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COOPERATING WITH THE
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REPORT NO. 1050

RESULTS OF THE 1945 ACTIVITIES AT
GUILEY POND, IOSCO COUNTY

by

David S. Shetter

The operation of this 1 3/4 acre trout pond has been a cooperative undertaking since 1940 between the owner, Mr. Edward Parker, the Sportsmen's Improvement Association, and the Michigan Department of Conservation. Adult rainbow trout moving into the Guiley Creek watershed are trapped immediately below the pond on Guiley Creek under a permit issued by the Conservation Department to Parker, and transferred and held in the pond above. Public fishing is permitted for the trout thus confined under special regulations, which include (a) only artificial flies as lures, (b) an 8-inch size limit, (c) one fish daily of five pounds or larger, (d) an angler must cease fishing when his creel exceeds five pounds, or reaches 10 trout. Parker has kept yearly records of the number of adult rainbow trout transferred into the pond, and has maintained continuous intensive creel census records on the angling since 1940.

Although this pond lies in the southern part of what is normally considered Michigan's "trout country," reference to previous Institute reports (No's. 639, 734, 950, 1016) will demonstrate as great a popularity among numerous fishermen as that recently enjoyed by the Portage Creek and other special trout ponds in the most southerly regions of Michigan.

It is probably the most heavily fished body of water in the state, and the activities here have made possible the utilization and capture of numerous adult rainbow trout which otherwise would have returned to Lake Huron after completion of spawning activities.

The data on the 1945 spawning run, and the results of the 1945 creel census conducted by Mr. Parker will be presented and discussed in the following pages.

Spawning run of 1945 (Table 1)

The 1945 run was unusual in that the greatest weight of spawners was handled during the first week of the run (March 16-22), although the fish taken then were below the average size for the entire run. The main run lasted until the week of May 4-10. The last spawner was taken June 15.

A total of 165 males weighing 523.69 pounds (average weight 3.17 pounds), and 104 females weighing 388.63 pounds (average weight 3.74 pounds) were transferred into Guiley Pond, making a total of 912.32 pounds of rainbow trout put into the pond. Known deaths from spawning and unsuccessful poaching amounted to one 4-pound male, and five females totalling 18.13 pounds. Poundage remaining for the anglers therefore can be set at 890.19 pounds.

What might be considered the normal peak of the run occurred during the week of April 6-12, when the 36 males averaged 3.66 pounds and 19 females averaged 4.46 pounds in weight. Spawning was first stimulated by the unusually warm March weather and then retarded somewhat by the cold spell occurring in late April and early May.

The size of the spawners varied as follows: males 15 ounces to 7 pounds 13 ounces; females 1 pound 4 ounces to 10 pounds 1 ounce.

Marked Trout Recovered in 1945

Relatively few marked fish were taken in the 1945 operations at Guiley Pond. One jaw-tagged rainbow trout was captured among the 269 adult spawners as they returned. This particular fish #25908 was marked on March 25, 1944 at a length of 7 1/4 inches and a weight of 1 3/4 ounces. At recovery below the dam on April 9, 1945 it was 19 inches long and weighed 2 pounds, 14 ounces, having grown 11 3/4 inches and 44 1/4 ounces in slightly more than a year.

In the early months of the 1944 run, a total of 518 immature rainbow trout, ranging in size from 3 1/2 to 6 7/8 inches were marked before being transferred into the dam pond, by clipping the dorsal fin. Seven of the dorsal marked fish were recovered as legal rainbow trout in the 1944 pond catch. During 1945, four more dorsal-marked rainbow trout came into the pond catch. These fish ranged in size from 9.8 to 11.2 inches in length and 5 1/4 to 8 3/4 ounces in weight. This would indicate a minimum growth between marking and recovery somewhere between 3 to 5 inches in slightly more than two years of life in the pond.

The 11 dorsal-clipped fish recovered to date from the total of 518 marked constitute a known recovery percentage of 2.12.

Angling Results, 1945 Trout Season

A total of 736 days of angling were prosecuted on Guiley Pond in 1945 (by 256 different individuals plus 45 unknown fishermen), of which 515 days or 69.8 per cent were unsuccessful. The length of the average angling day was 2.7 hours. In the course of these angling days, a total of 2,046.50 hours were expended, and 189 rainbow trout and 234 brook trout were caught, for a total catch per hour of 0.21 fish. The numerical catch per hour was fairly evenly divided between brook trout (0.11 fish per hour) and rainbow trout (0.09 fish per hour).

A total of 415.44 pounds of rainbow trout and 60.05 pounds of brook trout were removed, or a total of 475.49 pounds, a rate of removal for the entire season of 0.203 pounds per hour of rainbow trout and 0.029 pounds per hour of brook trout, or a total pounds per hour "take" of 0.232 pounds.

On a per acre basis, the pond yielded 237.4 pounds of rainbow trout per acre, and 34.3 pounds of brook trout per acre. Obviously only the brook trout can be regarded as produced in the Guiley Creek drainage, since almost all of the rainbow trout creel were the adult migrants from Lake Huron which were confined on their spawning run.

The trend of the angling on Guiley Pond was similar to that noted in previous years. Rainbow trout fishing was best during the first four weeks of the season. After the fourth week brook trout predominated in the catches. For rainbow trout, the catch per hour and the pounds per hour removed varied as follows:

lowest- August 4-17 - catch per hour 0.02, pounds per hour 0.009;

highest- April 28-May 11- catch per hour 0.18, pounds per hour 0.420.

For brook trout, the index figures ranged between the figures given below:

lowest - April 28-May 11 - catch per hour 0.03, pounds per hour 0.006;

highest- August 18-Sept.3- catch per hour 0.32, pounds per hour 0.081.

The average weight of the rainbow trout taken by the anglers was 2.2 pounds. Brook trout removed were of an average weight of 0.26 pounds. In 1945 the largest rainbow trout caught weighed 6 pounds, 15 ounces, and the heaviest brook trout weighed 10 ounces.

Angling pressure dropped slightly in 1945; compared with 1944 it was down a little over 6 per cent (1,243 hours per acre for 1944 as compared with 1,169 hours per acre in 1945).

A slightly lower percentage of the angling days were unsuccessful during 1945 than in previous years, only 69.8 per cent leaving empty-handed (Table 3). Successful fishermen brought in catches ranging from one to seven trout. Sixteen and six-tenths per cent of the pond anglers caught one trout, 6.5 per cent creeled two trout, and 2.9 and 2.6 per cent landed three and four trout respectively. Five, six, and seven fish were caught by 0.8, 0.5, and 0.3 per cent of the total fishermen, in that order.

Guiley Pond anglers came from 17 counties of Michigan, all in the lower peninsula, and from Ohio. (Table 4) The most anglers (198) recorded from any one locality were from Iosco County, in which the pond is located. Wayne (143) and Saginaw (113) and Genesee County (112) anglers followed in that order. Five Ohio residents fished on the pond, and the residence of 10 anglers was not recorded.

Table 5 summarizes the pertinent statistics concerning Guiley Pond for the past six seasons. The number and weight of adult rainbow trout transferred into the pond is given. The number of hours fished each year are shown, together with the catch by species and the total catch and its weight. Also shown is the yearly pounds per hour index figure, the percentage (both by number and by weight) of the spawning run removed by angling, and the pressure per acre per season.

The spawning run has varied between 196 and 329 adults, and their weight between 806.1 and 1,233.3 pounds. From 1,452.50 to 3,839.00 hours of fishing effort have been expended yearly on the pond. From 104 to 195 rainbow trout have been removed each year, and the brook trout catch has varied between 166 and 235 fish. All of these fish have exceeded 8 inches, total length, the pond size limit.

The total poundage removed by anglers has varied between 295.5 and

533.7 pounds, and is dependent on the size of the spawning run, the average weight of the spawners and the fishing pressure. The quality of the fishing as measured by the pounds of fish removed per hour of angling, has ranged between 0.107 pounds per hour to 0.288 pounds per hour of angling.

The anglers remove from 41.2 to 70.4 per cent of the total number of spawners transferred into the pond, and from 18.8 to 47.9 per cent of the total weight of adults put over. As has been pointed out in a previous report, considerable weight is lost by the adults in spawning activity before they are taken by the anglers. Apparently little recovery of "condition" after spawning occurs in the pond.

Angling pressure has varied from 1,162 hours per acre per season to 3,071 hours per acre per season. A six-year average of 1,444 hours per acre per season is the heaviest pressure of which we have any record in Michigan.

In the last six years, some 5,489 angling days have been spent in this small impoundment. Although about 75 per cent of these days produced no fish, the possibility of "hooking into a big one" has kept the pond devotees continually interested in the further development of this type of fishing. Many large rainbow trout, which otherwise would have escaped their proper fate (from the sportsman's standpoint), have been caught and enjoyed. Similar ponds of this type, located on other streams where there is a spawning run from the Great Lakes, would make possible utilization of greater numbers of this fine sporting fish to the benefit of the streams and of the anglers.

INSTITUTE FOR FISHERIES RESEARCH

By David S. Shetter

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Report typed by M. A. Klapaak

Table 1

Weekly Record of Average Temperatures, Numbers, and Total and Average Weights of Rainbow Trout Transferred into Guiley Pond (Iosco County) during the 1945 Spawning Run (all weights are given in pounds).

Weekly periods	Average weekly temperatures (F.)			Mature males transferred			Mature females transferred			Total weight of all fish transferred
	Max. air	Min. air	Water	Number	Total weight	Average weight	Number	Total weight	Average weight	
Mar. 16-22	53.6	33.0	38.4	68	196.25	2.89	23	80.63	3.51	276.88
Mar. 23-29	63.1	38.9	43.8	32	100.31	3.14	21	87.25	4.16	187.56
Mar. 30-Apr. 5	55.8	35.0	43.5	11	39.00	3.54	7	27.44	3.92	66.44
Apr. 6-12	64.4	39.0	44.4	36	131.75	3.66	19	84.69	4.46	216.44
Apr. 13-19	53.4	34.8	43.3	5	17.44	3.49	15	49.69	3.31	67.13
Apr. 20-26	61.3	36.5	43.9	2	5.69	2.84	3	14.44	4.81	20.13
Apr. 27-May 3	48.4	28.9	41.0	1	1.56	1.56	4	12.19	3.05	13.75
May 4-10	48.9	35.1	43.6	4	9.88	2.47	8	22.68	2.84	32.56
May 11-17	52.6	33.9	44.3	0	...	...	0	...	...	...
May 18-24	63.5	37.9	45.9	2	6.63	3.31	2	4.37	2.19	11.00
May 25-31	64.6	40.6	47.9	0	...	...	0	...	...	...
June 1-7	57.2	40.4	46.5	0	...	...	0	...	...	...
June 8-14	70.1	44.8	50.0	3	12.37	4.13	2	5.25	2.63	17.62
June 15-21	73.9	50.8	54.2	1	2.81	2.81	0	...	...	2.81
Totals, averages	...	...	...	165 ↓	523.69	3.17	104 ↗	388.63	3.74	912.32

↓ - One 4-pound male died

↗ - Five females totalling 18.13 pounds in weight died

Table 2
Intensive Creel Census Guiley Pond
1945 Trout Season

Two week period	Number of anglers	Unsuccessful anglers	Per cent taking no fish	Total hours of angling	Legal rainbow trout		Legal brook trout		Total catch per hour	Total wt. rainbow trout	Pounds per hour	Total wt. brook trout	Pounds per hour	Total weight legal trout	Pounds per hour
					Number taken	Catch per hour	Number taken	Catch per hour							
April 28-May 11	135	75	54.8	459.50	86	0.18	12	0.03	0.21	193.13	0.420	2.75	0.006	195.88	0.426
May 12-May 25	131	93	71.0	358.50	45	0.13	12	0.03	0.16	100.65	0.281	3.22	0.009	103.87	0.290
May 26-June 8	97	76	79.4	261.75	14	0.05	23	0.09	0.14	43.13	0.165	4.27	0.016	47.40	0.181
June 9-June 22	83	52	62.7	275.50	13	0.05	71	0.26	0.31	27.25	0.099	19.05	0.069	46.30	0.168
June 23-July 6	64	53	82.8	164.50	6	0.04	15	0.09	0.13	12.75	0.078	4.15	0.025	16.90	0.103
July 7-July 20	58	42	72.4	163.50	9	0.06	28	0.17	0.23	31.14	0.190	7.44	0.046	38.58	0.236
July 21-Aug. 3	66	53	80.3	153.75	6	0.04	16	0.10	0.14	2.28	0.015	5.17	0.034	7.45	0.048
Aug. 4-Aug. 17	61	45	73.8	123.00	3	0.02	29	0.24	0.26	1.17	0.009	6.97	0.057	8.14	0.066
Aug. 18-Sept. 3	41	26	63.4	86.50	7	0.08	28	0.32	0.40	3.94	0.046	7.03	0.081	10.97	0.127
Totals, averages	736	515	69.8	2,046.50	189	0.09	234	0.11	0.20	415.44	0.203	60.05	0.029	475.49	0.232

Table 3
 Number and Percentage of Anglers Catching Various
 Numbers of Trout from Guiley Pond, 1945 Trout Season

Item	Number and percentage of anglers catching various numbers of fish								Total
	0	1	2	3	4	5	6	7	
Number	515	122	47	21	19	6	4	2	736
Percentage	69.8	16.6	6.5	2.9	2.6	0.8	0.5	0.3	100.0

Table 4
 Residence of Anglers Using Guiley Pond,
 1945 Trout Season

County	Number of angling days
Arenac	26
Alcona	2
Bay	60
Genesee . . . . .	.112
Gladwin	2
Iosco . . . . .	.198
Lenawee	2
Livingston	1
Macomb	4
Montmorency	2
Oakland	16
Ogemaw	5
Saginaw . . . . .	.113
Shiawassee	2
Tuscola	3
Washtenaw	31
Wayne . . . . .	.143
<hr/>	
Michigan Residents . . . . .	.722
<hr/>	
Ohio Residents	5
<hr/>	
Unknown residence	10
<hr/>	
Grand Totals	737

Table 5

Summary of Spawning Runs and Pertinent Creel Census Data, 1940 - 1945

(Average weights are shown in parentheses, given in pounds)

Year	Spawning run		Total angling hours	Number of trout caught		Total trout caught	Total lbs. of trout removed	Pounds per hour caught	Per cent of spawning run taken		Pressure per acre per season (hours)
	Number	Weight		Rainbow	Brook				Number	Weight	
1940	Not known		1,452.50	150 (1.6)	235 (0.21)	385	295.5	0.203	...	...	1,162
1941	252	1,031.2 (4.1)	2,440.25	104 (1.9)	299 (0.22)	403	262.3	0.107	41.2	18.8	1,952
1942	310	1,233.3 (4.0)	3,839.00	195 (2.5)	166 (0.25)	361	533.7	0.139	62.9	39.8	3,071
1943	329	961.8 (2.9)	1,765.50	195 (2.4)	180 (0.25)	375	507.7	0.288	59.2	47.9	1,412
1944	196	806.1 (4.1)	2,176.25	138 (2.6)	215 (0.26)	353	419.0	0.191	70.4	45.0	1,243
1945	269	912.3 (3.4)	2,046.50	189 (2.2)	234 (0.26)	423	475.5	0.232	70.2	45.4	1,169
Six-year totals	1,356	4,944.7	13,720.00	971	1,329	2,300	2,493.7	...	...	...	...
Six-year averages	271	989.4 (3.6)	2,287	162 (2.2)	221 (0.24)	383	411	0.182	61	39	1,444