Original: Fish Division
cc: Education-Game
Inst. for Fish. Re-
C. T. Yoder
R. S. Marks
J. A. Scully
A. W. DeClaire
L. H. Bush

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

ALBERT S. HAZZARD, PH.D.
DIRECTOR

ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

August 2, 1955

Report No. 1455

RECREATIONAL ACTIVITIES OF THE RIFLE RIVER AREA IN 1954, AND A BRIEF SUMMARY OF A DECADE OF PUBLIC USE

By

Lawrence H. Bush and Arthur W. DeClaire

Introduction and a Summary of a Decade of Public Use

Tables filled with cold statistics and a text that contains almost as many figures as words can be pretty dull reading. A few who are vitally interested may, with considerable sweat and determination, wade through it, but most of us are inclined to note the most important items and let it go at that. Therefore, in writing this report we have attempted to bring out the human element that underlies and imparts greater meaning to lifeless columns of statistics. The 195,032 permits (Table 1) issued during the past 10 years, to us, represent something more than mere numbers on a piece of paper, and we would like those who read this report to feel the same way about it.

The data used in writing the lake and stream sections of the Rifle River Area reports during the past 10 years were supplied by 44,225 fishermen (Tables 2 and 3). The man wading down Houghton Creek with flyrod in hand, thrilling to the tug of a king-sized brown trout, and thankful to be away from his stuffy office was one of them. And so was the boy sitting in a rowboat on Dollar Lake and pulling in bluegills with his battered cane pole.

Each was enjoying himself in his own way, and to each the thrill of feeling the tug of a well-hooked fish probably meant more to him than his share of the 73,976 fish that were taken from the lakes and streams of the Rifle River Area during the past decade. If the total value of the 22,115 pounds of fish caught by Area anglers during this period were calculated on the basis of 50 cents a pound it would bring their total value to something like $11,057.50. This is a lot of money, but it is only money, and a much greater value could probably be calculated on the basis of the 120,291.5 hours that were spent in catching these fish. Although it is impossible to measure a pleasant hour on a lake or stream in terms of dollars and cents, it can be measured in terms of minutes of happiness which is just as legitimate a measure of value received.

When the totals for all Rifle River Area lakes are combined, lake fishing has not shown the upward trend in angling intensity that is evident on the trout streams. High points in angler day and hour totals for the lakes occurred in 1945, 1949, 1950, and 1954 with 1945 and 1954 ranking first and second, respectively (Table 2). On the streams there has been a gradual increase in the number of anglers recorded each year with the exceptions of 1949 and 1952 (Table 3).

Viewing the lakes independently, one gets a picture of greater fluctuations from year to year in both angling intensity and quality than is evident in the combined totals (Figs. 1 and 2). It is evident that different lakes influence the combined totals to a considerable degree from year to year. However, in the case of the trout streams, where the Rifle River receives, by far, the greatest fishing pressure , the other streams have never greatly influenced the total picture.

The creel census data provided by lake and stream anglers during the past 10 years have provided us with much valuable information. For example, the

Fig. 1. Trends in the catch of largemouth and smallmouth bass and angling intensity of North and Devoe lakes over a 10-year period—1945-1954.

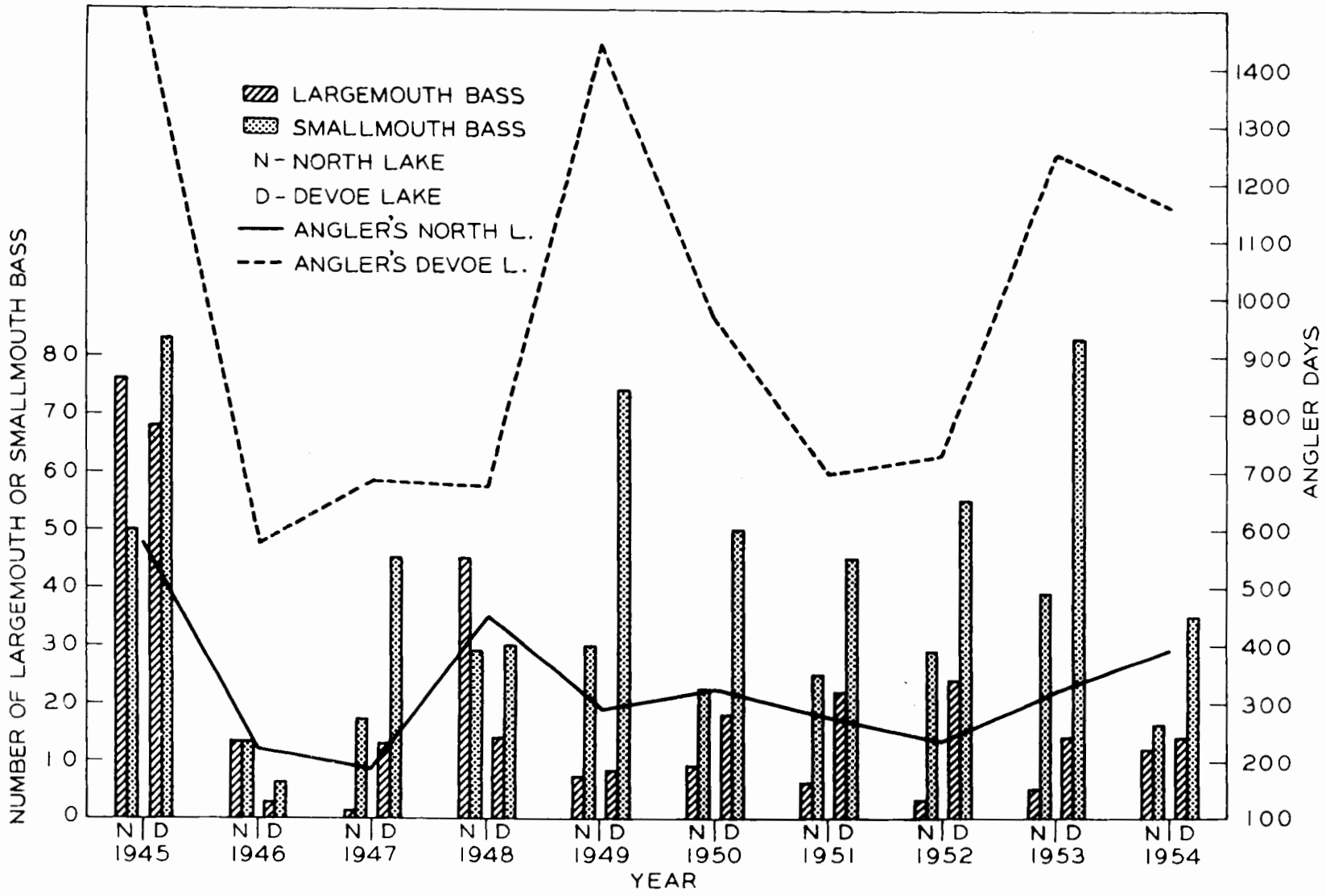

LARGEMOUTH BASS
SMALLMOUTH BASS
N - NORTH LAKE
D - DEVOE LAKE
ANGLER'S NORTH L.
ANGLER'S DEVOE L.
NUMBER OF LARGEMOUTH OR SMALLMOUTH BASS
ANGLER DAYS
0
10
20
30
40
50
60
70
80
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
N D
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
YEAR

Fig. 2. Trends in angling quality and angling intensity on Loon and North lakes over a 10-year period--1945-1954.

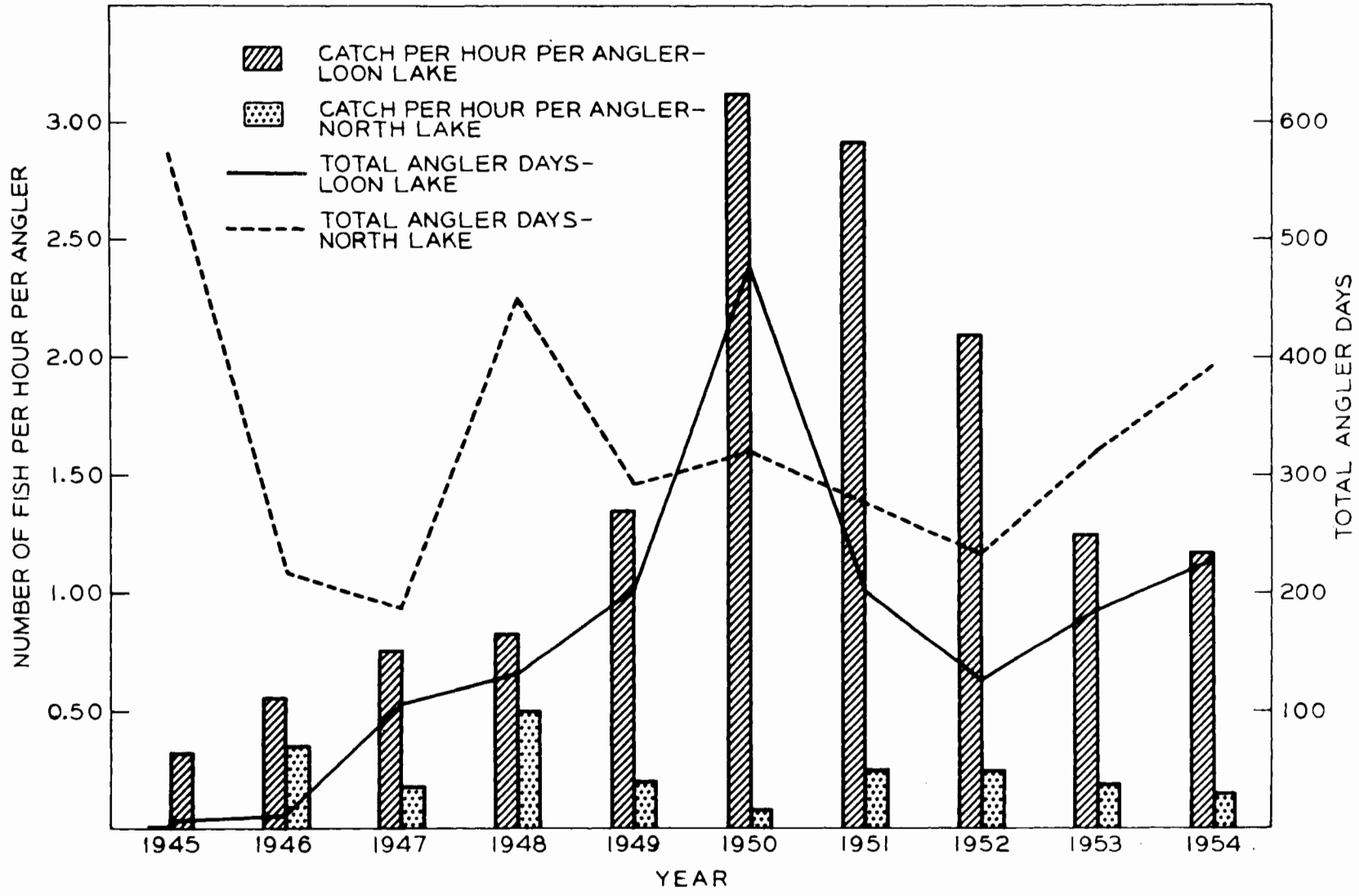

CATCH PER HOUR PER ANGLER–LOON LAKE
CATCH PER HOUR PER ANGLER–NORTH LAKE
TOTAL ANGLER DAYS–LOON LAKE
TOTAL ANGLER DAYS–NORTH LAKE
NUMBER OF FISH PER HOUR PER ANGLER
3.00
2.50
2.00
1.50
1.00
0.50
600
500
400
300
200
100
TOTAL ANGLER DAYS
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
YEAR

Table 1. General use statistics for the Rifle River Area covering a 10-year period, 1945 through 1954

Year	Total permits issued	Permits issued to sightseers		Permits issued to anglers		Permits issued to hunters		Permits issued to trappers		Percentage over-all gain or loss over previous year
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	
1945	16,370	9,993	61.0	4,080	24.9	2,257	13.8	40	0.2	
1946	14,717	8,861	60.2	3,294	22.4	2,478	16.9	75	0.5	10.1 loss
1947	16,818	10,543	62.7	3,881	23.1	2,342	13.9	52	0.3	12.5 gain
1948	17,078	10,627	62.2	4,176	24.5	2,134	12.5	141	0.8	1.5 gain
1949	19,443	12,986	66.8	4,335	22.3	2,004	10.3	118	0.6	11.8 gain
1950	19,709	12,454	63.2	5,042	25.6	2,127	10.8	86	0.4	1.3 gain
1951	19,769	13,074	66.1	4,514	22.8	2,037	10.3	144	0.7	0.1 gain
1952	21,167	14,176	67.0	3,959	18.7	2,915	13.8	117	0.6	6.6 gain
1953	24,692	13,478	54.6	5,132	20.8	5,994	24.3	88	0.3	14.3 gain
1954	25,269	15,364	60.8	5,812	23.0	4,021	15.9	72	0.3	2.3 gain
Totals and average percentages	195,032	121,556	62.3	44,225	22.7	28,318	14.5	933	0.5	. . . . .

Table 2. Combined totals for all Rifle River Area lakes covering a 10-year period, 1945 through 1954

Year	Total angler-days	Total hours of angling	Total fish taken	Total pounds of fish taken
1945	2,608	9,303.5	6,192	2,247.13
1946	1,867	5,826.5	5,159	1,523.89
1947	1,922	6,132.0	4,538	1,207.06
1948	2,014	6,996.0	4,042	1,242.75
1949	2,536	7,790.5	4,444	1,675.00
1950	2,427	7,577.0	8,200	2,116.48
1951	1,657	5,348.5	6,469	1,469.45
1952	1,983	5,925.0	7,036	1,541.88
1953	2,270	7,246.5	7,630	1,667.48
1954	2,513	8,763.0	6,308	1,302.00
10-year totals	21,797	70,908.5	60,017	15,993.12

Table 3. Angling results on the combined Rifle River Area trout streams during the past decade

Year	Total angler-days	Percent-age, angler-days, 0-trout	Total hours of angling	Brook trout		Brown trout		Rainbow trout		Total trout		Catch per hour, all trout	Catch per hour, native (i.e., wild) trout	Other fish	
				Num-ber	Wt. (lbs.)	Num-ber	Wt. (lbs.)	Num-ber	Wt. (lbs.)	Num-ber	Wt. (lbs.)			Num-ber	Wt. (lbs.)
1945	1,472	87	3,397.5	25	9.67	381	181.52	12	4.36	418	195.56	0.12	0.12	28	27
1946	1,427	79	3,396.0	28	7.17	993	374.41	45	13.90	1,066	395.48	0.31	0.30	98	53
1947	1,959	72	4,659.0	71	...	1,360	...	125	...	1,556	587.44	0.33	...	139	116
1948	2,162	80	5,081.0	22	5.45	1,022	425.17	40	11.72	1,084	442.34	0.21	0.16	449	87
1949	1,749	80	4,135.5	27	6.65	762	312.79	85	46.29	874	365.73	0.21	0.19	157	155
1950	2.612	83	6,917.0	7	1.87	633	273.53	407	92.94	1,047	368.34	0.15	0.10	53	73
1951	2,827	81	7,266.0	9	2.65	711	350.26	534	154.45	1,254	507.36	0.17	0.11	248	196
1952	2,218	85	5,054.0	28	7.59	500	299.54	109	34.28	637	341.42	0.13	0.10	328	100
1953	3,036	74	7,846.5	21	4.92	1,766	667.40	230	52.94	2,017	725.26	0.26	0.10	203	151
1954	3,501	79	10,393.5	17	4.41	1,135	523.14	462	133.91	1,615	661.46	0.16	0.10	308	240
10-year totals	22,963	80	58,146.0	255	50.38*	9,263	3,407.76*	2,049	544.79*	11,568	4,590.39	0.20	...	2,011	1,198

*Weights by species unavailable for 1947.

material presented in Fig. 1 may indicate that, in lakes like North and Devoe, the largemouth bass population can be reduced by heavy fishing pressure to a point where this species is never again taken in such large numbers. On the other hand it seems to show us that this proposition does not hold true for the smallmouth bass.

Review of a Decade of Small Game Hunting on the Rifle River Area

The swamps and hills of the Rifle River Area have been the hunting grounds of 5,710 small game hunters during the past 10 years. One of those hunters may have been an old man walking along Ridge Road and dreaming of that thrilling moment when he would hear the thundering take-off of a ruffed grouse. Another, a young boy creeping through the tag alders down by Teal Lake hoping to aim his gun at a mallard drake.

Perhaps the old man on Ridge Road failed to bag one of the 1,298 grouse that have been shot on the Area since 1945, and maybe the young boy missed his chance to get one of the 332 ducks. But whether or not they got their share of the total bag of 2,281 birds and animals they probably collected dividends in terms of health and happiness. In 10 years Area small game hunters have collected 15,820 hours of such rewards in addition to 3,520 pounds of game birds and animals (Table 4).

Hunting quality reached a peak in 1949 and 1950 when small game hunters averaged 2.0 birds and animals for each hour spent in the field (Fig. 2). However, following the 1950 season it has continued to decline each year until the all-time low of 0.08 per hour was reached in 1954. The number of hunters entering the Area began to increase following the 1948 small game season and reached a record high of 1,095 in 1953. Hunting pressure in terms of total hours of hunting time reached a peak of 3,212.5 in 1952 along with a record high for the number of ruffed grouse taken (331).

Table 4. A summary of 10 years of small game hunting on the Rifle River Area

Year	Total hunter-days	Total hours of hunting	Number taken						Total weight in pounds
			Ducks	Grouse	Woodcock	Rabbits[1]	Others[2]	Total	
1945	325	662.5	25	51	8	3	4	91	163.87
1946	282	694.0	24	39	45	4	13	125	308.19
1947	374	941.5	17	64	28	5	1	115	145.72
1948	306	696.0	6	84	31	4	4	129	190.75
1949	435	1,112.5	72	116	18	11	0	217	349.24
1950	500	1,624.5	38	197	42	53	2	332	489.50
1951	559	1,540.5	32	147	24	51	0	254	403.30
1952	1,079	3,212.5	35	331	61	44	2	472	637.80
1953	1,095	3,094.0	40	191	40	85	1	357	523.06
1954	755	2,242.0	33	78	11	66	1	189	. . .
Totals for 10 years	5,710	15,820	322	1,298	308	326	28	2,281	. . .

[1] Includes snowshoes and cottontails.

[2] Includes pheasants, raccoon, mink, and squirrels.

A Review of a Decade of Rifle Deer Hunting on the Rifle River Area

Each November 15th for the past 10 years a red-coated army has descended upon the Rifle River Area and laid siege to the deer herd. In all they have numbered 20,747 and with shotguns and rifles they have felled 573 deer including 412 antlered bucks (Table 5).

The minds of some of these hunters have probably been filled with visions of driving around the block with a ten-point buck strapped to the fender. A few, who for some reason or other, were able to put their share of the 59,931 pounds of Rifle River Area venison on the table at a lower cost than beef from the supermarket, might have thought mostly in terms of the family larder.

In rifle deer hunting, perhaps more than in fishing or small game hunting, the prestige value is high and meat hunting too can sometimes become a prime motivation for taking to the woods. But there are other values involved in stalking the wary whitetail. To many the fellowship around a glowing campfire after a day on the runway was probably just as important as bringing home the venison. To others, their part of the 96,281 hours of hunting time in Area woods was no doubt more important to them in terms of being close to nature.

A Review of a Decade of Bow and Arrow Deer Hunting on the Rifle River Area

During the past 10 years a total of 1,757 archers entered the Rifle River Area to hunt deer with the bow and arrow. Few of this number were successful, and probably many of them went away again thinking what a tough time the Indians must have had in keeping the family wigwam supplied with venison. This all boils down to the fact that nobody could ever accuse an archer who was in his right mind of meat hunting.

Only one out of every 126 bow and arrow hunters left the Area gates with meat for the skillet, and on the average it took over 498 hours of hunting effort to

Table 5. Deer Hunting Record By Years, Rifle River Area, 1945-1954*

Yr:	Kill: Bucks: Adults	Kill: Bucks: Fawns	Kill: Does: Adults	Kill: Does: Fawns	Hunter Days	Hours Hunted	Bucks Seen	Other Deer Seen	Hours Hunted Per Deer Killed	Average Weight of Deer Killed: Bucks: Adults	Average Weight of Deer Killed: Bucks: Fawns	Average Weight of Deer Killed: Does: Adults	Average Weight of Deer Killed: Does: Fawns	Illegal Kill
1945	54				1923	9346	364	4363	173	128				16
1946	51				2159	10262	256	4947	201	121				9
1947	48				1921	8806	238	5489	184	115				8
1948	32				1784	7915	169	3861	247	112				
1949	36				1535	6985	228	4405	194	107				8
1950	40				1519	7098	187	4893	177	109				8
1951	22				1226	5020	131	3426	228	105				12
1952	28	8(1)	30	10	1527	6127	102	2801	81	110	56(2)	105	55	2
1953	66	23	35	17	4445	21879	347	9797	155	109.5(3)	51.4	90.6	47.6	38
1954	37	9	19	8	2708	12539	155	4753	171.7	111.1	49.6	86.5	51.8	9
10-yr. Aver.	41.4	13.3	28	11.6	2074.8	9597.7	217.7	4873.5	167.5	113.8	49.1	94.8	50.7	11

(1) Two of these were adult bucks with less than 3" spikes.
(2) Weight of 2 bucks with less than 3" spikes not included in average. They averaged 83 pounds.
(3) Two adult bucks with less than 3" spikes killed Dec. 1 included in these totals.
* Courtesy of The Game Division.

Table 6. Age Of Deer Killed, Rifle River Area, 1945-1954.

	6 MONTHS				1 1/2 YEARS				2 1/2 YEARS				3 1/2 to 4 1/2 YEARS				5 1/2 YEARS AND OVER			
	BUCKS		DOES		BUCKS		DOES		BUCKS		DOES		BUCKS		DOES		BUCKS		DOES	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1945[1]					28	57			10	21			9	18			2	4		
1946					29	56			12	24			8	16			2	4		
1947					30	63			14	29			4	8			0	0		
1948					19	59			12	38			1	3			0	0		
1949					33	91			2	6			1	3			0	0		
1950					24	60			13	33			3	7			0	0		
1951[2]					16	80			2	10			2	10			0	0		
1952	6	8	10	13	19[3]	25	4	5	8	11	12	16	3	4	11	14	0	0	3	4
1953	23	16	17	12	47	33	10	7	12	9	4	3	7	5	9	6	0	0	12	9
1954	9	13	8	11	25	35	2	3	10	14	4	5	2	3	4	5			8	11

(1) No measurements available for 5 bucks killed in 1945.
(2) No measurements available for 2 bucks killed in 1951.
(3) Includes 2 bucks killed during any-deer season with spikes less than 3" long.

NOTE: Age of bucks determined by antler measurement from 1945 to 1950 -
Age of deer determined by tooth development from 1951 through 1954.

One adult doe does not appear in the above figures for 1954 - jaw was shot away making aging impossible.

Compilation of Game Division

produce a single whitetail. But the number of archers entering the Area has increased from 9 in 1945 to 553 in the 1954 season (Table 7). On the other hand the number of rifle hunters has fluctuated little from year to year except for increases due mainly to the more recent open seasons on antlerless deer (Table 8).

Probably most archers take to the woods for reasons other than just venison on the dinner table, but when they do bag a deer they have the rare satisfaction of an accomplishment shared by a very few people.

A Review of a Decade of Trapping on the Rifle River Area

During the past 10 years a total of 932 trappers have entered the Rifle River Area (Table 9). For the most part they have sought the aquatic fur-bearers, and of the 1,677 pelts taken, 98.4 percent (1,650) have been those of water animals including 1,471 muskrat, 101 beaver, 75 mink, and 3 otter. In addition 23 raccoon, 2 foxes, and 2 weasels have been trapped on the Area.

Probably trapping can more legitimately be classed as a business or part-time occupation than as a recreatinnal activity. However, more trappers have entered the Area in recent years of low fur prices and unparalled opportunities for earning money by easier and more profitable means than in some of the post-war years when fur prices were almost double what they are now. Although trapping can be a cold, miserable business at times, it does, like hunting and fishing, give the person who enjoys the out-doors an excuse to spend some pleasant hours close to nature.

Fishing on Rifle River Area Lakes in 1954

Around 5 o'clock on one of those scorching afternoons in early August the door of the checking station opened and in walked a fisherman who looked like he had just finished wrestling one of the local bear. His white duck

Table 7. A decade of bow and arrow deer hunting on the Rifle River Area, 1945 through 1954

Year	Total hunter-days	Total hours of hunting	Total deer killed
1945	9	20.5	1
1946	44	132.5	1
1947	47	142.5	0
1948	44	114.0	0
1949	34	54.5	1
1950	28	45.5	0
1951	252	1,060.5	3
1952	309	1,212.5	2
1953	437	1,792.0	4
1954	553	2,405.5	2
10-year totals	1,757	6,980.0	14

Table 8. A summary of all deer hunting on the Rifle River Area during the past decade, 1945 through 1954

Year	RIFLE HUNTING					BOW AND ARROW HUNTING			COMBINED TOTALS		
	Total hunter-days	Percentage hunter-days successful		Total hours of hunting	Number killed	Total hunter-days	Total hours of hunting	Number killed	Total hunter-days	Total hours of hunting	Number killed
1945	1,923	2.8		9,346.0	54	9	20.5	1	1,932	9,366.5	55
1946	2,159	2.4		10,268.0	51	44	132.5	1	2,203	10,400.5	52
1947	1,921	2.5		8,806.0	48	47	142.5	0	1,968	8,948.5	48
1948	1,784	1.8		7,915.0	32	44	114.0	0	1,828	8,029.0	32
1949	1,535	2.3		6,985.0	36	34	54.5	1	1,569	7,039.5	37
1950	1,519	2.6		7,098.5	40	28	45.5	0	1,547	7,144.0	40
1951	1,226	1.8		5,020.5	22	252	1,060.5	3	1,478	6,081.0	25
1952	1,527	5.0	1.8[1]	6,423.5	76[2]	309	1,212.5	2	1,836	7,636.0	78[2]
1953	4,445	3.2	1.4[1]	21,879.5	141[3]	437	1,792.0	4	4,882	23,671.5	145[3]
1954	2,708			12,539.0	73[4]	553	2,405.5	2	3,261	14,944.5	75[4]
Totals for 10 years	20,747	- - -		96,281.0	573[5]	1,757	6,980.0	14	22,504	103,261.0	587[5]

[1] Percentage of successful hunter days for bucks only.
[2] Includes 40 does and 8 antlerless bucks due to special season in 1952.
[3] Includes 77 antlerless deer due to special season in 1953.
[4] Includes 36 antlerless deer due to special season in 1954.
[5] Includes 161 antlerless deer due to special seasons 1952 through 1954.

Table 9. Summary of a decade of trapping on the Rifle River Area

1945 through 1954.

Year	Total trapper permits issued	Number Taken							Total pelts	Total weight of all animals (lbs.)	Average number of pelts per permit
		Otter	Beaver	Muskrats	Mink	Raccoon	Foxes	Weasels			
1945	40	(Season closed)		10	2	2	0	0	14	42.0	0.35
1946	75	"	"	162	10	0	0	0	172	393.9	2.29
1947	52	"	"	115	8	1	2	0	126	294.4	2.42
1948	141	1	20	269	5	9	0	0	304	1,248.8	2.16
1949	118	0	38	33	7	1	0	0	79	1,269.4	0.67
1950	86	0	6	193	9	0	0	0	208	689.2	2.42
1951	144	1	6	167	8	9	0	0	191	739.1	1.33
1952	116	1	17	225	11	1	0	0	255	1,122.1	2.20
1953	88	0	10	136	4	0	0	0	150	723.2	1.70
1954	72	0	4	161	11	0	0	2	178	. . .	2.47
10-year totals and averages	932	3	101	1,471	75	23	2	2	1,677	. . .	1.79

trousers that had been neatly pressed when he entered the Area that noon were wrinkled and mud-stained, and his perspiration-soaked sport's shirt no longer looked like it belonged in an advertisement for Esquire Magazine.

"I don't think there's a single fish in that Devoe Lake," he growled as he threw his permit on the desk.

Ignoring his remark the clerk asked him what he had used for bait.

"Been plug casting," he said, "I casted till my arm came near to falling off and didn't even get a strike."

The event happened back in the summer of 1952 but it probably was repeated many times during the 1954 season, as well as every other season since the area was opened to the public in 1945. But why did this angler like 811 (70 percent) of the anglers who fished on Devoe Lake in 1954 leave the Area with an empty creel? We don't know all the answers to this question but an analysis of the creel census data might provide some possible clues.

It is reasonable to believe that many lake anglers fail to catch fish because they are poor fishermen, but the data appear to indicate that their number may not be as great as is generally believed. In 1954 only 30 percent of the anglers who fished on Dollar Lake were unsuccessful as compared to 70 percent for Devoe Lake, and this difference between the two lakes has been more or less constant during the past 10 years. Among other things, this seems to tell us that the lake as well as the angler can often be responsible for empty creels (Table 10). Therefore, assuming that the angler in question was not a poor fisherman we can conclude that one possible reason he didn't take fish was because it is usually not as easy to catch fish in Devoe Lake as it is in some other lakes. But how about the time of day and the time of the year?

Many anglers believe that the time of day this fisherman was on Devoe Lake, from noon until 5 p.m., is a poor time to catch fish. But what does the creel census tell us about this common belief? An analysis of Devoe Lake data for 1954 shows that 82 percent of the anglers who fished between noon and 6 p.m. took no fish as compared to the over-all average of 70 percent. It also shows that successful anglers fishing at this time of day averaged only 6.1 fish as compared to 6.7 for all successful anglers.

An analysis of Dollar Lake data shows that 45 percent of the anglers fishing between noon and 6 p.m. left the Area with empty creels as compared to the over-all average of 30 percent. Also, the average catch of anglers fishing at this time of day was only 6.4 fish as compared to 7.6 for all successful anglers.

Another belief held by many anglers, and one that could be applied to the fisherman in question, is that afternoon fishing is usually less productive during the warmest part of the season than at other times of the year. Therefore, the data for Devoe and Dollar lakes was analyzed to determine if the time of day in relation to the time of year might not be even more influential on an angler's success.

In the case of Devoe Lake it was found that 65.2 percent of the anglers fishing from noon until 6 p.m. during the period from July 15 through August 14 were unsuccessful as compared to 64.9 percent of all anglers fishing during this same period. In addition the average successful angler fishing at this time of year between noon and 6 p.m. took 8.5 fish as compared to 6.1 for all successful anglers in 1954.

The same analysis applied to Dollar Lake produced somewhat different results. During the same period (July 15 through August 14) 43.5 percent of the anglers who fished between noon and 6 p.m. were unsuccessful as

compared to 23.1 percent for all anglers fishing at this time of year. On the other hand successful anglers who fished during mid-summer afternoons averaged 7.0 fish in their creels as compared to 6.4 fish for anglers fishing at this time of day throughout the season.

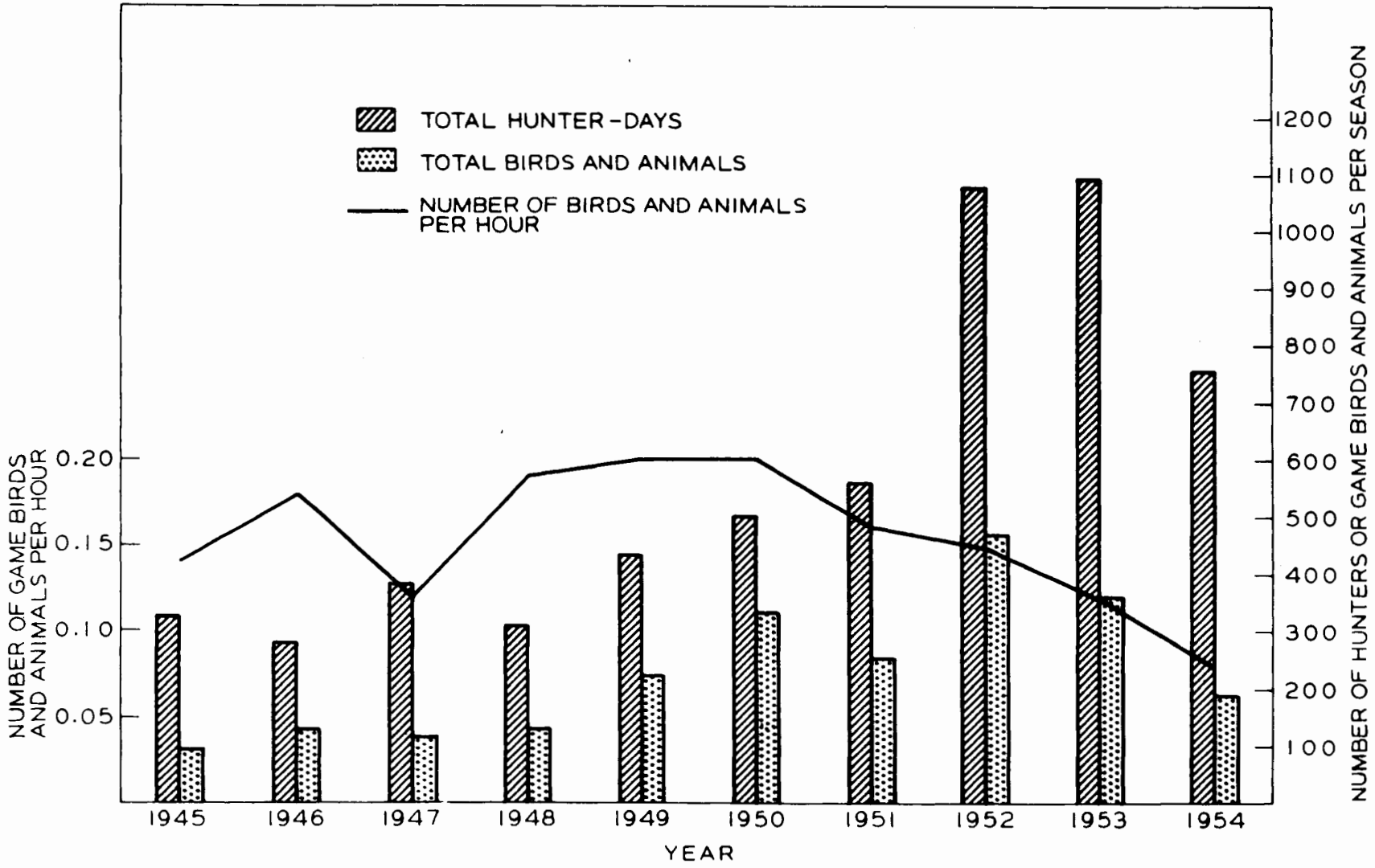
In considering angling quality as a reason for unsuccessful fishing trips in relation to the time of year, Fig. 3 shows that on Devoe Lake in 1954 the catch per hour per angler reached a peak for the season in the two-week period from July 31 to August 13. Fig. 2 in the 1952 Rifle River Area report also shows August as the peak month for Devoe Lake in both numbers and pounds per hour per angler. However, during the same period in 1954 the catch per hour per angler on Dollar Lake was lower than during periods earlier in the season but not as low as in the spring or fall. In 1952 angling quality for Dollar Lake as for Devoe Lake reached a peak in the month of August.

An investigation of fishing methods and baits might also reveal why some anglers have left the Area with empty creels. For example, the man who fished on Devoe Lake in 1952 without success was plug casting--would he have been more likely to catch fish had he used some other fishing method or bait?

A look at Table 13 shows us that, for all Area lakes combined, anglers using plugs averaged only 0.22 fish per hour. This was the lowest average for any bait recorded during the 1954 season. Also, Devoe Lake anglers who used plugs were even less successful with an average of 0.12 fish per hour. However, plugs proved more effective on Dollar Lake where they took 0.86 fish for each hour of fishing time, but even this was far below the average for any other bait used on Dollar Lake with the exception of minnows.

The angler who left the Area with an empty creel in 1952 may have been unsuccessful for one or all of the reasons mentioned. Therefore, in considering

Fig. 3. Trends in small game hunting pressure and kill over a 10-year period, 1945-1954 — Rifle River Area.


TOTAL HUNTER-DAYS
TOTAL BIRDS AND ANIMALS
NUMBER OF BIRDS AND ANIMALS PER HOUR
NUMBER OF GAME BIRDS AND ANIMALS PER HOUR
0.20
0.15
0.10
0.05
NUMBER OF HUNTERS OR GAME BIRDS AND ANIMALS PER SEASON
1200
1100
1000
900
800
700
600
500
400
300
200
100
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
YEAR

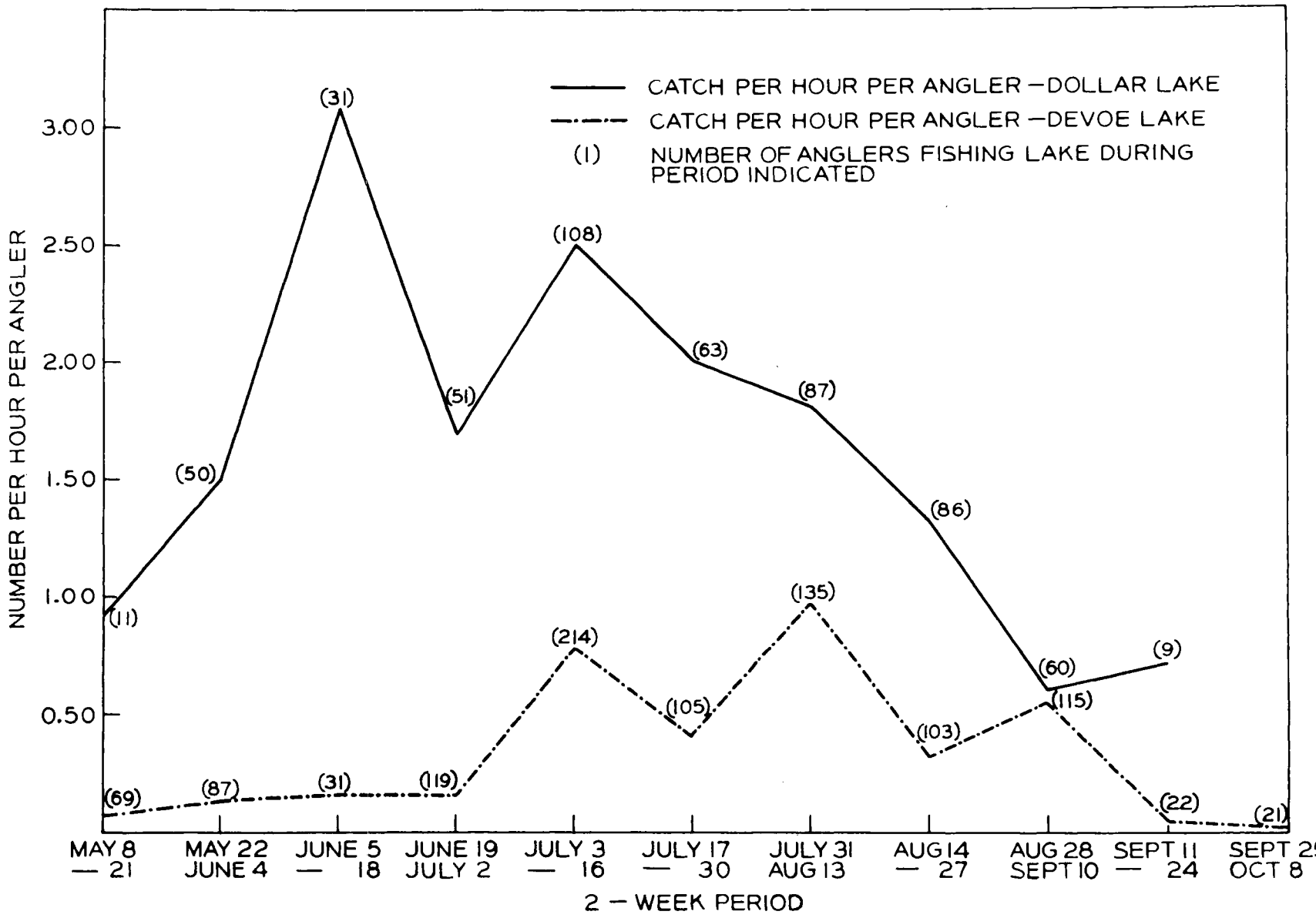
the following general statistics on lake angling in 1954 it would probably be well to keep in mind these influences on the total catch, number of unsuccessful anglers, and the catch per hour per angler.

In 1954 more anglers fished longer on the average and took fewer fish from Area lakes than in 1953. Angler days recorded for the combined lakes totaled 2,513 which was an increase of 9.7 percent (263) over the previous year. Hours of angling totaled 8,763.0 and were up 17.3 percent (1,516.5) over 1953 totals. However, the total catch of 6,308 fish (1,352 pounds) was the smallest take since 1947 and represented a drop below 1953 totals of 17.3 percent (1,322) (Table 10). This drop along with the increased fishing pressure resulted in a catch per hour per angler average of 0.73 as compared to 1.04 in 1953 and 1.25 in 1952 (Table 12). An interesting fact about this 1954 decline in angling quality was that it occurred in all Area lakes and was not just a reflection of poor fishing on two or three lakes as it has often been in the past.

Devoe Lake continued to attract more anglers than any other Area lake, but the 1,159 angler days recorded was a drop of 7.5 percent (94) below the 1953 total. However, anglers averaged 3.8 hours of fishing time as compared to 3.5 hours in 1953, and the total catch of 1,990 fish of all species was down 50 percent (1,989) resulting in a catch per hour per angler of 0.42 as compared to 0.88 the previous year (Figure 4).

No single species appeared to be responsible for this drastic reduction in the total catch from Devoe Lake. Yellow perch continued to be the most caught species but the take of 1,616 perch was 46 percent (1,399) below the 1953 total. Rainbow trout remained in second place but the total catch of 95 rainbows was 78 percent (345) below that of the previous year. Bluegills jumped from fourth position in 1953 to third place in 1954 but the total catch of this popular fish dropped 2.3 percent

Fig. 4. A comparison of the seasonal trends in catch per hour per angler on the two Area lakes most frequented by anglers — 1954.


CATCH PER HOUR PER ANGLER —DOLLAR LAKE
CATCH PER HOUR PER ANGLER —DEVOE LAKE
(1) NUMBER OF ANGLERS FISHING LAKE DURING PERIOD INDICATED
NUMBER PER HOUR PER ANGLER
3.00
2.50
2.00
1.50
1.00
0.50
(11)
(50)
(31)
(51)
(108)
(63)
(87)
(86)
(60)
(9)
(69)
(87)
(31)
(19)
(214)
(105)
(135)
(103)
(115)
(22)
(21)
MAY 8 — 21
MAY 22 JUNE 4
JUNE 5 — 18
JUNE 19 JULY 2
JULY 3 — 16
JULY 17 — 30
JULY 31 AUG 13
AUG 14 — 27
AUG 28 SEPT 10
SEPT 11 — 24
SEPT 25 OCT 8
2 — WEEK PERIOD

(2). Rock bass, which were third on the list in 1953, dropped to fourth place and the total catch of 75 represented a 61 percent (118) decrease in the number taken. Smallmouth bass were again in fifth place but the total take of 35 was 58 percent (48) below that of the previous year. Suckers came next in 1954 but the total catch of 26 was 50 percent (27) below the 1953 take. The catch of 17 black crappies was 69 percent (39) below the previous year's total, and the take of 5 pumpkinseed sunfish was down 80 percent (21). The only species increase was for brown trout in which the catch of 18 was 78 percent (14) above the 1953 take. And in 1954 anglers took the same number of largemouth bass (14) as in the previous season (Table 11).

Dollar Lake was again second among Area lakes in terms of angler days. In 1954 a total of 580 anglers fished on this consistently productive body of water for 1,870.5 hours and took 3,101 fish (557.75 pounds) of all species. These statistics represented an increase of 42.6 percent (247) in angler days, 48.1 percent (898.0) in total hours, but only a 27.2 percent (844) increase in the total catch which dropped angling quality from 2.31 per hour per angler in 1953 to 1.69 in 1954.

As usual bluegills were found in greater numbers in the creels of Dollar Lake fishermen than any other species, and the catch of 2,314 represented an increase of 29.6 percent (685) over the previous season. Black crappies moved up from third place in 1953 to second place in 1954 and the take of 298 was an increase of 47.3 percent (141) over the previous season. Yellow perch dropped from second place to third place with a total catch of 203 as compared to 204 in 1953. Pumpkinseed sunfish were again in fourth place but the total of 117 was 22.0 percent (33) below that of the previous season. Rock bass remained in fifth place with a total

catch of 62 which was 32.2 percent (20) above the 1953 total. Largemouth bass moved up from seventh to sixth place with a take of 59 which was 55.9 percent (33) above that of the previous year. And bullheads were at the bottom of the list with a total catch of 48 as compared to 49 in 1953.

North Lake, as in 1953, ranked third among Area lakes in total angler days recorded. The data show that 396 anglers fished a total of 1,298.5 hours and took 154 fish weighing a total of 107.44 pounds. This was an increase of 18.7 percent (74) in angler days, 23.7 percent (307.0) in total hours, but a decrease of 42.8 percent (115) in the catch which resulted in a drop in angling quality from 0.20 per hour per angler in 1953 to 0.14 per hour per angler in 1954. However, the average weight of fish taken from North Lake was 0.69 pound as compared to 0.55 pound the previous year.

Yellow perch, as in 1953, was the species most plentiful in angler's creels but the total catch of 96 was 28.9 percent (39) below that of the previous season. Smallmouth bass moved up from third to second position but the total take of 16 represented a drop of 58.9 percent (23). Bluegills which were fourth in 1953 moved up to third place but the catch of 14 was down 39.1 percent (9). Largemouth bass were in fourth place and was the only species more plentiful in angler's creels than in 1953. The catch of 12 was 58.3 percent (7) above that of the previous season. Rock bass, which had occupied second place in 1953, dropped to eighth place with a total catch of 2 which was 95.6 percent (44) below that of the previous season. In addition 4 northern pike, 4 suckers, 3 carp, 1 brown trout, 1 black crappie, and 1 bullhead were taken.

Loon Lake again placed fourth among Area lakes in number of angler days recorded. The 230 anglers, which was more than in any other year

except 1950, fished 830.5 hours and caught 939 fish (229.03 pounds). This was an increase in angler days of 19.6 percent (45), in hours of fishing time of 38.1 percent (316.5), and an increase in the total catch of 23.3 percent (219) resulting in a drop in angling quality from 1.25 per hour per angler in 1953 to 1.17 per hour per angler in 1954.

Bluegills, as usual, were the most numerous of any species in the creels of Loon Lake anglers. The total catch of 360 was 9.7 percent (35) above that of the previous year. Black crappies replaced bullheads as the second most caught fish in 1954 with a total catch of 260 which was an increase of 75.8 percent (197). Bullheads dropped to third place with a catch of 165 which was 12.2 percent (23) lower than in 1953. Yellow perch dropped from third to fourth place but the catch of 101 was 4.9 percent (5) above that of the previous year. The catch of 28 pumpkinseed sunfish was 28.2 percent (11) below that of 1953. The take of 15 largemouth bass made that species 66.7 percent (10) more plentiful in angler's creels, and rock bass were also 66.7 more plentiful with a total catch of 9.

Spring Lake was again fifth among Area lakes in number of angler days recorded but the 59 anglers who fished a total of 109.5 hours on this lake in 1954 took no fish as a result of a winterkill.

South Pond, as in 1953, was in sixth place among Area lakes in total angler days recorded. The 41 anglers who fished on this small body of water spent 144.5 hours of angling time and took 77 fish of all species. This was an increase of 7.3 percent (3) in angler days, 32.5 percent (47.0) in total hours, but a decrease of 19.8 percent (19) in the total catch. This resulted in a drop in angling quality of from 0.98 per hour per angler in 1953 to 0.80 per hour per angler in 1954.

Bluegills were again taken in greater numbers than any other species but the total catch of 44 was 33.3 percent (22) below that of the 1953

season. Rock bass, as in 1953, were in second place but the catch of 17 was down 5.6 percent (1). Largemouth bass moved up to third place with a total catch of 8 which was 87.5 percent (7) above that of the previous year. In addition 4 bullheads, 3 pumpkinseed sunfish, and 1 yellow perch were taken from South Pond in 1954.

In 1954 Teal Lake moved up from eighth to seventh place in total angler days recorded. The 27 anglers who fished on this lake spent 73.0 hours of angling time and took 23 fish. This was an increase of 37.0 percent (10) in angler days, 33.6 percent (24.5) in total hours, but a decrease in the total catch of 66.7 percent (46) which resulted in a drop in angling quality of from 0.79 per hour per angler in 1953 to 0.26 per hour per angler in 1954.

As usual yellow perch made up the bulk of the catch but the take of 17 perch was 74.6 percent (50) below the 1953 total. In addition 3 bluegills, 2 northern pike, and 1 sucker were taken. The northern pike may have been the result of transfer of this species from the Devoe Lake weir since none had been taken since 1949 when a winterkill was believed to have eliminated both northern pike and largemouth bass from Teal Lake.

The Devil's Wash Basin was at the bottom of the list in 1954 as far as angler days were concerned. A total of 21 anglers fished 48.0 hours and took 24 fish from this small body of water. This was a decrease of 8.7 percent (2) in angler days, 7.7 percent (4.0) in hours of fishing time, and 72.7 percent (64) in the total catch.

The rock bass was the species most abundant in angler's creels having moved up from third place in 1953, but the total catch of 10 was 52.4 percent (11) below that of the previous year. Bullheads were again in second place but the total catch of 8 was a drop of 71.4 percent (20). The catch of 3 black crappies was an increase of 66.7 percent (2) over the previous season, and the catch of 2 yellow perch was a decrease of

93.8 percent (30).. In addition 1 bluegill was taken.

It is interesting to note that the catch of largemouth bass increased in all Area lakes in which this species is normally taken except in Devoe Lake where the total catch remained the same as in 1953. For Dollar Lake the catch of largemouth bass increased 55.9 percent (33), for North Lake 58.3 percent (7), for Loon Lake 66.7 percent (10), and for South Pond 87.5 percent (7). For all lakes combined it was the only important warm-water species except the bluegill (24.4 percent) that had a proportionate increase (51.8 percent) that exceeded the increase in angling pressure (9.7 percent for angler days, 17.3 percent for hours), and it was the only warm-water species that did not show a decrease in catch totals in some Area lake.

For all lakes combined a total of 75.1 percent (1,887) of the anglers used only natural baits including worms, minnows, and insects, 13.5 percent (339) used only artificial baits including artificial flies and plugs, and 11.4 percent (287) used both natural and artificial baits (Table 14). Insects proved to be the most effective bait used by lake anglers and took fish at the rate of 1.08 per hour as compared to the over-all average of 0.72 per hour. Artificial flies and worms were about equally effective taking fish at the rates of 0.86 and 0.85 per hour respectively. (It is interesting to note that artificial flies and worms were also equally effective on the trout streams taking fish at the rates of 0.19 and 0.18 per hour.) The catch per hour for minnows was 0.36, and plugs were at the bottom of the list with a catch per hour of 0.22.

Fishing on Rifle River Area Streams in 1954

There are trout fishermen who wear a hat full of flies and trout fishermen who carry around an old tobacco can full of worms. On the streams

Table 10. General summary of angling results on Rifle River Area Lakes in 1954

Lake	Total angler-days	Number angler-days 0-fish	Percentage of angler-days 0-fish	Total hours of angling	Total game-fish taken	Total pounds of game fish	Total rough fish taken	Total pounds of rough fish	Total catch all species	Total weight of all fish taken
Devoe Lake	1,159	811	70.0	4,388.5	1,960	388.75	30	32.22	1,990	420.97
Dollar Lake	580	174	30.0	1,870.5	3,053	531.59	48	26.16	3,101	557.75
Devil's Wash Basin	21	13	61.9	48.0	16	3.06	8	2.69	24	5.75
Loon Lake	230	86	37.7	830.5	773	186.56	166	42.47	939	229.03
North Lake	396	337	85.1	1,298.5	146	80.38	8	27.06	154	107.44
South Pond	41	17	41.4	144.5	73	20.16	4	2.91	77	23.06
Spring Lake	59	59	100.0	109.5	0	- - -	0	- - -	0	- - -
Teal Lake	27	18	66.7	73.0	22	7.50	1	1.19	23	8.69
Lake totals 1954	2,513	1,515	60.3	8,763.0	6,043	1,218.00	265	134.70	6,308	1,352.70
Frogging and Turtle hunting	33	0	0	67.0	Frogs 81	pounds 26.0	Turtles 5	pounds 61.5		

NOTE: Game fish includes brown and rainbow trout, largemouth bass, smallmouth bass, northern pike, bluegills, pumpkinseeds, rock bass, crappies, and yellow perch. Rough fish includes bullheads, suckers, and carp.

Table 11. Species of fish taken from Rifle River Area in 1954.

Lake	Large-mouth bass	Small-mouth bass	North-ern pike	Blue-gills	P'seed.	Yellow perch	Rock bass	Black crappies	Rainbow trout	Brown trout	Bull-heads	White sucker	Carp
Devoe Lake													
Number	14	35	1	84	5	1,616	75	17	95	18	4	26	0
Wt. oz.	313.5	510.5	38.0	290.5	16.5	3,016.0	185.0	148.0	1,343.0	359.0	37.0	478.5	---
Dollar Lake													
Number	59	0	0	2,314	117	203	62	298	0	0	48	0	0
Wt. oz.	770.0	---	---	5,584.0	347.0	489.5	265.5	1,049.5	---	---	418.5	---	---
Devil's W.B.													
Number	0	0	0	1	0	2	10	3	0	0	8	0	0
Wt. oz.	---	---	---	3.0	---	5.0	27.5	13.5	---	---	43.0	---	---
Loon Lake													
Number	15	0	0	360	28	101	9	260	0	0	165	1	0
Wt. oz.	350.0	---	---	909.5	81.5	249.5	46.5	1,348.0	---	---	661.0	18.5	---
North Lake													
Number	12	16	4	14	0	96	2	1	0	1	1	4	3
Wt. oz.	539.0	333.0	172.5	38.0	---	156.5	9.0	11.0	---	27.0	13.0	56.0	364.0
South Pond													
Number	8	0	0	44	3	1	17	0	0	0	4	0	0
Wt. oz.	85.5	---	---	168.0	10.5	3.5	55.0	---	---	---	46.5	---	---
Spring Lake													
Number	0	0	0	0	0	0	0	0	0	0	0	0	0
Wt. oz.	---	---	---	---	---	---	---	---	---	---	---	---	---
Teal Lake													
Number	0	0	2	3	0	17	0	0	0	0	0	1	0
Wt. oz.	---	---	59.5	6.0	---	54.5	---	---	---	---	---	19.0	---
1954 totals													
Number	108	51	7	2,820	153	2,036	175	579	95	19	230	32	3
Wt. oz.	2,058.0	843.5	270.0	6,999.0	455.5	3,974.5	588.5	2,570.0	1,343.0	386.0	1,771.5	572.0	364.0
1953 totals													
Number	52	122	7	2,131	226	3,702	323	282	440	4	287	54	0
1952 totals													
Number	72	84	15	2,178	236	3,605	201	249	2	3	345	23	0

Table 12. Angling quality on Rifle River Area lakes in 1954 and comparison with angling quality in 1953 and 1952.

Lake	Year	HOUR QUALITY			ACRE QUALITY		
		Number per hour	Pounds per hour	Number per hour per angler	Number per acre	Pounds per acre	Hours fished per acre
Devoe Lake	1954	0.45	0.11	0.42	15.34	3.64	33.83
	(1953)	(0.91)	(0.20)	(0.88)	(30.68)	(6.81)	(33.89)
Dollar Lake	1954	1.66	0.30	1.69	240.39	43.24	145.00
	(1953)	(2.32)	(0.39)	(2.31)	(174.96)	(29.19)	(75.39)
Devil's W.B.	1954	0.50	0.12	0.59	18.46	4.42	36.92
	(1953)	(1.69)	(0.30)	(1.46)	(67.69)	(11.83)	(40.00)
Loon Lake	1954	1.13	0.28	1.17	54.59	13.32	48.26
	(1953)	(1.40)	(0.31)	(1.25)	(41.86)	(9.47)	(29.88)
North Lake	1954	0.12	0.08	0.14	1.62	1.13	13.67
	(1953)	(0.27)	(0.15)	(0.20)	(2.83)	(1.56)	(10.44)
South Pond	1954	0.53	0.16	0.80	59.23	17.74	111.15
	(1953)	(0.98)	(0.23)	(0.98)	(73.85)	(17.23)	(75.00)
Spring Lake	1954	0.00	0.00	0.00	0.00	0.00	0.00
	(1953)	(0.88)	(0.25)	(0.15)	(2.10)	(0.60)	(2.40)
Teal Lake	1954	0.32	0.12	0.26	3.97	1.50	12.59
	(1953)	(1.42)	(0.32)	(0.79)	(11.90)	(2.46)	(13.28)
Average for all lakes	1954	0.72	0.15	0.73	18.80	3.88	26.11
	1953	(1.05)	(0.23)	(1.04)	(22.48)	(4.91)	(21.88)
	1952	(1.19)	(0.26)	(1.25)	(20.58)	(4.51)	(17.33)

Table 13. Number of fish taken on various kinds of baits and number of hours of angling that these baits were used on Rifle River Area lakes, 1954.

Lake	ARTIFICIAL BAITS				NATURAL BAITS					
	Fly		Plug		Worms		Minnows		Insects	
	Total hours used	Total fish taken	Total hours used	Total fish taken	Total hours used	Total fish taken	Total hours used	Total fish taken	Total hours used	Total fish taken
Devoe	107.75	10	569.25	66	3,223.00	1,758	466.00	141	22.50	15
Dollar	110.00	249	142.50	122	1,504.75	2,608	39.75	20	73.50	102
Devil's W.B.	6.50	2	0	---	29.50	20	12.00	2	0	---
Loon	25.25	14	44.00	44	617.00	688	144.25	193	0	---
North	50.00	6	310.25	8	573.50	129	360.75	11	0	---
									4.00 (fish eggs)	0
South Pond	23.75	3	0	---	120.75	74	0	---	0	---
Spring	0	---	6.00	0	93.75	0	9.75	0	0	---
Teal	6.25	0	0.50	0	48.00	15	7.75	6	10.50	2
Total, 1954	329.50	284	1,072.50	240	6,210.25	5,292	1,040.25	373	110.50	119
Percent of total catch and hours	3.8	4.5	12.2	3.8	70.9	83.9	11.9	5.9	1.3	1.9
Catch per hour	0.86		0.22		0.85		0.36		1.08	

Table 14. Numbers of anglers using various kinds of baits on Rifle River Area lakes in 1954

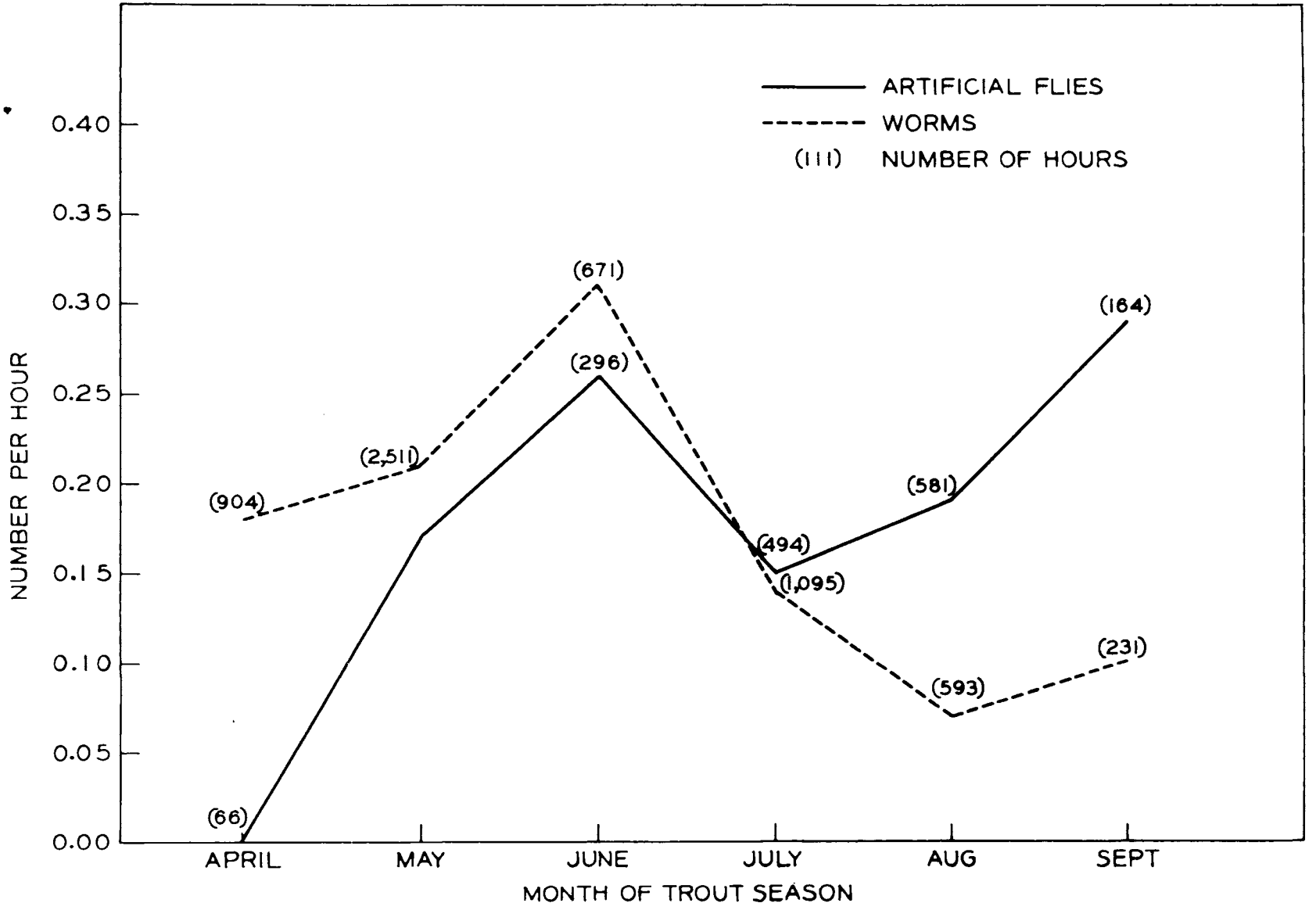
Lake	ARTIFICIAL ONLY			NATURAL ONLY							ARTIFICIAL AND NATURAL		
	Flies only	Plugs only	Flies and plugs	Worms only	Minnows only	Insects only	Worms and minnows	Worms and insects	Minnows and insects	Worms, minnows and insects	Flies and worms or minnows	Plugs and worms or minnows	Flies, plugs, worms and minnows
Devoe	24	100	17	708	33	0	123	10	0	4	5	129	6
Dollar	31	36	2	412	1	7	8	24	10	0	13	29	7
Devil's W.B.	1	0	0	12	4	0	0	0	0	0	4	0	0
Loon	10	6	1	145	18	0	35	0	0	0	5	10	0
South Pond	1	0	0	35	0	0	0	0	0	0	5	0	0
North	16	76	11	131	64	0	31	0	0	0	2	56	9
Spring	0	6	0	47	3	0	3	0	0	0	0	0	0
Teal	1	0	0	7	0	0	5	7	0	0	5	2	0
Total	84	224	31	1,497	123	7	205	41	10	4	39	226	22
Percent of total	3.4	8.9	1.2	59.6	4.9	0.3	8.2	1.6	0.4	0.2	1.6	9.0	0.9
Percent of total by group		13.5					75.1					11.4	

of the Rifle River Area you are more likely to see a fisherman with a worm can stuffed in his hip pocket than one with flies in his hat, but worms or flies the trout angler's chances of catching fish in 1954 were just about equal (Table 18). That is, they were just about equal on the basis of a season average or for those who fished in July, but the early season angler was more likely to take fish when he used worms and the late season angler was more likely to take fish when he used flies (Fig. 5).

However, the weary executives and tired factory workers who left stuffy offices and monotonous assembly lines in 1954 to relax, recuperate, and indulge in the prince of sports on Area streams were, on the average, not as successful in creeling trout as in 1953. Out of a total of 3,501 trout fishermen only 751 (21 percent) took fish as compared to 818 (26 percent) out of a total of 3,036 anglers in the previous season (Table 3). Also, the successful angler in 1954 took only 2.2 trout per fishing trip as compared to 2.5 trout per trip in 1953. And in addition the average trout fisherman spent 3.0 hours on the stream as compared to 2.6 hours the previous season, and this factor along with the reduced catch (1,615 as compared to 2,017) dropped angling quality from 0.20 per hour per angler in 1953 to 0.14 in 1954 (Table 16).

A total of 3,175 (90.7 percent) of the trout fishermen who entered the Area in 1954 enjoyed the revitalizing tonic of north wood's peace and solitude on the Rifle River. For 672 (21 percent) of this total the pleasure of creeling trout was added to the other pleasures and benefits of trout fishing. However, successful anglers on the Rifle in 1954 average only 2.2 trout per fishing trip as compared to 2.6 per fishing

Fig. 5. Trends in angling quality (catch per hour) for artificial flies and worms--Rifle River (lower), 1954.


ARTIFICIAL FLIES
WORMS
(111) NUMBER OF HOURS
NUMBER PER HOUR
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
(671)
(164)
(296)
(2,511)
(904)
(581)
(494)
(1,095)
(231)
(593)
(66)
APRIL
MAY
JUNE
JULY
AUG
SEPT
MONTH OF TROUT SEASON

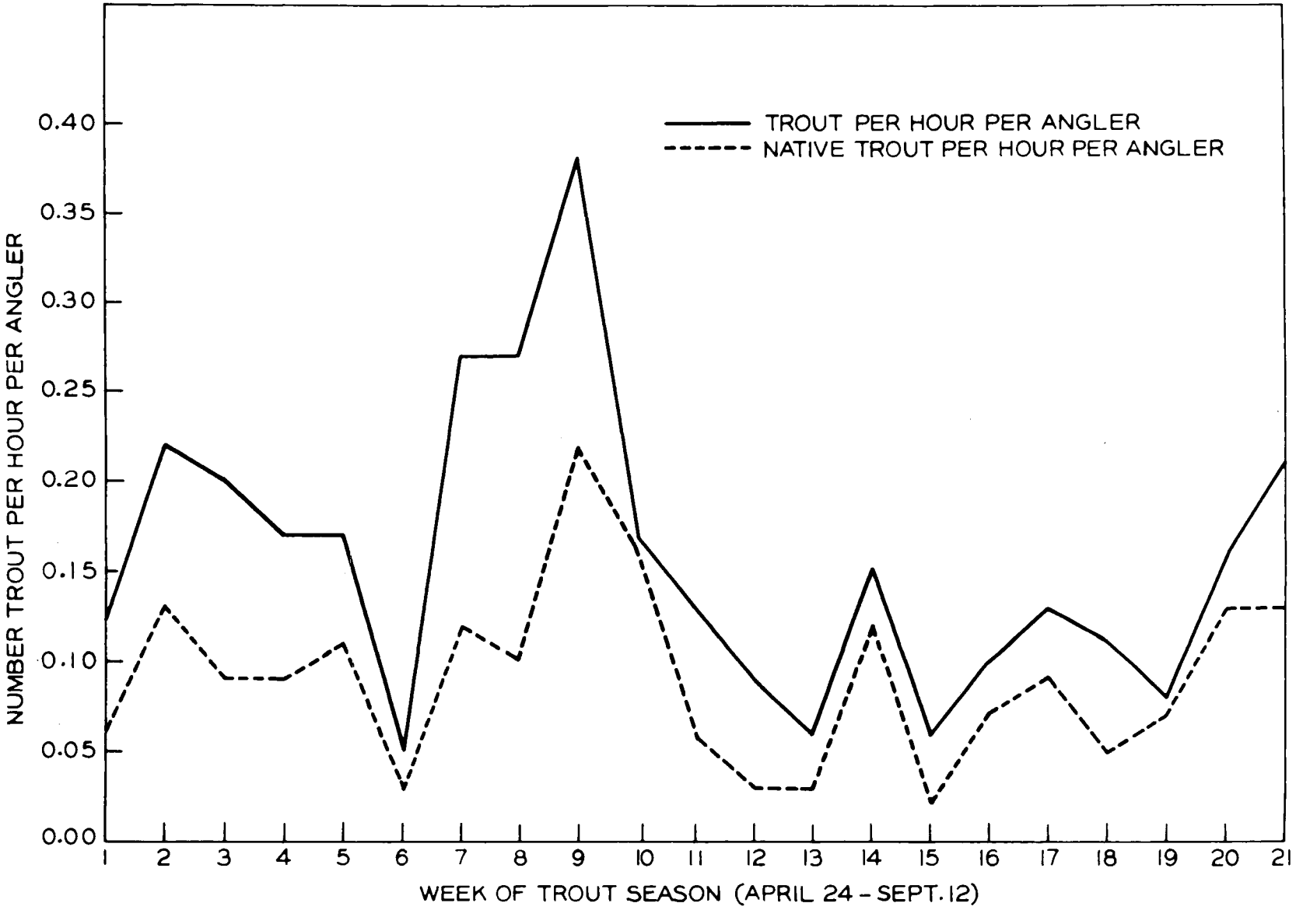
trip for the 724 (27 percent) successful anglers in 1953.

With the total catch of 1,459 trout reflecting a drop of 23.8 percent (456), and the 9,746 hours of fishing time an increase of 25.2 percent (2,455.0), angling quality for the Rifle River dropped from 0.21 per hour per angler in 1953 to 0.13 in 1954. Anglers who fished the lower Rifle had their best luck during the ninth week of the season when trout were taken at the rate of 0.38 per hour per angler (0.22 for native trout) and their poorest luck during the sixth week when the catch per hour per angler was down to 0.05 (0.03 for native trout) (Fig. 6).

Anglers, who added greater pleasure to the pleasant sport of trout fishing by spending the winter tying flies in preparation for a fishing trip to the Rifle River, were rewarded at the average rate of 0.18 fish per hour when they put their bits of hair and feathers to the test. This was exactly the same catch per hour average experienced by the anglers with shovels and worm cans, and the same as the average for all streams combined. On the basis of time and fish, fly fishermen spent a total of 2,350.0 hours (24.1 percent of the total) on the Rifle and took 422 fish of all species (24.7 percent of the total). Worm fishermen angled for a total of 7,176.25 hours (73.6 percent of the total) and took 1,273 fish of all species (75.7 percent of the total). In addition anglers took 3 fish on plugs in 73.5 hours of fishing time, 2 fish on minnows in 73.0 hours, and 5 fish on insects in 74.25 hours.

Fishing yield, measured on the basis of stream area, was 11.8 trout (5.0 pounds), and 42.2 fish of all species (33.9 pounds), per acre for the upper Rifle River (from the mouth of Houghton Creek to the Devoe Lake dam) and 74.9 trout (30.7 pounds), and 81.5 fish of all species (36.8 pounds), per acre for the lower Rifle. For the entire Rifle River within the boundaries of the Area it was 63.9 trout (26.2 pounds) per acre, and 75.4 fish of all species (36.2 pounds) per acre of stream surface area.

Fig. 6. Catch per hour per angler trends on Lower Rifle River, 1954.


TROUT PER HOUR PER ANGLER
NATIVE TROUT PER HOUR PER ANGLER
NUMBER TROUT PER HOUR PER ANGLER
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
WEEK OF TROUT SEASON (APRIL 24 - SEPT. 12)

Besides trout, anglers who fished on the Rifle River in 1954 took 246 warm-water fish, 79.6 percent (196) of which were suckers (Table 17). This was an increase of 46.3 percent (114) over the 1953 season and represents 14.4 percent of the total catch of all species on the Area's largest stream. For the upper Rifle the 122 warm-water fish taken was an increase of 51.6 percent (63), and for the lower Rifle the catch of 124 was an increase of 41.1 percent (51).

Gamble Creek was again second among Area trout streams in total angler days, total hours of fishing time, and total fish taken. The 175 angler days recorded for Gamble Creek in 1954 was an increase of 8.6 percent (15), the 341.0 hours an increase of 19.6 percent (67.0), and the 84 fish (82 trout) an increase of 45.2 percent (38) over the 1953 totals. Angling quality increased from 0.16 trout per hour per angler in 1953 to 0.24 in 1954. This was also the only stream on which fly fishermen took more fish and at a significantly higher rate per hour than worm fishermen. A total of 48 fish (57.1 percent of the total) were taken on flies at the rate of 0.46 per hour, while 35 fish (41.7 percent of the total) were taken on worms at the rate of 0.16 per hour. In addition one fish was taken on insects. Anglers using flies fished 105.25 hours (30.9 percent of the total), and those using worms fished 223.0 hours (65.4 percent of the total).

Production for the upper Gamble based on stream area was 23.1 trout (9.0 pounds) per acre, and for the lower Gamble 11.8 trout (5.0 pounds) and 12.2 fish of all species (5.1 pounds) per acre. For the entire stream within the boundaries of the Area it was 13.8 trout (5.7 pounds), and 14.2 (5.8 pounds) fish of all species, per acre.

Houghton Creek, as in 1953, was third among Area streams in total angler days and total hours of fishing time, but it dropped to fourth place behind Fontinalis Creek in number of fish taken. The 59 angler days recorded for

Houghton Creek in 1954 was an increase of 15.7 percent (11), the 127.0 hours an increase of 3.9 percent (5.0), and the total catch of 42 fish of all species an increase of 33.3 percent (14) over 1953 totals. However, the catch of 30 trout by Houghton Creek anglers was only an increase of 13.3 percent (4). Angling quality dropped from 0.17 to 0.14 per hour per angler for trout, but increased from 0.20 to 0.23 for all species.

Fly fishermen on Houghton Creek took 5 fish (11.9 percent of the total) at the rate of 0.17 per hour, and worm fishermen took 36 fish (85.7 percent of the total) at the rate of 0.39 per hour. Flies were used for a total of 29.0 hours (22.8 percent of the total) and worms for a total of 93.0 hours (73.2 percent of the total). Anglers using minnows fished a total of 4.0 hours and took 1 fish, and one angler used a plug for 1.0 hour without success.

Production on the basis of stream area was 33.7 trout (15.9 pounds), and 47.2 fish of all species (25.9 pounds), per acre.

In addition to trout, 12 suckers were taken from Houghton Creek in 1954. This was an increase of 83.3 percent in the total catch of warm-water fish over that of the 1953 season.

In 1954 Fontinalis Creek moved up from fifth place to fourth place among Area streams in total angler days and hours of fishing time, and from fourth place to third place in the number of fish taken. The 50 angler days recorded for this small stream was an increase of 48.0 percent (24), the 103.5 hours of fishing time an increase of 68.1 percent (70.5), and the catch of 35 trout an increase of 45.7 percent (16) over the 1953 season. However, angling quality dropped from 0.36 per hour per angler in 1953 to 0.28 in 1954.

Only 3 hours of unsuccessful fly fishing were recorded for Fontinalis Creek probably because the stream is too small and brushy to lend itself to

this method of angling. Worm fishermen took 34 trout in 97.0 hours (97.1 percent of the total) of fishing time, and at a rate of 0.35 per hour. One angler used insects and took 1 trout at the rate of 0.67 per hour, and 2 hours of fishing time were recorded for unsuccessful plug fishing.

Production on the basis of stream area was 37.2 trout (11.1 pounds) per acre.

Brown Trout Creek which was in fourth place among Area streams in total angler days and hours of fishing time in 1953 dropped to fifth place behind Fontinalis Creek in 1954. However, in terms of total catch this small marginal stream retained its fifth place position of the previous year. The 17 angler days recorded in 1954 was a decrease of 61.4 percent (27), the 35.5 hours of angling time a decrease of 38.3 percent (22.0), and the total catch of 6 fish of all species a decrease of 14.3 percent (1). But the take of 6 trout was the same as in 1953. Angling quality for all species increased from 0.04 per hour per angler to 0.20, and for trout from 0.09 in 1953 to 0.20 in 1954.

No fly fishing was recorded for Brown Trout Creek probably because, as in the case of Fontinalis Creek, stream-side conditions and the size of the stream are not favorable to this method of angling. However, anglers using worms took 5 fish (83.3 percent of the total) in 26.5 hours of fishing time (74.6 percent of the total), and at the rate of 0.19 fish per hour. Fishermen using minnows for bait took 1 fish (16.7 percent of the total) in 7.0 hours (19.7 percent of the total), and at the rate of 0.14 fish per hour.

Production based on stream area was 2.3 trout (0.9 pound) per acre.

Skunk Creek was again in sixth place among area streams in terms of angler days and total hours of fishing time, but the 15 anglers who fished a total of 23.5 hours took no fish. This was a decrease of 42.3 percent (11)

in angler days, and 29.8 percent (10) in total hours of fishing time. In the previous season 2 trout had been taken at the rate of 0.08 per hour per angler.

The Diversion was again at the bottom of the list (seventh) in terms of angler days and hours of fishing time, and in sixth place in total catch. The 10 angler days recorded for this man-made trout stream was a decrease of 33.3 percent (5), the 17.0 hours a decrease of 52.1 percent (18.5), and the catch of 5 fish exactly the same as in 1953. However, the total catch of 3 trout was a drop of 40.0 percent (2). Angling quality for all species increased from 0.13 per hour per angler to 0.30, but dropped from 0.13 to 0.10 per hour per angler for trout.

Fly fishermen angled a total of 3 hours on the Diversion and took no fish. A total of 2 fish were taken on worms (40.0 percent of the total) in 8.0 hours of fishing time (47.1 percent of the total) and at the rate of 0.25 per hour. Insects accounted for 3 fish (60.0 percent of the total) in 6.0 hours of fishing time (35.3 percent of the total) and at the rate of 0.50 per hour.

In addition to trout 2 suckers were taken from the Diversion.

Small Game Hunting on the Rifle River Area in 1954

The small game hunter enjoys the rare privilege of being in the woods at one of the most pleasant and colorful times of the year. He and the bow and arrow deer hunter alone share the forest when the air is most invigorating and the beauty of the landscape is enough to quicken the pulse of the dullest of individuals. And this reward was all that most Area hunters took home with them in 1954 since the bag of 0.08 birds and animals per hour of hunting time was the lowest average in Rifle River Area history (Fig. 3).

Table 15. A summary of angling results on Rifle River Area streams in 1954

(For detailed information see Tables 10, 11, and 12)

Stream	Total angler-days	Number angler-days, 0 trout	Percentage angler-days, 0 trout	Total hours of angling	Brook trout		Brown trout		Rainbow trout		All trout		Other fish	
					Number	Wt. (oz.)	Number	Wt. (Oz.)	Number	Wt. (Oz.)	Number	Wt. (oz.)	Number	Wt. (Oz.)
Rifle (upper)	539	485	90	1,212.0	0	---	39	241.3	8	75.9	47	317.2	122	1,852
Rifle (lower)	2,636	2,018	77	8,534.0	1	3.5	969	7,241.9	442	2,016.5	1,412	9,258.4	124	1,823
Rifle R. (totals)	3,175	2,503	79	9,746.0	1	3.5	1,008	7,483.2	450	2,092.4	1,459	9,575.6	246	3,675
Gamble (upper)	52	45	87	101.5	0	---	25	155.0	0	---	25	155.0	0	---
Gamble (lower)	123	90	73	239.5	4	18.5	48	349.5	5	21.2	57	389.2	2	2.5
Gamble Cr. (totals)	175	135	77	341.0	4	18.5	73	504.5	5	21.2	82	544.2	2	2.5
Houghton Cr.	59	47	80	127.0	0	---	27	212.8	3	13.4	30	226.2	12	143
Brown Trout Cr.	17	12	71	35.5	2	5.0	4	30.0	0	---	6	35.0	0	---
Fontinalis Cr.	50	30	60	103.5	10	43.6	21	108.0	4	15.5	35	167.1	0	---
Diversion	10	8	80	17.0	0	---	3	31.8	0	---	3	31.8	2	9
Skunk Cr.	15	15	100	23.5	0	---	0	---	0	---	0	---	0	---
STREAM TOTALS	3,501	2,750	79	10,393.5	17	70.6	1,136	8,370.3	462	2,142.5	1,615	10,583.4	262	3,929.5
Whirlpool	59	37	63	130.5	0	---	0	---	0	---	0	---	54*	746

*All fish from the Whirlpool were taken by spearing.

Table 16. Angling quality on Rifle River Area trout streams, 1954

Stream*	Trout		All fish		Native trout	All trout	All fish
	Number per hour	Pound per hour	Number per hour	Pound per hour	Number per hour per angler	Number per hour per angler	Number per hour per angler
Rifle R. (upper)	0.04	0.02	0.14	0.11	0.02	0.04	0.15
Rifle R. (lower)	0.16	0.17	0.18	0.08	0.08	0.15	0.17
RIFLE RIVER	0.15	0.06	0.17	0.09	0.07	0.13	0.16
Gamble Cr. (upper)	0.25	0.10	0.25	0.10	0.21	0.23	0.23
Gamble Cr. (lower)	0.24	0.10	0.25	0.10	0.18	0.24	0.25
GAMBLE CREEK	0.24	0.10	0.25	0.10	0.19	0.24	0.24
HOUGHTON CREEK	0.24	0.11	0.33	0.18	0.10	0.14	0.23
BROWN TROUT CREEK	0.17	0.06	0.17	0.06	0.20	0.20	0.20
FONTINALIS	0.34	0.10	0.34	0.10	0.25	0.28	0.28
DIVERSION	0.18	0.12	0.29	0.15	0.03	0.10	0.30
All streams combined							
1954	0.16	0.06	0.18	0.09	0.08	0.14	0.17
1953	0.26	0.09	0.27	0.09	0.10	0.20	0.22
1952	0.13	0.07	0.20	0.09	...	...	...

*Note: 15 anglers fished 23.5 hours on Skunk Creek but took no fish.

Table 17. Species composition of warm-water fish taken from the Rifle River Area trout streams and the Whirlpool in 1954

Stream	Bluegills		Pumpkinseed		Rock Bass		Yellow perch		Crappies		Suckers		Carp		Chubs		Bullheads	
	Number	Wt. (oz.)	Number	Wt. (oz.)	Number	Wt. (oz.)	Number	Wt. (oz.)	Number	Wt. (oz.)	Number	Wt. (oz.)	Number	Wt. (oz.)	Number	Wt. (oz.)	Number	Wt. (oz.)
Rifle R. (lower)	0	...	1	1.0	5	29.0	4	5.0	1	4.0	107	1,638.0	2	132.0	4	14.0	0	...
Rifle R. (upper)	1	4.0	0	...	21	49.5	7	16.0	0	...	89	1,623.0	2	144.0	0	...	0	...
Gamble Cr. (lower)	0	...	0	...	0	...	2	2.5	0	...	0	...	0	...	0	...	0	...
Houghton Cr.	0	...	0	...	0	...	0	...	0	...	12	143.0	0	...	0	...	0	...
Diversion	0	...	0	...	0	...	0	...	0	...	2	9.0	0	...	0	...	0	...
Stream totals	1	4.0	1	1.0	26	78.5	13	23.5	1	4.0	210	3,413.0	4	276.0	4	14.0	0	...
Whirlpool	0	...	0	...	0	...	0	...	0	...	50*	474.0	3*	264.0	0	...	1*	8.0
Grand totals	1	4.0 (0.25 lb.)	1	1.0 (0.06 lb.)	26	78.5 (4.9 lb.)	13	23.5 (1.47 lb.)	1	4.0 (0.25 lb.)	260*	3,887.0 (242.94 lb.)	7	540.0 (33.75 lb.)	4	14.0 (0.88 lb.)	1	8.0 (0.50 lb.)

* All taken by spearing.

Table 18. Number of fish taken on various kinds of baits and number of hours of angling that these baits were used on Rifle River Area streams, 1954

Stream	ARTIFICIAL BAITS				NATURAL BAITS					
	Fly		Plug		Worms		Minnow		Insects	
	Total hours used	Total fish taken	Total hours used	Total fish taken	Total hours used	Total fish taken	Total hours used	Total fish taken	Total hours used	Total fish taken
Rifle R. (upper)	113.50	8	12.25	0	1,070.25	161	9.25	0	6.75	0
Rifle R. (lower)	2,236.50	414	61.25	3	6,106.00	1,112	63.75	2	67.50	5
RIFLE RIVER	2,350.00	422	73.50	3	7,176.25	1,273	73.00	2	74.25	5
Gamble (upper)	26.00	17	0	...	73.00	8	1.50	0	1.00	0
Gamble (lower)	79.25	31	3.25	0	150.00	27	4.25	0	2.75	1
GAMBLE CREEK	105.25	48	3.25	0	223.00	35	5.75	0	3.75	1
HOUGHTON CREEK	29.00	5	1.00	0	93.00	36	4.00	1	0	...
BROWN TROUT CR.	0	...	2.00	0	26.50	5	7.00	1	0	...
FONTINALIS CREEK	3.00	0	2.00	0	97.00	34	0	...	1.50	1
DIVERSION	3.00	0	0	...	8.00	2	0	...	6.00	3
SKUNK CREEK	2.25	0	0	...	21.25	0	0	...	0	...
Totals 1954	2,492.50	475	81.75	3	7,645.00	1,385	89.75	3	85.50	10
Percent of total catch and hours	23.9	25.3	0.8	0.2	73.6	73.8	0.9	0.2	0.8	0.5
Catch per hour	0.19		0.04		0.18		0.03		0.12	

Perhaps this scarcity of small game was also responsible for the abrupt end to the steady yearly increase in the number of hunters entering the Area that started in 1948. At least the 755 hunter days recorded in 1954 was a decrease of 31.0 percent (340) from the previous year, and the total kill of 189 game birds and animals, smallest in the last 6 years, was a drop of 47.1 percent (168) from the 1953 total (Table 19).

All important game birds and animals except the cottontail rabbit were less plentiful in hunters gamebags than in the previous season. The 78 ruffed grouse taken in 1954 was the smallest kill of this popular game bird since 1947 and was 59.2 percent (113) below the 1953 total, and 76.4 percent (253) below that of the peak year of 1952. The kill of 11 woodcock was the smallest since 1945 when only 8 were taken, and was 72.5 percent (29) below the 1953 total, and 81.9 percent (50) below that of the peak year of 1952. The bag of 33 ducks was a drop of 17.5 percent (7) below the 1953 total, and 54.2 percent below that of the peak year of 1949. The 41 showshoe hares bagged by Area small game hunters was a drop of 42.2 percent (30) below the 1953 total.

Probably the happiest people on the Rifle River Area during the 1954 small game season were the cottontail hunters who benefited from a 44.0 percent (11) increase in the total bag of rabbits and the bow and arrow deer hunters who were less often annoyed by the discharge of shotguns.

Rifle Deer Hunting on the Rifle River Area in 1954

On each November 15th the first pale light of dawn finds the Rifle River Area checking station bustling with excitement as preparations are made to admit the waiting army of deer hunters. Then as the chain which serves as a gate is pulled back they pour in pausing only long enough to sigh their permits before dashing off to take a stand beside their favorite runway or to wander over the hills in search of an antlered buck.

In 1954 a total of 489 red-coated hunters entered the Area on the opening day of the rifle deer season, spent 3,040 hours in the field, and shot 22

Table 19. A summary of small game hunting on the Rifle River Area, 1954

1-week period (Sat-Fri.)	Total hunter days	Total hours of hunting	Number of game birds and animals						Total birds and animals
			Grouse	Woodcock	Ducks	Cotton-tails	Snow-shoes	Squirrel	
Jan. 1- 8	35	112.0	---	---	---	5	8	---	13
" 9-15	11	23.0	---	---	---	---	---	---	0
" 16-22	8	17.0	---	---	---	---	---	---	0
" 23-29	3	3.0	---	---	---	---	---	---	0
" 30-Feb. 5	0	---	---	---	---	---	---	---	---
Feb. 6-12	1	1.0	---	---	---	---	---	---	0
" 13-19	7	15.0	---	---	---	---	1	---	1
" 20-28	14	34.0	---	---	---	1	7	---	8
Oct. 1- 8	333	623.0	46	6	14	3	1	---	70
" 9-15	126	398.0	12	3	6	2	1	---	24
" 16-22	65	135.5	7	1	2	---	---	---	10
" 23-29	29	63.0	6	1	---	---	1	1	9
" 30-Nov. 5	26	50.5	4	---	---	---	1	---	5
Nov. 6-12	32	79.0	3	---	7	2	---	---	12
" 13-19	8	12.0	---	---	1	1	---	---	2
" 20-26	2	11.0	---	---	2	1	---	---	3
" 27-Dec. 3	4	32.0	---	---	---	1	2	---	3
Dec. 4-10	17	63.0	---	---	---	3	10	---	13
" 11-17	19	49.0	---	---	---	3	9	---	12
" 18-24	13	28.0	---	---	---	---	---	---	0
" 25-31	2	9.0	---	---	---	3	---	---	3
Totals 1954	755	2,242.0	78	11	33	25	41	1	189

antlered bucks (Table 20). This was 29.9 percent (146) more hunters than entered the Area on the opening day of the 1953 season, an increase of 25.8 percent (783.5) in total hours hunted, and a drop of 12.0 percent (3) in the number of bucks killed.

During the entire 1954 rifle season 2,708 hunters entered the Area, hunted for a total of 12,539.0 hours, and left with 37 antlered bucks, 19 does, and 17 fawns. These figures indicate a decrease of 39.1 percent (1,737) in hunter days, 42.7 percent (9,340.0) in total hours, 43.9 percent (29) in the number of bucks killed, 57.5 percent (23) in the number of fawns taken, and 45.7 percent (16) in the bag of does. The decrease in hunter days and total hours in 1954 was a result of a drop in hunting pressure at the end of the season. During the first part of the season hunting pressure was well ahead of that of the previous year.

A total of 2,670 (98.6 percent) of the rifle deer hunters who entered the Area in 1954 were Michigan residents. Of this total 512 (19.2 percent) came from Wayne County and 450 (16.8 percent) were from Genesee County. In all, 44 of Michigan's counties were represented. The remaining 38 hunters (1.4 percent) came from 4 states with Indiana having the highest representation (21) (Table 21).

Locations where antlered bucks were killed were well distributed throughout the Area (Fig. 7).

Bow and Arrow Deer Hunting on the Rifle River Area in 1954

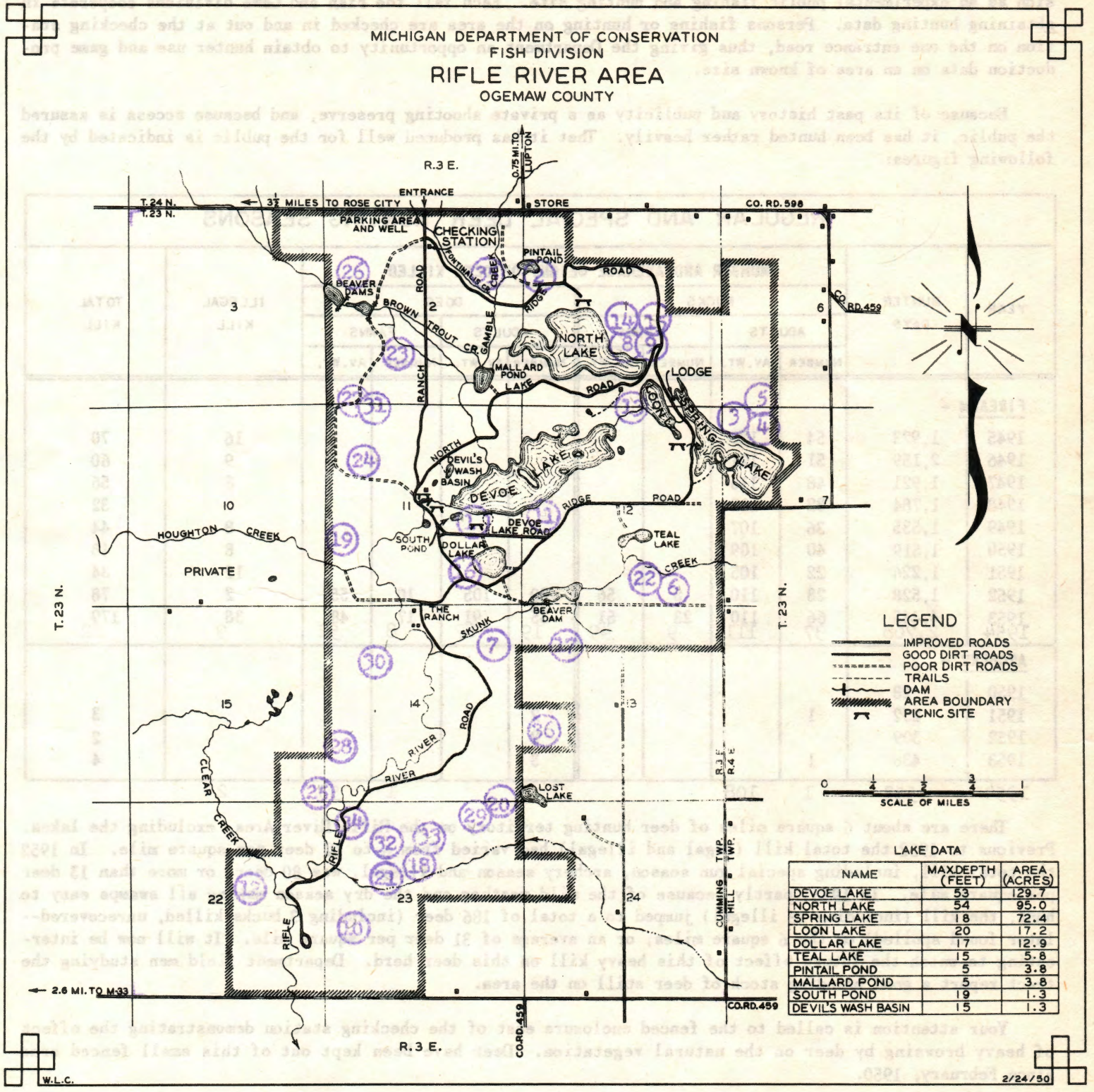
The archer depends on skill, thrives on solitude, and gets the most out of what the outdoors has to offer. He has far less chance of making a kill than the hunter with a gun but far more opportunity to become acquainted with forest life. He hunts quietly in a quiet world, and is more in tune with his surroundings than most people who go into the north woods with gun, rod, or picnic basket.

Fig. 7. Legal deer kill locations 1954 regular season — Rifle River.

LEGAL DEER KILL LOCATIONS

1954 REGULAR SEASON -- RIFLE RIVER

Figure 7



LAKE DATA

NAME	MAX DEPTH (FEET)	AREA (ACRES)
DEVOE LAKE	53	129.7
NORTH LAKE	54	95.0
SPRING LAKE	18	72.4
LOON LAKE	20	17.2
DOLLAR LAKE	17	12.9
TEAL LAKE	15	5.8
PINTAIL POND	5	3.8
MALLARD POND	5	3.8
SOUTH POND	19	1.3
DEVIL'S WASH BASIN	15	1.3

Numbers indicate sequence of kills.

Compilation by Game Division

RIFLE RIVER AREA - DEER HUNTING

The 4,318 acre (7 square miles) H. J. Jewett "Grousehaven" (now called the Rifle River Area) was purchased by the Conservation Department in 1945. Since that year it has been administered by the Fish Division as an experimental public fishing and hunting site. Each fall the Fish and Game divisions cooperate in obtaining hunting data. Persons fishing or hunting on the area are checked in and out at the checking station on the one entrance road, thus giving the Department an opportunity to obtain hunter use and game production data on an area of known size.

Because of its past history and publicity as a private shooting preserve, and because access is assured the public, it has been hunted rather heavily. That it has produced well for the public is indicated by the following figures:

REGULAR AND SPECIAL DEER HUNTING SEASONS

YEAR	HUNTER DAYS	NUMBER AND AVERAGE WEIGHT OF DEER KILLED								ILLEGAL KILL	TOTAL KILL
		BUCKS				DOES					
		ADULTS		FAWNS		ADULTS		FAWNS			
		NUMBER	AV.WT.	NUMBER	AV.WT.	NUMBER	AV.WT.	NUMBER	AV.WT.		
FIREARM -											
1945	1,923	54	128							16	70
1946	2,159	51	121							9	60
1947	1,921	48	115							8	56
1948	1,784	32	112								32
1949	1,535	36	107							8	44
1950	1,519	40	109							8	48
1951	1,226	22	105							12	34
1952	1,528	28	110	8	56	30	105	10	55	2	78
1953	4,445	66	110	23	51	35	91	17	48	38	179
1954	2,708	37	111	9	49	19	87	8	52	9	82
ARCHERY -											
1950	28										
1951	252	1				2					3
1952	309					2					2
1953	436	1				3					4
1954	553	1	108					1	53	2	

There are about 6 square miles of deer hunting territory on the Rifle River Area, excluding the lakes. Previous to 1952 the total kill (legal and illegal) had varied from 6 to 12 deer per square mile. In 1952 the total kill, including special gun season, archery season and illegal, was 80 deer, or more than 13 deer per square mile. In 1953, partly because of the mild weather and the dry season making all swamps easy to hunt, the kill (including 38 illegal) jumped to a total of 186 deer (including 3 bucks killed, unrecovered--later found spoiled) on the 6 square miles, or an average of 31 deer per square mile. It will now be interesting to watch the future effect of this heavy kill on this deer herd. Department field men studying the tract report a good breeding stock of deer still on the area.

Your attention is called to the fenced enclosure east of the checking station demonstrating the effect of heavy browsing by deer on the natural vegetation. Deer have been kept out of this small fenced area since February, 1950.

You are asked to abide by the laws and regulations applying state-wide and to this area. Remember -- this is your area -- the better you use it, the more it will produce for you.

Please check in at the station each time you hunt and again on the way out to leave any information they may request.

Table 20. Daily record of legal deer kill -- Rifle River Area - 1954

Date	Hours hunted	Bucks killed	Does killed	Fawns killed	Number of illegal deer kills found	Bucks seen	Other deer seen	Total weight of deer	Weather conditions: Temperature Max.	Min.	Remarks:
11-15	3,040	22			3	81	1,670	2,483	44°	20°	Clear, sunny - no wind.
11-16	2,139	4			1	16	841	479	59°	24°	Clear, sunny.
11-17	1,028	4			2	17	304	422	68°	31°	Clear, sunny.
11-18	402					2	105		53°	30°	Rain, fog .02" rain last night. Visibility - poor.
11-19	184	1				2	81	96	54°	38°	Rain all day .71".
11-20	1,056	3			1	9	341	350	43°	30°	Clear
11-21	776	1			1	6	177	105	41°	32°	Clear, sunny.
11-22	140				1	1	37		40°	32°	Snow flurries .05" melted snow.
11-23	72						29		37°	23°	Cloudy
11-24	121	1				3	84	92	40°	32°	Cloudy (.2" rain & snow)
11-25	578					6	280		38°	32°	Drizzle .22" rain & snow.
11-26	480					5	104		42°	23°	Cloudy in A.M. Sunny in P.M.
11-27	592					2	127		38°	32°	2.5" snow
11-28	472					3	109		38°	29°	Cloudy - light snow.
11-29	192					5	64		38°	32°	Snow flurries - cloudy.
11-30	238					1	81		39°	30°	Cloudy
12-1	1,029	1	19	17		2	319	2,594	37°	23°	Clear, sunny - trace of snow.
TOTAL	12,539	37	19	17	9	161	4,753	6,621			

NOTE: In addition to the above deer kill, there was 1 adult doe killed during the special season, but not discovered until several days after the special season.

Compilation by Game Division

Table 21. Deer season 1954 -- Rifle River Area

County of Residence of Hunters

County	Nov. 15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Dec. 1	TOTAL
Arenac	2	3	2	2							7	2		1			3	22
Barry							2				2							4
Bay	22	13	7	3	3	14	5	1		10	24	3	15	9		4	13	146
Berrien	2	2					1											5
Branch															1	1		2
Calhoun	6	7	8	5		1						2			5	4	7	45
Clinton		2	2			4											5	13
Eaton	1						2											3
Genesee	93	78	49	15	6	41	46	5	4		13	9	24	28	3	2	34	450
Gladwin	1						1											2
Gratiot	1	1	5											3				10
Hillsdale														1	2		1	4
Huron	3	3	4	3		2	2			1		1	3			2		24
Ingham	17	7	4	3	2	3	7				1			3		1	9	57
Ionia			2		3													5
Iosco	3	4	5			1	2	2		2			1					20
Isabella			1								3	1						5
Jackson	1	1	1		2	2	2			1	1	1	2	2	3	5	8	32
Kalamazoo	5	7	3	5		8	9											37
Kent							1							1				2
Lapeer	5	4	2	1			1				1	1	2		1	1	1	20
Lenawee	23	13	3	9			4	2			2	3	2		3		1	65
Livingston	4	2						2	2		6	2	4			1		23
Macomb	25	28	15	6	2	8	6	2			1	5	12	1		5	4	120
Mecosta							1										2	3
Midland	5	3		2		3	3				2				2		10	30
Monroe	7	5	2	5	2	5	2				2	2	3	4				39
Montcalm				1			2				1							4
Grand Traverse							2											2
Oakland	60	47	25	11		11	21	3	3		5	9	20	9	4	7	18	253
Ogemaw	29	31	9	9	10	5	19	8	8	6	10	13	8	13	1	7	17	203
Osceola												1						1
Oscoda																1		1
Ottawa		2																2
Roscommon	2																	2
Saginaw	32	33	18	23	2	28	21	2		3	6	10	15	17	3	1	25	239
Sanilac	3	1	4	2									1					11
Shiawassee	9	8	1	2	1	7	5				2		1	10			2	48
St. Clair	5	3	12					1					3		1	2	3	30
St. Joseph											4	4	4					12
Tuscola	7	3	6	1	2	5	6		2		7	17	7	9	7	6	12	97
VanBuren		2	1			2												5
Washtenaw	9	4	6	7	1	10	6				3	4	2	3	2		3	60
Wayne	101	85	47	32	19	36	22	7	4	5	14	27	38	19	14	6	36	512
TOTAL (Res.)	483	402	244	147	55	196	201	35	23	28	117	117	167	133	52	56	214	2,670
Indiana	4	4	4	6	2					1								21
Ohio	1	3		2					1						1			8
Illinois	1	1		1							1							4
Kentucky		2	2	1														5
TOTAL (Out-State)	6	10	6	10	2				1	1	1				1			38
GRAND TOTAL	489	412	250	157	57	196	201	35	24	29	118	117	167	133	53	56	214	2,708

Compilation by Game Division

On the Rifle River Area this type of deer hunting has grown more and more popular as the years have passed. In 1945 only 9 hunters with bow and quiver passed through the Area gates, but by 1954 the number had increased to 553 (Table 7). On the first 4 days of the 1954 bow and arrow season more archers entered the Area than in the first 6 years it was open to the public, and the season's total was a 20.9 percent (116) increase over that of 1953. Also, the total of 2,405.5 hours of hunting time was an increase of 25.5 percent (613.5) over the previous season, but the kill of 2 deer was only half that of the previous season (Table 22).

Trapping on the Rifle River Area in 1954

The word trapping carries with it the connotation of rugged independence and free enterprise. In days gone by it was one way in which an individual who had little capital but a lot of courage could earn his keep and still maintain a high degree of personal freedom. Today this is seldom true except in more remote areas, but the connotation persists and as a result many individuals choose this way of earning extra money when they could probably earn much more at most any other kind of part-time employment. And for the person who likes independence and enjoys being close to nature the role of trapper is satisfying even though there is always a pretty good chance that expenses may exceed income.

This was probably even more true in 1954 when fur prices reached a new low, and no doubt most of the 72 permits issued at the Rifle River Area went to those who thought of values in connection with trapping other than just profits (Table 23). Although this was the smallest number issued since 1947 and a drop of 18.2 percent (16) below the 1953 total, and 50.0 percent (72) below the 1951 peak of trapping activity on the Area, it was

Table 22

Deer Hunting Record Archery Season

Rifle River Area--1954

Date	Total number hunters	Total hours hunted	Deer killed		Hog dressed weight
			Bucks	Does	
Oct. 1	44	26.1			
2	80	367.5			
3	62	219.5			
4	34	134			
5	20	62.5			
6	9	38	1		108 (4 pt.)
7	7	34.5			
8	11	39.5			
9	55	244.5			
10	28	91.5			
11	4	19.5			
12	5	11.5			
13	4	16.5			
14	7	9.5			
15	7	41.5			
16	16	52.5			
17	22	103.5			
18	5	40			
19	1	2			
20	1	2			
21	2	5			
22	6	26.5			
23	31	143.5			
24	23	89.5			
25	6	19.5			
26	2	13			
27	1	3			
28	5	16.5			
29	4	17		1	53 (Fawn)
30	23	135			
31	18	87.5			
Nov. 1	1	5.5			
2	2	8.5			
3	3	17			
4	2	15.5			
5	2	12			
Total	553	2,405.5	1	1	161

Note: 1 doe killed illegally (evidently shot with 22 cal. gun).
1 fawn found with the hind quarter cut off.

Compilation by Game Division

more than were issued either in 1945 or 1947 when fur prices were much higher.

The total of 178 pelts taken in 1954 exceeded the 1953 harvest by 15.7 percent (28), and was 41.4 percent (126) below the peak year of 1948. Also, the average number of pelts per trapper (2.47) was the highest in Area history. As usual muskrat pelts were the most plentiful on the stretching boards of Area trappers, and the total catch of 161 was a 15.5 percent (25) increase over the 1953 total but a 40.1 drop (108) from the all-time high that was reached in 1948. The take of 11 mink was an increase of 63.6 percent (7) over the previous year's total and equalled the record catch of this furbearer in 1952. Fewer beaver were taken than in any year since the Area was opened to beaver trapping in 1948. The total of 4 bark eaters taken by Area trappers was 60.0 percent (6) below the previous season's total and 84.2 percent (32) below the peak year for beaver trapping, 1949. In addition to the usual aquatic furbearers, 2 weasels were taken in 1954, and this was the first time this fur animal appeared on Area records.

The Staff and Its Activities

Arthur W. DeClaire, Fisheries Research Technician I, and Howard Gowing, Fisheries Biologist I, were again in charge of operations on the Rifle River Area in 1954. Mr. DeClaire supervised the general operations and maintenance of the Area, and Mr. Gowing was in charge of fisheries research activities. They were assisted in their work by Charlie Kohn, George Smith and Keith Sammons. Mrs. DeClaire again took care of the Lodge.

David L. Shull continued with his work on North Lake and Pintail Pond under the supervision of Frank F. Hooper. Walter Palmer of the Game Division continued his ruffed grouse studies on the Area, and Duane L. Howe, also of the Game Division, did research on deer census methods.

Table 23. 1954 trapping statistics for the Rifle River Area

Period or date	Number of permits issued	Number of traps used	Total trap nights	Muskrat	Mink	Beaver	Weasel	Total pelts
				Number	Number	Number	Number	Number
(Beaver season)						*		
March 21 - 31	22	143	143			4		4
(Muskrat season)						(123 pounds)		
Nov. 16	1	60	60	11	...	...	...	11
17	1	100	100	14	...	...	...	14
18	3	185	185	14	2	...	...	16
19	3	238	238	15	1	...	...	16
20	2	68	68	9	...	...	...	9
21	3	242	417	9	...	...	...	9
22	3	193	193	13	...	...	...	13
23	1	35	35	3	...	...	...	3
24	2	67	99	18	...	...	...	18
25	2	232	632	8	1	...	...	9
26	3	262	262	16	...	...	...	16
27	1	27	27	0	...	...	...	0
28	3	292	524	19	...	...	...	19
29	1	70	70	5	...	...	...	5
30	1	70	70	1	...	...	...	1
Dec. 1	1	17	17	0	...	...	...	0
2	2	245	690	2	2	...	...	4
3	1	84	84	2	...	...	1	3
4	1	45	45	0	1	...	1	2
5	2	251	651	0	1	...	...	1
7	2	56	112	0	...	...	...	0
9	2	203	833	0	2	...	...	2
10	1	200	200	0	...	...	...	0
11	2	12	27	0	1	...	...	1
12	2	207	407	0	...	...	...	0
14	3	212	429	2	...	...	...	2
15	1	45	45	0	...	...	...	0
Totals 1954	72	3,861	6,663	161	11	4	2	178

*One beaver included was taken illegally on December 2, weight 20 lbs.

Compilation by Game Division

In addition to routine creel census and maintenance work, weirs were operated in Gamble Creek and the Diversion, observations were made of brown trout and northern pike spawning on the Area, and Mr. Gowing with the assistance of the staff engaged in various shocking and marking activities in connection with his trout studies.

Acknowledgments

We are grateful to the Game Division, and expecially to Walter Palmer and Duane Howe, for the use of the tables and map incorporated in the deer hunting sections of this report. We are also grateful to Howard Gowing for his assistance on the trout section.

INSTITUTE FOR FISHERIES RESEARCH

By Lawrence H. Bush and
Arthur W. DeClaire

Approved by: A. S. Hazzard

Typed by: A. D. Waterbury