

Field Note

East Fork Russian River  
Mendocino County  
May 16, 1983

Fish population studies were conducted in three locations on the East Fork Russian River on May 16, 1983 at the request of the City of Ukiah as partial fulfillment of the requirements of Article 35 of the Order issuing major license for FERC Project No. 2841. This project is essentially a retro-fitting of Coyote Dam for power generation by the City of Ukiah.

One of our primary concerns with this project was that stunned or killed fish passing through the turbines would create an attractive nuisance for predatory species resulting in an artificially high standing crop of predators after the installation of the turbine. This could result in increased predation and decreased production of anadromous salmonid juveniles using the area. This sample was intended to provide preproject baseline data of existing species, numbers, and biomass of fishes inhabiting the East Fork Russian River between Coyote Dam and the confluence with the West Branch Russian River approximately one mile downstream.

Flow through the dam was completely stopped at about 0830. Discharge from bank storage was negligible near the dam and increased to an estimated 3 cfs near the confluence with the West Fork Russian. Two electrofishing crews using Smith-Root Type VII backpack units sampled three stations, each one hundred feet in length between the hours of 0900 and 1315.

Station Number 1 was immediately below the large boulders facing the bottom of the stilling basin below the dam in the NW<sup>1</sup>/<sub>4</sub> of the SW<sup>1</sup>/<sub>4</sub> of projected Section 34, T16N, R12W, MDB&M. The downstream net on Station 1 was 61 m from the upstream edge of the cement sill at the USGS streamflow gauging station. Station Number 2 was located about ½ mile downstream in the SE<sup>1</sup>/<sub>4</sub> of the SE<sup>1</sup>/<sub>4</sub> of projected Section 33, T16N, R12W, MDB&M. It is located in the north channel of the bifurcation that occurs immediately downstream of some rather steep bluffs on the south bank. Station #3 is located approximately 300 yards upstream from the confluence with the West Fork at the end of an unimproved road running down the peninsula in the NE<sup>1</sup>/<sub>4</sub> of the NW<sup>1</sup>/<sub>4</sub> of projected Section 4, T15N, R12W, MDB&M.

In an attempt to develop accurate population estimates, procedures were similar to those described by Price and Geary (1979), which is a modification of the Seber and LeCren (1967) method of estimating total population by removing numbers large relative to the total number from a closed population of fish. The results are attached in Appendix A.

Because of the small numbers of fish captured and because second pass catches usually equaled or exceeded first pass catches, total population estimates were not computed.

Capture of stunned fishes was inhibited by very turbid conditions. Turbidity of 150 JTU was measured at all three sites. Visibility was measured at 28.8 cm with a white staff. Deep water in some areas up to 1 m also contributed to capture inefficiency. Turbidity was caused from muddy water previously released from Lake Mendocino.

Even though capture conditions were difficult, I believe that these catches are representative of actual fish abundance in the area. These are very low numbers of steelhead juveniles when compared to similar catches made in tributaries to the Russian River which range upwards of 50 fish per 100 feet of stream.

Predatory fish species such as squawfish, striped bass, and channel catfish were very low. Only a few juvenile squawfish were captured and no stripers or catfish were observed.

#### Literature Cited

Price, D. G. and R. E. Geary. 1979. An inventory of fishery resources in the Big Sulphur Creek drainage. Pacific Gas and Electric Company, Department of Engineering Research Report. 420-79.2. 49 pp.

Seber, G. A. F. and E. D. LeCren. 1967. Estimating population parameters from catches large relative to the population. J. Anim. Ecol. 36:631-643.



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## Appendix A

### Numbers and Weight of Each Fish Species Captured Within Three Electrofishing Station in the East Fork Russian River, May 16, 1983.

Static Number	PASS NUMBER	SH <sup>1</sup>	SKR <sup>1</sup>	SQ <sup>1</sup>	LP <sup>1</sup>	RCH <sup>1</sup>	SCP <sup>1</sup>	BG <sup>1</sup>
1	1	1/30	17/3500	0	17/5085	0	0	0
	2	1/30	18/3800	0	23/9000	0	0	0
2	1	2/25	2/20	0	5/1700	0	1/4	0
	2	2/5	0	0	0	0	0	0
3	1	0	8/795	2/15	1/400	0	0	1/2
	2	0	11/60	4/20	2/5	2/4	0	0
	3	0	6/50	2/5	1/3	2/4	0	0

KEY: SH = steelhead; SKR = sucker; SQ = squawfish; LP = lamprey; RCH = roach;  
SCP = sculpin; BG = bluegill.

<sup>1</sup> Number of Fish Captured/Total Weight (Grams)