

STREAM INVENTORY REPORT

Unnamed Tributary to Ryan Creek B

WATERSHED OVERVIEW

The unnamed tributary to Ryan Creek B is a tributary to Ryan Creek, a tributary to Freshwater Slough, a tributary to Eureka Slough, a tributary to Humboldt Bay, which drains to the Pacific Ocean. It is located in Humboldt County, California (Figure 1). The unnamed tributary's legal description at the confluence with Ryan Creek River is T04N R01W S13. Its location is 40.7247 degrees north latitude and 124.1256 degrees west longitude. The unnamed tributary is a second order stream and has approximately 1.6 miles of blue line stream according to the USGS McWhinney Creek 7.5 minute quadrangle. The unnamed tributary drains a watershed of approximately 2.9 square miles. Summer base runoff is approximately 0.09 cubic feet per second (cfs) at the mouth. Elevations range from about 110 feet at the mouth of the creek to 440 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. Vehicle access exists via Louisiana Pacific Corporation's Road R-13.

HABITAT INVENTORY RESULTS AND DISCUSSION

The habitat inventory of July 7 through October 31, 1995 was conducted by Heidi Hickethier, Don Hickethier, and Craig Mesman (CCC). The total length of the stream surveyed was 8,342 feet.

Flow was measured at the bottom of the survey reach with a Marsh-McBirney Model 2000 flowmeter at 0.09 cfs on July 14, 1995.

The unnamed tributary is an F5 channel type for the entire 8,342 feet of stream surveyed.

The water temperatures recorded on the survey days July 7 through October 31, 1995 ranged from 48 to 62 degrees Fahrenheit. Air temperatures ranged from 54 to 70 degrees Fahrenheit. This is a fair water temperature range for salmonids. To make any further conclusions, temperatures need to be monitored throughout the warm summer months, and more extensive biological sampling needs to be conducted.

Flatwater habitat types comprised 37% of the total length of this survey, riffles 1%, and pools 61%. The pools are relatively deep, with 111 of the 208 pools having a maximum depth greater than two feet.

Two hundred and seven of the 208 pool tail-outs observed were rated "not suitable" for spawning. The single tail-out judged suitable for spawning had an embeddedness rating of 2. Cobble embeddedness measured to be 25% or less, a rating of 1, is considered to indicate good quality spawning substrate for salmon and steelhead. In the unnamed 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 41. The shelter rating in the flatwater habitats was lower at 19. A pool shelter rating of approximately 100 is desirable. The relatively small amount of cover that now exists is being provided primarily by small woody debris 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 three of the low gradient riffles measured had sand as the dominant substrate. This is generally considered unsuitable for spawning salmonids.

The mean percent canopy for the stream was 88%. This is a relatively high percentage of canopy. In general, revegetation projects are considered when canopy density is less than 80%.

The percentage of right and left bank covered with vegetation was high at 93% and 93%, respectively.

BIOLOGICAL INVENTORY RESULTS

Two sites were electrofished on July 14 and November 1, 1995 in the unnamed tributary to Ryan Creek B. The units were sampled by Gary Flosi (DFG) and Chris Coyle, Craig Mesman, and Heidi Hickethier (CCC).

The first site sampled was Habitat Unit #009, a mid-channel pool 206 feet from the confluence with Ryan Creek. This site had an area of 590 square feet and a volume of 885 cubic feet. The site yielded three young-of-the-year coho salmon, three age 1+ coho, two age 1+ coastal cutthroat trout, and three three-spine stickleback.

The second site was Habitat Unit #303, a step run 8,304 feet above the creek mouth. This site had a length of approximately 30 feet. No fish were sampled.

In addition, five sites on tributaries to the unnamed tributary were electrofished. No fish were sampled at any of these sites.

RECOMMENDATIONS

- 1) Ryan Creek Tributary B should be managed as an anadromous, natural production stream.
- 2) 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.
- 3) Increase woody cover in the pools and flatwater habitat units. Most of the existing cover is from small woody debris. Adding high quality complexity with woody cover is desirable and in some areas the material is at hand.

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- 4) The limited water temperature data available suggest that 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.

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.

Position Comments:
(ft):

0'	Start of survey at the confluence with Ryan Creek.
188'	Road R13-1 bridge. 10' clearance.
443'	Log debris accumulation (LDA) measures 5' high x 13' wide x 15' long. It is not retaining gravel.
726'	LDA measures 12' high x 30' wide x 31' long and is retaining some sediment.
1456'	LDA measures 7' high x 25' wide x 11' long and is retaining unspecified amount of sediment.
1810'	LDA measures 9' high x 15' wide x 19' long and is retaining sand 4' deep at base.
2027'	LDA measures 8' high x 10' wide x 20' long.
2370'	LDA measures 4' high x 25' wide x 39' long. It is not retaining gravel.
2450'	Right bank tributary. Flow estimated to be less than 0.01 cfs. Accessible to fish.
2466'	LDA measures 7' high x 15' wide x 22' long. It is not retaining gravel.
4110'	Partial debris accumulation.
5144'	Debris accumulation.
5253'	Debris raft measures 23' long.
6101'	Left bank tributary. Flow estimated to be less than 0.1 cfs.
6292'	Debris accumulation.
6784'	Left bank tributary. Flow estimated to be less than 0.3 cfs. Accessible to fish.

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6816' LDA.

7354' Right bank tributary. Flow estimated to be less than 0.1 cfs.

8342' Stream forks. End of survey.