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POPULATION INVESTIGATIONS ON E. BR. BLACK RIVER, AND  
BLACK RIVER, BLACK RIVER RANCH, CHEBOYGAN COUNTY

by

David S. Shetter

A second attempt to obtain sufficient data on the stream populations in the vicinity of fertilized areas in the Black River Ranch was made on June 29 and 30, 1948. The author was assisted by Dr. J. W. Leonard, H. Vondett, Walter R. Crowe, J. Nyburg, and E. Cooper of the Institute staff, and Hugh McMillan, member, and Sam Moss, caretaker, of the Black River Ranch. Heavy rains immediately preceding the operations brought both streams to their spring levels, and made the water roily as well as making the wading difficult, and observation of all fish stunned impossible.

On the East Branch, from the Farm Bridge to the cedar tree at high bank, a total of four brook trout were marked on June 29 (2 fish larger than 7 inches, and one each of fingerling size and between 4.0 and 6.9 inches).

Thus a total of 9 brook trout were marked in this area on May 3 and June 29 (3 in each general size group). Sampling on June 30, we found

2 unmarked brook trout over 7 inches; 1 marked and 4 unmarked brook trout between 4.0 and 6.9 inches, 1 unmarked fingerling brook trout, and 1 marked common sucker.

The following might be said concerning the population of brook trout in this short area below the Farm Bridge. There are at least 5 brook trout larger than 7 inches present; an estimate of 12 brook trout between 4.0 and 6.9 inches appears reasonable on the basis of the number marked and the single recovery; there are at least four fingerlings present.

Above the Farm Bridge in the stream area extending to the first log jam, 4 adult brook trout, 4 sub-adult brook trout, 7 fingerling brook trout, and 6 common suckers were marked on June 29. It should be pointed out that in neither section were any fish recovered in June which had been marked in May. The total population of brook trout in the upper portion between the Farm Bridge and the log jam might be estimated as follows: At least 9 adult brook (5 marked fish + 4 unmarked fish taken on June 30), approximately 24 brook trout between 4.0 and 6.9 inches (based on one recovery from 6 marked fish and the capture of 4 unmarked fish of this size group on June 30), and at least 19 fingerling brook trout (12 marked fish + 7 unmarked fish taken on June 30).

The population of common suckers was not estimated since it was felt that those present in May were part of a spawning group which had left the general area. It should be emphasized that the above estimates are made with tongue in cheek, since we could not obtain a satisfactory number of trout to mark and subsequently recover. Because of deep, roily water it was difficult to operate efficiently, and we may have missed numerous trout in several of the deeper holes. However, comparison of the trout taken in those parts of the stream which could

be handled well would indicate that the brook trout population of the East Branch in the area worked is not large.

Other fish noted were creek chubs, common shiners, red-sided dace, black-nosed dace, long-nosed dace, and burbot. The adult brook trout observed ranged in size from 7 to 12 inches and were plump and in fine condition. E. L. Cooper obtained scale samples for his age studies from almost all that were captured. A tabular summary of fish marked and fish recovered in the East Branch is appended.

On the Main Stream, we operated the shocker over approximately 1/2 mile of stream in the vicinity of the old Vanderbilt Road Bridge (about 500 yards below and 300 yards above).

In the area below the fertilizer (which had been placed at the bridge and at the mouth of Stewart Creek), we captured 10 brook trout between 4.0 and 6.9 inches, 11 fingerling brook trout, and 17 common suckers. Above the bridge one brook trout barely 7 inches was observed, 5 sub-adult brook trout, 1 fingerling brook trout and 6 common suckers. Because of difficulties encountered in wading the stream, and observing the fish it was decided not to attempt any further counts there with the water at its present level.

Unless we can be so fortunate as to operate on the Ranch waters at some time when the streams are at extreme low level and clear we will not be able to obtain reliable population estimates. At normal level the streams are too deep to work the shocker efficiently.

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Tabular Summary of Population Investigations on  
 E. Branch of Black River, May, June, 1948

Item	Number of fish marked		Total marked fish	Fish taken on June 30		Estimated population	
	May 3	June 29		Marked	Unmarked		
Adult brook trout	1	2	3	0	2	At least 5	} Lower section bridge to cedar tree by high bank
Sub-adult brook trout	2	1	3	1	4	12	
Fingerling brook trout	2	1	3	0	1	At least 4	
Common suckers	16	5	21	1	0	?	
Adult brook trout	1	4	5	0	4	At least 9	} Upper section Farm Bridge to log jam
Sub-adult brook trout	2	4	6	1	4	24	
Fingerling brook trout	5	7	12	0	7	At least 19	
Common Suckers	13	6	19	1	3	?	