STREAM INVENTORY REPORT

UNNAMED SOUTH FORK BEAR RIVER TRIBUTARY

WATERSHED OVERVIEW

Unnamed South Fork Bear River tributary is tributary to South Fork Bear River, tributary to Bear River, located in Humboldt County, California (Map 1). Unnamed South Fork Bear River tributary's legal description at the confluence with South Fork Bear River is T01N R02W S36. Its location is 40° 02′36″ north latitude and 124°14′46″ west longitude. Unnamed South Fork Bear River tributary is a first order stream according to the USGS Taylor Peak 7.5 minute quadrangle. Unnamed South Fork Bear River tributary drains a watershed of approximately 0.6 square miles. Elevations range from about 1120 feet at the mouth of the creek to 1600 feet in the headwater areas. Redwood/Douglas fir conifer forest dominates the watershed. The watershed is privately owned and is managed for timber production and grazing rangeland.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of August 14, 1996, was conducted by Bill Malinowski and (WSP/AmeriCorps) and Craig Mesman (CCC). The total length of the stream surveyed was 2,530 feet with 85 feet of side channel.

Flow was measured approximately 70 feet from the confluence with South Fork Bear River with a Marsh-McBirney Model 2000 flowmeter at 0.41 cfs on August 13, 1996.

Unnamed South Fork Bear River tributary is an A4 channel type for the entire 2,530 feet of stream surveyed. A4 channels are steep, narrow, cascading, step-pool streams, with high energy/debris transport associated with depositional soils, and a gravel channel. The suitability of A4 channel types for fish habitat improvement structures is as follows: good for bank placed boulders, and fair for low stage weirs, opposing wing deflectors and log cover, and poor for medium stage weirs, boulder clusters, single and opposing wing deflectors and log cover.

The water temperatures recorded on the survey day, August 14, 1996, ranged from 56 to 57 degrees Fahrenheit. Air temperatures ranged from 52 to 65 degrees Fahrenheit. This is a good water temperature range for salmonids. For a more complete and accurate water temperature profile 24-hour temperatures would need to be monitored throughout the warm summer months.

Based on the total **length** of this survey, Level II habitat units consisted of 42% riffle units, 49% flatwater units, and 9% pool units. The pools are relatively shallow, with none of the pools having a maximum depth greater than 2 feet.

Three of the 28 pool tail-outs measured had embeddedness ratings of 3, 4 or 5. Four had a 1 rating. Cobble embeddedness of 25% or less, a rating of 1, is considered best for the needs of salmon and steelhead.

The mean shelter rating for pools was moderate with a rating of 40. The shelter rating in the flatwater habitats was 24. A pool shelter rating of approximately 100 is desirable. Log and root wad cover

structures in the pool and flatwater habitats are needed to improve both summer and winter salmonid habitat.

The two low gradient riffles measured had gravel as the dominant substrate. This is generally considered good for spawning salmonids.

The mean percent canopy density for the stream was 92%. This is a relatively high percentage of canopy. In general, revegetation projects are considered when canopy density is less than 80%. The percentage of right and left bank covered with vegetation was 69.2% and 75.4%, respectively. In areas of stream bank erosion or where bank vegetation is not at acceptable levels, planting endemic species of coniferous and deciduous trees, in conjunction with bank stabilization, is recommended.

BIOLOGICAL INVENTORY RESULTS

One site was electrofished on August 20, 1996, in Unnamed tributary South Fork Bear River. The units were sampled by Bill Malinowski and Craig Mesman.

The first site sampled included habitat units 15 through 17, a plunge pool, step run and plunge pool, located 757 feet from the confluence with South Fork Bear River. The site yielded sixteen steelhead.

RECOMMENDATIONS

1) Unnamed South Fork Bear River Tributary should be managed as an anadromous, natural production stream.

2) Where feasible, design and engineer pool enhancement structures to increase the number of pools. This must be done where the banks are stable or in conjunction with stream bank armor to prevent erosion.

3) Increase woody cover in the pools and flatwater habitat units. Most of the existing cover is from boulders. Adding high quality complexity with woody cover is desirable and in some areas the material is at hand.

4) The limited water temperature available suggest that the maximum temperatures are within the acceptable range for juvenile salmonids. To establish more complete and meaningful temperature regime information, 24-hour monitoring during the July and August temperature extreme period should be performed for 3 to 5 years.

COMMENTS AND LANDMARKS

The following landmarks and possible problem sites were noted. All distances are approximate and taken from the beginning of the survey reach.

0'	Begin survey at confluence with South Fork Bear River. The channel type is an A4.
480'	Humboldt crossing.

1,875'	Tributary enters from the left bank. Probably not anadromous.
1,937'	Right bank erosion, 40' long x 40' high, partially vegetated.
2,092'	Tributary enters from the right bank, steep and narrow.
2,311'	Four foot high jump, possible barrier, no fish observed above this jump.
2,434'	Tributary enters from the left bank.
2,450'	Tributary enters from the left bank, accessible to fish.
2,530'	End of survey. Three foot high jump. No fish have been observed since 2,311'. The habitat is of low quality; shallow pools, steep gradient and high embeddedness.