



State of California
Department of Fish and Wildlife

M e m o r a n d u m

Date: November 6, 2015

To: Kevin Thomas
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From: Ben Ewing
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Alpine, Amador, Calaveras, and Lake Counties
Department of Fish and Wildlife

Cc: Fish Files

Re: Highland Springs Reservoir (Lake County) Electrofishing Survey

On September 10, 2015, California Department of Fish and Wildlife (Department) personnel, along with staff from the Robinson Rancheria and Big Valley Rancheria, conducted a boat-based electrofishing survey in Highland Springs Reservoir (Lake County). The purpose of the survey was to determine if there were any Clear Lake hitch (*Lavinia exilicauda chi*) (CLH) inhabiting Highland Springs Reservoir. Currently, CLH is a threatened species under the California Endangered Species Act (CESA).

The entire perimeter of the reservoir was sampled for a total of 3741 electrofishing seconds (62.4 minutes) (Figure 1). A total of five different species were collected including largemouth bass (*Micropterus salmoides*) (LMB), bluegill (*Lepomis macrochirus*) (BG), black crappie (*Pomoxis nigromaculatus*) (BCR), redear sunfish (*Lepomis microlophus*) (RSF), and CLH. Largemouth bass made up the greatest number collected with 182, followed by BG (n=24), BCR (n=16), RSF (n=3), and CLH with one.

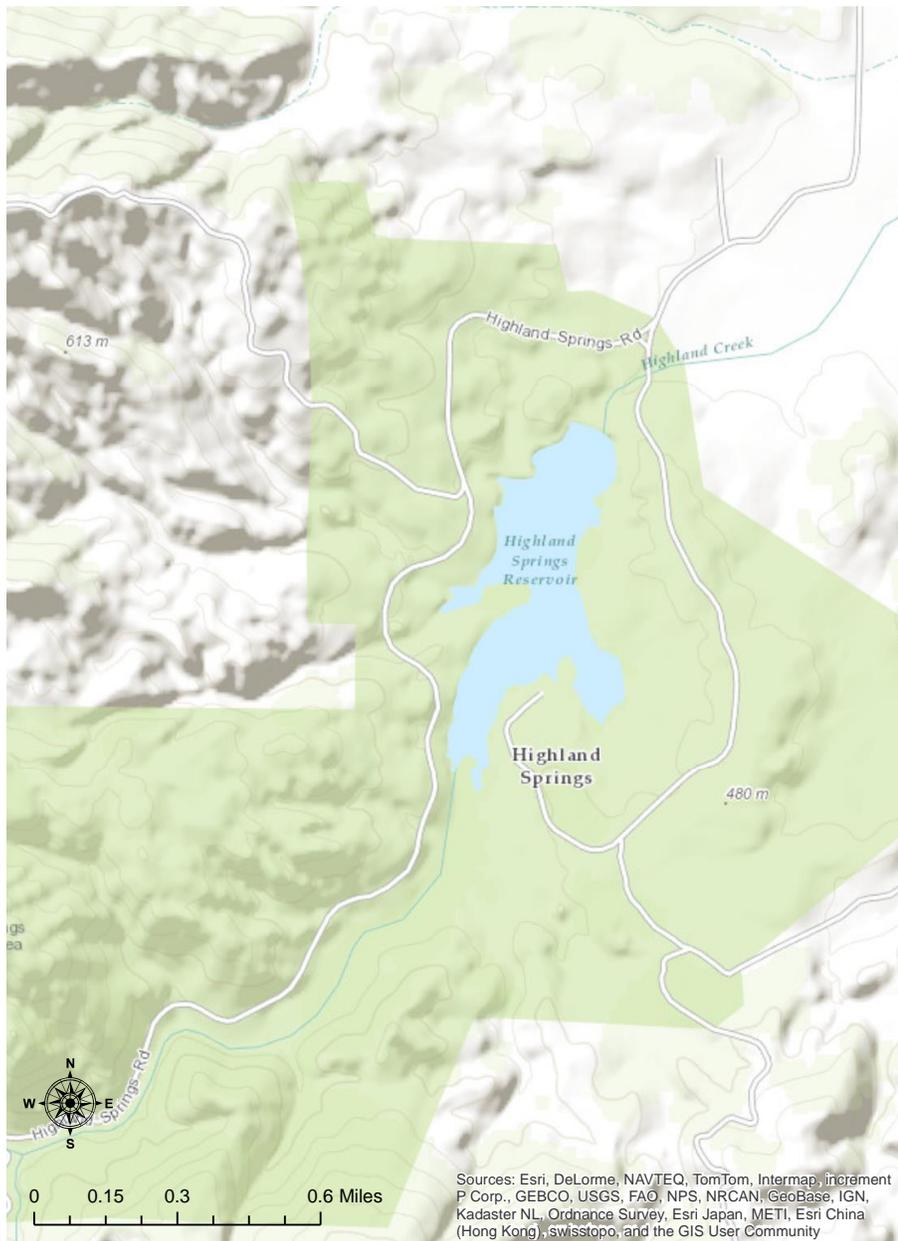
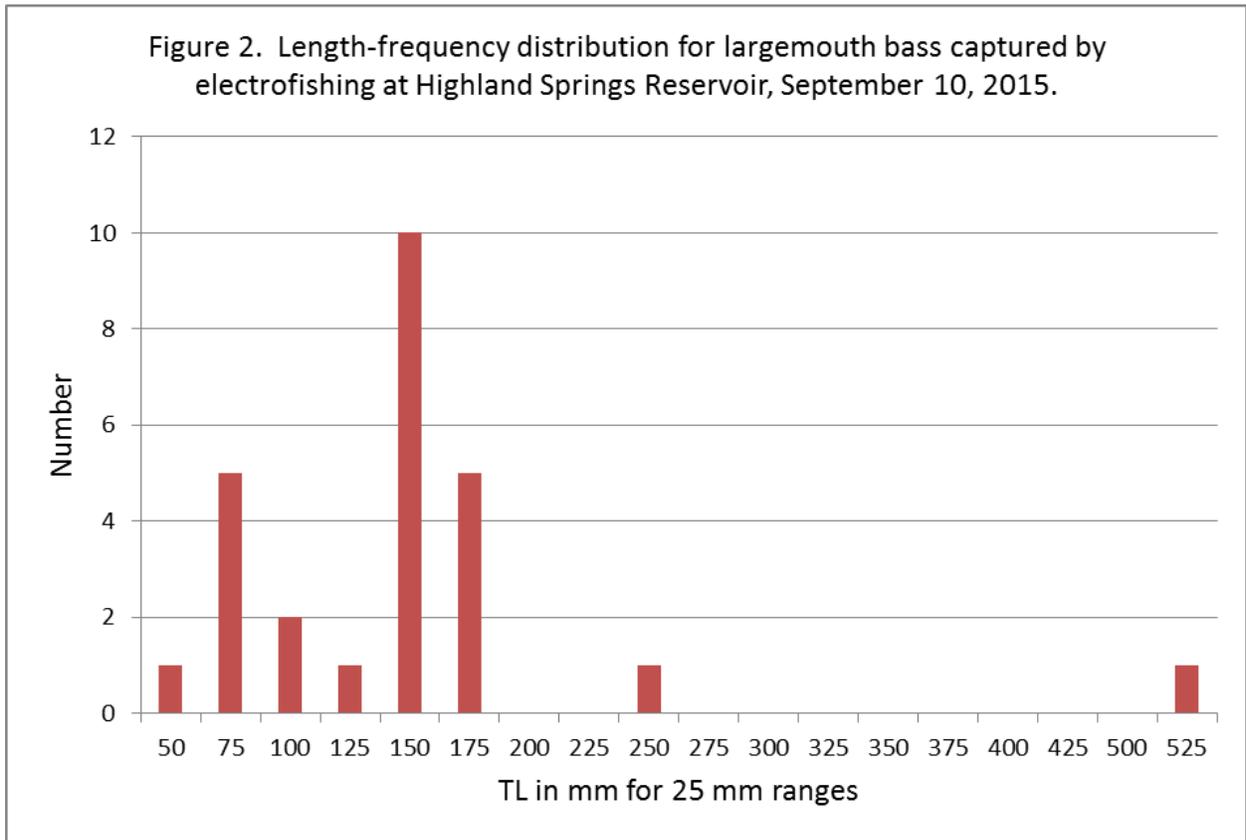
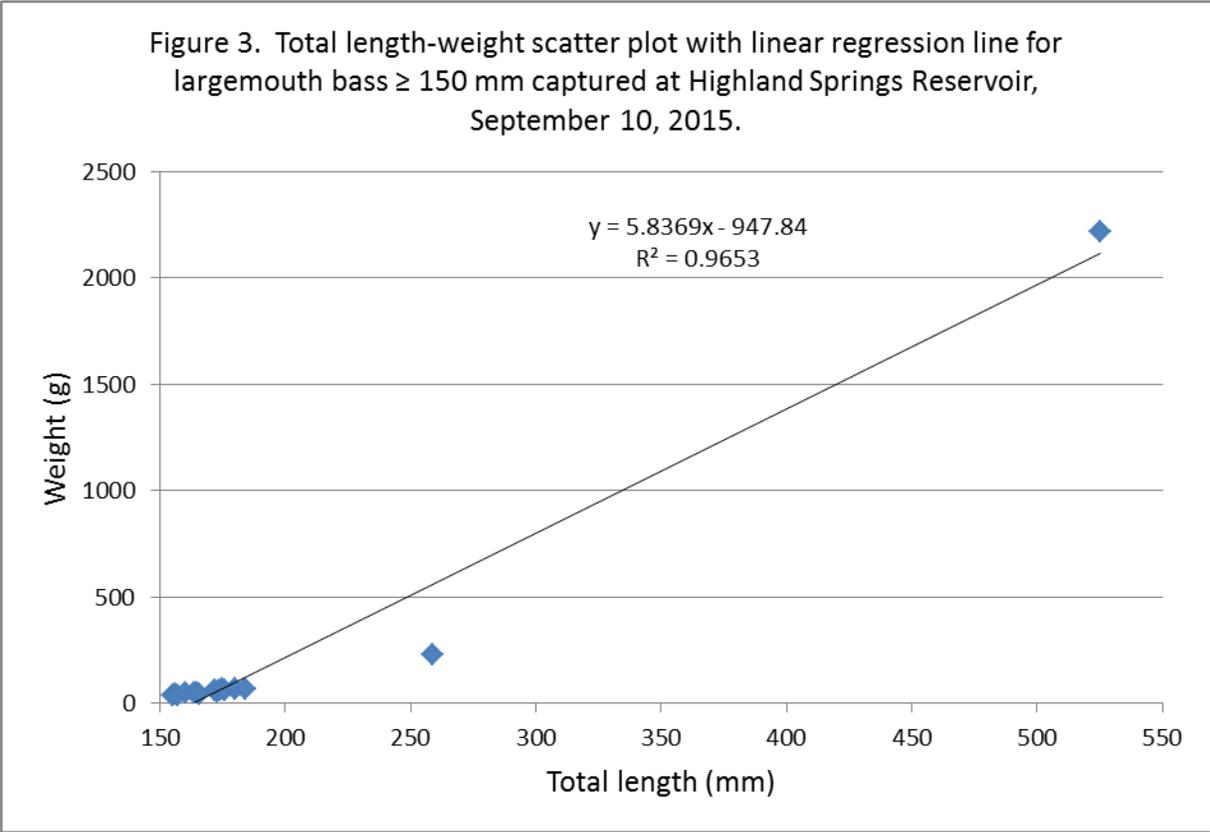


Figure 1. Highland Springs Reservoir (Lake County, CA)

Average total length for LMB was 159.5 mm (6.3 in.) and average weight for LMB 150 mm (5.9 in.) and greater was 192.4 g (0.4 lbs.). The length class with the greatest number collected was the 150 mm (5.9 in.) class (Figure 2). Using the linear regression equation present in Figure 3, a reliable estimated weight can be determined from the length of a LMB 150 mm (5.9 in.) and greater in total length.

Figure 2. Length-frequency distribution for largemouth bass captured by electrofishing at Highland Springs Reservoir, September 10, 2015.





Average total length for BG was 62.2 mm (2.4 in.) and average weight for BG 80 mm (3.1 in.) and greater was 36 g (0.08 lbs.). The length class with the greatest number collected was the 40 mm (1.6 in.) class (Figure 4).

Average total length for BCR was 98.4 mm (3.9 in.) and average weight for BCR 100 mm (3.9 in.) and greater was 20.5 g (0.05 lbs.).

Average total length for RSF was 90 mm (3.5 in.) and average weight for RSF 90 mm (3.5 in.) and greater was 23 g (0.05 lbs.).

The total length for the one CLH was 96 mm (3.8 in.) and weight was 8 g (0.02 lbs.).

Figure 4. Length-frequency distribution for bluegill captured by electrofishing at Highland Springs Reservoir, September 10, 2015.

