

COYOTE CREEK SPRING POND BROOK TROUT REMOVAL 2002 RNSP ACTIVITIES

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Introduction

This report summarizes year 2002 eastern brook trout (*Salvelinus fontinalis*) removal from the artificial spring pond located on Rock Fork Road in the Coyote Creek watershed within Redwood National and State Parks. The purpose of the work is to remove alien fish. The fish are localized to the pond.

Redwood National Park Project Clearance No. 99-03 authorizing this project was submitted in March of 1999 and approved by the Superintendent Ringgold on April 26, 1999 (Copy in 1999 report).

Methods

Non-chemical methods were used to capture and remove the brook trout, prevent their reproduction, and prevent migration out of the pond. A backpack electroshocker (Smith-Root Model 10) was used from a canoe to electroshock the fish. Depletion passes were made up and down the length of the narrow pond. Fish were shocked and dipnetted when they herded at either end of the pond or as they made a run under the canoe. Captured fish were euthanized. The area where spring flow enters the pond, an area of clean gravel, where spawning is suspected, was covered with mud, rocks, and woody debris to prevent spawning. Two metal screen boxes placed separately in 1998 and 1999 under the two shotgun culvert outlets to trap fish and prevent their migration out of the pond were checked for holes and fish.

Results

Electrofishing - On August 22, 2002, the backpack electroshocker was run from the canoe at power settings of 60 Hertz and 800 to 1000 Volts. Fifty-seven brook trout were removed weighing a total of 3.7-kg (8.17 lbs.).

Since 1998, a total of 363 brook trout have been removed from the pond, 332 by electrofishing, 28 by hook and line, and 3 by minnow trapping. Sixteen were removed in 1998, 147 in 1999, 80 in 2000, 63 in 2001, and 57 in 2002. A grand total of 17.66 kg (38.9 lbs.) of brook trout have been removed from the pond by electrofishing.

Reproduction – The suspected spawning habitat in the northwest corner where water flows into the pond was again disturbed by us. The substrate was mixed, and covered with more mud, large rocks, and woody debris to further deprive fish of spawning area.

Migration – The two metal screen boxes under the culverts were still functioning. No fish or any other organism was found in the boxes. Flow from both culverts drops into

the boxes, effectively trapping and killing any fish that may come out of the pond, and preventing their migration into the Coyote Creek watershed.

Biological Data – Fork length (mm) data for 2002 is presented in Table 1. Fork length ranged between 84 and 246 mm, the mean at 164 mm. A length-frequency histogram of fork lengths from 1998/99, 2000, 2001, and 2002 is presented in Figure 2. (Sixteen fish were removed in 1998 in preliminary activities, and 147 in 1999).

Table 1. Summer fork length (mm) data from eastern brook trout removed by electrofishing, hook and line, and trapping from the Coyote Creek spring pond on Rock Fork Road in Redwood National and State Parks in 1998/1999 and by electrofishing in 2000, 2001, and 2002.

Brook Trout Descriptive Statistics	1998/99 Fish	2000 Fish	2001 Fish	2002 Fish
Number in sample	163	80	63	57
Mean Fork Length (mm)	158	136	149	164
Standard Deviation (mm)	35	50	37	41
Range (Minimum-Maximum) (mm)	63 - 283	75 - 244	75 - 239	84 - 246

Conclusions/Recommendations

As shown by the histogram in Figure 1, there appeared to be three age classes present in 2002. Recruitment of young occurred in 2002, but less so than in 2000. We have reduced the overall population numbers over the years, but did not remove all.

As their life expectancy is three years, if spawning was eliminated, and electrofishing continued to crop any mature brook trout, the trout would die out and be eradicated. However, we have not been able to stop reproduction, and it is difficult to remove all fish because of the woody debris and aquatic vegetation as cover, and the deep depth. Electrofishing efforts are not working at eliminating the fish.

A final alternative will be pursued for FY2003, temporary drainage of the pond. We will coordinate with the Fire Program to pump the pond dry, remove and euthanize any remaining fish, muck up the bottom to kill any unseen fish or eggs, and time the action to have the pond full as a seasonal wildfire water source.

Acknowledgements

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(Report prepared by David Anderson, RNSP Fishery Biologist (707) 464-6101 x 5271 1/2003)

2002 Coyote Creek Spring Pond Brook Trout Removal

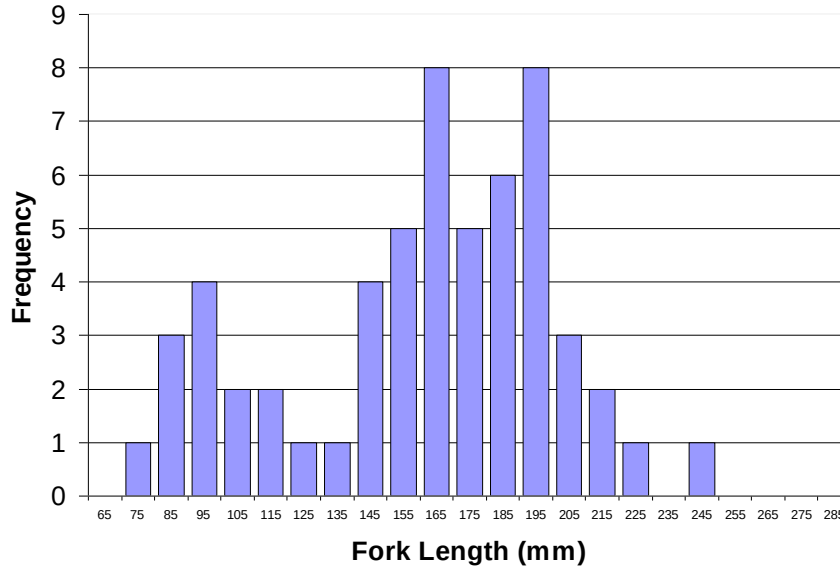


Figure 1. Fork length (mm) histogram of eastern brook trout (*Salvelinus fontinalis*) removed from Coyote Creek spring pond on August 22, 2002.

Coyote Creek Spring Pond Brook Trout Removal

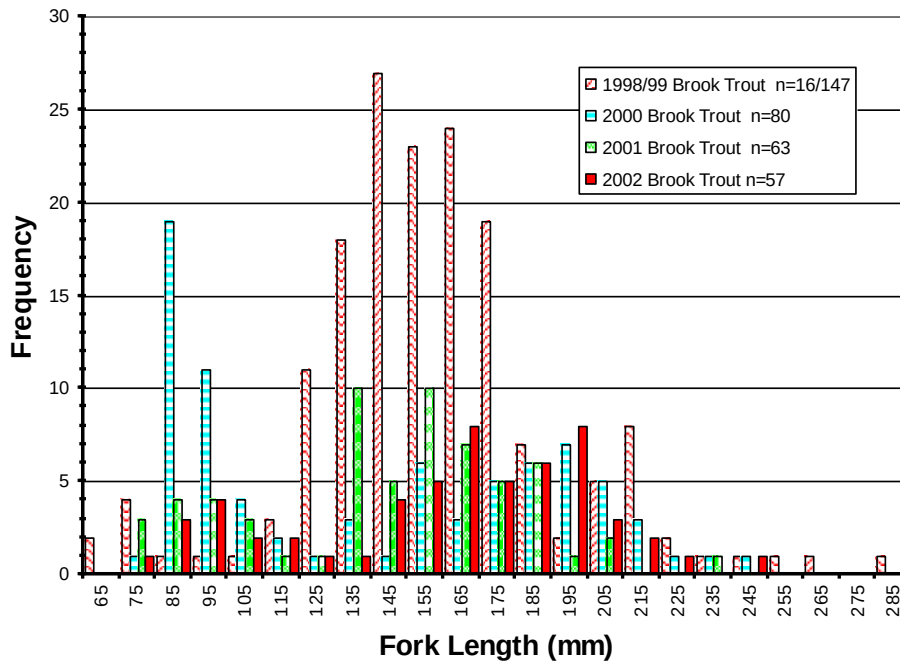


Figure 2. Fork length (mm) histogram of eastern brook trout removed from Coyote Creek spring pond in the summers of 1998/99, 2000, 2001, and 2002