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THE MICHIGAN GENERAL CREEL CENSUS FOR 1964 ¹

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(Preface by Gerald P. Cooper: This is presumably the last of a long series of annual reports on the General Creel Census of angling in Michigan. The census was started in 1927 largely under the urging of one of our early and most illustrious Commissioners of Conservation, William H. Loutit of Grand Haven. From the beginning the census records have been gathered in the field by Conservation Officers as part of their regular duties. The officers are to be commended for their conscientious efforts in this work.)

The 1964 General Creel Census was the thirty-eighth such census made by conservation officers and it is the last, as explained above. The purpose of the census was to secure a sample of sport fishing from all types of water throughout the state. It does not include creel records from special research projects of the Research and Development Division.

During 1964 the officers procured records of 59, 584 fishing trips. The waters fished were divided into three main categories-- trout, nontrout and Great Lakes waters; each group being subdivided into lakes and streams. It is believed that this tabulation of the data gives the best available indication of the fishing quality and, to some degree, fishing intensity in the six types of waters administered by the state.

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¹ Contribution from Dingell-Johnson Project F-27-R, Michigan.

The numbers of anglers interviewed were as follows:

(1) trout waters, 8, 179 (14% of all anglers interviewed), of whom 2, 462 fished in designated trout lakes and special trout ponds and 5, 717 fished in streams; (2) nontROUT waters, 46, 769 (78%), of whom 40, 968 fished in lakes and 5, 801 fished in streams; (3) Great Lakes waters, 4, 636 (8%), of whom 2, 951 fished in the Great Lakes and 1, 685 fished in the connecting waters.

Of the 59, 584 anglers interviewed, 7, 922 (13%) were nonresidents; 9, 113 (15%) were women.

Anglers were interviewed either while fishing or at the end of a fishing trip. Hence, this census is a partial rather than a complete record of 59, 584 angler trips. Also, it represents fewer than 59, 584 individual anglers as some may have been interviewed on more than one fishing trip. Only legal-size fish caught by sport fishermen are included in this summary.

Detailed analysis

The 59, 584 anglers (5% fewer than in 1963) interviewed by conservation officers in 1964 had fished 126, 111 hours and caught 137, 283 fish. The average catch per hour for all fishing was 1.1 fish which is the same as that recorded in 1963 (Table 1).

Records were obtained in 81 counties (Table 2). Some bias in the state-wide sample results from the fact that no records were secured from two counties (Berrien and Hillsdale) and fewer than 200

from other counties (Baraga, Bay, Calhoun, Clinton, Eaton, Gratiot, Isabella, Keweenaw, Mecosta, Midland, Ogemaw, Saginaw, Shiawassee and Wexford).

In this report, angling records for the various types of water are summarized by Conservation Department regions.

Fishing in trout, nontrout, and

Great Lakes waters

The numbers and percentages of anglers interviewed while fishing in the various waters are given in Table 3. Regions I and II together furnished 88% of all records of trout fishing; Region III supplied the remaining 12%. In Regions I and II combined, 17% of all anglers fished for trout; in Region III, only 5% did so. For the state as a whole, trout fishing reports made up 14% of the total angler trips (14% of 59,584).

In each of the three regions more records were obtained from nontrout waters than from trout waters or Great Lakes waters. The largest percentage of nontrout anglers was from Region II (86% of 26,856 anglers); the smallest from Region I (65% of 14,088 anglers). In Region III, 79% of the anglers fished nontrout waters and 16% of the anglers interviewed were fishing in Great Lakes waters.

Number of trout caught in trout waters

Of the 10,108 trout recorded in 1964, brook trout constituted 53%; rainbow trout, 32%; and brown trout, 15% of the catch (Table 4). In 1963 these percentages were 58, 28, and 12, respectively.

The 5,366 brook trout noted in the 1964 census were distributed as follows: Region I, 3,862 (72%); Region II, 1,217 (23%); and Region III, 287 (5%). Of 3,260 rainbow trout reported, Region II contributed 1,999 (62%); Region I, 732 (22%); and Region III, 529 (16%). Of 1,482 brown trout recorded, 1,090 (74%) were caught in Region II; 254 (17%), in Region III; and 138 (9%) in Region I.

From Regions I and II came 89% of the 10,108 trout reported from trout waters.

Other species caught in trout waters

Brook, brown, and rainbow trout composed 91% of all fish taken in trout waters. The 15 other kinds represented in the catch from trout waters and their numbers are given below:

Suckers	344	Largemouth bass	7
Yellow perch	197	Bullheads	7
Round whitefish	188	Pumpkinseed	5
Rock bass	88	Lake trout	3
Bluegill	81	Walleye	2
Northern pike	27	Chub	2
Splake	23	Carp	1
Smallmouth bass	14	Total	989

Catch per hour--trout waters

As shown in Table 5, trout fishermen caught 0.6 fish per hour. This is identical with the catch per hour in 1963 and 0.1 above that of 1962. The fishing quality index for trout only was 0.5 trout per hour for all trout waters together. For designated trout lakes and trout ponds

the catch per hour was 0.4; for trout streams, 0.6. The highest catch per hour for trout lakes (0.5 trout) was recorded in Region II; the highest catch per hour for trout streams (0.6 trout) was found in both Region I and Region II. Most of the trout fishermen interviewed (70%) fished in trout streams.

Composition of catch--nontrout waters

Thirty species of fish were reported from nontrout waters by conservation officers. Bluegill and yellow perch together composed 61% of the total catch in nontrout lakes and streams (68% in Region I; 57% in Region II; and 61% in Region III--see Table 6). The black crappie was the only other species forming at least 10% of the total catch in a region; it made up 16% of the total catch in Region III. Walleye, usually 10% or more in Region I, fell to 7% in that region in 1964. Other species important in the catch were: walleye, pumpkinseed, rock bass, rainbow trout, northern pike, largemouth bass, and smallmouth bass. The 10 species mentioned above have retained approximately the same rank in importance during the 10-year period 1955-1964 (Table 7). In 1964 these 10 species made up 90% of the total recorded catch in nontrout waters and at least 86% of the catch in every region (95% in Region I; 86% in Region II; 92% in Region III). The remaining 20 species accounted for 10% of the recorded total catch in nontrout waters and are listed below:

American smelt	3,755	Chub	14
Suckers	2,650	Muskellunge	8
Bullheads	1,127	Round whitefish	4
Carp	1,092	Splake	4
Lake trout	589	Sturgeon	3
Brook trout	368	White bass	3
Brown trout	289	Redhorse	1
Cisco	213	Dogfish	1
Catfish	38	Gar	1
Sauger	17	Warmouth	<u>1</u>
		Total	10,178

The state-wide catch (as recorded in the census) of the 10 most important species with the number and percentage contributed by each region is presented in Table 8. In 1964 the bluegill outranked all other species in the state (30,784 reported), closely followed by yellow perch (30,707). Most bluegills (63% of the state total), black crappie, pumpkinseed, and largemouth bass recorded were caught in Region III. Region II produced the highest catches of yellow perch (47% of the state total), rock bass (53%), northern pike (48%), and smallmouth bass (60%). Most of the walleyes (70% of 2,206) and rainbow trout (59%) were reported from Region I. Regions II and III combined yielded 90% of all bluegills recorded in the 1964 census.

Brook, brown, and rainbow trout formed 4% of the total catch in nontrout waters. Region I had the largest proportion of rainbows (59%). This is a large increase in rainbow trout for the nontrout waters of Region I because in 1963 Region I accounted for only 5% of the total rainbow caught in the nontrout waters of the state. Region II led with 59% of the total.

Catch per hour--nontrout waters

In 1964 the catch per hour for nontrout waters of the entire state was 1.1 fish (Table 9), identical to that recorded in both 1963 and 1962. The highest catch per hour for nontrout waters was recorded in Region III (1.3 fish per hour). Region III also had the highest catch per hour in nontrout lakes (1.4) but fishing in nontrout streams was best in Region II (1.4 fish per hour).

Composition of catch--Great Lakes waters

The yellow perch made up 83% of the 25,206 fish reported from Great Lakes waters in 1964 (Table 10). Walleye, rock bass, smallmouth bass, and northern pike combined added another 10%. The remaining 7% was composed of 19 kinds as shown below:

White bass	545	American smelt	19
Carp	454	Catfish	6
Freshwater drum	239	Suckers	6
Pumpkinseed	134	Rainbow trout	4
Largemouth bass	72	Black crappie	3
Bluegill	56	Lake trout	3
Cisco	53	Brown trout	1
Round whitefish	39	Alewife	1
Muskellunge	34	Bowfin	<u>1</u>
Bullheads	32	Total	1,702

Catch per hour--Great Lakes waters

As has been done in recent years, the data for Great Lakes waters were tabulated separately for each lake and each connecting water. Table 11 shows the influence of the high catch per hour from Lake Huron (3.1 fish) on the fishing quality index for the Great Lakes waters. The average catch per hour for all Great Lakes and connecting waters was 2.1 fish (2.8 for the Great Lakes and 1.0 for the connecting waters).

Residence of anglers--all waters

Of the 59,584 anglers interviewed in the 1964 general creel census, 51,662 (87%) were residents of Michigan (assuming the 747 males and 119 females for whom no residence was given were Michigan residents), and 7,922 (13%) were nonresident anglers (Table 12). The greatest number of nonresident fishermen (2,873) was recorded from Region III where they were 15% of the total interviewed in that region, but in Region I the 2,521 nonresident anglers constituted 18% of the anglers interviewed.

Anglers from all 83 counties of Michigan were reported in the census (Table 13). Considering only the 50,796 Michigan anglers whose county of residence was noted, the greatest numbers came from a few counties: Wayne County, 13%; Kent County, 6%; Genesee County, 6%; and Oakland County, 4%. The total for these four counties was 29%. Other counties contributing a high number of resident anglers were: Bay, Ingham, Macomb, Marquette, Muskegon, and Saginaw.

Nonresident anglers came from 31 states, the District of Columbia, the Canadian provinces of Ontario and British Columbia, England, and Iceland. Ohio contributed 43% of all nonresidents; Indiana, 33%; Illinois, 12%; and Wisconsin, 8%; the total for these four states bordering Michigan was 96%.

Both resident and nonresident anglers caught fish at the rate of 1.1 fish per hour (all waters combined), as indicated in Table 14.

Sex of anglers

Of the 59,584 anglers interviewed in 1964, 9,113 (15%) were women. They constituted 9% of the trout anglers, 17% of the nontrout anglers, and 13% of the anglers on the Great Lakes (Table 15).

Comparison of 1964 data with those of other years

Tables 15 to 19 summarize the general creel census for the past 10 years. The catch per hour for all waters has ranged from a minimum of 1.0 fish in 1961 to a maximum of 1.5 in 1955 (Table 15). In 1964 the catch per hour for all waters was 1.1 fish which is 0.1 fish below the simple average for the 10-year period.

During the period 1955-1964 the catch per hour of trout in trout waters has ranged from 0.5 to 0.8 fish (Table 17). The highest catches were recorded in 1955, 1956, and 1957; the lowest were in 1962, 1963, and 1964. The 1964 catch per hour was 0.5 fish which is 0.1 fish below the simple average for the 10-year period.

For nontrout waters the highest catches per hour during the 10-year period were recorded in 1955 and 1960 (1.3 fish); the lowest in 1961 (1.0 fish) (Table 18). The catch per hour in 1964 of 1.1 fish is 0.1 fish below the 10-year simple average.

Between 1942 and 1964 the catch per hour has been consistently higher for the Great Lakes waters than for either trout or nontrout inland waters (Table 20). During the 1955-1964 period, anglers fishing Great Lakes waters have averaged 2.0 fish per hour as compared with an average of 1.2 fish per hour in the inland nontrout waters. The catch per hour on Great Lakes waters has varied during the period 1955-1964 from 1.3 fish per hour in 1957 to 2.9 in 1959. The 1964 catch per hour was 2.1 fish, or 0.1 fish above the 10-year average.

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Table 1. --Total number of anglers interviewed, hours fished, number of fish caught, and catch per hour for each conservation region, all waters, 1964

Region	Male anglers	Female anglers	Total anglers	Hours fished	Fish caught	Fish per hour
I	12,168	1,952	14,120	34,497.5	33,502	1.0
II	22,520	4,304	26,824	52,250.1	49,072	0.9
III	15,783	2,857	18,640	39,363.0	54,709	1.4
State totals	50,471	9,113	59,584	126,110.6	137,283	1.1

Table 2. --Number of anglers interviewed by conservation officers during
1963 and 1964, by counties

County	1963	1964	County	1963	1964
Alcona	1,069	851	Lake	363	463
Alger	1,131	1,930	Lapeer	827	794
Allegan	918	1,053	Leelanau	522	289
Alpena	2,131	1,232	Lenawee	546	679
Antrim	812	1,549	Livingston	1,447	547
Arenac	941	870	Luce	919	1,382
Baraga	230	90	Mackinac	930	1,190
Barry	940	263	Macomb	1,017	1,003
Bay	209	106	Manistee	1,163	711
Benzie	664	566	Marquette	1,403	2,048
Berrien	-	-	Mason	1,078	756
Branch	1,955	1,363	Mecosta	1,706	144
Calhoun	175	140	Menominee	87	592
Cass	979	1,020	Midland	153	53
Charlevoix	1,219	1,524	Missaukee	484	397
Cheboygan	2,164	1,454	Monroe	175	984
Chippewa	1,293	925	Montcalm	310	303
Clare	358	240	Montmorency	1,698	1,815
Clinton	60	182	Muskegon	1,530	1,566
Crawford	535	439	Newaygo	1,656	1,896
Delta	212	320	Oakland	1,987	1,463
Dickinson	262	483	Oceana	885	521
Eaton	35	14	Ogemaw	257	129
Emmet	1,220	911	Ontonagon	270	514
Genesee	906	341	Osceola	922	1,133
Gladwin	588	576	Oscoda	508	591
Gogebic	527	1,032	Otsego	564	209
Grand Traverse	351	807	Ottawa	432	363
Gratiot	134	20	Presque Isle	933	1,074
Hillsdale	-	-	Roscommon	1,553	1,574
Houghton	757	759	Saginaw	-	47
Huron	1,302	1,167	St. Clair	914	422
Ingham	298	324	St. Joseph	788	846
Ionia	207	216	Sanilac	717	495
Iosco	1,870	1,751	Schoolcraft	834	1,493
Iron	744	1,320	Shiawassee	219	199
Isabella	237	91	Tuscola	595	601
Jackson	1,602	870	Van Buren	122	278
Kalamazoo	269	237	Washtenaw	2,039	1,138
Kalkaska	412	358	Wayne	493	930
Kent	201	338	Wexford	74	178
Keweenaw	10	42			
			Totals	63,047	59,584

Table 3. --Number and percentage of fishermen interviewed on trout, nontrout, and Great Lakes waters, by conservation regions, 1964

Region	Trout waters		Nontrout waters		Great Lakes waters		Total anglers
	Number	Per cent	Number	Per cent	Number	Per cent	
I	3,861	27	9,154	65	1,073	8	14,088
II	3,303	12	22,955	86	598	2	26,856
III	1,015	5	14,660	79	2,965	16	18,640
State totals	8,179	14	46,769	78	4,636	8	59,584

Table 4. --Number and percentage of total trout catch made up by each of the three species of trout--all trout waters, by conservation regions, 1964

Region	Brook trout		Brown trout		Rainbow trout		Total trout
	Number	Per cent	Number	Per cent	Number	Per cent	
I	3,862	82	138	3	732	15	4,732
II	1,217	28	1,090	25	1,999	47	4,306
III	287	27	254	24	529	49	1,070
State totals	5,366	53	1,482	15	3,260	32	10,108

Table 5. --General creel census data for trout lakes, trout streams, and all trout waters by conservation regions, 1964

	Number of anglers	Hours fished	Fish caught	Fish per hour	Trout caught	Trout per hour
<u>Trout lakes</u>						
Region I	1, 229	2, 669.4	935	0.4	919	0.3
Region II	902	2, 161.5	1, 289	0.6	1, 143	0.5
Region III	331	668.0	112	0.2	112	0.2
State totals	2, 462	5, 498.9	2, 336	0.4	2, 174	0.4
<u>Trout streams</u>						
Region I	2, 632	6, 307.7	4, 260	0.7	3, 813	0.6
Region II	2, 401	5, 660.9	3, 527	0.6	3, 163	0.6
Region III	684	2, 115.5	974	0.5	958	0.5
State totals	5, 717	14, 084.1	8, 761	0.6	7, 934	0.6
<u>All trout waters</u>						
Region I	3, 861	8, 977.1	5, 195	0.6	4, 732	0.5
Region II	3, 303	7, 822.4	4, 816	0.6	4, 306	0.6
Region III	1, 015	2, 783.5	1, 086	0.4	1, 070	0.4
State totals	8, 179	19, 583.0	11, 097	0.6	10, 108	0.5

Table 6. --Percentage of the total catch of all species in each region contributed by each of the 10 most important species caught in nontrout waters, 1964

Species	Region I		Region II		Region III	
	Number	Per cent	Number	Per cent	Number	Per cent
Bluegill	2,970	13	8,426	21	19,388	51
Yellow perch	12,719	55	14,224	36	3,764	10
Black crappie	262	1	3,491	9	5,970	16
Pumpkinseed	293	1	1,911	5	2,616	7
Rock bass	752	3	2,315	6	1,329	3
Northern pike	1,221	5	1,407	3	281	1
Walleye	1,534	7	648	2	24	- ^a
Rainbow trout	1,708	8	720	2	450	1
Largemouth bass	144	1	337	1	794	2
Smallmouth bass	152	1	664	1	288	1
Miscellaneous	1,168	5	5,726	14	3,284	8
Totals	22,923	100	39,869	100	38,188	100

^a Less than 0.5%.

Table 7. --Percentage of the total catch contributed by the 10 most important species taken in nontrout waters, 1955-1964

Species	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Mean, 1955- 1964
Bluegill	35	36	38	40	36	39	37	35	39	31	37
Yellow perch	32	31	27	29	28	32	25	31	23	30	29
Black crappie	11	7	8	9	11	9	10	9	10	10	10
Pumpkinseed	4	5	5	4	6	5	6	6	5	5	5
Rock bass	3	3	4	3	4	3	4	3	4	4	4
Northern pike	4	6	4	4	4	2	3	2	4	3	4
Rainbow trout	2	2	2	1	1	1	2	1	2	3	2
Walleye	2	2	1	2	1	1	2	2	2	2	2
Largemouth bass	2	2	2	1	2	1	2	2	2	1	2
Smallmouth bass	1	1	1	1	1	1	1	1	1	1	1
Totals	96	95	92	94	94	94	92	92	92	90	96

Table 8. --Percentage of the total state catch of each of the 10 most important species caught in nontrout waters, contributed by each region, 1964

Species	Region I		Region II		Region III		Total
	Number	Per cent	Number	Per cent	Number	Per cent	
Bluegill	2,970	10	8,426	27	19,388	63	30,784
Yellow perch	12,719	41	14,224	47	3,764	12	30,707
Black crappie	262	3	3,491	36	5,970	61	9,723
Pumpkinseed	293	6	1,911	40	2,616	54	4,820
Rock bass	752	17	2,315	53	1,329	30	4,396
Northern pike	1,221	42	1,407	48	281	10	2,909
Walleye	1,534	70	648	29	24	1	2,206
Rainbow trout	1,708	59	720	25	450	16	2,878
Largemouth bass	144	11	337	26	794	63	1,275
Smallmouth bass	152	14	664	60	288	26	1,104
Miscellaneous	1,168	11	5,726	57	3,284	32	10,178
Totals	22,923	23	39,869	39	38,188	38	100,980

Table 9. --General creel census data for nontrout lakes, nontrout streams, and all nontrout waters combined, by conservation regions, 1964

	Number of anglers interviewed	Hours fished	Fish caught	Fish per hour
<u>Nontrout lakes</u>				
Region I	7,973	19,763.9	21,328	1.1
Region II	21,679	40,853.3	36,630	0.9
Region III	11,316	22,573.1	31,883	1.4
State totals	40,968	83,190.3	89,841	1.1
<u>Nontrout streams</u>				
Region I	1,181	2,993.0	1,595	0.5
Region II	1,276	2,372.4	3,239	1.4
Region III	3,344	6,207.5	6,305	1.0
State totals	5,801	11,572.9	11,139	1.0
<u>All nontrout waters</u>				
Region I	9,154	22,756.9	22,923	1.0
Region II	22,955	43,225.7	39,869	0.9
Region III	14,660	28,780.6	38,188	1.3
State totals	46,769	94,763.2	100,980	1.1

Table 10. --Percentage of the total catch contributed by the five species taken most frequently in Great Lakes waters, 1955-1964

Species	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Mean, 1955- 1964
Yellow perch	91	86	81	93	93	86	74	78	91	83	86
Walleye	2	3	7	4	3	3	11	10	1	4	5
Rock bass	2	3	4	1	1	4	4	4	2	4	3
Smallmouth bass	1	2	1	- ^a	1	3	2	1	2	1	1
Northern pike	- ^a	- ^a	2	1	1	1	2	1	1	1	1
Totals	96	94	95	99	99	97	93	94	97	93	96

^a Less than 0.5.

Table 11. --General creel census data for Great Lakes and connecting waters,
1964

Lake or waters	Number of anglers	Hours fished	Fish caught	Fish per hour
Lake Superior	173	396.0	301	0.8
Lake Michigan	286	848.0	1,031	1.2
Lake Huron	2,356	5,941.5	18,548	3.1
Lake Erie	136	383.0	1,022	2.7
Totals, Great Lakes	2,951	7,568.5	20,902	2.8
Waters between Lake Superior and Lake Huron	392	975.0	898	0.9
Waters between Lake Huron and Lake Erie	1,293	3,220.9	3,406	1.1
Totals, connecting waters	1,685	4,195.9	4,304	1.0
All Great Lakes and connecting waters	4,636	11,764.4	25,206	2.1

Table 12. --Number of resident and nonresident anglers interviewed, and percentage of nonresident anglers in each conservation region, all waters, 1964^a

Region	Total anglers	Resident anglers	Nonresident anglers	Per cent nonresident anglers
I	14,120	11,599	2,521	18
II	26,824	24,296	2,528	9
III	18,640	15,767	2,873	15
State totals	59,584	51,662	7,922	13

^a The residence of 747 males and 119 females was not recorded but they were assumed to be Michigan residents.

Table 13. --Residence of Michigan fishermen interviewed in the general creel census, 1964^a

County of residence	Male anglers	Female anglers	Total	County of residence	Male anglers	Female anglers	Total
Alcona	155	25	180	Lake	67	15	82
Alger	735	77	812	Lapeer	321	58	379
Allegan	432	77	509	Leelanau	110	9	119
Alpena	644	95	739	Lenawee	116	34	150
Antrim	471	67	538	Livingston	159	42	201
Arenac	143	17	160	Luce	794	74	868
Baraga	138	5	143	Mackinac	301	27	328
Barry	167	37	204	Macomb	903	123	1,026
Bay	1,049	183	1,232	Manistee	482	15	497
Benzie	339	20	359	Marquette	2,024	255	2,279
Berrien	400	100	500	Mason	355	28	383
Branch	283	44	327	Mecosta	143	19	162
Calhoun	427	73	500	Menominee	344	41	385
Cass	143	22	165	Midland	478	107	585
Charlevoix	710	67	777	Missaukee	132	14	146
Cheboygan	410	88	498	Monroe	638	136	774
Chippewa	400	53	453	Montcalm	249	53	302
Clare	134	28	162	Montmorency	307	67	374
Clinton	219	27	246	Muskegon	1,532	272	1,804
Crawford	121	16	137	Newaygo	180	44	224
Delta	400	51	451	Oakland	1,522	281	1,803
Dickinson	775	65	840	Oceana	111	18	129
Eaton	119	17	136	Ogemaw	131	8	139
Emmet	452	45	497	Ontonagon	340	40	380
Genesee	2,418	477	2,895	Osceola	296	57	353
Gladwin	160	27	187	Oscoda	178	19	197
Gogebic	413	60	473	Otsego	175	36	211
Grand Traverse	395	40	435	Ottawa	447	54	501
Gratiot	150	28	178	Presque Isle	288	57	345
Hillsdale	48	11	59	Roscommon	260	44	304
Houghton	347	43	390	Saginaw	1,571	293	1,864
Huron	348	30	378	St. Clair	279	30	309
Ingham	1,266	311	1,577	St. Joseph	212	46	258
Ionia	144	32	176	Sanilac	195	39	234
Iosco	227	18	245	Schoolcraft	730	57	787
Iron	601	51	652	Shiawassee	191	42	233
Isabella	161	23	184	Tuscola	493	56	549
Jackson	717	137	854	Van Buren	159	22	181
Kalamazoo	657	150	807	Washtenaw	644	129	773
Kalkaska	162	30	192	Wayne	5,408	1,269	6,677
Kent	2,490	516	3,006	Wexford	201	37	238
Keweenaw	10	-	10				
				Totals	43,446	7,350	50,796

^a The residence of 747 males and 119 females was not recorded; therefore, they are not included in Tables 13 and 13a.

Table 13a. --Residence of out-of-state fishermen interviewed
in the general creel census, 1964

State, province, or country of residence	Male anglers	Female anglers	Total
Arizona	7	4	11
Arkansas	3	1	4
California	13	4	17
Colorado	3	1	4
Delaware	5	-	5
Florida	25	6	31
Georgia	4	1	5
Illinois	771	194	965
Indiana	2, 117	535	2, 652
Iowa	1	-	1
Kansas	4	-	4
Kentucky	35	10	45
Maine	3	1	4
Maryland	4	2	6
Massachusetts	3	1	4
Minnesota	9	-	9
Missouri	10	4	14
Nebraska	2	-	2
Nevada	1	1	2
New Jersey	2	-	2
New York	27	5	32
Ohio	2, 607	765	3, 372
Oklahoma	2	-	2
Pennsylvania	18	7	25
South Dakota	2	-	2
Tennessee	8	-	8
Texas	2	-	2
Virginia	2	-	2
West Virginia	2	-	2
Wisconsin	544	98	642
Alaska	1	-	1
Washington, D. C.	4	-	4
Ontario	33	2	35
British Columbia	-	1	1
Iceland	1	-	1
England	3	1	4
Totals	6, 278	1, 644	7, 922

Table 14. --Number of resident and nonresident anglers interviewed, hours fished, fish caught, and catch per hour for each group--all waters, by conservation regions, 1964

	Number of anglers	Hours fished	Fish caught	Catch per hour
<u>Resident anglers</u>				
Region I	11, 599	28, 505. 3	27, 820	1. 0
Region II	24, 296	47, 957. 7	46, 089	1. 0
Region III	15, 767	33, 929. 1	46, 782	1. 4
State totals	51, 662	110, 392. 1	120, 691	1. 1
<u>Nonresident anglers</u>				
Region I	2, 521	5, 992. 2	5, 682	0. 9
Region II	2, 528	4, 292. 4	2, 983	0. 7
Region III	2, 873	5, 433. 9	7, 927	1. 5
State totals	7, 922	15, 718. 5	16, 592	1. 1

Table 15. --Comparison of data from the general creel census, 1955-1964

Item	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Mean, 1955- 1964
Catch per hour											
All waters	1.5	1.3	1.2	1.2	1.3	1.3	1.0	1.1	1.1	1.1	1.2
Residents	1.5	1.3	1.2	1.2	1.3	1.3	1.0	1.1	1.0	1.1	1.2
Nonresidents	1.3	1.1	1.0	1.2	1.4	1.0	0.9	1.0	1.2	1.1	1.1
Trout waters	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6
Residents	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6
Nonresidents	0.8	0.7	0.8	0.7	0.7	0.5	0.5	0.3	0.5	0.6	0.6
Nontrout waters	1.3	1.2	1.2	1.2	1.2	1.3	1.0	1.1	1.1	1.1	1.2
Residents	1.3	1.2	1.3	1.2	1.2	1.3	1.0	1.2	1.1	1.1	1.2
Nonresidents	1.1	1.1	1.1	1.2	1.3	1.0	0.9	1.1	1.3	1.1	1.1
Great Lakes waters	2.8	1.9	1.3	1.9	2.9	2.2	1.5	1.7	1.6	2.1	2.0
Residents	2.8	2.0	1.4	2.0	3.0	2.4	1.6	1.7	1.6	2.2	2.1
Nonresidents	2.1	0.8	0.8	1.3	2.6	1.3	1.1	1.2	0.7	1.6	1.4
Percentage of all anglers represented by:											
Nonresidents	13	14	14	13	13	12	13	14	12	13	13
Females	16	16	15	15	16	14	14	15	15	15	15
Percentage of trout anglers represented by:											
Nonresidents	8	9	9	7	7	7	5	7	4	5	7
Females	10	10	10	10	9	8	7	7	8	9	9
Percentage of nontrout anglers represented by:											
Nonresidents	16	17	15	14	14	13	15	16	14	15	15
Females	17	18	17	16	17	15	15	17	17	17	17
Percentage of Great Lakes anglers represented by:											
Nonresidents	4	5	9	9	11	11	6	8	7	8	8
Females	17	15	13	12	13	12	14	12	13	13	13

Table 16. --Catch per hour for all waters, by conservation regions, 1955-1964

Region	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Mean, 1955- 1964
I	1.2	1.1	1.1	1.2	1.3	0.9	0.9	0.8	0.8	1.0	1.0
II	1.4	1.1	1.1	1.0	1.3	1.2	0.9	1.0	0.9	0.9	1.1
III	1.6	1.5	1.4	1.6	1.4	1.6	1.2	1.4	1.3	1.4	1.4
Entire state	1.5	1.3	1.2	1.2	1.3	1.3	1.0	1.1	1.1	1.1	1.2

Table 17. --Catch of trout per hour in trout waters, by conservation regions,
1955-1964

Region	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Mean, 1955- 1964
I	0.9	0.9	0.8	0.8	0.8	0.6	0.7	0.5	0.5	0.5	0.7
II	0.7	0.7	0.7	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.6
III	0.7	0.5	0.7	0.6	0.7	0.6	0.6	0.5	0.6	0.4	0.6
Entire state	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6

Table 18. --Catch per hour for nontrout waters, by conservation regions,
1955-1964

Region	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Mean, 1955- 1964
I	1.3	1.3	1.1	1.2	1.2	0.9	0.9	0.9	1.0	1.0	1.1
II	1.3	1.1	1.2	1.1	1.2	1.3	0.9	1.0	0.9	0.9	1.1
III	1.2	1.4	1.4	1.4	1.3	1.4	1.1	1.5	1.4	1.3	1.3
Entire state	1.3	1.2	1.2	1.2	1.2	1.3	1.0	1.1	1.1	1.1	1.2

Table 19. --Catch per hour for Great Lakes waters, by conservation regions,
1955-1964

Region	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Mean, 1955- 1964
I	0.9	1.0	1.2	1.3	2.1	1.4	1.1	1.1	1.0	1.9	1.3
II	4.7	4.6	3.3	2.4	9.2	2.2	2.4	5.7	3.8	3.6	4.2
III	2.5	1.8	1.3	2.2	2.2	2.6	1.5	1.4	1.3	2.0	1.9
Entire state	2.8	1.9	1.3	1.9	2.9	2.2	1.5	1.7	1.6	2.1	2.0

Table 20. --Total fishing time reported (thousands of hours) and catch per hour for various waters, 1928-1964

Year	Thousands of hours reported	Catch per hour			
		All waters	Trout waters	Nontrout waters	Great Lakes waters ^a
1928	48	1.1	1.2	1.1	-
1929	52	1.0	1.2	0.9	-
1930	74	0.9	0.9	0.9	-
1931	63	0.9	1.0	0.9	-
1932	38	1.3	1.1	1.3	-
1933	47	1.0	0.7	1.3	-
1934	53	1.7	0.8	1.8	-
1935	59	1.6	0.8	1.9	-
1936	67	1.4	0.8	1.7	-
1937	62	1.5	0.8	1.7	-
1938	82	1.3	0.9	1.4	-
1939	109	1.1	0.8	1.1	-
1940	98	1.0	0.8	1.0	-
1941	118	1.0	0.8	1.1	-
1942	151	1.1	0.9	1.1	1.7
1943	103	1.2	0.9	1.2	1.6
1944	152	1.2	0.8	1.1	1.8
1945	144	1.1	0.8	1.1	2.2
1946	145	1.3	0.8	1.4	1.6
1947	96	1.4	0.8	1.4	2.7
1948	161	1.1	0.8	1.1	2.9
1949	168	1.3	0.7	1.3	3.1
1950	130	1.6	0.6	1.6	4.8
1951	123	1.4	0.8	1.5	3.2
1952	123	1.4	0.7	1.4	2.6
1953	148	1.3	0.6	1.4	3.0
1954	169	1.5	0.8	1.3	3.3
1955	147	1.5	0.8	1.3	2.8
1956	175	1.3	0.8	1.2	1.9
1957	209	1.2	0.8	1.2	1.3
1958	194	1.2	0.6	1.2	1.9
1959	167	1.3	0.6	1.2	2.9
1960	187	1.3	0.6	1.3	2.2
1961	167	1.0	0.6	1.0	1.5
1962	146	1.1	0.5	1.1	1.7
1963	134	1.1	0.5	1.1	1.6
1964	126	1.1	0.5	1.1	2.1
Unweighted mean	120	1.2	0.8	1.3	2.4

^a Data for the Great Lakes waters were included with "nontrout waters" prior to 1942.