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REPORT ON THE INTENSIVE GREEEL CENSUS OF KINNE CREEK,  
WINGLETON CLUB FOR THE 1942 TROUT SEASON

by

David S. Shetter

This report summarizes the results of the trout fishing during the 1942 trout season on Kinne Creek, as recorded by the Wingleton Club members in the record books placed in the club ice-house. Detailed catch records on club-owned trout water have been kept by the members for the past five years. Previous to that time, the daily trout catch from Kinne Creek was recorded in the club-house register by each fisherman, and the ledger records extend each to about 1895.

In line with recommendations by the Institute for Fisheries Research, developed after reviewing the tagging experiments conducted at the Wingleton Club during the 1938-1941 trout seasons, the Creek Committee ordered 250 rainbow trout, 200 brown trout and 50 brook trout from the Lindahl Brothers' Hatchery of Iron River, Michigan. These fish were delivered on May 20, 1942, and were all eight inches in size, or larger, and in good condition. They were not tagged.

The total catch recorded by anglers using Sections A, B, and C of Kinne Creek during the 1942 trout season was 516 trout, divided as follows: 143 brook trout, 229 brown trout, and 144 rainbow trout.

Brook Trout Catch

Only one legal brook trout was removed from Section A, while 32 brook trout were reported from Section B (one tagged fish was released in 1941). The one marked brook trout survived from a total of 202 tagged brook trout released in Section B in 1941. It is very probable that at least 50 percent of the 1942 catch was of hatchery origin since 50 brook trout were planted in Sections A and B in 1942. Of 110 brook trout caught in Section C (above the railroad grade) 109 were unmarked. No hatchery-reared brook trout were planted here in 1942. The one marked trout caught was a relict from the 1941 plantings of 100 tagged brook trout released in Section C. The catch

of 109 wild brook trout in 1942 compared with a catch of only 71, 58, and 92 wild brook trout in 1939, 1940, and 1941 indicates that natural reproduction is increasing, and that this section can be made to produce good angling for the club members chiefly through stream improvement measures rather than by continued stocking.

#### Brown Trout Catch

Following the policy adopted by the club, no brown trout were planted in Section C, and none were caught there, as the power dam forms an effective barrier to upstream migration. Of the 229 brown trout caught 130 were caught in Section A and 99 were caught in Section B. One tagged brown trout was among those caught in Section A, while four tagged brown trout were found in the catch of Section B. The total catch of brown trout was considerably higher in 1942 than in any previous year except 1938, when 370 wild brown trout were removed from Kinne Creek.

#### Rainbow Trout Catch

A total of 144 rainbow trout were captured in Sections A and B, 107 fish from Section A and 37 from Section B. Four tagged fish were included in the catch of Section A, one from Section B. Since 1936, according to Wingleton Club records, not more than four rainbow trout have been of natural origin. Therefore, it may be estimated that 135 of the 250 rainbow trout planted on May 20, 1942 were recovered (144 less 5 tagged trout less 4 fish assumed to be wild) or 54 percent.

#### Catch of All Trout

Section A yielded the most fish (238), followed by Section B (168) and Section C (110). The greatest number of fish were caught in July (161) followed by May (139).

#### Average Size of Trout Taken

In Table 2 will be found the average sizes of the trout taken by anglers on Kinne Creek during the 1942 season. All average sizes given include both hatchery-reared and native specimens when both were available. It will be seen that with the exception of brown trout, the average sizes of the brook and rainbow trout did not vary from 8.1 inches and 9.4 inches respectively in 1941 and 1942. Although the brown trout averaged 0.3 inches less in 1942 than in 1941 (9.4 inches as compared with 9.7 in 1941), several fish of larger than usual proportions were listed. Two exceptionally fine brown trout one of 20 inches and three pounds and another of 19 3/4 inches and 2 3/4 pounds, were taken during the past summer. In general it appears that growth of fish in Kinne Creek is still of normal proportions.

Data on Tagged Trout  
Recovered during 1942

Among the 1942 catch, a total of 12 tagged trout were listed, as has been already mentioned. All originated from the plantings of hatchery fish released on either May 20 or June 20, 1941.

The tagged fish were divided as follows: 2 brook trout, 5 brown trout and 5 rainbow trout. Data on the individual fish are given in Table 3. Increases in length varied as follows: brook trout, 0.2 and 1.1 inches; brown trout, 0.3 to 1.5 inches; rainbow trout, 0.4 to 1.0 inches.

A review of the number of fish which have survived over one or more winters from the various tagging experiments is of some interest. The pertinent data concerning all the tagging experiments and the recoveries made from them are presented in Table 4. It is obvious that if the anglers are to benefit by the plantings of hatchery trout, such fish must be removed during the season in which they are planted, since not more than 2.5 percent of the number planted survive to reach the creel in the following seasons. Of 1,969 legal brook trout planted in Kinne Creek since 1938, only two have been taken later than the season of planting, (both during the 1942 season).

There has been, however, a small but consistent percentage of survival among the brown and rainbow trout planted varying from 0.4 percent to 2.5 percent which were caught in the second season. Only among the brown trout released have any survived to the third season (one fish from the 1939 tagging of 994 brown trout was caught in 1941).

Review of the Planting Policy of  
the Past Five Years.

Varying numbers and different species of trout have been stocked since 1938 to determine accurately the proper number and species to release in order to provide the best possible fishing for club members of all degrees of skill and so that there would not be too many fish placed in the creek for the available space and food supply, nor too few fish left after a season's fishing for purposes of reproduction.

In Table 5, the number of hatchery-reared trout which have been planted each year since 1938 are listed, together with the total catch of all fish, the total number of hatchery fish in the catch, and the percentage of hatchery fish in the total catch. In general, it may be said that better fishing has resulted from releases of 400 to 700 fish divided among two or three species. The species which has really provided a considerable increase in the catch in the last three years has been the introduced rainbow trout. Where formerly only two to four fish were taken annually, the catch in 1942 reached a high of 144 specimens, as the result of moderate stocking.

Attention must also be called to the fact that the 1942 season has been

the first season when more fish were removed from the stream than were planted in that year (500 hatchery fish planted ; 516 removed). It would appear that the 1942 trout population in Kinne Creek and the angling pressure were almost evenly balanced. Provided that angling pressure and the products of natural reproduction remain approximately the same in 1943, the planting of 250 rainbow trout, 200 brown trout and 50 brook trout should produce as good or better fishing on Kinne Creek in 1943.

#### Recommendations

1. The same number and species should be stocked in the same stream area (250 rainbow trout, 200 brown trout and 50 brook trout, all to be placed below the railroad grade; no trout to be released above the railroad grade). From the results obtained during 1941 and 1942, releases made during the second or third week in May are slightly more successful than plantings made earlier in the year.
2. Continue the recording of the catch records in the ice-house record books. Such totals kept continuously will be of increasing value to both the Wingleton Club and the Institute as the years pass.
3. Although the majority of the stream area habitable for trout has been improved, there are still parts of the stream, particularly in the lower end of Section A, which could be converted into better trout cover. This portion in particular, and also some parts of Section C, should be cruised by the Creek Committee and O. H. Clark (who is now in charge of stream improvement for the Department of Conservation) to determine what improvement measures might prove most effective. A meeting is tentatively suggested for whatever day the 1943 planting of fish is to be delivered.

The Institute for Fisheries Research wishes to thank the members of the Wingleton Club for their continued cooperation in recording the catch records in detail, and also for their kindness and hospitality in making the facilities of the club available during periods of inspection.

INSTITUTE FOR FISHERIES RESEARCH

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Table 1

Summary of angling results on Kinne Creek  
during the 1942 trout season.

Date	Brook			Brown		Rainbow		Total by Sections			Total
	A	B	C	A	B	A	B	A	B	C	
Apr. 25-30	...	...	12	...	...	...	...	...	...	12	12
May 1-31	...	7 <sup>d</sup>	38 <sup>d</sup>	32 <sup>d</sup>	21 <sup>d</sup>	26 <sup>d</sup>	15 <sup>d</sup>	58 <sup>d</sup>	42 <sup>d</sup>	39 <sup>d</sup>	139 <sup>d</sup>
June 1-30	...	9	6	35	14 <sup>d</sup>	38	5	73	28 <sup>d</sup>	6	107 <sup>d</sup>
July 1-31	1	13	14	46	36 <sup>d</sup>	34	17	81	66 <sup>d</sup>	14	161 <sup>d</sup>
Aug. 1-31	...	...	29	3	19	2	...	5	19	29	53
Sept. 1-7	...	3	11	14	9	7	...	21	12	11	44
Totals	1	32 <sup>d</sup>	110 <sup>d</sup>	130 <sup>d</sup>	99 <sup>d</sup>	107 <sup>d</sup>	37 <sup>d</sup>	238 <sup>d</sup>	168 <sup>d</sup>	110 <sup>d</sup>	516 <sup>d</sup>

<sup>d</sup> - Numbers in <sup>d</sup> indicate number of 1941-tagged trout which were included in the total catch for that species, section and month.

Table 2.

Average size of trout taken by anglers from  
Kinne Creek, 1939-1942 inclusive  
(Average sizes are given in inches,  
figures in parentheses indicate  
size ranges)

Year	Brook trout		Brown trout		Rainbow trout	
	number	av. size	number	av. size	number	av. size
1942	134	8.1 (7-11)	222	9.4 (8-20)	136	9.4 8-13 <sup>1</sup> / <sub>2</sub>
1941	162	8.1 (7-12)	142	9.7 (8-16)	75	9.4 8 3/4-11 <sup>1</sup> / <sub>2</sub>
1940	91	8.6 (8-12)	96	10.4 (8-15 <sup>1</sup> / <sub>2</sub> )	84	9.5 (7-9 1/4)
1939	<sup>d</sup> 92	7.9 (7-11 1/4)	278	9.2 (7-16)	<sup>d</sup> 2	8.5 (8-9 <sup>1</sup> / <sub>2</sub> )

<sup>d</sup> - Wild fish only. All other averages listed include both wild and hatchery fish.

Table 3

Growth data on tagged trout recovered  
in 1942 from the 1941 releases.

Species	Tag number	Length at tagging	Length at recovery	Days out	Increase in length	Section recovered	Date planted 1941
Brook	28608	6.9	8.0	324	1.1	C	June 20
Brook	26956	7.8	8.0	368	0.2	B	May 20
Brown	28800	9.3	10.0	337	0.7	A	June 20
	28767	8.8	10.3	338	1.5	B	June 20
	28826	9.2	10.3	344	1.1	B	June 20
	27139	10.0	10.3	381	0.3	B	May 20
	27137	8.7	9.5	426	0.8	B	May 20
Rainbow	✓ 28921	8.5	9.5	346	1.0	A	June 20
	27207	9.6	10.0	346	0.4	B	May 20
	28918	9.3	10.0	335	0.7	A	June 20
	28895	8.7	9.5	335	0.8	A	June 20

✓ - One tagged rainbow trout was recovered ( $9\frac{1}{2}$  inches) but the tag was lost.

Table 4

Summary of results of all tagging experiments  
in Kinne Creek, 1938-1942 inclusive.

Species and year planted	Number planted	Results in Season of Planting			Results in Second Season			Results in Third Season		
		number recovered	% recovered	% of total catch	number recovered	% recovered	% of total catch	number recovered	% recovered	% of total catch
Brook, 1938	1,500	180	12.0	52.5	...	...	...	...	...	...
Brook, 1940	167	21	12.5	22.8	...	...	...	...	...	...
Brook, 1941	302	52	17.2	38.2	2	0.7	1.4	No data until 1943 season		
Brown, 1939	994	98	9.6	35.1	10	1.0	10.4	1	0.1	0.7
Brown, 1941	201	56	27.8	38.6	5	2.5	2.2	No data until 1943 season		
Rainbow, 1940	250	85	34.0	96.5	1	0.4	1.2	...	...	...
Rainbow, 1941	203	77	37.9	93.9	5	2.5	3.4	No data until 1943 season		

Table 5

Summary of plantings, total catch, and percentage  
of hatchery trout in the total catch, 1938-  
1942 inclusive, in Kinne Creek.

Year	Number of trout planted	Total catch	Number of hatchery trout caught	% of hatchery trout in total catch
1938	1,500	717	180	25.1
1939	994	381	98	25.7
1940	417	276	116	42.0
1941	700	398	186	46.7
1942	500	516	?	?