

State of California
Department of Fish and Wildlife

Memorandum

Date: 12/07/2015

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From: Amber Mouser
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Cc: Region 2 Fish Files

Subject: Sierra County fisheries monitoring- Coburn Lake (LakeID: 12392) and Berry Creek

On July 25, 2013, California Department of Fish and Wildlife (CDFW) personnel conducted fisheries monitoring surveys at Coburn Lake (CA Lakes ID 12392, Fig. 1 & 3) near Sierraville, in Sierra County. Two gill nets were set overnight for a total of 18.6 hours. Net number one captured 14 rainbow trout (*Oncorhynchus mykiss*) and three speckled dace (*Rhinichthys osculus*). Net number two captured 25 rainbow trout and five speckled dace. On September 2, 2015, Berry Creek (Fig. 2 & 3) was surveyed via backpack electrofisher in an attempt to locate the source population for the Coburn Lake rainbow trout. The electrofishing resulted in 72 brook trout (*Salvelinus fontinalis*) of varying sizes. Due to the numbers and sizes of fish captured CDFW believes rainbow trout will persist in the lake and Coburn Lake will be managed as a self-sustaining fishery.



Figure 1. Coburn Lake looking Southwest on June 25, 2013 (CDFW).



Figure 2. Berry Creek on September 2, 2015 (CDFW).

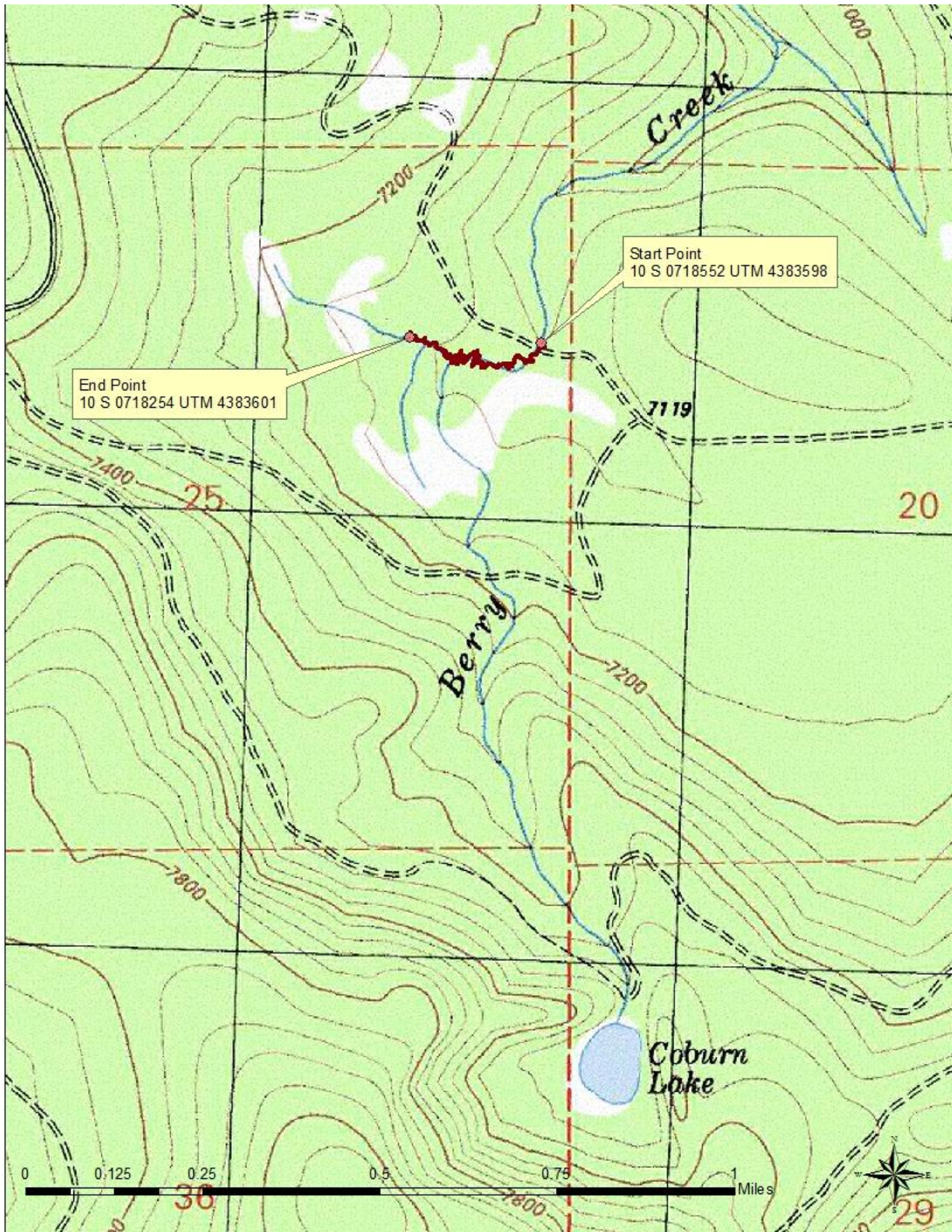


Figure 3. Location of the survey areas in central Sierra County.

INTRODUCTION

Coburn Lake was formerly planted with brown trout (*Salmo trutta*), brook trout, and rainbow trout by CDFW from the early 1900's through the year 2000. Due to a lack of recent fish surveys

uncertainty existed about the status of the fishery at Coburn Lake. As directed by the Hatchery Operations EIS/EIR (Jones and Stokes 2010) CDFW is currently evaluating the location and status of stocked and formerly stocked backcountry fisheries. All data gathered as part of this study is incorporated into the High Mountain Lakes database and made available to both federal and state agencies. Data from this memorandum will benefit the Department in future efforts for fish stocking and wild trout management in the North Central Region.

ENVIRONMENTAL SETTING

Coburn Lake sits at an elevation of 7,504 feet above mean sea level and has a surface area of 4.9 acres. It is a natural lake located at the top of the watershed. The littoral zone habitat consists primarily of mud, aquatic vegetation, and log debris. There is no defined inlet. The lake drains via a seasonal stream channel to the north into Berry Creek, which ultimately drains to the Sierra Valley and the Middle Fork Feather River. The terrestrial habitat consists of mixed conifer forest. The lake is located in the Tahoe National Forest, west of Sierraville and approximately five miles south of Yuba Pass. After turning off of Yuba Pass Road, the lake is about a mile and a half further on a dirt road. A small four-wheel drive vehicle is advised for the last half of a mile.

HISTORY

Historic records indicate that Coburn Lake was a fishless lake that was planted in 1910 with brown trout which were referred to as "Loch Leven" in the records. In 1930 the lake was dynamited and replanted with brown trout. In 1935 and 1940 the lake was planted with brook trout. Rainbow trout were planted in 1947, 1950 through 1953, and from 1990 through the year 2000. Stocking was discontinued after the year 2000 as part of a project to assess native amphibian and fish distributions throughout the Sierra Nevada (North Central Region Fish Files).

Berry Creek was stocked from 1938 through 1953. Brook trout were planted from 1938 through 1942, 1945, and 1953. Brown trout were planted in 1942 and rainbow trout were planted from 1943 through 1949 and 1952.

RESULTS

On July 25, 2013, two standard 36 meter long x 1.8 meter high 6 panel variable mesh gill nets were checked after an overnight set of 18.6 hours. This effort captured 39 rainbow trout ranging from 110mm-310mm (Figure 4) and eight speckled dace ranging from 77mm-90mm (Figure 5). The average Fulton Condition Factor for the rainbow trout was 1.63. A rainbow trout conversion factor of 1.025 (Klasing, S. and Brodberg, R. 2005) was used to convert total length measurements to the fork length measurements called for in the Fulton Condition Factor formula (Barnham, C. and Baxter, A. 1998).

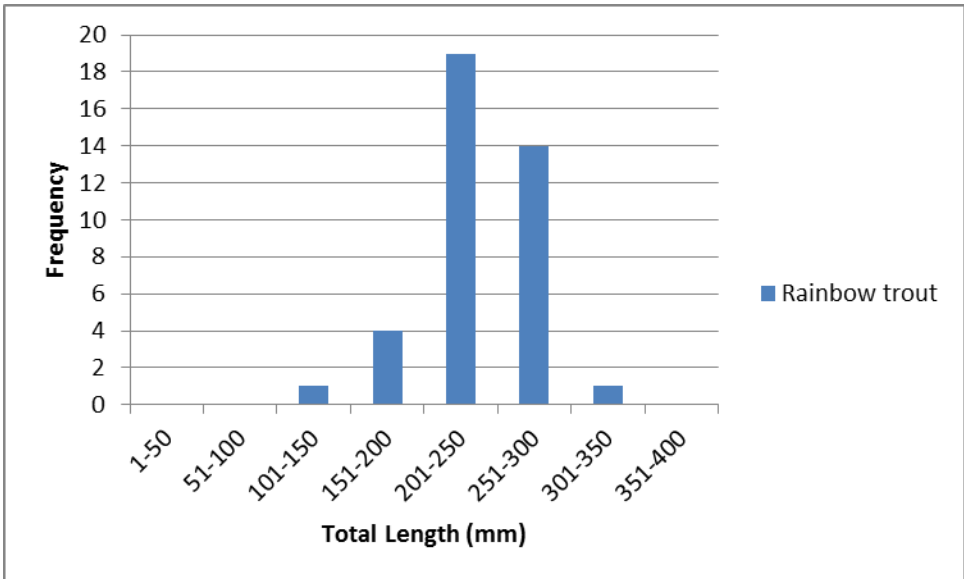


Figure 4: Rainbow trout histogram from July 25, 2013 CDFW gill net survey at Coburn Lake.

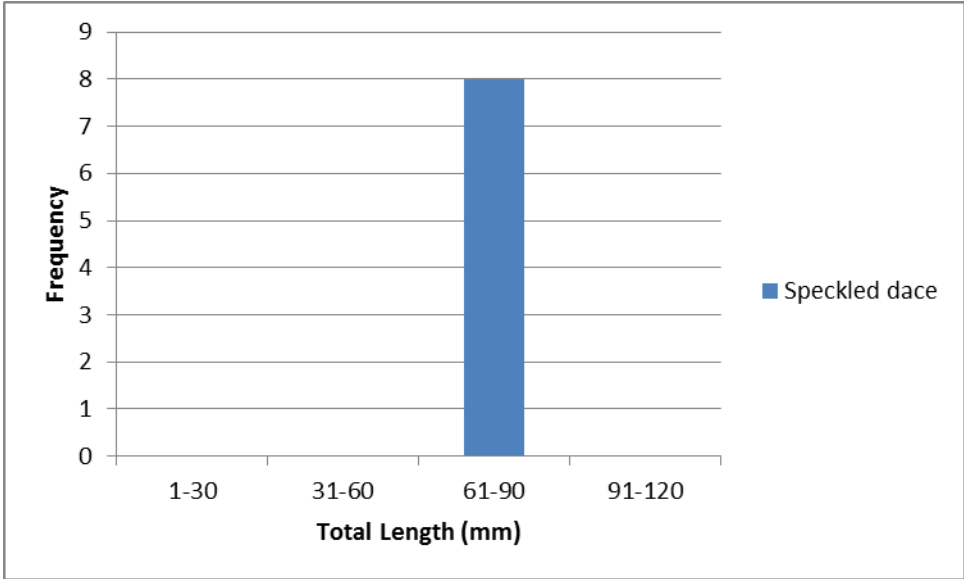


Figure 5: Speckled dace histogram from July 25, 2013 CDFW gill net survey at Coburn Lake.

On September 2, 2015, one Smith-Root LR-24 backpack Electrofisher set to 500 volts was used to sample 0.7 miles of Berry Creek. Seventy-two brook trout ranging from 35-180mm (Figure 6) were captured during 0.45 hours of electrofishing. The average Fulton Condition Factor for the brook trout was 1.21. A brook trout conversion factor of 1.012 (USFS) was used to convert total length measurements to the fork length measurements called for in the Fulton Condition Factor formula (Barnham, C. and Baxter, A. 1998).

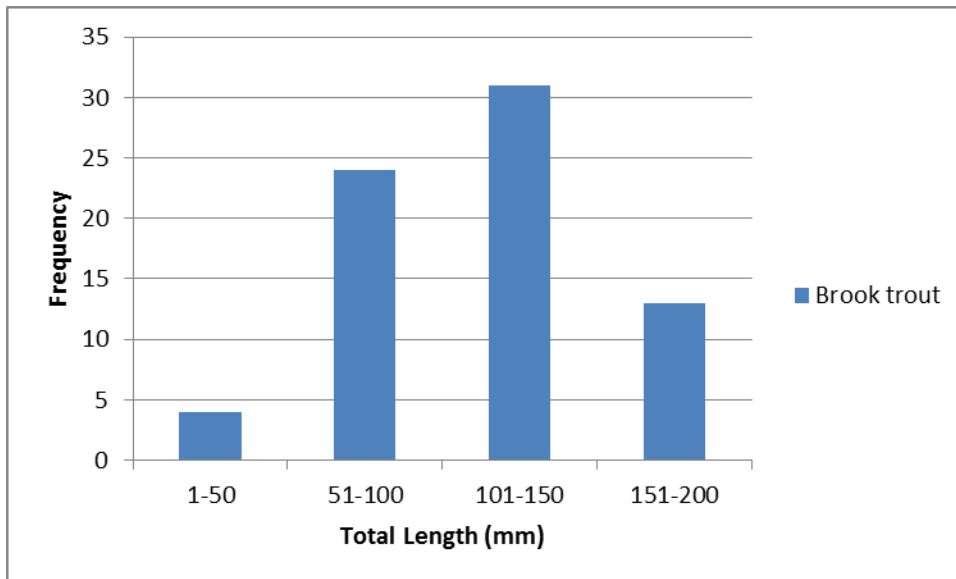


Figure 6: Brook trout histogram from September 2, 2015 CDFW electrofishing survey at Berry Creek.

CONCLUSION

The status of the Coburn Lake and Berry Creek fisheries were uncertain due to the lack of recent fisheries surveys. Most recently, Coburn Lake was stocked with fingerling rainbow trout through the year 2000. It was unclear if this fishery would persist in the absence of fish plants. However, evidence of reproduction was observed when the 2013 gill net survey captured rainbow trout in various size classes. Although no source population was identified, it is likely that the fish are able to spawn in a seasonal drainage either entering or exiting the lake. Further investigation during spawning season is necessary to positively determine spawning areas. Due to the numbers and sizes of fish captured in Berry Creek, CDFW believes that brook trout will persist in the creek. Based on the 2013 and 2015 results, Coburn Lake and Berry Creek should be managed as self-sustaining fisheries. CDFW will collect data in subsequent years in order to determine future management direction.

LITERATURE CITED

Barnham, C. and Baxter, A. March 1998. *Condition Factor, K, for Salmonid Fish*, State of Victoria. Department of Primary Industries 2003.

Klasing, S. and Brodberg, R. April 2005. *DRAFT HEALTH ADVISORY: FISH CONSUMPTION GUIDELINES FOR TRINITY LAKE AND SELECTED WATER BODIES IN THE TRINITY RIVER WATERSHED (TRINITY COUNTY)*, California. Pesticide and Environmental Toxicology Section Office of Environmental Health Hazard Assessment California Environmental Protection Agency. p21.

North Central Region Fish Files. Coburn Lake, Sierra County. California Department of Fish and Wildlife.

USFS. Fish Length Conversion Table. FishXing.

<http://stream.fs.fed.us/fishxing/help/SwimData/morphdata.html>