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THE USE OF THE RIFLE RIVER AREA, AND THE FISH, GAME AND FUR TAKE IN 1948.

By
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The Rifle River Area (formerly known as "Grousehaven" before purchase by the Department of Conservation in 1945 from the H. M. Jewett estate) was operated for the fourth consecutive year during 1948. The data on the amount of use of the area and the numbers and weight of fish, game and fur taken, and a brief resume of the 1948 results will be the subject of this report. The results noted in earlier years will be found in Report Numbers 1032, 1108, and 1150 of the Institute for Fisheries Research, and are summarized in a table at the end of this report.

This 4,288-acre tract of wild land has been under the jurisdiction and administration of the Fish Division of the Department of Conservation because of the predominance of fishing values. In general, the legal regulations that apply to the use of all state-owned lands are in force on the Rifle River Area. Special regulations which are in force are as follows: (1) All persons entering the Area must first obtain a permit, and turn it in on leaving the area; this provides opportunity to check the fish, game and fur take; (2) No camping is permitted, primarily because relatively few good camp sites are available,

and also to allow camping would seriously complicate creel and game bag census recording; (3) During 1948 for the first time, the daily creel limit on the Rifle River was reduced to 10 trout and the minimum size limit increased to 8 inches; (4) Because of the presence of a flock of wing-clipped Canada geese, the shooting of geese during the waterfowl season was prohibited in the Area. Otherwise all fish and game regulations were the same as elsewhere in the state.

Permits Issued, 1948

The year 1948 saw the heaviest use of the Area thus far with 17,078 entrants. The largest number previously registered was 16,818 in 1947. As in all other years, sightseers and picnickers were most numerous (10,627). A total of 4,176 permits to fish were issued, 2,134 permits for hunting and 141 permits for trapping.

Stream fishing results, 1948 (Table I)

A total of 2,162 angling-days were recorded for stream fishing, during which 5,081.00 hours of fishing were expended. Of the total days noted, 1,730 or 80 percent were unsuccessful in capturing trout. The total fish catch amounted to 22 brook trout, 1022 brown trout, 40 rainbow trout, and 449 other fish, and these were caught at the rate of 0.30 fish per hour. Of the total catch, 1,474 fish weighing 529.38 pounds were kept, or 0.104 pounds of fish per hour of fishing. Of the total weight of fish removed from trout streams, 442.34 pounds were trout and 87.04 pounds were rough fish and warm-water fish.

Over 89 percent of all stream fishing was done in the Rifle River, and most of the remaining 11 percent was done on Gamble and Brown Trout creeks. During 1947 and 1948, jaw-tagged brown trout were stocked in

Rifle River and Gamble Creek at several intervals. Survivors from these plantings, and also from hatchery releases outside the boundaries of the Area (which were fin-clipped) were noted among the 1948 trout catch. A total of 272 jaw-tagged and fin-clipped fish of hatchery origin, or 26.6 percent of the total trout catch, were captured. About 22 percent were trout planted during 1948 and about 4.6 percent consisted of hatchery trout released in 1947, which survived the winter.

The higher size limit (8 inches instead of 7 inches) and the reduction in the daily creel limit (10 fish instead of 15 fish) instituted during 1948 on the Rifle River was at least partially responsible for the lower trout catch. The 1948 catch of brook, brown, and rainbow trout amounted to 1,025 fish as compared with 1,407 fish in 1947, a reduction of 27.2 percent.

Lake fishing results (Table 2)

All lakes of the Rifle River are open all year for the taking of species which are in season, but outside of a very few winter ice-fishermen, almost all fishing on the lakes is done between May 1 and December 1. During 1948 a total of 2,014 angler-days were recorded for eight lakes and ponds on the area, and of this number, 1,216 or 60.4 percent were unsuccessful. The total hours of angling amounted to 6,996.0, and the anglers caught 4,042 fish for a catch per hour of 0.58 legal fish. The combined weight of fish, turtles and frogs removed amounted to 1242.75 pounds, or 0.178 pounds per hour. The grand totals were made up of 88 trout (56 brown trout, 32 rainbow trout), 15 northern pike, 159 bass (100 largemouthed bass, 59 smallmouthed bass), 2,310 yellow perch, 1,160 pan fish (769 bluegills, 112 common sunfish, 103 black crappies, and 176 rock bass), and 310 other fish (82 bullheads, 13 common suckers, 38 creek chubs, 16 hybrid sunfish and bluegills, and 159 frogs).

Spring Lake, where yellow perch dominated the catch, yielded 1.45 fish per hour, but Loon Lake, where other species of a larger average size were taken yielded the highest number of pounds per hour (0.374). All the lakes except Devoe and South Pond registered a catch per hour ranging between 0.58 fish and 1.45 fish. The catch per hour on Devoe Lake was 0.12, on South Pond, 0.38.

Except for the 32 tagged rainbow trout captured, and one tagged brown trout taken from the lakes, the remaining 55 brown trout were all wild fish, or 62.5 percent of the total catch. These tagged fish were experimental plantings made to determine the feasibility of producing good trout fishing in addition to the bass, pike and pan fishing in Devoe and North Lakes. A total of 2,000 rainbow trout were released in Devoe Lake, and 1,000 each of brown trout and rainbow trout were placed in North Lake in April, 1948.

Small game hunting and archery deer hunting results (Table 3)

A total of 350 hunter-days of small game hunting and bow-and-arrow deer hunting were recorded, during which 810 hours of hunting were prosecuted, and 760 of these hours were spent during the period October 1-November 5. The total kill amounted to 129 pieces of game weighing 190 pounds 12 ounces, or 0.16 pieces and 0.234 pounds of game per hour of hunting. The total game bagged was comprised of 84 ruffed grouse, 31 woodcock, 6 ducks, 4 snowshoe hare, 3 raccoon and 1 mink. Small game taken by deer hunters in the rifle deer season consisted of 2 red fox (total weight, 20 lbs.) and 1 bobcat (weighing 24 pounds dressed). Thus the total weight of small game amounted to 234 pounds, 12 ounces.

During 1948, 44 hunter-days were recorded for bow-and-arrow deer hunters during the archery deer season. These hunters spent 114 hours hunting with the bow and brought in no game. It was discovered during

the rifle season that one forked-horn buck had been killed by an arrow, but had eluded the hunter in thick cover because rains and high winds had made tracking almost impossible.

The kill of grouse and woodcock was up over 1947 results (64 grouse, 28 woodcock in 1947), the rabbit kill was about the same as usual, but the kill of ducks and raccoon was lower than in other years.

Summary of rifle deer hunting results (Table 4)

The results of the 1948 rifle deer season already have been reported on in some detail by D. F. Switzenberg of the Game Division (Game Div. Rept. #1010), who assisted the staff in checking hunting pressure and deer kill. A total of 1,784 hunter-days were recorded, and these hunters spent 7,915 hours pursuing the white-tails. The total kill of bucks was 32, or 33.3 percent less than the 1947 kill of 48 bucks. Hunting pressure was 7 percent lower in 1948 in comparison with 1947.

Mr. Basil V. Hughes, resident manager of the Rifle River Area, and his staff, states that on the basis of pre-season observations there were as many or more bucks present in 1948 as in previous years. He believes that the extreme sparseness of the foliage during the hunting season (brought about by high winds and heavy rains), plus a lack of snow to provide a background made visibility of the deer difficult for the hunters, but did not affect the ability of the deer to "spot" the hunters.

In addition to the buck kill, two red fox and one bobcat were taken by hunters during the rifle deer season. Four black bear were seen by deer hunters on the Area during the 1948 deer season, but no one was successful in killing a bear.

Summary of trapping results. (Table 5)

During 1948, a total of 141 permits were issued for trapping (62 during the beaver season March 1-7, 79 during the fall muskrat season).

The total take for 1948 amounted to 269 muskrats, 5 mink, 9 raccoon, 20 beaver, and one otter, whose total weight amounted to 1,248 pounds, 8 ounces. On the basis of fur prices during 1948, the value of the recorded take was somewhere between $800 and $1,000.

Summary of research conducted during 1948.

In addition to the changes in the regulations briefly mentioned previously, population studies on Gamble Creek were continued with the aid of the electric shocker. Although a good population of trout, mainly brown trout can be demonstrated, the annual take and the angling quality still remain low.

During the fall of 1948, a number of new current deflectors were installed in Gamble Creek and old structures repaired to make more pools and deeper pools.

To learn more concerning the survival of brown trout fingerlings, 1,000 hatchery-reared brown trout ranging in size from 2.5 to 5.1 inches were marked by removing the right pelvic fin before release in Gamble Creek in late September. The survival and growth of these fish are being followed by both population study and creel census operations.

On Loon Lake, N. O. Levardsen, a graduate student from Michigan State College, studied the effects of Nigrosine, an aniline dye which inhibits aquatic plant growth by cutting down the light penetration. The administration of this product to the lake had no effect on the light penetration after one month after it was applied in July, 1948, according to Mr. Levardsen. The improvement in fish production in Loon Lake appears to have been the result of increased angling pressure following discovery of more fishable portions of the lake. Possibly this increased angling pressure was brought on by the publicity received because of the experimental treatment.

Cooperation with the Game Division continued along several lines. A flock of 29 wing-clipped Canada geese were placed on Mallard Pond early in 1948, and 26 of them were successfully brought through the winter. By feeding a small amount of corn and grains about three times weekly they were encouraged to stay in the vicinity of Mallard Pond, after it was noted that they would roam up and down Rifle River and Houghton Creek if not given a ration. Although all of the birds could fly by mid-summer, apparently the feeding program made them interested in staying in the Area through the winter. It is not yet known whether they have nested in the vicinity. The geese have been an interesting attraction for the sportsmen and sightseers, many of whom seldom have a "close-up" view of such birds.

Plantings of 500 each Norway and white pine seedlings were made in certain areas lacking in shade and cover, and experimental introduction of multiflora rose as a deterrent to bank erosion also was initiated on certain eroding sand banks on the Rifle River. These plantings will be kept under observation by both Fish and Game Division personnel. At this site there is bank erosion but no stock pastured. If the rose will form a stock repellent hedge this far north, it might have value in checking damage from stock to stream banks.

In the cedar swamp south of Fontinalis creek some timber removal was carried out and a part of the lumbered area is to be fenced against deer with the objective of demonstrating the effect of deer browsing on the ability of the swamp vegetation to re-establish itself.

Separate reports on the various phases of research carried out on the Rifle River Area will be presented as the results are obtained and analyzed.

Brief summary of four-year trends (Table 6)

If the present trends continue, it would appear that we can expect somewhere between 15,000 and 17,000 days of use yearly on the Rifle River Area, of which 9,-11,000 will be sightseers and picnickers, 3,-4,000 will involve fishing the lakes and streams, 2,000-2,500 days of hunting will be prosecuted and 40 to 150 entrants will come in to trap.

As the trout-fishing public learned the better "holes" and stretches in the trout streams, the catch increased noticeably each year until 1948. A part of the decline in the catch was presumably due to the more stringent creel and size limits set for the Rifle River proper where most of the stream fishing is done.

The quality of the lake fishing and the poundage of fish removed has fluctuated more or less downward. Because of apparent interest in what was formerly private water, angling pressure, total number taken, and total pounds of lake fish removed were greatest in 1945, the first year the lakes were open to public fishing. During the last three years, angling pressure has been at least 20 percent lower. Since 1945, the catches of northern pike, large- and smallmouthed bass, have been relatively small in comparison with the catches of that initial year. A similar situation appears to hold also for bluegills, common sunfish and black crappies. The reasons for this decline need further study, particularly as regards the comparative ages of the various species taken during and since 1945. The discovery and exploitation of the Spring Lake perch population in 1946 has definitely aided the angling quality on the Area, as yellow perch each year since and including 1946 have made up a majority of the total catch of lake fish. Whether this trend will continue remains to be seen.

Small-game hunting has been about average on the Area in the four years records have been taken. The bulk of the kill has consisted of grouse and woodcock and the quality of the shooting depends on the abundance of these species. Relatively few rabbits or ducks are killed at any time. An occasional mink and raccoon are taken.

The archers have been relatively unsuccessful, as only two bucks have been hung by the bow-and-arrow hunters during the past four years, both by Basil Hughes. The Area would attract many more archers were it open for the taking of a deer with either sex by bow and arrow.

Until the season of 1948, the annual kill of bucks by the rifle hunters ranged between 48 and 54. There is no reason to believe that the Area will not produce as many in 1949, given average hunting pressure and weather conditions. The poundage of venison taken yearly makes up from 50 to 70 percent of the total poundage of fish and game taken from the Area.

A part of the apparent increase in the fur taken is the result of the opening of the beaver season for the first time in 1948. Since and including 1946, the muskrat catch has ranged from 115 to 269 animals yearly.

The table presents the cold figures in numbers and weights of fish and game, but no one can measure the enjoyment that was produced by the pursuit and capture of, or by the fish and game that escaped. Nor can we measure the inward glow that steals over a man as he watches a brown trout arc lazily into the air in the rays of the evening sunset, or a bird dog on a close point.

Staff of the Rifle River Area.

During 1948, as in past years, Basil V. Hughes, Lake Mapping Supervisor I, directed the creel and game bag census of the Area, and other work of the

staff. He was assisted by Arthur DeClaire , Fisheries Technician B, and Charles V. Kohn, Building Maintenance Helper B. Part-time assistance also was obtained from Howard Van Oosten during the period June 15-September 5. From December 1-April 25, Charles Kohn kept the Area open daily except Wednesdays from 9 AM till 5 PM except for a short period in late February when he took vacation leave. In addition to recording the creel and game bag census, the staff maintained the roads on the Area so that all trails were open at all times when the snow was off the ground except for a short period after the spring thaws. A foot-bridge was constructed across the Rifle River at the south end of the Area for the convenience of the deer hunters. The west boundary line was properly wired and relocated with assistance from members of the Field Administration Division. The lodge and its utilities were maintained in good condition through the efforts of all the staff.

Staff members gave full or part-time assistance to the various researchers from the other divisions who worked in the Area.

Mrs. Arthur DeClaire again served ably by providing meals for visiting biologists and supervisory personnel, and as part-time housekeeper assisted in the maintenance of pleasant surroundings at the Lodge.

In conclusion it might be said that the continued use of the Area thus far is living proof that the present operating policy is a sound one, and that it is possible to provide reasonable sporting and recreational values and accumulate biological data at the same time with a minimum of expense and trouble to all parties concerned.

INSTITUTE FOR FISHERIES RESEARCH

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Report approved by A. S. Hazzard

Report typed by B. J. Bair

TABLE 1

Summary of trout stream creel census, Rifle River Area,
1948 trout season.

Stream	Total fishermen-days	Number and % taking no trout	Total hours of fishing	Total trout and other fish caught (and total ounces removed) brook trout	brown trout	rainbow trout	other[b] fish	Total fish (and total pounds)	Catch per hour	Pounds per hour
Rifle River	1,932	1,556 (81)	4,701.50	2 (11.3)	968[58] (6574.9)	32 (155.7)	233 (964.0)	1,235 (481.62)	0.26	0.102
Gamble Creek	77	72 (94)	115.50	3 (8.6)	16 (81.8)	1[V]	1 (6.5)	21 (6.06)	0.18	0.052
Brown Trout Creek	70	45 (64)	105.00	10 (42.6)	7 (27.2)	...	210 (210.0)	227 (17.49)	2.16	0.167
Fontinalis Creek	22	18 (82)	42.00	7 (24.7)	4 (18.8)	...	...	11 (2.72)	0.26	0.065
Houghton Creek	47	29 (62)	95.00	...	27 (100.0)	7 (31.9)	...	34 (8.24)	0.35	0.087
Skunk Creek	2	2 (100)	2.00	...	...	...	...	...	0.00	0.000
Whirlpool on Rifle River[a]	12	8 (75)	20.00	...	...	...	5 (212.0)	5 (13.25)	0.25	0.663
Totals and averages	2,162	1,730 (80)	5,081.00	22 (87.2)	1022[58] (6,802.7)	40[V] (187.6)	449 (1392.5)	1,533[59] (529.38)	0.30	0.104

[a] - Winter fishing for carp and suckers

[b] - Suckers, creek chubs, common shiners, rock bass, yellow perch

V - Number in caret indicates numbers of trout returned to water even though they exceeded 8 inches in size.

TABLE 2

Summary of creel census results in the lakes of the Rifle River Area
1948

Lake	Total angling days (and number days 0 fish)	Total hours of fishing	Trout	N. Pike	L.M.Bass and S.M.Bass	Perch	Other Pan Fish	Others	Total fish and total pounds	Catch per hour	Pounds per hour
Devoe	685 (521)	2,753.0	77 (126-1)	7 (20-3)	50 (54-1)	88 (14-6)	60 (17-12)	49 (26-14)	331 (259-5)	0.12	0.094
North	443 (307)	1,380.5	11 (5-14.5)	5 (13-4)	74 (160-11.5)	613 (156-5)	97 (27-3)	6 (10-3)	806 (373-9)	0.58	0.271
Dollar	333 (101)	1,338.5	...	...	14 (9-12)	90 (13-9)	829 (158-10)	82 (21-15)	1,015 (203-14)	0.76	0.152
Loon	81 (26)	230.0	...	1 (3-12)	20 (20-1)	64 (9-11)	125 (29-2.5)	5 (23-7.5)	215 (86-2)	0.93	0.374
Teal	47 (26)	158.0	...	2 (2-7)	1 (-9.5)	127 (15-6)	2 (-6.8)	4 (13-4)	136 (32-1.3)	0.86	0.203
Spring	358 (189)	1,015.0	...	...	...	1,306 (232-14)	...	163 (43-14)	1,469 (276-12)	1.45	0.273
South Pond	33 (25)	66.0	...	...	...	20 (2-10)	4 (1-1)	1 (-15)	25 (4-10)	0.38	0.070
Devils W.B.	33 (21)	56.0	...	...	...	2 (-13)	43 (5-10)	...	45 (6-7)	0.81	0.115
Totals and averages	2,014 (1216)	6,996.0	88 (131-15.5)	15 (39-10)	159 (245-3)	2,310 (445-10)	1,160 (239-13.3)	310 (140-8.5)	4,042 (1242-12.3)	0.58	0.178

TABLE 3

Summary of small game hunting results Rifle River Area, 1948 including archery deer hunting. V

Period 1948	Total number of hunter-days	Total hours of hunting	Game killed						Total pieces and total weight
			Grouse	Woodcock	Ducks	Rabbits	Raccoon	Mink	
Jan. 1-16	4	80							
Jan.17-30	9	16.5				2 (7-0)			2 (7-0)
Jan.31-Feb.13	7	9.0							
Oct. 1-8	20	53.0							
Oct.9-22	129	283.0	43 (52-6.5)	15 (7-0.5)	5 (11-13)				63 (71-4)
Oct.23-Nov.5	171	431.0	41 (50-2)	16 (7-6.5)	1 (1-7.5)	2 (5-4)			60 (64-4)
Nov.6-Dec.3	4	7.0							
Dec.4-17	3	5.5					3 (37-0)		3 (37-0)
Dec.18-31	3	6.0						1 (1-4)	1 (1-4)
Totals, 1948	350	810.0	84 (102-8.5)	31 (14-7)	6 (13-4.5)	4 (12-4)	3 (37-0)	1 (1-4)	129 (190-12)

V - Archers hunted a total of 44 hunter-days (114 hours) and brought in no game. One forked horn buck was killed by bow and arrow but was not recovered during archery season.

TABLE 4

Summary of rifle deer hunting results Rifle River Area, 1948 season

Period	Total hunter days	Total hours of hunting	Bucks killed	Total pounds of venison taken	Other Game		Total pounds of game killed
					Red Fox	Bobcat	
November 15-19	838	4,509.5	29	3272		1 (24)	3,296
November 20-30	946	3,405.5	3	311	2 (20)		331
Totals	1,784	7,915.0	32	3583	2 (20)	1 (24)	3,627

TABLE 5

Summary of trapping results, Rifle River Area,
1948 seasons

Period 1948	Number of permits issued	Furbearers taken					Total pieces and total weight
		muskrat	mink	raccoon	beaver	otter	
March 1-7	62	...	...	...	20 (525-)	1 (14-)	21 (539-)
November 15-19	25	157 (348-4)	...	1 (12-)	...	...	158 (360-4)
November 20-December 3	38	99 (208-)	3 (4-12)	7 (99)	...	...	109 (311-12)
December 4-17	16	13 (24-4)	2 (3-8)	1 (9-12)	...	...	16 (37-8)
Totals, 1948	141	269 (580-8)	5 (8-4)	9 (120-12)	20 (525-)	1 (14-)	304 (1248-8)

TABLE 6

Summary of use and the game and fish take, 1945-1948, Rifle River Area

Item		Year			
		1948	1947	1946	1945
Days of various use	Sightsee and other	10,627	10,543	8,861	9,993
	Fish	4,176	3,881	3,294	4,080
	Hunt	2,134	2,342	2,487	2,257
	Trap	141	52	75	40
	Total registrants	17,078	16,818	14,717	16,370
Stream fishing results	Total angling days	2,162	1,959	1,427	1,472
	Total fish taken	1,533	1,695	1,164	446
	Catch per hour	0.30	0.36	0.34	0.13
Lake fishing results	Total angling days	2,014	1,922	1,867	2,608
	Total fish taken ⚓	4,042	4,538	5,159	6,192
	Catch per hour	0.58	0.74	0.89	0.67
Small game and archery results	Total hunter-days	350	421	328	334
	Total pieces killed	132	115	126	92
Rifle deer results	Total hunter-days	1,784	1,921	2,159	1,923
	Total bucks killed	32	48	51	54
Trapping results	Total trapper-days	141	52	75	40
	Total furbearers taken	304	126	172	14
Yield in pounds of	Fish from streams	529.38	703.00	447.98	221.92
	Fish from lakes ⚓	1,242.75	1,246.75	1,523.89	2,247.13
	Small game & archery	234.75	145.72	438.19	301.87
	Rifle killed deer	3,583.00	5,498.00	6,150.00	6,912.00
	Furbearers	1,248.50	294.40	393.90	42.00
	All fish, game, fur	6,838.38	7,887.87	8,953.96	9,724.92

⚓ - Includes from 20 to 75 lbs. of turtles and frogs yearly.