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THE MICHIGAN GENERAL CREEL CENSUS FOR 1960

By K. G. Fukano

Conservation officers have secured the records for the Michigan General Creel Census since 1927 as a part of their regular duties. The purpose of the census is to obtain a state-wide sample of the sport fishing. Creel records from special research projects of the Fish Division are not included.

During 1960, the officers obtained records on 85,259 angler-trips, divided into three major categories--trout, nontrout, and Great Lakes waters; each category was further divided into lakes and streams. This division of the data gives the best available indication of the fishing quality in the different types of waters administered by the state. The numbers of anglers interviewed from different types of waters were as follows: (1) trout waters, 11,606 (14% of all anglers contacted), of whom 2,950 fished in designated trout lakes and special trout ponds and 8,656 fished in streams; (2) nontrout waters, 65,524 (77%), of whom 57,806 fished in lakes and 7,718 fished in streams; (3) Great Lakes waters, 8,129 (9%), of whom 4,367 fished in the Great Lakes and 3,762 fished in the connecting waters.

Of the 85,259 anglers interviewed, 10,065 (12%) were non-residents; 12,022 (14%) were women.

Officers contacted anglers either while an angler was fishing or at the end of a fishing trip. Thus, the census is a partial rather than a complete record on 85,259 angling days. Only legal-size fish caught by sport fishermen are considered.

Detailed analysis

The 85,259 anglers contacted by conservation officers during 1960 (16% more than in 1959) had fished 186,946 hours and had caught 240,154 fish (Table 1). The average catch per hour for all fishing was 1.3, which is the same as that recorded in 1959.

Creel records were obtained in 79 counties (Table 2). The lack of fishing records from four counties (Berrien, Eaton, Hillsdale, and Lenawee) and the paucity of records from several others tend to bias the state-wide sample of fishing.

The various types of waters are separated by Conservation Regions in this report.

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 furnished 93 percent of all records on trout fishing; here trout fishing made up 19 percent of all fishing censused. Seven percent of the state's trout-fishing records were from Region III, where trout fishing comprised only 3 percent of the total fishing sampled.

Nontrout fishing reports made up the largest percentages of the fishing records from Region II (82% of 40,702 anglers). In contrast the sample from Region I included 57 percent nontrout anglers (among 14,521 fishermen).

Records on Great Lakes sport fishing were obtained in all three regions. More than one of six anglers interviewed in Region III (18% of 30,036 fishermen) were fishing Great Lakes waters.

Numbers of Trout Caught in Trout Waters

Of the 14,592 trout reported from trout waters, brook trout comprised 56 percent; rainbow trout, 33 percent; and brown trout, 11 percent (Table 4). In 1959 these percentages were 57, 31 and 12 respectively. Ninety-two percent of all trout recorded in 1960 were from Region I and II.

Of the 8,169 brook trout reported in 1960, Region I contributed 4,436 (54%); Region II, 2,913 (36%); and Region III, 820 (10%). The 4,853 rainbow trout caught in 1960 were divided as follows: Region II, 3,382 (70%); Region I, 1,289 (26%); and Region III, 182 (4%). Of 1,570 brown trout recorded, 1,334 (85%) were taken in Region II; 139 (9%), in Region I; and 97 (6%), in Region III.

Other Species Caught in Trout Waters

Brook, brown, and rainbow trout made up 95 percent of all fish caught in trout waters. The numbers of each of 16 other species reported are as follows:

Suckers	332	Bullheads	7
Yellow perch	237	Carp	6
Rock bass	46	Bluegill	5
Walleye	30	Round whitefish	5
American smelt	19	Pumpkinseed	3
Northern pike	18	Redhorse	3
Largemouth bass	16	Shiners	<u>3</u>
Smallmouth bass	9	Total	748
Black crappie	9		

Catch per Hour--Trout Waters

Trout fishermen had the same fishing success of 0.6 fish per hour (trout and other species combined) as in 1959 (Table 5). The fishing quality for trout only was 0.4 trout per hour for the designated trout lakes and special trout ponds and 0.6 trout per hour for trout streams. Most of the trout fishermen interviewed (75%) fished the streams. The highest catch per hour for trout lakes and ponds (0.5 trout) was recorded in Region III whereas the catch of 0.6 trout per hour for trout streams was recorded by each of the three regions.

Composition of Catch--Nontrout Waters

Thirty-two kinds of fish were caught in nontrout waters. Bluegills and yellow perch combined made up 71 percent of the catch (68% in Region I,

71% in Region II and 72% in Region III--see Table 6). No other species constituted 10 percent of the total catch in any one region. Other important species recorded were: Black crappie, pumpkinseed, rock bass, northern pike, walleye, rainbow trout, largemouth bass, and smallmouth bass. The 10 species mentioned have retained approximately the same rank in importance during the 10-year period 1951-1960 (Table 7). In 1960 these 10 species comprised 94 percent of the total recorded catch and at least 93 percent of the catch in every region. The remaining 6 percent was made up of the 22 species listed below.

Suckers	3,991	Chubs	19
American smelt	2,013	Bowfin	17
Bullheads	1,237	Lake trout	12
Carp	1,050	Goldfish	10
Brook trout	367	Sauger	10
Catfishes	307	Muskellunge	8
Cisco	213	Medora whitefish	7
Brown trout	141	Sturgeon	4
Redhorse	66	White bass	4
Whitefish	42	Burbot	<u>1</u>
Freshwater drum	24	Total	9,563
Warmouth	20		

In nontrout waters the bluegill (68,590 caught) outranked all other species in the state as a whole (Table 8). Most bluegills (65% of the state total), black crappies, and largemouth bass were recorded in Region III. Region II (in which half of the total nontrout catch reported for 1960 was taken) yielded the highest catches of yellow perch (71% of the state total), pumpkinseed, rock bass, northern pike, rainbow trout,

and smallmouth bass. The largest number of walleye was reported caught in Region I. Regions II and III combined produced 97 percent of all bluegill recorded in the census.

Catch per Hour--Nontrout Waters

The 1960 catch from nontrout waters of the entire state was 1.3 fish per hour (Table 9). The highest catch per hour (1.4) was recorded in Region III. For nontrout lakes Region III yielded the highest catch per hour (1.5) and for nontrout streams Region II had a catch of 1.3 fish per hour.

Composition of Catch--Great Lakes Waters

Of the 48,320 fish reported from Great Lakes waters in 1960, yellow perch made up 86 percent; and rock bass, walleye, and smallmouth bass combined added 10 percent (Table 10). The remaining 4 percent of the catch was composed of 17 other kinds of fish as follows:

Northern pike	577	Bluegill	41
White bass	352	Bullheads	39
Freshwater drum	245	Suckers	35
American smelt	202	Round whitefish	29
Crappies	168	Muskellunge	11
Pumpkinseed	168	Cisco	6
Carp	139	Rainbow trout	4
Largemouth bass	69	Brown trout	<u>1</u>
Catfishes	62	Total	2,148

Catch per Hour--Great Lakes Waters

The average catch per hour for all Great Lakes and connecting waters was 2.2 fish (2.6 for the Great Lakes and 1.8 for the connecting waters). The influence of the high catch per hour from Lake Erie (4.9 fish) and Lake Huron (3.9 fish) on the fishing quality index for the Great Lakes waters is shown in Table 11.

Residence of Anglers--All Waters

In 1960, 75,194 anglers (88%) were residents of Michigan and 10,065 (12%) were nonresidents (Table 12). The greatest number of nonresident anglers (4,198) was contacted in Region II, where they comprised 10 percent of the total; in Region I they made up 24 percent.

Anglers residing in all 83 counties of Michigan were recorded (Table 13). Residents of Wayne County constituted 14 percent of all residents; Kent, 7; Genesee, 5; and Ingham, 4 (total for these four counties, 30 percent).

Nonresident anglers came from 36 states, District of Columbia, and the Provinces of Alberta and Ontario (Table 13a). Ohio contributed 37 percent of all nonresidents; Indiana, 31; Illinois, 16; and Wisconsin, 11 (total for the four states, 95 percent).

Resident anglers caught 1.3 fish per hour (all waters combined); nonresidents, 1.0 (Table 14).

Sex of Anglers

Of 85,259 anglers interviewed in 1960, 12,022 (14%) were women. They constituted 8 percent of the trout anglers, 15 percent of the nontrout anglers and 12 percent of fishermen on the Great Lakes (Table 15).

Comparison of 1960 Data with that 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 1.2 fish in 1957 and 1958 to 1.5 in 1954 and 1955 (Table 16). For 1960 the catch for all waters was 1.3 fish per hour (the simple average for the 10-year period).

For trout waters the highest catches per hour were recorded in 1954 and 1955 with 0.8 trout per hour and the lowest, in 1953, 1958, 1959, and 1960--0.6 trout per hour (0.1 trout below the simple 10-year average).

In 1951-1960 the catch per hour in nontrout waters has ranged from 1.5 fish in 1951 to 1.2 in 1956, 1957, 1958, and 1959 (Table 18). The 1960 catch per hour of 1.3 fish is the same as the simple average for the 10-year period.

The catch per hour has been consistently higher for the Great Lakes waters than for trout or (inland) nontrout waters (Table 19). During the 1951-1960 period, anglers fishing the Great Lakes waters have averaged 2.5 fish per hour as compared to an average of 1.3 fish

per hour in nontrout waters. In Great Lakes waters the catch has varied from 1.3 fish per hour in 1957 to 3.2 in 1951. The catch per hour for 1960 was 0.3 fish below the average for the 10-year period.

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INSTITUTE FOR FISHERIES RESEARCH

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Report approved by G. P. Cooper

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Table 1.--Total number of anglers, hours fished, number of fish caught and catch per hour for each conservation region, all waters, 1960

Region	Number of male anglers	Number of female anglers	Total anglers	Total hours fished	Total fish caught	Catch per hour
I	12,642	1,879	14,521	34,395.3	31,534	0.9
II	34,684	6,018	40,702	86,189.7	99,504	1.2
III	25,911	4,125	30,036	66,361.4	109,116	1.6
State total	73,237	12,022	85,259	186,946.4	240,154	1.3

Table 2.--Number of anglers interviewed by conservation officers during
1960 and 1959, by counties

County	1960	1959	County	1960	1959
Alcona	1,003	751	Lake	694	976
Alger	646	903	Lapeer	753	1,065
Allegan	1,081	1,150	Leelanau	826	622
Alpena	1,723	1,524	Lenawee	...	...
Antrim	736	1,068	Livingston	3,688	3,045
Arenac	655	358	Luce	1,396	1,443
Baraga	374	245	Mackinac	1,016	1,282
Barry	3,668	1,581	Macomb	1,776	1,691
Bay	269	785	Manistee	1,647	1,153
Benzie	1,529	1,323	Marquette	2,057	939
Berrien	...	...	Mason	1,245	807
Branch	1,487	1,770	Mecosta	1,602	1,497
Calhoun	153	...	Menominee	1,050	235
Cass	591	124	Midland	521	383
Charlevoix	2,110	1,905	Missaukee	1,098	1,094
Cheboygan	2,691	2,746	Monroe	286	688
Chippewa	900	646	Montcalm	1,479	788
Clare	948	798	Montmorency	1,969	1,512
Clinton	206	152	Muskegon	2,455	2,039
Crawford	880	562	Newaygo	1,260	1,186
Delta	1,241	1,598	Oakland	2,057	1,936
Dickinson	743	215	Oceana	1,311	830
Eaton	...	21	Ogemaw	551	584
Emmet	1,254	1,182	Ontonagon	1,065	868
Genesee	1,011	852	Osceola	920	900
Gladwin	1,406	1,707	Oscoda	805	605
Gogebic	1,150	1,158	Otsego	882	107
Grand Traverse	907	885	Ottawa	797	670
Gratiot	114	270	Presque Isle	379	407
Hillsdale	...	...	Roscommon	2,625	2,378
Houghton	762	441	Saginaw	169	422
Huron	1,979	1,974	St. Clair	1,277	1,137
Ingham	81	284	St. Joseph	151	1,006
Ionia	433	...	Sanilac	474	575
Iosco	1,676	1,061	Schoolcraft	697	1,147
Iron	1,233	655	Shiawassee	367	327
Isabella	503	417	Tuscola	998	147
Jackson	257	156	Van Buren	189	157
Kalamazoo	223	89	Washtenaw	2,018	2,170
Kalkaska	869	750	Wayne	1,156	894
Kent	1,117	554	Wexford	753	721
Keweenaw	191	170			
			Total	85,259	73,263

Table 3. --Number and percentage of fishermen interviewed on trout, nontrout and Great Lakes waters, by conservation regions, 1960

Region	Trout waters		Nontrout waters		Great Lakes waters		Total number of anglers
	Number	Percentage	Number	Percentage	Number	Percentage	
I	4,311	30	8,243	57	1,967	13	14,521
II	6,425	16	33,616	82	661	2	40,702
III	870	3	23,665	79	5,501	18	30,036
State total	11,606	14	65,524	77	8,129	9	85,259

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,

1960

Region	Brook trout		Brown trout		Rainbow trout		Total number of trout
	Number	Percentage	Number	Percentage	Number	Percentage	
I	4,436	76	139	2	1,289	22	5,864
II	2,913	38	1,334	18	3,382	44	7,629
III	820	75	97	9	182	16	1,099
State total	8,169	56	1,570	11	4,853	33	14,592

Table 5.--General creel census data for trout lakes, trout streams and all trout waters by conservation regions, 1960

	Number of anglers	Hours fished	Fish caught	Catch per hour	Trout caught	Trout per hour
<u>Trout lakes</u>						
Region I	1,388	3,192.1	1,411	0.4	1,370	0.4
Region II	1,359	3,150.4	1,505	0.5	1,369	0.4
Region III	203	468.5	214	0.5	214	0.5
State total	2,950	6,811.0	3,130	0.5	2,953	0.4
<u>Trout streams</u>						
Region I	2,923	7,024.5	4,579	0.7	4,494	0.6
Region II	5,066	11,219.5	6,745	0.6	6,260	0.6
Region III	667	1,437.2	886	0.6	885	0.6
State total	8,656	19,681.2	12,210	0.6	11,639	0.6
<u>All trout waters</u>						
Region I	4,311	10,216.6	5,990	0.6	5,864	0.6
Region II	6,425	14,369.9	8,250	0.6	7,629	0.5
Region III	870	1,905.7	1,100	0.6	1,099	0.6
State total	11,606	26,492.2	15,340	0.6	14,592	0.6

Table 6. --Percentage of the total catch contributed by the 10 most important species taken in nontrout waters, by conservation regions, 1960

Species	Region I		Region II		Region III	
	Num-ber	Per-cent- age	Num-ber	Per-cent- age	Num-ber	Per-cent- age
Bluegill	1,766	11	22,007	25	44,817	62
Yellow perch	9,382	57	40,319	46	7,172	10
Black crappie	424	2	5,813	7	9,721	13
Pumpkinseed	301	2	5,344	6	2,262	3
Rock bass	425	2	3,485	4	1,579	2
Northern pike	815	5	2,333	2	447	1
Walleye	1,487	9	836	1	81	↓0
Rainbow trout	302	2	1,613	2	438	1
Largemouth bass	116	1	944	1	1,285	2
Smallmouth bass	266	2	586	1	565	1
Miscellaneous	1,185	7	4,872	5	3,506	5
Total	16,469	100	88,152	100	71,873	100

↓ Less than 0.5

Table 7. --Percentage of the total catch contributed by the 10 most important species taken in nontrout waters, 1951-1960

Species	Year										Mean, 1951- 1960
	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	
Bluegill	42	40	43	37	35	36	38	40	36	39	39
Yellow perch	34	33	27	31	32	31	27	29	28	32	30
Black crappie	6	8	9	8	11	7	8	9	11	9	9
Pumpkinseed	4	5	5	5	4	5	5	4	6	5	5
Rock bass	3	4	4	3	3	3	4	3	4	3	3
Northern pike	3	3	4	5	4	6	4	4	4	2	4
Walleye	2	2	1	1	2	2	1	2	1	1	1
Rainbow trout	↓0	↓0	↓0	2	2	2	2	1	1	1	1
Largemouth bass	2	2	2	2	2	2	2	1	2	1	2
Smallmouth bass	1	1	1	1	1	1	1	1	1	1	1
Total	97	98	96	95	96	95	92	94	94	94	95

↓ Less than 0.5

Table 8.--Numbers caught and percentage of the total catch contributed by the 10 most important species taken in nontrout waters, by conservation regions, 1960

Species	Region I		Region II		Region III		Total
	Num-ber	Per-cent- age	Num-ber	Per-cent- age	Num-ber	Per-cent- age	
Bluegill	1,766	3	22,007	32	44,817	65	68,590
Yellow perch	9,382	16	40,319	71	7,172	13	56,873
Black crappie	424	3	5,813	36	9,721	61	15,958
Pumpkinseed	301	4	5,344	67	2,262	29	7,907
Rock bass	425	8	3,485	63	1,579	29	5,489
Northern pike	815	23	2,333	65	447	12	3,595
Walleye	1,487	62	836	35	81	3	2,404
Rainbow trout	302	13	1,613	69	438	18	2,353
Largemouth bass	116	5	944	40	1,285	55	2,345
Smallmouth bass	266	19	586	41	565	40	1,417
Miscellaneous	1,185	12	4,872	51	3,506	37	9,563
Total	16,469	9	88,152	50	71,873	41	176,494

Table 9. --General creel census data for nontrout lakes, nontrout streams and all nontrout waters combined, by conservation regions, 1960

	Number of anglers	Hours fished	Fish caught	Catch per hour
<u>Nontrout lakes</u>				
Region I	6,734	14,877.2	15,037	1.0
Region II	31,676	66,923.1	83,675	1.3
Region III	19,396	42,140.3	61,814	1.5
State total	57,806	123,940.6	160,526	1.3
<u>Nontrout streams</u>				
Region I	1,509	2,942.7	1,432	0.5
Region II	1,940	3,464.0	4,477	1.3
Region III	4,269	8,526.2	10,059	1.2
State total	7,718	14,932.9	15,968	1.1
<u>All nontrout waters</u>				
Region I	8,243	17,819.9	16,469	0.9
Region II	33,616	70,387.1	88,152	1.3
Region III	23,665	50,666.5	71,873	1.4
State total	65,524	138,873.5	176,494	1.3

Table 10.--Percentage of the total catch contributed by the four species
taken most frequently in Great Lakes waters

Species	Year										Mean, 1951- 1960
	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	
Yellow perch	94	84	85	90	91	86	81	93	93	86	88
Rock bass	1	6	4	2	2	3	4	1	1	4	3
Walleye	1	4	1	1	2	3	7	4	3	3	3
Smallmouth bass	1	2	1	1	1	2	1	↓0	1	3	1
Total	97	96	91	94	96	94	93	98	98	96	95

↓ Less than 0.5

Table 11. --General creel census data for Great Lakes and connecting waters, 1960

Lake or waters	Number of anglers	Hours fished	Fish caught	Catch per hour
Lake Superior	26	66.0	43	0.7
Lake Michigan	1,335	5,059.7	4,058	0.8
Lake Huron	2,949	6,879.8	26,490	3.9
Lake Erie	57	274.0	1,329	4.9
Total, Great Lakes	4,367	12,279.5	31,920	2.6
Waters between Lake Superior and Lake Huron	590	1,467.0	2,861	2.0
Waters between Lake Huron and Lake Erie	3,172	7,834.2	13,539	1.7
Total, connecting waters	3,762	9,301.2	16,400	1.8
All Great Lakes waters	8,129	21,580.7	48,320	2.2

Table 12.--Number of resident and nonresident anglers and percentage of nonresident anglers in each conservation region, all waters, 1960

Region	Total anglers	Resident anglers	Nonresident anglers	Percentage nonresident anglers
I	14,521	11,048	3,473	24
II	40,702	36,504	4,198	10
III	30,036	27,642	2,394	8
State total	85,259	75,194	10,065	12

Table 13. --Residence of Michigan fishermen interviewed in the general creel census, 1960¹

County of residence	Male anglers	Female anglers	Total anglers	County of residence	Male anglers	Female anglers	Total anglers
Alcona	224	45	269	Lake	137	44	181
Alger	299	24	323	Lapeer	388	54	442
Allegan	627	71	698	Leelanau	248	16	264
Alpena	567	69	636	Lenawee	153	40	193
Antrim	270	55	325	Livingston	920	86	1,006
Arenac	289	33	322	Luce	609	33	642
Baraga	146	4	150	Mackinac	262	23	285
Barry	1,090	151	1,241	Macomb	1,487	213	1,700
Bay	1,544	209	1,753	Manistee	751	94	845
Benzie	626	39	665	Marquette	1,345	131	1,476
Berrien	321	74	395	Mason	586	63	649
Branch	252	52	304	Mecosta	501	70	571
Calhoun	870	150	1,020	Menominee	716	73	789
Cass	172	48	220	Midland	1,000	178	1,178
Charlevoix	751	93	844	Missaukee	217	22	239
Cheboygan	710	79	789	Monroe	266	58	324
Chippewa	323	53	376	Montcalm	694	101	795
Clare	474	58	532	Montmorency	417	54	471
Clinton	234	39	273	Muskegon	1,999	308	2,307
Crawford	294	22	316	Newaygo	309	36	345
Delta	351	28	379	Oakland	1,825	336	2,161
Dickinson	901	42	943	Oceana	531	37	568
Eaton	372	83	455	Ogemaw	196	27	223
Emmet	564	69	633	Ontonagon	633	90	723
Genesee	3,178	635	3,813	Osceola	404	42	446
Gladwin	349	33	382	Oscoda	264	39	303
Gogebic	745	56	801	Otsego	337	40	377
Grand Traverse	773	132	905	Ottawa	755	82	837
Gratiot	500	93	593	Presque Isle	300	31	331
Hillsdale	72	15	87	Roscommon	404	59	463
Houghton	584	50	634	Saginaw	2,371	450	2,821
Huron	512	42	554	St. Clair	595	98	693
Ingham	2,574	548	3,122	St. Joseph	198	39	237
Ionia	427	77	504	Sanilac	325	25	350
Iosco	216	20	236	Schoolcraft	302	32	334
Iron	540	73	613	Shiawassee	544	113	657
Isabella	496	59	555	Tuscola	604	99	703
Jackson	712	120	832	Van Buren	213	46	259
Kalamazoo	1,315	220	1,535	Washtenaw	1,348	191	1,540
Kalkaska	243	37	280	Wayne	8,394	1,749	10,143
Kent	4,751	842	5,593	Wexford	557	65	622
Keweenaw	32	3	35				
				Total	64,395	10,032	74,427

¹ The residence of 723 males and 44 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, 1960

State or province of residence	Male anglers	Female anglers	Total anglers
Alabama	4	2	6
Alaska	3	...	3
Arizona	2	2	4
Arkansas	3	...	3
California	16	2	18
Colorado	5	...	5
Connecticut	1	...	1
Delaware	5	2	7
Florida	40	11	51
Georgia	2	...	2
Illinois	1,344	281	1,625
Indiana	2,483	632	3,115
Iowa	13	4	17
Kansas	2	2	4
Kentucky	42	14	56
Louisiana	3	...	3
Maryland	7	1	8
Massachusetts	6	3	9
Minnesota	10	1	11
Missouri	52	14	66
Nebraska	2	1	3
New Jersey	6	1	7
New York	32	10	42
North Carolina	3	...	3
Ohio	2,905	824	3,729
Oklahoma	4	1	5
Pennsylvania	58	21	79
South Carolina	1	...	1
Tennessee	9	2	11
Texas	14	...	14
Vermont	3	1	4
Virginia	4	2	6
Washington	4	4	8
West Virginia	13	4	17
Wisconsin	993	102	1,095
Wyoming	1	1	2
Washington D. C.	5	...	5
Ontario	17	1	18
Alberta	2	...	2
Total	8,119	1,946	10,065

Table 14. --Number of resident and nonresident anglers, number of hours fished, number of fish caught and catch per hour for each group--all waters, by conservation regions, 1960

	Number of anglers	Hours fished	Fish caught	Catch per hour
<u>Resident anglers</u>				
Region I	11,048	25,971.4	23,815	0.9
Region II	36,504	78,117.9	91,600	1.2
Region III	27,642	61,648.5	103,041	1.7
State total	75,194	165,737.8	218,456	1.3
<u>Nonresident anglers</u>				
Region I	3,473	8,423.9	7,719	0.9
Region II	4,198	8,071.8	7,904	1.0
Region III	2,394	4,712.9	6,075	1.3
State total	10,065	21,208.6	21,698	1.0

Table 15. --Comparison of data from the general creel census, 1960

Item	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Mean, 1951- 1960
CATCH PER HOUR											
All waters	1.4	1.4	1.3	1.5	1.5	1.3	1.2	1.2	1.3	1.3	1.3
Residents	1.4	1.4	1.3	1.5	1.5	1.3	1.2	1.2	1.3	1.3	1.3
Nonresidents	1.0	1.1	1.0	1.0	1.3	1.1	1.0	1.2	1.4	1.0	1.1
Trout waters	0.8	0.7	0.6	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.7
Residents	0.8	0.7	0.7	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.7
Nonresidents	0.7	0.7	0.6	0.8	0.8	0.7	0.8	0.7	0.7	0.5	0.7
Nontrout waters	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.3	1.3
Residents	1.6	1.5	1.4	1.3	1.3	1.2	1.3	1.2	1.2	1.3	1.3
Nonresidents	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.3	1.0	1.1
Great Lakes waters	3.2	2.6	3.0	3.3	2.8	1.9	1.3	1.9	2.9	2.2	2.5
Residents	3.4	2.6	3.1	3.3	2.8	2.0	1.4	2.0	3.0	2.4	2.6
Nonresidents	1.3	2.8	1.3	2.3	2.1	0.8	0.8	1.3	2.6	1.3	1.7
PERCENTAGE OF ALL ANGLERS REPRESENTED BY:											
Nonresidents	11	10	15	14	13	14	14	13	13	12	13
Females	17	16	16	16	16	16	15	15	16	14	16
PERCENTAGE OF TROUT ANGLERS REPRESENTED BY:											
Nonresidents	6	5	8	6	8	9	9	7	7	7	7
Females	10	10	9	8	10	10	10	10	9	8	9
PERCENTAGE OF NONTROUT ANGLERS REPRESENTED BY:											
Nonresidents	13	12	17	16	16	17	15	14	14	13	15
Females	19	18	18	17	17	18	17	16	17	15	17
PERCENTAGE OF GREAT LAKES ANGLERS REPRESENTED BY:											
Nonresidents	8	5	5	4	4	5	9	9	11	11	7
Females	18	14	16	15	17	15	13	12	13	12	14

Table 16. --Catch per hour for all waters, by conservation regions,
1951-1960

Region	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Mean, 1951- 1960
I	1.0	1.1	1.0	1.0	1.2	1.1	1.1	1.2	1.3	0.9	1.1
II	1.4	1.3	1.3	1.3	1.4	1.1	1.1	1.0	1.3	1.2	1.2
III	1.6	1.7	1.4	1.9	1.6	1.5	1.4	1.6	1.4	1.6	1.6
Entire state	1.4	1.4	1.3	1.5	1.5	1.3	1.2	1.2	1.3	1.3	1.3

Table 17. --Catch of trout per hour in trout waters, by conservation regions,
1951-1960

Region	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Mean, 1951- 1960
I	1.0	0.8	0.7	1.0	0.9	0.9	0.8	0.8	0.8	0.6	0.8
II	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.6
III	0.4	0.5	0.6	0.8	0.7	0.5	0.7	0.6	0.7	0.6	0.6
Entire state	0.7	0.7	0.6	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.7

Table 18. --Catch per hour for nontrout waters, by conservation regions,
1951-1960

Region	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Mean, 1951- 1960
I	0.9	1.2	1.2	1.0	1.3	1.3	1.1	1.2	1.2	0.9	1.1
II	1.5	1.4	1.4	1.2	1.3	1.1	1.2	1.1	1.2	1.3	1.3
III	1.7	1.5	1.4	1.5	1.2	1.4	1.4	1.4	1.3	1.4	1.4
Entire state	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.3	1.3

Table 19. --Catch per hour for Great Lakes waters, by conservation regions,
1951-1960

Region	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Mean, 1951- 1960
I	0.9	2.3	1.3	0.7	0.9	1.0	1.2	1.3	2.1	1.4	1.3
II	4.7	3.7	4.9	6.9	4.7	4.6	3.3	2.4	9.2	2.2	4.7
III	2.3	2.4	2.9	3.2	2.5	1.8	1.3	2.2	2.2	2.6	2.3
Entire state	3.2	2.6	3.0	3.3	2.8	1.9	1.3	1.9	2.9	2.2	2.5

Table 20. -- Total fishing time reported (thousands of hours)
and catch per hour for various waters, 1928-1960

Year	Thousands of hours reported	Catch per hour			
		All waters	Trout waters	Nontrout waters	Great Lakes waters [↓]
1928	48	1.1	1.2	1.1	...
1929	52	1.0	1.2	0.9	...
1930	74	0.9	0.9	0.9	...
1931	63	0.9	1.0	0.9	...
1932	38	1.3	1.1	1.3	...
1933	47	1.0	0.7	1.3	...
1934	53	1.7	0.8	1.8	...
1935	59	1.6	0.8	1.9	...
1936	67	1.4	0.8	1.7	...
1937	62	1.5	0.8	1.7	...
1938	82	1.3	0.9	1.4	...
1939	109	1.1	0.8	1.1	...
1940	98	1.0	0.8	1.0	...
1941	118	1.0	0.8	1.1	...
1942	151	1.1	0.9	1.1	1.7
1943	103	1.2	0.9	1.2	1.6
1944	152	1.2	0.8	1.1	1.8
1945	144	1.1	0.8	1.1	2.2
1946	145	1.3	0.8	1.4	1.6
1947	96	1.4	0.8	1.4	2.7
1948	161	1.1	0.8	1.1	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
Unweighted mean	117	1.3	0.8	1.3	2.5

[↓] Data for the Great Lakes were included with "nontrout waters" prior to 1942.