

Original: Fish Division
cc: Education-Game
Inst. for Fish. Res.
M. H. Patriarche
Rifle River files
D. S. Shetter
C. T. Yoder

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

G. P. Cooper

~~XXXXXXXXXXXXXXXXXX~~ PH.D.
DIRECTOR

December 17, 1956

ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

Report No. 1499

THE RECREATIONAL USE OF THE RIFLE RIVER AREA, OGEMAW COUNTY, IN 1955

By

Mercer H. Patriarche

Permits for 23,759 visitors were issued at the Rifle River Area in 1955, the eleventh year of state ownership. As usual the great majority of visitors (62 percent) were interested only in sight-seeing. This report, however, is concerned primarily with the angling success of 6,084 anglers and with the harvest of game by 3,236 hunters and 45 trappers. The total fishing and hunting pressure in 1955 was greater than in any prior year except 1954.

Lake Fishing Results

In 1955, 2,256 anglers fished 8 of the lakes on the Area for a total of 6,955 hours. Angling results for the different lakes are shown in Table 1.

Dollar Lake was fished most heavily, and the 84 hours of fishing per acre produced a harvest of 1,330 fish, or 102 fish per acre. In terms of weight there were approximately 21 pounds of fish removed per acre. Anglers on Dollar Lake also enjoyed the best rate of success--1.28 fish per hour per angler--and 58 percent succeeded in catching at least 1 fish. Devoe Lake was fished by the most anglers, but fishing pressure was only about 21 hours per acre. Anglers caught more than 1,000 fish but this harvest only amounted to 2.6 pounds of fish per acre. Fishermen on Loon Lake captured half as many fish as those on Dollar Lake but the total weight of fish taken from Loon Lake was slightly higher. Fishing was poor on North Lake. Only 17 percent of the 395 anglers succeeded in catching at least 1 fish. The

Table 1.--The fishing pressure, yield, and rate of success of anglers on the Rifle River Area lakes in 1955

	Devil's Wash Basin	Devoe	Dollar	Loon	North	South Pond	Spring	Teal	Area Totals
Number of fishermen	8	858	363	308	395	24	291	9	2,256
Fishermen per acre	6	6.6	27.9	18.1	4.2	18.5	4.0	1.5	6.7
Hours of fishing	18	2,697	1,089	976	1,367	56	725	27	6,955
Hours per acre	14	20.7	83.8	57.4	14.4	43.1	10.1	4.5	20.7
Number of fish	20	1,066	1,330	637	199	58	862	3	4,175
Fish per acre	15	8.2	102.3	37.5	2.1	44.6	12.0	0.5	12.5
Pounds of fish	2.5	337.6	276	280	87	11	320	0.9	1,315
Pounds per acre	1.9	2.6	21.2	16.5	0.9	8.5	4.4	0.2	3.9
Catch/hour/angler	0.83	0.36	1.28	0.78	0.12	0.87	0.95	0.07	0.66
Percent successful	50	27	58	51	17	33	46	1	36

total harvest of 199 fish for this 95-acre lake amounted to 2.1 fish or 0.9 pound of fish per acre. Very little fishing was done on Teal Lake and the Devil's Wash Basin but these lakes were relatively inaccessible. Fishing success was good on South Pond for those few anglers who fished this small pond. Spring Lake furnished good perch fishing in the fall of the year. No fishing was reported for Mallard and Pintail ponds but a small pond at the east end of Devoe Lake produced 49 fish for 8 anglers who fished it for a total of 21 hours. Seventy-five percent of their catch consisted of bluegills.

The species composition by number and percentage of the catch for each of 8 lakes appears in Table 2. Perch and bluegills were caught most frequently in the lakes on the Rifle River Area. Spring Lake furnished the best perch fishing whereas Dollar Lake again produced good bluegill, pumpkinseed, and largemouth bass fishing. Loon Lake provided not only the best angling for largemouth bass on the Area, but also the best yield of bass for the lake since records first were kept in 1945. In 1955 this lake also was the leading producer of crappies and bullheads but fewer of these fish were caught than in 1954. More trout, smallmouth bass, rock bass, and suckers were caught in Devoe Lake than in any other lake on the Area. No pike were reported caught in 1955.

For the five largest lakes there were sufficient data for some analysis of the seasonal fishing preferences of the anglers.

Most of the fishing on these lakes was done during the summer months. Summer fishermen accounted for more than 85 percent of the angling on Loon, North, and Dollar lakes. The exception was Spring Lake where 54 percent of the angling was done after Labor Day when the larger perch were biting. More than three-fourths of the perch caught in Spring Lake were taken in the fall. In general, spring fishing on these lakes (before bass season) is relatively light, although the 912 hours of spring fishing on Devoe Lake represented one-third of the fishing pressure on this lake. Presumably the presence of stocked rainbow

Table 2.--The species composition by number and percentage of the catch from 8 lakes on the Rifle River Area in 1955

Species	Devil's Wash Basin		Devoe		Dollar		Loon		North		South Pond		Spring		Teal		Total number	Percent of Area total
	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P		
Perch	18	90	573	53	146	11	22	4	92	46	..	..	806	94	1	33	1,658	40
Bluegill	..	..	103	10	918	69	294	46	19	10	49	84	8	1	2	67	1,393	33
Rock bass	2	10	158	15	39	3	..	..	38	19	5	9	..	..	..	..	242	6
Largemouth bass	..	..	6	tr [✓]	61	4	117	18	20	10	3	5	..	..	..	..	207	5
Crappie	..	..	47	4	48	4	87	14	..	..	..	..	..	..	..	..	182	4
Bullheads	..	..	4	tr	35	3	91	14	3	2	1	2	25	3	..	..	159	4
Pumpkinseed	..	..	5	tr	83	6	25	4	5	3	..	..	23	2	..	..	141	3
Suckers	..	..	62	6	..	..	1	tr	..	..	..	..	..	..	..	..	63	2
Smallmouth bass	..	..	38	4	..	..	..	..	21	10	..	..	..	..	..	..	59	2
Rainbow trout	..	..	53	5	..	..	..	..	1	tr	..	..	..	..	..	..	54	1
Brown trout	..	..	17	2	..	..	..	..	..	..	..	..	..	..	..	..	17	tr
Totals	20		1,066		1,330		637		199		58		862		3		4,175	..

✓tr.= trace (less than 1.0 percent).

trout attracted most of the anglers. Most of the trout were caught in the spring; few were taken after June 18. Suckers, perch, and rock bass formed a substantial portion of the catch from Devoe Lake in the spring.

Still-fishing with worms was the most frequently used technique. Thirty-seven percent of the fishermen on the 8 lakes used this method. Their catch consisted primarily of perch and bluegills.

Only 14 percent of the fishermen relied solely upon casting with artificial lures and casting was successful only on Dollar and Loon lakes. Although Loon Lake produced nearly twice as many bass as Dollar Lake, the rate of success by casting was identical for both lakes--2 bass per 10 hours of casting. One fish was caught by 72 casters on Devoe Lake and 6 fish by 49 casters on North Lake.

Seventy-nine fishermen on North Lake trolled exclusively but were rewarded with only 3 fish, all of them largemouth bass. The 200 trollers on Devoe Lake caught 96 fish and this method was the most successful one for taking rainbow trout.

The use of minnows for bait was relatively unimportant except by anglers on Spring Lake. More than half of these fishermen relied on minnows for their perch fishing. Of the 806 perch caught in this lake in 1955, 727 or 90 percent were taken by anglers who still-fished with minnows.

Many fishermen resorted to more than one way to catch fish. The 410 anglers who tried various methods took fish at the rate of 0.36 fish per hour, as compared with 0.37 fish per hour for casting and 0.92 fish per hour for still fishing.

Very little ice fishing was attempted on the Area lakes in 1955. Seven anglers on Dollar Lake caught 10 crappies and 1 bluegill in 13 hours of fishing, and little or no fishing through the ice was attempted on the other lakes.

Eighty-four frogs weighing 23.8 pounds were removed from the Area lakes along with 11 snapping turtles that had a total weight of 141.5 pounds.

There was one minor change in the fishing regulations for 1955 that might

have increased the yield of bluegills and sunfish. In 1954, anglers were not permitted to take these fish between March 31 and April 24, but in 1955 this brief closed season was eliminated. However, a review of the records for lakes on which bluegill fishing is important showed that no bluegills or sunfish were caught at that time. There were only 4 anglers on Devoe, 2 on Dollar, and none on Loon and South Pond during that period.

Stream Fishing Results

Angling pressure on the streams in the Area continued to increase in 1955 over that of former years as 3,828 fishermen fished 10,726 hours and caught 2,699 trout at an over-all rate of 0.25 trout per hour. In addition to trout, 104 other fish were caught in the streams. A more detailed analysis of stream fishing on the Area will be reported by Mr. Howard Gowing but a general summary is included here. A summary of fishing pressure, success, and yield for the Rifle River Area streams is presented in Table 3.

As in the past, the Rifle River received the most fishing pressure. In fact, there were 52 percent more anglers on the Rifle River than on all of the lakes in the Area combined. Although there were fewer fishermen on this stream than in 1954, the total number of hours was somewhat greater. The yield of 909 pounds of fish is equivalent to about 40 pounds per acre, but only 26 percent of the anglers succeeded in catching at least 1 trout. In terms of quality, trout were caught at the rate of 0.25 fish per hour on the Rifle River.

The 156 anglers on Gamble Creek succeeded in taking trout at the rate of 0.33 fish per hour, the best catch rate among the streams. Very little fishing was done on Brown Trout and Skunk creeks and no fish were caught in these small streams. On the other hand there was a pronounced increase in fishing pressure over that of 1954 on both Houghton Creek and the Diversion. Many more trout were taken from the Diversion in 1955 than in the 2 previous years. Whereas

Table 3.--The fishing pressure, yield, and rate of success of anglers on the Rifle River Area streams in 1955

	Rifle	Gamble	Houghton	Brown Trout	Fontinalis	Diversion	Skunk	Area totals
Number of fishermen	3,440	156	89	7	52	75	9	3,828
Hours of fishing	9,954	325	195	9	73	156	14	10,726
Number of trout	2,486	106	37	0	23	47	0	2,699
Pounds of trout	834.8	30.9	10.8	...	6.8	13.5	...	896.8
Number of other fish	89	9	1	0	1	4	0	104
Pounds of other fish	74.5 [✓]	1.0	1.3	...	0.9	0.8	...	78.5
Total number of fish	2,575	115	38	...	24	51	...	2,803
Total pounds of fish	909.3	31.9	12.1	...	7.7	14.3	...	975.3
Pounds per acre	39.8	5.4	13.4	...	8.6	...	...	29.3
Catch per hour (trout)	0.25	0.33	0.19	0.00	0.32	0.30	0.00	0.25
Percent successful trout fishermen	26	29	19	0	25	33	0	26

[✓]Plus 1 dressed sucker not weighed.

only a total of 10 trout were caught in 1953 and 1954, 47 were creeled in 1955. Thirty-seven trout were caught in Houghton Creek.

As Table 4 indicates, 2,803 fish were removed from the streams in 1955, 59 percent of which were brown trout. Rainbow trout constituted 36 percent and ranked second in the catch. Only 29 brook trout were caught and half of these came from Gamble Creek. Of the 104 other fish taken from the streams, exactly half were white suckers and most of these were caught in the Rifle. The 2 bluegills and nearly all of the perch and rock bass listed in the catch from the Rifle River were caught in the vicinity of the outlet of Devoe Lake and below the dam where the headwaters of the Rifle begin.

Ice fishermen on the Whirlpool section of the Upper Rifle River succeeded in taking 53 pounds of fish in 48 hours of fishing. Included in the creel of these 21 fishermen were 58 white suckers, 6 pike, 1 bullhead, and 1 carp. Only 10 anglers fished this area during the rest of the year and 1 pike was caught.

A substantial contribution was made to the anglers' creels by hatchery-planted fish. From the Rifle River stocked brown trout comprised 29 percent of the catch (448 fish) and, of the 952 rainbows taken, 944 were hatchery fish. The 8 brook trout taken were native fish. On the other streams the 57 rainbow trout captured were hatchery-planted fish as were 16 of the 21 brook trout caught. However, only 18 percent (24 fish) of the 135 brown trout in the catch were stocked fish.

Trout fishing success in 1955 was considerably better than in 1954. Despite the fact that the season was 7 days shorter in 1955 than in 1954, many more trout were caught in 1955. This improvement, at least in part, was due to hatchery fish. Brown trout fingerlings planted in the fall of 1953 and spring of 1954 began to enter the catches during 1955. Sublegal and legal rainbow trout planted in the Rifle River and Devoe Lake increased the catch of this species. Many of the rainbow trout planted in Devoe Lake migrated into the

Table 4.--The species composition by number and percentage of the catch from the Rifle River Area streams in 1955

Species	Rifle		Gamble		Houghton		Brown Trout		Fontinalis		Skunk		Diversion		Total number	Percent of total catch
	N	P	N	P	N	P	N	P	N	P	N	P	N	P		
Brown trout	1,526	59	72	63	20	53	0	..	17	71	0	..	26	51	1,661	59
Rainbow trout	952	37	19	17	17	45	0	..	0	..	0	..	21	41	1,009	36
White sucker	50	2	..	..	1	2	..	..	1	4	..	..	..	..	52	2
Brook trout	8	tr ^v	15	13	0	..	0	..	6	25	0	..	0	..	29	1
Perch	10	tr	6	5	..	..	..	..	..	..	..	..	4	8	20	1
Rock bass	16	1	3	2	..	..	..	..	..	..	..	..	..	..	19	1
Carp	7	tr	..	..	..	..	..	..	..	..	..	..	..	..	7	tr
Creek chub	4	tr	..	..	..	..	..	..	..	..	..	..	..	..	4	tr
Bluegill	2	tr	..	..	..	..	..	..	..	..	..	..	..	..	2	tr
Totals	2,575		115		38		0		24		0		51		2,803	

^vtr = trace (less than 1.0 percent).

Rifle River, Gamble Creek, and the Diversion. The reduction of the minimum size limit from 8 to 7 inches may also have increased the catch of hatchery-reared fish.

Small Game Hunting Results

In 1955, 251 game birds and animals were bagged during the small game seasons. Of the 821 hunters that used the Area, 696 were seeking grouse or woodcock. The 109 grouse shot could represent an estimated 17 percent of the September population inasmuch as 17 of the 102 banded birds were killed. There was a slight rise both in numbers of grouse shot and in kill success over the previous year but, in general, grouse shooting success has been poor since 1952. However, the 67 woodcock shot in 1955 is the highest number yet recorded for the Area. Completing the list of small game bagged in 1955, 30 ducks and 46 rabbits were shot on the Area. A summary of small game hunting pressure and success for 1955 appears in Table 5.

Deer Hunting Results

In 1955, gunners shot 27 bucks, and archers killed 3 deer. There was no special "any deer" season, and 10 deer were found which had been illegally killed. As shown in Table 5, hunting pressure amounted to 2,001 hunter-days during the gun season and 414 hunting days were expended during the archery season. There was a decline of 29 percent in the number of hunting hours over that of 1954, as a result of inclement weather during the first 3 days of the gun season and fewer hunters in the field. The number of hours of bow and arrow hunting in 1955 decreased 38 percent below that of 1954.

Twenty-one of the 27 bucks shot in the gun season were taken during the first 2 days of the season. The largest deer weighed 141 pounds (hog-dressed) but the average weight of 107 pounds was slightly less than the 11-year average of 113 pounds. Hunters came from 27 Michigan counties and from the states of

Table 5.--A general summary of 1955 hunting results on the Rifle River Area

Season	Hunter days	Hunting hours	Duck	Grouse	Woodcock	Rabbit	Deer		
							Buck	Doe	Fawn
Small game	821	2,383	30	109	67	46	...	...	...
Deer (gun)	2,001	8,955	...	...	...	...	27	...	...
Deer (archery)	414	1,499	...	...	...	...	1	1	1
Totals	3,236	12,837	30	109	67	46	28	1	1

1
11
1

Indiana, Illinois, Kentucky, and Ohio. Wayne county supplied the most hunters (402), followed by Genesee with 364. Other counties which furnished more than 100 hunters were Saginaw, Macomb, Oakland, Ogemaw, and Bay in numerical order.

Trapping Results

Only 45 trapping permits were issued in 1955, the smallest number since 1945. The total of 132 pelts included 110 muskrat, 9 mink, 8 beaver, 4 raccoon, and 1 weasel. On the average, 2.9 pelts were taken per permit which is the highest average in the past 11 years.

Miscellaneous Area Activities

In 1955 the Lake and Stream Improvement Section of the Fish Division placed 2,500 bags of seeded muck in Devoe Lake in an effort to establish cover in the form of aquatic vegetation. The success of the plantings was marginal, however. Some of the first plantings germinated but the great majority failed to take hold. There was some speculation that possibly many of these bags were placed upside down in the lake and that this caused the failure.

A weir was constructed in the outlet of North Lake to trap northern pike and 11 were caught, tagged, and released in Teal Lake.

Population and growth rate studies on the stream fishes were continued by Mr. Howard Gowing who also operated the weirs in the inlet of Devoe Lake as well as the above-mentioned North Lake weir. Mr. David Shull continued his marl investigations on Pintail Pond and North Lake under the joint guidance of Drs. R. C. Ball and F. Hooper. The continuing grouse investigations were conducted by Mr. Walter Palmer of the Game Division. Major improvements on the Area included the installation of 4 wells and 5 fireplaces at the picnic sites.

Acknowledgments

All personnel on the Area contributed to the collection of data upon which

this report is based. Messrs. C. Kohn, G. Smith, and K. Sammons made the initial tabulations. Mr. Arthur De Claire summarized the creel census data for the lakes, and Mr. Howard Gowing furnished the data on stream fishing. The tabulated results of the hunting seasons were compiled from reports furnished by G. A. Ammann, L. C. Ruch, and other Game Division biologists.

INSTITUTE FOR FISHERIES RESEARCH

Mercer H. Patriarche

Approved by: G. P. Cooper

Typed by: J. M. Lederer