

INSTITUTE FOR FISHERIES RESEARCH
UNIVERSITY MUSEUMS
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

January 2, 1936

REPORT 331

SUMMARY OF CREEL CENSUS ON BIG BEAR
LAKE, OTSEGO COUNTY, SUMMER OF 1935

The Big Bear Lake creel census was conducted by Camp Johannesburg (Michigan Forestry E.C.W.) under the general supervision of Roy Johnstone and under the immediate supervision of Foreman G. S. Dimmick, Jr. The data were compiled by the Institute for Fisheries Research, with N.Y.A. help, under the writer's supervision.

This report covers the fishing from June 25th to September 15th. According to Mr. Dimmick the census was taken from 6:00 A.M. to 8:00 P.M. each day by a crew of 3 men. He indicates that the census covers approximately 85% of all fishing carried on during the period of the census.

Big Bear Lake was carefully mapped and sounded by Foreman Gordon Pringle in the winter of 1933-'34. This survey indicates that the lake has an area of 375 1/2 acres and a maximum depth of 35 feet.

A survey of winter fishing on Big Bear Lake during the winter of 1933-34 indicated that winter fishing on this lake is negligible (See report 271). For the winter period (1933-34), there were six fishing days. The entire winter's catch consisted of two undersized perch.

Discussion of Table I

(Numbers in this discussion correspond to item numbers in Table I).

1. Assuming that this census covers 85% of the fishing, a total of 4.7 fish per acre were taken from Bear Lake. This probably represents a production of two pounds per acre or less, a relatively poor production.

TABLE I

Statistics on Fishing in Big Bear Lake
Otsego County, June 25 - Sept. 15, 1935

Item	June (25-30)	July	Aug.	Sept. (1-15)	Total or Average
1. Total no. of legal fish caught	169	528	451	197	1345
2. Total no. of fishermen - days	22	267	210	82	581
3. Total no. of hours fished	71	747	647.75	206	1671.75
4. Average no. legal fish per fisherman - day	7.7	2.0	2.1	2.3	2.3
5. Average no. of fish per hour	2.3	.7	.6	.9	.8
6. Average no. of hours per fishing day	3.2	2.8	3.1	2.5	2.9
7. No. taking no legal fish	0	150	107	47	304
8. Average size of all legal sized fish	11.5	10.0	7.9	7.5	9.1
9. % taking no legal fish	0	56	51	57	52
10. Total no. of undersized	0	76	49	0	125
11. Perch					
No.	143	241	86	28	488
Ave. size	10.8	9.1	8.9	8.1	9.7
Catch per hour	.85	.46	.19	.14	.36
12. Largemouthed Bass					
No.	11	77	11	1	100
Ave. size	15.7	15.5	15.4	21.0	15.5
Catch per hour	.07	1.5	.02	trace	.07
13. Rock Bass					
No.	1	175	349	167	692
Ave. size	7	7.9	7.3	7.3	7.4
Catch per hour	trace	.73	.77	.85	.51
14. Small Mouthed Bass					
No.	14	34	5	1	54
Ave. size	15.8	14.2	12.8	11	14.5
Catch per hour	.08	.14	.01	trace	.04
15. Walleyes					
No.	...	1	1
Ave. size	...	28	28
Catch per hour		trace			trace

2. A total of 581 fisherman-days were accounted for. If this represents 85% of the total, there were less than two fisherman-days per acre.
3. On the average each acre was fished approximately 5 hours.
4. The catch per fisherman was high in June and uniformly low during the rest of the summer.
5. The per hour catch was high in June, low during the rest of the summer.
6. There was no decided change in the average number of fishing hours per day; the average angler fished for about 3 hours.
8. The average size of the fish caught declined each month.
9. A little more than half of the fishermen took no fish (undersized not included).
10. Relatively few undersized fish were caught (ratio of about one undersized per 10 legal fish).
11. The Perch catch per hour declined decidedly as the season progressed. Size of Perch also declined. Between one and two Perch per acre were taken.
12. The ratio between Large-mouthed Bass and Small-mouthed Bass was about 2 to 1. The Large-mouthed Bass had a good average size.
13. The Rock Bass catch increased as the season progressed.
14. Small-mouthed Bass "bit" best in July.
15. Only one Walleye was taken.

Table 1 and Graph 1 indicate an interesting trend in the per hour catch of the two most caught species. Perch fishing decreased decidedly as the season progressed while Rock Bass fishing improved with each month. Report number 319 (Figure 2) indicated that on Fife Lake the Perch fishing likewise declined decidedly during the height of the tourist season while the Rock Bass fishing improved at the same season. There appears to be a definite inverse relationship in the biting of these two species. The Perch, more nearly resembling the cold-water fish, is apparently more active when the water temperature is low; the Rock Bass appears to be essentially a warm-water fish and to bite best when the water

temperature is relatively high. Increasing evidence suggest that the stocking and encouragement of perch may not benefit, to any great extent, the mid-summer fishing.

A summary of the residence of the anglers shows that Big Bear Lake, even with relatively poor fishing, has attracted fishermen from a large number of localities. It is interesting to note that almost half of the fishing was by non-residents. Five states other than Michigan were represented.

Because of the rather widespread interest in this lake and because of the relatively poor fishing it is considered desirable that further efforts be made to improve the fishing. Brush shelters have been placed in the lake and a good map, with bottom contours, is now available. It is anticipated that a further survey of Big Bear Lake (biological and chemical) will be made next summer; that efforts will be made to determine the reason for poor fishing, and that further improvement and stocking suggestions will be made.

Residence of Anglers¹
(Where residence was listed)

Resident (271)

Bay City 10
Charlevoix 1
Clarion 1
Detroit 56
Flint 16
Gaylord 18
Grayling 1
Grand Rapids 11
Highland Park 1
Howell 1
Holland 2
Imlay City 2
Jackson 10
Johannesburg 78
Kalamazoo 1
Lakeland 3
Lansing 4
Petosky 1
Port Huron 2
Roscommon 3
Saginaw 22
Silver Beach Club² 6
C.C.C. (local) 21

Non-resident (252)

Ohio (173)

Celina 7
Cleveland 26
Coldwater 52
Dayton 31
Elida 1
Lima 17
New Weston 2
Toledo 16
Van Wert 3
West Carrollton 18

Indiana (27)

Albion 3
Clayport 2
Ft. Wayne 1
Legomer 2
Michigan City 3
Milford 12
South Bend 3
Urbana 1

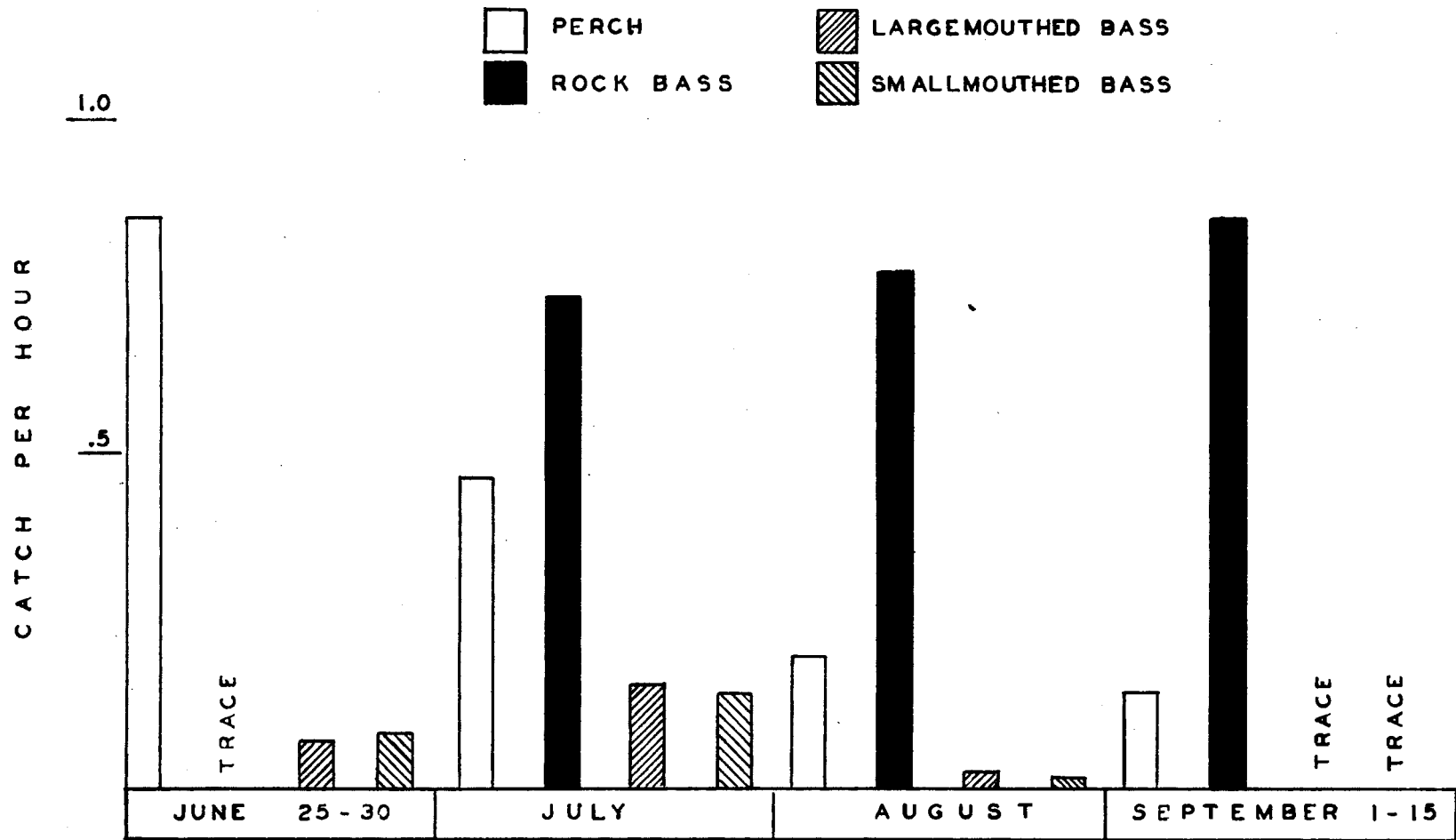
Illinois (49)

Chicago 45
Galesburg 4
Missouri (2)
St. Louis 2
Florida (1)
Ft. Pierce 1

INSTITUTE FOR FISHERIES RESEARCH

R. W. Eschmeyer
By: R. W. Eschmeyer

¹ Numbers indicate number of fishing days, not necessarily number of fishermen.
² Locality not ascertained.



GRAPH I
 CATCH PER HOUR OF EACH OF FOUR SPECIES.
 BIG BEAR LAKE, OTSEGO COUNTY, SUMMER OF 1935.