STREAM INVENTORY REPORT

Pipe Creek

WATERSHED OVERVIEW

Pipe Creek is tributary to the Mainstem Eel River, located in Humboldt County, California. Pipe Creek's legal description at the confluence with the Eel River is T04S R05E S13. Its location is 40°06'40" N. latitude and 123°34'29" W. longitude. Pipe Creek has approximately 6.2 miles of blue line stream according to the USGS Jewett Rock 7.5 minute quadrangle. Pipe Creek drains a watershed of approximately 13.6 square miles. Summer base flow is approximately 0.5 cubic feet per second (cfs) at the mouth. Elevations range from about 360 feet at the mouth of the creek to 2,000 feet in the headwater areas. Mixed conifer forest dominates the watershed. The watershed is entirely privately owned and is managed for timber production and rangeland. Vehicle access exists via Island Mountain Road to the Old Lauffer Ranch. Follow the Jeep trail just past the ranch buildings approximately two miles to the mouth of Pipe Creek.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of October 15, 1996, was conducted by Dave Smith and Frank Humphrey (PCFWWRA). The total length of the stream surveyed was 1,034 feet.

Flow was estimated to be 0.5 cfs during the survey period.

Pipe Creek is a B4 channel type for the entire 1,034 feet of stream surveyed. B4 channel types are moderately entrenched, moderate gradient streams, with stable banks and gravel-dominant substrates. The suitability of B4 channel types for fish habitat improvement structures is described as excellent for low-stage plunge weirs, single and opposing wing-deflectors, boulder clusters, and log cover; and good for medium-stage plunge weirs.

The water temperatures recorded on the survey day October 15, 1996, ranged from 58 to 65 ° Fahrenheit. Air temperatures ranged from 63 to 78 ° Fahrenheit. This is a moderate water temperature range for salmonids. To make any further conclusions, temperatures would need to be monitored throughout the warm summer months, and more extensive biological sampling would need to be conducted.

Flatwater habitat types comprised 43% of the total **length** of this survey, riffles 15%, dry units 40%, and pools 1%. The pools are relatively deep, with all of the pools having a maximum depth greater than 2 feet. Primary pool criteria are discussed in the main body of this report.

All of the pool tail-outs measured had embeddedness ratings of 3 or 4. None had a 1

rating. Cobble embeddedness measured to be 25% or less, a rating of 1, is considered best for the needs of salmon and steelhead. In Pipe Creek, 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 moderate with a rating of 60. The shelter rating in the flatwater habitats was slightly lower at 27. A pool shelter rating of approximately 100 is desirable. The relatively small amount of cover that now exists is being provided primarily by boulders 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.

All of the low gradient riffles measured had gravel or small cobble as the dominant substrate. This is generally considered good for spawning salmonids.

The mean percent canopy for the stream was 6%. This is a relatively low percentage of canopy, since 80 percent is generally considered optimum in these north coast streams.

The percentage of right and left bank covered with vegetation was moderate at 27% and 25%, 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.

Steelhead were observed through unit 0010. At that point, access for anadromous fish is blocked by boulder roughs and slope failures on both the right and left banks.

BIOLOGICAL INVENTORY RESULTS

Young-of-the-year (YOY) steelhead rainbow trout were observed from the streambanks by the surveyors during the stream survey of 1996.

RECOMMENDATIONS

1) Pipe Creek should be managed as an anadromous, natural production stream.

2) Due to the high gradient of the stream, access for migrating salmonids is an ongoing potential problem. Good water temperature and flow regimes exist in the stream and it offers good conditions for rearing fish. Fish passage should be monitored and improved where possible.

3) Temperatures in this section of Pipe Creek, as well as upstream, should be monitored to determine if they are having a deleterious effect upon juvenile salmonids. To achieve this, biological sampling is also required.

4) Increase the canopy on Pipe Creek by planting willow, alder, and Douglas fir

along the stream where shade canopy is not at acceptable levels. The reaches above this survey section should be inventoried and treated as well, since the water flowing here is effected from upstream. In many cases, planting will need to be coordinated to follow bank stabilization or upslope erosion control projects.

5) 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.

6) 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.

7) Inventory and map sources of stream bank erosion and prioritize them according to present and potential sediment yield. Identified sites, like the site at 1034', should then be treated to reduce the amount of fine sediments entering the stream.

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 the Mainstem Eel River. Channel type is a B4 for the entire 1032' of stream surveyed.

1034' Stream channel is completely blocked by very large boulders. Both left and right banks are failing. Vertical drop of 20' in stream channel. End of anadromy. Surveyors suggested possible site for modifications with the help of explosives. End of survey.