

Memorandum

Date: 11/20/2019

To: Sarah Mussulman
Senior Fisheries Supervisor, North Central Region
Department of Fish and Wildlife

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

Subject: General Fish Survey at Camanche Reservoir, Amador and Calaveras Counties

On October 17, 2019, two California Department of Fish and Wildlife (Department) employees and two public volunteers conducted a boat-based electrofishing survey on Camanche Reservoir (Amador and Calaveras Counties) (Figure 1). The purpose of the survey was to determine fish species composition and age class distribution. Any data collected along with future fall efforts will be used to monitor the Camanche fishery.

Eight transects were sampled for 10 minutes (600 seconds) each, surveying the same transects in 2012 (Ewing 2012) for comparison (Figure 2). Sites were surveyed between the hours of 18:00 and 21:30. Water temperature was 67.5° F at 18:00. Pulsed DC current (2-8 amps) was used to “stun” the fish.

Table 1 summarizes the species composition, mean total length and weight, and length ranges of species collected. A total of 44 fish representing six species were collected during the survey (Table 1). Smallmouth Bass (*Micropterus dolomieu*, SMB) comprised 40.9 percent of the total fish sampled. Green Sunfish (*Lepomis cyanellus*, GSF) followed, representing 15.9 percent of total fish sampled. Largemouth Bass (*Micropterus salmoides*, LMB) and Redear Sunfish (*Lepomis microlophus*, RES) finished with 13.6 and 11.4 percent of the total catch, respectively. Bluegill (*Lepomis macrochirus*, BG) and Channel Catfish (*Ictalurus punctatus*, CCF) each made up 9.1 percent, respectively. The total CPUE for this survey effort was 0.55 fish/min.

Table 1. Species composition from Camanche Reservoir, October 17, 2019.

Mean Total Length (TL) was measured in millimeters (mm). Average Weight was in grams (g)

Species	Number	Percent	CPUE	(TL)	Weight**	Length Ranges
1 Smallmouth Bass	18	40.9%	0.23	93.4	263.5	59 - 330
2 Green Sunfish	7	15.9%	0.09	82.3	26.3	46 - 150
3 Largemouth Bass	6	13.6%	0.08	243.7	1289.0	59 - 444
4 Redear Sunfish	5	11.4%	0.06	73.8	33.0	53 - 117
5 Bluegill	4	9.1%	0.05	84.0	9.7	59 - 98
6 Channel Catfish	4	9.1%	0.05	416.8	838.3	198 - 510
Total	44					
Generator minutes:	80.0					
CPUE (Fish/ gen. min)	0.55					
Water Temperature	67.5° F					

*Common Carp (*Cyprinus carpio*, CC) and Threadfin Shad (*Dorosoma petense*, TFS) were present throughout survey. TFS were not netted due to very large numbers as well as their uniform length and weight parameters. CC were not netted due to the damage they do on the dip nets, difficulty in processing them, as well as the mess they make on the boat (slime-coat, blood).

**Weights were only collected when the minimum total length for GSF was 60 mm, 80 mm for BG and RES, 150 mm for LMB and SMB, and 70 mm for CCF.

No summary of length, weight, or other relational indices were made because survey captures for each species did not meet the threshold of 25 fish. Creating indices with small sample sizes would be unreliable and possibly inaccurate. During the survey, Department staff noticed that Camanche's reservoir level was below full capacity (Figure 3). The shoreline accessible to electrofishing was very flat, with no structure or vegetation cover available for fish. It is likely many fish were located at greater depths and unavailable for capture. Although CC and TFS were not collected, measured, or tallied, they were found throughout the survey. The presence of TFS is a positive sign since TFS are a good forage fish for other recreational fish in Camanche. Future fall surveys will be conducted at Camanche to help identify possible trends in the fishery. For consistency, future surveys will be planned to occur at the same time of year and use the same transects.

Literature Cited

Ewing, B. 2012. 2012 Camanche General fish survey. California Department of Fish and Game; 5/31/2012. Available from:
<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=54443>.



Figure 1. Camanche Reservoir on October 17, 2019 (Photo by S. Manabe).



Figure 2. Electrofishing transect locations for the Camanche Reservoir general fish survey on October 17, 2019.



Figure 3. Camanche Reservoir on 10/17/19 (Photo by S. Manabe).

