STREAM INVENTORY REPORT

Unnamed Gulch Sixteen Tributary

WATERSHED OVERVIEW

Unnamed Gulch Sixteen tributary is tributary to Gulch Sixteen, tributary to West Chamberlain Creek, located in Mendocino County, California (Map 1). Unnamed Gulch Sixteen tributary's legal description at the confluence with Gulch Sixteen is T18N R15W S31. Its location is 39°22'44" north latitude and 123°34'41" west longitude. Unnamed Gulch Sixteen tributary is an intermittent stream according to the USGS Northspur 7.5 minute quadrangle. Unnamed Gulch Sixteen tributary drains a watershed of approximately 0.43 square miles. Elevations range from about 480 feet at the mouth of the creek to 1400 feet in the headwater areas. Mixed conifer forest dominates the watershed. The watershed is entirely within the Jackson Demonstration State Forest and is managed for timber production. Vehicle access exists via State Route 20 to Road 200.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of July 3, 1997, was conducted by Craig Mesman (CCC) and Lisa Campbell (WSP/AmeriCorps). The total length of the stream surveyed was 2,356 feet; 214 feet was not surveyed due to a marsh, and there was 20 feet of side channel.

Flow was measured at the bottom of the survey reach with a Marsh-McBirney Model 2000 flowmeter at 0.12 cfs on August 20, 1997.

Unnamed Gulch Sixteen tributary is an F4 channel type for the entire 2,356 feet of stream surveyed. The suitability of F4 channel types for fish habitat improvement structures is described in the main body of this report.

The water temperatures recorded on the survey day July 3, 1997, ranged from 53 to 55 degrees Fahrenheit. Air temperatures ranged from 53 to 69 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 19% riffle units, 53% flatwater units, and 25% pool units. The pools are relatively shallow, with only 9 of the 32 pools having a maximum depth greater than 2 feet.

Five of the 32 pool tail-outs measured had an embeddedness value of 1. Seven of the pool tail-outs measured had embeddedness ratings of 3 or 4. Fifteen had a rating of 5. Cobble embeddedness of 25% or less, a rating of 1, is considered best for the needs of salmon and steelhead. In Unnamed Gulch Sixteen 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 40. The shelter rating in the flatwater habitats was 33. 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.

Eighteen of the 32 pool tail-outs measured had gravel or small cobble as the dominant substrate. This is generally considered suitable for spawning salmonids.

The mean percent canopy density for the stream was 97%. This is a relatively high percentage of canopy, since 80 percent is generally considered optimum in north coast streams.

The percentage of right and left bank covered with vegetation was moderate at 84% and 75%, 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, 1997, in Unnamed Gulch Sixteen tributary. The unit was sampled by Craig Mesman and Tara Cooper (CCC).

The site sampled included habitat units 3 through 14, a series of pools, runs, and riffles approximately 175 feet from the confluence with Gulch Sixteen. This site had an approximate length of 378 feet. The site yielded 18 salamanders.

RECOMMENDATIONS

1) Unnamed Gulch Sixteen tributary should be managed as an anadromous, natural production stream.

2) Remove the culvert at the confluence with Gulch Sixteen to provide fish passage.

3) Increase woody cover in the pools and flatwater habitat units. Adding high quality complexity with woody cover is desirable.

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.

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.

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 Gulch Sixteen. Tributary enters Gulch Sixteen through a culvert metal pipe, 3' diameter. Some loss of flow due to holes throughout culvert. Culvert contains no baffles and is impassible to fish.

175' Electrofishing site.

672' Log debris accumulation (LDA), 12' long x 10' wide x 6' high. Retaining sediment 4' high.

Possible barrier to fish passage.

814' Twelve logs in the channel with a 3' high jump. Possible barrier to fish passage.

1,178' Old road on the left bank.

1,737' Five logs in the channel retaining sediment 5' high. Possible barrier to fish passage.

1,795' Log debris accumulation (LDA), 12' long x 10' wide x 7' high, retaining sediment 6' high. Probable barrier to fish passage.

1,892' Marshy area, numerous channels filled with sedges.

2,356' End of survey. Channel forms a marsh.