



## Memorandum

**Date:** September 25, 2018

**To:** Sarah Mussulman  
Senior Environmental Scientist, Supervisor

**From:** Ben Ewing  
District Fisheries Biologist (California Department of Fish and Wildlife)  
Alpine, Amador, Calaveras, and Lake Counties

### **Subject: Summary of 2018 Brush Shelter Habitat Placement in Clear Lake**

The Department of Fish & Wildlife (Department) placed 11 brush shelter habitats into Clear Lake (Lake County) from March 28, 2018 through June 15, 2018. The brush shelter habitats were composed of repurposed Christmas trees received as donations from the Placerville Home Depot as well as Placer County's Chipper Program. The number of Christmas trees used for each brush shelter ranged from one to two depending on the size of the trees.

Brush shelter habitats were created by drilling a 1/2 inch hole into the base of each tree. One or two concrete cinder block(s) were secured to each shelter with 3/8" polypropylene rope in order to sink them. The brush shelter habitats were then taken outside the Clear Lake State Park on Clear Lake using a Department boat.

Global Positioning Satellite (GPS) coordinates were recorded at each spot where a brush shelter habitat was placed into Clear Lake. Additional data on the number of trees per habitat was also recorded. To the best of the Department's ability, habitats were placed within a localized area using a set transect line consistent with the lake bottom contour. This was done to increase localized productivity that contributes to maintaining warmwater fisheries, to place habitats at a consistent lake depth where fish could utilize them, and to make habitat locations easier to document. All habitats were placed within areas to allow anglers relatively safe access where underwater structure would likely not damage their boats, and minimize potential hazards to boaters and swimmers.

Table 1 identifies the number of brush shelters, number of trees per brush shelter, and locations of the brush shelters that were placed into Clear Lake.

Table 1. Number of brush shelters, number of trees per brush shelter, and the locations of the brush shelters that were dropped into Clear Lake from March 28 - June 15, 2018.

Date	GPS Point	Number of Trees
3/28/2018	Approximately 39.022185 N, 122.810841 W	2
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4/3/2018	39.02196 N, 122.80994 W	2
4/3/2018	39.02186 N, 122.81005 W	1
4/11/2018	39.0225 N, 122.80976 W	2
4/11/2018	39.0228 N, 122.80991 W	1
4/25/2018	39.02282 N, 122.81019 W	1
4/25/2018	39.02275 N, 122.81015 W	1
4/25/2018	39.02250 N, 122.80984 W	1
6/15/2018	39.02199 N, 122.81016 W	1
6/15/2018	39.02135 N, 122.80984 W	2

The habitats were placed at the mouth of Cole Creek and Clear Lake, outside Clear Lake State Park, with safe access for boats. The Department tried to put the brush shelter habitats along a set transect line in 12 – 15 feet of water. The habitats were placed at these depth ranges in order to compensate for the predicted decrease in lake level in the coming months, yet still provide habitat for various warmwater fish species.

The Department intends to deploy the Diving Safety Program’s inland Dive Team of scuba certified fishery biologists to video and photograph the brush shelter habitats in 2019 to document fish usage. Information gathered from scuba surveys will be recorded and used in future fishery habitat management decisions.

**Cc:** Home Depot of Placerville  
Elisa Noble (Placer County Resource Conservation District)

