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cc: Psychological Research Services (2)

D. S. Shetter
Inst. for Fish. Res. (2)
Fish Division (2)

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

ALBERT S. HAZZARD, PH.D.
DIRECTOR

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Report of
Psychological Research Services
to
Michigan Department of Conservation

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FISH DIVISION

Part I--Supplement to Report for 1953-1954
Part II--Mid-year report for 1954-1955
(due March 20, 1955)

Submitted by J. L. Bingham, March 17, 1955

Part I

Supplement to Report for 1953-1954

The following is a supplement to the annual report (for 1953-1954) submitted by PRS to the Department of Conservation, Fish Division, in August 1954.

In view of the numerous controversial facts, statements and assertions contained in this research summary it was felt by the PRS staff that it should be read critically by other departmental groups prior to its circulation. We are grateful for the cooperation received on this matter in that numerous errors, both major and minor, were detected. The alternative interpretations offered were likewise felt to have considerable merit.

The corrections and alternative interpretations to be incorporated in the text are listed below:

p5- Concerning the numbers of fingerling brook trout planted in Hunt Creek diversions on October 26, 1953, the 1953-54 report listed 50 in each of four lots. Subsequently some question has been raised as to the numbers of experimental fish in each of these lots; but further recheck with Mr. Jack Maatsch, formerly of PRS (Mr. Maatsch made the plantings), indicates that the original figures (50 in each lot) were correct.

p6- As was mentioned in the final paragraph on this page the legal rainbow data was confounded due to a flood which occurred on the seventh month. The interpretation offered for this data was, of course, purely on a present-absent basis. If one excludes the 7th month data and applies a X^2 test to the 6th month no significant differences are obtained.

p10- It was learned recently that the interpretation of this finding had considerable empirical merit. IFR personnel made two "runs" through the experimental area with a 240 v DC shocker. On the first run the great

bulk of the Group III animals captured came into the count whereas only the generally predicted proportions of the other groups were captured on the first run. This discrepancy between the highly trained animals and the controls leads to the interpretation given. This finding is quite contrary to that observed in all other sites, however, as it was found that the highly trained animals were by far the most difficult to recapture with an electric shocker.

pl4--The statement bracketed on this page was found to be sufficiently in error to merit its discussion here. The accurate results were received very recently and are as follows:

Planted	<u>Movement into Trap</u>			<u>Catch</u>		
	1st Day	2nd Day	Total 2 Days	1st Day	2nd Day	Total 2 Days
100 C	39	34	73	22	13	35
100 I	72	31	103	14	15	29
100 II	6	12	18	7	11	18
100 III	22	9	31	3	3	6

It is apparent first that considerable movement took place. However, it is impossible to determine the actual movement totals for the groups in that at the end of the first day the fish were removed from the trap and again placed upstream in the test area. In view of the 2nd day movement totals it is obvious that some of the same fish drifted into the trap again. It is further apparent that different fish entered the trap each day when one considers the total catch and trap totals for the two-day period.

The same general conclusion as offered in the annual report necessarily applies here. Namely, that the differences in movement varies greatly between the highly trained (Groups II - III) and untrained or unshocked fish (Group C-I) and that this variable plays an extremely significant part in the results obtained from the planting of untrained fish, where movement is not restricted.

This finding will be further tested in the spring^{of} 1955 at the same site.

Part II
Midyear Summary of Activities
of
Psychological Research Services
for
Michigan Department of Conservation
1954 - 1955

Content

- I Catch Studies
 - A. Hunt Creek
 - B. Ford Lake
 - C. West Lost and South Twin Lakes
 - D. East Fish Lake
 - E. Pigeon River
 - F. Rifle River
 - G. Tobacco River
- II Fingerling Plantings

The purpose of this brief midyear report is to terminate wherever possible the studies undertaken during the 1953-54 contractual period and to indicate the studies initiated during the present fiscal year.

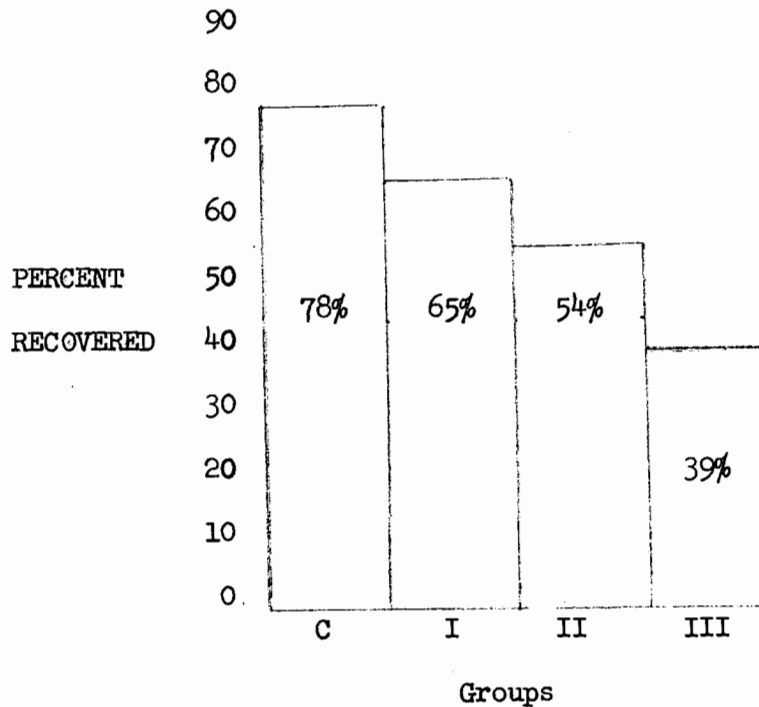
Creel census statistics for waters at the Hunt Creek, Pigeon River, and Rifle River stations have been supplied by Institute personnel at these stations.

I Studies designed principally to afford information on the distribution of catch of trained, untrained and native fish.

- A. Hunt Creek (sections A-B-Z) Fisheries Experiment Station, Montgomery Co. (See append. A-1)

Few fish planted in August 1953 were recovered during the '54 season (7 control, 7 Group III, and 1 Group I). This was to be anticipated, however, in view of the high return of these animals during the '53 season and the low rate of survival obtained in the neighboring Division survival study using the same specie.

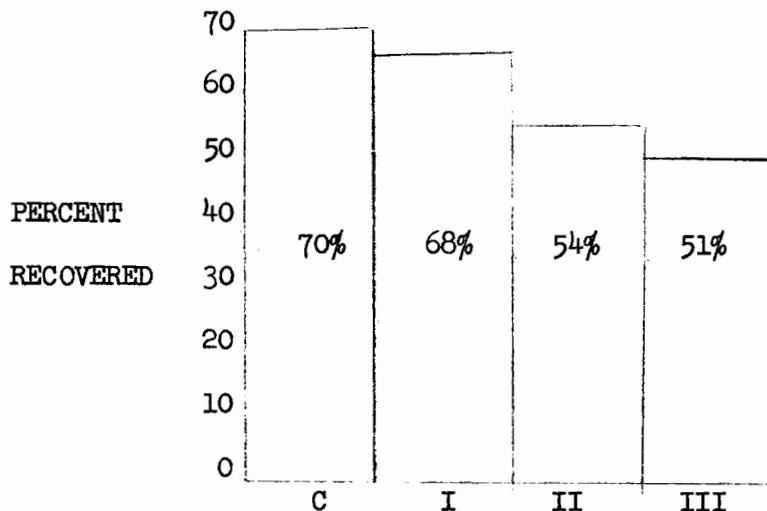
The results of the spring 1954 legal brook plantings are to be found in append. A-1. Particular caution must be exercised in interpreting the results obtained from the Group III fish in view of the size differences of these animals. The Group III fish were significantly smaller than the other groups which would necessarily alter the return to the creel in view of the size limits. No differences in size were obtained between the other groups. The catch differences and distributions, however, correspond precisely to the data collected at the bulk of the sites used in 1953 and to the 1953 Hunt Creek returns.



B. Ford Lake (see append. A-2)

The results of the 1953 planting were terminated in the annual report as no recoveries have been made at this site since July 31, 1954.

The spring 1954 planting has additions which should be noted here. The total percentages obtained during the 1954 season are as follows:



C. West Lost Lake - South Twin Lake (see append. A3-4)

No data other than that quoted in the annual report has been taken. Consequently these studies may be considered terminated. Worthy of mention, however, is the high rate of return of these fish from a fall planting.

D. East Fish Lake (see append. A-5)

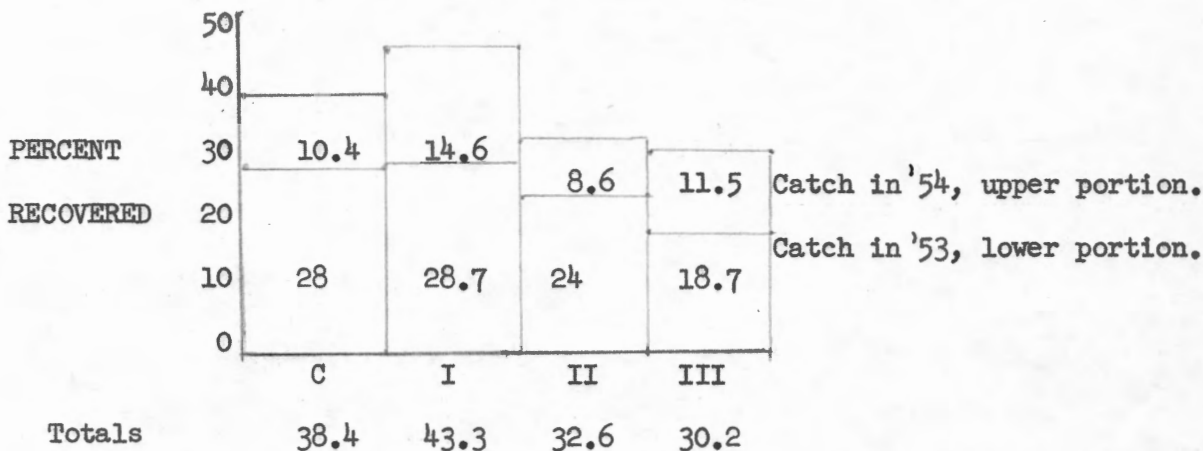
Nothing further can be offered from this site as few fish have been taken due to the 10" size limit. Of the 35 animals thus far recorded, a number were smaller than the minimum size limit required.

E. Pigeon River (see append. A-6)

So little data has been given since the writing of the annual report that further discussion seems unwarranted. The previous conclusions, therefore, would necessarily remain unchanged.

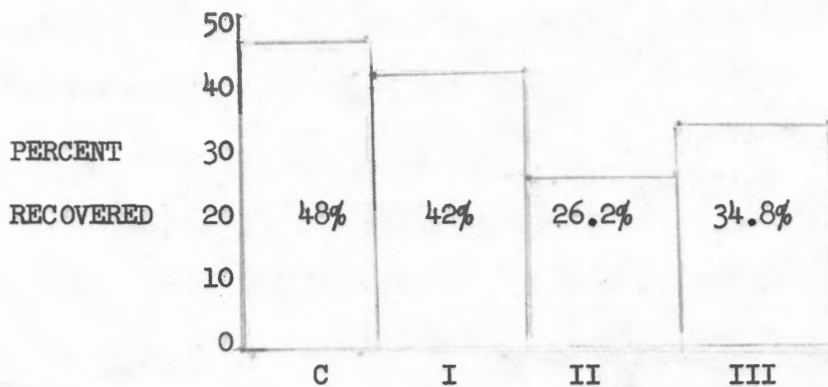
F. Rifle River (see append. A-7)

The bar diagram below displays the total catch of the 1953 planting to the end of 1954 season.



In view of the above figures and those obtained in the Slagle Creek survival study it is not felt that the data should be considered terminated at this date. The differences, although not statistically significant, show the same general trend as has been observed in brook trout studies.

The 1954 planting offered the following data (append. A-7):



With the exception of the Group II fish little difference can be observed between this data and the great bulk of that collected in both test years. No explanation can be offered for the occasional "deviant" return of the group II fish.

G. Tobacco River (append. A-8)

A more extensive analysis of these data collected in 1954 has been requested and is under preparation.

II Fingerling Plantings

As stressed in the annual report perhaps the largest single contribution the culturist could make would be the production of a fingerling trout capable of surviving at a high rate--higher by far than past results on hatchery and native fingerlings indicate. Preliminary studies conducted during the first contractual year seemed to indicate that this was entirely possible. However, the studies conducted contained small numbers of fish and consequently no rigid conclusions could be drawn from the promising data obtained.

The major project for this fiscal year consisted of training and planting large numbers of these animals in a variety of experimental settings. Naturally no catch results from these sites will be taken for some time due to the size of the animals. Two controlled stream sites should, however, offer considerable data by the termination of the present contract in regards to ability to survive winter conditions. The raw data for these plantings may be found in append. B-1 and B-2.

P. R. S. Summary, 1954 Trout Season

A 1

Hunt Creek

Date	Total Trips	PRS Suc- cess- ful Trips	Hours of Fishing	1954 Plant				1953 Plant			Wild Brook	Hatch- ery Brook	Hatch- ery Rainbow
				100 I	100 II	100 III	100 C	I	III	C			
April 24	90	20/47	207.75	14 ⁰	7 ⁰	3 ⁰	22 ⁰		4	4	89	1	27
25	66	17/32	169.00	15 ⁰	11 ⁰	3 ⁰	13 ⁰		1	3	59		13
26	12	2/3	26.25	1			1				5		
27	6	0/1	15.00								2		
28	5	1/2	12.25	1							5		
29	1	1/1	4.25	1		1					1		
30	3	2/3	8.25	2	1	1	2	1			3		
May 1	10	2/2	27.75		1		1				2		1
2	9	5/6	22.50	1	1		5		1		7		7
3	6	0/1	11.00										2
4	--	---	-----										
5	1	0/0	1.00										
6	6	1/3	14.00		1		1				2		2
7	--	---	-----										
May 8	8	0/2	13.00								2		
9	4	0/2	4.00								3		
10	4	0/3	9.50								5		1
11	--	---	-----										
12	1	1/1	4.25		1		1				5		
13	--	---	-----										
14	4	2/4	6.25		1	2					4	1	
May 15	24	5/12	76.00	2	5	2	1				22	5	5
16	25	7/11	63.50	5	4	2	1				17		6
17	--	---	-----										
18	1	1/1	4.25		1						4		
19	3	1/1	5.50	2			4						1
20	1	0/0	0.25										
21	13	1/5	23.50	1							5	1	1
May 22	15	4/6	27.00	2		3	4				10		2
23	14	3/6	23.75	2	5	2	1				5		3
24	--	---	-----										
25	4	2/2	13.50		2	2					2		
26	9	1/2	12.50			1					4		
27	8	0/3	13.50								6		2
28	6	1/2	10.00				1				3		

Circle (0) around number = undersized fish = under 7" in Hunt Creek, and under 10" in East Fish Lake.

A 1

Hunt Creek (Con't.)

Page 2 of 4 pages

Date	Total Trips	PRS Suc- cess- ful Trips	Hours of Fishing	1954 Plant				1953 Plant			Wild Brook	Hatch- ery Brook	Hatch- ery Rainbow
				100 I	100 II	100 III	100 C	I	III	C			
May 29	22	3/6	38.50	6	1		3				7		3
30	46	4/11	108.00	3	1	1	4				21	1	3
31	14	1/4	31.00				1				2		2
June 1	3	1/1	6.50	1							2		
2	2	2/2	8.00				2				1		1
3	2	2/2	6.00		1	1					2		
4	7	0/1	10.25								2		
June 5	7	0/2	11.00								4		
6	24	2/7	54.75			1	2				12		4
7	1	0/1	3.00								1		
8	2	0/1	6.00								1		
9	4	2/3	6.25			2	1				4		3
10	4	0/1	5.00								1		
11	10	0/7	22.50								11		6
June 12	24	5/11	66.50	1 ^①		4	1				15		4
13	13	2/6	25.25		1		1				12		7
14	4	0/0	6.00										
15	1	0/0	1.00										
16	1	1/1	1.25		1		1				5		2
17	2	0/2	10.00								3		1
18	7	0/2	6.75								2		
June 19	3	0/2	8.00								4		1
20	11	3/8	35.00	2	2	3 ^①					5		4
21	3	0/2	5.00								2		
22	10	2/6	20.00		2	1					3		1
23	2	0/1	4.50								1		
24	8	0/5	28.00								7		6
25	5	0/4	13.75								4		
June 26	13	0/2	12.00								5		5
27	23	1/5	51.50				1				6		5
28	3	0/0	4.50										
29	2	0/0	1.75										
30	1	0/0	2.00										
July 1	3	0/2	9.50								1		5
2	10	1/5	21.00	1							6		2

A 1

Hunt Creek (Con't.)

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Date	Total Trips	PRS Suc- cess- ful Trips	Hours of Fishing	1954 Plant				1953 Plant			Wild Brook	Hatch- ery Brook	Hatch- ery Rainbow
				100 I	100 II	100 III	100 C	I	III	C			
July 3	14	1/5	24.50			1					8		1
4	9	0/3	19.50								2		1
5	12	1/6	29.75			1					7		3
6	2	0/0	3.25						1/1				
7	8	0/1	23.25								1		1
8	5	0/3	10.50								1		2
9	5	0/1	8.00								1		
July 10	4	0/1	7.50										1
11	14	0/3	29.75								2		1
12													
13													
14	4	0/0	7.50										
15	5	1/2	15.25	1							2		1
16	7	0/3	23.00								4		1
July 17	3	0/2	4.50								2		
18	14	1/8	39.75				1				12		2
19	2	0/1	4.00								1		
20	3	0/2	9.50								6		
21	15	0/1	30.50										1
22	7	0/3	23.00								5		5
23	8	0/3	15.25								10		
July 24	3	0/0	11.25										
25	5	0/3	12.50								4		3
26	6	0/3	14.00								4		
27	6	1/1	16.25		1						3		3
28	9	1/2	15.50				1				5		1
29	1	0/0	3.00										
30	14	0/2	17.25								1		1
July 31	6	2/3	15.00		1	1					6		2

1/1 Caught in Fuller Creek.

Date	Total Trips	PRS Suc- cess- ful Trips	Hours of Fishing	1954 Plant				1953 Plant			Wild Brook	Hatch- ery Brook	Hatch- ery Rainbow
				100 I	100 II	100 III	100 C	I	III	C			
August 1	10	0/2	30.50								2		
2	7	0/2	16.25								2		1
3	4	0/0	4.00										
4	4	0/3	11.00								3		1
5	7	0/0	15.25										
6	1	0/0	3.00										
7	15	0/4	28.00								9		
8	14	1/5	40.50			1					6		
9	2	0/0	2.50										
10	2	0/1	6.50								1		
11	1	0/1	3.50								1		
12	10	0/4	11.50								6		
13	6	0/1	7.50								1		
14	3	0/1	13.50								2		3
15	--	---	-----										
16	3	0/1	7.25								1		
17	1	0/0	3.00										
18	3	0/1	7.00								3		
19	11	0/3	23.75								8		1
20	9	0/3	21.00								5		1
21	7	0/1	12.00								2		
22	5	0/0	10.00										
23	5	0/1	11.25								1		
24	--	---	-----										
25	16	0/1	34.25								2		
26	9	1/4	12.50		1						11		2
27	4	0/2	5.00								3		
28	6	0/4	21.00								14		
29	4	0/2	8.00								5		1
30	4	0/1	5.50								1		
31	--	---	-----										
Sept. 1	2	0/0	1.75										
2	4	0/0	7.25										
3	9	1/3	17.00				1				3		1
4	13	1/3	29.50	1							4		1
5	14	0/2	38.50								3		1
6	24	0/6	63.00								8		
7	16	0/3	24.50								2		1
8	--	---	-----										
9	2	0/1	2.50										1
10	--	---	-----										
11	4	0/2	8.00								4		1
12	3	1/2	6.50		1				1		4		1
Totals	1,111	125/409	2,485.75	65	54	39	78+*	1	7	7	628	9	185

*Total 79 = 78 + 1 from Fuller Creek

Date	Total Trips	PRS TST	Total Hours	1953 Plant				1954 Plant				Other Trout	Total Trout
				I 150	II 150	III 150	C 150	I 150	II 150	III 150	C 150		
July 16	2	2/2	4.0					2	1		1	6	10
19	4	2/2	14.0								2		2
20	3	1/2	12.0					2				6	8
21	8	1/3	29.0							1		6	7
30	2	0/0	2.0										
August 7	2	0/0	4.0										
9	5	0/1	5.0									2	2
10	2	0/0	11.0										
12	8	3/5	53.0						1	1	1	15	18
28	7	1/1	28.0					1					1
31	4	1/2	10.0						1		1	5	7
Sept. 2	4	3/3	16.0					1			1	8	10
3	6	0/2	9.0									2	2
4	15	6/8	48.5					2	1	4		25	32
5	26	10/21	87.5					4	1	3	4	62	74
6	8	1/7	28.0							2		31	33
7	5	0/1	14.5									1*	1*
8	2	0/2	6.0									6	6
9	2	1/1	4.0								1	1	2
10	2	0/0	3.0										
11	19	4/15	69.0					1		2	1	27	31
12	5	1/2	10.0					1				5	6
								102	81	77	105		

*Rainbow

A 3

West Lost Lake - 1954

Date	Total Trips	PRS TST	Total Hours	I	C	Other Trout	Total Trout	Mis. Marked Trout
April 24	18	18/18	21.5	37	40	8	85	
25	32	14/15	104.0	13	12	2	32	5
26	10	1/2	17.0	1		1	2	
28	2	0/0	3.0					
29	1	0/0	7.5					
May 2	1	0/0	1.0					
3	1	1/1	1.0	1			1	
May 8	4	0/0	12.0					
May 15	7	3/3	20.0		4		4	
16	2	2/2	15.0	2	1	1	4	
17	2	0/0	2.0					
May 29	4	1/2	11.0	2	1	1	4	
30	10	1/5	23.5		1	8	9	
June 5	2	0/1	7.0			3	3	
6	7	1/6	18.5		1	14	16	1
June 16	3	0/0	6.0					
20	3	0/0	7.5					
24	2	0/2	2.0			6	6	
27	3	0/3	24.0			7	7	
July 3	4	0/0	6.0					
4	9	1/3	33.0	1		5	6	
5	1	0/0	0.5					
7	2	0/0	4.0					
9	2	0/1	2.0			1	1	
10	2	0/2	4.0			7	7	
11	4	0/3	14.5			18	18	
13	3	0/0	4.5					
14	2	0/0	4.0					
16	3	0/0	6.0					
19	2	0/0	2.0					
26	6	0/1	6.0			1	1	
28	3	1/3	6.0		1	14	15	
29	3	0/3	4.5			15	15	
31	7	2/4	17.0	1	1	18	20	

A 3

West Lost Lake - 1954 (Cont'd.)

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Date	Total Trips	PRS <u>TST</u>	Total Hours	I	C	Other Trout	Total Trout	Mis. Marked Trout
August 1	4	0/3	7.5			15	15	
3	8	0/7	30.0			30	30	
4	9	0/8	50.0			31	32	1
5	4	0/1	11.0			1	1	
9	5	0/1	9.0			5	5	
11	3	0/3	25.5			6	6	
12	3	0/0	9.0					
14	2	0/0	2.5					
18	2	0/0	1.0					
21	2	0/2	8.0			3	3	
27	3	0/3	12.0			15	15	
28	10	0/4	31.0			20	20	
29	7	0/4	14.5			20	20	
30	6	0/0	10.0					
31	2	0/0	2.0					
Sept. 1	3	0/3	10.5			15	15	
2	6	0/3	25.5			15	15	
3	3	0/2	10.5			3	3	
4	3	0/3	18.0			11	11	
5	6	0/4	18.0			16	16	
6	2	0/0	2.0					
7	2	0/2	6.0			2	2	
8	2	0/1	6.0			3	3	
9	1	0/1	2.5			2	2	
Totals 1954	263	46/133		58	62	343		7
Totals 1953	7	1/1		3	2	5	10	

A 4

South Twin - 1954

Date	Total Trips	PRS TST	Total Hours	I	C	Other Trout	Total Trout
April 24	33	27/28	74.5	34	36	47	117
25	51	13/18	127.5	10	15	16	41 (1 mismark)
26	1	0/0	2.5				
27	2	0/0	3.0			2	2 (1 mismark)
28	1	1/1	3.5		1	3	4
May 1	10	3/3	24.5	2	1	5	8
2	5	4/4	8.0	3	2		5
3	1	1/1	0.5	1	1	1	3
4	1	1/1	3.5	2	1	1	4
5	3	1/1	9.0	1			1
7	1	0/0	2.0				
8	10	1/1	29.0	1	1	1	3
9	6	3/4	18.0	4	1	2	7
10	1	0/0	2.5				
13	2	0/0	4.0				
14	3	1/1	9.0	1			1
15	13	0/2	26.0			3	3 (1 mismark)
16	8	1/2	27.0	1		1	2
19	2	1/1	7.0	1		1	2
21	7	1/2	16.0	3		3	6
22	2	0/1	11.0			2	2
23	2	0/0	5.0				
24	1	0/0	1.0				
28	2	0/2	9.0			9	9
29	20	4/9	46.5	3		10	13
30	15	3/3	41.0	1	3	3	7
31	6	0/1	18.0			1	1
June 1	3	0/0	3.5				
4	1	0/0	1.5				
6	2	0/0	4.0				
8	2	0/2	3.0			6	6
13	2	0/0	1.0				
15	2	0/0	2.0				
19	3	0/1	10.5			4	4
22	2	0/0	1.0				
25	3	0/0	10.5				
26	5	0/1	11.5			1	1
27	3	0/0	6.0				
July 2	2	0/0	2.0				
3	3	0/1	10.5			1	1
4	2	0/2	8.0			9	9
5	11	1/3	34.5	1		11	12
6	4	1/2	6.0		1	4	5
7	2	0/2	5.0			10	10
8	5	2/3	22.5		2	8	10

A 4

South Twin - 1954 (Cont'd.)

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Date	Total Trips	PRS TST	Total Hours	I	C	Other Trout	Total Trout
July 9	8	0/7	35.5			30	30
10	9	0/0	16.0				
11	4	0/3	7.0			8	8
13	4	0/2	10.0			4	4
14	1	0/0	1.0				
18	3	0/1	13.5			1	1
21	3	0/0	6.0				
22	5	0/2	7.0			7	7
25	6	0/0	6.0				
27	1	0/0	2.0				
29	3	0/0	6.0				
31	2	0/0	5.0				
August 1	1	0/0	2.5				
2	3	0/0	3.0				
5	5	0/0	5.0				
7	4	1/2	13.0		1	5	6
8	1	0/0	0.5				
9	3	0/2	9.0			7	7
11	1	0/0	1.0				
12	4	0/1	9.0			1	1
13	3	0/3	15.0			15	15
14	2	0/0	2.0				
19	2	0/0	4.0				
21	6	0.6	19.5			23	23
22	7	0/6	26.0			26	26
28	4	0/4	30.0			14	14
29	5	1/4	20.0	1		17	18
30	4	0/2	10.0			3	3
31	1	0/1	3.0			2	2
Sept. 1	3	0/3	7.5			11	11
2	3	0/3	4.0			13	13
3	8	0/3	29.0			12	12
4	4	0/4	14.0			8	8
5	8	0/7	23.5			19	19 (1 mismark)
6	9	0/2	23.0			5	5
8	2	0/2	5.0			3	3
9	1	0/1	4.5			3	5
10	1	0/1	2.5			5	5
11	7	0/5	10.5			11	11
12	12	0/7	25.0			23	23

Totals 1954

A 5

East Fish Lake - 1954

Date	Total Trips	PRS TST	Hours of Fishing	Wild Fish	St. Pelvic	1953 PRS				1954 PRS				Mis. Mark	Total Fish
						I	II	III	C	I	II	III	C		
April 24	28	3/15	109.00	16	10		1							1	30
25	23	0/6	85.25	5	4										9
27	2	1/2	6.00		1	1									2
30	4	0/0	11.00												0
May 1	10	0/2	46.50	2											2
2	4	1/3	27.50	2	1	1									4
8	2	0/0	3.00												0
12	2	0/0	3.50												0
15	6	0/1	14.00	1											1
16	4	1/2	18.00		1		1								2
17	2	0/0	4.00												0
May 23	3	0/0	8.75												0
29	3	0/0	8.00												0
30	19	2/4	60.75	1	4	2			1					1	9
31	2	0/0	4.00												0
June 14	2	0/0	2.50												0
19	6	4/5	25.00	2	2	4			1					2	11
20	4	0/1	12.00		1										1
22	2	0/0	3.00												0
23	5	4/5	22.25	2		1	2		1						6
24	5	2/3	41.25	1			1	1							3
June 26	2	0/0	4.50												0
28	2	2/2	10.00	1			1		1						3
29	3	2/2	6.75						1						2
30	1	0/0	2.75												0
July 1	1	0/0	4.00												0
2	2	0/0	5.00												0
3	9	0/0	21.00												0
4	3	0/0	6.00												0
5	7	1/3	35.50	2					1						3
7	2	0/0	1.50												0
10	1	0/0	1.50												0
11	2	1/1	9.00	1			1								2
15	1	0/0	1.50												0
18	2	0/0	5.00												0
20	3	0/0	6.25												0
21	7	0/0	16.75												0
26	2	0/0	5.00												0
28	2	0/0	3.50												0
29	1	0/0	2.00												1
31	3	0/1	12.00	1											1
Totals	194	24/58	671.75	37	24	9	7	2	8					3	91

1/2/3/ Fish under 10", in East Fish Lake.

A 5

East Fish Lake - 1954 (Cont'd.)

Page 2 of 2 pages

Date	Total Trips	PRS TST	Hours of Fishing	Wild Fish	St. Pelvic	1953 PRS				1954 PRS				Mis. Mark	Total Fish
						I	II	III	C	I	II	III	C		
August 1	5	0/0	8.75												
4	2	1/1	2.00										1✓		1✓
8	2	0/0	6.00												
12	2	0/0	1.00												
14	8	4/4	42.75					1	1	1			1		4
15	5	2/4	18.00	2	1✓				1	3✓			4✓		11✓
16	1	0/0	0.50												
19	4	0/0	10.00												
20	1	0/0	1.00												
22	5	2/2	18.50										2		2
25	7	1/1	16.00				1								1
26	2	0/0	4.00												
28	5	0/0	23.25												
29	3	0/0	6.75												
Sept. 1	1	0/0	1.50												
3	2	0/0	3.00												
4	2	0/0	5.00												
6	1	0/0	2.00												
11	7	3/3	58.00				1		1	2					3
12	5	2/2	35.00				1		1						2
Totals 1954	264	39/75	937.25	39	25✓	11	8✓	4✓	123✓	4✓			116✓	1	115✓

A 6

Pigeon River - 1954

Date	Total Trips	PRS TST	Hours Fished	1953				1954				Other Trout	Total Trout
				I	II	III	C	I 200	II 200	III 200	C 200		
April 24	26	7/14	79.0		1	2	1	1	1		2	25	33
25	34	3/9	68.0		1		1	1		1	1	11	16
26	10	0/5	22.5									8	8
29	2	0/2	9.0									3	3
May 1	12	9/12	41.0					3	4	4	8	19	38
2	11	8/10	34.0		1			4		1	2	26	34
6	1	1/1	3.5					2			1	2	5
7	1	1/1	3.0								2	3	5
8	13	0/1	33.5									2	2
9	7	4/6	16.0	1				2	1		1	11	16
10	4	0/1	6.0									1	1
11	3	0/0	7.5										
12	1	0/0	2.5										
13	6	4/5	21.0					4	4	2	2	5	17*
14	5	4/5	21.5						5	2	2	7	16
15	21	7/11	75.0					3	5	5	3	25	41
16	27	13/16	78.0				2	4	8	2	7	21	44
17	2	0/0	3.5										
18	2	0/0	2.0										
19	2	2/2	9.0					1	2			2	5
20	5	4/4	14.5					1	1	2	3	4	11
21	5	0/2	8.0									7	7
22	17	8/13	51.0					3	8	1	3	39	54
23	17	5/12	34.5					3	3	2	2	30	40
24	2	1/1	3.0					2	1			2	5
25	3	0/0	2.5										
26	8	3/4	14.0						3		1	12	16
27	5	2/5	10.5						1	1	1	14	17
28	3	1/2	7.5						2			2	4
29	12	0/6	21.0									10	10
30	45	2/3	92.0	1					1		4	4	10
31	14	3/6	22.0						1	1	2	13	17
June 1	2	0/1	4.0									1	1
2	2	0/0	2.0										
5	8	1/2	18.0								2	4	6
6	22	7/15	73.0					3	3	2	3	45	56
7	9	3/5	28.5					1	1	1		13	16
8	7	2/4	23.0					1	1	6		3	11
9	5	1/4	16.0							2		17	19
10	10	5/8	47.0					1	2	1	1	13	18
11	8	0/0	10.0										
12	13	4/8	40.5					1	4	2		20	27
13	22	9/16	56.5					2	6	6	2	24	40
14	11	2/7	32.5						1	1		15	17
15	5	0/1	8.0									4	4
16	8	1/4	19.0					1				7	8

*1 mismarked

Date	Total Trips	PRS TST	Hours Fished	1953				1954				Other Trout	Total Trout	
				I	II	III	C	I 200	II 200	III 200	C 200			
June 17	8	0/0	10.5											
18	9	0/0	16.0											
19	14	2/3	20.5					1		2	1	4	8	
20	10	2/5	20.5					1			1	12	14	
21	7	1/2	14.0								1	1	2	
22	4	0/0	8.5											
23	5	0/2	11.5									14	14	
24	7	1/4	15.5					1				21	22	
25	11	1/8	20.0					1				45	46	
26	25	2/13	64.0					1	1			55	57	
27	36	3/23	82.0					2	1	1	1	73	78	
28	11	1/8	33.0							1		30	31	
29	19	2/15	52.5					1			1	50	52	
30	22	2/12	57.5					1		1		49	51	
July 1	21	1/10	47.0						1			26	27	
2	13	2/7	39.5					1		1		19	21	
3	21	1/10	58.0						1	1		20	22	
4	51	4/23	114.5					2		2		67	71	
5	20	3/10	56.5					1	1	1		15	18	
6	18	3/8	53.5						2	1		17	20	
7	12	2/8	22.5					1		1	1	23	26	
8	20	2/8	59.5					1	2			19	22	
9	23	3/13	66.0					1		1	1	41	44	
10	27	2/12	65.0					2				34	36	
11	10	0/5	30.5									19	19	
12	16	0/6	38.0									17	17	
13	15	0/11	40.5									20	20	
14	14	0/3	36.5									4	4	
15	12	0/1	28.0									1	1	
16	17	0/0	28.5											
17	12	0/3	50.0									2	2	
18	4	0/0	10.0											
19	11	0/1	13.5									2	2	
20	7	1/3	26.0								1	3	4	
21	11	2/6	56.5							2		16	18	
22	7	0/3	13.5									7	7	
23	6	0/2	14.0									7	7	
24	13	0/1	23.0									1	1	
25	21	1/3	51.5							1		4	5	
26	7	0/1	9.5									3	3	
27	12	0/1	17.0									2	2	
28	14	0/2	37.0									4	4	
29	8	0/0	8.0											
30	6	0/1	7.0									1	1	
31	21	1/3	53.5							1		2	3	

A 6

Pigeon River - 1954 (Cont'd.)

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Date	Total Trips	PRS TST	Hours Fished	1953				1954				Other Trout	Total Trout
				I	II	III	C	I 200	II 200	III 200	C 200		
August 1	2	0/1	5.0										
2	2	0/0	4.0									9	9
3	15	0/5	35.0										
4	10	1/2	31.5								1	15	15
5	9	0/1	16.5									1	2
6	10	0/2	34.5									1	1
7	19	0/3	63.5									5	5
8	18	0/2	21.0									5	5
9	7	0/1	11.5									3	3
10	3	0/0	4.5									3	3
11	11	0/2	27.5										
12	6	0/2	15.0									11	11
13	3	0/2	8.0									2	2
14	12	0/6	32.5									4	4
15	4	0/0	4.0									11	11
16	9	1/4	29.5								1	3	4
17	10	0/1	19.5									2	2
18	8	0/0	21.0										
19	13	0/4	31.5									8	8
20	11	0/3	27.5									30	30
21	18	0/7	65.0									22	22
22	13	0/7	54.5									20	20
23	8	0/2	25.5									3	3
24	7	1/5	26.0						1			13	14
25	7	0/2	19.0									9	9
26	11	0/0	19.0										
27	--	---	----										
28	14	0/3	36.5									5	5
29	6	0/3	19.5									6	6
30	2	0/1	6.0									5	5
31	5	0/0	7.5										
Sept. 1	12	0/2	20.5									2	2
2	15	0/3	42.0									13	13
3	16	0/3	44.5									4	4
4	29	2/10	88.5						1	1		21	23
5	34	0/8	96.5									20	20
6	22	0/7	71.5									15	15
7	6	0/3	17.5									8	8
8	4	0/3	8.5									9	9
9	7	0/5	31.0									40	40
10	9	0/6	25.5									22	22
11	23	1/12	67.0						1			22	23
12	8	0/2	25.5									5	5
Sec.D-a/1-12	39	1/7	118.5						1			4	5
									62	81	63	65	

A 7

Rifle River PRS Summary, 1954 Trout Season

Date	Total Trips	PRS TST	Total Hours	1953 Plant PRS				Tag Lost	1954 Plant PRS				Other Trout	Tag No. Not Listed	Totals All Trout
				150 I	150 II	150 III	500 C		175 I	175 II	175 III	200 C			
April 24	173	5/24	625.5	2			3						64	1	70
25	122	1/16	302.0				2						41		43
26	11	2/3	24.5	1	1								2		4
27	1	0/0	2.0										0		0
28	19	0/2	36.0										2		2
29	21	0/2	31.0										6		6
30	28	3/9	96.5				2	1				1	17		21
May 1	71	13/24	365.0	2	1	4	5	2	6	1	4	1	51	3	80
2	100	15/36	464.5	4	1	2	6	2	4			1	83	2	105
3	9	1/2	21.0		1								1		2
4	10	0/0	15.5										0		0
5	15	1/2	34.0						1			1	2		4
6	12	2/5	60.5						1			2	7	1	11
7	15	1/5	41.0				1						9		10
May 8	70	11/19	256.0	2		1	8		1				39	1	52
9	59	6/13	187.0	1	1	1			2	1	1	2	15		24
10	9	1/4	21.5	2			1						10		13
11	13	0/3	47.0										4		4
12	13	1/4	38.5		1		1	1	1				8		12
13	16	4/7	54.5	1		1			1	2		5	7		17
14	26	5/10	99.5				1		3		2	6	8	2	22
May 15	75	9/19	312.0	1		2	2		4	3	1	3	23	2	41
16	94	11/22	422.0	1	2		5	1	1	1	2	5	29		47
17	10	0/1	29.5					1					1		1
18	18	1/6	41.5										10		11
19	13	2/3	25.0							1		1	1		3
20	9	1/1	41.0								1	2	2		5
21	17	1/8	27.5						1				13		14
May 22	72	8/16	269.0				3		8		1	2	30	3	47
23	66	8/14	207.5	1		1	5		2		1		16		26
24	15	1/5	33.0						1				9		10
25	10	0/3	21.0										6		6
26	4	0/2	5.5										2		2
27	12	0/5	31.0										9		9
28	23	0/5	30.0										6		6
May 29	42	0/5	115.5										8		8
30	68	2/5	181.5					1				1	4		6
31	28	0/3	83.0										10		10
June 1	2	0/0	10.0										0		0
2	12	0/2	33.0										5		5
3	1	0/1	1.0										1		1
4	2	0/0	2.0										0		0
5	31	4/10	99.5				1			1	2	1	14		19
6	26	2/4	60.0						1			1	3		5

A 7

Rifle River PRS Summary, 1954 Trout Season (Cont'd.)

Date	Total Trips	PRS TST	Total Hours	1953 Plant PRS				Tag Lost	1954 Plant PRS				Other Trout	Tag No. Not Listed	Totals All Trout
				150 I	150 II	150 III	500 C		175 I	175 II	175 III	200 C			
June 7	10	1/3	19.0								1		2		3
8	16	1/4	25.0						2				1	6	9
9	4	0/2	16.0											2	2
10	9	1/5	16.0								1			8	9
11	22	3/5	40.5							1	1		4	4	11
12	40	13/17	177.0			1	3	1	6	3	3	6	24		47
13	51	13/18	233.0		3	2	1	1	5	3	3	11	15		44
14	8	0/0	24.0										0		0
15	16	0/4	32.0										4		4
16	15	8/11	54.5						1	2	1	2	10	2	18
17	13	0/5	29.0										14		14
18	16	2/4	32.0						2		1		2	1	6
19	30	6/10	100.0					1	6	3	6	8	21	2	47
20	27	3/10	60.0						1	1	3	1	15		21
21	11	0/2	19.0										2		2
22	4	0/0	8.0										0		0
23	8	0/1	13.5										1		1
24	7	0/1	11.5										3		3
25	10	0/2	25.0										2		2
26	16	0/0	21.5										0		0
27	9	0/0	34.0										0		0
28	7	0/1	13.0										1		1
29	14	0/3	17.0										4		4
30	4	0/0	7.5										0		0
July 1	12	0/1	20.5										1		1
2	14	6/7	40.0						3	2	7	5	3	1	21
3	54	6/11	199.0		1		1		2	2	2	2	19		29
4	65	8/11	187.0			1	1			10	1	6	11		30
5	42	4/5	110.0					1	1			2	1		5
6	18	1/3	27.5						2				6		11
7	12	1/2	40.0								1		2		4
8	13	1/1	32.5								1		1		2
9	11	0/1	26.0										2		2
10	48	7/9	187.5						1	2	1	3	11	1	19
11	23	1/4	51.5						1		1	1	3		6
12	19	0/1	55.0										2		2
13	6	0/0	20.5										0		0
14	6	0/0	11.5										0		0
15	26	2/4	93.0					1		2			2		5
16	22	0/5	66.5										8		8
17	41	0/7	147.5										9		9
18	13	1/1	35.0									1	1		2
19	14	0/1	27.5										1		1
20	11	0/0	27.5										0		0
21	6	0/1	14.0										1		1
22	7	0/1	21.0										3		3
23	7	1/1	15.5		1								1		2

A 7

Rifle River PRS Summary, 1954 Trout Season (Cont'd.)

Date	1953 Plant PRS				1954 Plant PRS					Tag No. Not Listed	Totals All Trout			
	Total Trips	PRS TST	Total Hours	150 I	150 II	150 III	500 C	Tag Lost	175 I			175 II	175 III	200 C
July 24	29	3/7	106.5		1						1	1	7	10
25	21	0/2	67.0										2	2
26	5	0/2	16.0										3	3
27	17	1/4	49.0							1			13	14
28	14	0/2	27.5										4	4
29	17	1/4	65.0						1				5	6
30	18	1/3	39.5			1							4	5
31	35	0/3	111.5										9	9
August 1	27	1/2	82.0								1		4	5
2	7	0/0	13.0										0	0
3	21	0/0	46.0										0	0
4	19	1/1	33.5								3	2	0	5
5	13	0/1	23.5										1	1
6	14	0/2	27.0										2	2
7	26	3/4	81.0					1			2		1	4
8	36	3/7	73.0					1		1	2		12	16
9	7	0/1	24.0										1	1
10	9	0/1	29.5										1	1
11	15	0/0	21.5										0	0
12	15	0/1	26.0										1	1
13	11	0/0	22.5										0	0
14	36	0/4	123.5										12	12
15	28	0/3	104.0										14	14
16	9	0/0	14.0										0	0
17	26	0/4	67.0										14	14
18	7	0/4	15.5										8	8
19	14	0/2	54.0										4	4
20	16	0/4	22.5										6	6
21	36	2/6	146.5						1		1	1	9	12
22	32	1/6	76.5								1		9	10
23	8	0/0	14.0										0	0
24	17	0/4	41.5										5	5
25	16	0/0	29.5										0	0
26	20	0/3	52.0										6	6
27	13	0/3	37.0										3	3
28	11	0/2	33.0										4	4
29	12	0/4	39.5										4	4
30	7	0/3	20.0										3	3
31	13	0/1	28.0										1	1
Sept. 1	15	1/4	44.0					1					4	5
2	11	0/0	20.0										0	0
3	5	0/0	16.0										0	0
4	21	0/5	61.0										12	12
5	34	0/7	95.0										17	17
6	27	0/4	48.0										11*	11
7	8	0/1	19.5										1	1
8	6	0/1	14.5										2	2

*One sublegal 7.4

A 7

Rifle River PRS Summary, 1954 Trout Season (Cont'd.)

Date	1953 Plant PRS							1954 Plant PRS					Tag No. Not Listed	Totals All Trout	
	Total Trips	PRS TST	Total Hours	150 I	150 II	150 III	500 C	Tag Lost	175 I	175 II	175 III	200 C			Other Trout
Sept. 9	3	0/0	5.5										0	0	
10	4	0/0	3.0										0	0	
11	17	1/4	53.0									1	3	5	
12	12	2/5	46.5						2	2		1	9	14	
<hr/>															
Totals	3,180	233/646	9685.0	19	13	17	52	17	75	46	61	96	1,037	24	1,457
		%	14.6	8.6	11.5	10.4			42.7	26.2	34.8	48%			
(Grand)		1953	43	36	28	140									
		%	28.7	24	18.7	28									

Tagged Rainbow trout captured by anglers (1954) not identifiable with tag listings.

Date	Length	Tag No.	
4-24	9.9	182	
5-1	8.5	99203	- Slagle Creek
	10.9	7100	
	11.3	2003	
5-2	10.9	8157	
	8.2	99922	
5-6	11.5	261	
5-8	11.3	2069	
5-14	8.4	7238	
	8.2	99269	
5-15	8.7	7073	
	8.2	9886	
5-22	8.3	9996	
	8.0	99841	
	8.0	99084	
6-11	8.9	98886	
6-16	8.5	99772	
	8.4	99199	
6-18	8.2	9897	
6-19	8.3	9859	
	8.3	2210	
7-2	8.1	98738	
7-10	9.4	99278	- Slagle Creek
9-11	9.5	19911	

NOTE: No records of the other tag numbers in this list in our files. How about yours?

DSS

Tag Rainbow trout taken from other streams of RRA during 1954.

Lower Gamble

5-22	8.3	1072
	9.1	Tag missing
6-8	9.2	1239

Houghton Creek

4-24	10.1	Tag with No Tag Number
4-30	8.3	7071

Fontinalis Creek

4-25	8.8	2897
8-10	9.1	2938

B²(1)

September 17, 1954

Gamble Creek

	Experimental		Control	
	L	W*	L	W
M	3.34	59.85	3.40	64.95
SD	.401	5.82	.338	7.50

Rifle River

	Experimental		Control	
	L	W	L	W
M	3.37	60.45	3.44	67.20
SD	.346	5.46	.326	5.211

*Average weights for all plantings are in grams for groups of ten fish.

B²(2)

October 16, 1954

East Fish Lake

	Experimental		Control	
	L	W	L	W
M	4.05	110.15	4.22	117.05
SD	.528	17.69	.491	12.92

Fuller Creek

	Experimental		Control	
	L	W	L	W
M	4.08	102.56	4.22	108.29
SD	.511	11.54	.386	16.63

Devoe Lake

	Experimental		Control	
	L	W	L	W
M	4.16	93.88	4.05	88.88
SD	.531	19.48	.484	16.07

B²(3)

November 15, 1954

Ford Lake

	Experimental		Control	
	L	W	L	W
M	4.21	132.45	4.32	128.55
SD	.779	12.77	.212	12.72

Swanzy

	Experimental		Control	
	L	W	L	W
M	4.24	125.05	4.26	125.85
SD	.368	13.40	.390	12.05

North Twin

	Experimental		Control	
	L	W	L	W
M	4.24	131.20	4.24	126.67
SD	.369	10.998	.346	9.67

South Twin

	Experimental		Control	
	L	W	L	W
M	4.29	131.30	4.25	121.50
SD	.397	14.01	.370	14.70

West Lost

	Experimental		Control	
	L	W	L	W
M	4.30	129.55	4.25	121.40
SD	.359	11.79	.358	13.59

Hunt Creek Proper

	Experimental		Control	
	L	W	L	W
M	4.22	122.00	4.39	127.75
SD	.396	15.17	.384	13.13

B²(3)

(Continued)

November 15, 1954

Hunt Creek Division

	Experimental		Control	
	L	W	L	W
M	4.17	114.65	4.31	124.80
SD	.347	11.28	.303	8.89

Slagle Creek

	Experimental		Control	
	L	W	L	W
M	4.14	114.85	4.19	119.00
SD	.270	9.08	.485	12.08

Hunt Creek, Section D

	Experimental		Control	
	L	W	L	W
M	4.16	119.80	4.30	126.40
SD	.333	7.01	.442	11.20

Hemlock Lake

	Experimental		Control	
	L	W	L	W
M	4.24	125.50	4.28	124.05
SD	.371	16.24	.376	16.22

Lost Lake

	Experimental		Control	
	L	W	L	W
M	4.29	127.75	4.31	121.00
SD	.405	10.02	.410	11.97

INSTITUTE FOR FISHERIES RESEARCH

J. L. Bingham

Approved by: G. P. Cooper

Typed by: P. R. Darling