

# STREAM INVENTORY REPORT

## Cavanaugh Gulch

### WATERSHED OVERVIEW

Cavanaugh Gulch is a tributary to North Fork Ten Mile River, located in Mendocino County, California. Elevations range from about 200 feet at the mouth of the Gulch to 1,800 feet in the headwater areas. Cavanaugh Gulch's legal description at the confluence with North Fork Ten Mile River is T20N R16W S18. Its location is 39° 35' 52" N. latitude and 123° 40' 24" W. longitude according to the USGS Dutchman's Knoll 7.5 minute quadrangle.

### HABITAT INVENTORY RESULTS

The habitat inventory of August 29, 1995 was conducted by Diana Hines and David Lundby. The total length of stream in Cavanaugh Gulch surveyed was 5,691 feet (1.1 miles) (Table 1).

Flow measured at the mouth of Cavanaugh Gulch on September 13, 1995 was 0.13 cubic feet per second (cfs).

Cavanaugh Gulch is a B4 channel type for the entire stream surveyed.

Table 1 summarizes the Level II riffle, flatwater, and pool habitat types. By percent occurrence, riffles comprised 22%, flatwater 29% and pools 37% of the habitat types (Graph 1). By percent total length, riffles comprised 12%, flatwater 28% and pools 7% (Graph 2).

Ten Level IV habitat types were identified in Cavanaugh Gulch. These data are summarized in Table 2. The most frequently occurring habitat types were step runs, 24%, low gradient riffles, 22%, and mid-channel pools, 16% (Graph 3). The most prevalent habitat types by percent total length were dry units at 54%, followed by step runs at 26% and low gradient riffles at 12%.

Table 3 summarizes main channel, scour and backwater pools, which are Level III pool types. Scour pools were the most often encountered at 48% occurrence and comprised 51% of the total length of pools.

Table 4 is a summary of maximum pool depths by pool habitat types. Pools with a depth of two feet or greater are considered optimal for fish habitat. In Cavanaugh Gulch, seven of the 33 Pools (21%) had a depth of two feet or greater (Graph 4).

The depth of cobble embeddedness was estimated at pool tail-outs. Of the 28 pool tail-outs measured, 4% had a value of 1; 4% had a value of 2; 54% had a value of 3 and 39% had a value of 4 (Graph 5).

Of the Level II habitat types, pool habitat types had the highest mean shelter rating at 65 (Table 1). Of the Level III pool types, scour pools had the highest mean shelter rating at 69 (Table 3).

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Of the 33 pools, 15% were formed by large woody debris (LWD): 15% by logs and none by root wads (calculated from Table 4).

Table 6 summarizes the dominant substrate by Level IV habitat types. Of the low gradient riffles fully measured, 75% had small cobble as the dominant substrate (Graph 6).

Mean percent closed canopy was 98%: 75% deciduous trees and 23% coniferous trees. Mean percent open was 2% (Graph 7).

Table 7 summarizes the mean percent substrate/vegetation types found along the banks of the stream. The mean percent right bank vegetated was 63% while the mean percent left bank vegetated was 67%. Coniferous trees were the dominant bank vegetation type observed in 53% of the units fully measured. Additionally, 38% of the units had deciduous trees as the dominant bank vegetation, including down trees, logs, and root wads. The dominant substrate comprising the structure of the stream banks consisted of cobble/gravel, found in 68% of the units fully measured (Table 7).

### 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 (ft):	Comments:
204	Road crossing with culvert measuring 8' diameter x 40' long.
540	Tributary enters on left bank.
572	5' high plunge.
4121	Log jam measures 7' high x 15' wide x 10' long. Channel getting steeper and more entrenched.
5154	Tributary enters on left bank. Its slope is approx. 30%.
5691	End of survey. Gulch splits equally into B4 channels, which approach A4 within 50 feet. Highly entrenched, slope of 12%, no fish observed since unit 60 or 61, habitat non-existent and worsening past the split.

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