

Memorandum

To : Files

Date: January 27, 1984

From : Department of Fish and Game - Region 3

Subject: Redwood Creek, Marin County

During October and November, 1983, I sampled fish populations in Redwood Creek with a Smith-Root Type XI backpack electrofisher. Assistance was provided by Ranger Mia Monroe of Muir Woods National Monument and several others of her staff. Each station was sampled with the 2-pass removal method and fish populations calculated by the methods of Seber and LeCren.

Station 1: This 100-ft. station, located about 100 feet above bridge number 3 in Muir Woods, was sampled on October 13. At 1230 hours, water temperature was 63 F, air temperature was 69 F. Flow was estimated to be 0.4 cfs. Pool:riffle:run ratio was 20:25:55. There was good riparian canopy; the stream was well shaded. Bottom substrate was 15% sand, 40% gravel, 40% rubble, and 5% boulder.

<u>Species</u>	<u>Number</u>	<u>FL Range (mm)</u>	<u>Mean FL (mm)</u>	<u>Biomass (gm)</u>
SH	41.8	39-110	59.8	123.3
SS	4.	57-70	63.5	13.
SCL	73.5	28-97	56.3	202.1

Station 2: This 100-ft. station was located just below the Dipsea trail bridge in Muir Woods. It was sampled on November 3. Water temperature at 1145 hours was 59 F, air temperature was 64 F. Flow is estimated to be 0.5 cfs. Pool:riffle:run ration was 5:30:65. Riparian canopy was about 15%.

<u>Species</u>	<u>Number</u>	<u>FL Range (mm)</u>	<u>Mean FL (mm)</u>	<u>Biomass (gm)</u>
SH	28.	53-102	67.3	117.9
SS	5.3	73-79	76.6	21.2
SCL	60.6	37-116	56.6	318.7

Station 3: This 100-ft. station was located just above the confluence of Kent Canyon Creek in Mt. Tamalpais State Park. It was sampled on November 3. Water temperature at 1435 hours was 60 F, air temperature was 66°F. Flow was estimated to be 0.7 cfs. Pool:riffle:run ratio was 30:50:20. Riparian canopy was about 40%. Object cover in the stream was very good, with several pieces of large organic debris. Substrate was 5% silt, 30% sand, 55% gravel, and 10% rubble. Population and biomass data below have been reduced to correspond to a 100-ft. station.

<u>Species</u>	<u>Number</u>	<u>FL Range (mm)</u>	<u>Mean FL (mm)</u>	<u>Biomass (gm)</u>
SH	29.2	72-190	116.	666.5
SCL	27.1	41-156	72.9	224.3

A length-frequency distribution for steelhead captured in Redwood Creek is attached. Examination of this distribution and comparison with the data Shapovalov and Taft from Waddell Creek shows three probable age classes:

<u>Class</u>	<u>Number</u>	<u>%</u>	<u>FL Range (mm)</u>	<u>Mean FL (mm)</u>
0+	60	74.1	39-94	61.8
1+	18	22.2	95-159	122.1
older	3	3.7	160-190	177.0

A period of 3 weeks separated the sampling of Station 1 and Stations 2 and 3. Very little growth is likely to have occurred during this period as the growing season was essentially over. Some downstream migration may have started during this period, but no smolting fish were seen.

Philip H. Baker
for Bill Cox
Fishery Biologist
Sonoma/Marin Counties

WGC:tf

DEPARTMENT OF FISH AND GAME
 LENGTH FREQUENCY (MM)

SPECIES SH LOCATION REDWOOD CRK DATE OCT 1981 NAME COX
1981

0					250					500				
25					275					525				
	I													
	II													
50	IIII	III			300					550				
	IIII	I												
	IIII	IIII	IIII	I										
	IIII	I												
	IIII	IIII	I											
75					325					575				
	II													
	III													
	II													
100	II				350					600				
	I													
	IIII													
	IIII													
125					375					625				
	I													
150	II				400					650				
	II													
	I													
	I													
175					425					675				
	I													
200					450					700				
25					475					725				