

**Field Note:** Juvenile Coho Salmon detections in an Unnamed Tributary to the Smith River, Smith River, California.

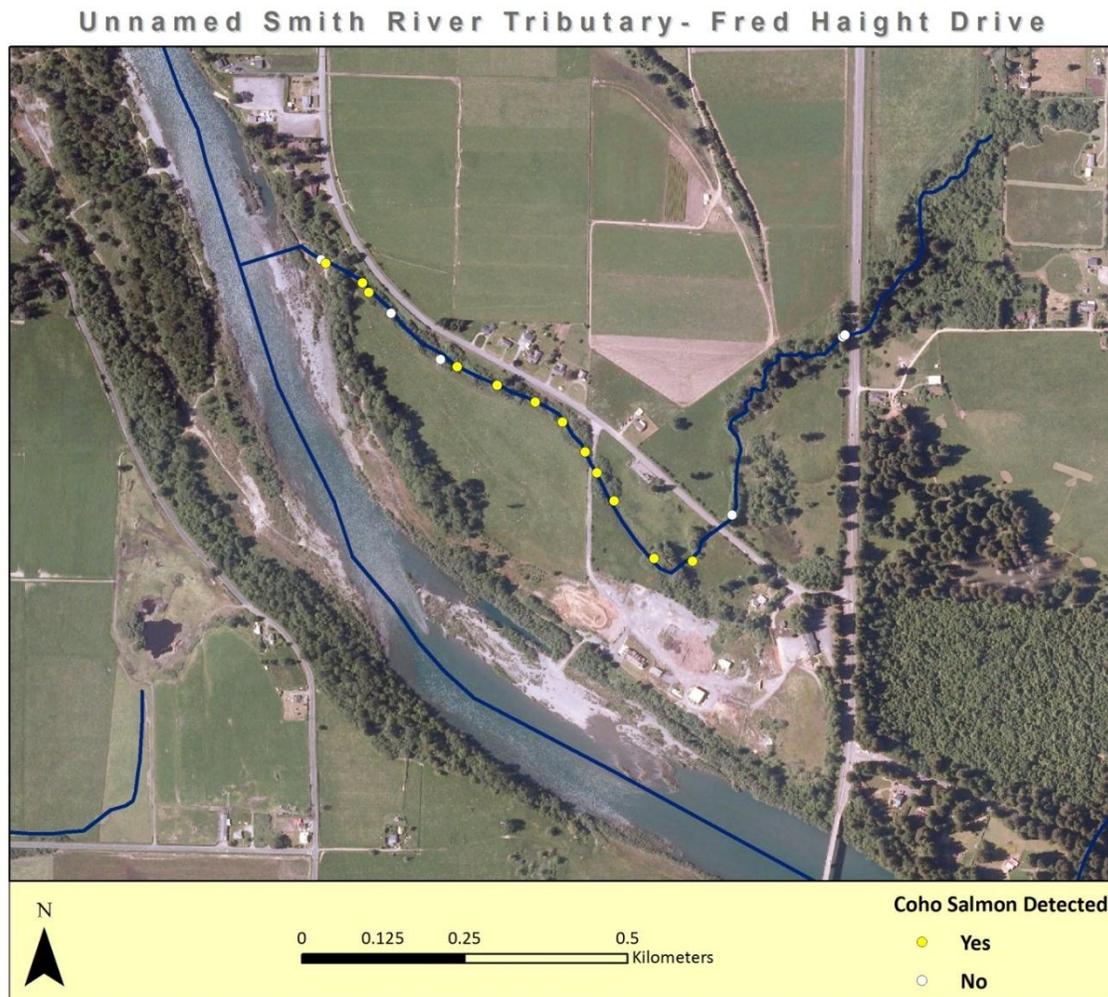
**Objectives:** Establish baseline juvenile salmonid distribution throughout the stream section occurring below Fred Haight Drive and identify any possible migration barriers.

**Survey Crew:** Justin Garwood (DFW), Scott Bauer (DFW), Jen Olsen (WSP), Adam Cockrill (WSP)

**Survey Date:** February 27, 2013

**Survey Gear:** Baited Minnow traps, set for approximately one hour were used to sample juvenile salmonids. A YSI professional plus water quality meter was used to sample water quality at individual trapping locations.

**Salmonid Trapping Results:** A total of 17 locations were sampled for juvenile salmonids and water quality throughout the lower 920 meters of stream from Fred Haight Drive to the Smith River (Figure 1).



**Figure 1.** Sampling locations throughout unnamed Smith River tributary adjacent to Fred Haight Drive, Del Norte County, California.

Additional sites within the stream (located near Highway 101) were sampled on an earlier later date and yielded no salmonids (Figure 1). The entire stream contained water during the time of the survey to the mouth where the stream went subsurface at an exposed gravel bar along the Smith River. A total of 110 juvenile coho salmon were found throughout the survey reach in 13 of the 17 sample locations (Figure 1). An average of 8.5 coho salmon were captured per trap and ranged from one to 33 individuals per trap. The average length of captured coho was 85mm (range: 61 to 108 mm). The trap location containing the most coho salmon was in a ponded portion of the stream above a culvert partially dammed by a beaver. A total of eight juvenile trout (cutthroat or steelhead) were captured at five locations and one threespine stickleback was observed.

**Water Quality Results by Site:**

Location	Pool Depth (m)	Salinity (ppt)	Dissolved Oxygen (mg/L)	Water Temp (C)
Site 1	0.3	0	13.07	8.9
Site 2	0.15	0.03	12.92	9.3
Site 3	0.4	0	12.90	9.2
Site 4	0.3	0.03	13.08	9.2
Site 5	0.25	0.03	12.76	9.3
Site 6	0.28	0.03	13.23	9.5
Site 7	0.4	0.01	13.25	9.3
Site 8	0.5	0.02	12.32	9.4
Site 9	0.3	0.03	11.87	9.3
Site 10	0.75	0.03	13.25	9.7
Site 11	0.4	0	13.50	10
Site 12	0.4	0.03	12.73	9.1
Site 13	0.4	0.03	12.27	9.1
Site 14	0.7	0.03	10.90	9
Site 15	0.65	0.03	10.90	9
Site 16	0.45	0.03	12.36	9
Site 17	0.5	0.03	12.37	9.1
Average:	0.42	0.02	12.57	9.26

**Fish Passage Problems:**

A total of five road crossings with culverts were located throughout the survey reach (Figure 2). All crossings were identified as temporal juvenile salmonid barriers due to culverts being undersized, perched, improperly aligned with the stream channel, plugging with debris, and/or failing (culvert invert rusting out). The largest culvert crossing (Culvert #3 in Figure 2) occur at a residential driveway and contains four perched pipes (Figure 3). Three other culvert crossings serve as livestock crossings, and the furthest crossing upstream is a county road facility on Fred Haight Drive.



Figure 2. Approximate culvert locations on Unnamed Tributary to the Smith River.



**Figure 3.** Driveway stream crossing (Culvert #3) containing four separate culverts on the Unnamed Tributary to the Smith River. All three culverts are temporal upstream barriers to juvenile salmonids.



**Figure 4.** Livestock culvert crossing (Culvert #2). The culvert is undersized and the inlet was plugged with woody debris at the time of the survey.



**Figure 5.** A juvenile coho salmon captured during February 27, 2013 survey effort.

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