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FIELD NOTE

Eureka File

CDFG

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Stream: Boyes Creek

Tributary to: Prairie Creek, tributary to Redwood Creek

Date: January 19, 1993

Purpose: To examine the impacts of sediment to Boyes Creek from the Highway 101 Redwood Bypass, to examine habitat conditions for salmonids, and to perform adult and juvenile spawner surveys.

Location: From the confluence of Prairie Creek upstream approximately 1.2 miles to where Boyes Creek forks.

Method: Visual, on foot.

Surveyors: John Schwabe (CDFG)
Cynthia Verhey (CCC Fisheries Tech.)

Observations: Air temperature was 50 degrees, and water temperature was 49 degrees. Visibility was fair in riffles, and poor in pools over three feet deep. Flow was moderate, and weather was raining.

Reach 1: Beginning at the confluence upstream approximately 1000 feet. The stream is dominated by riffle habitat, with few pools and no cover or large woody debris (LWD). The substrate was heavily embedded with sand and silt.

Reach 2: From the end of reach 1 upstream to approximately 2600 feet. The stream channel meanders, and has more diverse habitat with a better pool riffle ratio. Tailouts were heavily embedded with sand and silt. LWD was still lacking but undercut banks were apparent in association with root masses of large streamside red alders and maples. Coho salmon redds and carcasses were found. Large amounts of sand and silt were suspended and trapped behind small woody debris accumulations or where the stream channel was wide, with a low gradient. Most instream woody debris was either alder or maple. Spawning redds had a lot of sand in the exposed pots.

Reach 3: From the end of reach 2 upstream approximately 2100 feet, to the forks. Channel gradient increases and sand and silt was abundant along stream margins. LWD structures and natural weirs are collecting large amounts of sediment. Berries are the dominant stream cover, and made it difficult for the surveyors. Redds, carcasses, and a spawning pair of coho salmon were observed.

Spawner survey data totals: 3 coho male carcasses (63, 45, and 40 cm in length) and 2 female coho salmon carcasses (both 61 cm in length) were measured. Two live coho were observed, presumably a spawning pair. Eleven redds were counted.

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No barriers to migration were observed in the spawning area.

Conclusions:

Reach 1: Poor spawning and rearing habitat. Stream section had less sediment along stream margins than other reaches.

Reach 2: Fair to good spawning and rearing habitat. Stream section had large amounts of sediment stored along stream margins.

Reach 3: Rearing habitat fair, spawning gravels poor. Channel confined and storing large amounts of sediment.

It seems apparent even after consistent high flows that Boyes Creek is not readily transporting the heavy sediment load caused by the 101 Bypass construction. A tremendous flood could transport it more thoroughly. The installation of LWD digger scour structures could help increase pool volume and reduce gravel tailout embeddedness in reaches 1 and 2. Manual removal of sediment would not be cost effective.

It is doubtful with present sediment load conditions that survival rate of incubating eggs is going to be good. Monitoring during the spring and summer months for fry survival should be continued.

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