STREAM INVENTORY REPORT

UNNAMED BEAR CREEK TRIBUTARY

WATERSHED OVERVIEW

Unnamed Bear Creek Tributary is tributary to Bear Creek, tributary to Usal Creek, located in Mendocino County, California (Figure 1). Unnamed Bear Creek Tributary's legal description at the confluence with Bear Creek is T24N R18W. Its location is 39°53′04″ north latitude and 123°49′58″ west longitude. Unnamed Bear Creek Tributary is an ephemeral stream according to the USGS Piercy 7.5 minute quadrangle. Unnamed Bear Creek Tributary drains a watershed of approximately 0.5 square miles. Elevations range from about 420 feet at the mouth of the creek to 1600 feet in the headwater areas. Redwood and Douglas fir forest dominates the watershed. The watershed is privately owned and is managed for timber production. Foot access is available via an abandoned haul road.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of August 15, 1995, was conducted by Craig Mesman (CCC) and Heidi Hickethier (WSP/AmeriCorps). The total length of the stream surveyed was 1,876 feet.

Flows were not measured on Unnamed Bear Creek Tributary.

Unnamed Bear Creek Tributary is a B3 channel type for the entire 1,876 feet of stream surveyed. The suitability of B3 channel types for fish habitat improvement structures is as follows: excellent for low-stage plunge weirs, boulder clusters, bank-placed boulders, single and opposing wing deflectors, and log cover; and good for medium-stage plunge weirs.

The water temperatures recorded on the survey day August 15, 1995, ranged from 60 to 61 degrees Fahrenheit. Air temperatures ranged from 68 to 76 degrees Fahrenheit. This is a fair water temperature range for salmonids, but water temperature data for the warm summer months are lacking. 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 47% flatwater units, 29% pool units, and 21% riffle units. The pools are relatively shallow, with only 3 of the 40 pools (8%) having a maximum depth greater than 2 feet.

Twelve of the 26 pool tail-outs measured had embeddedness ratings of 3 or 4. Only 3 had a 1 rating. Cobble embeddedness of 25% or less, a rating of 1, is considered to indicate good quality spawning substrate for salmon and steelhead. In Unnamed Bear Creek Tributary, sediment sources should be mapped and rated according to their potential

sediment yields, and control measures should be taken.

The mean shelter rating for pools was low with a rating of 27. The shelter rating in the flatwater habitats was 18. 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 three 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 99%. This is a 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 moderate at 61% and 64%, 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.

RECOMMENDATIONS

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

2) 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.

3) 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.

4) 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.

5) Active and potential sediment sources related to the road system need to be identified, mapped, and treated according to their potential for sediment yield to the stream and its tributaries.

PROBLEM SITES 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 Bear Creek. Channel type is B3.
520'	Right bank tributary. Estimated flow <0.1 cfs. First 60' are accessible to fish.
597'	Five foot high plunge over debris obstruction retaining gravel. Possible barrier.
827'	LDA 5' high retaining gravel. Not a barrier.
1203'	LDA 4' high retaining gravel.
1882'	End of survey due to increasing gradient and diminished habitat.

LEVEL III and LEVEL IV HABITAT TYPE KEY

HABITAT TYPE	LETTER	NUMBER
RIFFLE		
Low Gradient Riffle	[LGR]	1.1
High Gradient Riffle	[HGR]	1.2
CASCADE		
Cascade	[CAS]	2.1
Bedrock Sheet	[BRS]	2.2
FLATWATER		
Pocket Water	[POW]	3.1
Glide	[GLD]	3.2
Run	[RUN]	3.3
Step Run	[SRN]	3.4
Edgewater	[EDW]	3.5
MAIN CHANNEL POOLS		
Trench Pool	[TRP]	4.1
Mid-Channel Pool	[MCP]	4.2
Channel Confluence Pool	[CCP]	4.3
Step Pool	[STP]	4.4
SCOUR POOLS		
Corner Pool	[CRP]	5.1
Lateral Scour Pool - Log Enhanced	[LSL]	5.2
Lateral Scour Pool - Root Wad Enhanced	[LSR]	5.3
Lateral Scour Pool - Bedrock Formed	[LSBk]	5.4
Lateral Scour Pool - Boulder Formed	[LSBo]	5.5
Plunge Pool	[PLP]	5.6
BACKWATER POOLS		

Secondary Channel Pool	[SCP]	6.1
Backwater Pool - Boulder Formed	[BPB]	6.2
Backwater Pool - Root Wad Formed	[BPR]	6.3
Backwater Pool - Log Formed	[BPL]	6.4
Dammed Pool	[DPL]	6.5