O. N. Clark

Abstract Number One

MICHIGAN DEPARTMENT OF CONSERVATION

(Institute for Fisheries Reasearch Report Number 1284)

REPORT OF THE GENERAL CREEL CENSUS FOR 1950

By K. G. Fukano

May 2, 1951

This report includes the data for the twenty-fourth 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--10,334 anglers or 19.2 percent; (2) non-trout waters--40,874 anglers or 75.9 percent; and (3) Great Lakes waters--2,636 anglers or 4.9 percent. Of the 53,844 anglers interviewed 5,594 fishermen or 10.4 percent were non-residents and 8,890 or 16.5 percent were female anglers.

Brook trout continued to make up the bulk (64.75 percent) of the total catch from trout waters. The three species of trout--brook, brown, and rainbow--constituted 96.16 percent of all fish caught in trout waters. The catch per hour for all trout waters was 0.63 fish and 0.61 trout which is a decline from the 1949 catch of 0.72 fish and 0.67 trout per hour.

The officers saw 28 different kinds of fish in the non-trout anglers' catch. Bluegill was the species caught in greatest numbers. The combined catch of bluegill and yellow perch made up 72.5 percent of the total catch from non-trout waters. For the entire state the catch per hour from non-trout water was 1.65 fish.

Original: Fish Division
cc: Education - Game
Institute for Fisheries Research
J. A. Scully
C. T. Yoder
R. S. Marks
K. G. Fukano

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

ALBERT S. HAZZARD, PH.D.
DIRECTOR

ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

May 2, 1951

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The officers saw 28 different kinds of fish in the non-trout anglers' catch. Bluegill was the species caught in greatest numbers. The combined catch of bluegill and yellow perch made up 72.5 percent of the total catch from non-trout waters. For the entire state the catch per hour from non-trout water was 1.65 fish.

Yellow perch made up the bulk of the catch from Great Lakes waters. Fishermen angling in the Great Lakes and connecting waters had a catch of 4.84 fish per hour.

During the past nine years the catch per hour of all fish in trout waters has varied 0.3 fish per hour. The highest catch per hour during this period was in 1942 and 1943 with 0.9 fish per hour and in the next five years the catch per hour was 0.8 fish. In 1949 and 1950 the catch slipped to 0.7 fish and 0.6 fish per hour respectively. The catch per hour of trout in trout waters has varied from 0.8 to 0.6 trout. Catch of 0.8 trout per hour was recorded in 1942, 1945, 1946, and 1948; catch of 0.7 trout per hour was recorded in 1943, 1944, 1947, and 1949; catch of 0.6 trout per hour was recorded in 1950.

The catch per unit of effort in non-trout waters has remained greater than 1.1 fish during the last nine years. In 1950 a new high of 1.6 fish per hour was recorded, the previous high was 1.4 fish per hour in 1946 and 1947.

The catch per hour for Great Lakes waters has remained consistently higher than that for trout and non-trout waters for the nine years these waters have been tabulated separately. Except for 1943 the catch per hour increased during the period between 1942 and 1945, but slipped to 1.6 fish per hour in 1946, and again increased each year to a new high in 1950.

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The report of the general creel census for 1950, the twenty-fourth year in which such data have been gathered by conservation officers, includes information on the quality of fishing in the various types of lakes and streams throughout the state. As in past years conservation officers recorded the data on general creel 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 of the Conservation Department and the School of Public Health at the University of Michigan is greatly appreciated and the writer wishes especially to express his thanks to the conservation officers who collected the records, the Game Division for the use of the IBM sorting and tabulating machines, and John J. Freysinger of the School of Public Health for the use of the IBM key-punch machine.

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

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

T..... R.....

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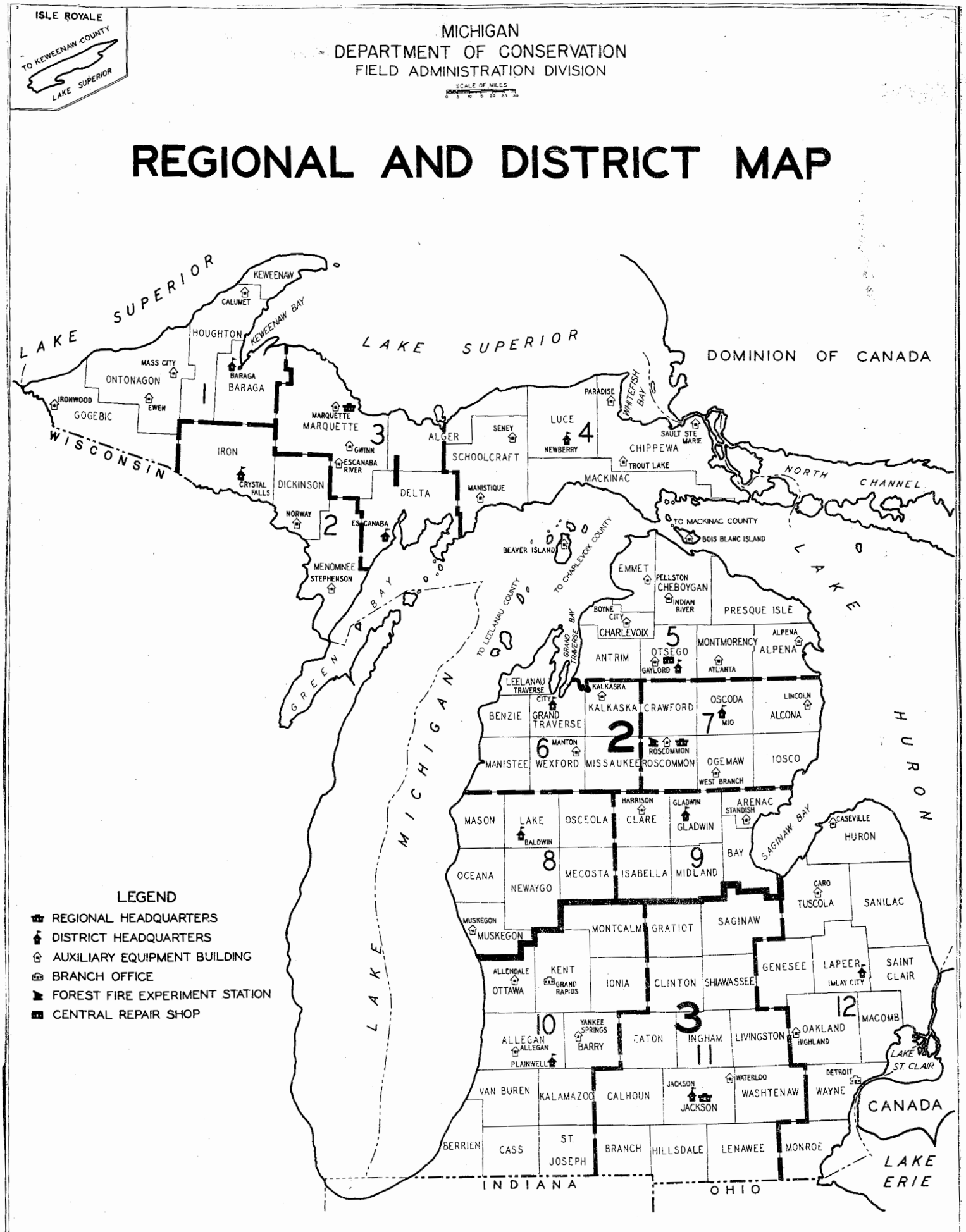
Table 1

Total number of fishermen, total hours fished, total number of fish taken and catch per hour for each conservation district and region, all waters, 1950

	Number of male anglers	Number of female anglers	Total anglers	Total hours fished	Number fish caught	Catch per hour
District 1	2,179	290	2,469	5,934.9	5,634	0.95
District 2	1,855	208	2,063	5,382.8	5,701	1.06
District 3	1,826	219	2,045	5,020.2	3,566	0.71
District 4	1,393	215	1,608	4,014.4	6,609	1.65
Region 1	7,253	932	8,185	20,352.3	21,510	1.06
District 5	4,973	1,016	5,989	17,839.9	14,454	0.81
District 6	3,550	622	4,172	9,743.2	18,826	1.93
District 7	5,997	1,412	7,409	16,217.9	15,179	0.94
District 8	4,772	828	5,600	13,564.6	25,604	1.89
District 9	3,068	666	3,734	8,632.1	22,402	2.60
Region 2	22,360	4,544	26,904	65,997.7	96.465	1.46
District 10	6,397	1,313	7,710	17,744.3	36,138	2.04
District 11	3,608	1,120	4,728	11,192.8	18,998	1.70
District 12	5,336	981	6,317	15,011.5	36,550	2.43
Region 3	15,341	3,414	18,755	43,948.6	91.686	2.09
State total	44,954	8,890	53,844	130,298.6	209,661	1.61


ISLE ROYALE
TO KEWEENAW COUNTY
LAKE SUPERIOR
MICHIGAN
DEPARTMENT OF CONSERVATION
FIELD ADMINISTRATION DIVISION
SCALE OF MILES
0 5 10 15 20 25 30
REGIONAL AND DISTRICT MAP
LAKE SUPERIOR
KEWEENAW
CALUMET
KEWEENAW BAY
HOUGHTON
MASS CITY
ONTONAGON
BARAGA
IRONWOOD
GOGEBIC
EWEN
WISCONSIN
IRON
CRYSTAL FALLS
DICKINSON
NORWAY
MENOMINEE
STEPHENSON
MARQUETTE
GWINN
ESCANABA RIVER
ESCANABA
DELTA
MANISTIQUE
ALGER
SENEY
SCHOOLCRAFT
LUCE
NEWBERRY
PARADISE
WHITEFISH BAY
SAULT STE MARIE
CHIPPEWA
TROUT LAKE
MACKINAC
DOMINION OF CANADA
NORTH CHANNEL
TO MACKINAC COUNTY
BOIS BLANC ISLAND
BEAVER ISLAND
TO CHARLEVOIX COUNTY
TO LEELANAU COUNTY
GREEN BAY
GRAND TRAVERSE BAY
EMMET
PELLSTON
CHEBOYGAN
INDIAN RIVER
PRESQUE ISLE
BOYNE CITY
CHARLEVOIX
ANTRIM
OTSEGO
GAYLORD
MONTMORENCY
ATLANTA
ALPENA
LEELANAU
TRAVERSE CITY
BENZIE
GRAND TRAVERSE
KALKASKA
CRAWFORD
OSCODA
MIO
LINCOLN
ALCONA
MANISTEE
MANTON
WEXFORD
MISSAUKEE
ROSCOMMON
OGEMAW
WEST BRANCH
IOSCO
HARRISON
CLARE
GLADWIN
ARENAC
STANDISH
SAGINAW BAY
CASEVILLE
HURON
MASON
LAKE
BALDWIN
OSCEOLA
BAY
OCEANA
NEWAYGO
MECOSTA
ISABELLA
MIDLAND
CARO
TUSCOLA
SANILAC
MUSKEGON
MONTCALM
GRATIOT
SAGINAW
ALLENDALE
OTTAWA
KENT
GRAND RAPIDS
IONIA
CLINTON
SHIAWASSEE
GENESEE
LAPEER
IMLAY CITY
SAINT CLAIR
ALLEGAN
PLAINWELL
YANKEE SPRINGS
BARRY
EATON
INGHAM
LIVINGSTON
OAKLAND
HIGHLAND
MACOMB
LAKE ST. CLAIR
VAN BUREN
KALAMAZOO
CALHOUN
JACKSON
WATERLOO
WASHTENAW
DETROIT
WAYNE
CANADA
BERRIEN
CASS
ST. JOSEPH
BRANCH
HILLSDALE
LENAWEE
MONROE
LAKE ERIE
INDIANA
OHIO
LAKE MICHIGAN
LAKE HURON
1
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3
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11
12
LEGEND
REGIONAL HEADQUARTERS
DISTRICT HEADQUARTERS
AUXILIARY EQUIPMENT BUILDING
BRANCH OFFICE
FOREST FIRE EXPERIMENT STATION
CENTRAL REPAIR SHOP
1-23-48

Table 2

Number of anglers interviewed by conservation officers during 1950 and 1949 by counties

County	Number of anglers in 1950	Number of anglers in 1949	County	Number of anglers in 1950	Number of anglers in 1949
Alcona	1,136	1,647	Macomb	91	262
Alger	361	746	Manistee	458	842
Allegan	617	1,024	Marquette	1,622	1,478
Alpena	697	2,083	Mason	432	703
Antrim	798	305	Mecosta	1,221	657
Arenac	924	540	Menominee	238	297
Baraga	388	146	Midland	591	1,359
Barry	466	1,159	Missaukee	935	1,168
Bay	358	758	Monroe	89	204
Benzie	533	224	Montcalm	1,536	1,394
Berrien	106	167	Montmorency	1,013	1,717
Branch	495	474	Muskegon	1,060	1,035
Calhoun	285	521	Newaygo	665	1,155
Cass	179	339	Oakland	---	995
Charlevoix	448	550	Oceana	798	940
Cheboygan	1,259	1,443	Ogemaw	1,356	[illegible]
Chippewa	180	315	Ontonagon	847	131
Clare	781	825	Osceola	674	839
Clinton	180	462	Oscoda	1,634	1,240
Crawford	680	1,027	Otsego	580	1,314
Delta	206	584	Ottawa	1,227	980
Dickinson	519	676	Presque Isle	558	728
Eaton	750	---	Roscommon	1,399	2,478
Emmet	636	470	Saginaw	94	81
Genesee	---	462	St. Clair	835	721
Gladwin	435	1,350	St. Joseph	2,027	2,243
Gogebic	824	1,413	Sanilac	564	1,695
Grand Traverse	785	651	Schoolcraft	776	444
Gratiot	267	229	Shiawassee	240	437
Hillsdale	173	103	Tuscola	387	431
Houghton	285	421	Van Buren	458	729
Huron	600	379	Washtenaw	1,011	828
Ingham	269	---	Wayne	432	1,006
Ionia	158	149	Wexford	784	400
Iosco	1,204	2,024		53,844	68,365
Iron	1,306	1,892			
Isabella	645	61			
Jackson	137	527			
Kalamazoo	139	198			
Kalkaska	391	747			
Kent	797	2,017			
Keweenaw	125	40			
Lake	750	1,688			
Lapeer	3,319	2,269			
Leelanau	286	193			
Lenawee	---	---			
Livingston	827	2,329			
Luce	429	513			
Mackinac	79	373			

administered by the state. The number of anglers interviewed on the different types of waters were as follows: (1) Trout waters, 10,334 anglers (19.2 percent of all anglers contacted) of whom 1,356 fished on designated trout lakes and the remaining 8,978 fished on streams; (2) non-trout waters, 40,874 fishermen (75.9 percent) of whom 36,623 fished on lakes and 4,251 fished on streams; (3) Great Lakes waters, 2,636 anglers (4.9 percent)of whom 1,779 fished in the Great Lakes and the other 857 fished in the connecting waters.

During 1950 the officers interviewed 53,844 anglers of whom 5,594 fishermen (10.4 percent of all anglers contacted) were non-residents; female anglers constituted 16.5 percent (8,890) of all those interviewed.

According to the January 31, 1951, tabulation of fishing licenses sold in 1949, of a total of 1,044,036 licenses 262,102 were non-resident (25.1 percent). Of these 133,554 (12.8 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 the conservation officer is less likely to interview the 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 (19.2 percent) and the total number of licenses sold (1,044,036) it may be estimated that approximately 200,455 anglers did some trout fishing. About 1.7 percent of all fishermen were resident female anglers fishing in trout waters. Assuming that most of these were married and therefore not required to purchase a trout stamp, it can be estimated that about 182,706 trout stamps should have been sold in 1950. However, 169,051 trout stamps were sold; this number constitutes 16.2 percent of the total fishing licenses sold. The discrepancy may be due in

Table 3

Number and percentage of fishermen interviewed on trout, non-trout, and Great Lakes waters by conservation districts and regions, 1950

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	1,251	50.67	1,218	49.33	...	...	2,469
District 2	555	26.90	1,508	73.10	...	...	2,063
District 3	1,123	54.91	905	44.25	17	0.83	2,045
District 4	595	37.00	980	60.95	33	2.05	1,608
Region 1	3,524	43.05	4,611	56.33	50	0.61	8,185
District 5	1,794	29.95	4,133	69.01	62	1.04	5,989
District 6	1,086	26.03	3,070	73.59	16	0.38	4,172
District 7	1,886	25.46	5,523	74.54	...	...	7,409
District 8	689	12.30	4,886	87.25	25	0.45	5,600
District 9	457	12.24	2,767	74.10	510	13.66	3,734
Region 2	5,912	21.97	20,379	75.75	613	2.28	26,904
District 10	653	8.47	6,992	90.69	65	0.84	7,710
District 11	129	2.73	4,599	97.27	...	...	4,728
District 12	116	1.84	4,293	67.96	1,908	30.20	6,317
Region 3	898	4.79	15,884	84.69	1,973	10.52	18,755
State total	10,334	19.19	40,874	75.91	2,636	4.90	53,844

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, 1950

District or region	Total Brook		Total Brown		Total Rainbow		Total trout
	Number	Percentage	Number	Percentage	Number	Percentage	
District 1	2,092	74.16	250	8.86	479	16.98	2,821
District 2	967	89.95	65	6.05	43	4.00	1,075
District 3	1,294	80.62	157	9.78	154	9.60	1,605
District 4	1,530	89.89	89	5.23	83	4.88	1,702
Region 1	5,883	81 67	561	7.79	759	10.54	7,203
District 5	1,843	49.77	368	9.94	1,492	40.29	3,703
District 6	933	51.38	357	19.66	526	28.96	1,816
District 7	1,061	46.13	914	39.74	325	14.13	2,300
District 8	556	50.09	365	32.88	189	17.03	1,110
District 9	37	21.89	115	68.05	17	10.06	169
Region 2	4,430	48.69	2,119	23.29	2,549	28.02	9,098
District 10	734	78.50	120	12.83	81	8.66	935
District 11	165	94.29	3	1.71	7	4.00	175
District 12	177	100.00	...	...	...	...	177
Region 3	1,076	83.60	123	9.56	88	6.84	1,287
State Total	11,389	64.75	2,803	15.94	3,396	19.31	17,588

Table 5

General creel census data for trout lakes, trout streams, and all trout waters combined, by conservation districts and regions, 1950

	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	17	82.0	19	0.23	17	0.21	1,234	2,940.4	2,820	0.96	2,804	0.95	1,251	3,022.4	2,839	0.94	2,821	0.93
District 2	39	126.0	50	0.40	47	0.37	516	1,156.5	1,030	0.89	1,028	0.89	555	1,282.5	1,080	0.84	1,075	0.84
District 3	395	874.5	369	0.42	369	0.42	728	1,943.5	1,238	0.64	1,236	0.64	1,123	2,818.0	1,607	0.57	1,605	0.57
District 4	139	281.0	348	1.24	342	1.22	456	1,236.9	1,366	1.10	1,360	1.10	595	1,517.9	1,714	1.13	1,702	1.12
Region 1	590	1,363.5	786	0.58	775	0.57	2,934	7,277.3	6,454	0.89	6,428	0.88	3,524	8,640.8	7,240	0.84	7,203	0.83
District 5	461	1,255.2	951	0.76	778	0.62	1,333	5,346.4	2,943	0.55	2,925	0.55	1,794	6,601.6	3,894	0.59	3,703	0.56
District 6	...	...	...	...	...	...	1,086	2,747.0	1,885	0.69	1,816	0.66	1,086	2,747.0	1,885	0.69	1,816	0.66
District 7	9	16.0	11	0.69	11	0.69	1,877	5,406.8	2,406	0.44	2,289	0.42	1,886	5,422.8	2,417	0.45	2,300	0.42
District 8	127	367.0	55	0.15	55	0.15	562	1,651.0	1,055	0.64	1,055	0.64	689	2,018.0	1,110	0.55	1,110	0.55
District 9	161	415.7	321	0.77	54	0.13	296	862.0	122	0.14	115	0.13	457	1,277.7	443	0.35	169	0.13
Region 2	758	2,053.9	1,338	0.65	898	0.44	5,154	16,013.2	8,411	0.53	8,200	0.51	5,912	18,067.1	9,749	0.54	9,098	0.50
District 10	...	...	...	...	...	...	653	1,626.0	949	.58	935	0.58	653	1,626.0	949	0.58	935	0.58
District 11	8	15.0	11	0.73	11	0.73	121	290.5	164	0.56	164	0.56	129	305.5	175	0.57	175	0.57
District 12	...	...	...	...	...	...	116	313.0	177	0.57	177	0.57	116	313.0	177	0.57	177	0.57
Region 3	8	15.0	11	0.73	11	0.73	890	2,229.5	1,290	0.58	1,276	0.57	898	2,244.5	1,301	0.58	1,287	0.57
State Total	1,356	3,432.4	2,135	0.62	1,684	0.49	8,978	25,520.0	16,155	0.63	15,904	0.62	10,334	28,952.4	18,290	0.63	17,588	0.61

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 minors under 17 years of age are not required to purchase either fishing licenses or trout stamps.

Intensive stream and lake census records such as secured at the Hunt Creek and Pigeon River Research Areas, 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 1950 conservation officers interviewed 53,844 anglers, a decrease of 14,521 (21.2 percent) under the records (68,365) collected in 1949. The 1950 records represent 130,298.6 hours of fishing, a decrease of 37,802 hours (22.5 percent) from the (168,100.6 hours) previous year. The number of fish caught in 1950 was 209,661 fish, a decrease of 6,731 fish (3.11 percent) below the previous year (216,392 fish). The catch per hour for all fishing was 1.6 in 1950 as compared to 1.3 fish per hour in 1949.

No records of fishing were submitted in 1950 from three counties, Genesee, Lenawee, and Oakland, which have mainly 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. The number of records submitted by counties are given in Table 2.

Table 6

General creel census data for stocked sections, unstocked sections, and unknown sections of trout streams, by conservation districts and regions, 1950

	Stocked Sections				Unstocked Sections				Unknown Sections			
	Number anglers	Hours fished	Trout caught	Catch per hour	Number anglers	Hours fished	Trout caught	Catch per hour	Number anglers	Hours fished	Trout caught	Catch per hour
District 1	549	1,169.7	1,121	0.96	600	1,547.2	1,429	0.92	85	223.5	254	1.14
District 2	317	711.5	617	0.87	195	437.0	410	0.94	4	8.0	1	0.12
District 3	312	892.0	571	0.64	228	620.5	389	0.63	188	431.0	276	0.64
District 4	269	690.5	833	1.21	130	369.4	422	1.14	57	177.0	105	0.59
Region 1	1,447	3,463.7	3,142	0.91	1,153	2,974.1	2,650	0.89	334	839.5	636	0.76
District 5	560	1,463.4	725	0.50	253	528.5	220	0.41	520	3,354.5	1,980	0.59
District 6	549	1,367.0	799	0.58	250	686.0	295	0.43	287	694.0	722	1.04
District 7	1,007	3,042.5	1,181	0.39	488	1,347.0	417	0.31	382	1,017.3	691	0.68
District 8	321	959.5	713	0.74	128	379.5	249	0.66	113	312.0	93	0.30
District 9	200	591.5	66	0.11	72	165.5	36	0.22	24	105.0	13	0.12
Region 2	2,637	7,423.9	3,484	0.47	1,191	3,106.5	1,217	0.39	1,326	5,482.8	3,499	0.64
District 10	400	897.0	591	0.66	173	462.0	202	0.44	80	267.0	142	0.53
District 11	68	163.0	98	0.60	41	71.0	57	0.80	12	56.5	9	0.16
District 12	116	313.0	177	0.57	...	...	...	...	...	...	...	...
Region 3	584	1,373.0	866	0.63	214	533.0	259	0.49	92	323.5	151	0.47
State Total	4,668	12,260.6	7,492	0.61	2,558	6,613.6	4,126	0.62	1,752	6,645.8	4,286	0.64

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Table 7

Number and percentage of total trout stream anglers made up by each of the three categories of trout stream sections, by conservation districts and regions, 1950

	Stocked Sections		Unstocked Sections		Unknown		
	Number anglers	Percentage	Number anglers	Percentage	Number anglers	Percentage	Total anglers
District 1	549	44.49	600	48.62	85	6.89	1,234
District 2	317	61.43	195	37.80	4	0.77	516
District 3	312	42.86	228	31.32	188	25.82	728
District 4	269	58.99	130	28.51	57	12.50	456
Region 1	1,447	49.32	1,153	39.30	334	11.38	2,934
District 5	560	42.01	253	18.98	520	39.01	1,333
District 6	549	50.55	250	23.02	287	26.43	1,086
District 7	1,007	53.65	488	26.00	382	20.35	1,877
District 8	321	57.12	128	22.77	113	20.11	562
District 9	200	67.57	72	24.32	24	8.11	296
Region 2	2,637	51.16	1,191	23.11	1,326	25.73	5,154
District 10	400	61.26	173	26.49	80	12.25	653
District 11	68	56.20	41	33.88	12	9.92	121
District 12	116	100.00	...	...	...	...	116
Region 3	584	65.62	214	24.04	92	10.34	890
State Total	4,668	51.99	2,558	28.49	1,752	19.52	8,978

Table 8

Percentage catch of the most important species from non-trout waters, by conservation districts and regions, 1950

District or Region	Bluegill	Perch	Crappies	P'seed	Rock Bass	Pike	L.M. Bass	Walleye	S. M. Bass
District 1	25.51	29.30	2.47	3.47	3.79	7.19	3.58	20.54	3.58
District 2	8.98	44.51	20.41	0.89	1.00	11.58	1.51	5.43	2.94
District 3	15.69	29.59	0.65	4.74	1.85	3.05	11.77	14.99	10.74
District 4	5.52	67.82	0.52	1.85	5.77	10.74	0.72	3.18	1.76
Region 1	12.13	46.97	7.65	2.24	3.23	9.27	3.05	9.06	3.73
District 5	17.23	40.91	0.11	5.60	7.78	10.63	2.24	1.73	2.28
District 6	19.72	27.45	0.70	3.06	4.71	1.88	0.70	1.00	1.46
District 7	38.02	30.10	7.19	8.23	6.61	3.25	2.05	1.11	1.67
District 8	39.26	44.20	7.79	2.48	2.27	1.61	0.91	0.32	0.24
District 9	20.70	49.32	23.77	1.09	1.07	1.66	0.19	0.01	0.35
Region 2	28.62	38.78	7.97	3.72	4.03	3.16	1.10	0.73	1.03
District 10	69.06	15.18	7.84	2.14	1.30	1.12	1.22	0.03	0.15
District 11	78.49	5.27	4.85	5.20	1.87	0.89	2.25	0.06	0.85
District 12	49.11	20.67	8.95	9.35	3.48	1.44	2.74	0.02	0.20
Region 3	68.78	13.06	7.11	4.18	1.81	1.10	1.77	0.04	0.37
State total	43.46	29.07	7.60	3.77	3.06	2.86	1.54	1.19	1.00

Table 9

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

Species	1942	1943	1944	1945	1946	1947	1948	1949	1950
Bluegill	37.4	48.3	44.2	48.0	27.2	30.2	44.3	47.6	43.5
Yellow perch	23.8	17.8	21.1	18.4	53.7	40.0	23.1	24.4	29.1
Crappies	5.8	8.3	5.8	9.2	4.3	6.8	9.3	8.5	7.6
Pumpkinseed sunfish	5.1	4.4	4.8	3.6	2.4	2.4	4.2	3.8	3.8
Rock bass	4.2	3.2	3.6	2.3	2.1	2.1	4.3	3.2	3.1
Pike	3.4	3.3	4.6	5.3	2.8	3.0	4.3	4.8	2.9
Largemouth black bass	2.2	2.5	2.6	2.6	1.0	1.2	2.2	1.5	1.5
Walleye	2.8	3.2	3.6	2.0	1.2	0.9	1.9	1.2	1.2
Smallmouth black bass	2.2	1.7	1.8	1.1	0.7	0.8	1.8	1.1	1.0
Total	86.9	92.7	92.1	92.5	95.4	87.4	95.4	96.1	93.7

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 District 3 and 4) have been separated according to the district to which the officer has been assigned.

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

The data for 1950 on the number and percentage of anglers using the various waters are given in Table 3.

The greatest percentage of records for trout fishing in any district was taken in District 3 where 54.91 percent of the 2,045 anglers were contacted while fishing in trout waters. Districts 1 and 4 followed with 50.67 based on 2,469 angling-days and 37.00 percent based on 1,608 anglers respectively. The nine districts which make up Regions 1 and 2 furnished 91.31 percent of all the trout fishing. Also, the trout fishing in these two regions constituted 26.89 percent of all the fishing in that area. Trout anglers in Region 3 contributed the remaining 8.69 percent of all trout fishing records and these made up only 4.79 percent of all fishing recorded in this region.

District 11 had 97.27 percent non-trout reports based on 4,728 fisherman-days. District 10 followed with 90.69 percent based on 7,710 records and District 8 with 87.25 percent based on 5,600 fisherman-days.

Of the twelve districts only one, District 11, does not border one of the Great Lakes or their connecting waters. Eight of the remaining eleven districts submitted some records on Great Lakes sport fishing. 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 30.20 percent based on 6,317 fisherman-days; District 9 had 13.66 percent based on 3,734 anglers and District 4 showed 2.05 percent based on 1,608 fisherman-days.

Table 10

Number and percentage of the total catch for the whole state of each of 9 species tabulated by conservation regions--all non-trout waters, 1950

Species	Region 1		Region 2		Region 3		Total fish	Total percentage
	Number	Percentage	Number	Percentage	Number	Percentage		
Bluegill	1,661	2.47	22,370	33.30	43,155	64.23	67,186	100.00
Yellow perch	6,430	14.31	30,312	67.45	8,195	18.24	44,937	100.00
Crappies	1,047	8.92	6,234	53.08	4,463	38.00	11,744	100.00
Pumpkinseed	307	5.26	2,906	49.81	2,621	44.93	5,834	100.00
Rock bass	442	9.35	3,148	66.61	1,136	24.04	4,726	100.00
Pike	1,269	28.66	2,468	55.75	690	15.59	4,427	100.00
Largemouth black bass	418	17.51	861	36.07	1,108	46.42	2,387	100.00
Walleye	1,241	67.63	571	31.12	23	1.25	1,835	100.00
Smallmouth black bass	511	33.03	804	51.97	232	15.00	1,547	100.00
Totals or percentages	13,326	9.21	69,674	48.18	61,623	42.61	144,623	100.00

Table 11

Number and percentage of each species caught in the total catch in each of the three conservation regions--all non-trout waters, 1950

Species	Region 1		Region 2		Region 3	
	Number	Percentage	Number	Percentage	Number	Percentage
Bluegill	1,661	12.13	22,370	28.62	43,155	68.78
Yellow perch	6,430	46.97	30,312	38.78	8,195	13.06
Crappies	1,047	7.65	6,234	7.97	4,463	7.11
Pumpkinseed	307	2.24	2,906	3.72	2,621	4.18
Rock bass	442	3.23	3,148	4.03	1,136	1.81
Pike	1,269	9.27	2,468	3.16	690	1.10
Largemouth black bass	418	3.05	861	1.10	1,108	1.77
Walleye	1,241	9.06	571	0.73	23	0.04
Smallmouth black bass	511	3.73	804	1.03	232	0.37
Totals or percentages	13,326	97.33	69,674	89.14	61,623	98.22

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 (64.75 percent). Rainbow trout (19.31 percent) and brown trout (15.94 percent) made up the remainder of the trout catch. 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 rainbow trout (17.78 percent in 1949) and brown trout (13.95 percent in 1949) and a decrease in the percentage of brook trout (68.27 percent for 1949).

Table 12
General creel census data for non-trout lakes, non-trout streams, and all non-trout waters combined, by conservation districts and regions, 1950

	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	981	2,456.5	2,631	1.07	237	456.0	164	0.36	1,218	2,912.5	2,795	0.96
District 2	1,113	3,058.3	3,696	1.21	395	1,042.0	925	0.89	1,508	4,100.3	4,621	1.13
District 3	660	1,616.7	1,464	0.91	245	535.0	371	0.69	905	2,151.7	1,835	0.85
District 4	922	2,277.0	4,323	1.90	58	126.0	117	0.93	980	2,403.0	4,440	1.85
Region 1	3,676	9,408.5	12,114	1.29	935	2,159.0	1,577	0.73	4,611	11,567.5	13,691	1.18
District 5	3,852	10,497.3	9,455	0.90	281	641.0	1,054	1.64	4,133	11,138.3	10,509	0.94
District 6	2,913	6,644.2	16,576	2.49	157	286.0	172	0.60	3,070	6,930.2	16,748	2.42
District 7	5,383	10,503.1	12,311	1.17	140	292.0	451	1.54	5,523	10,795.1	12,762	1.18
District 8	4,769	11,238.1	24,117	2.15	117	232.0	160	0.69	4,886	11,470.1	24,277	2.12
District 9	1,577	3,640.4	5,307	1.46	1,190	2,297.0	8,569	3.73	2,767	5,937.4	13,876	2.34
Region 2	18,494	42,523.1	67,766	1.59	1,885	3,748.0	10,406	2.78	20,379	46,271.1	78,172	1.69
District 10	6,655	15,225.3	33,426	2.20	337	737.0	731	0.99	6,992	15,962.3	34,157	2.14
District 11	4,184	10,071.8	18,246	1.81	415	815.5	577	0.71	4,599	10,887.3	18,823	1.73
District 12	3,614	7,606.0	8,916	1.17	679	1,453.0	843	0.58	4,293	9,059.0	9,759	1.08
Region 3	14,453	32,903.1	60,588	1.84	1,431	3,005.5	2,151	0.72	15,884	35,908.6	62,739	1.75
State total	36,623	84,834.7	140,468	1.66	4,251	8,912.5	14,134	1.59	40,874	93,747.2	154,602	1.65

Table 13

Percentage composition of the total catch for Great Lakes waters
(only the 6 most abundant species for 1950 are given)

Species	1942	1943	1944	1945	1946	1947	1948	1949	1950
Yellow perch	84.23	76.67	72.16	86.46	65.73	82.48	86.26	90.64	96.17
Walleye	1.68	6.53	6.50	3.09	7.81	8.23	5.21	3.91	1.36
Cisco	0.09	0.12	1.52	3.28	12.47	2.07	0.75	0.09	1.22
Smallmouth black bass	2.10	6.29	3.81	1.72	3.15	1.40	1.18	0.24	0.38
Pike	1.17	1.74	2.12	2.51	2.33	3.02	0.93	0.79	0.26
Rock bass	3.80	2.95	3.82	0.60	3.19	1.31	1.56	0.47	0.20
Totals	93.07	94.30	89.93	97.66	94.68	98.51	95.89	96.14	99.59

Of the 11,389 brook trout recorded by officers in the 1950 general creel census 5,883 or 51.65 percent were reported caught in Region 1. A total of 4,430 brook trout or 38.90 percent was taken in Region 2. The remaining 1,076 or 9.45 percent were caught in Region 3.

In 1950 a total of 3,396 rainbow trout were recorded caught. Of this total 2,549 or 75.06 percent were taken in Region 2, 759 or 22.35 percent in Region 1, and 88 or 2.59 percent in Region 3.

The greatest percentage of brown trout (75.60 percent) were taken in Region 2. Region 1 and 3 followed with 20.01 and 4.39 percent respectively. Of the 17,588 trout reported, 92.68 percent were caught in Regions 1 and 2.

Other Species Caught in Trout Waters

The three species of trout constituted 96.16 percent of all fish caught in trout waters. Fourteen other species of fish were reported as taken from trout waters and are listed in order of abundance as follows:

Bluegill	228	Largemouth black bass	24
Yellow perch	132	Crappies	19
Suckers	100	Smallmouth black bass	8
Pumpkinseed	58	Rock bass	5
Shiners	50	Redhorse	5
Walleye	43	Menominee whitefish	3
Pike	26	Bullhead	1
		Total	702

Table 14

General creel census data for Great Lakes and connecting waters, and such waters combined, by conservation districts and regions, 1950

	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 3	17	50.5	124	2.46	....	....	....	....	17	50.5	124	2.46
District 4	30	90.0	454	5.04	3	3.5	1	0.29	33	93.5	455	4.87
Region 1	47	140.5	578	4.11	3	3.5	1	0.29	50	144.0	579	4.02
District 5	62	100.0	51	0.51	....	....	....	....	62	100.0	51	0.51
District 6	16	66.0	193	2.92	....	....	....	....	16	66.0	193	2.92
District 8	25	76.5	217	2.84	....	....	....	....	25	76.5	217	2.84
District 9	510	1,417.0	8,083	5.70	....	....	....	....	510	1,417.0	8,083	5.70
Region 2	613	1,659.5	8,544	5.15	....	....	....	....	613	1,659.5	8,544	5.15
District 10	65	156.0	1,032	6.62	....	....	....	....	65	156.0	1,032	6.62
District 12	1,054	3,277.5	20,556	6.27	854	2,362.0	6,058	2.56	1,908	5,639.5	26,614	4.72
Region 3	1,119	3,433.5	21,588	6.29	854	2,362.0	6,058	2.56	1,973	5,795.5	27,646	4.77
State total	1,779	5,233.5	30,710	5.87	857	2,365.5	6,059	2.56	2,636	7,599.0	36,769	4.84

Table 15

Number of fishermen, resident and non-resident, and percentage of non-resident fishermen in each conservation district, all waters, 1950

	Total number anglers	Resident anglers	Non-resident anglers	Percentage non-residents
District 1	2,469	1,945	524	21.22
District 2	2,063	1,676	387	18.76
District 3	2,045	1,737	308	15.06
District 4	1,608	1,361	247	15.36
Region 1	8,185	6,719	1,466	17.91
District 5	5,989	4,978	1,011	16.88
District 6	4,172	3,759	413	9.90
District 7	7,409	6,631	778	10.50
District 8	5,600	5,168	432	7.71
District 9	3,734	3,642	92	2.46
Region 2	26,904	24,178	2,726	10.13
District 10	7,710	6,794	916	11.88
District 11	4,728	4,302	426	9.01
District 12	6,317	6,257	60	0.95
Region 3	18,755	17,353	1,402	7.48
State total	53,844	48,250	5,594	10.39

Catch per hour--Trout Waters by Conservation Districts and Regions

Trout anglers were recorded in all twelve districts. Trout fishermen, 19.2 percent of all anglers contacted in 1950, did not have as good fishing success (0.6 fish per hour) as they did in 1949 when the catch per hour was 0.7 fish per hour. As shown by the catch per hour, trout fishing was best in District 4. 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 trout) and trout streams (1.1 trout) was recorded in District 4. The vast majority of trout anglers interviewed, 86.88 percent, were fishing in trout streams.

Catch per hour--Stocked and Unstocked Trout Streams by Conservation Districts and Regions

Data for all trout fishing which was done on trout streams were separated

Table 16

Residence of fishermen interviewed in the general creel census, 1950

County of residence	Male anglers	Female anglers	Total anglers	County of residence	Male anglers	Female anglers	Total anglers
Michigan*	1,716	472	2,188	Keweenaw	50	3	53
Alcona	296	42	338	Lake	143	13	156
Alger	161	19	180	Lapeer	545	80	625
Allegan	368	68	436	Leelanau	136	10	146
Alpena	400	66	466	Lenawee	70	21	91
Antrim	280	65	345	Livingston	128	31	159
Arenac	112	15	127	Luce	272	22	294
Baraga	244	10	254	Mackinac	40	4	44
Barry	361	102	463	Macomb	193	33	226
Bay	857	183	1,040	Manistee	233	28	261
Benzie	210	22	232	Marquette	1,229	107	1,336
Berrion	126	31	157	Mason	302	58	360
Branch	240	31	271	Mecosta	668	94	762
Calhoun	390	111	501	Menominee	187	13	200
Cass	73	14	87	Midland	740	211	951
Charlevoix	265	39	304	Missaukee	324	37	361
Cheboygan	474	54	528	Monroe	98	16	114
Chippewa	71	9	80	Montcalm	740	129	869
Clare	394	61	455	Montmorency	303	37	340
Clinton	168	67	235	Muskegon	918	167	1,085
Crawford	229	26	255	Newaygo	341	35	376
Delta	199	15	214	Oakland	641	158	799
Dickinson	629	45	674	Oceana	368	51	419
Eaton	383	190	573	Ogemaw	385	42	427
Emmet	312	44	356	Ontonagon	508	42	550
Genesee	1,533	399	1,932	Osceola	399	69	468
Gladwin	142	16	158	Oscoda	402	68	470
Gogebic	534	77	611	Otsego	218	28	246
Grand Traverse	547	76	623	Ottawa	463	62	525
Gratiot	357	109	466	Presque Isle	322	75	397
Hillsdale	140	18	158	Roscommon	182	45	227
Houghton	331	39	370	Saginaw	1,217	272	1,489
Huron	229	32	261	St.Clair	276	23	299
Ingham	1,232	362	1,594	St. Joseph	1,234	133	1,367
Ionia	217	53	270	Sanilac	200	54	254
Iosco	329	62	391	Schoolcraft	329	33	362
Iron	687	64	751	Shiawassee	268	51	319
Isabella	497	83	580	Tuscola	379	60	439
Jackson	305	52	357	Van Buren	215	40	255
Kalamazoo	588	93	681	Washtenaw	630	138	768
Kalkaska	128	32	160	Wayne	4,297	885	5,182
Kent	2,674	569	3,243	Wexford	716	98	814
				Total	40,737	7,513	48,250
				Grand total	44,954	8,890	53,844

State of residence	Male anglers	Female anglers	Total anglers
Alabama	1	1	2
California	8	2	10
Colorado	1	...	1
Delaware	2	...	2
Florida	6	4	10
Georgia	1	...	1
Idaho	1	1	2
Illinois	845	251	1,096
Indiana	1,228	462	1,690
Iowa	7	3	10
Kansas	8	...	8
Kentucky	20	8	28
Minnesota	4	4	8
Mississippi	1	...	1
Missouri	34	7	41
Nebraska	4	...	4
Nevada	3	...	3
New Jersey	3	1	4
New York	17	5	22
North Carolina	1	1	2
Ohio	1,722	581	2,303
Oklahoma	...	2	2
Pennsylvania	32	3	35
Tennessee	5	1	6
Texas	10	5	15
Virginia	1	1	2
Washington	1	1	2
West Virginia	13	...	13
Wisconsin	235	30	265
Washington, D. C.	1	1	2
Ontario	2	2	4
Total	4,217	1,377	5,594

*Conservation officer did not record the county of residence.

into (1) sections stocked with legal-size trout, (2) sections not stocked, (3) sections not given by the conservation officer. The 1950 stocking records were used to determine the Township sections which were stocked. For this tabulation it was assumed that legal-size trout planted in Township section contributed to the fishing only in that section. In most districts the catch per hour was slightly better in the stocked sections, only in Districts 9 and 11 was the catch per hour for unstocked sections better than for stocked. (See Table 6.) About 52.0 percent of the trout stream fishermen were fishing stocked sections, 28.5 percent were fishing unstocked sections, and the remaining 19.5 percent were fishing in sections which the officer failed to record. Apparently more fishing is done in the Upper Peninsula in unstocked sections, than in the other two regions, due probably to the greater percentage of streams not accessible to planting trucks.

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

During 1950 the officers recorded 28 different kinds of fish in the non-trout anglers' catch. Bluegills were caught in greatest numbers. Other important species recorded were: yellow perch, crappies, pumpkinseed, rock bass, pike, largemouth black bass, walleye, and smallmouth black bass. These nine species comprised 93.6 percent of the total catch from non-trout waters and the remaining 19 species constituted 6.4 percent. The remaining species not listed in Table 8 in order of abundance are as follows:

Smelt	6,628	Cisco	21
Bullheads	1,296	Warmouth bass	19
Suckers	775	Catfish	16
Rainbow trout	400	Dogfish	11
Carp	247	Whitefish	5
Brook trout	199	Muskellunge	4
Redhorse	184	Sheepshead	2
Lake trout	70	Sturgeon	1
White bass	66	Garpike	1
Brown trout	34		
		Total	9,979

Table 17

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, 1950

	Resident Anglers				Non-Resident Anglers				All Anglers			
	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	1,945	4,541.9	4,529	1.00	524	1,393.0	1,105	0.79	2,469	5,934.9	5,634	0.95
District 2	1,676	4,309.8	4,645	1.08	387	1,073.0	1,056	0.98	2,063	5,382.8	5,701	1.06
District 3	1,737	4,182.7	2,751	0.66	308	837.5	815	0.97	2,045	5,020.2	3,566	0.71
District 4	1,361	3,402.4	5,444	1.60	247	612.0	1,165	1.90	1,608	4,014.4	6,609	1.65
Region 1	6,719	16,436.8	17,369	1.06	1,466	3,915.5	4,141	1.06	8,185	20,352.3	21,510	1.06
District 5	4,978	14,191.9	11,618	0.82	1,011	3,648.0	2,836	0.78	5,989	17,839.9	14,454	0.81
District 6	3,759	8,854.7	17,625	1.99	413	888.5	1,201	1.35	4,172	9,743.2	18,826	1.93
District 7	6,631	14,764.5	13,657	0.92	778	1,453.4	1,522	1.05	7,409	16,217.9	15,179	0.94
District 8	5,168	12,698.6	24,241	1.91	432	866.0	1,363	1.57	5,600	13,564.6	25,604	1.89
District 9	3,642	8,300.1	22,037	2.66	92	332.0	365	1.10	3,734	8,632.1	22,402	2.60
Region 2	24,178	58,809.8	89,178	1.52	2,726	7,187.9	7,287	1.01	26,904	65,997.7	96,465	1.46
District 10	6,794	15,908.0	33,494	2.11	916	1,836.3	2,644	1.44	7,710	17,744.3	36,138	2.04
District 11	4,302	10,375.8	18,076	1.74	426	817.0	922	1.13	4,728	11,192.8	18,998	1.70
District 12	6,257	14,863.5	36,268	2.44	60	148.0	282	1.91	6,317	15,011.5	36,550	2.43
Region 3	17,353	41,147.3	87,838	2.13	1,402	2,801.3	3,848	1.37	18,755	43,948.6	91,686	2.09
State total	48,250	116,393.9	194,385	1.67	5,594	13,904.7	15,276	1.10	53,844	130,298.6	209,661	1.61

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The three species of stream trout--brook, brown, and rainbow--made up only 0.41 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 8. In each district these fish made up at least 60.7 percent of the total catch. Furthermore, they constituted more than 97 percent in nine of the districts.

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 made: (1) The percentage of the total state catch of each species caught tabulated by regions (Table 10), and (2) The percentage of each species in the total catch for each of the three regions (Table 11). From non-trout waters the bluegill was caught in greater numbers than any other single species. More than 64 percent of all bluegills reported in the 1950 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. Over nine-tenths (97.53 percent) of all bluegills recorded and over eight tenths (85.69 percent) of all yellow perch recorded in the 1950 general creel census were caught in the Lower Peninsula. The walleye was the species which was reported most often in Region 1. Yellow perch, crappies, pumpkinseed, rock bass, pike, 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 all three regions the combined catch of bluegill and yellow perch constituted more than half of the total catch (59.1 percent in Region 1, 67.4 percent in Region 2, and 81.8 percent in Region 3). For the entire state these two species made up 72.5 percent of the total non-trout catch. Pike

Table 18

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

	1942	1943	1944	1945	1946	1947	1948	1949	1950	Simple average
CATCH PER HOUR:										
All waters	1.1	1.2	1.2	1.1	1.3	1.4	1.1	1.3	1.6	1.3
Resident	1.2	1.2	1.2	1.1	1.4	1.5	1.2	1.3	1.7	1.3
Non-resident	0.8	1.1	1.1	0.9	0.8	1.1	1.1	1.1	1.1	1.0
Trout waters (all fish)	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.8
Resident	0.9	1.0	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.8
Non-resident	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.8	0.6	0.7
Non-trout waters	1.1	1.2	1.2	1.1	1.4	1.4	1.2	1.3	1.6	1.3
Resident	1.2	1.2	1.1	1.1	1.4	1.5	1.2	1.3	1.7	1.3
Non-resident	0.9	1.0	1.0	0.8	0.8	1.1	1.1	1.2	1.2	1.0
Great Lakes	1.7	1.6	1.8	2.2	1.6	2.7	2.9	3.1	4.8	2.5
Resident	2.0	1.5	1.8	2.2	1.6	2.7	3.1	3.2	4.9	2.6
Non-resident	0.9	1.8	2.1	1.4	0.6	1.9	1.6	1.2	2.7	1.6
PERCENTAGE OF ALL ANGLERS REPRESENTED BY:										
Non-resident	15.7	11.2	11.3	10.1	11.1	9.7	15.6	9.8	10.4	11.7
Female anglers	17.1	16.3	15.1	16.9	19.4	13.9	18.7	16.5	16.5	16.7
PERCENTAGE OF TROUT ANGLERS REPRESENTED BY:										
Non-resident	11.0	4.0	4.5	4.9	7.7	6.6	6.1	6.4	6.9	6.5
Female anglers	10.2	7.6	7.1	8.3	7.4	9.0	10.1	11.6	9.9	9.0
PERCENTAGE OF NON-TROUT ANGLERS REPRESENTED BY:										
Non-resident	17.3	12.5	13.8	11.7	12.5	11.5	18.6	10.9	11.7	13.4
Female anglers	19.1	17.8	16.3	18.4	21.9	15.9	21.3	17.7	18.4	18.5
PERCENTAGE OF GREAT LAKES ANGLERS REPRESENTED BY:										
Non-resident	9.7	13.3	4.9	6.7	6.1	2.9	12.7	6.3	4.1	7.4
Female anglers	11.6	13.1	19.3	16.5	18.2	9.4	17.0	16.1	12.9	14.9

and walleye were the other species which made up more than 9 percent of the total catch of any one region. The pike made up 9.3 percent in Region 1 and walleye made up 9.1 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 District 9 with 2.3 fish per hour (Table 12). All districts had catches of better than 1.0 fish per hour except District 3, 5, and 1. According to the catch per

Table 19

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 (Trout only)					
	1942	1943	1944	1945	1946	1947	1948	1949	1950	Simple average	1942	1943	1944	1945	1946	1947
District 1	0.6	0.7	0.6	0.8	0.7	0.6	0.8	0.8	0.9	0.7	1.0	0.7	0.6	0.9	0.8	0.7
District 2	0.8	1.2	0.6	0.6	0.7	0.5	0.9	0.7	1.1	0.8	1.2	0.7	0.6	0.8	0.6	0.5
District 3	0.8	0.7	0.9	1.6	0.9	0.9	1.1	0.9	0.7	0.9	0.8	0.6	0.8	0.8	0.8	0.8
District 4	1.9	1.2	1.2	0.9	0.8	1.0	1.3	1.5	1.6	1.3	0.7	1.2	0.8	0.7	1.0	1.0
Region 1	0.9	1.0	0.8	0.8	0.8	0.8	1.0	0.9	1.1	0.9	0.9	0.7	0.7	0.8	0.8	0.7
District 5	0.6	0.9	1.1	0.7	0.8	1.1	0.7	0.7	0.8	0.8	0.4	0.4	0.8	0.9	0.8	0.7
District 6	1.9	1.5	1.3	1.1	1.0	1.5	1.1	1.2	1.9	1.4	0.8	0.6	1.0	0.9	0.6	1.0
District 7	0.7	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.9	0.7	0.5	0.5	0.7	0.6	0.7	0.7
District 8	1.5	1.2	1.1	1.4	1.4	1.6	1.3	1.4	1.9	1.4	0.9	0.7	0.7	0.7	1.0	0.8
District 9	1.2	1.4	1.6	1.2	2.9	3.0	1.2	1.9	2.6	1.9	0.2	0.8	0.7	0.6	0.6	0.6
Region 2	1.1	1.0	1.0	0.9	1.5	1.5	1.0	1.1	1.5	1.2	0.6	0.5	0.8	0.8	0.7	0.8
District 10	1.3	1.4	1.6	1.6	1.2	1.6	1.6	1.8	2.0	1.6	0.6	0.5	0.5	0.6	0.6	0.5
District 11	1.3	1.1	1.3	1.1	1.2	1.0	1.1	1.4	1.7	1.2	1.0	1.6	0.1	0.4	0.5	...
District 12	1.4	1.4	1.7	1.6	1.6	2.5	2.2	1.9	2.4	1.9	0.6	1.7	0.6	0.4	0.4	0.6
Region 3	1.3	1.3	1.5	1.4	1.4	1.7	1.6	1.7	2.1	1.6	0.7	0.9	0.5	0.6	0.6	0.5
State total	1.1	1.2	1.2	1.1	1.3	1.4	1.1	1.3	1.6	1.3	0.8	0.7	0.7	0.8	0.8	0.7

				Non-Trout Waters												Great Lakes Waters							
1948	1949	1950	Simple average	1942	1943	1944	1945	1946	1947	1948	1949	1950	Simple average	1942	1943	1944	1945	1946	1947	1948	1949	1950	Simple average
0.7	0.6	0.9	0.8	0.5	0.7	0.5	0.7	0.8	0.4	0.8	0.9	1.0	0.7	0.2	0.4	0.2	0.1	0.1	0.5	0.9	0.3	...	0.3
0.7	0.8	0.8	0.7	0.6	1.3	0.5	0.5	0.6	0.5	0.9	0.7	1.1	0.7	...	...	1.5	2.3	3.4	1.8	2.9	4.8	...	2.4
1.1	1.0	0.6	0.8	0.7	0.7	0.8	0.9	0.9	0.6	1.2	0.8	0.9	0.8	0.3	1.0	1.0	4.1	1.2	1.0	1.0	0.9	2.5	1.4
1.2	1.0	1.1	1.0	1.5	0.9	1.4	0.8	0.7	0.8	1.4	1.7	1.8	1.2	3.1	2.3	1.2	1.5	0.7	1.1	1.1	2.9	4.9	2.1
0.9	0.8	0.8	0.8	0.7	0.9	0.7	0.6	0.7	0.6	1.0	0.9	1.2	0.8	1.5	2.2	1.1	2.7	0.6	1.0	1.1	1.1	4.2	1.7
0.7	0.6	0.6	0.7	0.6	1.0	1.1	0.6	0.7	1.2	0.7	0.7	0.9	0.8	1.3	3.0	2.7	1.6	1.0	4.2	1.7	0.4	0.5	1.8
0.9	0.9	0.7	0.8	1.9	1.4	1.2	1.1	0.8	1.4	1.2	1.5	2.4	1.4	0.5	5.9	4.8	0.8	4.6	8.2	12.2	3.6	2.9	4.8
0.7	0.5	0.4	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.8	0.9	1.2	0.7	...	...	0.8	4.2	...	0.9	0.3	5.9	...	2.4
0.6	0.7	0.6	0.7	1.7	1.2	1.3	1.7	1.4	1.8	1.5	1.5	2.1	1.6	...	...	...	...	...	...	...	...	2.8	2.8
0.5	0.4	0.1	0.5	1.2	1.5	1.5	1.3	3.2	3.5	1.0	1.8	2.3	1.9	...	...	3.8	2.2	2.0	5.7	5.8	5.4	5.7	4.4
0.7	0.6	0.5	0.7	1.1	1.0	0.9	0.9	1.6	1.7	1.0	1.1	1.7	1.2	0.5	5.7	3.3	2.5	2.4	7.1	5.5	4.9	5.1	4.1
0.5	0.4	0.6	0.5	1.3	1.4	1.7	1.6	1.2	1.6	1.7	1.8	2.1	1.6	...	2.9	9.0	...	2.8	...	...	6.4	6.6	5.5
0.5	0.4	0.6	0.6	1.3	1.1	1.3	1.1	1.2	1.0	1.1	1.4	1.7	1.2	...	...	...	...	...	...	...	...	...	...
...	0.6	0.6	0.7	1.2	1.4	1.4	1.2	1.1	1.3	1.4	1.2	1.1	1.3	1.6	1.4	1.9	2.0	2.0	4.0	3.9	3.3	4.7	2.8
0.5	0.5	0.6	0.6	1.3	1.3	1.5	1.3	1.2	1.4	1.4	1.5	1.7	1.4	1.6	1.4	1.9	2.0	2.0	4.0	3.9	3.4	4.8	2.8
0.8	0.7	0.6	0.7	1.1	1.2	1.1	1.1	1.4	1.4	1.1	1.3	1.6	1.3	1.7	1.6	1.8	2.2	1.6	2.7	2.9	3.1	4.8	2.5

Table 20

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
1950	1.61	0.63	1.65	4.84
Simple average	1.21	0.85	1.27	2.48

hour, lake fishing was best in District 6 where the anglers caught 2.5 fish per hour, followed by Districts 10, 8, and 11 with 2.2, 2.1, and 1.8 fish per hour respectively. For non-trout streams District 9 yielded the highest catch per unit of effort (3.7 fish) followed by Districts 5, 7, and 10 with 1.6, 1.5, and 1.0 fish per hour respectively. In 1950 the catch from non-trout waters for the entire state was 1.65 fish per hour, which is a rise of 0.37 fish per hour (1.28 fish per hour in 1949). The rise in catch per hour is due in part to the large number of yellow perch reported from District 9 non-trout streams emptying into Saginaw Bay, to the large number of smelt and yellow perch caught in District 6 non-trout lakes, and to the numbers of bluegill and yellow perch taken in District 10 non-trout lakes.

Composition of Catch--

Great Lakes Waters

A total of 36,769 fish were recorded from Great Lakes waters. The yellow perch made up the bulk of the total catch, 96.2 percent (Table 13). The following six species are arranged according to their abundance in the catch: yellow perch, walleye, cisco, smallmouth black bass, pike, and rock bass. These species constituted 99.6 percent of all fish caught from Great Lakes waters and seven other species of fish were included in the remaining 0.4 percent.

The other species of fish are listed as follows:

Pumpkinseed	51	Muskellunge	5
Bluegill	49	Bullheads	2
Crappies	31	Rainbow trout	1
		Total	156
Catfish	17		

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

In 1950 fishing records from the Great Lakes and their connecting waters were submitted by officers in eight districts. District 11 does not border on the Great Lakes or their connecting waters: Districts 1, 2, and 7 did not submit any catch records from the Great Lakes waters. The greatest success in fishing Great Lakes waters was reported from District 10 (6.62 fish per hour). This high catch per hour is attributed to 956 yellow perch taken in 156 hours by 65 anglers in Ottawa County (Table 14). In seven of the districts the anglers experienced a catch of better than 2.4 fish per hour and the average for all Great Lakes waters was 4.8 fish per hour. Fishing in the Great Lakes proper was better than in the connecting waters (5.9 fish per hour and 2.6 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 9, 12, and 10 had catches per hour of 2.6, 2.4, and 2.0 fish respectively. In District 9 the high figure was due to the huge number of yellow perch taken in non-trout streams (5,965) and in Great Lakes waters (8,034). The high quality of fishing in District 12 was also due to the number of yellow perch (25,725) taken in Great Lakes waters. In District 10 the high catch per hour was caused by the great percentage of fishermen angling in non-trout lakes with good success.

In terms of fish caught per hour the best fishing was in Region 3 with a catch of 2.1 fish per hour, whereas Regions 2 and 1 had catches per hour of 1.5 and 1.1 fish respectively. Furthermore 96,465 fish (46.01 percent)

of the total 209,661 fish recorded in the census were caught in Region 2, 91,686 (43.73 percent) were taken in Region 3, and the remaining 21,510 (10.26 percent) were caught in Region 1.

Residence of Anglers, All Waters

Of the 53,844 anglers recorded in the 1950 general creel census, there were 48,250 (89.61 percent) who resided in Michigan and the remaining 5,594 (10.39 percent) lived outside the state (Table 15). Conservation officers in District 5 contacted the greatest number of non-resident anglers. In this district 1,011 anglers (16.88 percent of all fishermen interviewed in the district) were from outside the state. Officers in District 12 interviewed the fewest non-residents (60) and these anglers comprised only 0.95 percent of all fishermen recorded in the district.

Anglers residing in all of the 83 counties of Michigan were recorded in the 1950 general creel census. Residents of Wayne County constituted 9.62 percent of all anglers intereviewed in 1950. Other counties from which anglers were recorded in great numbers were Kent County (6.02 percent), Genesee County (3.59 percent), Ingham County (2.96 percent), Saginaw County (2.77 percent), St. Joseph County (2.54 percent), and Marquette (2.48 percent). Residents from the above mentioned counties accounted for 29.98 percent of all anglers contacted.

Out-of-state fishermen came from 29 states in the Union, District of Columbia, and the province of Ontario. The four states bordering Michigan furnished 95.71 percent of all non-resident anglers. Fishermen from Ohio made up 41.17 percent, from Indiana, 30.21 percent, from Illinois, 19.59 percent, and from Wisconsin, 4.74 percent. The county of residence for Michigan fishermen and the state of residence for non-residents are given in Table 16.

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

Resident anglers had a higher catch per hour (1.67 fish) than did the non-resident anglers (1.10 fish). Comparison of resident and non-resident anglers is given in Table 17.

Sex of Anglers--All Waters

A total of 8,890 female anglers was interviewed in 1950. Of all anglers contacted 16.5 percent were female anglers same as in 1949.

Comparison of 1950 General Creel Census Data with that of Other Years

Tables 18 and 19 summarize the general creel census data for the past nine 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 and to 1.61 fish per hour in 1950.

During the past nine years the catch per hour of all fish in trout waters has varied 0.3 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 and in 1950 the catch dropped to 0.6 fish per hour, which is a new low. The catch per hour of trout in trout waters has varied from 0.8 to 0.6 trout. In 1942 the catch per hour was 0.8 trout, in 1943 and 1944 it was 0.7 trout, in 1945 and 1946 it was 0.8 trout, in 1947 it was 0.7 trout, in 1948 it was 0.8 trout, in 1949 it was 0.7 trout, and in 1950 it was 0.6 trout.

The catch per unit of effort in non-trout waters has remained more than 1.1 fish during the last nine years. In 1950 a new high of 1.6 fish per hour was recorded for all non-trout waters. The catch per hour for non-trout waters is very similar to the catch per hour for all waters, because the number of records from non-trout waters is so great.

The catch per hour for Great Lakes waters has remained consistently higher thansthat for trout and non-trout waters for the nine years these waters have been tabulated separately. In 1950 the difference in the catch per hour for Great Lakes waters (4.84 fish) and non-trout waters (1.65 fish) was greater than in past years. In the Great Lakes waters the anglers averaged 2.5 fish per hour for the 9-year period as compared to an average of 1.3 fish per hour in non-trout water over the same period.

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

INSTITUTE FOR FISHERIES RESEARCH

K. G. Fukano

Approved by A. S. Hazzard

Typed by M. Tait

Abstract Number One

MICHIGAN DEPARTMENT OF CONSERVATION

(Institute for Fisheries Reasearch Report Number 1284)

REPORT OF THE GENERAL CREEL CENSUS FOR 1950

By K. G. Fukano

May 2, 1951

This report includes the data for the twenty-fourth 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--10,334 anglers or 19.2 percent; (2) non-trout waters--40,874 anglers or 75.9 percent; and (3) Great Lakes waters--2,636 anglers or 4.9 percent. Of the 53,844 anglers interviewed 5,594 fishermen or 10.4 percent were non-residents and 8,890 or 16.5 percent were female anglers.

Brook trout continued to make up the bulk (64.75 percent) of the total catch from trout waters. The three species of trout--brook, brown, and rainbow--constituted 96.16 percent of all fish caught in trout waters. The catch per hour for all trout waters was 0.63 fish and 0.61 trout which is a decline from the 1949 catch of 0.72 fish and 0.67 trout per hour.

The officers saw 28 different kinds of fish in the non-trout anglers' catch. Bluegill was the species caught in greatest numbers. The combined catch of bluegill and yellow perch made up 72.5 percent of the total catch from non-trout waters. For the entire state the catch per hour from non-trout water was 1.65 fish.