

Shasta-Trinity National Forest
Big Bar Ranger District
North Fork of the Trinity River
Surveyed August 30 - September 2, 1993

North Fork Trinity River Adult Summer
Steelhead and Spring Chinook Survey, 1993
RSP 90430

Surveyors: Charlie Chamberlain, Len Lindstrand III, Lindy McCaslin, Becky Rogers

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 August and September 1993. Personnel from the Forest Service, U.S. Fish and Wildlife Service and North State Resources, Inc. participated in the survey for adult summer-run steelhead (Oncorhynchus mykiss) and spring-run chinook salmon (Oncorhynchus tshawytscha).

The survey was conducted in a downstream manner by snorkeling in all habitats thought to hold adult summer-run steelhead and spring run chinook salmon. The survey was broken down into sections designated in the 1991 survey. Adult fish were counted and the habitat type (McCain et al., 1991) was determined for each location adults were observed. Locations of fish observations and habitat types were recorded on topographic maps (attached). Stream temperatures and weather conditions were recorded at regular intervals each day of the survey.

Other fish species present and incidental wildlife observations were also recorded during the survey. These observations included avian and mammalian fish predators and herpetofauna.

In past years, the larger tributaries of the North Fork Trinity River have been surveyed. Last year in 1992, only a small portion of Rattlesnake Creek was surveyed due to extremely low flow conditions. During this 1993 survey 1.6 miles of Rattlesnake Creek were surveyed. Approximately .8 miles of Grizzly Creek and the North Fork above Grizzly were also 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. *not surveyed again at Rattlesnake Creek / Grizzly*

Areas surveyed in 1993 are located on the attached maps. In addition, percentages of habitat types in which adults were found are given (Table 1).

Observations

Section A

No adult salmonids were observed in this reach which was surveyed August 31. Juvenile steelhead/rainbow trout were commonly observed (1+ and 2+). The water temperature in the North Fork above Grizzly Creek was 53 F while the air was 71 F at 1050 hours. Only three pools over waist deep were observed. A wet suit may not be needed if this reach is covered after the late morning hours. Evidence of the 1987 fire was still visible on the east bank in the form of badly burned (melted) soils and many snags. There is a game trail covering most of the surveyed distance on the east bank.

Section B

Grizzly Creek
No adult fish were observed in Grizzly Creek. Juvenile steelhead/rainbow trout were commonly observed (1+ and 2+). The water and air temperatures were 50°F and 71°F respectively at 1100 hours on August 31. The habitat had very few pools and a wetsuit may not be required on a warm day.

Section C

Three small (13-14 inch) adult steelhead were observed in this reach. Water and air temperatures were 51°F and 71°F respectively at 1100 hours. Juvenile steelhead/rainbow trout were commonly observed. The stream habitat had few pools and wet suits were not needed in the afternoon. 3.46

Section D

99 adult steelhead were observed in this section. In the previous year's survey only five fish were observed in this stream reach. The larger schools of fish were located in the southern portion of the reach within a mile of Rattlesnake Creek. There are few large pools upstream of Morrison Gulch. The water temperature was 50°F while the air was 49°F at 1000 hours, September 1.

Section E

Rattlesnake Cr.
This section was surveyed on August 30. Four small (13-14 inch) steelhead were observed. No adults have been observed in the reach on previous snorkel surveys. The water and air temperatures were 55°F and 72°F respectively at 1200 hours. Wetsuits were not required because of warm temperatures in the afternoon and lack of pools in Rattlesnake Creek. The maximum depth was five feet. Stream flow was higher than 1992. Martin Gulch had been blown out in the winter of 92. Large amounts of woody debris (some fire debris) and sediments were observed in this tributary of Rattlesnake Creek.

Section F

A total of 235 adult summer steelhead were observed. The greatest concentrations of fish were located in the deepest pools. 60 fish were observed in one pool in the gorge above China Creek. The air and water temperatures were both 54°F at 0945 hours on September 2.

Section G

Seventeen adult steelhead, three adult chinooks and one jack were observed. This reach was also snorkeled on September 2.

Section H

Two adult steelhead were seen. The water temperature was 54°F at 0900 hours, August 30. This reach is extremely difficult to snorkel because of the steeper gradient and dense boulder cover resulting from mass wasting.

Section I

Sixty-seven adult steelhead were observed. Most of them were in main channel pools. This section was also surveyed on August 30. The water temperature was 56°F at 1150 hours.

Section J

Sixty-two steelhead and four chinook were observed. The downstream end of this section is Raymond Flat. The water temperature was 64°F at 1600 hours on August 30.

Section K

On August 31, a total of 87 adult steelhead and four chinook were observed. This is also recognized as being the first area that spawning gravel was abundant. The water temperature was 59°F at 1115 hours.

Section L

Twenty-one steelhead and three chinook were seen on August 31 and September 1. The water temperature was 58°F at 0800 hours September 1.

Section M

Seven adult steelhead was observed on August 31. Juvenile steelhead as well as chinook and coho salmon were observed below the East Fork bridge.

Results

A total of 604 adult summer-run steelhead, 14 adult spring-run chinook salmon and one jack were observed during the 1993 survey. The numbers were significantly higher than the previous year. More fish were seen above Hobo Gulch than below. In past surveys, more adults have been observed downstream of Hobo Gulch. The greatest concentrations of fish were located in the deepest pools, which has also been noted in past surveys. Main channel pools were the most commonly used. The North Fork offers excellent water quality and restricted access. Poaching could become more of a problem in the future as the popularity of this region of California increases.

Stream temperatures varied from 50°F to 64°F. Weather conditions were sunny and fairly warm during all four days of the survey. The coldest morning air temperature was 49°F at 1000 hours September 1. This temperature is definitely below the comfort zone for snorklers and a full wet suit is required.

Juvenile rainbow/steelhead were observed in all stream sections observed. Speckled dace (Rhinichthys osculus) and Klamath smallscale sucker (Catostomomus rimiculus) were observed in the lower portion of stream section M, downstream of a large water fall.

Avian fish predators observed during the survey included: great blue heron (Ardea herodias); osprey (Pandion haliaetus); and belted king fisher (Ceryle alcyon). One mammalian fish predator was observed, a single river otter (Lutra canadensis). Herpetofauna observed included: Pacific giant salamander (Dicamptodon ensatus), rough skinned newt (Taricha granulosa); foothill yellow-legged frog (Rana boylei); and Western aquatic garter snake (Thamnophis atratus).

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. The upper survey crew (upstream of Hobo Gulch) walks a minimum of 33.5 miles including stream miles. Daily individual crew gear weighs at least twenty-five pounds. This figure only includes a farmer john, not the wet suit jacket.

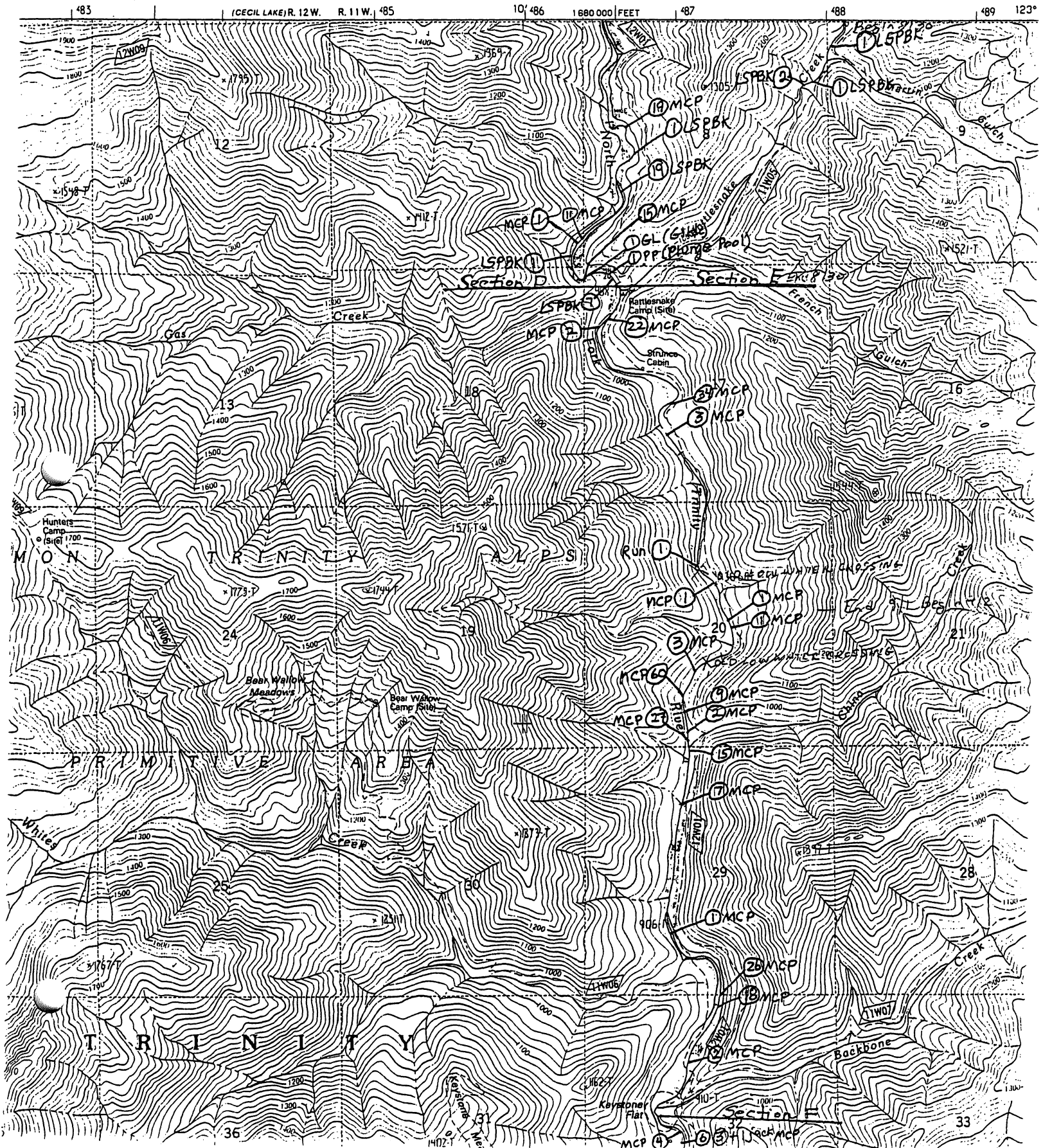
Late July or Early August is the best time to complete the survey before flows reach their lowest levels. Long daylight hours and warm air temperatures assure a safer trip. Also, this time is well before deer hunting season, an obvious safety hazard. High flows in 1993 prevented this timing and the survey took place during bow deer season. Signs were placed at trailheads to assure that hunters were aware of snorklers.

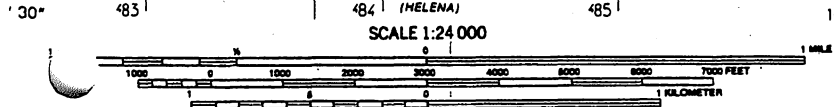
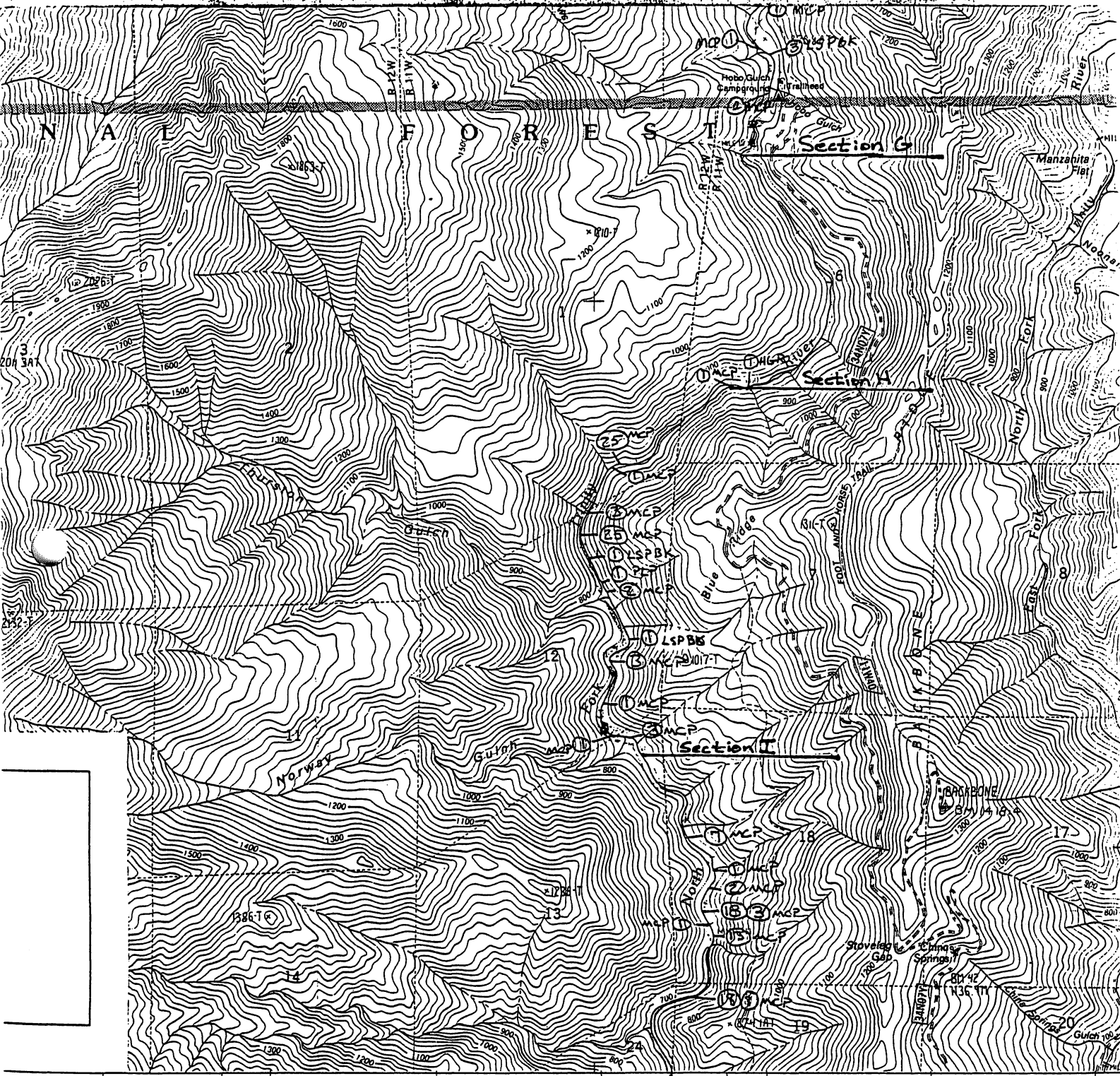
Crews putting out of Hobo Gulch may camp there the night before snorkeling begins. This can save several hours, giving crews a full day in the field. In 1993, the survey teams were packed in which left crews fresh and in better shape for snorkeling. The expense of packing is not great and well worth the cost. The upper crew was packed into Rattlesnake Camp with two pack animals (one mule was small) and completed 1.5 miles more than the 1992 survey in nine

less hours. Special arrangements were made with the packer to pack out while the crew finished the last reach G down to Hobo Gulch. The lower crew had their gear backpacked into Raymond Flat and Waldorf Crossing.

Most of the trails are well marked and in excellent repair with the exception of the Waldorf Crossing Trail. 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). 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. 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.

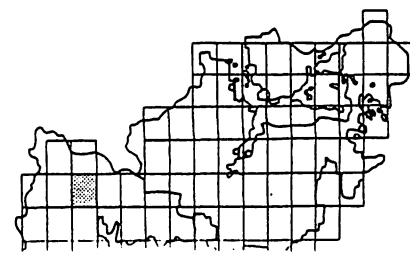
THURSTON PEAKS QUADRANG
CALIFORNIA—TRINITY CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)





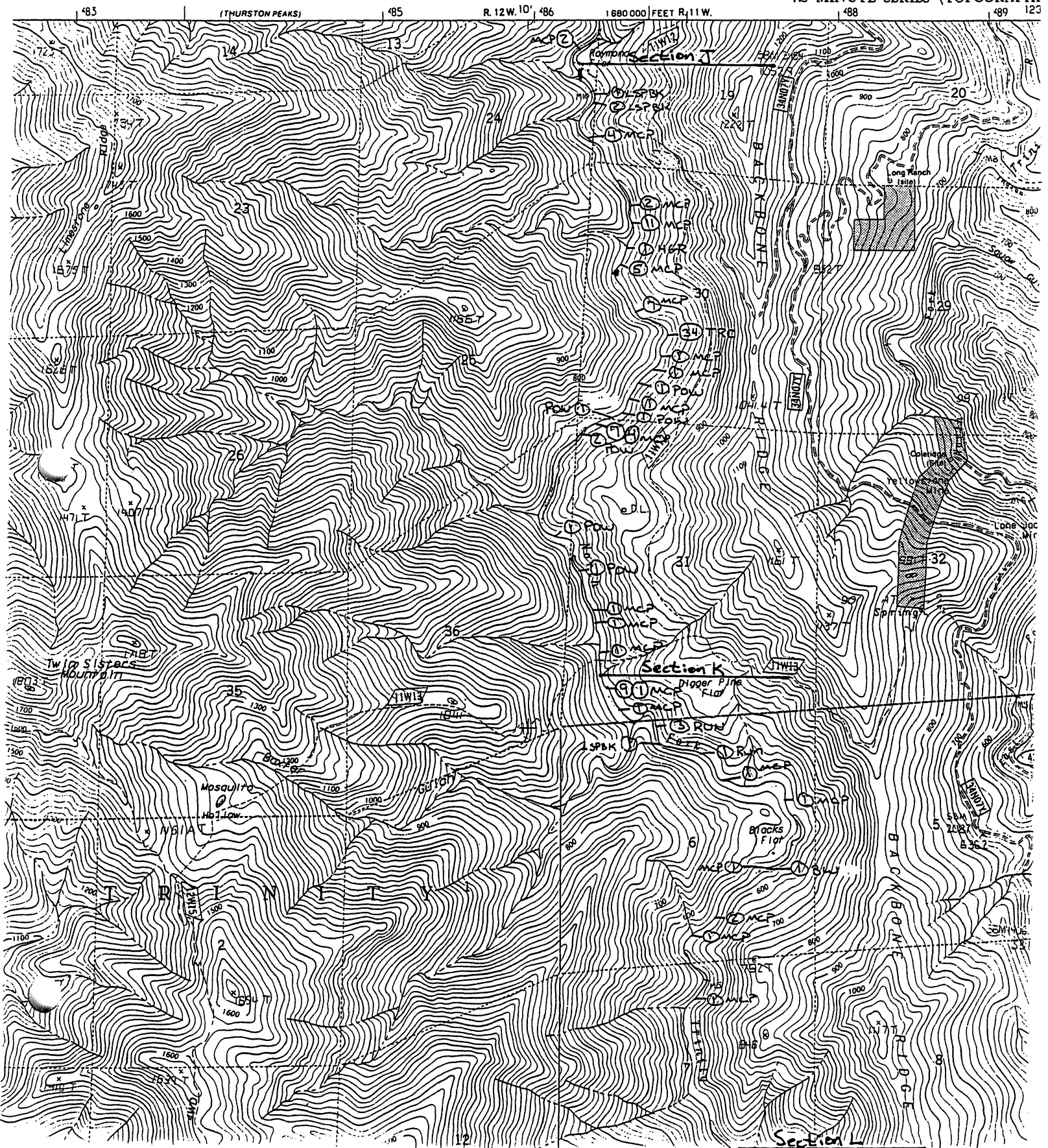
CONTOUR INTERVAL 20 METERS
ELEVATIONS SHOWN TO THE NEAREST METER
To convert meters to feet multiply by 3.2808
To convert feet to meters multiply by 0.3048

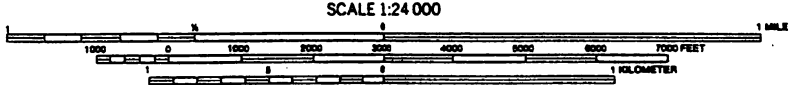
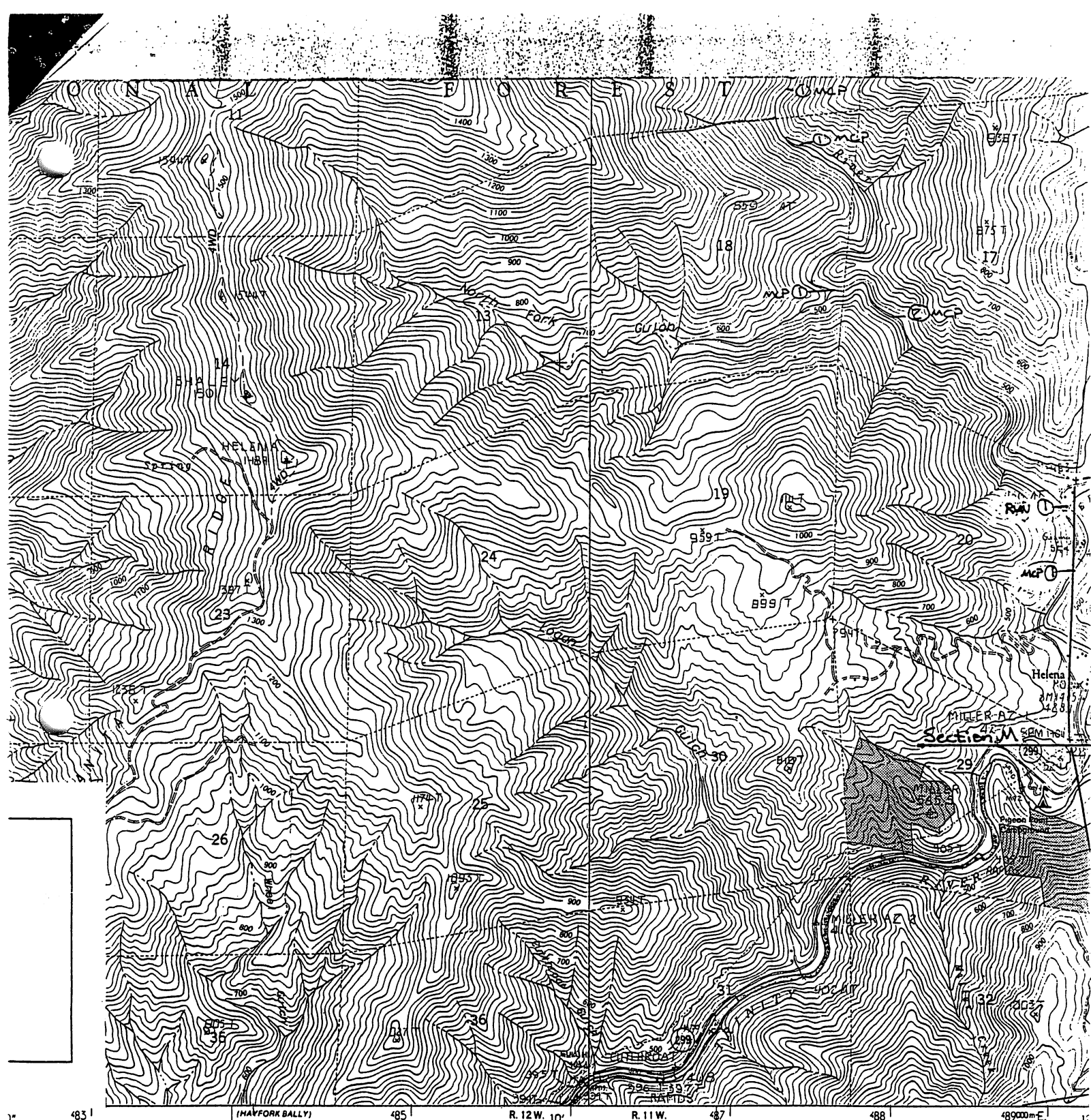
- LEGEND
- National Forest Boundary
 - Non-Forest Service Land within Boundary of 1993
 - Primary Highway
 - Secondary Highway
 - US Highway
 - State Highway



THURSTON PEAK

7.5 MINUTE SERIES (TOPOGRAPHIC)

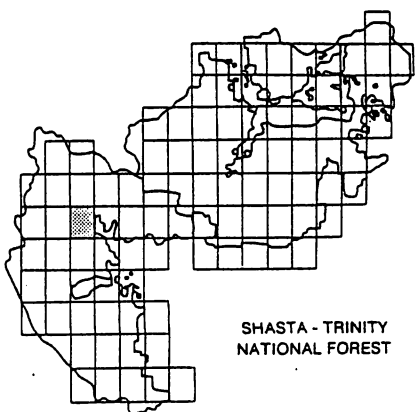




CONTOUR INTERVAL 20 METERS
ELEVATIONS SHOWN TO THE NEAREST METER
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LEGEND

- | | | |
|---|---------------------|----------------|
| National Forest Boundary | Primary Highway | US Highway |
| Non-Forest Service Land within Proclaimed Boundary as of 1983 | Secondary Highway | State Highway |
| NSHIP AND SECTION LINE CLASSIFICATION | Improved Light Duty | County Road |
| | Unimproved Dirt | Forest Highway |
| | Trail | Forest Road |
| | Approximate Road | Forest Trail |
| | Approximate Trail | |
| Surveyed, Location Reliable | | |
| Surveyed, Location Approximate | | |
| Unsurveyed, Protraction | | |



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