

Memorandum

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Cc: Region 2 Fish Files

Subject: Plumas County fisheries monitoring- Crystal Lake (LakeID: 11829)

On July 31, 2014 and June 11, 2015, California Department of Fish and Wildlife (CDFW) personnel conducted fisheries and amphibian monitoring surveys at Crystal Lake (CA Lakes ID 11829, Fig. 1) near Quincy, in Plumas County. In 2014, one gill net was set for a total of 7.5 hours. The net captured 6 brown trout (*Salmo trutta*) and 28 tui chub (*Gila bicolor*) of varying sizes. In 2015, one gill net was set for a total of 20 hours. The net captured 15 brown trout and 103 tui chub of varying sizes. Due to numbers and sizes of fish captured CDFW believes brown trout will persist in the lake and Crystal Lake will be managed as a self-sustaining fishery.



Figure 1. Crystal Lake looking Northeast on June 10, 2015 (CDFW).

INTRODUCTION

Crystal Lake was formerly planted with fingerling brown, brook, and rainbow trout by CDFW between 1955 through the year 2000 (Fig. 2). Due to a lack of recent fish surveys uncertainty existed about the status of the fishery at Crystal 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.

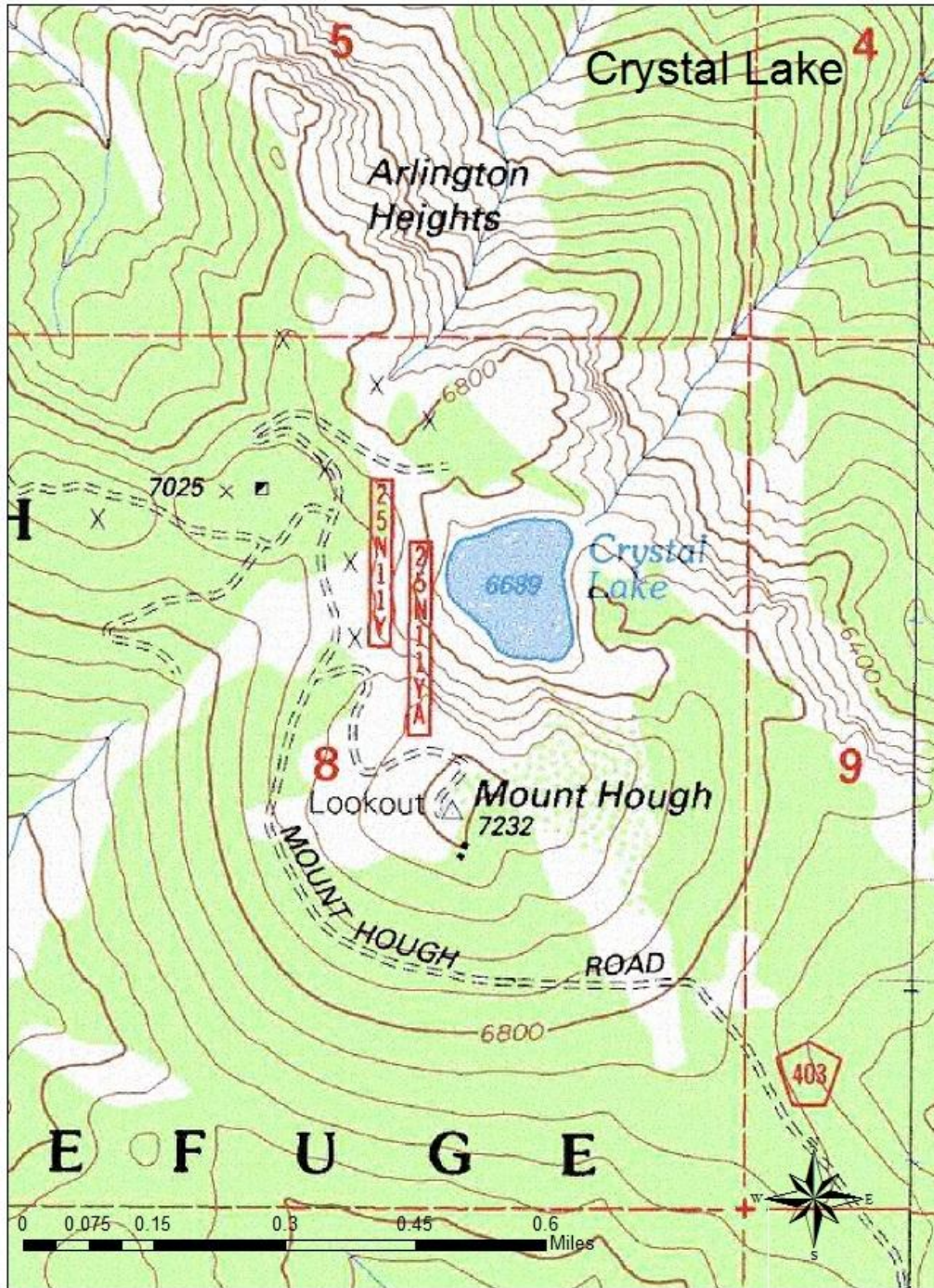


Figure 2. Location of the survey area in northwestern Plumas County.

ENVIRONMENTAL SETTING

Crystal Lake sits at an elevation of 6,690 feet above mean sea level and has a surface area of 11.5 acres. It is a natural lake that is set in a crater. There is a small shelf around the lake that drops off rather quickly. The littoral zone habitat consists primarily of sand and cobble. An intermittent stream channel comes off of a seasonal outlet on the northeast portion of the lake and drains to Hough Creek, which ultimately drains to the Feather River. The terrestrial habitat consists of mixed conifer forest. The lake is located in the Plumas National Forest at the top of Mount Hough, near the Mount Hough lookout tower. It can be accessed by a well-maintained dirt road from the Quincy side via Mount Hough Road or from the Taylorsville side via China Grade Road (Shaffer 2005).

HISTORY

Crystal Lake was planted with brown trout between 1997 and 2000. Brook trout (*Salvelinus fontinalis*) were planted from 1955 through 1966 and 1969, 1971, and from 1973 through 1983. Rainbow trout (*Onchorynchus mykiss*) plants occurred in 1968 and 1972. Stocking was discontinued after the year 2000 as part of a project to assess native amphibian and fish distributions throughout the Sierra Nevada. Historic fish surveys were conducted through the 1930's, 1950's, and 1970's. CDFW conducted fish and amphibian surveys in 2005, which resulted in brown trout, tui chub, and a garter snake. Chemical treatments to eliminate tui chub occurred in 1954 and 1974; evidently neither treatment was successful (North Central Region Fish Files).

RESULTS

On July 31, 2014, one standard 36 meter long x 1.8 meter high 6 panel variable mesh gill net was set during the daytime for 7.5 hours and captured six brown trout ranging from 127mm-505mm and 28 tui chub ranging from 78mm-255mm.

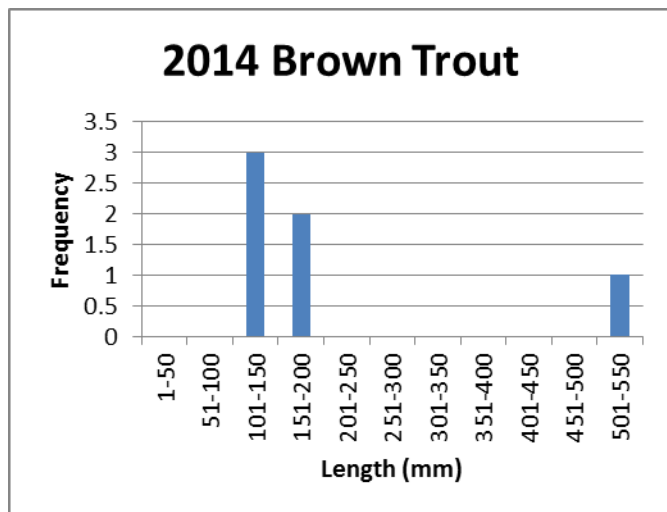


Figure 1: Brown trout histogram from 7/31/2014 CDFW gill net survey at Crystal Lake.

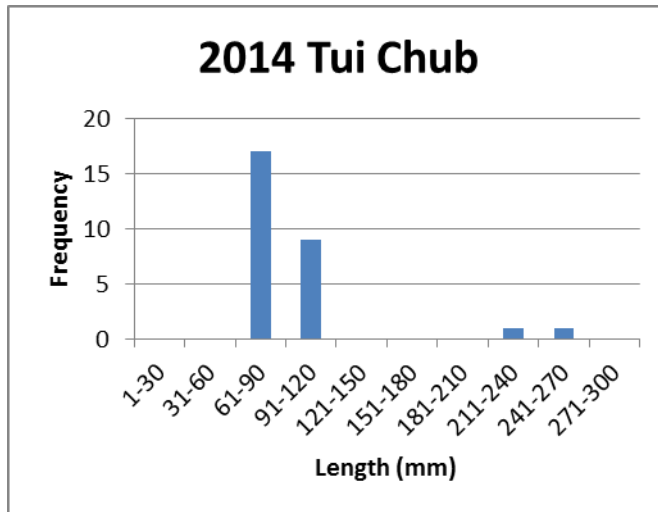


Figure 2: Tui chub histogram from 7/31/2014 CDFW gill net survey at Crystal Lake.

On June 11, 2015, one standard 36 meter long x 1.8 meter high 6 panel variable mesh gill net was checked after an overnight set for 20 hours. This effort captured 15 brown trout ranging from 222mm-540mm and 103 tui chub ranging from 79mm-276mm.

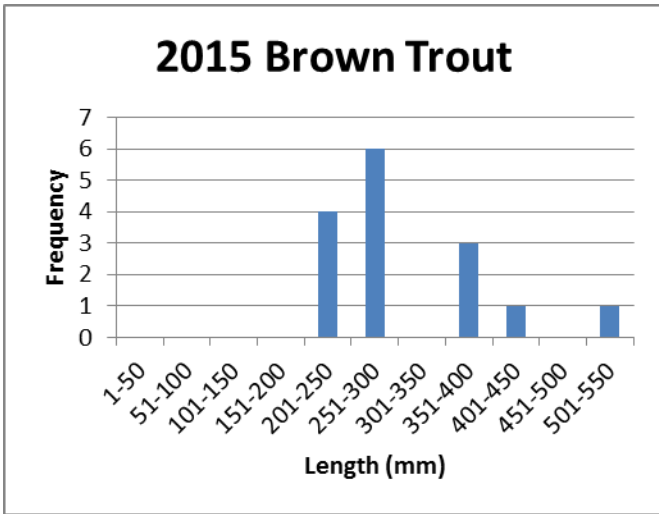


Figure 3: Brown trout histogram from 6/11/2015 CDFW gill net survey at Crystal Lake.

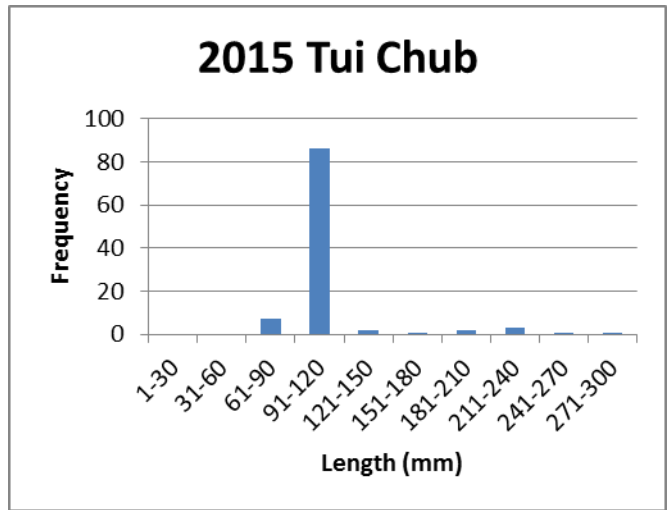


Figure 4: Tui chub histogram from 06/11/2015 CDFW gill net survey at Crystal Lake.

Based on the 2014 and 2015 fisheries survey results, Crystal Lake will be managed as a self-sustaining brown trout fishery.

LITERATURE CITED

North Central Region Fish Files. Crystal Lake, Plumas County. California Department of Fish and Wildlife.

Shaffer, C. 2005. The Definitive Guide to Fishing Northern California. Asia: Shafdog Publications. p.440