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INSTITUTE FOR FISHERIES RESEARCH

DIVISION OF FISHERIES

MICHIGAN DEPARTMENT OF CONSERVATION

COOPERATING WITH THE

UNIVERSITY OF MICHIGAN

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SPECIAL VOLUNTARY CENSUS, 1939

by

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The Michigan Conservation Department for a number of years has conducted creel censuses of several kinds, ranging from random sampling as in the general census taken by Conservation Officers, to the intensive type where effort is made to record the catch of all fishermen using a particular body of water. For three years the Department has gathered voluntary records from a select group of anglers who are reputed to be expert in the art of angling. Special creel census blanks were given by Conservation Officers, Hatchery Supervisors, and by the Institute staff to individuals who are ardent followers of Izaak Walton. All were requested to fill out a blank covering each day's fishing, whether successful or not.

In 1939, records were submitted by 96 individuals covering 2,601 fisherman-days. In 1938, records were submitted by 112 fishermen for 2,024 fisherman-days. Of the 2,601 records for 1939, 1,760 were listed as trout fishing records, and 841 were from non-trout waters. In the 1939 voluntary census, no women were listed among those submitting records.*

* Only those records were used that included more than fifteen days of fishing for the season. It was arbitrarily assumed that anything less than that figure indicated a question as to the expertness of the individual.

On the average, each angler fished 3.6 hours per day, catching 5.8 fish which averaged 9.4 inches in length, at the rate of 1.6 fish caught per hour. No fish were listed on 16.6 per cent of the records. In 1938, 13 per cent of the days fished were blanks. The ordinary, run-of-the-mill fishermen in 1938 averaged 3.3 hours of fishing to catch 4.3 fish averaging 8.5 inches in length, which were caught at the rate of 1.3 fish per hour, 0.3 of a fish less per hour than the record of the expert. Whereas 16.6 per cent of the days the expert fished were blanks, 31 per cent of the average fisherman's days were without success.

Trout Waters

The expert was considerably more adept at catching trout than was the average fisherman. He excelled by one-half a fish per hour, 1.4 fish for the expert, and 0.9 of a fish for the average fisherman, and went home with 5.4 fish for each day's fishing against 3.2 fish for the average angler.

The average catch per hour on trout waters as determined from the intensive censuses in which the effort is made to record all catches on selected streams for 1939 was 0.47. The expert's trout averaged 9.3 inches in length, as compared with 9.1 inches for the average fisherman listed in the general census, and 8.2 inches recorded in the intensive trout censuses.

Brook trout constituted 67.7 per cent of the trout catch, rainbows 18.6 per cent, and brown trout 12.9 per cent, the balance of the trout catch being made up of large-mouthed bass, bluegills, small-mouthed bass, yellow perch, suckers, and walleyes.

Non-Trout Waters

On non-trout waters the expert caught two fish per hour for 3.3 hours per day, taking a total of 6.7 fish which averaged 9.4 inches in length. The average angler on non-trout waters caught in 1938 1.4 fish per hour for 3 hours, taking 4.2 fish which averaged 8.9 inches in length.

Bluegills made up 57 per cent of the total catch on non-trout waters, followed by yellow perch 11.8 per cent, crappies 8.4 per cent, large-mouthed bass 6.8 per cent, walleyes 4.1 percent, and northern pike 2.9 per cent.

The catch on non-trout waters as shown by the intensive census for the summer of 1938 on eight southern Michigan lakes indicated a similar sequence with the exception of a lessening of the walleyes and the northern pike catch, a condition to be expected in more southerly located lakes.

Table I

Table I shows the relation individual species have to the total catch for trout and non-trout waters.

Table II

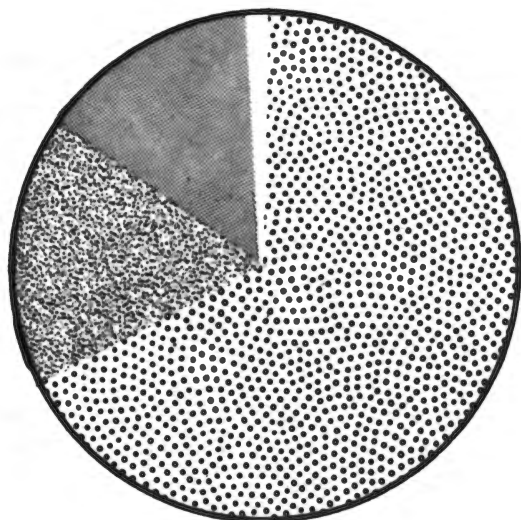
Table II shows the hours preferred by the expert. For both types of fishing he preferred the hours from 7 to 9 in the evening. For 1938 and 1939 the curves are very similar, the noon day period being indicated by a dip. The graph indicates that many of the experts stopped for supper in 1939, but many apparently failed to take time off to eat in 1938. The midnight and early morning hours on both trout and non-trout waters were not popular.

Table III

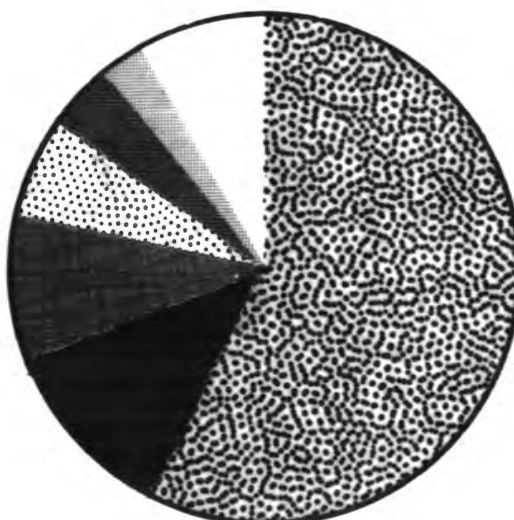
Table III compares the voluntary censuses for 1937, 1938, and 1939 with each other and with the general census figures for 1938.

TABLE I

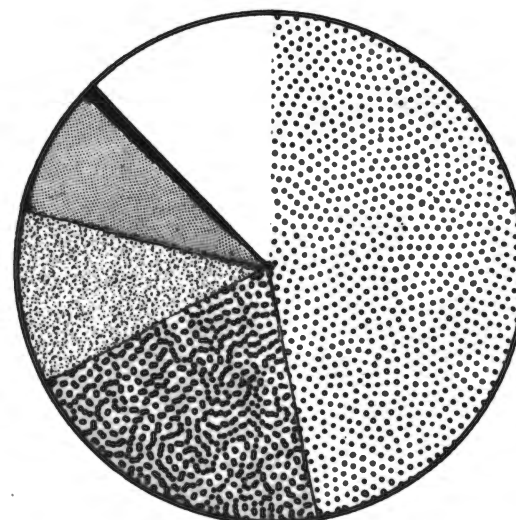
PERCENT OF SPECIES REPRESENTED IN THE CATCHES FROM TROUT AND NON-TROUT WATERS



TROUT WATER
1939



NON-TROUT WATERS
1939



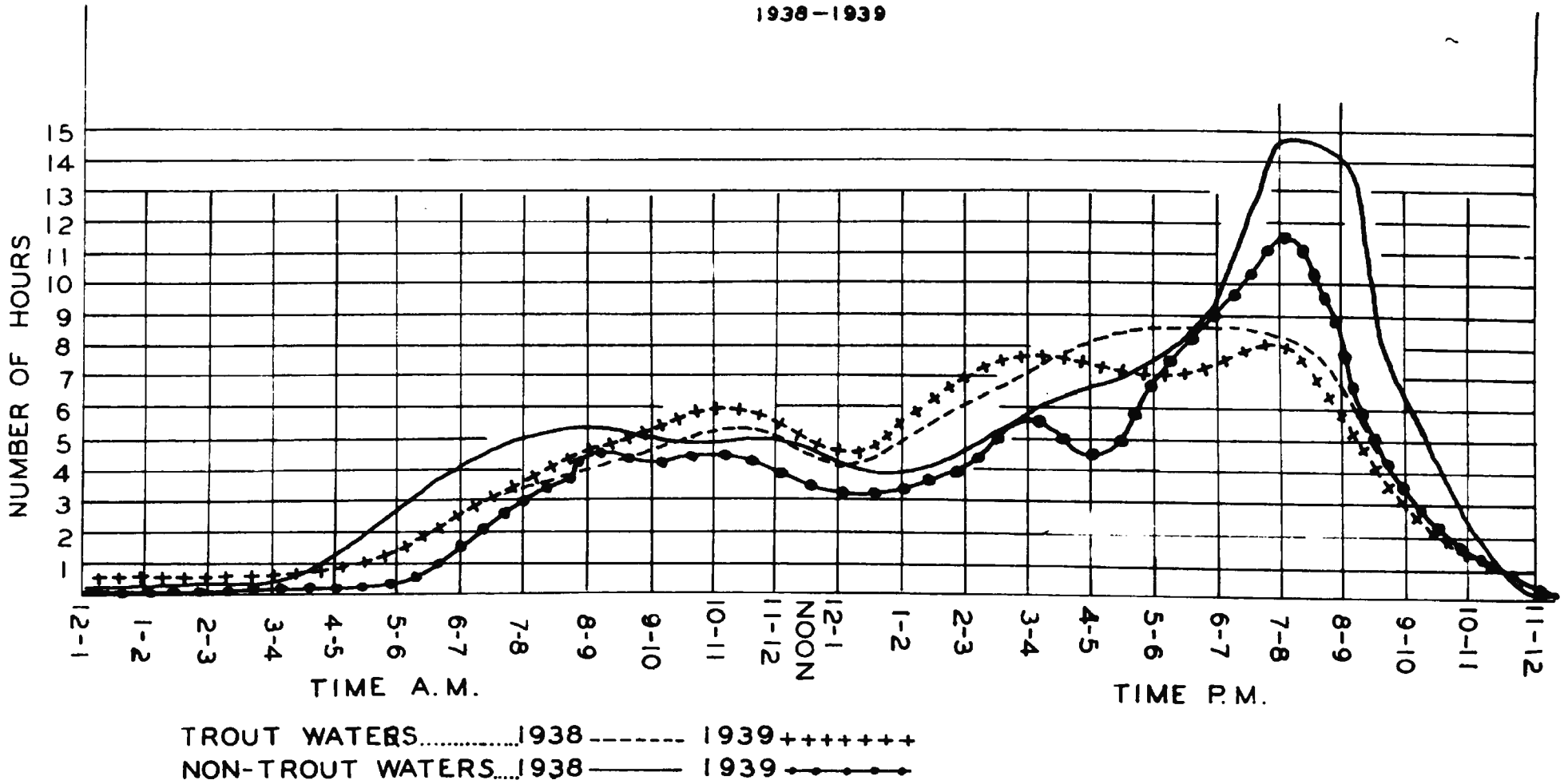
ALL WATERS
1939

SPECIAL VOLUNTARY CREEL CENSUS

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TABLE II

FISHING HOURS PREFERRED BY EXPERTS
1938-1939



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TABLE III

Comparison of Fishing 1937-1938-1939
Special Voluntary Creel Census

Item	1939	1938	1937	General Census 1938	Intensive Trout Census 1939
Number of anglers	96	112*	71	...	...
Number of records	2,601	2,024	1,812	24,509	...
Total number of fish caught	15,117	12,194	12,058	105,247	...
Total number trout records	1,760	1,374	1,029	5,253	...
Total number non-trout records	841	650	783	19,256	...
% catching no fish	16.6	13	13	31	...
Catch per hour, all waters	1.6	1.7	1.8	1.3	...
Catch per hour, trout waters	1.4	1.5	1.5	0.9	0.47
Catch per hour, non-trout waters	2.0	2.2	2.2	1.4	...
Catch per fisherman-day, all waters	5.8	6	6.6	4.3	...
Catch per fisherman-day, trout waters	5.4	5.6	5.7	3.2	...
Catch per fisherman-day, non-trout waters	6.7	7.0	7.9	4.2	...
Average size of all fish caught, all waters	9.4	9.3	9.1	8.5	...
Average size of all fish caught, trout waters	9.3	9.4	9.5	9.1	8.2
Average size of all fish caught, non-trout waters	9.4	9.1	8.7	8.8	...
Average no. of hours fished:					
All waters	3.6	3.6	3.6	3.3	...
Trout waters	3.7	3.7	3.7	3.5	...
Non-trout waters	3.3	3.2	3.5	3.0	...

* Because of incomplete data a number of these were not used.

Table IV and Table V

Table IV and Table V indicate the catch by species, and the percentage of the total catch represented by each species for trout and non-trout waters, and compared with the 1938 voluntary census, 1938 general census, and 1939 intensive trout census.

Table VI

Table VI indicates the number of fish by species for all waters for the 1939 voluntary creel census.

According to the voluntary census, the expert excelled on both classes of waters, on trout waters by 0.5 of a fish per hour; on non--trout waters by 0.6 of a fish per hour.

On an average, the expert caught larger fish. On trout waters his fish were 1.1 inches larger than the average taken from the intensive trout census for 1939. On non-trout waters his fish averaged 0.7 of an inch over the 1938 general census average.*

Brook trout constituted 67.7 per cent of the trout catch; 57.5 per cent of the non-trout catch were bluegills.

The experts preferred the early evening hours.

Recommendation Concerning Special Volunteer Census in the Future

It is felt that securing records of experts during the past three year period has been decidedly worth while. This census has shown that there is a group of fishermen who are more successful than the average, probably because they take their fishing seriously and study the habits of fish, learning when, where, and how their favorite quarry may best be taken. The local expert has a real advantage over his equally proficient city friend particularly in trout fishing, since he lives in trout country,

* The general census figures for 1938 were used as the 1939 figures are not available at this time.

TABLE IV

Comparison of Catch in Trout Waters

Species	Voluntary Census 1939			Voluntary Census 1938			General Census 1938			Intensive Trout Census 1939		
	Number	Average Size	Percent- age of catch	Number	Average Size	Percent- age of catch	Number	Average Size	Percent- age of catch	Number	Average Size	Percent- age of catch
Brook trout	6,441	9.0	67.7	4,889	9.1	64.0	11,934	8.7	72.1	7,667	7.9	54.9
Rainbow trout	1,770	9.8	18.5	1,632	9.4	21.3	1,851	10.2	11.2	5,572	8.4	39.9
Brown trout	1,228	10.4	12.9	1,042	10.3	13.6	1,968	10.4	11.9	732	9.9	5.2
Largemouthed bass	15	14.7	0.2	...	...	...	25	...	0.1			
Smallmouthed bass	12	12.1	0.1	2	16.6	0.03	283	...	1.7			
Bluegill	22	9.4	0.2	...	...	...	5	...	tr.			
Yellow perch	14	7.0	0.1	3	9.2	0.04	91	...	0.5			
Walleye	3	19.0	0.03	23	20.2	0.3	60	...	0.4			
Northern pike	4	19.1	0.04	3	22.0	0.04	113	...	0.7			
Suckers	12	15.0	0.1	51	...	0.6	240	...	1.4			
Total or Average	9,520	9.3	99.97	7,645	...	100.00	16,570	...	100.0	13,971	8.2	100.0

TABLE V

Comparison of Catch in Non-trout Waters

Species	Voluntary Census 1939			Voluntary Census 1938			General Census 1938		
	Number	Average Size	Percentage	Number	Average Size	Percentage	Number	Average Size	Percentage
Largemouthed bass	378	12.8	6.8	478	12.8	10.5	2,306	13.1	2.6
Smallmouthed bass	202	13.6	3.6	115	13.3	2.5	2,102	12.9	2.4
Bluegill	3,215	8.0	57.5	2,805	7.6	61.7	39,339	7.5	44.6
Sunfish	118	7.0	2.1	86	7.1	1.9	4,936	7.0	5.6
Yellow perch	660	8.6	11.8	417	8.2	9.2	15,360	8.0	17.4
Crappie	469	8.3	8.4	145	10.5	3.2	2,640	8.6	3.0
Rock bass	36	7.7	0.6	91	8.0	2.0	5,194	7.7	6.9
Northern pike	165	20.8	2.9	136	21.1	3.0	2,859	20.3	3.2
Walleye	229	16.9	4.1	44	18.3	1.0	2,302	17.5	2.6
Lake trout	16	20.8	0.3	15	20.4	0.3	257	15.5	0.3
Gar	19	24.0	0.3	...	...	...	6	18.	Tr.
Sucker	1	14.0	Tr.	1	18.	.02	478	15.1	0.5
Medora whitefish	6	12.0	0.1	...	...	...	...	...	...
Cisco	38	14.7	0.7	...	...	...	135	13.4	0.2
Dogfish	12	21.8	0.2	9	22.7	0.2	76	15.	0.1
Carp	8	...	0.1	...	...	...	328	10.6	0.4
Bullhead	24	12.4	0.4	186	10.1	4.1	1,938	9.5	2.2
Total or average	5,596	9.4	99.9	4,549	9.1	99.6	88,231 [♠]	8.8	92.0

[♠] 7,975 fish are included in total but not listed, of which 7,661 were smelt.

TABLE VI

Catch for All Species, and Average Size in All Waters

Species	Number	Average Size	Percentage
Brook trout	6,441	9.0	42.60
Rainbow trout	1,770	9.8	11.70
Brown trout	1,228	10.4	8.10
Largemouthed bass	393	12.7	2.60
Smallmouthed bass	214	13.1	1.40
Bluegill	3,237	7.7	21.40
Yellow perch	674	8.5	4.40
Crappie	469	8.3	3.10
Rock bass	36	7.9	0.20
Northern pike	169	20.8	1.10
Walleye	232	16.9	1.5
Lake trout	16	20.8	0.10
Gar pike	19	24.0	0.12
Sucker	13	14.9	0.08
Medora whitefish	6	12.0	0.03
Cisco	38	14.7	0.25
Dogfish	12	21.8	0.07
Carp	8	No size given	0.05
Bullhead	24	12.4	0.15
Sunfish	118	7.0	0.78
Total and average size	15,117	9.4	99.73

* Does not include 8 suckers for which no size was given.

can watch stream and weather conditions, and knows the waters more intimately. Another fact of interest brought out by a comparison of the figures in the different types of censuses is that although the expert catches more and slightly larger fish than the average angler, he has blank days too, though not so many - if he has reported accurately.

However, we believe that the three year period of census has now served its purpose. Figures for all three years are consistent and do not reveal any new trends in fishing which are not shown in the general census. Because the general census taken by the Conservation Officers gives a cross-section of fishing throughout the state and represents a random sample rather than any selection, the results are considered more reliable. It is therefore respectfully recommended that the voluntary census by experts be discontinued at least for a period of years. Resumption after five years might be desirable, especially if the same anglers can be persuaded to cooperate.

INSTITUTE FOR FISHERIES RESEARCH

APPENDIX

List of fishermen names whose records we used in the special voluntary census

1. Harry H. Ruth - Raco, Mich.
2. Ed Bisque - Iron River, Mich.
3. Edgar Perket - Spalding, Mich.
4. George Lesica - Manistique, Mich.
5. Jos. Lesica, Jr. - Manistique, Mich.
6. Clyde E. Hutt - Germfask, Mich.
7. Gust Soderberg - Escanaba, Mich.
8. Wm. Campbell - Newberry, Mich.
9. S. R. Knapp - Iron Mountain, Mich.
10. Harvey Johnson - Iron River, Mich.
11. A. W. Ronberg - Norway, Mich.
12. Floyd Tucker - McMillan, Mich.
13. Stanley Smith - L'Anse, Mich.
14. John Seratti - Baraga, Mich.
15. Grank Garot - Winona, Mich.
16. S. J. Walli - L'Anse, Mich.
17. Julius Duffena - Channing, Mich.
18. Thomas W. Bowman - Crystal Falls, Mich.
19. Thomas Dentel - Sidnaw, Mich.
20. Bruce Soddors - Algonac, Mich.
21. Peter Nevens - Flint, Mich.
22. John F. Goodrich - Flint, Mich.
23. D. Dochstaden - Jackson, Mich.
24. Howard White - Michigan Center, Mich.
25. Eugene M. Kepler - 104 E. Magnetic St.
Marquette, Mich.
26. E. D. Meyer - East Tawas, Mich.
27. Keith Courmyer - Mio, Mich.
28. Wm. Mielke - Lewiston, Mich.
29. Harvey Wilkinson - Onaway, Mich.
30. Roland Larson - Onaway, Mich.
31. R. C. Eisley, Indian River, Mich.
32. Elza Towns - Hillsdale, Mich.
33. Elias Slagle - Hillsdale, Mich.
34. Wayne Mock - Hillsdale, Mich.
35. Shaeffer - Kalamazoo, Mich.
36. Earl M. Erway - Hastings, Mich.
37. Richard Gancer - Mattawan, Mich.
38. Norman H. Thomas - Ironwood, Mich.
39. D. H. Haines - Ann Arbor, Mich.
40. David Shetter - Ann Arbor, Mich.
41. A. S. Hazzard - Ann Arbor, Mich.
42. H. B. Cook - Kalamazoo, Mich.
43. R. H. Ladner - Big Rapids, Mich.
44. Harold Shick - Newaygo, Mich.
45. Frank Bacon - Fremont, Mich.
46. Russell Reterstoff - Bitely, Mich.
47. R. Adams - ?
48. A. B. McLeod - Marion, Mich.
49. Harry H. Hooker - Ewart, Mich.
50. Earl N. Duffing - Baldwin, Mich.
51. John W. Reed, Jr. - Benton Harbor
52. Glen E. Rowley - Shelby, Mich.
- 53.

54. Harold Smith - Shelby, Mich.
55. W. R. Tyson - Muskegon, Mich.
56. Howard Hilboun - Hart, Mich.
57. Joe Covey - Honor, Mich.
58. F. T. Lister - Manistee, Mich.
59. C. Bradshaw - Manistee, Mich.
60. N. S. Robbins - Honor, Mich.
61. Robert Robbins - Honor, Mich.
62. Lyle C. Ward - Vandercook Lake, Mich.
63. Claude Lydell - Comstock Park, Mich.
64. John Johnson - Paw Paw, Mich.
65. H. E. Dall - Clare, Mich.
66. Burke Collins - Clare, Mich.
67. Harold Bailey - Bay City, Mich.
68. J. S. Cowgill - Three Rivers, Mich.
69. Fred Miller - Alpena, Mich.
70. Ben Berg - Rogers City, Mich.
71. Raymond Johnson - Manistee, Mich.
72. H. A. Francisco - Mt. Pleasant, Mich.
73. Walter Weber - Channing, Mich.
74. Kearney J. Brinson - Coldwater, Mich.
75. Leonard H. Heading - Pontiac, Mich.
76. Al M. Ponlos - Ionia, Mich.
77. T. L. Wakeley - Grayling, Mich.
78. E. J. Bennett - Grand Marais, Mich.
79. Robert Gille - Moran, Mich.
80. Morris C. Cotter - Tustin, Mich.
81. E. G. Shaw - Grayling, Mich.
82. Richard P. Nevens - Flint, Mich.
83. W. A. Simmons - Bay Port, Mich.
84. J. D. Morrison - Flint, Mich.
85. Harold W. Harrison - Pickford, Mich.
86. Byron Bailey - Drummond, Mich.
87. Wm. W. Johnson - Republic, Mich.
88. Ford Thurston - Felch, Mich.
89. Ralph Sensenbrenner - L'Anse, Mich.
90. Harold Gochanour - Hillsdale, Mich.
91. A. C. Emmons, Muskegon, Mich.
92. Harry Taylor - Wellston, Mich.
93. H. W. Moran - Onaway, Mich.
94. Howard McCann - Detroit, Mich.
95. Charles Kemp - Bellaire, Mich.
96. Fred Houts - Petosky, Mich.