

PRESS RELEASE

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Media Contact:

Lindsay Wood

(530) 616 8670

plumasaudubon@gmail.org

Reservoir elevation affects 2019 and 2020 grebe breeding seasons at Lake Almanor



One of over 244 abandoned nests after being depredated, following the second of four abandonment events during the 2020 grebe breeding season. Photo credit: Elizabeth Ramsey

Overall, Western and Clark's grebe (*Aechmophorus occidentalis* and *A. clarkii*, respectively) populations are declining on the Pacific, which makes Lake Almanor's large breeding population critical to recruitment for the species persistence in California. Water management decisions caused low reproductive success for these species in 2002, 2003, 2010, 2016, and 2018. In 2019 and 2020, rapid change in reservoir elevation contributed to complete abandonment of large breeding colonies, resulting in low reproductive success for those years and creating long-term impacts for local and statewide grebe populations. To recount, that's:

- 788 abandoned nests in 2016
- 1,205 abandoned nests in 2018
- 657 abandoned nests in 2019
- 470 abandoned nests in 2020

Four of the past five generations of Lake Almanor's *Aechmophorus* grebes have been impacted by decreasing breeding habitat availability, resulting a total loss of 3,120 abandoned nests in the past five years, or over 81% of all documented nest attempts. Plumas Audubon has advocated on behalf of grebes since 2018 to improve nesting habitat conditions and avoid unnecessary take of *Aechmophorus* grebe eggs and nests during their breeding season at Lake Almanor. These objectives have not been attained.

2019 grebe breeding season

In late July and early August 2019, a colony of nesting Western and Clark's Grebes at Chester Meadows grew to a peak of 657 active nests, observed on July 31, 2019. By August 1, 2019 the colony had largely been abandoned with many nests left stranded on land with extensive evidence of depredation present. By August 9, 2018, all of the nests were abandoned and Ring-billed Gulls (*Larus delawarensis*) were observed atop *Aechmophorus* grebe nests. The average adult population in 2019 was 3,797 adult grebes, while reproductive success was dismally low, at 0.0005. The reproductive success rate of 2019 is the single lowest reproductive success rate we've seen of all 10 breeding seasons studied at Lake Almanor, according to data collected by Plumas Audubon Society.

2020 grebe breeding season

The 2020 breeding season was only slightly less devastating for the grebes. Western and Clark's Grebes struggled to find suitable habitat for their colony during the 2020 breeding season, migrating around the lake and failing in multiple locations. Plumas Audubon Society members observed the initial colony of 40 nests at Catfish Beach on July 20, 2020. Later in the month on July 30, when Plumas Audubon Society staff returned to the colony site, a combined 75 abandoned nests were observed at Catfish Beach and Pelican Island, meanwhile the grebes moved to the Causeway colony site where 97 active nests were observed. A follow up survey on August 8, 2020 found 244 abandoned nests in the Causeway colony site and 142 active nests near Chester Meadows, with 15 active nests near Pelican Island. *Aechmophorus* grebes made a final attempt to colonize at Goose Bay in August, with a peak of 470 active nests and 1 chick observed on August 28, 2020. It is estimated that the colony abandoned on September 9, 2020. Ultimately, the birds experienced near complete reproductive failure again at Lake Almanor during the 2020 breeding season.

Plumas Audubon has been monitoring the *Aechmophorus* grebe population at Lake Almanor since 2010 and our data indicates a strong correlation between the change in reservoir surface elevation and the reproductive success of *Aechmophorus* grebes. A multi-variable analysis completed as a part of our 10-year *Aechmophorus* Grebe Monitoring Report indicates that grebe reproductive success is impacted by the cumulative effects of outflow and reservoir elevation. It was found that reproductive success is strongly predicted by the cumulative outflow and reservoir elevation at Lake Almanor. For this reason, Plumas Audubon Society will continue to urge Pacific Gas & Electric Co. (PG&E) to consider the needs of the large breeding populations of Western and Clark's Grebes when managing water resources at Lake Almanor. All ten years of grebe annual reports are now available on our website at <http://www.plumasaudubon.org/monitoring-results.html>.