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Department of Fish and Wildlife

M e m o r a n d u m

Date: June 10, 2016

To: Kevin Thomas
Environmental Program Manager (Fisheries)
Department of Fish and Wildlife

From: Ben Ewing
District Fisheries Biologist
Alpine, Amador, Calaveras, and Lake Counties
Ca. Fish and Wildlife

Cc: Fish Files

Re: 2016 Putah Creek Backpack Electrofishing Survey and Demonstration for Lake County Elementary Schools

On May 25, 2016, two California Department of Fish and Wildlife (Department) employees conducted a backpack electrofishing demonstration on Putah Creek (Lake County). The purpose of the demonstration was to inform elementary students as to how the Department uses electrofishing to gather information on fisheries. Multiple electrofishing passes were made on a 75 foot stretch of water at 38º 45' 33.37 N 122 36' 42.67 W situated at 1,083 feet above mean sea level (Figure 1). These passes were in the same location as the 2013 – 2015 surveys.

The shoreline is a mix of grass, rocks, and oak woodland. The creek bottom appears mostly rock. The estimated depth of the creek where the survey was conducted was six inches to one foot. The creek receives water from rain and snowmelt runoff from the Mayacamas Mountain range where it then flows into Lake Berryessa. Rainbow trout (*Oncoryhynchus mykiss*) (RT), Sacramento sucker (*Catostomus occidentalis*), riffle sculpin (*Cottus gulosus*), smallmouth bass (*Micropterus dolomieu*), California roach (*Lavinia symmetricus*), green sunfish (*Lepomis cyanellus*), and Sacramento pikeminnow (*Ptychocheilus grandis*) have been documented in the upper part of Putah Creek before it reaches Lake Berryessa (CDFW Files).

Table 1 presents the species, number, mean length and weight, and length ranges for species collected from the 2013 - 2016 surveys.

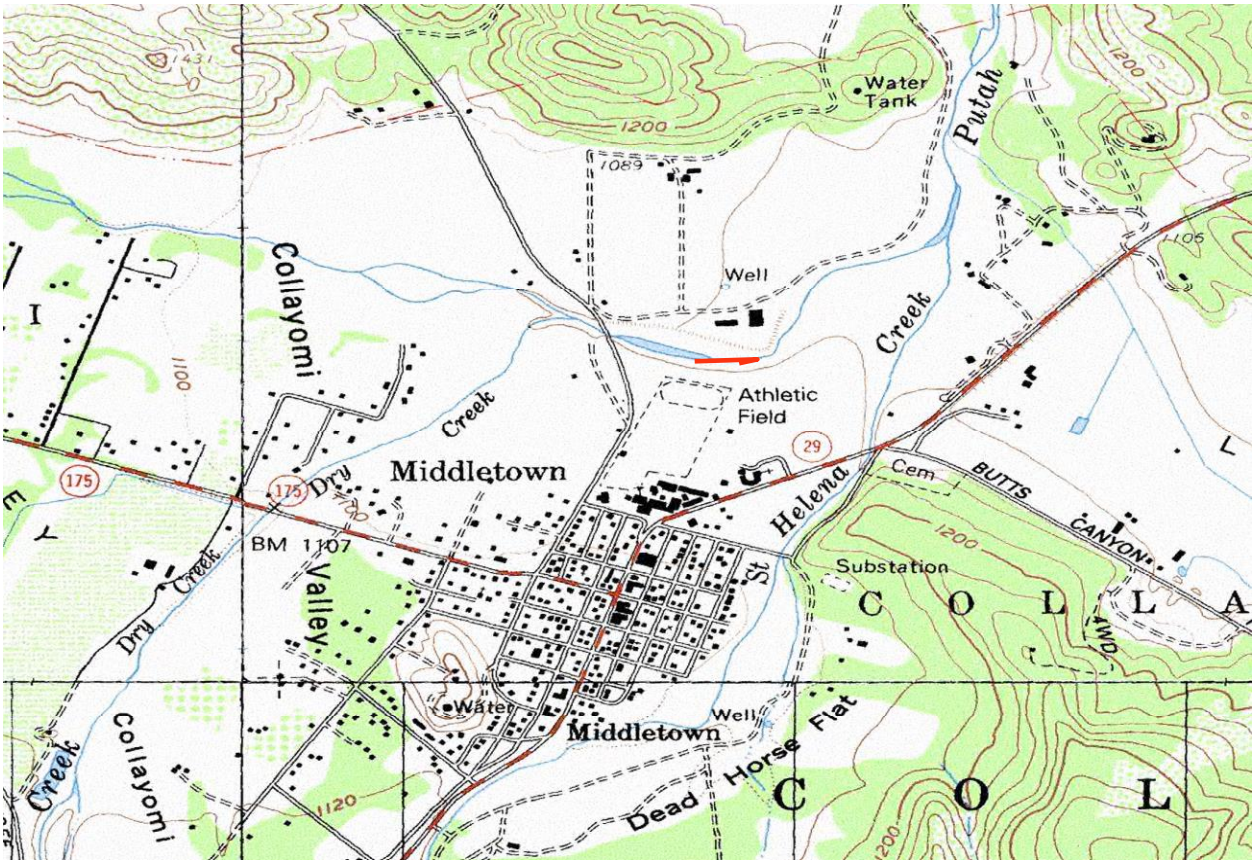

Figure 1. Putah Creek Electrofishing Transect (Lake County, CA).

Table 1. Species composition comparison from Putah Creek E-fishing surveys on May 3, 2013, May 20, 2014, May 20, 2015, and May 25, 2016.

Mean total length (TL) was measured in millimeters (mm). Average weight was in grams (g)

	Number				(TL)				Weight				Length Ranges			
Species	2016	2015	2014	2013	2016	2015	2014	2013	2016*	2015*	2014	2013	2016	2015	2014	2013
California roach	NA	7	NA	NA	NA	64.9	NA	NA	NA	3.3	NA	NA	NA	60 - 72	NA	NA
Rainbow trout	11	18	22	5	71.5	62.2	68.7	70.4	3.9	3.5	3.8	4.7	60 - 83	38 - 86	50 - 84	50 - 95
Riffle sculpin	NA	6	3	NA	NA	40.5	54.3	NA	NA	NA	6.7	NA	NA	35 - 51	40 - 83	NA
American bullfrog	NA	NA	NA	3	NA	NA	NA	86.7	NA	NA	NA	12.4	NA	NA	NA	35 - 115
Green sunfish	NA	NA	NA	1	NA	NA	NA	57.0	NA	NA	NA	5.9	NA	NA	NA	NA
Sculpin spp.	NA	NA	NA	4	NA	NA	NA	68.5	NA	NA	NA	4.7	NA	NA	NA	60 - 75
Sacramento pikeminnow	NA	1	NA	NA	NA	46.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sacramento sucker	NA	8	3	NA	NA	47.8	35.3	NA	NA	2.0	NA	NA	NA	31 - 55	30 - 40	NA
Speckled dace	11	3	NA	NA	45.9	44.0	NA	NA	2.4	1.0	NA	NA	24 - 70	40 - 50	NA	NA
Total	22	43	28	13												

	2016	2015	2014	2013
Water Temperature	NA	NA	64º F	66º F
Electrofishing time	NA	19.2 min.	NA	NA
CPUE**	NA	2.24	NA	NA

* Weights were only taken on rainbow trout 50 mm and greater, 55 mm and greater for Sacramento sucker, 40 mm and greater for speckled dace, 60 mm and greater for California roach

** More fish were collected but were not identified, measured, or tallied due to time constraints.

The 2016 survey yielded less fish than both the 2015 and 2014 surveys. There was a decrease in RT from the last two years and only two different species, RT and speckled dace (*Rhinichthys osculus*) (DC-S) were collected this year compared to previous years with more species diversity. Average total lengths, weights, and length ranges for RT in 2016 were consistent with previous years' RT data.

CDFW collected more fish and frogs but due to time constraints of the presentation, these fish/frogs were released without being measured or identified. It is possible more RT and DC-S would have been identified and measured which could explain the lower numbers seen.