

STREAM INVENTORY REPORT

Mill Creek

WATERSHED OVERVIEW

Mill Creek is a tributary to Ten Mile River located in Mendocino County, California. Elevations range from about 40 feet at the mouth of the creek to 1,600 feet in the headwater areas. Mill Creek's legal description at the confluence with Ten Mile River is T20N R17W S34. Its location is 39° 32'53" N. latitude and 123°43'2" W. longitude according to the USGS Dutchman's Knoll 7.5 minute quadrangle.

HABITAT INVENTORY RESULTS

The habitat inventory of June 14 through June 15, 1994, was conducted by Warren Mitchell and David Lundby. The total length of stream in Mill Creek surveyed was 9,606 feet (1.8 miles).

Mill Creek is comprised of two reaches: F4 for the first 6,127 feet and B4 for the remaining 3,479 feet.

Table 1 summarizes the Level II riffle, flatwater and pool habitat types. By percent occurrence, riffles comprised 33%, flatwater 35% and pools 31% of the habitat types in Mill Creek (Graph 1). By percent total length, riffles comprised 28%, flatwater 55% and pools 10% (Graph 2).

Thirteen Level IV habitat types were identified in Mill Creek. The data are summarized in Table 2. The most frequently occurring habitat types were low gradient riffles, 28%, step runs, 24%, and runs, 11% (Graph 3). The most prevalent habitat types by percent total length were step runs, 49%, low gradient riffles, 24%, and runs, 6% (Table 2).

Table 3 summarizes main channel, scour and backwater pools, which are Level III pool types. Scour pools were most often encountered at 82% and comprised 80% of the total length of pools.

Table 4 is a summary of maximum pool depths by pool habitat types. Pools with depths of two feet or greater are considered optimal for fish habitat. In Mill Creek, 10 of the 50 Pools (20%) had a depth of two feet or greater (Graph 4).

The depth of cobble embeddedness was estimated at pool tail-outs. Of the 49 pool tail-outs measured, there were none with values of 1 or 2, 70% had a value of 3 and 30% had a value of 4 (Graph 5).

Mill Creek

Of the Level II habitat types, pool habitat types had the highest mean shelter rating in Mill Creek at 44 (Table 1). Of the Level III pool types in Mill Creek, scour pools had the highest mean shelter rating at 56 (Table 3).

Of the 50 pools in Mill Creek, 40% were formed by large woody debris: 30% by logs and 10% by root wads (calculated from table 4).

Table 6 summarizes the dominant substrate by Level IV habitat types. Of the low gradient riffles measured, 100% had gravel as the dominant substrate (Graph 6).

Mean percent closed canopy was 97%: 10% coniferous trees and 87% deciduous trees. Mean open was 3% (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 87% while the mean percent left bank vegetated was 91%. Brush was the dominant bank vegetation type observed in 88% of the units fully measured. Coniferous trees were dominant in 2% of units fully measured. The dominant substrate comprising the structure of the stream banks consisted of sand/silt/clay, found in 100% of the units fully measured.

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:
120	Confluence with Bull Creek. Footbridge spans the channel: 45' wide x 5' long x 4.5' high, in bad shape.
642	Right bank dominant type is dead conifers. Horse trail crossing through stream.
780	Good spawning gravel.
826	Right bank erosion site measures 15' high x 35' long, small shale.
1054	Bare soil slide on right bank measures 40' long x 50' high. Some cover, but contributing fines to channel.
1170	Right bank loose gravel and sand measuring 12' high x 50' long. Good spawning gravel at tailout. Young-of-the-year (YOY) salmonids observed.

Mill Creek

- 1268 Dry tributary on left bank. Left bank erosion with bare soil and roots measures 11' high x 45' long. 8/22/85 CCC flag site #2
- 1357 Right bank dominant vegetation type is dead conifers.
- 1519 Dry overflow channel causing right bank to erode: 15' high x 20' long.
- 1559 Dry tributary on left bank. Left and right bank dominant vegetation type is dead conifers.
- 1654 LWD on left bank is the dominant type: 20' long x 5' high x 15' wide.
- 1674 Small woody debris (SWD) accumulation measures 10' wide x 3' long x 2' high. Left bank dominant vegetation type is dead conifers.
- 1732 Downed redwood log, 2' diameter x 35' long, on bottom of right bank, holds part of right bank.
- 1954 Lots of YOY and 1+ salmonids observed. 2' step in unit. Logs on both banks.
- 1977 4' undercut right bank. Deciduous rootwad causes pool and undercut on right bank.
- 2078 Row of alders on right bank with vertical bank of soil held together by roots.
- 2095 Alders on left bank are growing in between boulders piled on alders.
- 2181 YOY and 1+ salmonids observed.
- 2524 Large redwood rootwad on right bank being undercut. Tributary enters on left bank. 2' width is dammed up. Dry undercut left bank, bank undercut under two large redwood trees with root masses hanging down. 10 metal pipes on left bank and in water. Right bank changes into boulder. Vertical 6' height then slope, with deciduous and conifer trees, 30' long section. Live deciduous tree has fallen across channel 3' above water and continues to grow. 10 redwood logs embedded into right bank measure 50' long x 4' high. Trees growing out of logs.
- 2606 Dry overflow channel on right bank.
- 2824 Two redwood logs fallen across channel catching SWD, measure 20' long x 6' wide x 5' high. Six logs for use. YOY observed. Five logs fallen across channel 10' above water. Right bank landslide measures 35' long x

Mill Creek

- 15' high. Consists of small trees and boulders. Clearing on left bank measures 70' long x 20' high.
- 2851 YOY observed. Several redwood logs and two large stumps hold left bank together and are the dominant vegetation type.
- 2991 Two fallen redwood logs on right bank, one is embedded. Dry tributary on right bank
- 3120 Two fallen logs in water accumulating SWD.
- 3207 Channel type change.
- 3439 Gravel retention 7' x 3'.
- 3511 Erosion on right bank measures 10' long x 10' high and left bank measures 20' long x 8' high, contributing fines and boulders.
- 3708 YOY observed. SWD accumulation measures 15' long x 10' wide x 4' high, off left bank.
- 3753 Creek forks. Right fork is the tributary; it is a small trickle of water due to large log jam. 2' wide, slow water. Left bank failure measures 30' long x 15' high contributing boulders, cobbles and fine sediment to the channel.
- 4003 Three pools among cascade with mean depth of 1.3' feet. Cascade is approximately 40' high over 250' long with very steep plunges. End of survey.

Mill Creek

