

Expenditures to July 1, 1966:	
Printing of the Report for 1966	\$1,100.00
Scholarships	250.00
Social Security Penalty	78.95
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Total	\$1,428.95
Balance on Hand July 1, 1966	13.67
Appropriation by the State of Tennessee, July 1, 1966	\$3,000.00
Expenditures to January 1, 1967:	
Scholarship and Salary	\$1,000.00
Operating Expense	120.76
Automobile Expense	167.20
Social Security Penalty	84.00
Total	\$1,371.96
Balance on Hand January 1, 1967	\$1,641.71
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Expenditures to July 1, 1967:	
Printing of Report for 1967	\$1,264.90
Operating Expense	125.26
Scholarship	200.00
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Total	\$1,590.16
Balance on Hand July 1, 1967	51.55
Appropriation by the State of Tennessee, July 1, 1967	\$3,000.00
Expenditures to January 1, 1968:	
Scholarship and Salary	\$1,000.00
Operating Expense	39.30
Automobile Expense	182.08
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Total	\$1,221.38
Balance on Hand January 1, 1968	\$1,830.17

For the Year 1967
 Balance on Hand January 1, 1967\$1,641.71

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AGE AND RATE OF GROWTH OF THE LARGEMOUTH BLACK BASS IN REELFOOT LAKE, TENNESSEE, FOR 1961 AND 1967¹

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INTRODUCTION

In 1937 an investigation was undertaken to determine the age and rate of growth of game and rough fish in Reelfoot Lake. Since the original investigation of the largemouth black bass, *Huro salmoides* (Lacepede), Schoffman 1938), fishing regulations pertaining to the largemouth black bass have undergone various changes, some of which will be considered in the succeeding paragraphs.

In this and previous studies, age determinations were made by the method of Schoffman (1939) on each specimen and the specimens arranged into age groups, i.e., a fish in the first age group would show one annulus and be in the second year of life; one in the second age group would be in its third year of life and so on. In this study eleven age groups are considered for each year (1961 and 1967).

RATE OF GROWTH

The histogram (Fig. 1) shows the distribution of 250 largemouth black bass for 1961 and 250 for 1967 arranged according to age groups. In 1961 age groups three, four, five, and six represent the largest numbers caught, while in 1967 age groups three, four, and five

represent the largest numbers caught. In 1961 age groups three, four, five, and six represent 76% of the specimens caught while in 1967 age group three, four, and five represent 71% of the specimens caught. In 1961 age group five represents 28% of the total while in 1967 age group three represents 37% of the total. This seems to indicate that the proportion of young is increasing.

The average rate of growth in length for 250 largemouth black bass for each age group 1961 and 1967 is shown in Table 1 and Figure 2. If the average length for age group eleven in 1961 (21.13 inches) is taken as 100%, it may be stated that 44% of the total growth is completed by specimens of age group two. The total growth for the third to the tenth age group inclusively is: 52, 58, 63, 68, 74, 86, 88, and 95 per cent. In 1967 the average length for age group eleven was 21.17 inches and if taken as 100%, it may be stated that 45% of the total growth is completed by specimens of age group two. The total growth for the third to the tenth age group inclusively is: 51, 56, 63, 69, 78, 85, 91, and 94 per cent.

The average growth in weight for all age groups for 250 largemouth black bass for 1961 and 1967 is shown in Table 1 and Figure 2. Figure 2 shows a progressive increase in all age groups. If the average weight for age group eleven in 1961 (91.00 ounces) is taken as 100%, it may be stated that 8% of the total weight is

¹ Contribution from Reelfoot Lake Biological Station No. 99. This study here reported on was made possible by a grant from the Reelfoot Lake Biological Station of the Tennessee Academy of Science, to whom the author wishes to express his appreciation.

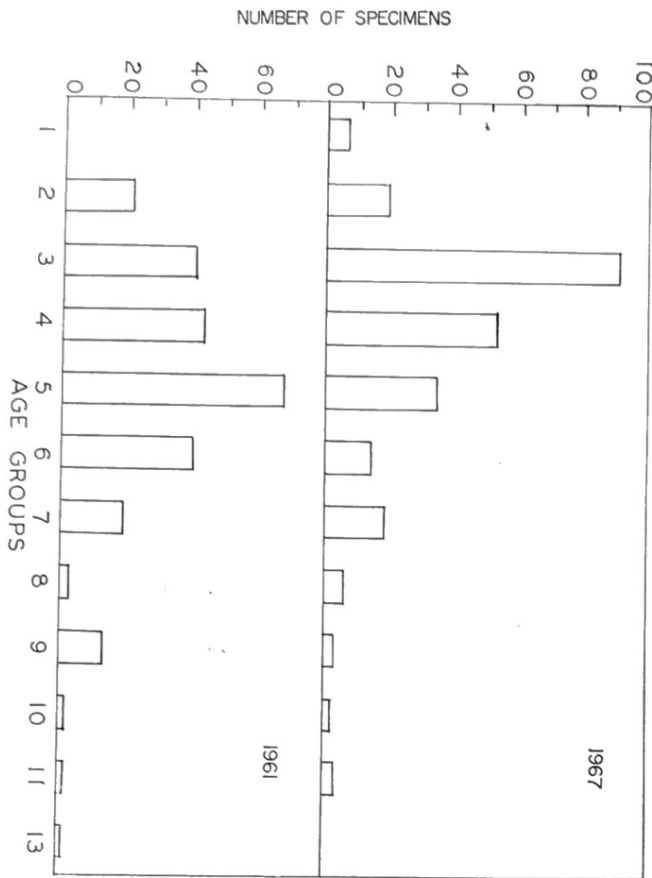


Fig. 1. Frequency distribution of 500 Reelfoot Lake largemouth black bass; 250 for 1961 and 250 for 1967.

acquired by specimens of age group two. The total weights acquired for the third to the tenth age groups inclusively are: 13, 18, 25, 33, 42, 57, 68, and 88 per cent. For 1967 the corresponding data shows 8% of the total weight is acquired by age group two. The total weights acquired for the third to the tenth age groups inclusively are: 11, 18, 23, 32, 46, 57, 72, and 82 per cent.

TABLE I

AVERAGE TOTAL LENGTH AND WEIGHT FOR EACH AGE GROUP FOR 250 LARGEMOUTH BASS FOR 1961 AND 250 FOR 1967.

1961				1967			
Age Group	No. of Fish	Average Length (inches)	Average Weight (ounces)	Age Group	No. of Fish	Average Length (inches)	Average Weight (ounces)
1	0			1	7	8.14	4.28
2	21	9.42	7.57	2	19	9.51	7.58
3	40	10.96	11.80	3	91	10.73	10.96
4	43	12.16	16.97	4	53	11.85	16.11
5	67	13.39	22.87	5	34	13.43	21.09
6	39	14.46	30.00	6	14	14.66	29.43
7	19	15.62	37.94	7	18	16.54	42.61
8	3	18.25	52.00	8	6	18.00	51.83
9	13	18.71	62.16	9	3	19.17	65.33
10	2	20.00	80.00	10	2	20.00	74.50
11	2	21.13	91.00	11	3	21.17	90.67
12	0			12	0		
13	1	22.25	112.00	13	0		

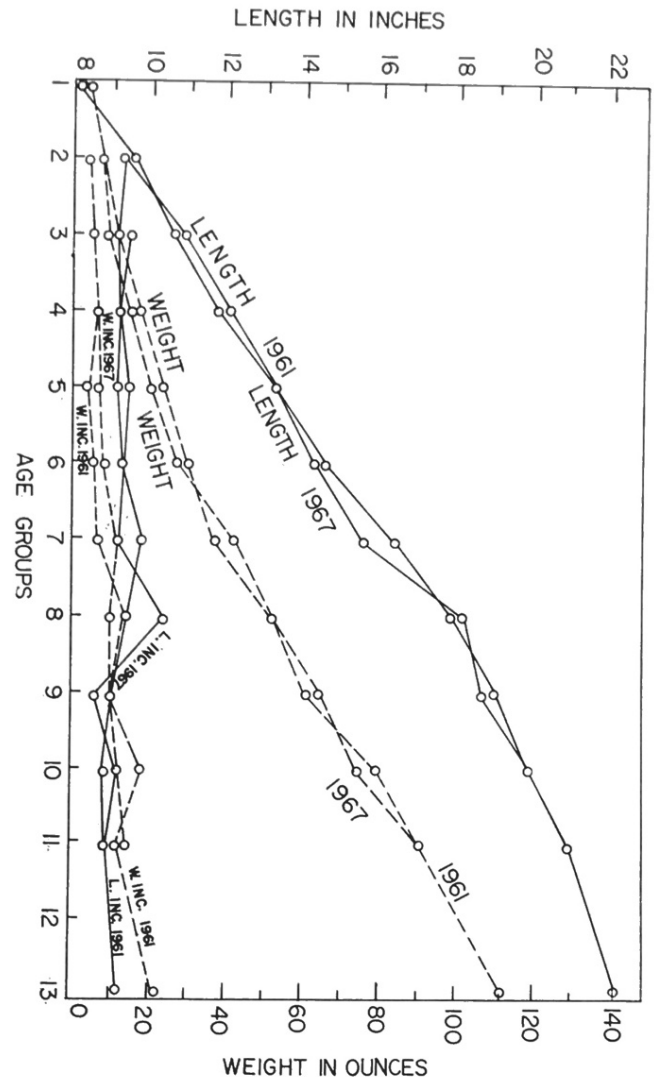


Fig. 2. Growth, weight, and increment curves of 500 Reelfoot Lake largemouth black bass; 250 for 1961 and 250 for 1967. The increment curves represent the annual increase in length and weight.

The increment in length between the successive age groups for fish taken in 1961 shows very little difference except for age groups seven and eight which show an increase. In 1967 the length increment was steady except for age group eight which showed an increase. There was a steady increase in the weight increment of fish taken during both years.

Table II shows the size groups and age for each size group for 1961 and 1967. In 1961 the overlapping of age groups started with age group two and 9.1 inches. The overlapping continued through age group nine and 20 inches. In 1967 the overlapping started with age group one and 8.1 inches and continued through age group ten and 20 inches.

Figure 3, a graph of the length and weight relationship, shows a steady increase for collections of both years.

CONCLUSIONS

The study of age and growth of largemouth black bass in Reelfoot Lake, Tennessee, has extended over

