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TROUT IN THE BOARDMAN RIVER DURING THE FIRST YEAR OF
EXPERIMENTAL RESTRICTIVE REGULATIONS¹

By Edward E. Schultz²

In 1954 a biological survey was made of the Boardman River from the backwaters of Keystone Dam upstream to points in the North and South branches, a short distance above The Forks. As a result of information gained at that time (see Institute for Fisheries Research Report No. 1459) a Conservation Commission order, effective January 1, 1955, imposed a ten-inch minimum size limit on trout, limited fishing to the use of flies only and restricted the catch to five trout per day. The order affects a section of the Boardman River about 4.4 miles long, from Scheck's bridge (T. 26 N., R. 9 W., Section 18) upstream to The Forks Forest Camp Ground (T. 26 N., R. 9 W., Section 4), Grand Traverse County. The adjacent sections of river, above and below the restricted fishing water, serve as controls (seven-inch limit, bait fishing permitted, and ten trout per day).

¹The biological study of this river, analysis of data and preparation of the report were undertaken with Federal Aid to Fish Restoration Funds under Dingell-Johnson Project Number F-2-R.

²Assistants in the field were Fisheries Technicians Donald C. McNaught and Eugene B. Welch. The author was the field party leader.

From August 17 to 25, 1955, six samples of trout were captured with a direct-current electric shocker. Three samples were from the restricted fishing water, and two were collected from stations downstream and one upstream from that area. The locations, dates, measurements and numbers of trout captured at each station are given in Table 1. All trout captured were measured and recorded. Scale samples were taken from trout over four inches in length and all trout were returned to the stream alive.

The shocking in 1955 yielded 1,152 trout from the Boardman River. Of these, 566 were from the experimental section and 586 from the control section. Only 121, or 10.5 percent, were brook trout (74 from the experimental water and 47 from the control). The others were brown trout, of which 492 were caught in the experimental section and 539 in the control sections. No rainbow trout were seen in experimental or control sections in 1954 or 1955.

At the time the samples were taken the fishing restrictions had been actively effective only three and one-half months; therefore, little change could be expected. All catches were higher in 1955 than in 1954 because a lower water level in the river in 1955 enabled the crew to shock more efficiently. The increase in catch per hour in 1955 for each of three size groups of brown trout in the restricted water was slightly higher than in the control although there was an increase in catch in both the experimental and control areas (Table 2). The same was true for two size groups of brook trout (no brook trout over ten inches in length have been captured in the Boardman River by the shocker crew). These slight increases in the restricted area may have been due to a decreased fishing pressure in that part of the

stream or an inconsistent efficiency on the part of the collecting crew. Samples taken during the next four years will give more conclusive information on the effect of the restrictive fishing regulations in the Boardman River.

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Literature Cited

Schultz, Edward E.

1955. An investigation of the Boardman River, Grand Traverse County, to choose a section of the stream suitable for an experiment on restrictive fishing regulations. Institute for Fisheries Research Report, No. 1459, 13 pages (unpublished).

Table 1

Locations of stations, dates, and trout captured at each station in the Boardman River, 1955

Sample area	Station number	Location			Date	Stream length shocked (feet)	Time shocked (minutes)	Total trout captured	
		Town (N.)	Range (W.)	Section				Brook	Brown
Control	14	26	10	13	Aug. 24	1,320	59	14	196
"	12	26	10	13	Aug. 17	1,140	71	30	191
"	17	26	9	4	Aug. 25	1,110	56	3	152
Totals						3,570	186	47	539
Experimental	13	26	9	18	Aug. 18	1,030	56	53	195
"	15	26	9	7	Aug. 24	1,010	58	11	149
"	16	26	9	8	Aug. 25	1,355	57	10	148
Totals						3,395	171	74	492

Table 2

Catch-per-hour, by direct-current electric shocker, of trout from two sections of the Boardman River, 1954 and 1955

Species and year	Size group (total length, inches)								
	2.2 - 6.9		7.0 - 9.9		10.0 and over		All lengths		
	Control	Experiment	Control	Experiment	Control	Experiment	Control	Experiment	
Brook trout									
1954	15.6	14.8	...	1.0	15.5	15.4	
1955	15.2	23.5	...	2.5	15.2	26.0	
Brown trout									
1954	105.0	63.8	13.4	15.9	6.7	7.3	125.1	87.0	
1955	112.3	95.8	51.6	62.8	10.0	14.0	173.9	172.6	
Total trout									
1954	120.4	78.5	13.4	16.5	6.7	7.3	140.7	102.3	
1955	127.4	119.3	51.6	65.3	10.0	14.0	189.0	198.6	