

STREAM INVENTORY REPORT

Unnamed Tributary to Hollister Creek

WATERSHED OVERVIEW

The unnamed tributary is a tributary to Hollister Creek, a tributary to South Fork Bear River, a tributary to Bear River, which drains to the Pacific Ocean. It is located in Humboldt County, California (Map 1). Hollister Creek tributary's legal description at the confluence with South Fork Bear River is T01N R02W S34. Its location is 40.4219 degrees north latitude and 124.2869 degrees west longitude. Hollister Creek is a first order stream according to the USGS Capetown 7.5 minute quadrangle. Hollister Creek drains a watershed of approximately 0.7 square miles. Elevations range from about 750 feet at the mouth of the creek to 1,580 feet in the headwater areas. Redwood forest and Douglas fir forest dominate the watershed. The watershed is privately owned and is managed for timber production and grazing.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of September 5, 1996 was conducted by David Jones (CCC) and Bill Malinowski (WSP/AmeriCorps). The total length of the stream surveyed was 2,792 feet with an additional 391 feet of side channel.

Flow was measured at the bottom of the survey reach with a Marsh-McBirney Model 2000 flowmeter at 0.13 cfs on September 12, 1996.

The unnamed tributary is a B4 channel type for the entire 2,792 feet of stream surveyed. B4 channel types are moderately entrenched, moderate gradient, riffle dominated channels, with infrequently spaced pools, very stable plan and profile, stable banks, and a gravel channel. The suitability of B4 channel types for fish habitat improvement structures is excellent for low-stage plunge weirs, boulder clusters, bank placed boulders, log cover, single and opposing wing deflectors, and good for medium stage weirs.

The water temperatures recorded on the survey day ranged from 55 to 56 degrees Fahrenheit. Air temperatures ranged from 58 to 63 degrees Fahrenheit. This is a good water temperature range for salmonids, but water temperature data during the warm summer months are lacking. For a more complete and accurate water temperature profile, 24-hour temperatures need to be monitored throughout the warm summer months.

Based on the total length of this survey, Level II habitat units consisted of 82% flatwater units, 13% pool units, and 3% riffle units. The pools are relatively shallow, with only five of the 33 (15%) pools having a maximum depth greater than two feet.

Eleven of the 33 pool tail-outs measured had embeddedness ratings of 3, 4 or 5. Ten had an embeddedness rating of 1. Cobble embeddedness of 25% or less, a rating of 1, is considered best for the needs of salmon and steelhead. In Hollister Creek tributary, sediment sources should be mapped and rated according to their potential sediment yields, and control measures should be taken.

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The mean shelter rating for pools was low with a rating of 9. The shelter rating in the flatwater habitats was 6. 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.

One of the two low gradient riffles measured had small cobble as the dominant substrate. Of the six step-runs measured, five had small cobble as the dominant substrate. This is generally considered good for spawning salmonids.

The mean percent canopy density for the stream was 90%. This is a 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 68% and 76%, respectively. In areas of stream bank erosion or where bank vegetation is at unacceptable levels, planting endemic species of coniferous and deciduous trees, in conjunction with bank stabilization, is recommended.

BIOLOGICAL INVENTORY RESULTS

One site was electrofished on September 12, 1996 in the unnamed tributary to Hollister Creek. The units were sampled by David Jones and Bill Malinowski.

The site sampled included Habitat Units #001 through #004, a step run, mid-channel pool, run and a high gradient riffle, beginning at the confluence with Hollister Creek. The site yielded 15 steelhead/rainbow trout and one Pacific giant salamander.

RECOMMENDATIONS

- 1) Hollister Creek should be managed as an anadromous, natural production stream.
- 2) 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.
- 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) 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.

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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.

Position Comments:
(ft):

| | |
|--------|---------------------------------------------------------------------------|
| 0' | Start of survey at confluence with Hollister Creek. Channel type is a B4. |
| 644' | Log debris accumulation (LDA) measures 6' high x 10' long x 2' wide. |
| 1,797' | Five foot high plunge. |
| 2,243' | Left bank tributary. |
| 2,792' | End of survey. Channel goes dry. |