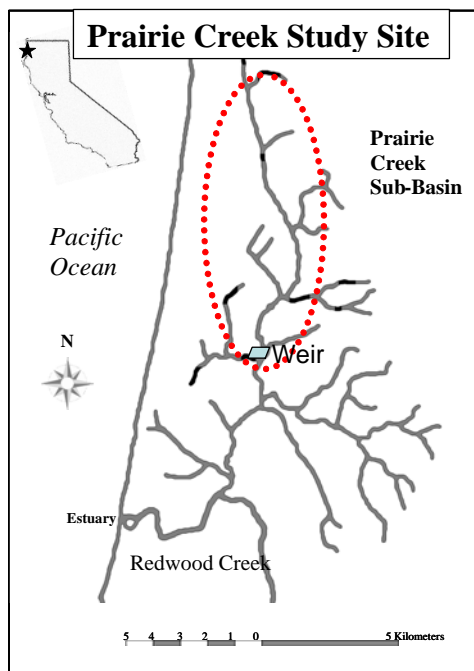


ESCAPEMENT ESTIMATION, MIGRATION TIMING, AND SPATIAL DISTRIBUTION OF ADULT CHINOOK AND COHO SALMON IN PRAIRIE CREEK, CALIFORNIA.

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This project involves monitoring escapement of adult Chinook and coho salmon in Prairie Creek, California, a coastal stream located within Redwood State and National Parks.



The USGS CA Cooperative Fish Research Unit has used traditional spawner survey methods to estimate escapement of Chinook and coho salmon at this field site since 1998. The installation of a resistance-board weir in December 2005 allows us to compare several escapement estimation methods to evaluate their feasibility, accuracy, and variation. Methods used in the 2005-2006 and 2006-2007 spawning

seasons include weir counts, mark-recapture estimates, area-under-the-curve estimates, redd counts, carcass tag-recapture estimates, and underwater video counts.

Other objectives include:

- Estimating stream-specific residence time and spawner survey observer efficiency to improve area-under-the-curve escapement estimation;
- Investigating patterns in upstream migration over the course of the spawning season (in species, sex, age, size, and parasite load);
- Modeling upstream migration with environmental cues of stream discharge, turbidity, stream temperature, precipitation, and photoperiod
- Analyzing spatial distribution of fish and redds (including redd superimposition) on the spawning grounds;
- Estimating escapement and stream residence time of steelhead trout.

