Shasta-Trinity National Forest
Big Bar Ranger District
North Fork of the Trinity River
Surveyed September 22-26, 1992
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North Fork Trinity River Adult Summer Steelhead and Spring Chinook Survey, 1992

RSF 90429

Adult Summer Steelhead and Spring Chinook Survey

The North Fork Trinity River is a tributary of the upper Trinity River and runs in a Southernly direction through steep mountainous terrain. Two crews surveyed approximately 23 miles of this tributary by direct observation snorkeling in September 1992. The survey began in the headwater regions of this drainage in a downstream fashion to avoid chances of multiple counting of individual fish. Swimming downstream with the current also saves time, especially in swift, deep canyon reaches. Several short reaches were surveyed in an upstream fashion due to access or time logistics. Suggestions for future surveys are given below to assist new personnel ~~(Future Surveys)~~.

In the past, large tributaries of the North Fork such as Grizzly and Rattlesnake Creeks were included in the survey. Due to extremely low flow conditions in 1992, only a small portion of Rattlesnake Creek was surveyed. The East Fork of the North Fork has not been surveyed since before 1991 because previous surveys indicated that summer steelhead and spring chinook did not use this tributary extensively.

Areas surveyed in 1992 are located on the attached maps. The same section labels used on the 1991 survey are used on the 1992 maps for comparison purposes. These do not always correspond to the actual 92 daily swimming reaches. In addition, percentages of habitat types in which adults were found are given (Table 1).

Observations

Sections A and B

These sections were not surveyed in 1992 because of extreme low flow conditions. At 1300 hours on September 22, the water temperatures in Grizzly Creek and the North Fork Trinity above the Grizzly confluence were 52°F and 55°F respectively.

Section C

This section was surveyed on September 23. No adult salmon or steelhead were observed. Juvenile trout were commonly observed.

Section D

Five adult steelhead were observed in this section. These were concentrated near Morrison Gulch. There are few large pools upstream of this location. Evidence of a small dredging operation was observed slightly upstream of Morrison Cabin. The water temperature was 54°F at 1000 hours, September 24. In the past, observed steelhead numbers were much higher in this reach.

Section E

On September 22, approximately 1.2 miles of Rattlesnake Creek were surveyed and no adult steelhead were observed. Juvenile steelhead and small trout were

abundant in this reach. The water temperature of this tributary was 61°F at 1500 hours.

Section F
A total of 149 adult summer steelhead were observed. The greatest concentrations of fish were located in the deepest pools. Thirty fish were observed in one pool about 1/4 mile below Rattlesnake Creek. The water temperature was 54°F at 1100 hours on September 25.

Section G
Seven adult steelhead were observed. None were observed in the braided portion of this survey region which is located immediately above Hobo Gulch.

Section H
Nine adult steelhead were seen. The water temperature was 54° at 1100 hours, September 22. This reach is extremely difficult to snorkel because of the steeper gradient and dense boulder cover resulting from mass wasting.

Section I
Twenty-seven adult steelhead were observed. Most of them were in main channel pools. This section was surveyed on September 22.

Section J
72 adult steelhead were observed. 60 were located in one main channel pool below Stoveleg Gap. The downstream end of this section is Raymond Flat.

Section K
On September 24, a total of 92 adult steelhead were observed. 78 fish were observed in one trench pool. This is also recognized as being the first area that spawning gravel was abundant.

Section L
Four adult steelhead were seen on September 25.

Section M
One adult steelhead was observed on September 23. Juvenile steelhead as well as chinook and coho salmon were observed below the East Fork bridge.

Diversions
Only one diversion was observed throughout the entire drainage. This was located at Raymond flat and was screened.

Future Surveys

Many of the surveyed stream reaches are located in extremely steep and remote areas of the Trinity Alps Wilderness. Crews must be prepared for a strenuous experience in unpredictable weather. It is important to pack light while including essential items. Late July or Early August is the best time to complete the survey before flows reach their lowest levels. Long daylight hours and warm air temperatures assure a safer trip. Also, this time is well before deer hunting season, an obvious safety hazard. Crews putting out of Hobo Gulch should definitely camp there the night before snorkeling begins. This can save several hours, giving crews a full day in the field. After reviewing logistics used on this and past surveys, it is strongly recommended that snorkel crews be packed into remote areas whenever possible. This would leave crews fresh and in better shape for snorkeling. The expense of packing is not great, especially if Forest Service stock or volunteers are utilized.

Most of the trails are well marked and in excellent repair. Sections H - M, located below Hobo Gulch, are accessible from the Raymond Flat and Waldorf Crossing Trails, as well as Hobo Gulch. There are several ways this survey can be efficiently laid out (see field notes at Big Bar office). This crew's camp gear could be packed into Waldorf Crossing while they got a very early start swimming. The crew should be in excellent physical condition if the long reach to Waldorf crossing is attempted. If using the Raymond Flat trail, a key may be obtained to shorten the hike.

Sections A - G, above Hobo Gulch, are obtained by trail starting at Hobo Gulch campground. It is strongly recommended that this crew be packed into the Rattlesnake base camp with a pack animal. Dick Wild, the volunteer at the Jorstad Cabin will be available. Bring some goodies for his mule, Molly. Special arrangements can be made with the packer to pack out while the crew finishes the last reach G down to Hobo Gulch. Sections A - E warrant special safety consideration. The instream footing is treacherous on Rattlesnake Creek and the upper North Fork due to slippery, unconsolidated substrates. The going is very slow with little swimming and hard on feet and ankles. Extra care should be taken.

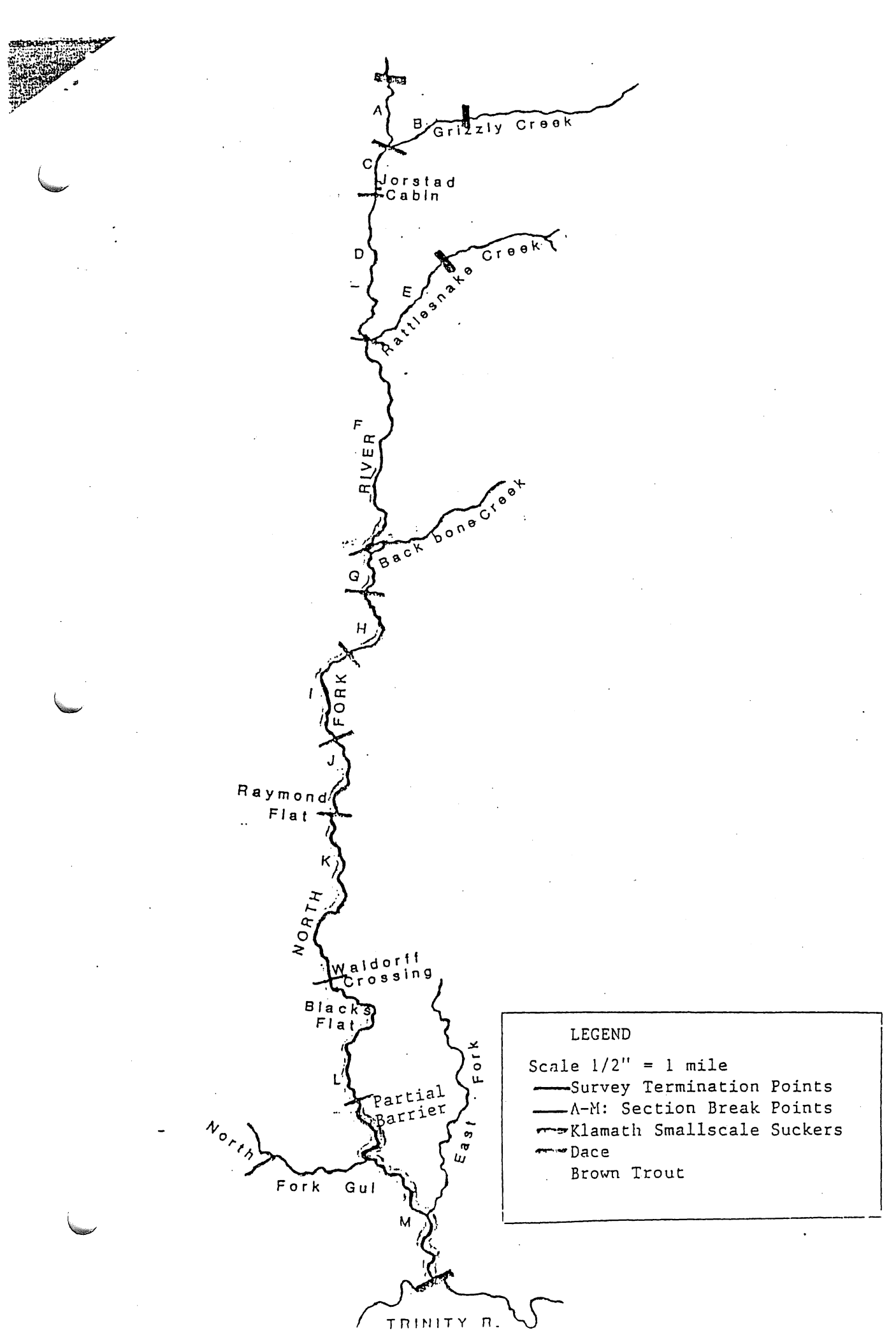
Results

A total of 369 adult summer steelhead were observed in the North Fork of the Trinity River. No adult salmon were observed. This count is down from previous surveys. The greatest concentrations of fish were located in the deepest pools, which has also been noted in past surveys. Main channel pools (MCP) were the most commonly used followed by trench pools (TP) and lateral scour pools (LSP). Most of these pools were formed by bedrock. In all, 22 main channel pools were utilized. Ten trench pools and nine lateral scour pools contained adult steel head. Also four runs, one step run and two glides were observed with adult steelhead.

Table 1. A summary of Numbers of Adult Summer Steelhead and the Associated Habitat Types they were found in the North Fork of the Trinity River.

Habitat Type	Number of Hab.Types with Fish	Number of Adults	Percent
MCP	22	195	52.8
TP	10	100	27.1
LSP	9	67	18.2
R	4	4	1.1
GL	2	2	.5
SR	1	1	.3
Total	48	369	100.0%

The North Fork offers excellent water quality and restricted access. This may be why this why the summer steelhead population size remains fairly constant (Zedonis 1991). Poaching could become more of a problem in the future as the popularity of this region of California increases.


A
B
Grizzly Creek
C
Jorstad Cabin
D
E
Rattlesnake Creek
F
RIVER
Back bone Creek
G
H
I
FORK
J
Raymond Flat
K
NORTH
Waldorff Crossing
Blacks Flat
L
Partial Barrier
East Fork
North Fork Gul
M
TRINITY R.
LEGEND
Scale 1/2" = 1 mile
Survey Termination Points
A-M: Section Break Points
Klamath Smallscale Suckers
Dace
Brown Trout