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RESULTS OF THE 1944 FISHING SEASON ON LITTLE LONG LAKE ON  
BUCKHORN RANCH, A PRIVATE LAKE IN OSCEOLA COUNTY

by

David S. Shetter and Pat Galvin

For six years the Institute for Fisheries Research has carried on a creel census on Little Long Lake at the request of the owner, Mr. Paul Travis, and through the cooperation of anglers. All anglers have been permitted to fish the lake provided they would record their angling results on creel census blanks furnished for that purpose, and abide by the prevailing fish laws. Samples of the type of record desired and explanations for filling out the census blanks were furnished prior to the opening of each fishing season. A sign requesting the angler's cooperation was posted at a conspicuous point (the sign was first posted in 1940 and has been existent from that time to the present).

About one-half of the anglers have shown their appreciation for the privilege to fish this private lake by fulfilling their obligation of completely recording their angling results.

A report based on these records summarizing the fishing of each season has been submitted for each of the five years previous. The 1944 season was the sixth year of operation here, and a discussion of the 1944 angling results on Little Long Lake follows.

More anglers probably spent more hours and caught more fish on Little Long Lake in 1944 than for any other year on record. A total of 235 fishermen (Table 1) visited the lake in 1944. Of this number only 128 recorded their angling hours, so the total number of angling hours given in Table 1 is really not the total but is only a part of the actual angling time spent. On the basis of the number of anglers and angling hours recorded it was calculated that the total number of anglers listed fished approximately 749 hours. Again only a very few anglers were unsuccessful (7 out of 235).

Anglers removed a total of 2,286 legal fish (96 largemouth bass, 1,816 bluegills, 330 yellow perch, and 44 bullheads). This is the greatest number of fish caught in Little Long Lake for any fishing season on record (Table 2).

Greater numbers of all four species were recorded in 1944 than were listed for the 1943 season and catch records for at least three species: bluegills, yellow perch, and bullheads exceeded any previous catches.

Because only a part of the total angling hours were recorded in 1944 it was impossible to calculate the actual number of fish caught per hour (regarded as an index of the quality of the fishing). The quality of fishing, however, based solely on the complete records was as follows: 128 fishermen fished a total of 408 hours and caught 1,009 fish, or 2.47 legal fish per hour. These fishermen caught 43 per cent of the total catch. The catch per hour based on the total known catch and the total calculated number of hours was better than the figure stated above. Assuming that anglers did spend in the neighborhood of 749 hours on Little Long Lake they removed a total of 2,286 legal fish at the rate of 3.05 fish per hour. If our method of calculating the total angling hours is valid, we might assume that the quality of the fishing based on the total catch and the total number of hours (even though calculated) would be more correct.

The quality of the fishing based on actual catches and angling time fluctuated considerably. Anglers removed more fish per unit of effort during the five-day period June 25 to June 30 (4.29 fish per hour) than for any period during the season. Fishing was poorest during the 20-day period September 1 to September 20 (1.57 fish per hour).

The best returns to the angler in number of fish caught by species and per unit of effort was as follows: bluegills (1,816), yellow perch (330), largemouth bass (96), and bullheads (44). The composition of the total catch by species followed the same general order; bluegills constituted 79.5 per cent, yellow perch 14.4 per cent, largemouth bass 4.2 per cent, and bullheads 1.9 per cent. The percentage of the total catch comprised of bluegills in the past has been in the neighborhood of the 1944 figure (Table #3).

#### Average Size of Fish Taken (Table #4)

A part of the angler's obligation to census his catch on Little Long Lake is to indicate the average size of fish taken. Most fishermen cooperated in this respect.

The average size of fish taken during the 1944 season was as follows: bluegills, 7.4 inches; largemouth bass, 11.3 inches; yellow perch, 8.5 inches; and bullheads, 9.3 inches. The average size of bluegills and largemouth bass caught in 1944 was only slightly larger than the average size for these species in 1943 (0.1 inches larger). The average size of yellow perch and bullheads, however, was considerably larger (0.6 inches and 1.0 inches increase respectively) than the average size for these same species listed for 1943.

In 1942 and 1943 there was a gradual decrease in the average size of fish caught over the previous seasons with the advent of increased fishing pressure, but in spite of a rather substantial increase in the pressure in

1944 there was no decrease in the average size of any species compared with data for the 1943 season. These figures, however, are based on the anglers measurements and in some instances his "estimations" of the average size of his catch are not as reliable as is desirable.

The fact that the average size of yellow perch and bullheads did not diminish under increased pressure may be an indication that these species may be removed in still greater numbers.

Summary of the Yield and Angling Pressure on Little Long Lake

(34.5 acres) 1938 - 1944<sup>1</sup> (Table #5)

During the years 1940, 1941, 1942, and 1943 fishermen were asked to weigh their catch. In no year did they weigh the entire catch. In fact, there were so few weights recorded for the 1943 season that it was impossible that year to calculate the yield in terms of pounds of fish removed per unit of area and per unit of effort.

During the 1940, 1941, and 1942 seasons anglers weighed approximately 2,421 fish (bluegills, largemouth bass, and yellow perch). For each of those years the total weight of fish removed was calculated by multiplying the average weight (calculated from actual weights) of each species by the total number of that species taken. The total weight of fish removed during the 1938, 1943, and 1944 seasons has been calculated in a similar fashion, only the average weight used has been the average weight of each species over the three-year period 1940, 1941, 1942.

From 1938 to 1944 there has been an increase in the angling pressure from 2.62 to 21.71 man hours per acre. This increase in the angling effort

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<sup>1</sup>No yield data available for 1939 since no census was carried on that year. See Table #4.

on Little Long Lake has brought about corresponding increases in the yield for those same years (9.79 fish per acre were removed in 1938 compared with 64.98 fish per acre in 1944). Anglers removed 4.16 pounds per acre in 1938 in contrast to an estimated 24.19 pounds per acre in 1944. The yield for other years in terms of pounds of fish per acre has fallen somewhere within these limits. The yield by species except for the large-mouth bass has paralleled the general yield.

The number and weight of bluegills and yellow perch removed has likewise fluctuated with the angling pressure. The largest number and greatest poundage of bluegills were taken when the angling pressure was highest (1944). The smallest yield listed was for a period when the angling pressure was at a low ebb (1940); the same is true for the yield of yellow perch.

With increases in the pressure and emphasis on our part to encourage perch fishing in this lake, more and more yellow perch have been taken. One yellow perch was caught in 1938 (0.03 fish per acre) while anglers took 330 in 1944 (9.56 fish per acre). By weight 0.01 pounds per acre were removed in 1938 compared to 2.91 pounds per acre in 1944.

Summed up, the yield in number and pounds of fish removed from Little Long Lake has increased considerably, due most likely to increased angling pressure. The angling pressure, however, is still below that for the average public lake (See intensive creel census reports for past years). Since the quality of the fishing has remained high in spite of the increased pressure, it is reasonable to assume that this lake could stand more angling than has been recorded and give an even higher yield, but the catch per individual angler might be less.

Recommendations

In 1944 the Buckhorn Ranch property changed hands. As yet the Institute for Fisheries Research has not discussed with the new owner the possibility of continuing its investigations on Little Long Lake, and to date the new owner has made no requests for further studies on this body of water. If before the opening of the 1945 season, or at any date in the future, the Institute is invited to continue their investigations on Little Long Lake, it is recommended they should do so only under the following conditions:

I. That the lake remain open to fishing by permission and that such anglers may be privileged to fish the lake providing they carry out the following obligations:

(a) Gain permission from either the owner or the caretaker to fish the lake,

(b) Abide by the prevailing fish laws,

(c) Record their angling results completely; this includes filling in all the data asked for on a creel census blank.

II. That any angler who fails to fulfill any of the above obligations loses his angling privilege. Many anglers in the past have not responded to requests of the Institute, the owner, or the caretaker to make a complete record of their angling results. It is because of lack of cooperation on their part to supply this information that the above provisions have been stated. It is not feasible to continue investigations here if we receive only a part of the data needed to arrive at the proper fisheries management policies.

INSTITUTE FOR FISHERIES RESEARCH

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Report approved by A. S. Hazzard

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Table 1

Summary of the Angling Results  
on Little Long Lake for the 1944 Season

Time Period	Number of Anglers	Number Catching No Fish	Total Hours Recorded	L.M. Bass	Bluegill	Yellow Perch	Bullhead	Total Fish	Catch per Hour
June 25-30	23	1	(24)	12	187	30	0	229 (103)	4.29
July 1-15	69	2	(108)	47	288	66	0	401 (234)	2.17
July 16-31	39	1	(78)	6	440	71	9	526 (218)	2.79
Aug. 1-15	56	1	(65)	7	518	55	35	615 (165)	2.54
Aug. 16-31	29	2	(110)	13	245	52	0	310 (253)	2.30
Sept. 1-20	19	0	(23)	11	138	56	0	205 (36)	1.57
Totals	235	7	749↓ (408)	96	1816	330	44	2286 (1009)	3.05 2.47

↓ Calculated angling time.

( ) Actual recorded angling hours and total number of fish caught for the time recorded.

Table 2

Tabular Summary of Angling Results for the 1938, 1940, 1941, 1942, 1943,  
and 1944 Seasons on Little Long Lake, Buckhorn Ranch

Item	1938	1940	1941	1942	1943	1944
Total Anglers	39	72	96	182	150	235
Anglers Taking No Fish	2	10	7	1	9	7
Total Hours	90.50	231.00	284.75	612.75	442.00	749.00 ↙
Total Fish	338	409	953	1668	1400	2286
Bluegill	296	233	814	1327	1061	1816
L.M. Bass	41	126	95	100	56	96
Yel. Perch	1	50	44	235	270	330
Bullhead				6	13	44
Catch/Hour						
All Fish	3.73	1.77	3.35	2.72	3.16	3.05

↙ Calculated angling time.

Table 3

Percentage of the Total Catch by Species of All Fish Taken on  
Little Long Lake During the 1938, 1940, 1941, 1942, 1943, and 1944 Seasons

Species Fish	Per Cent of Total Catch for Years					
	1938	1940	1941	1942	1943	1944
Bluegill	87.5	56.9	85.5	79.5	75.7	79.5
L.M. Bass	12.2	30.8	9.9	6.0	4.1	4.2
Yel. Perch	0.3	12.3	4.6	14.1	19.3	14.4
Bullhead	...	...	...	0.4	0.9	1.9

Table 4

Average Length of All Fish Taken in Little Long Lake  
in the Seven Years of Census. (Lengths are Given in Inches)

Species	Average Length of Fish by Years						
	1937	1938	1940	1941	1942	1943	1944
Bluegill	7.5	8.2	7.8	8.2	7.6	7.3	7.4
L.M. Bass	12.2	12.0	12.2	12.2	12.7	11.2	11.3
Yel. Perch	9.5	12.0	8.31	8.1	8.0	7.9	8.5
Bullhead	...	...	...	...	...	8.3	9.3

Table 5

Summary of the Angling Pressure and the Yield in Numbers and Pounds of  
 All Game Fish Taken in Little Long Lake<sup>†</sup> for the Years 1938, 1940, 1941, 1942, 1943, 1944  
 (Numbers in Parentheses Indicate Pounds of Fish Removed)

Year	Total Angling Hours	Man Hours Per Acre	Total Catch by Species in Number and Pounds			Yield - Number and Pounds of Fish Removed Per Acre			Total Catch in Numbers and Pounds	Yield in Numbers and Pounds per Acre
			Bluegill	L.M. Bass	Y. Perch	Bluegill	L.M. Bass	Y. Perch		
1938 <sup>‡</sup>	90.50	2.62	296 (105.08)	41 (38.25)	1 (0.30)	8.58 (3.05)	1.18 (1.10)	0.03 (0.01)	338 (143.63)	9.79 (4.16)
1940	231.00	6.69	233 (80.92)	126 (117.88)	50 (17.51)	6.75 (2.34)	3.65 (3.42)	1.45 (0.51)	409 (216.31)	11.85 (6.27)
1941	284.75	8.25	814 (347.80)	95 (90.93)	44 (16.99)	23.59 (10.08)	2.75 (2.64)	1.28 (0.49)	953 (455.72)	27.62 (13.21)
1942	612.75	17.76	1327 (413.00)	100 (90.60)	235 (65.40)	38.46 (11.97)	2.89 (2.02)	6.81 (1.90)	1662 (572.00)	48.17 (16.57)
1943 <sup>‡</sup>	442.00	12.81	1061 (376.66)	56 (52.25)	270 (82.08)	30.75 (10.92)	1.62 (1.51)	7.82 (2.38)	1387 (510.99)	40.20 (14.81)
1944 <sup>‡</sup>	749.00 <sup>↓</sup>	21.71	1816 (644.68)	96 (89.57)	330 (100.32)	52.63 (18.68)	2.78 (2.59)	9.56 (2.91)	2242 (834.57)	64.98 (24.19)

<sup>†</sup> Area of Lake - 34.5 Acres

<sup>↓</sup> Calculated Angling Time

<sup>‡</sup> Weight of Fish Removed These Years are Calculated Weights.