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DIVISION OF FISHERIES  
MICHIGAN DEPARTMENT OF CONSERVATION  
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SUMMARY OF RESULTS FROM TRANSFER OF ADULT SMALLMOUTH BASS  
FROM GREAT LAKES WATERS TO INLAND LAKES  
(PRESENTED AT HIGGINS LAKE 1942 FISHERIES CONFERENCE)

by

W. R. Crowe and D. S. Shetter

The Michigan Department of Conservation has made a practice of transferring smallmouth black bass from the Great Lakes to various inland waters of the state, and some information relative to the success of these plantings has been obtained when the results of the plantings have been followed through tagging experiments. These data are summarized in the accompanying table. Other questions concerning these fish have arisen (growth, spawning, movement, and effect on the spread of the bass tapeworm (Proteocephalus ambloplitis)). Information which may help to clear up some of these questions in part is presented.

All fish were measured upon release, and a few have been measured upon recapture. Twenty-two fish from East Twin showed an average growth of 0.8 inches a year (range was from 1/4" to 2" in a year). Fish from Long Lake showed an average growth of 1 3/4" a year. (This growth is based upon fishermen's reports). The growth indicates that the transferred fish grow at least as well as fish native to the water.

Two tagged smallmouth which probably represented Lake Huron specimens were observed on spawning beds in East Twin Lake in the spring of 1940. Paul Eschmeyer reports finding young-of-the-year and one 1-year-old smallmouth in Ackerman Lake, Alger County, in 1941. Great Lakes smallmouth were planted in this lake in 1939 and, since no native smallmouth were known to be present prior to the planting, the finding of the young fish indicates successful spawning.

Concerning the wanderings of these fish in inland waters, there is ample evidence showing them to be considerable over a limited area. In Big Bear Lake where their movements were followed through the use of nets, they spread over the entire 350 acres within 2 days. In Long Lake their movements were from something less than a mile to over 15 miles (in the case of 2 fish which returned to Lake Huron). Another point of interest is that from 70 to 100 per cent of the recoveries made in the same season as the planting are made within a month after release.

Three specimens of the 1940 planting in East Twin were examined for the presence of the bass tapeworm, and were found free of this parasite, though others were present. Later and more extensive examinations of 15 fish from the same general locality in Lake Huron showed 33 per cent of these fish to have both larval and adult tapeworms present. Four specimens from the 1941 planting in Big Bear Lake (fish from Sturgeon Bay, Lake Michigan) were examined and found to be free of Proteocephalus, though other parasites were present. Nine specimens of the 1939 planting in Douglas Lake were examined and the infestation of bass tapeworm was reported as abundant in these fish from Sturgeon Bay, Lake Michigan.

As indicated in the table, the greatest mortality, in connection with transfer operations, apparently occurs when the planted fish are

held for a time in live boxes, hatcheries, or in the fishermen's nets.

Those that are taken directly to the lake where they are to be planted seem to fare better.

INSTITUTE FOR FISHERIES RESEARCH

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Table I

Results from plantings of Great Lakes smallmouth black bass  
as obtained from tagging experiments.

Lake	Date planted	Number planted	Recoveries				Mortality		Held at hatchery	
			1939	1940	1941	Total	Per cent	No.		Per cent
East Twin	1939	237	12	...	...	...	5.1	...	...	Not held
			...	43	...	...	18.1	...	...	Not held
			...	...	2	...	0.9	...	...	Not held
			...	...	...	57	24.1	...	...	Not held
	1940	277	...	36	...	...	13.0	1	0.4	Not held
			...	...	3	...	1.1	...	...	Not held
			...	...	...	39	14.1	...	...	Not held
	1939, 1940	514	12	79	5	96	18.7	1	0.2	Not held
Big Bear	7-12-41	233	...	...	46	...	19.7	31	12.6	Live crate
	7-31-41	141	...	...	32	...	22.7	6	4.2	Not held
	1941	374	...	...	78	78	20.9	37	9.6	Part held
Long	1940	200	...	20	...	...	10.0	...	...	Not held
			...	...	25	...	13.7	...	...	Not held
	1940	200	...	...	...	45	22.5	...	...	Not held
Douglas	1939	271	25	...	...	...	9.2	...	...	Held at hatchery (in part)
			...	4	...	...	1.5	...	...	
			...	...	1	...	0.4	...	...	
			...	...	...	30	11.1	23	8.5	
	1940	329	...	35	...	...	10.6	...	...	Not held
			...	...	10	...	3.3	...	...	
			...	...	...	45	13.7	8	2.4	
1941	444	...	...	17	...	3.8	...	...	...	Part held
		...	...	...	17	3.8	33	7.4		
	1939, 1940, 1941	1,044	25	39	28	92	8.8	64	6.1	Part held
Round	1939	50	18	...	...	...	36.0	...	...	Held at hatchery
			...	...	1	...	2.0	...	...	
			...	...	...	19	38.0	8	2.4	
Nettie	1939	93	25	...	...	...	26.0	...	...	Held at hatchery
			...	...	...	25	26.0	4	8.0	
Crooked	1940	144	...	5	...	...	3.5	...	...	Held at hatchery
			...	...	1	...	0.7	...	...	
			...	...	...	6	4.2	5	3.4	
All	1939, 1940, 1941	2,419	80	143	138	361	14.9	117	4.8	Part held