

BOYES CREEK POPULATION ESTIMATE

On June 18, 1980, portions of Boyes Creek, tributary to Prairie Creek in Redwood National Park, were electrofished to obtain an estimate of the salmonid population. Present were Dave McLeod (DFG Fishery Biologist), Terry Hofstra (RM Fishery Biologist), and Lisa Ankenbrandt (DFG Seasonal Aid). Two representative stations were sampled to estimate the population in the lower 0.9 mile below the first major tributary flowing from the northeast. Each station was blocked off at the upper and lower ends by stop nets so that fish could not move in or out of the test stations during sampling. A backpack shocker and dip nets were used to capture fish, with two passes made in each station, using the standard two-catch method described in Estimating Population Parameters from Catches Large Relative to the Population (1969) by G.A.F. Seber and E.D. LeCren. Each sample from these test stations was expanded to give an estimate of the total size of the population in each area with a 95% level of confidence, and these data were in turn utilized to determine the total salmonid population in the lower 0.9 mile of Boyes Creek on June 18, 1980.

Results

The total estimated salmonid population in the lower 0.9 mile of Boyes Creek on June 18, 1980 was 833. With a level of confidence of at least 95%, the total salmonid population was no lower than 699 and no higher than 967.

Written by: Dave McLeod

STUDY SECTION I

Location: Mouth to 0.5 mile upstream.

Study Station: 103 feet in length. Located approximately 0.25 mile upstream from the Highway 101 bridge.

Fish narcotized and captured:

	<u>Pass I</u>	<u>Pass II</u>
Steelhead	8	2
Coastal cutthroat trout	2	0
Stickleback	1	1

Estimated population of salmonids in test station with a 95% level of confidence (Seber & LeCren, 1969):

13 salmonids + or - 2

Expansion of study station data on salmonids to cover total study section:

Study section length = 0.5 mile
13 salmonids per 103 linear feet
95% confidence level = 11 to 15 salmonids
Point estimate = 333 salmonids per 0.5 mile
95% confidence level = From 282 to 384 salmonids per 0.5 mile

STUDY STATION II

Location: Upper limit of Section I to 0.4 mile upstream (first major tributary flowing from N.E.).

Study Station: 76 feet in length. Located approximately 0.25 mile downstream from the first major tributary.

Fish narcotized and captured:

	<u>Pass I</u>	<u>Pass II</u>
Steelhead	13	3
Coastal cutthroat trout	1	0
Stickleback	3	4

Estimated population of salmonids in test station with a 95% level of confidence (Seter & McGren, 1969):

18 salmonids + or - 3

Expansion of study station data on salmonids to cover total study section:

Study section length = 0.4 mile
18 salmonids per 76 linear feet
95% confidence level = 15 to 21 salmonids
Point estimate = 500 salmonids per 0.4 mile
95% confidence level = From 417 to 583 salmonids per 0.4 mile

Salmonids Collected in Boyes Creek, Humboldt Co.*

Station I

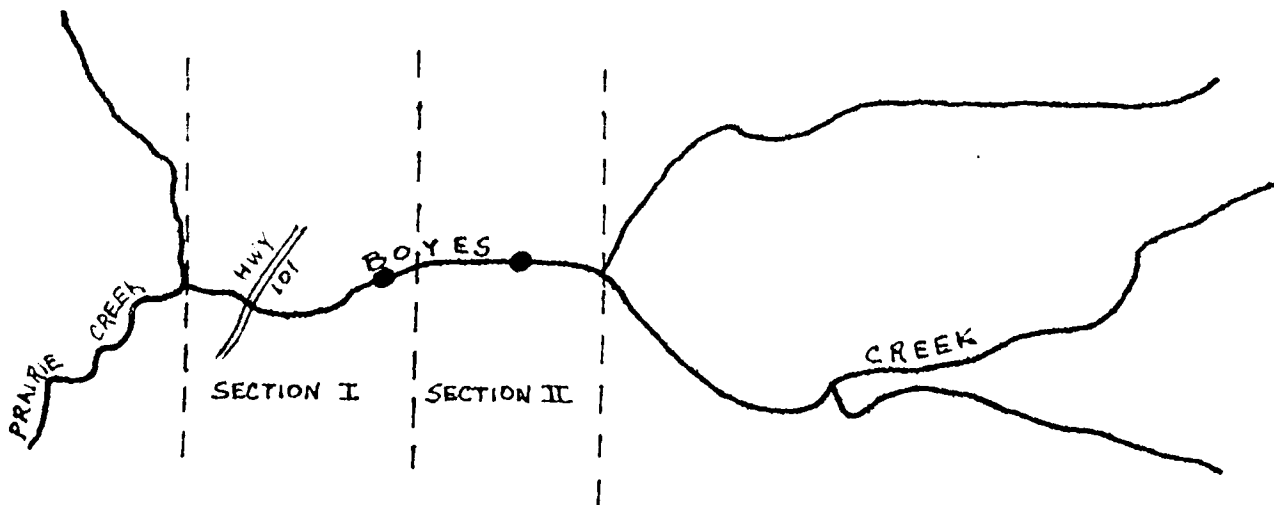
<u>Steelhead</u>	<u>Coastal cutthroat trout</u>
32	115
34	118
35	
36	
38	
40	
42	
98	
103	
128	

Station II

<u>Steelhead</u>	<u>Coastal cutthroat trout</u>
33	102
34	
36(2)	
37(2)	
38(2)	
40(3)	
41	
42(2)	
44	
73	

* Measurements in mm. (F.L.)

Study Sections and Stations on Boyes Creek



● Electrofishing Study Station

