

1994 North Fork Trinity River
Adult Summer Steelhead and Spring Chinook Salmon Survey

REF 90431

Shasta-Trinity National Forest
Big Bar Ranger District
North Fork of the Trinity River
August 8, 9, 10, and 11, 1994

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The North Fork of the Trinity River is a major tributary of the Trinity River. The headwaters lie within the Trinity Alps Wilderness and it then flows in a generally southerly direction through steep mountainous terrain for approximately 27 miles to the Trinity River near Helena.

Two crews surveyed approximately 20.5 miles of this tributary by direct observation snorkeling in August 1994 targeting adult summer-run steelhead (Oncorhynchus mykiss) and spring-run chinook salmon (Oncorhynchus tshawytscha). We began the survey at the confluence of Grizzly Creek and proceeded downstream to the confluence with the mainstem Trinity River.

We searched all habitats thought to hold adult summer-run steelhead and spring-run chinook salmon and recorded all adult fish seen along with the corresponding habitat types on topographic maps (attached). We altered the original 1991 upper reach labels because Grizzly Creek was not snorkeled this year; the lower reach labels remain the same. The labeled reaches do not correspond to the areas surveyed by one crew on one day.

We did not take the time to get accurate counts of juvenile fish, but rather noted general numbers as well as general information on other fish and wildlife species seen.

In past years, the larger tributaries of the North Fork of the Trinity River have been surveyed. Last year 1.6 miles of Rattlesnake Creek was surveyed. We surveyed the lower 1.25 miles of Rattlesnake Creek this year. Approximately .8 miles of Grizzly Creek and the North Fork above Grizzly Creek were surveyed last year. We did no survey of Grizzly Creek this year. We surveyed the East Fork of the North Fork Trinity separately this year.

Observations

Reach A

This reach includes the lower 1.25 miles of Rattlesnake Creek and ends at the North Fork. Rattlesnake Creek had very low water this year with few pools. We saw no adult steelhead or salmon.

Reach B

This reach begins at the confluence of Grizzly Creek with the North Fork Trinity and extends .5 miles downstream to just beyond the Jorstad Cabin site. We saw no adult steelhead or salmon.

Reach C

This reach begins just below Jorstad Cabin and extends 2.5 miles to the confluence of Rattlesnake Creek with the North Fork. We saw 44 adult steelhead and no adult salmon. All steelhead were in either main channel pools or bedrock, rootwad, and log formed lateral scour pools.

Reach 1

Reach D

This reach begins at the mouth of Rattlesnake Creek and extends 3.5 miles downstream to Keystone Flat. We saw 305 adult steelhead and no adult salmon. All steelhead were in main channel pools, plunge pools, lateral scour pools, or pocket water.

Reach E

This reach begins at Keystone Flat and extends .5 miles downstream to the Hobo Gulch Campground. We saw 26 adult steelhead and no adult salmon. All steelhead were in main channel pools.

Reach F

This reach begins at Hobo Gulch Campground and extends approximately 1.25 miles downstream. We saw 4 adult steelhead and no adult salmon. The steelhead were in main channel pools, cascades, and runs.

Reach G

This reach is approximately 1.5 miles long. We saw 215 adult steelhead and no adult salmon. The steelhead were mostly in main channel pools and bedrock formed lateral scour pools with scattered individuals in runs.

Reach H

This reach is approximately 1.25 miles long and extends to Raymond Flat. We saw 225 adult steelhead and no adult salmon. All steelhead were in main channel pools.

Reach I

This reach begins at Raymond Flat and extends approximately 2.5 miles downstream. We saw 150 adult steelhead and 1 adult chinook salmon. The single salmon and most the steelhead were in main channel pools with scattered individual steelhead in pocket water.

Reach J

This reach extends approximately 2.5 miles downstream. We saw 14 adult steelhead and no adult salmon. The steelhead were in pocket water, bedrock-formed lateral scour pools, main channel pools, and boulder formed backwater pools.

Reach K

This reach K extends approximately 3.25 miles downstream to the confluence with the mainstem Trinity River. We saw 7 adult steelhead and no adult salmon. The steelhead were in runs or main channel pools.

Summary

Table 1 presents the results of the 1994 survey broken out by individual reaches, and Table 2 presents the results broken out by habitat type.

We saw a total of ⁹⁹⁰~~960~~ adult steelhead and only 1 adult chinook salmon in the entire North Fork of the Trinity River. Three hundred seventy five (375) of the steelhead were above Hobo Gulch and ~~585~~⁶¹⁵ were below. This distribution of fish follows the trends of years past where surveys have observed the greatest numbers of adult fish below Hobo Gulch (1993 being a notable exception). The numbers for this year's survey were significantly higher than the previous two years. The greatest concentrations of fish were located in the deepest pools, which has also been noted in past surveys. Though adult fish were found in a variety of habitat types, main channel pools were most commonly used.

Water levels were extremely low this year, even more so than during last year's survey. Doing the survey a bit earlier in the season will not make a difference in the number of adult fish observed but would reduce the amount of time spent walking dangerously slippery rocks.

We saw numerous juvenile rainbow/steelhead in all stream sections as well as Speckled dace (Rhinichthys osculus) and Klamath smallscale sucker (Catostomomus rimiculus). A school (100 plus) of large Klamath smallscale suckers (Catostomomus rimiculus) were congregated at the immediate confluence of the North Fork Trinity with the mainstem Trinity River.

Herpetofauna seen during the survey included: Western aquatic garter snake (Thamnophis atratus), Western rattlesnake (Crotalus viridis), and Pacific giant salamander (Dicamptodon ensatus). Approximately twelve full size adult Pacific giant salamanders were dead though no cause for death was apparent.

Other wildlife seen: American dipper (Cinclus mexicanus), Common merganser (Mergus merganser), Osprey (Pandion haliaetus), Great blue heron (Ardea herodias), and mink (Mustela vison). Surprisingly, we saw no frogs except in a small portion of Reach K, stretching from the North Fork bridge to the confluence.

Suggestions for next year's survey include staying one more day at the upper reaches (Reaches A-E). This added day would enable the crew to be a bit more thorough and not feel quite as rushed. Close coordination must be made for gear drop-off to the crew doing the lower reaches (Reaches F-K). Raymond Flat and Waldorf Crossing are the two drop-off points for gear. The packers should allow sufficient time for the strenuous hike over steep terrain. They must also clearly mark the drop-off point so snorkelers do not pass it by. Flagging by the creek and leading to the gear should be sufficient.

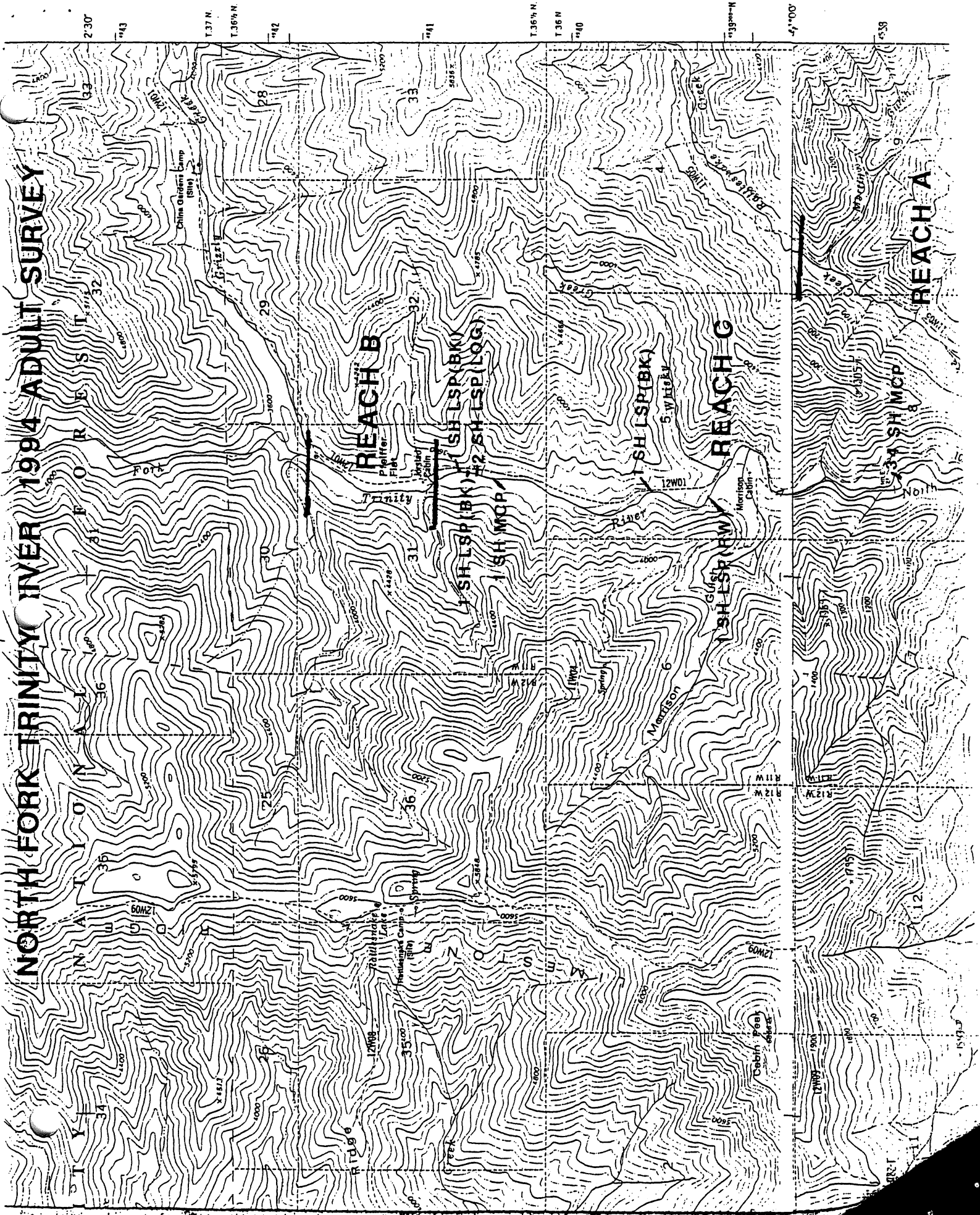
Table 1. Results of the 1994 summer-run steelhead and spring-run chinook salmon snorkel survey in the North Fork of the Trinity River. The area surveyed includes a small portion of Rattlesnake Creek and a 20.5 mile stretch beginning at Grizzly Creek and ending at the mainstem Trinity River. Stream reaches correspond to reaches identified on the accompanying map.

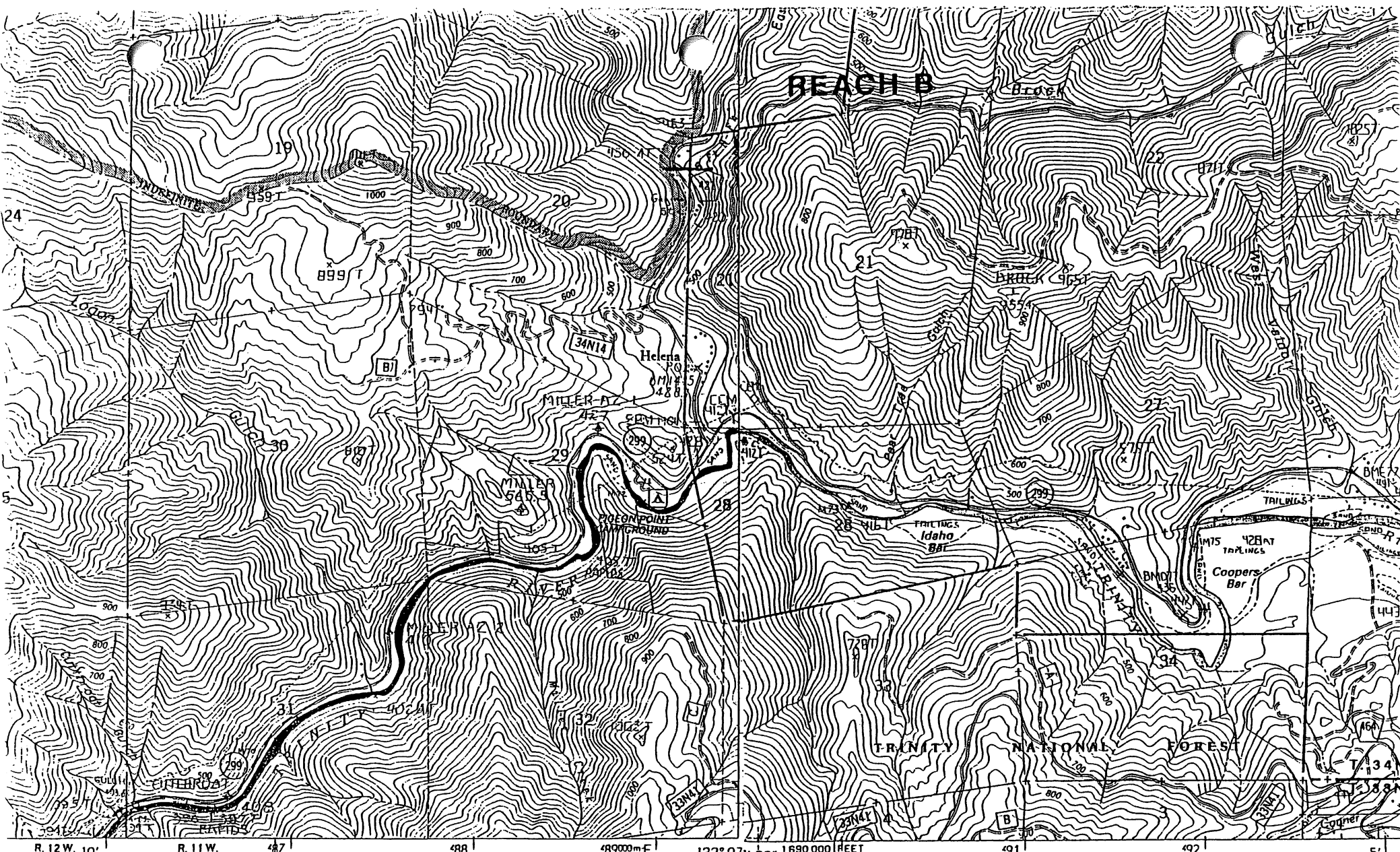
| <u>stream reach</u> | <u>summer-run steelhead</u> | <u>spring-run chinook salmon</u> | <u>total</u> |
|---------------------|-----------------------------|----------------------------------|--------------|
| A | 0 | 0 | 0 |
| B | 0 | 0 | 0 |
| C | 44 | 0 | 44 |
| D | 305 | 0 | 305 |
| E | 26 | 0 | 26 |
| F | 4 | 0 | 4 |
| G | 215 | 0 | 215 |
| H | 225 | 0 | 225 |
| I | 150 | 1 | 151 |
| J | 14 | 0 | 14 |
| K | 7 | 0 | 7 |
| TOTAL | 990 | 1 | 991 |

Table 2. A summary of the numbers of adult summer-run steelhead and spring-run chinook and the associated habitat type from the 1994 snorkel survey in the North Fork of the Trinity River, 1994.

| <u>habitat type</u> | <u>number of sites with fish</u> | <u>number of adult fish seen</u> | <u>percent of total seen</u> |
|-------------------------|--------------------------------------|--------------------------------------|----------------------------------|
| 3 - CAS | 1 | 1 | 0.1 |
| 6 - BWP(BF) | 1 | 1 | 0.1 |
| 9 - PLP | 2 | 9 | 0.9 |
| 10 - LSP(LOG) | 1 | 2 | 0.2 |
| 12 - LSP(BK) | 7 | 79 | 8.0 |
| 15 - RUN | 4 | 4 | 0.4 |
| 17 - MCP | 49 | 887 | 89.5 |
| 21 - POW | 7 | 7 | 0.7 |
| <hr/> | | | |
| TOTAL | 72 | 991 | 100% |

NORTH FORK TRINITY RIVER 1994 ADULT SURVEY





Interstate
Highway
Highway
d

| | | |
|-------|-------|-------|
| 669-1 | 668-2 | 668-1 |
| 669-4 | 668-3 | 668-4 |
| 651-1 | 650-2 | 650-1 |

HELENA, CALIF

PROVISIONAL EDITION 1983

PROVISIONAL BASE MAP PREPARED BY U.S. GEOLOGICAL SURVEY
 COL BY USGS, NOS/NOAA
 TLED FROM AERIAL PHOTOGRAPHS TAKEN 1972
 CHECKED 1976, MAP EDITED 1982
 SECTION UNIVERSAL TRANSVERSE MERCATOR
 1000 METER UNIVERSAL TRANSVERSE MERCATOR ZONE 10
 10,000-FOOT STATE GRID TICKS CALIFORNIA ZONE 1
 CAL DATUM NATIONAL GEODETIC VERTICAL DATUM OF 1929
 HORIZONTAL DATUM 1927 NORTH AMERICAN DATUM
 Base on the predicted North American Datum of 1983,
 the projection line as shown by dashed corner ticks
 100 meters north/95 meters east)

Modification to the USGS provisional base map by the
 Electronics Service Center from 1988. 1989 aerial
 photography and 1990 correction guides furnished by the

UTM GRID AND 1992

