STREAM INVENTORY REPORT

UNNAMED SOUTH FORK HARE CREEK TRIBUTARY

WATERSHED OVERVIEW

Unnamed South Fork Hare Creek Tributary is tributary to South Fork Hare Creek, tributary to Hare Creek, located in Mendocino County, California (Figure 1). Unnamed South Fork Hare Creek Tributary's legal description at the confluence with South Fork Hare Creek is T18N R17W S34. Its location is 39E23'04" north latitude and 123E44'16" west longitude. Unnamed South Fork Hare Creek Tributary is a first order stream and has approximately 0.7 miles of blue line stream according to the USGS Noyo Hill 7.5 minute quadrangle. Unnamed South Fork Hare Creek Tributary drains a watershed of approximately 0.27 square miles. Summer base runoff is approximately 0.07 cubic feet per second (cfs) at the mouth. Elevations range from about 300 feet at the mouth of the creek to 800 feet in the headwater areas. Redwood and Douglas fir forest dominates the watershed. The watershed is located within Jackson Demonstration State Forest and is managed for timber production. Vehicle access exists via CDF Road 454.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of September 8, 1995, was conducted by Shelly Dunn and Bettina Chimarios (WSP/AmeriCorps). The total length of the stream surveyed was 738 feet.

Flow was measured at the bottom of the survey reach with a Marsh-McBirney Model 2000 flowmeter at 0.07 cfs on September 14, 1995.

Unnamed South Fork Hare Creek Tributary is an F4 channel type for the entire 738 feet of stream surveyed. The suitability of F4 channel types for fish habitat improvement structures is as follows: good for bank-placed boulders; fair for low-stage weirs, single and opposing wing deflectors, channel constrictors, and log cover; and poor for medium-stage weirs and boulder clusters.

The water temperatures recorded on the survey day September 8, 1995, ranged from 53 to 54 degrees Fahrenheit. Air temperatures ranged from 54 to 58 degrees Fahrenheit. This is a very good 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 58% flatwater units, 6% riffle units, and 35% pool units. The pools are relatively shallow, with 2 of the 19 (10.5%) pools having a maximum depth greater than 2 feet.

Sixteen of the 19 pool tail-outs measured had embeddedness ratings of 3 or 4. None 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 South Fork Hare 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 30. The shelter rating in the flatwater habitats was 21. A pool shelter rating of approximately 100 is desirable. The relatively small amount of cover that now exists is being provided primarily by undercut banks in all habitat types. Log and root wad cover structures in the pool and flatwater habitats are needed to improve both summer and winter salmonid habitat.

The one low gradient riffle measured had large cobble as the dominant substrate. This is generally considered unsuitable for spawning salmonids.

The mean percent canopy for the stream was 99.6%. 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 high at 89% and 88%, respectively.

BIOLOGICAL INVENTORY RESULTS

Two sites were electrofished on September 19, 1995, in Unnamed South Fork Hare Creek Tributary. The units were sampled by Shelly Dunn and Bettina Chimarios (WSP/AmeriCorps).

The first site sampled included habitat units 10-12, two runs and a mid-channel pool 148 feet from the confluence with South Fork Hare Creek. This site had an approximate area of 108 square feet. No fish were sampled.

The second site was upstream of the surveyed reach, 738 feet above the creek mouth. This site had a length of approximately 100 feet and an area of approximately 400 square feet. No fish were sampled.

RECOMMENDATIONS

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

2) 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.

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 log debris accumulation at 41' should be modified to provide fish passage. Only the minimum amount of loose debris needed to accomplish the task should be removed to avoid sediment loading in downstream reaches.

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 South Fork Hare Creek. Channel type is F4.
41'	Log debris accumulation (LDA) creating a 6' jump.
113'	Right bank erosion 5' high x 2' wide.
738'	End of survey due to lack of suitable 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