic	1,653	1,075	Otsego	238	231
Grand Traverse	332	413	Ottawa	588	1,394
Gratiot	129	214	Presque Isle	358	223
Hillsdale	343	218	Roscommon	3,959	3,307
Houghton	487	421	Saginaw	-	84
Huron	455	763	St. Clair	1,097	884
Ingham	126	303	St. Joseph	636	550
Ionia	829	632	Sanilac	267	211
Iosco	56	347	Schoolcraft	555	407
Iron	764	2,523	Shiawassee	580	465
Isabella	286	79	Tuscola	-	102
Jackson	681	944	Van Buren	192	195
Kalamazoo	-	339	Washtenaw	502	557
Kalkaska	-	253	Wayne	649	866
Kent	973	1,301	Wexford	245	347
Keweenaw	337	198			
			Total	46,041	42,283

Alger, Kent, and Ottawa, lie in two Field Administration Districts. It was impossible to separate slips by the districts submitting them; therefore, in this report all of Alger County is considered in District 3 and both Kent County and Ottawa County, in District 10.

Fishing in Trout, Non-Trout, and Great Lakes Waters
by Field Administration Districts

In Table 3 the data for 1946 on the numbers and percentage of anglers using the various waters arranged by Field Administration Districts and Regions are given.

Table 3

Number and percentages of fishermen interviewed on trout, non-trout, and Great Lakes waters by Field Administration Districts and Regions, 1946

District	TROUT WATERS		NON-TROUT WATERS		GREAT LAKES WATERS		Total fishermen
	Number of fishermen	Percentage of fishermen	Number of fishermen	Percentage of fishermen	Number of fishermen	Percentage of fishermen	
District 1	1,660	50.23	1,070	32.37	575	17.40	3,305
District 2	447	27.76	1,086	67.45	77	4.78	1,610
District 3	940	49.06	542	28.29	434	22.65	1,916
District 4	665	28.47	1,163	49.78	508	21.75	2,336
Region 1	3,712	40.49	3,861	42.12	1,594	17.39	9,167
District 5	1,084	24.11	3,365	74.84	47	1.05	4,496
District 6	562	34.33	993	60.66	82	5.01	1,637
District 7	190	3.67	4,990	96.33	...	...	5,180
District 8	424	13.66	2,681	86.34	...	...	3,105
District 9	368	5.30	6,250	89.98	328	4.72	6,946
Region 2	2,628	12.30	18,279	85.56	457	2.14	21,364
District 10	241	4.94	4,549	93.18	92	1.88	4,882
District 11	49	0.96	5,074	99.04	...	...	5,123
District 12	4	0.07	3,224	58.56	2,277	41.36	5,505
Region 3	294	1.90	12,847	82.83	2,369	15.27	15,510
Entire State	6,634	14.41	34,987	75.99	4,420	9.60	46,041

The greatest percentage of records for trout fishing in any district was taken in District 1 where 50.23 per cent of the 3,305 anglers fished in trout waters. District 3 and District 6 followed with 49.06 per cent based on 1,916 records and 34.33 per cent based on 1,637 records respectively. The nine districts which make up Regions 1 and 2 furnished 95.6 per cent of all the trout

fishing recorded. Also, the trout fishing in these regions constituted 20.8 per cent of all the fishing in that area. Trout anglers in Region 3 contributed the remaining 4.4 per cent of all trout fishing records and these anglers made up only 1.9 per cent of all fishing recorded in this area.

Field Administration District 11 had the greatest percentage of non-trout fishing records with 99.04 per cent based on 5,123 fisherman days. District 7 followed with 96.33 per cent based on 5,180 records and then District 10 with 93.18 per cent based on 4,882 fisherman-days.

Of the twelve districts only one, District 11, does not border one of the Great Lakes or their connecting waters. Nine of the remaining eleven districts submitted records on Great Lakes sport fishing, only Districts 7 and 8 failed to do so. The conservation officers obtained relatively few records from Great Lakes fishing, perhaps, the reason is that the resident anglers does not need a license to fish in such waters, although non-residents fishing in Great Lakes water are required to have a fishing license. District 12 furnished the highest percentage with 41.36 per cent based on 5,505 records.

Quality of Fishing, All Waters
By Field Administration Districts and Regions

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 number of fish caught per hour of fishing and this varies considerably with the type of angling done by the fisherman as well as to the skill of the angler. Districts 9, 12, and 8 had a catch per hour of 2.9, 1.6, and 1.3 respectively. In District 9 the high figure was due to the huge number of yellow perch (57,187) taken in non-trout streams near Saginaw Bay in Arenac County by 5,256 anglers in 15,593.0 hours of fishing. The high quality of fishing in District 12 was due mainly to the 12,409 records taken in the Great Lakes and their connecting waters. The high catch per unit of fishing effort in District 8 was due to the great percentage of fishermen angling in non-trout waters with good success.

Region 2 furnished a catch of 1.5 fish per hour, which is the best fishing in terms of fish taken per hour, whereas Regions 3 and 1 furnished catches 1.4 and 0.8 fish per hour respectively. Furthermore, 99,340 fish (52.2 per cent) of the total 190,205 fish recorded in the census were taken in Region 2; 66,338 fish (34.9 per cent) were caught in Region 3, and the remaining 24,527 fish (12.9 per cent) were taken in Region 1.

Number of Trout Taken in Trout Waters
by Field Administration Districts and Regions

Brook trout, as in past years, made up the bulk (75.02 per cent) of the total trout catch. Rainbow trout (15.11 per cent) and brown trout (9.87 per cent) made up the remainder of the trout catch. The numbers and percentages of each of the three main species of trout are given in Table 4. These figures indicate a slight decrease in the percentage of brook trout (76.75 per cent for 1945) and brown trout (11.44 per cent for 1945), whereas there was an increase in the percentage of rainbow trout caught (11.8 per cent for 1945).

Table 4

Number and percentage of total trout catch made up by each of the three species of trout--trout, waters, by Field Administration Districts and Regions, 1946

District or Region	BROOK TROUT		RAINBOW TROUT		BROWN TROUT		Total trout
	Number	Percentage	Number	Percentage	Number	Percentage	
District 1	3,993	87.62	432	9.48	132	2.90	4,557
District 2	778	88.71	85	9.69	14	1.60	877
District 3	1,932	80.80	222	9.28	237	9.91	2,391
District 4	2,241	91.58	165	6.74	41	1.68	2,447
Region 1	8,944	87.07	904	8.80	424	4.13	10,272
District 5	1,457	62.91	441	19.04	418	18.05	2,316
District 6	586	55.65	434	41.22	33	3.13	1,053
District 7	217	44.93	89	18.43	177	36.64	483
District 8	652	57.34	306	26.91	179	15.74	1,137
District 9	263	32.31	240	29.48	311	38.21	814
Region 2	3,175	54.71	1,510	26.02	1,118	19.27	5,803
District 10	193	55.62	85	24.50	69	19.88	347
District 11	133	79.64	8	4.79	26	15.57	167
District 12	3	100.00	...	...	...	...	3
Region 3	329	63.64	93	17.99	95	18.37	517
Total or percentage	12,448	75.02	2,507	15.11	1,637	9.87	16,592

As might be expected, the largest percentage of all brook trout recorded were caught in Region 1 (71.85 per cent) and the greatest percentage of all rainbow and brown trout were taken in Region 2 (60.23 per cent and 68.30 per cent respectively). Of all the trout reported 96.88 per cent were taken in Regions 1 and 2.

Other Species Taken from Trout Waters

The three species of trout make up 95.4 per cent of all fish recorded from trout waters. Fourteen other species of fish were reported taken from trout waters and are listed in order of abundance as follows:

Sucker	241	Largemouth bass	17
Yellow perch	154	Black crappie	17
Bluegill	96	Bullheads	16
Walleye	93	Chubs	12
Northern pike	57	Smallmouth bass	10
Lake trout	38	Shiners	10
Rock bass	36	Redhorse	10
		Total	<u>807</u>

Catch per Hour--Trout Waters
by Field Administration Districts and Regions

Anglers fishing for trout were recorded in all the twelve districts. Trout fishermen, 14.41 per cent of all anglers interviewed, had the same degree of success (0.8 fish per hour) as they did in 1944 and 1945. As shown by the catch per hour, trout fishing was best in District 4. Separating trout waters into lakes and streams revealed that the 0.8 fish per hour in trout streams was slightly better than the rate in trout lakes (Table 5). The majority of trout anglers, 91.7 per cent, fished in streams. The highest catch per hour (1.13 fish) for designated trout lakes was recorded again from District 4 and in the same district the highest catch per hour for trout streams was recorded.

Composition of Catch--
All Non-Trout Waters

During 1946 in the creel from non-trout waters there were thirty-one different species of fish caught. Bluegill was replaced by yellow perch as the species caught in greatest numbers. The change is due to the huge number

Table 5

General creel census data for trout lakes, trout streams, and all trout waters combined, by Field Administration Districts and Regions, 1946

	TROUT LAKES				TROUT STREAMS				ALL TROUT WATERS			
	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour
District 1	84	452.5	216	0.48	1,576	5,436.1	4,547	0.84	1,660	5,888.6	4,763	0.81
District 2	37	81.8	55	0.67	410	1,359.3	862	0.63	447	1,441.1	917	0.64
District 3	199	697.9	422	0.60	741	2,376.9	2,112	0.89	940	3,074.8	2,534	0.82
District 4	83	241.5	274	1.13	582	2,200.3	2,229	1.01	665	2,441.8	2,503	1.03
Region 1	403	1,473.7	967	0.66	3,309	11,372.6	9,750	0.86	3,712	12,846.3	10,717	0.83
District 5	79	229.3	126	0.55	1,005	2,700.5	2,370	0.88	1,084	2,929.8	2,496	0.85
District 6	...	...	...	...	562	1,698.4	1,108	0.65	562	1,698.4	1,108	0.65
District 7	6	10.7	13	1.21	184	673.2	472	0.70	190	683.9	485	0.71
District 8	...	...	...	...	424	1,249.2	1,146	0.92	424	1,249.2	1,146	0.92
District 9	61	530.0	225	0.42	307	849.1	699	0.82	368	1,379.1	924	0.67
Region 2	146	770.0	364	0.47	2,482	7,170.4	5,795	0.81	2,628	7,940.4	6,159	0.78
District 10	...	...	...	...	274	782.5	485	0.62	274	782.5	485	0.62
District 11	...	...	...	...	16	58.5	35	0.60	16	58.5	35	0.60
District 12	...	...	...	...	4	7.0	3	0.43	4	7.0	3	0.43
Region 3	...	...	...	...	294	848.0	523	0.62	294	848.0	523	0.62
District Total	549	2,243.7	1,331	0.59	6,085	19,391.0	16,068	0.83	6,634	21,634.7	17,399	0.80

Table 6

Percentage catch of the most important species from non-trout
waters, by Field Administration Districts, 1946

	Yellow perch	Bluegill	Black crappie	Northern pike	P'seed sunfish	Rock bass	Sucker	Walleye	L.W. Bass	Bullhead	Carp	S.M. Bass
District 1	39.17	23.12	3.79	4.83	0.83	2.43	0.85	10.44	2.46	0.27	...	5.85
District 2	42.42	0.89	11.09	16.37	...	1.26	5.52	9.15	6.39	0.63	...	4.50
District 3	18.38	38.87	0.72	9.19	0.46	3.94	0.33	5.58	10.05	4.60	...	3.61
District 4	33.29	12.47	0.08	15.94	4.27	20.82	1.04	8.01	0.38	1.96	...	1.19
Region 1	35.12	18.13	3.87	10.80	1.50	7.23	1.79	8.79	3.90	1.45	...	4.01
District 5	48.34	5.54	1.43	16.79	2.02	3.99	2.98	1.49	0.48	7.81	...	0.92
District 6	30.11	29.79	1.96	5.02	1.39	9.64	11.32	2.46	0.43	0.04	...	3.91
District 7	19.07	45.15	1.45	5.75	16.68	6.18	1.40	2.70	0.19	0.27	...	0.77
District 8	39.23	42.32	5.90	2.13	1.89	1.45	0.79	2.05	1.01	...	...	1.09
District 9	96.63	1.32	1.48	0.16	0.05	0.16	0.01	0.03	0.06	0.07	...	0.01
Region 2	76.39	11.45	2.04	2.55	1.90	1.48	0.85	0.72	0.24	0.78	...	0.42
District 10	17.35	51.57	10.08	1.56	3.58	1.37	3.80	0.21	1.52	0.85	6.89	0.35
District 11	8.56	63.82	9.20	1.74	4.35	3.46	3.53	0.23	2.35	1.32	0.77	0.32
District 12	14.36	66.78	6.72	1.70	2.01	1.73	0.19	0.96	1.63	1.79	0.89	0.84
Region 3	13.00	60.25	8.92	1.67	3.53	2.32	2.83	0.40	1.89	1.27	2.93	0.45
Entire state	53.67	27.21	4.33	2.84	2.38	2.14	1.54	1.17	1.01	0.98	0.92	0.67

of yellow perch taken in District 9 from non-trout streams emptying into Saginaw Bay. Other important species recorded were: bluegill, black crappie, northern pike, pumpkinseed sunfish, rock bass, sucker, walleye, largemouth bass, bullheads, carp, and smallmouth bass. These twelve species comprised 98.9 per cent of the total non-trout waters catch and the remaining nineteen species constituted 1.1 per cent. The nineteen species not listed in Table 6 in order of abundance are as follows:

Smelt	312	Sheepshead	30
Brook trout	251	Warmouth bass	23
Cisco	245	Lake trout	18
Rainbow trout	243	Chubs	15
White bass	189	Saugers	13
Dogfish	86	Gar pike	13
Catfish	60	Stoneroller	7
Brown trout	53	Muskellunge	4
Redhorse	45	Golden Shiner	2
Whitefish	34	Total	<u>1,643</u>

The three species of trout--brook, brown, rainbow--made up only 0.4 per cent of the total catch from non-trout water.

Composition of Catch--Non-Trout Waters,
by Field Administration Districts and Regions

The twelve species most frequently taken in non-trout waters and their percentage abundance in the total catch for each Field Administration District are given in Table 6. In each district these fish made up at least 91 per cent of the total catch. Furthermore, they constituted more than 95 per cent in ten of the districts.

Table 7

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

Kind of fish	1938	1939	1940	1941	1942	1943	1944	1945	1946
Bluegill	44.7	41.3	32.8	43.4	37.4	48.3	44.2	48.0	27.2
Yellow perch	17.4	22.2	28.3	24.6	23.8	17.8	21.1	18.4	53.7
Black crappie	3.0	3.4	5.0	5.1	5.8	8.3	5.8	9.2	4.3
Pumpkinseed	5.6	5.6	5.4	5.6	5.1	4.4	4.8	3.6	2.4
Northern pike	3.2	3.1	3.6	2.8	3.4	3.3	4.6	5.3	2.8
Walleye	2.6	2.6	2.3	2.6	2.8	3.2	3.6	2.0	1.2
Rock bass	5.9	5.9	7.6	5.4	4.2	3.2	3.6	2.3	2.1
Largemouth bass	2.6	2.2	2.1	2.5	2.2	2.5	2.6	2.6	1.0
Smallmouth bass	2.3	2.4	2.8	2.7	2.2	1.7	1.8	1.1	0.7
Total	87.3	88.7	89.9	94.7	86.9	92.7	92.1	92.5	95.4

The composition of the total non-trout catch has been determined by Field Administration 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 taken 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 12 species tabulated by Field Administration Regions--all non-trout waters, 1946

Kind of fish	REGION 1		REGION 2		REGION 3		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Total	percentage
Yellow perch	3,488	4.50	68,121	87.91	5,884	7.59	77,493	100.00
Bluegill	1,800	4.58	10,209	25.99	27,275	69.43	39,284	100.00
Black crappie	384	6.15	1,823	29.19	4,038	64.66	6,245	100.00
Northern pike	1,073	26.15	2,275	55.45	755	18.40	4,103	100.00
Pumpkinseed	149	4.33	1,697	49.29	1,597	46.38	3,443	100.00
Rock bass	718	23.26	1,317	42.66	1,052	34.08	3,087	100.00
Sucker	178	8.02	759	34.19	1,283	57.79	2,220	100.00
Walleye	873	51.59	639	37.77	180	10.64	1,692	100.00
Largemouth bass	387	26.58	213	14.63	856	58.79	1,456	100.00
Bullhead	144	10.16	698	49.26	575	40.58	1,417	100.00
Carp	...	...	...	...	1,327	100.00	1,327	100.00
Smallmouth bass	398	40.86	371	38.09	205	21.05	974	100.00
Totals or percentages	9,592	6.72	88,122	61.74	45,027	31.54	142,741	100.00

Table 9

Number and percentage of each species caught in the total catch in each of the three Field Administration Regions--all non-trout waters, 1946

Kind of fish	REGION 1		REGION 2		REGION 3	
	Number	Percentage	Number	Percentage	Number	Percentage
Yellow perch	3,488	35.12	68,121	76.39	5,884	13.00
Bluegill	1,800	18.13	10,209	11.45	27,275	60.25
Black crappie	384	3.87	1,823	2.04	4,038	8.92
Northern pike	1,073	10.80	2,275	2.55	755	1.67
Pumpkinseed	149	1.50	1,697	1.90	1,597	3.53
Rock bass	718	7.23	1,317	1.48	1,052	2.32
Sucker	178	1.79	759	0.85	1,283	2.83
Walleye	873	8.79	639	0.72	180	0.40
Largemouth bass	387	3.90	213	0.24	856	1.89
Bullhead	144	1.45	698	0.78	575	1.27
Carp	...	...	...	...	1,327	2.93
Smallmouth bass	398	4.01	371	0.42	205	0.45
Totals or percentages	9,592	96.59	88,122	98.81	45,027	99.46

In 1946 the yellow perch was taken in greater numbers from non-trout waters than any other single species. Almost 88 per cent of all yellow perch reported were taken from Region 2. The bluegill, which is usually the dominant species, was caught most frequently in Region 3 and next in Region 2 and lastly in Region 1. Over 95 per cent of all yellow perch and all bluegills recorded in the 1946 general creel census were taken in the Lower Peninsula. The bluegill, black crappie, largemouth bass, sucker, and carp were taken most often in Region 3. The following species were caught most frequently in Region 2: yellow perch, northern pike, pumpkinseed sunfish, rock bass, and bullheads. The walleye and smallmouth bass were recorded as most prevalent in the catch from Region 1. In 1945 pumpkinseed sunfish and bullheads were caught in greatest numbers in Region 3; but in 1946 they were more numerous in Region 2. These species were the only ones whose dominance in the catch was not followed by a similar dominance in the same region in the succeeding year.

In each of the three regions the catch of bluegill and perch together made up more than half of the total catch. For the entire state these two species constituted 80.9 per cent of the total catch. The only other species which made up more than 10 per cent of the total catch of any one region was the northern pike which made up 10.80 per cent in Region 1.

Catch per Hour--Non-Trout Waters,
by Field Administration District and Regions

The highest catch per hour for non-trout waters was recorded in District 9 (Table 10). Districts 8, 10, 11, and 12 had a catch of better than 1.0 fish per hour. In 1946 the catch from non-trout waters for the entire state was 1.4 fish per hour as compared to 1.1 for 1945. Of the anglers interviewed in the state non-trout anglers in inland waters constituted 76.0 per cent. Of these, 72.1 per cent fished in lakes and the remaining 27.9 per cent fished in non-trout streams. Lake fishing was best in District 8, where the anglers caught 1.5 fish per hour, followed by Districts 10 and 11 both with 1.4 fish per hour, and District 12 (1.2 fish per hour). For non-trout streams District 9 yielded the

Table 10

General creel census data for non-trout lakes, non-trout streams, and
all non-trout waters combined, by Field Administration Districts, 1946

	NON-TROUT LAKES				NON-TROUT STREAMS				ALL NON-TROUT WATERS			
	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour
District 1	1,035	4,450.7	3,686	0.83	35	117.0	59	0.50	1,070	4,567.7	3,745	0.82
District 2	691	2,472.7	1,201	0.49	395	1,065.0	864	0.81	1,086	3,537.7	2,065	0.58
District 3	508	1,559.8	1,178	0.95	34	67.0	45	0.67	542	1,626.8	1,523	0.94
District 4	1,014	3,445.9	2,435	0.71	149	361.5	163	0.45	1,163	3,807.4	2,598	0.68
Region 1	3,248	11,929.1	8,800	0.74	613	1,610.5	1,131	0.70	3,861	13,539.6	9,931	0.73
District 5	2,703	8,965.0	5,391	0.60	662	2,073.0	2,737	1.32	3,365	11,038.0	8,128	0.74
District 6	947	3,142.8	2,643	0.84	46	194.7	167	0.86	993	3,337.5	2,810	0.84
District 7	4,966	13,492.6	7,469	0.55	24	90.0	41	0.46	4,990	13,582.6	7,510	0.55
District 8	2,456	7,301.9	10,785	1.48	225	769.1	425	0.55	2,681	8,071.0	11,210	1.39
District 9	695	2,393.0	1,649	0.69	5,555	16,709.5	57,873	3.46	6,250	19,102.5	59,522	3.12
Region 2	11,767	35,295.3	27,937	0.79	6,512	19,836.3	61,243	3.09	18,279	55,131.6	89,180	1.62
District 10	3,513	9,348.5	13,220	1.41	1,036	3,198.1	2,576	0.81	4,549	12,546.6	15,796	1.26
District 11	3,992	11,542.1	16,492	1.43	1,082	3,426.2	2,275	0.66	5,074	14,968.3	18,767	1.25
District 12	2,708	7,895.1	9,529	1.21	516	1,556.9	1,181	0.76	3,224	9,452.0	10,710	1.13
Region 3	10,213	28,785.7	39,241	1.36	2,634	8,181.2	6,032	0.74	12,847	36,966.9	45,273	1.22
District totals	25,228	76,010.1	75,978	1.00	9,759	29,628.0	68,406	2.31	34,987	105,638.1	144,384	1.37

highest catch per hour (3.46 fish per hour) and in only District 5 was the catch as high as 1.0 fish per hour.

Composition of catch--
Great Lakes Waters

Of the 28,422 fish recorded from the Great Lakes waters the yellow perch made up the bulk of the total catch, 65.73 per cent (Table 11). The following ten species are arranged according to their abundance in the catch: yellow perch, cisco, walleye, rock bass, smallmouth bass, northern pike, white bass, black crappie, lake trout, and pumpkinseed sunfish.

Table 11

Percentage composition of the total catch for Great Lakes waters, by Field Administration Districts (only the 9 most abundant species for 1946 are considered).

Kind of fish	1942	1943	1944	1945	1946
Yellow perch	84.23	76.67	72.16	86.46	65.73
Herring	0.09	0.12	1.52	3.28	12.47
Walleye	1.68	6.53	6.50	3.09	7.81
Rock bass	3.80	2.95	3.82	0.60	3.19
Smallmouth bass	2.10	6.29	3.81	1.72	3.15
Northern pike	1.17	1.74	2.12	2.51	2.33
White bass	...	1.21	1.80	0.80	2.12
Black crappie	0.64	0.31	3.07	0.06	1.29
Lake trout	1.66	0.17	0.20	0.06	0.64
Total	95.37	95.99	95.00	98.58	98.73

These species constituted 99.16 per cent of all fish taken from the Great Lakes waters and the remaining 0.84 per cent was made up of the following nine species:

Bullhead	114	Rainbow trout	6
Largemouth bass	79	Sucker	5
Catfish	12	Carp	4
Brook trout	10	Dogfish	3
Muskellunge	7	Total	<u>240</u>

Catch per Hour--Great Lakes Waters
by Field Administration Districts and Regions

Records of angling in the Great Lakes waters were submitted by nine of the twelve districts in 1946. District 11 is the only Field Administration District which does not border on the Great Lakes or their connecting waters.

The highest catch per unit of effort in Great Lakes waters was reported from District 6 (4.6 fish per hour). In five of the districts the anglers experienced a catch of 2.0 fish per hour or better and the average for all Great Lakes waters was 1.6 fish per hour.

Fishing in the Great Lakes proper was considerably better than in the connecting waters (1.8 fish per hour and 1.1 fish per hour respectively). The only districts having connecting waters within their limits are District 4 and 12. In both cases the fishing in the Lakes proper was at least twice as good as in the connecting waters.

Residence of anglers
All Waters

Of the 46,041 fishermen interviewed in the 1946 general creel census there were 40,899 (88.8 per cent) who resided in Michigan and the remaining 5,142 (11.2 per cent) were out-of-state guests (Table 13). The greatest number of non-resident anglers were contacted by Conservation officers in District 10 (871 anglers). In this district 17.7 per cent of all fishermen interviewed were taken outside the state. In District 9 the officers interviewed the fewest non-residents (18) and these anglers comprised only 0.3 per cent of all fishermen recorded in the district.

During 1945 residents of Wayne County constituted 12.1 per cent of all anglers contacted. More than 1,000 anglers were reported from each of seven other counties as follows: Genesee - 2,737 (5.9 per cent); Ingham - 1833 (4.0 per cent); Kent - 1,682 (3.7 per cent); Saginaw - 1,523 (3.3 per cent); Bay - 1,376 (3.0 per cent); Gogebic - 1,373 (3.0 per cent); and Muskegon - 1,011 (2.2 per cent). Residents of these eight counties made up 37.2 per cent of all anglers interviewed. All counties in the state were represented

Table 12

General creel census data for the Great Lakes, connecting waters,
and such waters combined, by Field Administration Districts, 1946

	GREAT LAKES				CONNECTING WATERS				ALL GREAT LAKES WATERS			
	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour	Number of anglers	Total hours fished	Total legal fish taken	Catch per hour
District 1	575	2,576.2	255	0.10	...	...	...	...	575	2,576.2	255	0.10
District 2	77	150.3	504	3.35	...	...	...	...	77	150.3	504	3.35
District 3	434	1,576.5	1,855	1.18	...	...	...	...	434	1,576.5	1,855	1.18
District 4	30	102.0	342	3.35	478	1,831.6	923	0.50	508	1,933.6	1,265	0.65
Region 1	1,116	4,405.0	2,956	0.67	478	1,831.6	923	0.50	1,594	6,236.6	3,879	0.62
District 5	47	148.5	144	0.97	...	...	...	...	47	148.5	144	0.97
District 6	82	278.5	1,290	4.63	...	...	...	...	82	278.5	1,290	4.63
District 7	...	...	...	...	...	...	...	...	...	...	...	...
District 8	...	...	...	...	...	...	...	...	...	...	...	...
District 9	328	1,274.8	2,567	2.01	...	...	...	...	328	1,274.8	2,567	2.01
Region 2	457	1,701.8	4,001	2.35	...	...	...	...	457	1,701.8	4,001	2.35
District 10	92	251.0	712	2.84	...	...	...	...	92	251.0	712	2.84
District 12	1,146	5,223.4	13,523	2.59	1,131	4,790.0	6,307	1.32	2,277	10,013.4	19,830	1.98
Region 3	1,238	5,474.4	14,235	2.60	1,131	4,790.0	6,307	1.32	2,369	10,264.4	20,542	2.00
District total	2,811	11,581.2	21,192	1.83	1,609	6,621.6	7,230	1.09	4,420	18,202.8	28,422	1.56

Table 13

Number of fishermen, resident and non-resident, and percentages of non-resident fishermen in each Field Administration District, all waters, 1946

	Total number anglers	Resident anglers	Non- resident anglers	Percentage non- residents
District 1	3,305	2,890	415	12.56
District 2	1,610	1,328	282	17.52
District 3	1,916	1,701	215	11.22
District 4	2,336	1,683	653	27.95
Region 1	9,167	7,602	1,565	17.07
District 5	4,496	3,851	645	14.35
District 6	1,637	1,408	229	13.99
District 7	5,180	4,465	715	13.80
District 8	3,105	2,807	298	9.60
District 9	6,946	6,928	18	0.26
Region 2	21,364	19,459	1,905	8.92
District 10	4,915	4,044	871	17.72
District 11	5,090	4,337	753	14.79
District 12	5,505	5,457	48	0.87
Region 3	15,510	13,838	1,672	10.78
State total	46,041	40,899	5,142	11.17

in the census records (Table 15).

In addition to the resident anglers conservation officers interviewed fishermen from twenty-four states in the Union, Ontario, and the District of Columbia. The four states bordering Michigan furnished 94.8 per cent of all the non-resident anglers. Anglers from Ohio made up 47.7 per cent, from Indiana, 25.2 per cent, from Illinois, 13.6 per cent, and from Wisconsin, 8.3 per cent. The county of residence for Michigan anglers and the state of residence for non-residents are given in Table 15.

Catch per Hour--Resident
and Non-resident Anglers

During 1946 as in past years, resident anglers were slightly more successful than were the non-residents (Table 14). In only two districts (District 2 and 12) was the catch per unit of effort of non-resident anglers higher than that of the resident anglers. The average catch per

Table 14

Number of resident and non-resident anglers, number of unsuccessful anglers, number of hours spent fishing, number of legal-sized fish caught, and the catch per hour for each group---all waters, by Field Administration Districts, 1946

	RESIDENT ANGLERS					NON-RESIDENT ANGLERS					ALL ANGLERS				
	Total number	Number unsuccessful	Total hours fished	Number legal fish	Catch per hour	Total number	Number unsuccessful	Total hours fished	Number legal fish	Catch per hour	Total number	Number unsuccessful	Total hours fished	Number legal fish	Catch per hour
District 1	2,890	1,155	11,211.2	7,757	0.69	415	169	1,821.3	1,006	0.55	3,305	1,324	13,032.5	8,763	0.67
District 2	1,328	562	4,272.8	2,811	0.66	282	109	856.3	675	0.79	1,610	671	5,129.1	3,486	0.68
District 3	1,701	495	5,578.2	5,324	0.95	215	73	699.9	588	0.84	1,916	568	6,278.1	5,912	0.94
District 4	1,683	531	5,837.4	4,913	0.84	653	239	2,345.4	1,453	0.62	2,336	770	8,182.8	6,366	0.78
Region 1	7,602	2,743	26,899.6	20,805	0.77	1,565	590	5,722.9	3,722	0.65	9,167	3,333	32,622.5	24,527	0.75
District 5	3,851	1,663	12,690.1	9,952	0.78	645	406	1,426.2	816	0.57	4,496	2,069	14,116.3	10,768	0.76
District 6	1,408	554	4,567.9	4,627	1.01	229	69	746.5	581	0.78	1,637	623	5,314.4	5,208	0.98
District 7	4,465	2,269	12,704.3	7,219	0.57	715	429	1,562.2	776	0.50	5,180	2,698	14,266.5	7,995	0.56
District 8	2,807	793	8,378.8	11,364	1.36	298	81	941.4	992	1.05	3,105	874	9,320.2	12,356	1.33
District 9	6,928	682	21,636.4	62,959	2.91	18	3	120.0	54	0.45	6,946	685	21,756.4	63,013	2.90
Region 2	19,459	5,961	59,977.5	96,121	1.60	1,905	988	4,796.3	3,219	0.67	21,364	6,949	64,773.8	99,340	1.53
District 10	4,011	1,301	10,614.3	13,673	1.29	871	213	2,855.9	3,184	1.11	4,882	1,514	13,470.2	16,857	1.25
District 11	4,370	1,215	13,165.0	16,950	1.29	753	274	1,971.7	1,988	1.01	5,123	1,489	15,136.7	18,938	1.25
District 12	5,457	1,466	19,350.4	30,226	1.56	48	9	122.0	317	2.60	5,505	1,475	19,472.4	30,543	1.57
Region 3	13,838	3,982	43,129.7	60,849	1.41	1,672	496	4,949.6	5,489	1.11	15,510	4,478	48,079.3	66,338	1.38
State total	40,899	12,686	130,006.8	177,775	1.37	5,142	2,074	15,468.8	12,430	0.80	46,041	14,760	145,475.6	190,205	1.31

Table 15

Residence of Fishermen

RESIDENT							
Residence County	Number of ♂	Number of ♀	Number of anglers	Residence County	Number of ♂	Number of ♀	Number of anglers
Michigan ✧	636	365	1,001	Keweenaw	27	2	29
Alcona	30	15	45	Lake	18	3	21
Alger	264	17	281	Lapeer	268	62	330
Allegan	306	35	341	Leelanau	55	2	57
Alpena	241	25	266	Lenawee	396	104	500
Antrim	163	32	195	Livingston	73	12	85
Arenac	307	192	499	Luce	146	8	154
Baraga	272	21	293	Mackinac	161	8	169
Barry	163	26	189	Macomb	213	63	276
Bay	845	531	1,376	Manistee	248	9	257
Benzie	20	6	26	Marquette	575	32	607
Berrien	299	61	360	Mason	117	22	139
Branch	344	51	395	Mecosta	212	29	241
Calhoun	364	60	424	Menominee	307	44	351
Cass	93	17	110	Midland	527	287	814
Charlevoix	285	25	310	Missaukee	147	20	167
Cheboygan	296	28	324	Monroe	88	14	102
Chippewa	258	30	288	Montcalm	316	39	355
Clare	323	30	353	Montmorency	288	68	356
Clinton	317	47	364	Muskegon	818	193	1,011
Crawford	102	6	108	Newaygo	233	18	251
Delta	577	56	633	Oakland	802	169	971
Dickinson	461	29	490	Oceana	224	44	268
Eaton	261	38	299	Ogemaw	109	9	118
Emmet	384	37	421	Ontonagon	222	9	231
Genesee	1,967	770	2,737	Osceola	232	27	259
Gladwin	91	18	109	Oscoda	283	59	342
Gogebic	1,282	91	1,373	Otsego	126	13	139
Grand Traverse	235	26	261	Ottawa	362	81	443
Gratiot	210	38	248	Presque Isle	277	49	326
Hillsdale	211	41	252	Roscommon	479	100	579
Houghton	595	31	626	Saginaw	1,006	517	1,523
Huron	114	22	136	St. Clair	389	123	512
Ingham	1,414	419	1,833	St. Joseph	322	45	367
Ionia	529	89	618	Sanilac	36	10	46
Iosco	32	19	51	Schoolcraft	192	18	210
Iron	456	27	483	Shiawassee	417	80	497
Isabella	257	51	308	Tuscola	90	28	118
Jackson	617	140	757	Van Buren	152	45	197
Kalamazoo	203	53	256	Washtenaw	426	82	508
Kalkaska	15	3	18	Wayne	4,214	1,366	5,580
Kent	1,411	271	1,682	Wexford	227	27	254
				Total	33,070	7,829	40,899
				Grand Total	37,100	8,941	46,041

(Resident and Non-resident)

✧ Conservation officer did not record the county of residence.

Table 15 (continued)

Residence of fishermen

NON-RESIDENT							
State of residence	Number of ♂	Number of ♀	Number of anglers	State of residence	Number of ♂	Number of ♀	Number of anglers
Arizona	2	1	3	New York	12	4	16
California	7	2	9	North Carolina	2	...	2
Colorado	2	...	2	Ohio	1,856	597	2,453
Florida	6	4	10	Oklahoma	5	1	6
Georgia	7	1	8	Oregon	2	2	4
Illinois	571	126	697	Pennsylvania	30	8	38
Indiana	1,033	265	1,298	South Carolina	1	4	5
Iowa	14	3	17	Texas	13	2	15
Kansas	5	3	8	Utah	1	1	2
Kentucky	41	10	51	West Virginia	5	1	6
Massachusetts	1	...	1	Wisconsin	360	66	426
Minnesota	21	3	24	Washington, D.C.	7	1	8
Missouri	23	7	30	Ontario	3	...	3
				Total	4,030	1,112	5,142

hour for all residents (1.4 fish) was 0.3 fish per hour greater than that for all non-resident anglers (1.1 fish). A total of 12,686 resident anglers (31.0 per cent) were unsuccessful, whereas 2,074 (40.3 per cent) of the non-resident anglers had caught no fish up to the time they were interviewed by the conservation officer.

Sex of Anglers
All Waters

There were 8,941 female anglers, who constituted 19.4 per cent of all the fishermen interviewed in the 1946 general creel census, a rise of 2.5 per cent from that of 1945.

Comparison of 1946 General Creel Census
Data with that of Other Years

General creel census data for the past five years are summarized in Tables 16 and 17. There had been 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 for 1945 was slightly lower again (1.12 fish per hour).

In 1946 the catch per unit of effort was 1.31 fish per hour.

During the past half decade the catch per unit of effort for trout waters has varied only 0.1 fish per hour. The highest catch per hour during this period was in 1942 and 1943 (0.9 fish per hour) and in the past three years the catch per hour has been 0.8 fish.

The catch per hour for Great Lakes waters has remained consistently higher than that for trout and non-trout waters for the five years these waters have been tabulated separately. In 1946 the difference in the catch per hour for Great Lakes waters (1.6 fish) and non-trout waters (1.4 fish) was not as marked as in the past. In the Great Lakes waters the anglers average 1.8 fish per hour for the five year period as compared with an average of 1.2 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 1941-1945. These detailed tables for the data herein presented are on file at the office of the Institute for Fisheries Research, University Museums Annex, Ann Arbor.

INSTITUTE FOR FISHERIES RESEARCH

By Kiyoshi C. Fukano

Report approved by A. S. Hazzard

Report typed by E. L. Preston

Table 16

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

	1942	1943	1944	1945	1946	Simple average
CATCH PER HOUR:						
All waters	1.1	1.2	1.2	1.1	1.3	1.2
Resident	1.2	1.2	1.2	1.1	1.4	1.2
Non-resident	0.8	1.1	1.1	0.9	0.8	0.9
Trout waters	0.9	0.9	0.8	0.8	0.8	0.8
Resident	0.9	1.0	0.8	0.8	0.8	0.9
Non-resident	0.7	0.7	0.7	0.7	0.7	0.7
Non-trout waters	1.1	1.2	1.2	1.1	1.4	1.2
Resident	1.2	1.2	1.1	1.1	1.4	1.2
Non-resident	0.9	1.0	1.0	0.8	0.8	0.9
Great Lakes waters	1.7	1.6	1.8	2.2	1.6	1.8
Resident	2.0	1.5	1.8	2.2	1.6	1.8
Non-resident	0.9	1.8	2.1	1.4	0.6	1.4
PERCENTAGE OF ALL ANGLERS REPRESENTED BY:						
Non-residents	15.7	11.2	11.3	10.1	11.1	11.9
Female anglers	17.1	16.3	15.1	16.9	19.4	17.1
PERCENTAGE OF TROUT ANGLERS REPRESENTED BY:						
Non-residents	11.0	4.0	4.5	4.9	7.7	6.4
Female anglers	10.2	7.6	7.1	8.3	7.4	8.1
PERCENTAGE OF NON-TROUT ANGLERS REPRESENTED BY:						
Non-residents	17.3	12.5	13.8	11.7	12.5	13.6
Female anglers	19.1	17.8	16.3	18.4	21.9	18.7
PERCENTAGE OF GREAT LAKES ANGLERS REPRESENTED BY:						
Non-residents	9.7	13.3	4.9	6.7	6.1	8.1
Female anglers	11.6	13.1	19.3	16.5	18.2	15.7
PERCENTAGE OF UNSUCCESSFUL ANGLERS:						
All waters	31.0	28.8	30.6	31.5	32.1	30.8
Trout waters	29.5	29.4	35.6	30.7	36.6	32.4
Non-trout waters	32.1	25.5	25.7	33.1	32.0	29.7
Great Lakes waters	20.0	11.9	12.2	18.5	25.6	17.6
Residents	29.3	28.7	31.0	31.4	31.0	30.3
Non-residents	32.9	29.9	29.7	32.5	40.3	33.1

Table 17

Catch per hour for all waters, trout waters, non-trout water, and Great Lakes waters
by Field Administration Districts and Regions since 1942

	ALL WATERS						ALL TROUT WATERS						ALL NON-TROUT WATERS						ALL GREAT LAKES WATERS					
	1942	1943	1944	1945	1946	Simple average	1942	1943	1944	1945	1946	Simple average	1942	1943	1944	1945	1946	Simple average	1942	1943	1944	1945	1946	Simple average
District 1	0.6	0.7	0.6	0.8	0.7	0.7	1.0	0.7	0.8	0.9	0.8	0.8	0.5	0.7	0.5	0.7	0.8	0.6	0.2	0.4	0.2	0.1	0.1	0.2
District 2	0.8	1.2	0.6	0.6	0.7	0.8	1.3	1.0	0.6	0.9	0.6	0.9	0.6	1.3	0.5	0.5	0.6	0.7	...	...	1.5	2.3	3.4	2.4
District 3	0.8	0.7	0.9	1.6	0.9	1.0	0.9	0.7	0.8	0.9	0.8	0.8	0.7	0.7	0.8	0.9	0.9	0.8	0.3	1.0	1.0	4.1	1.2	1.5
District 4	1.9	1.2	1.2	0.9	0.8	1.2	1.1	1.4	0.9	0.8	1.0	1.0	1.5	0.9	1.4	0.8	0.7	1.1	3.1	2.3	1.2	1.5	0.7	1.8
Region 1	0.9	1.0	0.8	0.8	0.8	0.9	1.1	0.9	0.8	0.9	0.8	0.9	0.7	0.9	0.7	0.6	0.7	0.7	1.5	2.2	1.1	2.7	0.6	1.6
District 5	0.6	0.9	1.1	0.7	0.8	0.8	0.6	0.7	0.8	0.9	0.9	0.8	0.6	1.0	1.1	0.6	0.7	0.8	1.3	3.0	2.7	1.6	1.0	1.9
District 6	1.9	1.5	1.3	1.1	1.0	1.4	0.6	1.3	1.0	1.0	0.7	0.9	1.9	1.4	1.2	1.1	0.8	1.3	0.5	5.9	4.8	0.8	4.6	3.3
District 7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	...	...	0.8	4.2	...	2.5
District 8	1.5	1.1	1.2	1.4	1.3	1.3	1.0	0.6	0.7	0.8	0.9	0.8	1.7	1.1	1.3	1.6	1.4	1.4	...	...	...	...	...	...
District 9	1.2	1.3	1.4	1.1	2.9	1.6	1.0	1.0	0.9	0.7	0.7	0.9	1.3	1.4	1.3	1.1	3.1	1.6	...	...	3.8	2.2	2.0	2.7
Region 2	1.1	1.0	1.0	0.9	1.5	1.1	0.7	0.8	0.8	0.8	0.8	0.8	1.1	1.0	1.0	0.9	1.6	1.1	0.5	5.7	3.3	2.5	2.4	2.9
District 10	1.3	1.5	1.7	1.6	1.3	1.5	0.6	0.7	0.6	0.6	0.6	0.6	1.3	1.5	1.7	1.6	1.3	1.5	...	2.9	9.0	...	2.8	4.9
District 11	1.2	1.2	1.3	1.1	1.3	1.2	1.8	1.6	0.8	0.5	0.6	1.1	1.2	1.1	1.3	1.1	1.3	1.2	...	...	...	...	...	...
District 12	1.4	1.5	1.7	1.6	1.6	1.6	0.7	1.9	0.6	0.4	0.4	0.8	1.2	1.4	1.4	1.2	1.1	1.3	1.6	1.4	1.9	2.0	2.0	1.8
Region 3	1.3	1.4	1.6	1.5	1.4	1.4	0.7	1.1	0.6	0.6	0.6	0.7	1.3	1.3	1.5	1.3	1.2	1.3	1.6	1.4	1.9	2.0	2.0	1.8
Entire state	1.1	1.2	1.2	1.1	1.3	1.2	0.9	0.9	0.8	0.8	0.8	0.8	1.1	1.2	1.1	1.1	1.4	1.2	1.8	1.6	1.8	2.2	1.6	1.8

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
Simple average	1.18	0.88	1.25	1.76