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REPORT NO. 843

RESULTS OF THE INTENSIVE CREEL CENSUS ON LITTLE  
LONG LAKE, BUCKHORN RANCH (OSCEOLA COUNTY)  
FOR THE 1942 FISHING SEASON.

by

David S. Shetter

This report will describe the results of the fishing on Little Long Lake during 1942, as determined from the anglers' reports listed in the creel census book located in the Ranch tool-house. Creel census records were obtained at the direction of Paul Travis, owner, from all anglers using the lake in return for the privilege of fishing in this private body of water. All those desiring to fish first had to obtain permission from Robert Smith, the caretaker.

The records turned in for the 1942 season were poorly filled out. Approximately 20 per cent of the anglers failed to list the number of hours spent fishing, while many fishermen neglected to weigh their fish or weighed several species together. For these reasons our knowledge of the quality of the fishing and the poundage of fish yielded to the anglers is not as exact as would be desirable. The failure of many anglers to cooperate fully should not be blamed on Mr. Smith. He could not be expected to come in from the fields every time an angler quit the lake. The available records are complete enough so that reasonably accurate estimates may be made by use of average figures obtained from the census slips on which all necessary data has been entered. However steps should be taken to insure more complete records in the future. Signs with wording as follows should be placed in the fish cleaning room and at the landing.

! ANGLERS !

Permission to fish must be obtained from R. Smith, manager.

Everyone fishing in Little Long Lake must fill out a creel census slip for each day's fishing, even though little or nothing is caught. The creel census book is in the tool-house. Sample blanks, showing the proper method to record your fishing are in the front of the book.

Anyone who does not comply with this request will be refused the privilege of fishing here in the future.

Paul Travis,

Owner, Buckhorn Ranch

The Institute for Fisheries Research will supply these signs.

### Angling Results

A total of 182 fishermen used Little Long Lake in 1942; 37 anglers failed to list their hours. For 145 fishermen a total of 483.75 hours were recorded, or an average of 3.34 hours per angler. For 182 anglers it is estimated then that 612.75 hours of angling were expended (Table 1). Of the 182 anglers only one or slightly more than 0.5 per cent reported catching no legal fish.

The season's catch consisted of 1,327 bluegills, 100 largemouthed black bass, 235 yellow perch, and six bullheads, or a total of 1,668 fish. The weights of 1,445 fish which were recorded amounted to 419.38 pounds. A closer approximation of the total weight of fish removed by angling was obtained by determining the average weights of the three main species and multiplying the average weights by the number of bluegills, bass, and perch caught. Using the procedure just described, it was determined that 572 pounds of fish were removed from the lake during 1942, or 13.21 pounds per acre of lake surface.

The number of fish caught per hour varied in the several periods from a "low" of 2.41 fish (Aug.16-31) to a high of 2.95 fish (July 1-15) and the average for the season as a whole was 2.72 fish per hour. For every hour of fishing on the lake, 0.93 pounds of fish were removed (Table 1). The average number of fish caught per angler was 9.1, and the average number of pounds of fish taken was 3.14 pounds. Compared with creel census records from other lakes this would be considered as very much above average in quality and dependability of the angling.

### Average Weight of Fish Taken

The average weight of the fish taken, as reported by the anglers, is presented in Table 2. The measurements of lengths and weights which were available were used in determining average length and average weight. Bluegills averaged 7.6 inches in length and 5.0 ounces in weight, while the largemouthed black bass were of an average length of 12.7 inches and an average weight of 14.50 ounces. Yellow perch averaged 8.0 inches in length and 4.45 ounces in weight. Compared with average sizes of the previous year (1941) bluegills averaged 0.6 inches shorter and 1.8 ounces lighter, bass averaged 0.5 inches longer but were 0.8 ounces lighter, while perch averaged 0.1 inches shorter and 1.8 ounces lighter. The weighing and measuring of all fish caught would give more accurate data on average size.

### Yield per Acre and Angling Pressure (Acreage-34.5)

More hours of angling than ever before were recorded at Little Long Lake in 1942. The angling pressure, in terms of man-hours of angling per acre for the season may be estimated at 17.7, or slightly more than double the pressure in 1941 (8.2 hours per acre per season). However this pressure is still considerably less than on the average public lake.

Table 3 presents the yield data by species for 1942. A total of 1,327 bluegills weighing 413.00 pounds were caught. The yield per acre is then 38.46 bluegills weighing 11.97 pounds. The total bluegill catch for 1942 was 63 per cent higher than 1941 and is the highest yet recorded.

One hundred largemouthed black bass were captured which were estimated to weigh 90.60 pounds, or on a per acre basis, 2.90 bass per acre weighing 2.62 pounds. The yield of bass was five fish greater than in 1941, but still below the record year of 1940 when 126 bass were taken.

Yellow perch were cropped in Little Long Lake for the first time in adequate numbers. A total of 235 yellow perch weighing 65.4 pounds were removed, or on a per acre basis, 6.81 perch weighing 1.90 pounds. At least this many perch should be removed yearly.

In general the increased yield in 1942 over previous years was the result of an increasingly high yield among the bluegills (which do not yet appear to have been fished to their capacity), and to a successful perch fishery during 1942 for the first time.

#### Other Institute Activities at Little Long Lake

Because of decreased travel facilities and personnel, only one visit was made to Little Long Lake in 1942. This was in late October during a period of sub-freezing temperatures and snow, so comparatively little fisheries work was done. The north beach was seined with a 20 foot common-sense seine. Species of fish captured were bluegills (mostly young of the year), largemouthed bass fingerlings, perch fingerlings, bluntnosed minnows in considerable abundance, and a few Johnny darters. No fat-headed minnows nor golden shiners were taken. It appears that the bluntnosed minnows have established themselves more or less permanently in the lake, and are able to maintain themselves as a source of food for the game fishes.

#### Management Suggestions for 1943

1. Continue the detailed recording of the anglers' catches, as in past years. Insist on receiving complete records from the anglers or refuse the fishing privilege to them in the future. They should not be permitted to take more than the legal limit of fish, either.
2. Continue to encourage fishing for perch.
3. At the first possible opportunity, a series of at least 50 fish from all the game species should be collected by the Institute for another check on the growth rate of the game species to determine whether or not the introduction of the minnows has influenced the rate of growth.

INSTITUTE FOR FISHERIES RESEARCH

by David S. Shetter

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Table 1

Tabular summary of creel census data for 1942 fishing season,  
Little Long Lake, Buckhorn Ranch, Osceola County.

| Time Period      | Total anglers               | Total hours of fishing <sup>a</sup> | Legal Fish Caught |            |              |           | Total Fish | Total Pounds <sup>b</sup> | Catch per hour | Pounds per hour |
|------------------|-----------------------------|-------------------------------------|-------------------|------------|--------------|-----------|------------|---------------------------|----------------|-----------------|
|                  |                             |                                     | Bluegill          | L. M. Bass | Yellow Perch | Bullheads |            |                           |                |                 |
| June 25-30       | <del>78</del>               | 29.00                               | 64                | 7          | 7            | ...       | 78         | 21.7                      | 2.69           | 0.75            |
| July 1-15        | <del>30</del>               | 103.25                              | 239               | 34         | 32           | ...       | 305        | 105.8                     | 2.95           | 1.02            |
| July 16-31       | <del>38</del> <sup>13</sup> | 121.00                              | 257               | 26         | 67           | 2         | 352        | 133.3                     | 2.91           | 1.10            |
| Aug. 1-15        | <del>35</del>               | 117.75                              | 239               | 12         | 65           | 4         | 320        | 117.3                     | 2.72           | 1.00            |
| Aug. 16-31       | <del>34</del>               | 109.50                              | 229               | 11         | 24           | ...       | 264        | 94.4                      | 2.41           | 0.86            |
| Sept. 1-20       | <del>38</del>               | 132.25                              | 299               | 10         | 40           | ...       | 349        | 99.5                      | 2.64           | 0.75            |
| Totals, averages | 182 <sup>37</sup>           | 612.75                              | 1,327             | 100        | 235          | 6         | 1,668      | 572.0                     | 2.72           | 0.93            |

<sup>a</sup> - Number of anglers not recording hours of fishing.

<sup>b</sup> - Total hours of fishing determined by adding recorded hours to 3.34 times number of anglers not listing hours.

<sup>c</sup> - Total pounds of fish determined on a percentage basis, original percentages applied to 572 pounds after determination of recorded percentages of 419,38 pounds.

Table 2

Average size of game fish as determined from data reported by anglers at Little Long Lake, 1942 season, with comparative data from preceding seasons (lengths are given in inches, weights in ounces).

| Season | Bluegill       |                  |                   | Largemouth Bass     |                |                   | Yellow Perch       |                    |                | Total Weight of all fish (lbs) |                   |                    |                    |
|--------|----------------|------------------|-------------------|---------------------|----------------|-------------------|--------------------|--------------------|----------------|--------------------------------|-------------------|--------------------|--------------------|
|        | Number of fish | Avg. length      | Average weight    | Total weight (lbs)  | Number of fish | Avg. length       | Average weight     | Total weight (lbs) | Number of fish |                                | Avg. length       | Average weight     | Total weight (lbs) |
| 1942   | 1,327          | 7.6 <sup>1</sup> | 4.98 <sup>2</sup> | 413.00 <sup>7</sup> | 100            | 12.7 <sup>3</sup> | 11.50 <sup>4</sup> | 90.60 <sup>7</sup> | 235            | 8.0 <sup>5</sup>               | 4.45 <sup>6</sup> | 65.40 <sup>7</sup> | 572.0 <sup>8</sup> |
| 1941   | 814            | 8.2              | 6.84              | 347.80              | 95             | 12.2              | 15.31              | 90.93              | 44             | 8.1                            | 6.19              | 16.99              | 455.7              |
| 1940   | 233            | 7.8              | 5.56              | 80.92               | 126            | 12.2              | 14.97              | 117.88             | 50             | 8.3                            | 5.60              | 17.51              | 216.3              |
| 1938   | 296            | 8.2              | ....              | .....               | 41             | 12.0              | ....               | ....               | 1              | 12.0                           | ....              | ....               | ....               |
| 1937   | 331            | 7.5              | ....              | .....               | 65             | 12.2              | ....               | ....               | 13             | 9.5                            | ....              | ....               | ....               |

<sup>1</sup> - Determined from 1,230 fish.

<sup>2</sup> - Determined from 983 fish.

<sup>3</sup> - Determined from 94 fish.

<sup>4</sup> - Determined from 66 fish.

<sup>5</sup> - Determined from 210 fish.

<sup>6</sup> - Determined from 130 fish.

<sup>7</sup> - Total weights were determined for each species by multiplying the average weight by the number of fish caught of the particular species.

<sup>8</sup> - An estimated weight of 3 pounds has been added to the total weight here as the weight of 6 bullheads.

Table 3

Total yield and yield per acre in terms of number  
of legal fish and pounds of legal fish taken  
by anglers, Little Long Lake, 1942  
(34.5 acres).

| Species         | Number<br>taken | Total<br>weight     | Yield per acre |        |
|-----------------|-----------------|---------------------|----------------|--------|
|                 |                 |                     | Number         | pounds |
| Bluegill        | 1,327           | 413.00              | 38.46          | 11.97  |
| Largemouth Bass | 100             | 90.60               | 2.90           | 2.02   |
| Yellow Perch    | 235             | 65.40               | 6.81           | 1.90   |
| Totals, 1942    | 1,662           | 572.00 <sup>1</sup> | 48.17          | 16.49  |
| Totals, 1941    | 953             | 455.72              | 27.62          | 13.21  |
| Totals, 1940    | 409             | 216.31              | 11.85          | 6.27   |

<sup>1</sup> - A total weight of 3 pounds has been estimated for 6 bullheads.