



January 16, 2019

Debbie Powell
Vice President of Power Generation
Pacific Gas & Electric Company
245 Market Street
San Francisco, CA 94105

Re: Lake Almanor water management and negative impact on breeding grebes

Dear Ms. Powell:

On behalf of Audubon California and Plumas Audubon Society (Audubon), I would like to request a meeting with you regarding the large breeding populations of Western and Clark's Grebes (*Aechmophorus occidentalis* and *A. clarkii*, respectively) which are being harmed by Pacific Gas & Electric Company's (PG&E) management of water surface elevation at Lake Almanor. As our organizations have previously discussed, water level drop rates at Lake Almanor during the bird breeding season are resulting in the loss of nests and eggs for the species and we are concerned about long-term impacts to their populations. We hope to work collaboratively with PG&E to resolve this issue.

Specifically, water management decisions likely caused low reproductive success for these grebe species in 2002 and 2003 (Ivey, 2004) and again in 2010, 2016, and 2018 (Plumas Audubon Society). In 2016 and 2018, rapid water level drop rates contributed to complete abandonment of large breeding colonies and the resulting low productivity in those years, creating long-term impacts for the grebe populations.

The events at Lake Almanor are especially concerning because grebe populations are declining on the Pacific coast (Wilson et al. 2013) overall. The large grebe breeding population at Lake Almanor is critical to recruitment for the species. Plumas Audubon, along with two other Audubon chapters, are monitoring grebe populations and implementing other grebe conservation projects at Lake Almanor, Eagle Lake and Clear Lake through mitigation funding stemming from the 2007 Cosco Busan oil spill. As oil spills, climate change, habitat loss and other factors impact grebe populations, Lake Almanor has become an important breeding site for grebes. Lake Almanor, Eagle Lake, and Clear Lake are the three major grebe breeding areas in northern California comprising more than 90% of breeding grebes in California and 45% of those in the intermountain west.

According to data collected by Plumas Audubon for the past nine years, the nesting season for grebes on Lake Almanor generally lasts from around late June to mid-September, but can start as early as May and last well into October. In late July and early August 2018, a colony of nesting Western and Clark's Grebes at the lake grew to a peak of 1,205 active nests. By August 13, 2018, the colony had largely been abandoned with only 21 active nests observed by Plumas Audubon staff. The reservoir surface elevation dropped so quickly that most nests were stranded on land,

leaving eggs to be depredated by gulls, otter, skunks and others. By August 20, 2018, there were no more active nests and only three chicks were observed on the entire lake during a lake-wide census survey that counted 3,485 adult grebes, according to survey data collected by Plumas Audubon in 2018.

Plumas Audubon has nine years of grebe monitoring data for Lake Almanor that shows a strong correlation between the reservoir surface elevation drop rate and the reproductive success of grebes, defined as the ratio of juveniles to adults. The three years with the lowest observed reproductive success were also years with some of the fastest rates of water level drop during the breeding season.

In 2016, Plumas Audubon Society, Audubon California, and PG&E discussed how to help grebes breeding at Lake Almanor by attempting to slow the water drop rate during their critical breeding period. David Arsenault, former Executive Director of Plumas Audubon, along with Garry George and Desiree Loggins of Audubon California, met with Diane Ross-Leech, Teri Smyly, Jim Gill, and Kevin Richards of PG&E via phone conference call on March 16, 2016 and again on May 4, 2016.

PG&E agreed to maintain water level drop rates at or slower than Plumas Audubon's recommended -0.72 in/day (-0.06 ft/day) maximum, focusing specifically on a 5-week period: August 1 through September 5, which is a critical period for nesting grebes at Lake Almanor. However, it appears that PG&E was unable to follow Plumas Audubon's recommended rate of water level drop. During this period, 24 of the 36 days had surface elevation change between -0.84 and -1.52 in/day, far exceeding the recommended maximum drop rate.

This pilot project and subsequent communication demonstrated that it is challenging for PG&E to keep the water level drop rate at or slower than Plumas Audubon's original recommendation of -0.72 in/day maximum due to operational constraints and complexities, according to PG&E representatives. To make water management changes more feasible, Plumas Audubon subsequently recommended an interim goal of reservoir elevation drop rates of no more than -0.84 in/day from July 1 through August 31 (Exhibit A). This updated interim recommendation has not been followed:

- In 2017, 40 of the 62 days in July and August had water level drops between -0.96 and -1.32 inches/day. There were, however, also multiple periods within this timeframe and within the entire grebe breeding season where water levels stabilized and/or increased. Such plateaus or water holding events are thought to be an important part of the grebe's reproductive success that year as the juvenile to adult ratio was 0.30.¹

¹ A ratio of 0.50 is equivalent to one juvenile per pair of breeding adults. This is the rate needed to sustain the grebe population. Studies have found the juvenile to adult ratio in other populations of Western Grebes to be between 0.40 – 0.60 (LaPorte 2012). Audubon Grebe Project results have widely varying juvenile to adult ratios, ranging from 0.0006 – 0.68.

- In 2018, there were no periods of surface elevation stabilization during grebe breeding season. Of the 62 days in July and August, 23 days had water level drops between -1.08 and -1.92 inches. The reproductive success in 2018 of 0.002 is the lowest Plumas Audubon Society has observed in the nine years of their study.

These birds are an important part of the local ecology and are already threatened by habitat loss, forage fish population declines, and climate change. According to the National Audubon climate report (<http://climate.audubon.org/>), both Clark's and Western's Grebes are considered "Climate Endangered" species, with 96 and 99 percent, respectively, of their current breeding habitat expected to be lost by 2080, which makes protecting their existing populations and nesting habitat especially critical now. They are also beloved by the public and community members who use Lake Almanor, as evidenced by the popular Grebe Festival organized by Plumas Audubon, attracting 150 to 200 participants every year. Several articles about grebes have appeared recently in the press ("Grebe Population Takes a Dive", Plumas County News - <http://www.plumasnews.com/grebe-population-takes-a-dive/> and "Is an iconic bird of California heading for its last dance?", Sacramento Bee - <https://www.sacbee.com/opinion/california-forum/article198498384.html>), demonstrating the interest the general public has in these birds.

We would like to request an in-person meeting with you at your earliest convenience to revisit how to improve coordination and communication as well as implement recommended rates of surface elevation change or 21-day water holding events while grebes nests are active at Lake Almanor to protect the breeding populations of grebes. The ongoing take of grebe eggs through beaching of their nests violates the California Fish and Game Code sections 3503, 3513, and 3800. It is Audubon's position that it also violates the federal Migratory Bird Treaty Act. It is important that we meet as soon as possible in order to prepare for the 2019 grebe breeding season in June and avoid further unnecessary impacts to nesting grebe colonies.

We look forward to hearing from you and finding common ground to protect these charismatic, incredible, and ancient bird species, which contribute to the overall biodiversity of the Feather River watershed.

Sincerely,



Michael Lynes, Policy Director
Audubon California

Cc: Lindsay Wood, Plumas Audubon
Chuck Bonham, Director, CA Department of Fish and Wildlife
David Bess, Chief of Enforcement, CA Department of Fish and Wildlife
Andrew Williams, Vice President, Land and Environmental Management