



Original: Fish Division

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**INSTITUTE FOR FISHERIES RESEARCH**  
DIVISION OF FISHERIES  
MICHIGAN DEPARTMENT OF CONSERVATION  
COOPERATING WITH THE  
UNIVERSITY OF MICHIGAN

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OBSERVATIONS ON SPAWNING BEDS IN KINNE CREEK  
IN EARLY NOVEMBER, 1938

Observations on the number of trout spawning beds in Kinne Creek were made on two different days, the afternoon of November 5, and the morning of November 9. The method used was to cruise the stream slowly, one observer to each bank, walking upstream. The entire stream now under management was inspected (from the revolving screen just above the Pere Marquette River to the revolving screen above Austin Pond). The number of redds observed on the two dates are presented in the accompanying table, and are separated by stream sections as applied to the 1938 summer tagging experiment.

On neither date did the spawning of the brook trout appear to be at its height. However, the number of brown trout nests had doubled from November 5 to November 9. No brook trout nests were observed in Section A, but several 18-24 inch browns were observed in Section B. These should be eliminated if the brook trout are to be encouraged in Section B.

Netting of spawning fish on the beds and transference to Section A would be preferred, but if this is not practicable, the fish should be speared. Either can usually be done readily at night, using a gasoline lantern or other powerful light. Nests of brown trout in Section B should be marked and should be raked over to destroy the eggs.

The brook trout, particularly in Section C, are spawning under and around the deflectors and covers where suitable gravel and spring water are available. However there are fewer redds in this section per mile than are present in Section B.

From the number of redds observed and the general reactions of the brook trout, I would judge that they had not reached their peak of spawning activity.

Observations on November 5 were conducted by D. S. Shetter and Harold Bowditch; on November 9 by Walter Crowe and Jack Evans in addition to the above-mentioned investigators.

The counts given in the table are of especial interest as indicating changes in spawning populations of brook and brown trout in different parts of the stream. Observations by Leonard and Hazzard in the spawning season of 1936 showed a larger number of brown trout on beds in Sections A and B (i.e. from the Clubhouse to the river) than were counted this year. No spawning brook trout were seen in this section in 1936, whereas at least 13 known nests were observed in the upper part (Section B i.e. between the new screen and the Clubhouse) this year. This indicates that brook trout are becoming re-established here due probably to three factors:

- (1) Improvement of the stream for brook trout following removal of dams, installation of deflectors and covers and opening of pools to fishing which had formerly been difficult or impossible to fish, thus discouraging competition from brown trout.

- (2) Installation of the new screen at Cartier Pond which probably has completely stopped the spawning run of large brown trout from the lower creek.

(3) Planting of 6 to 8 inch brook trout in 1937 and 1938.

Improvement in the spawning population of brook trout in Section C (i.e. from the railroad to the road bridge) is evidently due to the stream improvement and planting larger sized trout. Only one brook trout nest was observed in 1936, whereas a maximum of 13 known beds were counted this fall.

Since it was not possible to observe the stream throughout the entire spawning season, it is likely that many more trout nested there this year than is indicated in the table. Whether the stream now carries a maximum stock of trout cannot be stated as no one yet knows how this can be determined. Planting of additional legal brook trout as early in April as possible may be necessary to keep fishing for this species up to the level desired by the Club. Planting of brown trout in the lower section may not be necessary because of the large number of wild fish thought to be present and because this species seems to spawn so successfully in Kinne Creek. If a planting of legal-sized brown trout is made in Section A in the spring of 1939, it is urged that they be fin-clipped or tagged in order to determine the success of the planting. The Institute will do the work if the Club will furnish the tags.

INSTITUTE FOR FISHERIES RESEARCH

By David S. Shetter and  
A. S. Hazzard

Number of Redds of Brook and Brown Trout  
Observed in Kinne Creek, November 5, 9, 1938

Date	Stream section	Brown Trout			Brook Trout		
		Possible redds <sup>1</sup>	Known redds <sup>2</sup>	Fish seen near redds	Possible redds	Known redds	Fish seen near redds
November 5, 1938	A	8	6	14	...	...	...
	B	3	1	4	22	4	9
	C	...	...	...	19	12	8
November 9, 1938	A	20	12	14	...	...	...
	B	3	2	7	29	13	13
	C	...	...	...	23	12	13

1 Freshly fanned depressions on which no fish were observed.

2 Redds occupied by one or more fish.

Nov. 5, 1938

Lower footbridge in Section A      Air - 50      )  
   Water - 46      ) 1:15 p.m., sky cloudy

Nov. 9, 1938

Head of Austin Pond      (      Air - 47      ) 9:25 a.m., sky clear  
   (      Water 45      )

(      Air - 51      ) 11:00 a.m., sky clear  
(      Water 46      )

In shade in Section A      Air - 43      )  
   Water - 44      ) 11:30 a.m., sky clear

Stream Section A - From lower revolving screen to revolving screen at Cartier Pond.

Stream Section B - From revolving screen at Cartier Pond to railroad grade.

Stream Section C - From railroad grade to revolving screen above railroad grade.