

IDAHO DEPARTMENT OF FISH & GAME

Joseph C. Greenley, Director

FEDERAL AID TO FISH AND WILDLIFE RESTORATION

Job Performance Report

Project F-66-R-1



RIVER AND STREAM INVESTIGATIONS

Job No. III. Silver Creek Fisheries Investigations

Period Covered: 1 March 1975 to 29 February 1976

by

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JOB PERFORMANCE REPORT

State of Idaho

Name: RIVER AND STREAM INVESTIGATIONS

Project No. F-66-R-1

Title: Silver Creek Fisheries Investi-
gations

Job No. III

Period Covered: 1 March 1975 to 29 February 1976

ABSTRACT

Silver Creek has been a stream of national renown for many years. Because of the importance of Silver Creek as a trout fishery, an intensive fishery investigation has been programmed. During 1975 a limited effort was made to collect information that will assist in preparation for more intensive studies to be conducted in 1976 and 1977.

Fishing in Silver Creek during 1975 was relatively good as indicated by catch rates from 0.8 to 2.6 in various stream sections. Over half (59%) of the anglers listed fishing as good and only 6% listed it as poor.

Anglers kept fewer trout (97) in section 1 ("fly-only") and anglers fishing section 3 ("hatchery rainbows") kept most fish (977).

Approximately 93% of the anglers interviewed did not favor the use of boats for fishing on Silver Creek. About 84% did not favor the use of float tubes in the "fly-fishing-only" section of Silver Creek.

The 14-in regulation on Silver Creek and tributaries was satisfactory to 88% of the anglers.

Forty percent of the anglers on Silver Creek fished with flies, 13% with lures and 47% with bait. However, bait was used by over 50% of the anglers utilizing those stream sections where they had a choice.

Idaho residents composed 55% of the anglers interviewed on Silver Creek during 1975. Nonresident anglers were in the majority only in areas in which hatchery catchable rainbows were stocked.

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RECOMMENDATIONS

Conduct detailed studies on Silver Creek to include fish distribution and abundance, food availability and utilization, physical habitat evaluation, total harvest and use estimates and angler preference work.

OBJECTIVES

To monitor angler opinions, preferences, and/or attitudes on Silver Creek.

To ascertain catch rates for anglers fishing the "fly-fishing-only" section and the nonregulated section of Silver Creek.

INTRODUCTION

Silver Creek has been a stream of national renown for many years. As early as 1947 there was concern for declining fishing success and reduced fish size (Hauck 1947).

Silver Creek is a stream with relatively high productivity, stable stream flows, good water clarity and abundant aquatic vegetation. Bell (1967), Gebhards (1963) and others tie much of the productivity of this stream to the aquatic vegetation.

During 1957 Irving indicated that Silver Creek provided approximately 25,000 fishermen days of excellent trout angling annually (Bell 1967). Angler use and harvest have probably increased significantly since 1957.

Regulations on Silver Creek have undergone many changes over the years with current regulations limiting harvest to five trout, no more than one of which may exceed 14 inches in total length. A "fly-fishing-only" regulation is in force for Stocker Creek and for Silver Creek from the Kilpatrick bridge upstream. Fishing from boats or rafts is not permitted in Silver Creek. Use of float tubes is limited to those areas other than "fly-only" areas. Season length is from 29 May to 30 November (the general season).

Because of the importance of Silver Creek as a trout fishery, an intensive fishery investigation has been programmed. Fish distribution and abundance, food availability and utilization and physical habitat work will be undertaken in 1976. Creel census to determine total harvest, use and angler preferences will be conducted during 1977. The work accomplished during 1975 was initiated in order to obtain information that would assist in the finite planning for the 2 years of intensive study.

TECHNIQUES USED

The work undertaken during 1975 was in preparation for more intensive studies to be conducted during 1976 and 1977.

For the purposes of our study we divided Silver Creek into five sections (Fig. 1):

- Section 1 -- Stocker Creek to Kilpatrick bridge (fly-fishing only).
- Section 2 -- Kilpatrick bridge to Highway 68 (General regulations - no hatchery rainbow).
- Section 3 -- Highway 68 to Picabo bridge (General regulations - hatchery rainbow).
- Section 4 -- Picabo bridge to lower Highway 68 crossing (General regulations - no hatchery rainbow).
- Section 5 -- Lower Highway 68 crossing to stream mouth (General regulations - no hatchery rainbow).

These sections were designated because of differences in habitat, fishing regulations and hatchery releases. Grove, Loving and Stocker creeks were considered separately.

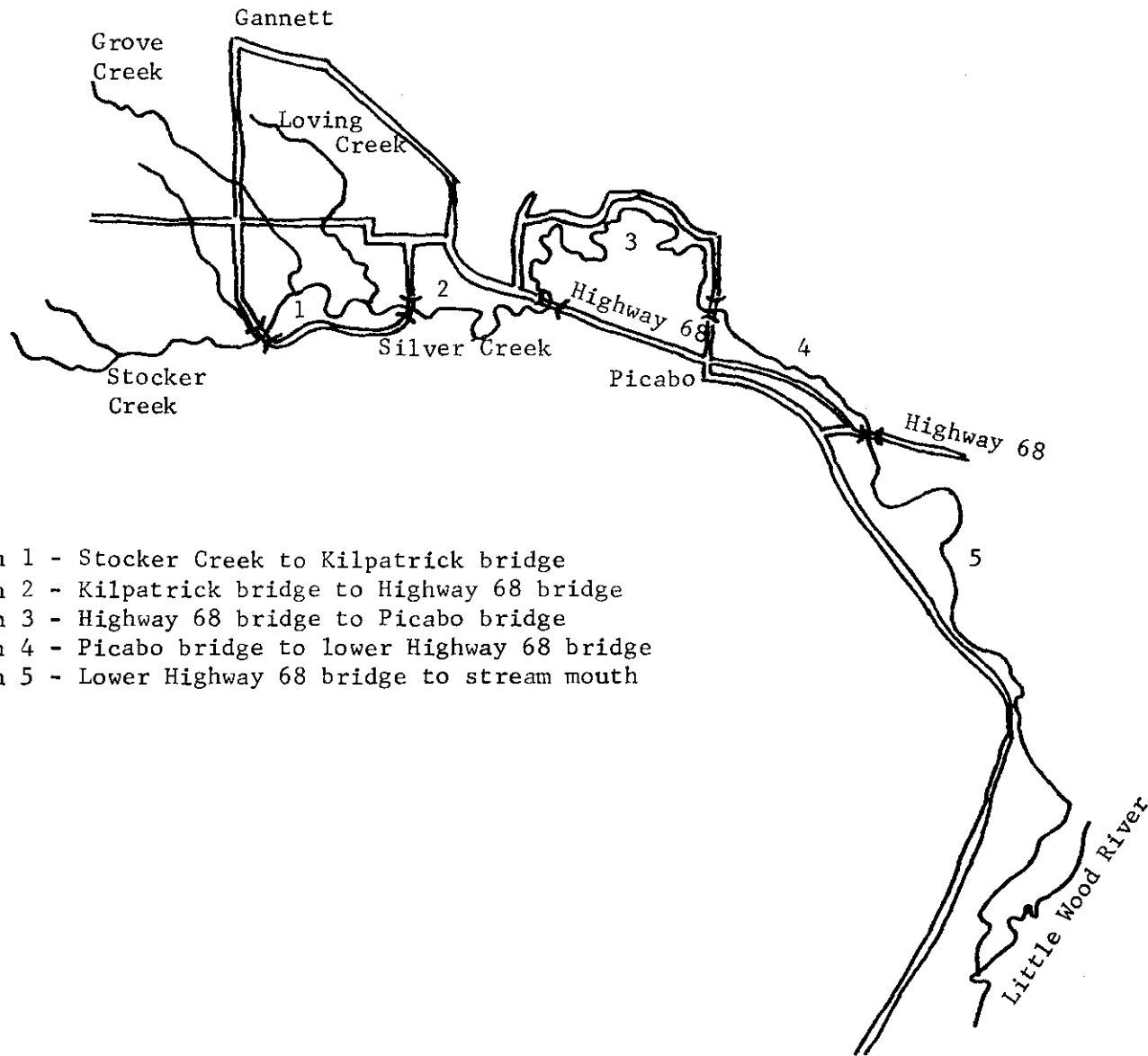
Conservation Officer Lee Frost interviewed anglers and separated the information by stream section.

Anglers were interviewed for catch information and preference information. Residence and fishing method was also noted. The sample collected during 1975 was quite small (74 anglers - 163 angler hours). However, this information will supply general insights into the fishery until an intensive creel census can be conducted during 1977.

Catch information included hours fished, fish caught (by species), fish kept, fish released and size of fish.

Angler opinion or preference questions were as follows:

1. Do you consider fishing on Silver Creek good, fair or poor?
2. If you do not consider fishing on Silver Creek good, is the problem fish size, the number of fish, angler congestion or some other item?
3. Do you favor the use of boats on Silver Creek?
4. Do you favor the use of float tubes in the "fly-fishing" section of Silver Creek?
5. Is the species composition in Silver Creek alright?
6. If the species composition is not alright, what species do you suggest?
7. Do you favor hatchery catchable releases?
8. Is more access needed on Silver Creek?



- Section 1 - Stocker Creek to Kilpatrick bridge
 Section 2 - Kilpatrick bridge to Highway 68 bridge
 Section 3 - Highway 68 bridge to Picabo bridge
 Section 4 - Picabo bridge to lower Highway 68 bridge
 Section 5 - Lower Highway 68 bridge to stream mouth

Figure 1. Diagram of Silver Creek with stream sections utilized during 1975.

9. If more access is needed, which areas do you suggest?

10. Is the 14-in regulation satisfactory?

The entire hatchery release in the Silver Creek drainage during 1975 was marked with monel metal jaw tags. These tags will be utilized during 1976 to establish growth rates, overwinter survival and fish movement.

FINDINGS

Fish Harvest

Fishing on Silver Creek during 1975 was relatively good as indicated by catch rates from 0.8 to 2.6 in various stream sections (Table 1). Catch rates were best in the "fly-fishing-only" section (section 1) at 2.3 fish per hour and in the section stocked with hatchery rainbow (section 3) at 2.6 fish per hour.

Anglers kept fewer trout (9%) in section 1 ("fly-only") and anglers fishing section 3 ("hatchery rainbows") kept most fish (97%).

All rainbow caught in section 1 were wild fish while only 25% of the rainbow caught in section 3 were wild fish. Although there were fewer wild rainbow in section 3 than in section 1, the wild fish that were kept in section 3 were larger at 330 mm (13.0 in) than were those kept in section 1 at 297 mm (11.7 in). Approximately the same percentage of the wild rainbow in each of these two sections were over 356 mm (14 in) with section 2 having 38% and section 3 having 39%. Fish averaged significantly smaller in the two tributary streams that were not stocked with hatchery fish; Stocker Creek - 231 mm (9.1 in) and Grove Creek - 241 mm (9.5 in).

Angler Opinions and Preferences

Most anglers interviewed on Silver Creek considered fishing either good or fair (94%). Approximately 59% of the anglers listed fishing as good and only 6% listed it as poor (Table 2).

Of those anglers that did not consider fishing as good on Silver Creek, 33% were disappointed with fish size, 64% with numbers of fish and 3% with angler congestion.

Approximately 93% of the anglers interviewed did not favor the use of boats for fishing on Silver Creek. About 84% of the anglers did not favor the use of float tubes in the "fly-fishing-only" section of Silver Creek.

Some 78% of the anglers considered the species composition in Silver Creek satisfactory. Of the anglers that were not satisfied with the species composition, 88% suggested brown trout, 6% brook trout and 6% rainbow-cut-throat hybrids.

Slightly over half of the interviewed anglers favored hatchery catchalbe releases. However, very few anglers fishing either of the "fly-fishing-only"

Table 1. Harvest information collected at Silver Creek during 1975.

Stream section	Fish per hour	WRb (%)	HRb (%)	Brk (%)	Fish kept (%)	Fish released (%)	\bar{x} size WRb mm (in)	% WRB >356 mm (14 in)
Silver Creek - 1	2.3	91.2	0.0	8.8	8.8	91.2	298 (11.7)	38
Silver Creek - 2	1.9	92.3	7.7	0.0	50.0	50.0	291 (11.5)	16
Silver Creek - 3	2.6	25.0	75.0	0.0	96.7	3.3	331 (13.0)	39
Silver Creek - 4	1.1	83.3	11.1	5.6	100.0	0.0	280 (11.0)	19
Silver Creek - 5	2.0	100.0	0.0	0.0	0.0	100.0	--	--
⁹ Stocker Creek	0.8	85.7	0.0	14.3	42.8	57.2	232 (9.1)	--
Grove Creek	1.3	91.3	0.0	8.7	65.2	34.8	241 (9.5)	--
Loving Creek	2.1	--	100.0	0.0	100.0	0.0	--	--

WRb = Wild Rainbow
 HRb = Hatchery Rainbow
 Brk = Brook Trout

Table 2. Angler opinion and preference information.

Do you consider fishing on Silver Creek good, fair or poor?

	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
Section 1	69%	31%	--
Section 2	54%	46%	--
Section 3	52%	43%	5%
Section 4	60%	--	40%
Section 5	--	100%	--
Stocker Creek	--	100%	--
Grove Creek	67%	22%	11%
Loving Creek	<u>100%</u>	<u>--</u>	<u>--</u>
Total	59%	35%	6%

If you do not consider fishing on Silver Creek good, is the problem fish size, the number of fish, angler congestion, or some other item?

	<u>Size</u>	<u>Number</u>	<u>Congestion</u>
Section 1	80%	--	20%
Section 2	14%	86%	--
Section 3	--	100%	--
Section 4	--	100%	--
Section 5	100%	--	--
Stocker Creek	100%	--	--
Grove Creek	40%	60%	--
Loving Creek	<u>--</u>	<u>--</u>	<u>--</u>
Total	33%	64%	3%

Do you favor the use of boats on Silver Creek?

	<u>Yes</u>	<u>No</u>
Section 1	--	100%
Section 2	22%	78%
Section 3	10%	90%
Section 4	--	100%
Section 5	--	--
Stocker Creek	--	100%
Grove Creek	--	100%
Loving Creek	<u>--</u>	<u>100%</u>
Total	7%	93%

Table 2. Angler opinion and preference information (continued).

Do you favor the use of float tubes in the "fly-fishing-only" section of Silver Creek?

	<u>Yes</u>	<u>No</u>
Section 1	--	100%
Section 2	57%	43%
Section 3	25%	75%
Section 4	--	--
Section 5	--	--
Stocker Creek	--	100%
Grove Creek	--	100%
Loving Creek	<u>--</u>	<u>--</u>
Total	16%	84%

Is the species composition in Silver Creek alright?

	<u>Yes</u>	<u>No</u>
Section 1	62%	38%
Section 2	73%	27%
Section 3	81%	19%
Section 4	100%	--
Section 5	100%	--
Stocker Creek	100%	--
Grove Creek	78%	22%
Loving Creek	<u>100%</u>	<u>--</u>
Total	78%	22%

If the species composition is not alright, what species do you suggest?

	<u>Brown trout</u>	<u>Brook trout</u>	<u>RbxCt hybrid</u>
Section 1	83%	17%	--
Section 2	75%	--	25%
Section 3	100%	--	--
Section 4	--	--	--
Section 5	--	--	--
Stocker Creek	--	--	--
Grove Creek	100%	--	--
Loving Creek	<u>--</u>	<u>--</u>	<u>--</u>
Total	88%	6%	6%

Table 2. Angler opinion and preference information (continued).

Do you favor hatchery catchable releases?

	<u>Yes</u>	<u>No</u>
Section 1	12%	88%
Section 2	60%	40%
Section 3	71%	29%
Section 4	83%	17%
Section 5	100%	--
Stocker Creek	--	100%
Grove Creek	50%	50%
Loving Creek	<u>100%</u>	<u>--</u>
Total	54%	46%

Is more access needed on Silver Creek?

	<u>Yes</u>	<u>No</u>
Section 1	6%	94%
Section 2	--	100%
Section 3	--	100%
Section 4	67%	33%
Section 5	--	100%
Stocker Creek	--	100%
Grove Creek	--	100%
Loving Creek	<u>--</u>	<u>100%</u>
Total	5%	95%

If more access is needed, which areas do you suggest?

The only suggestions for more access were: (1) Lower Silver Creek between access area and Priest, (2) from Picabo down and (3) anywhere to relieve crowding.

Table 2. Angler opinion and preference information (continued).

Is the 14-in regulation satisfactory?

	<u>Yes</u>	<u>No</u>
Section 1	94%	6%
Section 2	100%	--
Section 3	82%	18%
Section 4	--	--
Section 5	--	--
Stocker Creek	100%	--
Grove Creek	67%	33%
Loving Creek	<u>--</u>	<u>--</u>
Total	88%	12%

sections favored releases of hatchery catchable rainbows.

Most anglers did not see a need for added access to Silver Creek. The only suggestions were for additional access in lower Silver Creek or anywhere in order to reduce congestion.

The 14-in regulation on Silver Creek and tributaries was satisfactory to 88% of the anglers.

Fishing Methods

Forty percent of the anglers on Silver Creek fished with flies, 13% with lures and 47% with bait (Table 3). However, bait was used by over 50% of the anglers utilizing those stream sections where they had a choice.

Angler Residence

Idaho residents composed 55% of the anglers interviewed on Silver Creek during 1975 (Table 4). Nonresident anglers were in the majority only in areas in which hatchery catchable rainbow were stocked.

Hatchery Rainbow Releases

Present policy calls for release of 15,000 catchable rainbow trout in Silver Creek annually. An additional 5,000 catchable rainbow were stocked in Loving Creek during 1975 (Table 5). However, the release in Loving Creek may be curtailed in future years if access problems cannot be resolved.

Fish were stocked throughout the entire fishing season at an average size of about 254 mm (10 in). Each of the fish had a metal jaw tag for identification during the 1976 and 1977 portions of the study.

DISCUSSION

Information collected during 1975 can only indicate trends in a general way since the sample is quite small. The creel census conducted during 1977 will cover the same items but have a large sample which should indicate an accurate image of the use, harvest and angler preferences.

LITERATURE CITED

- Bell, Robert J. 1967. Tests for Increasing the Returns of Hatchery Trout (Project F-32-R-9), Job II--Silver Creek Fishery Investigations - 1966. Idaho Department of Fish and Game Report. pp. 86-96.
- Gebhards, Stacy V. 1963. Silver Creek Fishery Investigations. Idaho Department of Fish and Game Report. 8 pp.
- Hauck, Forrest R. 1947. Preliminary Observations on Silver Creek and Its Headwater Tributaries with Notes on Population Studies and Some Fishing Results. Idaho Department of Fish and Game Report. 9 pp.

Table 3. Fishing methods utilized on Silver Creek and tributaries during 1975.

	Flies	Lures	Bait
Section 1*	100%	--	--
Section 2	15%	31%	54%
Section 3	25%	5%	70%
Section 4	--	40%	60%
Section 5	--	100%	--
Stocker Creek*	100%	--	--
Grove Creek	33%	11%	56%
Loving Creek	<u>--</u>	<u>--</u>	<u>100%</u>
Total	40%	13%	47%

* Fly-fishing only section.

Table 4. Residence of anglers interviewed on Silver Creek during 1975.

	Idaho resident	Nonresidents
Section 1	50%	50%
Section 2	69%	31%
Section 3	38%	62%
Section 4	100%	0%
Section 5	0%	100%
Stocker Creek	50%	50%
Grove Creek	90%	10%
Loving Creek	<u>0%</u>	<u>100%</u>
Total	55%	45%

Table 5. Hatchery rainbow trout released in Silver Creek and Loving Creek during 1975.

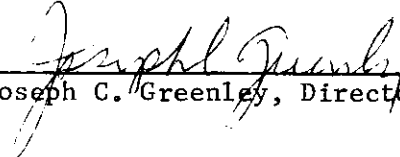
Date	Number	\bar{x} size mm (in)	Size range mm (in)
<u>Silver Creek</u>			
23 May	2,000	251.1 (9.9)	190-330 (7.5-13)
29 May	1,200	254.0 (10)	187-320 (7.4-12.6)
12 June	1,200	252.3 (9.9)	170-325 (6.7-12.8)
20 June	1,200	255.1 (10)	180-315 (7.1-12.4)
27 June	1,200	257.9 (10.2)	194-321 (7.6-12.6)
7 July	800	270.4 (10.6)	220-338 (8.7-13.3)
18 July	600	256.8 (10.1)	190-315 (7.5-12.4)
22 July	600	256.8 (10.1)	190-315 (7.5-12.4)
29 July	1,200	255.2 (10)	182-340 (7.2-13.4)
6 August	1,200	258.5 (10.2)	156-330 (6.1-13)
11 August	1,200	260.1 (10.2)	193-330 (7.6-13)
1 September	1,200	257.3 (10.1)	169-358 (7.6-14.1)
3 October	800	272.9 (10.7)	198-340 (7.8-13.4)
6 October	200	272.9 (10.7)	198-340 (7.8-13.4)
11 November	<u>600</u>	272.9 (10.7)	198-340 (7.8-13.4)
Total	15,200		
<u>Loving Creek</u>			
23 May	500	251.1 (9.9)	190-330 (7.5-13)
30 May	500	254.0 (10)	187-320 (7.4-12.6)
12 June	500	252.3 (9.9)	170-325 (6.7-12.8)
19 June	500	255.1 (10)	180-315 (7.1-12.4)
26 June	500	257.9 (10.2)	194-321 (7.6-12.6)
17 July	500	270.4 (10.6)	220-338 (8.7-13.3)
25 July	500	256.8 (10.1)	190-315 (7.5-12.4)
30 July	500	256.8 (10.1)	190-315 (7.5-12.4)
11 August	500	260.1 (10.2)	193-330 (7.6-13)
29 August	<u>500</u>	257.3 (10.1)	169-358 (6.7-14.1)
Total	5,000		

Submitted by:

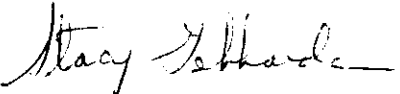
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