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THE TWENTIETH ANNUAL CREEL CENSUS, HUNT CREEK

TROUT RESEARCH STATION, 1958

by

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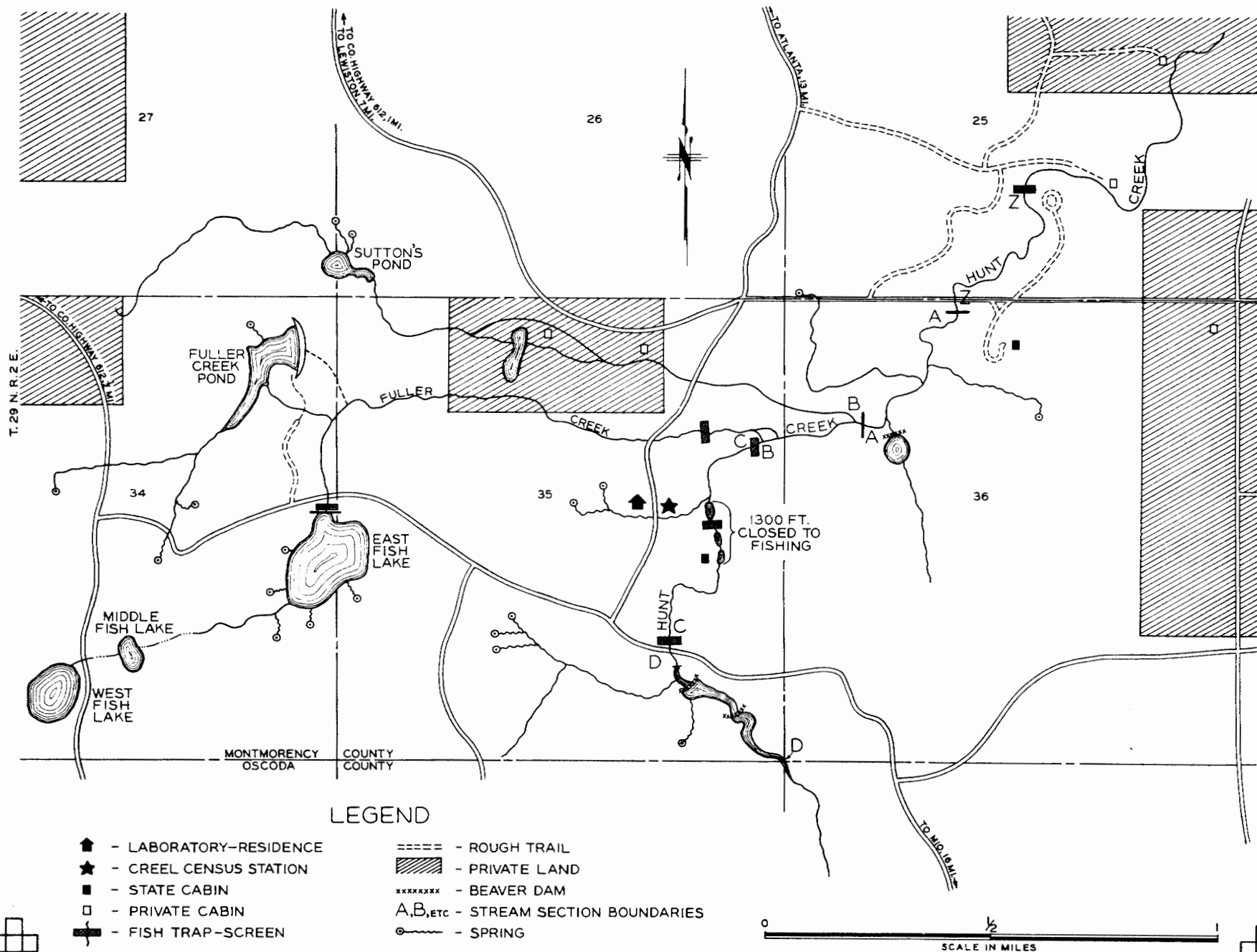
Hunt Creek is located mostly in Montmorency County; it flows from Harder's Lake in Oscoda County northeastward for approximately 12 miles to its confluence with the Thunder Bay River. The experimental waters (Fig. 1) are located within a four-square-mile drainage area on the upper reaches of Hunt Creek.

Experimental waters censused were Hunt Creek, Fuller Creek, Fuller Creek Pond and East Fish Lake. Physical features of these waters and fishing regulations for 1958 are summarized in Table 1.

Fishing permits

Each angler fishing the experimental waters was required to obtain a free daily permit from the centrally located checking station and to check out at the station at the conclusion of his fishing trip. A single permit allowed an angler to fish in all waters open to fishing; and, if he fished on more than one stream section, pond or lake, the fishing on each water was tabulated as a separate trip.

MICHIGAN DEPARTMENT OF CONSERVATION
 FISH DIVISION
HUNT CREEK FISHERIES EXPERIMENTAL AREA
 MONTMORENCY COUNTY



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Figure 1

HUNT CREEK FISHERIES EXPERIMENTAL AREA

OBJECTIVE -- The Hunt Creek Fisheries Experiment Station was established in 1939 as a year-round testing ground and outdoor research laboratory where trained biologists might study brook trout and the effects of angling on a typical brook trout stream. The Hunt Creek drainage was chosen because of availability of state-owned stream frontage and also because of the variety of brook trout habitats present in the area.

State ownership has made possible various experimental restrictions and management procedures not otherwise feasible.

The purpose of the investigations is to find out by observation or by controlled experiments what methods of stream management will increase the quality of the brook trout angling and also preserve the species for the enjoyment of future anglers.

THE ANGLERS' PART IN OUR RESEARCH -- The best measure of an experimental procedure in trout stream management is how it affects the anglers' catch. Therefore, registration of anglers and collection of creel census records constitute an important part of the work each year. Such records provide a measure of the effects of changes in size and creel limits, and, in connection with marking experiments and year-round population estimates, reveal origin and movements of trout within the system. Creel census records compared with population estimates correspond to sales records compared with production schedules in industry.

RESEARCH HERE DURING THE LAST TEN YEARS -- has indicated that:

- (1) Natural reproduction is more than adequate in Hunt Creek;
- (2) Fall plantings of hatchery-reared brook trout fingerlings contribute less than 3% to the anglers' catches in subsequent years;
- (3) Stream improvement, properly carried out, can improve the quality of angling.
- (4) Tributary streams are not an important source of adult fish for main stream angling;
- (5) In the proper type of lake good brook trout fishing can be created by the elimination of rough fish populations.

Some of the other accomplishments of the station include detailed food studies of the brook trout by Dr. J. W. Leonard, who also identified new species of trout stream insects not previously described; an exhaustive study of the use of brook trout scales in age and growth studies of Michigan brook trout by Dr. E. L. Cooper; and the development by the past and present staff of the electric shocker as a substitute for seines in trout population investigations.

CURRENT INVESTIGATIONS -- include further study of brook trout movements in the main stream through the use of the recently-installed upper and lower screens, detailed year-round population studies on the brook trout population between these traps, trout lake and beaver pond population studies by means of netting, marking and recovery, and investigations of the effect of beaver dams on the fishing in dammed portions of trout streams.

REGULATIONS -- Except for about 1,300 feet of stream in Section C of Hunt Creek, all the waters on the map on the reverse of this sheet are open to angling. The posted waters, marked by Departmental signs, are open to angling under the following restrictions set by the Conservation Commission:

- (1) Each angler must first obtain at the checking station a daily free-use permit before fishing.
- (2) Each angler must report the results of his fishing at the checking station on conclusion of his angling.
- (3) Special regulations are to be observed in certain waters and such waters will be posted with appropriate signs. Otherwise the usual regulations for other waters of the state are in effect on the Hunt Creek Area.

SUMMARY, ANGLING STATISTICS, EXPERIMENTAL SECTIONS, HUNT CREEK, 1939-1949

	YEAR										
	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
TOTAL ANGLER-DAYS.....	438	505	1,015	800	311	340	375	753	607	504	593
TOTAL HOURS FISHED.....	780	901	1,546	1,267	540	640	637	1,206	872	869	1,415
LEGAL BROOK TROUT TAKEN.	492	406	722	543	378	364	315	439	187	492	698
TOTAL POUNDS REMOVED....	67	60	116	83	59	53	52	68	26	78	115
CATCH PER HOUR.....	0.63	0.45	0.47	0.43	0.70	0.57	0.49	0.36	0.21	0.57	0.49
AVERAGE TOTAL LENGTH....	7.5	7.6	7.7	7.6	7.5	7.7	7.9	7.7	7.6	7.7	7.8

SUMMARY, ANGLING STATISTICS, EAST FISH LAKE, 1939-1949

	YEAR										
	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
TOTAL ANGLER-DAYS.....	63	111	155	159	121	311	436	430	344	287	283
TOTAL HOURS FISHED.....	126	308	386	289	200	651	928	935	711	853	1,024
LEGAL BROOK TROUT TAKEN.	51	172	242	367	69	108	169	93	89	117	91
TOTAL POUNDS REMOVED....	--	28	47	97	26	79	131	69	54	55	70
CATCH PER HOUR.....	0.41	0.55	0.63	1.26	0.29	0.17	0.18	0.10	0.13	0.14	0.09
AVERAGE TOTAL LENGTH....	--	8.0	8.5	9.0	9.3	11.2	11.9	11.5	11.1	10.4	11.6

Table 1.--Morphometry (mileage in parentheses) of experimental waters of Hunt Creek drainage, with angling regulations for 1958

Experimental water Section of Hunt Creek	Dimensions			1958 Regulations		
	Length (feet)	Average width (feet)	Area (acres)	Lure	Minimum length (inches)	Daily creel limit
Z	2,397 (0.45)	20.3	1.12	Flies only	7	10
A	2,577 (0.49)	24.3	1.44	Flies only	7	10
B	1,605 (0.30)	17.5	0.64	Any	7	10
C [↓]	2,700 (0.51)	11.8	0.71	Any	7	10
D	2,896 (0.55)	100.0	6.65	Any	7	10
<hr/>						
Total, Hunt Creek	12,175 (2.30)	37.8	10.56			
<hr/>						
Fuller Creek	9,875 (1.87)	15.7	3.57	Any	7	10
Fuller Creek Pond	...	...	14.58	No live fish	10	5
East Fish Lake	...	...	16.0	No minnows	10	5

[↓]Excludes 1,270 feet of Section C which are experimental diversions closed to fishing.

During the 1958 season 941 permits were issued to anglers, who made 1,261 fishing trips. Male licensees made 77 percent of the trips, female licensees 1 percent, wives 6 percent, male minors 15 percent, and female minors 1 percent.

Recovery of stocked trout

No hatchery trout were planted during 1958 until after the close of the trout season. Those hatchery trout taken by anglers during 1958 (188) were survivors of plantings made in 1957. The plantings made during 1957, and creel returns during 1957 and 1958, are listed in Table 2.

In April 1957, 150 legal-size brook trout were stocked in Fuller Creek; 98 (65 percent) of these trout were subsequently creeled (97 in 1957 and 1 in 1958). Also, in April 1957, 282 sublegal brook trout were stocked in Fuller Creek; 37 (13 percent) were creeled through 1958.

Fuller Creek Pond was dry-fallowed from the fall of 1956 to the fall of 1957. After being refilled in October 1957, this pond received a planting of 150 legal-size (10-13 inches) hatchery brook trout. Twenty (13 percent) of these trout were harvested in 1958. Also, in October of 1957, 300 sublegal (7-9 inches) hatchery brook trout were planted in the pond. Thirty-three (11 percent) of these trout were creeled during 1958.

East Fish Lake was treated with rotenone during the fall of 1956 to remove a population of minnows and suckers. In April 1957, 350 legal-size (10-12 inch) brook trout were planted; anglers creeled 283 during 1957 and 1 during 1958, for a return of 81 percent. Most of these trout were taken during the first month of the 1957 season. Also, in June of 1957, 2,000 sublegal (6-9 inches) hatchery brook trout were planted in the lake. None of these trout were creeled during 1957, for two reasons: they were of

Table 2.--Brook trout planted in the experimental waters of Hunt Creek
and anglers' harvest, 1957-1958

Area and date of planting	Number planted	Total length when planted (inches)	Legal trout creeled		Total legal trout creeled to date	
			1957	1958	Number	Percentage
Fuller Creek						
April, 1957	150	7-9	97	1 [↓]	98	65.3
April, 1957	282	5-6	23	14 [↓]	37	13.1
Fuller Creek Pond						
October, 1957	150	10-13	...	20	20	13.3
October, 1957	300	7-9	...	33 [↓] ²	33	11.0
East Fish Lake						
April, 1957	350	10-12	283	1	284	81.1
June, 1957	2,000	6-9	...	119 ²	119	6.0

[↓]Some of these trout were caught in waters other than where they were planted.

²In addition to the legal harvest, one sublegal trout was creeled from Fuller Creek Pond and 4 sublegal trout from East Fish Lake.

sublegal size when planted, and little fishing was done on the lake during 1957 after the planting date. The 1957 fall population estimates conducted on East Fish Lake indicated that about 800 of the June-planted trout remained. About 1,200 trout had disappeared in less than 5 months. Hooking mortality would not explain the loss, because little fishing was done. However, a pair of loons, and three great blue herons were on the lake much of the time during the summer of 1957, and they are suspected of taking many of the trout. Controlled experiments are needed to determine the magnitude of depredations on trout by bird predators. Of the survivors from the June planting, 119 legal trout were creeled during 1958, for a return of 6 percent.

Angling results

Hunt Creek.--Experimental stream sections (Z, A, B, C and D) are herein reported separately. Census data are summarized in Table 3 along with the combined totals for all experimental waters.

Section Z, the lowermost of the stream sections, is accessible to fishermen from many points. It has a sandy bottom in mid-channel and a mixture of sand and organic material at the margins. Aquatic vegetation is predominantly watercress, which grows in dense mats along the margins. Section Z has been fished under a flies-only regulation since 1955 to determine whether protection given to sublegal trout against bait-hooking mortality would result in an increased yield to fishermen.

In 1958, anglers on Section Z creeled 111 legal trout (17 pounds) in 84 trips, at an average rate of 0.63 trout per hour. The trout averaged 7.7 inches long. Forty-nine percent of the trips were successful (one or more trout caught per trip). Angler success, measured by catch per hour and percentage of successful trips, was nearly identical to that recorded for

Table 3.--Summary of angling data, experimental waters of Hunt Creek drainage, 1958

Experimental water	Total fishing		Total catch			Catch per hour ²		Average size		
	Trips ¹	Hours	Species of trout	Origin	Number	Pounds	Number	Pounds	Total length (inches)	Weight (pounds)
Section of Hunt Creek:										
Z	84 (41)	175.0	Brook	Wild	101	14.90	0.58	0.09	7.6	0.150
			Brook	Hatchery	1	0.25	0.01	tr	9.9	0.245
			Rainbow	Wild	9	1.90	0.05	0.01	8.5	0.211
			All	...	111	17.05	0.63	0.10	7.7	0.153
A	66 (33)	125.5	Brook	Wild	91	13.02	0.73	0.10	7.5	0.143
B	89 (34)	170.5	Brook	Wild	74	10.81	0.43	0.06	7.6	0.146
			Rainbow	Wild	1	0.27	0.01	tr	9.2	0.270
			All	...	75	11.08	0.44	0.07	7.6	0.148
C	228 (70)	433.5	Brook	Wild	152	23.48	0.35	0.05	7.7	0.154
			Brook	Hatchery	2	0.33	tr	tr	7.9	0.163
			Rainbow	Wild	4	1.35	0.01	tr	9.7	0.338
			All	...	158	25.16	0.36	0.06	7.7	0.159
D stream	166 (43)	210.0	Brook	Wild	91	18.22	0.43	0.09	8.2	0.200
D pond	152 (59)	317.0	Brook	Wild	175	55.30	0.55	0.17	9.1	0.316
Total Hunt Creek	785 (280)	1,431.5	Brook	Wild	684	135.74	0.48	0.09	8.1	0.198
			Brook	Hatchery	3	0.57	tr	tr	8.5	0.190
			Rainbow	Wild	14	3.52	0.01	tr	8.9	0.251
			All	...	701	139.83	0.49	0.10	8.1	0.199
Fuller Creek	159 (46)	331.5	Brook	Wild	71	11.18	0.21	0.03	7.7	0.157
			Brook	Hatchery	15	2.91	0.05	0.01	8.4	0.194
			All	...	86	14.09	0.26	0.04	7.9	0.164
Fuller Creek Pond	80 (24)	181.5	Brook	Wild	6	2.48	0.03	0.01	10.5	0.413
			Brook	Hatchery	50	23.51	0.28	0.13	10.7	0.470
			All	...	56	25.99	0.31	0.14	10.7	0.464
East Fish Lake	237 (61)	725.0	Brook	Hatchery	120	55.87	0.17	0.08	10.7	0.466
All waters	1,261 (411)	2,669.5	Brook	Wild	761	149.40	0.29	0.06	8.1	0.196
			Brook	Hatchery	188	82.86	0.07	0.03	10.5	0.441
			Rainbow	Wild	14	3.52	tr	tr	8.9	0.251
			All	...	963	235.78	0.36	0.09	8.5	0.245

¹Number of successful fishing trips in parentheses.

²Tr. indicates a value less than 0.005.

the 1957 season. Two sublegal trout were creeled and fishermen reported catching and releasing 749 sublegal trout during the season.

A population study¹ made during October 1958, indicated that approximately 54 legal and 1,455 sublegal wild brook trout remained in Section Z at the close of the fishing season. There were 19 percent fewer legals and 5 percent fewer sublegals remaining in Section Z this year than in 1957, although fishing pressure (hours) in 1958 was down 20 percent.

Section A, immediately upstream from Section Z, has within-channel characteristics similar to Section Z (described above). It is bordered by a broad, grassy meadow, on which tamarack and alder have been rapidly encroaching in recent years. Section A, like Section Z, is fished under a flies-only regulation.

Anglers on Section A took 91 wild brook trout which averaged 7.5 inches long and weighed a total of 13 pounds. The average catch per hour was 0.73. Anglers made 66 trips and were successful on 50 percent of them. Nine sublegal trout were creeled and 662 sublegal trout were reported released by anglers. The catch per hour was nearly identical to that for 1957, although fishing intensity dropped 43 percent.

An estimated 72 legal and 2,459 sublegal wild brook trout remained in Section A at the close of the season. The legal population was up slightly whereas fewer sublegals remained compared to the 1957 season.

Section B, immediately upstream from Section A, flows through a cedar swamp. In this section the usual Michigan trout fishing regulations apply. Anglers made 89 trips to Section B and were successful in creeling trout on 38 percent of their trips. They creeled 74 wild brook trout and 1 wild

¹Hunt Creek population estimates were made by the mark-and-recovery method during October 1958. The trout were captured by electrofishing.

rainbow trout. Anglers caught 0.44 trout per hour that averaged 7.6 inches long. Seven sublegal trout were creeled and 768 sublegal trout were reported caught and released from this section. Following the close of the trout season, 44 legal and 1,288 sublegal wild brook trout were estimated to be left. In comparison to 1957, the legal catch was down, the legal population remaining in the fall was up, and the sublegal population remaining was approximately the same.

Section C is the longest stream section of Hunt Creek. The lower portion is bordered by cedar swamp similar to that in Section B. The upper portion flows through an aspen-white birch association with alders and conifers adjacent to the stream edge. The bottom type of Section C is composed almost entirely of gravel. A 1,270-foot stretch of stream near the center of the section consists of experimental diversions which are closed to all fishing. Fishing is permitted under regular state-wide regulations in the open waters of Section C.

Anglers in Section C harvested 158 trout (25 pounds) in 228 trips. The average catch per hour was 0.36 trout; the fish averaged 7.7 inches long. Anglers were successful on 31 percent of their trips. Three sublegal trout were creeled and 1,294 sublegal trout were caught and released in Section C. The fall population study indicated that approximately 35 legal and 2,555 sublegal wild brook trout remained after the season in the portion of Section C open to fishing. The 1958 catch was up 22 percent and angling pressure was up 11 percent, from 1957.

Section D, the uppermost experimental section on Hunt Creek, has two distinct types of trout water. The lower 200 yards is typical stream habitat; the upper portion is a large beaver pond.

In 166 trips to the stream portion of Section D, anglers creeled 91 wild brook trout weighing 18 pounds. Anglers caught 0.43 trout per hour and were successful on 26 percent of their fishing trips. Trout creeled averaged 8.2 inches long.

The stream portion of Section D is much more productive of trout than is Section C, although the two sections appear to be similar as trout habitat. Per equal length of stream, Section D had 2.2 times as much fishing pressure (in hours), and produced 2.6 times as many trout; the catch per hour and average size of trout were better, and 3.6 times as many legal trout remained in the fall, as compared to Section C. Fall populations of sublegal trout were about the same in the two sections. Movement of trout from Section C into Section D was improbable during the 1958 trout season, because no trout were allowed to pass the weir at the downstream end of Section D. Furthermore, of the 91 legal trout caught in the stream portion of Section D, 83 were marked trout from the 1958 spring population study made in this stream section. The 8 unmarked trout could either have avoided capture during the population study or could have migrated downstream over the beaver dam from the pond.

Section D beaver pond is approximately 7 acres; it has an active beaver colony. In 152 trips to this pond, anglers creeled 175 wild brook trout (55 pounds) that averaged 9.1 inches long. Thirty-nine percent of the angler trips were successful. The average catch per hour was 0.55 trout.

This pond has not followed the typical pattern of succession in beaver ponds. It has been in existence almost continuously for the last 10 years and is still producing good yields to anglers. An atypical feature of the pond is that an almost continuous carpet of Chara now covers the bottom in the downstream half of the pond. Scattered patches of Potamogeton are also

present. A population study made in October 1958, revealed that the pond contained over 250 trout that were larger than 6 inches, and mostly larger than 7 inches.

For Hunt Creek as a whole, 684 wild brook trout were creeled during 1958, a reduction of 73 trout (10 percent) from 1957. In addition, 3 hatchery brook trout and 14 wild rainbow trout were creeled for a total catch of 701 trout. The total weight of trout creeled was 140 pounds which was 16 pounds less than the 1957 total. Total catch and fishing pressure were down in the flies-only water, but up in the any-lure water.

The 14 wild rainbow trout (4 pounds) which were creeled from Hunt Creek during 1958 averaged 8.9 inches in length. A population of 16 rainbow trout was estimated to remain in Hunt Creek in October, 1958. All of these trout were over 7 inches long. No evidence of natural reproduction of rainbow trout in Hunt Creek was found for the second consecutive season.

Angling during the ten biweekly periods for Hunt Creek are summarized in Table 4. Anglers caught trout at significantly faster rates during periods 1, 2, 8 and 10 than during periods 3, 4 or 7. The average catch per hour per fishing trip was significantly higher for the periods 5, 6 and 9 than for period 3. Further, period 10 produced significantly better angling than period 6.

Although there are significant differences in the catch per hour per fishing trip among the various periods of any one fishing season, examination of the catch per hour figures for the past nine seasons at Hunt Creek, by an analysis of variance, indicates that no period produced consistently better or poorer fishing than another.

Fuller Creek and East Fish Lake Outlet.--Fuller Creek heads about one-half mile west of Fuller Creek Pond. From the pond it flows about 800 feet

Table 4.--Biweekly angling statistics for wild brook trout, Sections Z, A, B, C and D
of Hunt Creek (combined), 1958

Period	Date	Total fishing		Wild trout		Catch per hour		Average size	
		Trips↓	Hours	Number	Pounds	Number	Pounds	Total length (inches)	Weight (pounds)
1	April 26-May 9	159 (68)	334.0	174	29.14	0.52	0.09	7.8	0.167
2	May 10-May 23	71 (33)	122.0	78	12.00	0.64	0.10	7.7	0.154
3	May 24-June 6	82 (13)	134.5	27	6.05	0.20	0.04	8.2	0.224
4	June 7-June 20	61 (20)	120.5	51	13.63	0.42	0.11	8.6	0.267
5	June 21-July 4	88 (26)	130.0	77	16.76	0.59	0.13	8.2	0.218
6	July 5-July 18	95 (36)	176.0	70	15.60	0.40	0.09	8.3	0.223
7	July 19-Aug. 1	56 (12)	93.0	23	5.53	0.25	0.06	8.3	0.240
8	Aug. 2-Aug. 15	48 (19)	82.0	53	8.43	0.65	0.10	7.7	0.159
9	Aug. 16-Aug. 29	68 (25)	120.5	58	12.96	0.48	0.11	8.2	0.223
10	Aug. 30-Sept. 14	57 (27)	119.0	73	15.64	0.61	0.13	8.4	0.214
Total or average		785 (279)	1,431.5	684	135.74	0.48	0.09	8.1	0.198

↓ Number of successful fishing trips in parentheses.

to the southwest, where it is joined by the outlet from East Fish Lake. It then flows eastward for 3/4 mile to its confluence with Hunt Creek in the upper part of Section B (Fig. 1). The course is almost entirely through dense cedar swamp which forms a canopy over the stream; consequently bait fishing is the popular method of angling in this stream.

In 159 trips to Fuller Creek, anglers creeled 71 wild and 15 hatchery brook trout; these 86 trout weighed 14 pounds. The wild brook trout averaged 7.7 inches, and the hatchery brook trout, 8.4 inches in length. Twenty-nine percent of the angling trips were successful.

Fuller Creek Pond.--Fuller Creek Pond was originally built in the mid-30's by beaver activity but is presently maintained by an earthen dam. In the fall of 1956 the pond was treated with rotenone to remove the fish population that consisted mostly of minnows and suckers. From the fall of 1956 to the fall of 1957 the pond was dry-fallowed. It was filled in September 1957, and stocked with 150 legal and 300 sublegal hatchery brook trout in October.

Anglers creeled 56 trout (26 pounds) in 80 trips to Fuller Creek Pond. The trout averaged 10.7 inches long and were caught at the average rate of 0.31 trout per hour. Wild fish comprised only 11 percent of the catch. A discussion of the returns from plantings of hatchery trout has been presented earlier in this report.

East Fish Lake.--This 16-acre lake has an average depth of nearly 20 feet. It is classified as a designated trout lake by the Michigan Department of Conservation. East Fish Lake was treated with rotenone during the fall of 1956 to eradicate a fish population which consisted mostly of minnows and suckers. Since the rotenone treatment, the catch has been entirely hatchery brook trout.

In 1958, anglers creeled 120 trout (56 pounds) in 237 fishing trips. They were successful on 26 percent of their trips. No trout were creeled after the middle of July 1958, presumably because of the low stock of trout remaining. The returns from hatchery plantings were presented earlier in this report.

All waters.--From all experimental waters of the area anglers creeled 963 trout (total weight, 236 pounds) in 1,261 fishing trips and 2,670 hours (Table 3). Table 5 summarizes the 1939-1958 fishing data on Hunt Creek and Table 6 summarizes the data on Fuller Creek for 1940-1958.

Types of lures

Table 7 summarizes the 1958 catch according to the lures used. Waters of the area were grouped into three categories based on the type of habitat or fishing regulation.

In the stream sections B, C, D and Fuller Creek, anglers used worms, or worms and spinners, on 83 percent of their trips. These lures accounted for 74 percent of the catch. The catch per hour by anglers using worms and spinners, minnows, insects, or a combination of methods was higher than for anglers using worms only. These differences are believed to be due largely to the fact that the less experienced anglers used worms only.

In pond waters (Sec. D Pond, Fuller Creek Pond and East Fish Lake), worm fishing took 44 percent of the catch. This method was chosen on 63 percent of the trips to these waters. Success using flies, minnows, artificial lures, or a combination of these lures was higher than that for worms, or worms and spinners.

Fly fishermen caught 0.67 trout per hour in the flies-only sections of Hunt Creek, 0.44 trout per hour on the pond waters, and 0.06 trout per hour on the stream sections that were open to any-lure fishing.

Table 5.--Legal wild brook trout caught in Hunt Creek, 1939-1958

Sections and year	Total fishing		Total catch		Catch per hour		Average size	
	Trips	Hours	Number	Pounds	Number	Pounds	Length (inches)	Weight (pounds)
A, B, C and D								
1939	438	780	461	67	0.59	0.09	7.5	0.15
1940	505	901	406	60	0.45	0.07	7.6	0.15
1941	1,015	1,546	706	113	0.46	0.07	7.7	0.16
1942	808	1,267	532	83	0.42	0.07	7.6	0.16
1943	311	540	372	59	0.69	0.11	7.5	0.16
1944	340	640	337	53	0.53	0.08	7.7	0.16
1945	375	637	312	52	0.49	0.08	7.9	0.17
1946	753	1,206	434	68	0.36	0.06	7.6	0.16
1947	607	872	184	26	0.21	0.03	7.6	0.14
1948	504	869	476	78	0.55	0.09	7.7	0.16
1949	432	1,063	517	87	0.49	0.08	7.8	0.17
1950	369	915	415	75	0.45	0.08	8.0	0.18
1951	552	1,066	431	76	0.40	0.07	8.0	0.18
1952	488	1,195	556	103	0.47	0.09	8.0	0.19
1953	656	1,587	572	118	0.36	0.07	8.4	0.21
1954	748	1,649	483	88	0.29	0.05	8.0	0.19
1955	702	1,522	508	94	0.33	0.06	8.0	0.19
1956	704	1,245	585	104	0.47	0.08	7.8	0.19
1957	668	1,307	630	123	0.48	0.09	8.1	0.20
1958	701	1,257	583	121	0.46	0.10	8.2	0.21
Averages	584	1,103	475	82	0.43	0.07	...	....
Section Z								
1949	165	375	186	28	0.50	0.07	7.6	0.15
1950	164	473	160	21	0.34	0.04	7.4	0.13
1951	129	322	124	18	0.39	0.06	7.5	0.14
1952	188	570	222	34	0.39	0.06	7.7	0.15
1953	225	566	183	27	0.32	0.05	7.6	0.15
1954	363	838	143	22	0.17	0.03	7.7	0.16
1955	139	293	198	29	0.68	0.10	7.6	0.15
1956	176	354	197	32	0.56	0.09	7.6	0.16
1957	113	218	127	22	0.58	0.10	7.9	0.17
1958	84	175	101	15	0.58	0.09	7.6	0.15
Averages for Z	175	418	164	25	0.39	0.06	...	....

Table 6.--Legal wild brook trout caught in FullerCreek,
1940-1958

Year	Total fishing		Total catch		Catch per hour		Average size	
	Trips	Hours	Number	Pounds	Number	Pounds	Length (inches)	Weight (pounds)
1940	20	36	16	3	0.44	0.08	...	0.19
1941	59	97	21	3	0.22	0.03	...	0.15
1942	31	39	11	2	0.28	0.05	8.3	0.18
1943	19	25	19	3	0.76	0.12	7.6	0.14
1944	96	145	61	8	0.42	0.06	7.6	0.15
1945 [↓]	102	159	64	9	0.40	0.06	7.5	0.14
1946 [↓]	223	278	56	8	0.20	0.03	7.4	0.14
1947 [↓]	212	219	27	4	0.12	0.02	7.5	0.14
1948 [↓]	190	196	31	5	0.16	0.03	7.7	0.16
1949	115	296	43	6	0.15	0.02	7.4	0.13
1950	107	185	12	2	0.06	0.01	7.6	0.16
1951	110	246	59	9	0.24	0.04	7.6	0.16
1952	85	221	64	10	0.29	0.05	7.6	0.15
1953	86	212	84	14	0.40	0.07	7.8	0.16
1954	99	201	68	11	0.34	0.05	7.7	0.16
1955	110	214	68	10	0.32	0.05	7.6	0.14
1956	230	476	192	35	0.40	0.07	8.0	0.18
1957 [↓]	179	377	76	12	0.20	0.03	7.6	0.15
1958	159	332	71	11	0.21	0.03	7.7	0.16
Averages	117	208	55	9	0.26	0.04	...	....

[↓]Records for 1945-1948 and 1957 included anglers' results on Fuller Creek Pond which reverted from pond to stream habitat during those years.

Table 7.--A comparison of different fishing lures in terms of frequency of use, numbers of trout caught, and catch per hour, Hunt Creek Trout Research Station, 1958

Water	Lure	Number of angler trips	Percentage of total trips	Number of trout caught	Percentage of total catch	Number of hours fished	Average catch per hour
Streams (Section B, C, D stream and Fuller Creek)	Worms	447	69.6	247	60.3	840.5	0.29
	Worms and spinners	85	13.2	57	13.9	135.5	0.42
	Flies	35	5.5	3	0.7	51.0	0.06
	Minnows	16	2.5	45	11.0	18.5	2.43
	Insects	18	2.8	36	8.8	25.5	1.41
	Artificial lure	11	1.7	3	0.7	16.5	0.18
	Natural lure	2	0.3	0	0.0	1.5	0.00
	Combination	28	4.4	19	4.6	56.5	0.34
	Total	642	100.0	410	100.0	1,145.5	0.36
Stream (Sections Z and A)	Flies-only	150	100.0	202	100.0	300.5	0.67
Ponds (Section D pond, Fuller Pond and East Fish Lake)	Worms	269	57.4	144	41.0	757.5	0.19
	Worms and spinners	28	6.0	12	3.4	85.5	0.14
	Flies	60	12.8	49	14.0	111.0	0.44
	Minnows	1	0.2	3	0.8	1.0	3.00
	Insects	3	0.6	0	0.0	7.0	0.00
	Artificial lure	24	5.1	15	4.3	47.5	0.32
	Combination	84	17.9	128	36.5	214.0	0.60
	Total	469	100.0	351	100.0	1,223.5	0.29

Number of trout caught per trip

Table 8 summarizes the catch from waters under two different creel and size limits. These data have been tabulated here to serve as a ready source of information on numbers of trout caught per trip, and as indices for evaluating possible changes in angling brought about by future manipulation of regulations or species composition of the trout populations at the research station.

On waters with a daily creel limit of 10 trout and a minimum size limit of 7 inches, the anglers creeled 6 or more trout on only 3 percent of their trips; however, these trips accounted for 21 percent of the catch from these waters. Thirty-two percent of the anglers creeled 1 to 5 trout per trip, and these trips accounted for 79 percent of the catch. On 66 percent of the trips no trout were caught. The catch from waters with the above restrictions was composed mostly of wild trout.

From waters with a daily creel limit of 5 trout and a size limit of 10 inches, the anglers took the limit of 5 fish on 2 percent of the trips. Twenty-seven percent of the anglers caught trout whereas 73 percent of the angling trips were unsuccessful. Hatchery-reared trout composed most of the catch from these waters.

Age composition of wild trout

Table 9 gives the age composition of the wild brook and rainbow trout in the anglers' catch from Hunt Creek. Separate tabulations have been made for brook trout creeled from the flies-only sections (Z and A), the any-lure stream sections (B, C, D and Fuller Creek), and the any-lure beaver pond in Section D.

Table 8.--Number and percentage of fishing trips on which different numbers of trout were caught, Hunt Creek Trout Research Station, 1958

Number of trout caught per trip	Daily creel limit ¹ 10 trout, 7 inches		Daily creel limit ² 5 trout, 10 inches	
	Number of trips	Percentage of total trips	Number of trips	Percentage of total trips
0	618	65.5	232	73.2
1	139	14.7	40	12.6
2	79	8.4	20	6.3
3	32	3.4	10	3.2
4	28	2.9	9	2.8
5	24	2.5	6	1.9
6	11	1.2	...	...
7	10	1.1	...	...
8	2	0.2	...	...
9	0	0.0	...	...
10	1	0.1	...	...
Totals	944	100.0	317	100.0

¹Sections Z, A, B, C and D of Hunt Creek and Fuller Creek.

²East Fish Lake and Fuller Creek Pond.

Table 9.--The age distribution of wild trout caught by anglers in
 Hunt Creek, 1958

Species	Stream section	Age group	Number of fish	Average length (inches)	Percentage of total catch
Brook	Z and A	I	5	7.3	2.6
		II	180	7.5	93.8
		III	7	8.6	3.6
Brook	B, C, D stream and Fuller Cr.	I	16	7.6	4.1
		II	326	7.7	84.2
		III	44	8.7	11.4
		IV	1	10.2	0.3
Brook	D pond	I	80	8.2	45.7
		II	86	9.6	49.2
		III	9	11.7	5.1
Rainbow	All waters	II	11	8.6	78.6
		III	3	10.0	21.4

The age composition of the catch was similar for the stream waters regardless of lure restrictions. The bulk of the catch (about 87 percent) was composed of age-group II trout (fish in their 3rd growing season). The remainder of the catch was composed of fish in age-groups III and I, with III's being somewhat more numerous.

Among brook trout from the beaver pond in Section D, the age distribution was: 80 I's, 86 II's, and 9 III's. The rapid rate of growth of trout in this pond results in good numbers of fish becoming legal (7 inches) during their second growing season (age-group I). Most of these younger trout are creeled during the later part of the season.

Fourteen wild rainbow trout were creeled in Hunt Creek during 1958. Eleven were in age-group II and three were in age-group III.

Residence of anglers

As in previous seasons the majority of anglers fishing the area came from the southeastern counties of Michigan's Lower Peninsula (Table 10). Montmorency County supplied the second largest group. Ohioans made 74 percent of the angling trips by non-residents.

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Table 10.--Residence of anglers fishing experimental waters of
the Hunt Creek Trout Research Station, 1958

Residence (County)	Number of trips		Residence (County, state or province)	Number of trips	
	Streams	Ponds		Streams	Ponds
Montmorency	198	51	Kent	3	0
Wayne	179	84	Lapeer	3	1
Oakland	90	39	Clare	2	0
Genesee	63	18	Sanilac	2	0
Ingham	55	14	Eaton	1	0
Bay	41	42	Monroe	1	0
Saginaw	37	9	Calhoun	0	5
Macomb	36	3	Jackson	0	2
Washtenaw	35	5	Gratiot	0	1
Midland	31	3	<u>Muskegon</u>	0	1
St. Clair	25	1	Total resident	888	308
Lenawee	20	0			
Oscoda	17	2	Ohio	43	5
Isabella	13	0	Indiana	5	3
Crawford	6	1	Pennsylvania	3	0
Ionia	6	1	Illinois	2	0
Shiawassee	5	0	New Hampshire	2	0
Tuscola	5	8	New York	0	1
Alpena	4	1	<u>Ontario</u>	1	0
Presque Isle	4	0	Total non-resident	56	9
Arenac	3	9			
Kalamazoo	3	7	Grand total	944	317