

State of California

The Resources Agency

Memorandum

To : FILES

Date : September 24, 1975

From : **Department of Fish and Game** — Region 3

Subject : Fish Population Estimates, Forsythe Creek, Russian River Drainage, Mendocino County

On September 24, 1975, Forsythe Creek, Mendocino County, was sampled with a Smith-Root Type V backpack electro-shocker. Two 100-foot stream sections were sampled, one section was adjacent to a wire revetment constructed in 1965 under the direction of the U.S. Soil Conservation Service, and the other section was located immediately downstream. These areas are located 2.8 miles upstream from the confluence of Forsythe Creek and the Russian River.

Station 1 - Revetment area. The 100-foot section within the revetment area had a mean width of 20 feet and averaged 2 feet deep. It is bordered on one side by alders approximately 30 feet tall.

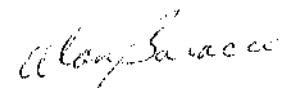
Air temperature at 0940 hours was 68°F, water temperature was 61°F. There was no visible stream flow into or out of this section, subsurface flow kept the area from going dry.

Fish species and their respective percent of the population were as follows: roach, 25%; green sunfish, 7%; Sacramento squawfish, 35%; western suckers, 23%; smallmouth bass, 7%; brook lamprey, 3%. The total population estimate for the 100-foot section was 49 fish. Smallmouth bass averaged 112 mm F.L. Bullfrog tadpoles were extremely abundant in this section.

Station 2 - Area below revetment. This area was much different from the revetment area, there was no overhead canopy and water depth averaged only 3 inches. This area was also fed by subsurface flows. Air and water temperature at 1130 hours were 36°F and 76°F, respectively. The area contained more fish than the revetment area, probably due to the concentration of fish as the stream dried up during the summer.

The species found and their relative abundances were as follows: roach, 10%; Sacramento squawfish, 40%; western suckers, 50%; smallmouth bass, 3%; threespine stickleback, 1%; brook lamprey, 1%. Smallmouth bass averaged 136 mm F.L. Total population for this 100-foot section was 257 fish.

This sampling was undertaken in an attempt to determine the difference, if any, of an area altered by the construction of a revetment as compared to a nearby natural section of stream. Although physical differences were noted in the two sample areas, it is difficult to compare fish population differences between the two areas due to the intermittent nature of the stream. This condition forced fish into specific areas, which may or may not have been conducive to their survival. An evaluation of the effects revetments have on distribution and abundance of fish should be carried on when flows are adequate to allow free distribution of fish.



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