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

ALBERT S. HAZZARD, PH.D.
DIRECTOR

October 15, 1951

ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

Report No. 1302

THE RECREATIONAL USE OF THE RIFLE RIVER AREA, OGEMAW COUNTY, DURING
THE CALENDAR YEAR 1950

By

David S. Shetter

Abstract

More entrants were recorded on the Rifle River Area in 1950 than any previous year. Attendants listed 12,454 sightseers, 5,042 anglers, 2,127 hunters and 86 trappers for a total of 19,709 entrants.

The streams of the Area were subjected to 6,921.5 hours of effort on 2,615 angling days, during which time 7 brook trout, 633 brown trout, 407 rainbow trout, 51 rough fish and 2 snapping turtles were captured. The total weight of all aquatic life taken was 440.72 pounds, 368.34 pounds of which consisted of trout. The catch per hour was 0.16 fish, and the pounds per hour index was 0.064. A total of 387 hatchery-reared rainbow trout, fin-clipped for recognition, made up 95 percent of the rainbow trout catch, and these plus 4 tagged brown trout made up 37 percent of the total trout catch.

The 1950 fishing on 8 lakes of the Rifle River Area was generally the best enjoyed to date on these waters. Anglers spent 7,577 hours during 2,427 angling days and caught 8,200 fish weighing 2,116.48 pounds for a catch per hour of 1.08 fish and 0.279 pounds per hour. The fishing quality of Loon Lake was outstanding--2.99 fish per hour and 0.676 pounds per hour.

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THE RECREATIONAL USE OF THE RIFLE RIVER AREA, OCEAN COUNTY, NEW JERSEY

THE CALENDAR YEAR 1950

By

David S. Shetter

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FISH DIVISION

Each year of operation of the Rifle River Area since 1946 has seen more entrants registered than the previous year. The calendar year 1950 was no exception, as it topped 1949 figures slightly. The 1950 totals of 19,709 entrants using the Rifle River Area included 12,454 sight-seers, 5,042 anglers, 2,127 hunters and 86 trappers. More anglers were recorded this year than in any previous year.

Trout stream angling results (Table 1)

Six of the streams of the Area were fished over by trout anglers. As in past seasons all but a minor percentage of the angling effort was spent in the Rifle River proper (2,275 out of 2,612 angling days). Trout anglers spent 6,917 hours on 2,612 angling days on the streams of the Area, during which time they caught 1,047 trout, 51 rough fish and warm-water fish and 2 snapping turtles. The total weight of trout removed was 368.34 pounds; of rough fish, 29.38 pounds; of snapping turtles, 43.00 pounds. Only 17 percent of the angling days were successful.

The yields in terms of pounds of fish per acre, for the lakes and streams, were tabulated for the past 6 years. Trout streams have been subjected to angling pressures in the various years ranging between 102 and 209 hours per acre per season. Yields to the stream anglers have ranged between 5.89 pounds and 17.77 pounds of trout per acre. The lakes have been fished at rates varying between 17 and 27 hours per acre per season and have yielded from 3.39 pounds to 6.55 pounds of fish per acre in the various years.

During the 1950 small game season scatter-gunners spent 1,624.5 hours on 580 hunter-days in pursuit of game. Their total game-bag consisted of 197 ruffed grouse, 42 woodcock, 38 ducks, 2 pheasants, 20 cottontail rabbits and 33 snowshoe hares weighing a total of 489.49 pounds.

Rifle deer hunters spent 7,098.5 hours afield in the 1950 season on 1,519 hunter-days. They killed 40 antlered bucks whose field-dressed weight was 4,350 pounds, while 28 hunter-days involving 45.5 hours of bow and arrow hunting were unsuccessful.

The 1950 trappers were issued 86 permits and operated a total of 4,216 trap-nights. Their total catch consisted of 193 muskrats, 9 mink, and 6 beaver whose total weight was 689.19 pounds.

A general summary of pertinent statistics is included.

Table 1.--Summary of trout stream fishing results, 1950, Rifle River Area, 1950.

Stream	Total fisherman-days	Number and percent taking 0 trout	Total hours of fishing	Trout catch (and pounds)			Total trout (and total pounds)	Other fish (and total pounds)	Snapping turtles (pounds)	Total catch per hour (pounds per hour)
				Brook	Brown	Rainbow				
Rifle River	2,275	1,888 (83)	6,223.50	1 (0.28)	567 (242.10)	332 (79.76)	900 (322.14)	48 (27.41)	2 (43.00)	0.14 (0.052)
Gamble Creek	168	144 (86)	331.00	5 (1.45)	26 (8.02)	5 (0.78)	36 (10.25)	...	...	0.11 (0.031)
Houghton Creek	105	71 (68)	266.00	...	28 (20.28)	67 (11.26)	95 (31.54)	3 (1.97)	...	0.36 (0.119)
Fontinalis Creek	26	20 (77)	49.00	1 (0.14)	11 (2.95)	2 (0.35)	14 (3.44)	...	...	0.29 (0.070)
Brown Trout Creek	24	23 (96)	22.00	...	1 (0.18)	...	1 (0.18)	...	...	0.05 (0.008)
Skunk Creek	14	13 (93)	25.50	...	...	1 (0.79)	1 (0.79)	...	...	0.04 (0.031)
Totals, averages, 1950	2,612	2,159 (83)	6,917.00	7 (1.87)	633 (273.53)	407 (92.94)	1,047 (368.34)	51 (29.38)	2 (43.00)	0.15 (0.053)

Including the 3 unsuccessful angling days with a total of 4.50 hours of effort from the winter spearing on the "Whirlpool" of the Rifle River, the 1950 catch per hour for all fish and turtles is 0.16 fish; the pounds per hour index is 0.064. The total weight of fish and turtles removed from the streams was 440.72 pounds in 2,615 angling days involving 6,921.5 hours of effort.

On the basis of these figures, the angling quality indices for trout fishing in 1950 on the streams of the Area may be computed at 0.15 fish per hour and 0.053 pounds of fish per hour.

Although the Rifle River yielded the most trout (900 of 1,047 caught), the best fishing as measured by the quality indices was noted on Houghton Creek (0.36 fish per hour, 0.119 pounds per hour). The largest trout taken on the Area, in 1950, a fine brown trout 28.2 inches in length which weighed 8 pounds, 5.2 ounces, was caught in Houghton Creek.

The species composition of the total trout catch in 1950 was 7 brook trout, 633 brown trout and 407 rainbow trout. All of the brook trout were wild fish. Of the 633 brown trout 4 were survivors of previous hatchery releases in 1948. The sudden increase in rainbow trout was brought about by the release of 10,000 left pelvic-clipped rainbow trout "fingerlings" on May 3 and 4, 1950. These fish ranged in size from 2.7 to 8.9 inches. Analysis of the random sample of 1,000 fish measured for length indicates that 2 percent of this planting was larger than 8.0 inches and 13.1 percent of the planting was larger than 7.0 inches. Of the 407 rainbow trout caught 387, or 95.1 percent, came from the marked planting. If it is assumed that all planted fish above 7 inches in length at the time of planting became legal prey for the anglers during the 1950 season, then 1,310 of the left pelvic clipped rainbow trout were available before September 10. The removal of 387 left pelvic clipped rainbow trout on the Rifle River Area streams amounts to a known recovery of 29.5 percent of those estimated to be available.

The 391 hatchery trout in the 1950 ^{catch} amount to 37.3 percent of the catch from the Rifle River Area streams.

Lake fishing results (Table 2)

The 1950 lake fishing was the best ever enjoyed by the anglers on the Area. The increase in the catch can be attributed at least partly to the removal of the size limit on perch and pan fish. Lake anglers spent 2,427 angling days involving 7,577 hours on 8 different lakes on the Area. Of the total angling trips 42.9 percent were successful.

The total catch from the lakes amounted to 8,200 fish[✓] weighing 2,116.48 pounds.[✓] The catch per hour was 1.08 fish and the pounds per hour index was 0.279. The species of fish taken included brown trout and rainbow trout, largemouth and smallmouth black bass, pike, yellow perch, bluegills, pumpkinseed sunfish, rock bass, black crappies, bullheads, white suckers, and hybrid bluegill x common sunfish.

Perhaps the most noteworthy occurrence of the 1950 lake angling was the continued increase in yield of Loon Lake. This body of water gave the best fishing (2.99 fish per hour, 0.676 pounds of fish per hour) and yielded a total of 1,011.30 pounds of fish to the anglers. Other lakes where angling was better than usual were Devils Wash-Basin (2.85 fish per hour, 0.316 pounds per hour), Dollar Lake (2.22 fish per hour, 0.401 pounds per hour), and Spring Lake (1.27 fish per hour, 0.343 pounds per hour).

As usual yellow perch, bluegills and pumpkinseed sunfish furnished the majority of the catch, both from a poundage and numbers standpoint.

In late November, 1949, a planting of 1,000 legal-size rainbow trout (right pectoral fin clipped) was made in Devoe Lake, with the expectation that these fish would furnish trout angling such as resulted from the original introduction in the spring of 1948. This planting was

[✓]These figures include 22 hybrid bluegill x common sunfish (5.70 pounds), 41 frogs (16.19 pounds) and 1 snapping turtle (12.25 pounds).

Lake	Total angling days (number taking 0 fish)	Total hours of angling	Trout	
			Brown	Rainbow
Devcoe	960 (781)	3,157.5	32 (60.15)	18 (15.78)
North	321 (278)	1,002.5	...	...
Loon	481 (98)	1,497.0	...	...
Dollar	244 (56)	696.0	...	...
Spring	346 (104)	1,053.0	...	...
Teal	36 (27)	64.5	...	...
Devils, W.B.	16 (3)	39.0	...	...
South Pond	23 (15)	67.5	...	...
Totals and averages, 1950	2,427 (1,362)	7,577.0	32 (60.15)	18 (15.78)

- ✓ Includes 1 snapping turtle (12.25 pounds).
 ✓ Includes 1 hybrid bluegill x pumpkinseed sunfish (0.31 pounds).
 ✓ Includes 2 hybrid bluegill x pumpkinseed sunfish (5.39 pounds).
 ✓ Includes 41 frogs (16.19 pounds).
 ✓ Includes ✓, ✓, ✓, and ✓.

Table 2.--Summary of lake fishing results, 1950, Rifle River Area.

Bass		Northern pike	Yellow perch	Species of fish caught						Total fish (and total pounds)	Catch per hour (pounds per hour)
LM	SM			Bluegill	P'seed sunfish	Rock bass	Black crappie	Bullheads	Common suckers		
18 (32.59)	48 (71.54)	15 (55.31)	181 (20.71)	72 (14.31)	5 (0.93)	106 (15.89)	...	...	34 (46.63)	✓530 (346.99)	0.17 (0.110)
9 (23.69)	22 (36.20)	2 (13.06)	49 (7.61)	1 (0.36)	...	4 (1.13)	...	...	2 (3.88)	89 (85.93)	0.09 (0.086)
76 (116.33)	...	2 (11.81)	457 (46.18)	1,288 (262.70)	1,363 (250.58)	1 (0.59)	163 (63.94)	1,132 (258.86)	...	✓4,483 (1,011.30)	2.99 (0.676)
32 (25.76)	...	...	171 (23.46)	990 (153.56)	177 (36.94)	46 (12.34)	47 (8.18)	64 (13.41)	...	✓31,548 (279.04)	2.22 (0.401)
...	...	...	1,089 (327.41)	...	38 (4.14)	...	...	173 (13.75)	...	✓1,341 (361.49)	1.27 (0.343)
...	...	...	33 (7.09)	...	...	...	...	...	...	33 (7.09)	0.51 (0.110)
...	...	...	94 (8.77)	...	1 (0.13)	7 (1.91)	...	9 (1.50)	...	111 (12.31)	2.85 (0.316)
1 (0.47)	...	...	18 (2.44)	22 (4.25)	15 (1.88)	6 (1.13)	...	1 (0.56)	2 (2.50)	65 (13.23)	0.96 (0.196)
136 (198.84)	70 (107.74)	19 (80.18)	2,092 (443.67)	2,373 (435.18)	1,599 (294.60)	170 (32.99)	210 (72.12)	1,379 (288.08)	38 (53.01)	✓58,200 (2,116.48)	1.08 (0.279)

a failure as far as furnishing any angling in 1950. One marked fish from this release was observed in the Devoe Lake rainbow trout catch of 1950. The tagged planting released in the spring of 1948 continued to furnish some fishing, as 16 recoveries were noted. One unmarked rainbow trout (9.4 inches) was presumably a wild fish.

The brown trout catch of Devoe Lake consisted of 30 wild fish and two jaw-tagged survivors of the 1948 spring planting of 1,000 brown trout in North Lake. The recovery of these two fish in Devoe Lake two years after planting suggests the possibility of occasional migration of the fish populations of these connected waters from one lake to another via Gamble Creek.

Because there was such a sharp contrast between the results of the original spring planting of legal-size rainbow trout and the fall planting made in the following year, a follow-up study was initiated in the fall of 1950. One thousand marked rainbow trout were released in Devoe Lake in November, 1950 (left pectoral fin removed), and 1,000 were released in April, 1951. ✓ Both plantings were of exactly the same average size at the time of planting. Returns to the angler from these experimental releases in the 1951 and subsequent years should provide further information on the results to be expected from this type of fish management.

Yield of streams and lakes

To give some idea of the per acre yield of the lakes and streams Table 3 was drawn up. Measurements in 1949 made possible the acreage calculations on the trout streams. It was determined that there were 33.18 acres of water in the streams of the Area, while the total area in lakes amounted to 343.2 acres, according to the maps available.

✓ Right pelvic fin clipped.

Table 3.--Summary of yield to anglers of streams and lakes,
Rifle River Area, 1945-1950 inclusive.

Item	Year	Angling pressure		Total yield in pounds of		Pounds per acre yield of	
		Total hours	Hours per acre	Trout	Other [√] forms	Trout	Other [√] forms
Streams	1945	3,395.50	102	195.56	26.36	5.89	0.79
Total water	1946	3,396.00	102	395.48	52.50	11.92	1.58
Acreage	1947	4,659.00	140	589.69	115.56	17.77	3.48
33.18 acres	1948	5,081.00	153	442.35	87.03	13.33	2.62
	1949	4,135.50	125	372.20	99.22	11.22	2.99
	1950	6,921.50	209	368.34	72.38	11.10	2.18

Item	Year	Angling pressure		Total yield in pounds of		Pounds per acre yield of	
		Total hours	Hours per acre	Trout	Other [√] forms	Trout	Other [√] forms
Lakes	1945	9,304.00	27	2,247.13	...	6.55	...
Total water	1946	5,826.50	17	1,460.89	63.00	4.26	0.18
Acreage	1947	6,132.00	18	1,208.06	38.69	3.52	0.11
343.2 acres	1948	6,996.00	20	1,163.31	79.44	3.39	0.23
	1949	7,790.50	23	1,659.66	90.41	4.84	0.26
	1950	7,577.00	22	2,102.57	28.44	6.13	0.08

[√] "Other forms" includes rough fish, warm-water game fish and turtles from streams; in the lake summary "Other forms" includes turtles and frogs only.

The per acre yield to the anglers on the trout streams has varied from a low of 5.89 pounds per acre of trout in 1945 to a high of 17.77 pounds per acre of trout in 1947. It should be pointed out that in certain years up to 1/3 of this poundage has consisted of planted fish, so it is not all natural production. Angling pressure has varied considerably since the opening of these streams to the public, ranging from 102 to 209 hours per acre.

On the lakes of the Area, yields to the fishermen have ranged between 3.39 pounds per acre in 1948 and 6.55 pounds per acre in 1945. Only in 1949 (when hatchery-reared rainbow trout in Devoe Lake contributed noticeably to the catch of that water) have planted fish made up an appreciable fraction of the catch from the lakes. In all other years the catch from the lakes consisted almost entirely of wild fish.

The angling pressure on the lakes is consistently much lower than noted on the trout streams, ranging from 18 hours per acre in 1947 to 27 hours in 1945;---from 4 to 10 times less than noted on the Rifle River Area streams.

Small game hunting results (Table 4)

During the calendar year 1950 scatter-gunners enjoyed some of the best hunting experienced thus far on the Rifle River Area. A total of 580 hunter-days were recorded during which 1,624.5 hours were spent in pursuit of small game. The total game taken consisted of 332 specimens weighing 489.49 pounds. It was made up of 197 ruffed grouse (243.01 pounds), 42 woodcock (17.85 pounds), 38 ducks (82.47 pounds), 2 pheasants (5.38 pounds), 20 cottontail rabbits (52.03 pounds), and 33 snowshoe hares (88.75 pounds). The pheasants recorded were the first killed on the Area since it has been in state ownership. The bag of rabbits is the best to date.

Table 4.--Summary of small game hunting results, 1950, Rifle River Area

Period or date	Total hunter- days	Total hours of hunting	Game killed					Total pieces (and total pounds)	
			Ruffed grouse	Woodcock	Ducks	Pheasant	Cottontail rabbit		Snowshoe hare
January 1 - 20	7	19.0	...	...	...	...	...	6 (14.87)	6 (14.87)
January 21 - February 3	23	54.0	...	...	...	...	...	3 (6.63)	3 (6.63)
October 15	61	217.0	36 (45.06)	14 (6.06)	11 (27.20)	...	1 (3.19)	...	62 (81.51)
16	36	114.0	25 (29.13)	7 (2.94)	3 (6.19)	1 (2.75)	1 (3.25)	1 (3.00)	38 (47.26)
17	23	45.0	5 (5.88)	...	...	...	...	...	5 (5.88)
18	15	42.5	7 (8.75)	2 (0.75)	2 (4.62)	...	1 (2.50)	...	12 (16.62)
19	11	26.5	5 (6.16)	...	1 (2.00)	1 (2.63)	...	...	7 (10.79)
20	20	62.5	3 (3.75)	6 (2.50)	...	...	...	...	9 (6.25)
21	70	178.0	15 (18.28)	7 (3.03)	2 (4.50)	...	1 (2.25)	1 (2.25)	26 (30.31)
22	85	209.5	18 (22.00)	5 (2.19)	2 (4.31)	...	1 (3.13)	2 (6.81)	28 (38.44)
23	4	12.0	1 (1.50)	...	...	...	...	...	1 (1.50)
24	5	11.0	2 (2.44)	1 (0.38)	...	...	...	...	3 (2.82)
25	8	26.5	3 (3.37)	...	...	...	1 (2.62)	1 (2.63)	5 (8.62)
26	10	15.5	3 (4.00)	...	...	...	1 (2.75)	1 (2.94)	5 (9.69)
27	0		(Heavy rains this date)						
28	30	104.5	16 (19.44)	...	...	...	3 (7.80)	3 (8.19)	22 (35.43)
29	55	161.0	14 (17.50)	...	1 (3.00)	...	4 (7.69)	3 (8.62)	22 (36.81)
30	3	6.0	1 (1.13)	...	...	...	...	...	1 (1.13)
31	1	1.0	...	...	...	...	...	...	...
November 1	1	0.5	1 (1.31)	...	...	...	...	...	1 (1.31)
2	3	8.0	5 (6.62)	...	...	...	...	...	5 (6.62)
3	7	11.0	1 (1.50)	...	...	...	1 (2.50)	...	2 (4.00)
4	26	117.5	12 (14.75)	...	...	...	1 (2.50)	3 (9.13)	16 (26.38)
5	31	78.5	24 (30.44)	...	1 (2.19)	...	1 (3.25)	4 (10.92)	30 (46.80)
10	2	6.0	...	...	1 (3.06)	...	...	...	1 (3.06)
11	9	12.0	...	...	2 (4.40)	...	...	1 (2.73)	3 (7.13)
12	4	21.0	...	...	11 (19.56)	...	...	...	11 (19.56)
13	1	0.5	...	...	1 (1.44)	...	...	...	1 (1.44)
14	2	3.0	...	...	...	...	...	...	...
15	1	3.5	...	...	...	...	...	...	...
December 3	3	8.0	...	...	...	...	...	...	...
10	4	10.0	...	...	...	...	1 (3.00)	...	1 (3.00)
16	3	3.0	...	...	...	...	...	1 (3.00)	1 (3.00)
17	4	12.0	...	...	...	...	...	1 (2.88)	1 (2.88)
23	5	7.5	...	...	...	...	1 (3.00)	...	1 (3.00)
30	1	2.0	...	...	...	...	...	...	...
31	6	15.0	...	...	...	...	1 (2.60)	2 (4.15)	3 (6.75)
Totals, 1950	580	1,624.5	197 (243.01)	42 (17.85)	38 (82.47)	2 (5.38)	20 (52.03)	33 (88.75)	332 (489.49)

∇ Average round weights of the species assigned to 7 grouse, 1 cottontail rabbit, 4 snowshoe hares.

Deer hunting results (Table 5)

Hunting pressure during the rifle season continued to drop off and was slightly below the total noted for 1949. In the rifle season a total of 1,519 hunter-days were listed involving 7,098.5 hours of hunting. The 1950 kill was 40 bucks whose field-dressed weight was 4,350 pounds, an average of 108.75 pounds per buck.

Over 52 percent of the kill was made on the opening day, and by the end of the second day 33 of the 40 deer had been taken. No bucks were killed after November 26.

In addition to the rifle hunting there were 28 hunter-days of bow and arrow deer hunting recorded during which time 45.5 hours of archery hunting was prosecuted between October 1 and November 5. No bucks were killed by the archers.

Trapping results, 1950 (Table 6)

Except for the beaver season which was set during the latter half of March, all trapping was done between November 16 and December 15. Permits issued to trappers totaled 86 during 1950, 30 of which were for beaver trapping. The total take of fur bearers in 1950 amounted to 208 pieces weighing 689.19 pounds. The catch was made up of 193 muskrats (466.56 pounds), 9 mink (17.63 pounds), and 6 beaver (205.00 pounds). To make this catch the trappers had their traps out for a total of 4,216 trap-nights.

General summary of use and take statistics (Table 7)

This table is included to show the general trend of the use of the Area by sightseers, anglers, hunters, and trappers, and the amount of fish and game taken. The entrance figures would indicate that the Area's use has not yet reached its peak. The data on hunting and fishing

Table 5.--Rifle deer hunting statistics, Rifle River Area, 1950 season.

Date	Total hunter-days	Total hours of hunting	Bucks killed	Total pounds of venison taken
November 15	201	1,425.0	21	2,303
16	291	1,447.5	12	1,302
17	232	1,089.5	3	261
18	212	1,060.0	2	277
19	185	666.0	...	...
20	49	189.5	...	...
21	23	87.0	...	...
22	52	235.0	...	...
23	44	143.0	...	...
24	66	253.0	...	...
25	78	224.5	...	...
26	39	130.0	2	207
27	14	43.0	...	...
28	13	40.0	...	...
29	11	30.5	...	...
30	9	35.0	...	...
Totals	1,519	7,098.5	40	4,350
Archery season totals October 1 - November 5	28	45.5	0	...
Totals, all deer hunting	1,547	7,144.0	40	4,350

Table 6.--Trapping statistics, Rifle River Area, 1950 season.

(Total weights in pounds are given in parentheses.)

Period or date	Number of permits issued	Total trap nights	Fur bearers taken			Total pieces (and total pounds)
			Muskrat	Mink	Beaver	
March 18 - 31	30	225	...	...	6 (205.00)	6 (205.00)
November 16	2	145	39 (99.25)	...	...	39 (99.25)
17	2	118	18 (45.00)	...	...	18 (45.00)
18	2	194	28 (67.50)	...	...	28 (67.50)
19	2	199	28 (66.50)	...	...	28 (66.50)
20	2	101	19 (47.50)	...	...	19 (47.50)
21	3	280	18 (41.56)	4 (8.50)	...	22 (50.06)
22	3	150	5 (12.00)	...	...	5 (12.00)
23	2	40	3 (6.75)	1 (1.88)	...	4 (8.63)
24	2	32	1 (1.75)	...	...	1 (1.75)
25	2	32	1 (1.75)	...	...	1 (1.75)
26	3	221	...	...	...	...
27	1	12	...	...	...	...
28	3	480	3 (7.81)	...	...	3 (7.81)
29	2	22	2 (5.31)	...	...	2 (5.31)
30	3	262	2 (5.25)	1 (2.75)	...	3 (8.00)
December 1	1	5	...	...	...	...
2	3	157	4 (8.75)	1 (1.50)	...	5 (10.25)
3	3	200	1 (2.63)	2 (3.00)	...	3 (5.63)
4	...	...	...	...	...	...
5	2	340	6 (14.25)	...	...	6 (14.25)
6	...	...	...	...	...	...
7	2	46	4 (10.50)	...	...	4 (10.50)
8	1	5	...	...	...	...
9	2	41	2 (3.25)	...	...	2 (3.25)
10	3	444	1 (2.75)	...	...	1 (2.75)
11	...	...	...	...	...	...
12	2	318	3 (4.75)	...	...	3 (4.75)
13	...	...	...	...	...	...
14	2	123	4 (9.50)	...	...	4 (9.50)
15	1	24	1 (2.25)	...	...	1 (2.25)
Totals, 1950	86	4,216	193 (466.56)	9 (17.63)	6 (205.00)	208 (689.19)

Table 7.--General statistics, Rifle River Area, 1945-1950 inclusive.

Item	Year						
	1945	1946	1947	1948	1949	1950	
USE	Sightseers	9,993	8,861	10,543	10,627	12,986	12,454
	Fish	4,080	3,294	3,881	4,176	4,335	5,042
	Hunt	2,257	2,487	2,342	2,134	2,004	2,127
	Trap	40	75	52	141	118	86
	Total entrants	16,370	14,717	16,818	17,078	19,443	19,709
TROUT STREAMS	Angling days	1,472	1,427	1,959	2,162	1,778	2,615
	Fish taken	446	1,164	1,695	1,533	1,031	1,100
	Catch per hour	0.13	0.34	0.36	0.30	0.24	0.16
LAKE FISHING	Angling days	2,608	1,867	1,922	2,014	2,557	2,427
	Fish taken	6,192	5,159	4,538	4,042	4,563	8,200
	Catch per hour	0.67	0.89	0.74	0.58	0.57	1.08
SMALL GAME HUNTING	Hunter-days	334	328	421	350	435	580
	Pieces killed	92	126	115	132	217	332
DEER HUNTING	Hunter-days	1,923	2,159	1,921	1,784	1,569	1,547
	Bucks killed	54	51	48	32	37	40
TRAPPING	Permits issued	40	75	52	141	118	86
	Pieces taken	14	172	126	304	79	208
POUNDS OF	Stream fish by rod	221.92	447.98	705.00	529.38	513.70	440.72
	Stream fish by experimental fishing ...	...	...	...	...	6.47	...
	Lake fish by rod	2,247.13	1,523.89	1,246.75	1,242.75	1,718.91	2,116.48
	Lake fish by experimental fishing ...	...	...	...	...	31.16	14.53
	Small game - archery	301.87	438.19	145.72	234.75	462.24	489.49
	Rifle-killed deer	6,912	6,150.00	5,498.00	3,583.00	3,844.00	4,350.00
	Fur-bearers	42.00	393.90	294.40	1,248.50	1,269.38	689.19
	Total pounds - all forms	9,724.92	8,953.96	7,889.87	6,838.38	7,845.68	8,100.41

suggest that interest in the trout fishing available is still increasing, while lake fishing is more or less stable. There has been a gradual increase in the use of the Area by small game hunters since the tract was opened to the public. Deer hunting pressure has decreased about 25 percent in comparison with the first 2 years, and appears to be related to relatively low kills recorded in 1948 and 1949. The amount of trapping conducted increased noticeably after the Area was opened to beaver trapping. The total poundage of all forms removed has varied between 6,838 and 9,725 pounds; it amounted to 8,100 pounds in 1950.

The staff of the Rifle River Area in 1950 operated under the supervision of Basil V. Hughes, Lake Mapping Supervisor I. It consisted of Arthur DeClaire, Fisheries Technician A, Charles V. Kohn, Maintenance Technician B and Lawrence H. Bush, Fisheries Technician B. These men manned the checking station, registered the entrants, recorded the fish and game take, and maintained the buildings and roads on the Area. During part of the hunting season, Ben C. Jenkins of the Game Division aided them in registering the game kill.

Mrs. Arthur DeClaire continued her duties as housekeeper in an efficient and pleasant manner. She furnished meals and lodgings to an increased number of transient administrators and investigators who came to look over the Rifle River Area and the Rifle River Watershed Improvement projects.

INSTITUTE FOR FISHERIES RESEARCH

David S. Shetter

Report approved by A. S. Hazzard

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