Report on the Grebe nesting colonies on Lake Hodges, Monday 9th Sept 2021,

by Brian Caldwell of Lake Hodges Photo Tours.

Summary.

Of a total of 114 observed active nests on Lake Hodges over the time period of 27th July 2021 through Aug 26th 2021, 32 sets of parents and chicks were observed 10 days later on Sept 4th 2021, indicating a 28% level of success for total nests observed. Suggested protocols set in place 2 years ago by the California State Department of Fish and Wildlife to prevent this from occurring have been unsuccessful.

History

The Western Grebe has been documented as nesting at Lake Hodges since 2001. The peak of the Western Grebe's nesting in San Diego County usually lasts from May through early July, but observations of chicks outside of that time-frame show that this species can breed nearly year-round when the conditions are favorable. The two historic nesting sites are shown in yellow in Figure 1

In 2012, the Lake Hodges Pump Station went into operation pumping water back and forth between the Olivenhain Reservoir and Lake Hodges. The San Diego Water Authority along with San Diego Gas and Electric and the City of San Diego Water Utilities Department determine when and how much water is moved between the reservoirs.

In the spring of 2018, favorable conditions occurred for both Clark's and Western Grebes to nest. The pump station operators were notified by myself that nest failures were occurring due to water fluctuations caused by the pump station. No action was taken by the responsible parties. Consequently, the colony failed.

The following year in 2019 similar conditions occurred for Grebe nesting. I again informed the operators of the pump station about the active Grebe nesting colony. Again, no action was taken. The colony failed 20 days into the 23 day incubation cycle for the Grebes eggs. At the new lower water level, the Grebes started rebuilding and laying eggs. I informed the pump station operators of the new nesting colony. No action was taken. The colony failed again.

After the 2nd colony failure in 2019 a coalition of 10 environmental groups lobbied the California Department of Fish and Wildlife to meet with the pump station operators to set up protocols for future pump operation during Grebe nesting events which they did. A third colony that year was successful with 163 pairs of birds with chicks.

Nests

My first observations of Grebes nests in the 2021 season occurred on July 27th. I continued monitoring, counting and observing nests and water levels through Aug 26th. I observed from the Lake's edge, from Lake's surface with a boat, from the top of Bernardo Mountain, (a peak adjacent to the lake), and from the trail on the opposite shore as shown in Figure 1. In order to achieve accurate and unambiguous numbers, other researchers, field biologists, and colleagues often joined me on shore or in the boat. We used a combination of binoculars, scopes, cameras with zoom lenses to observe the birds and nests.

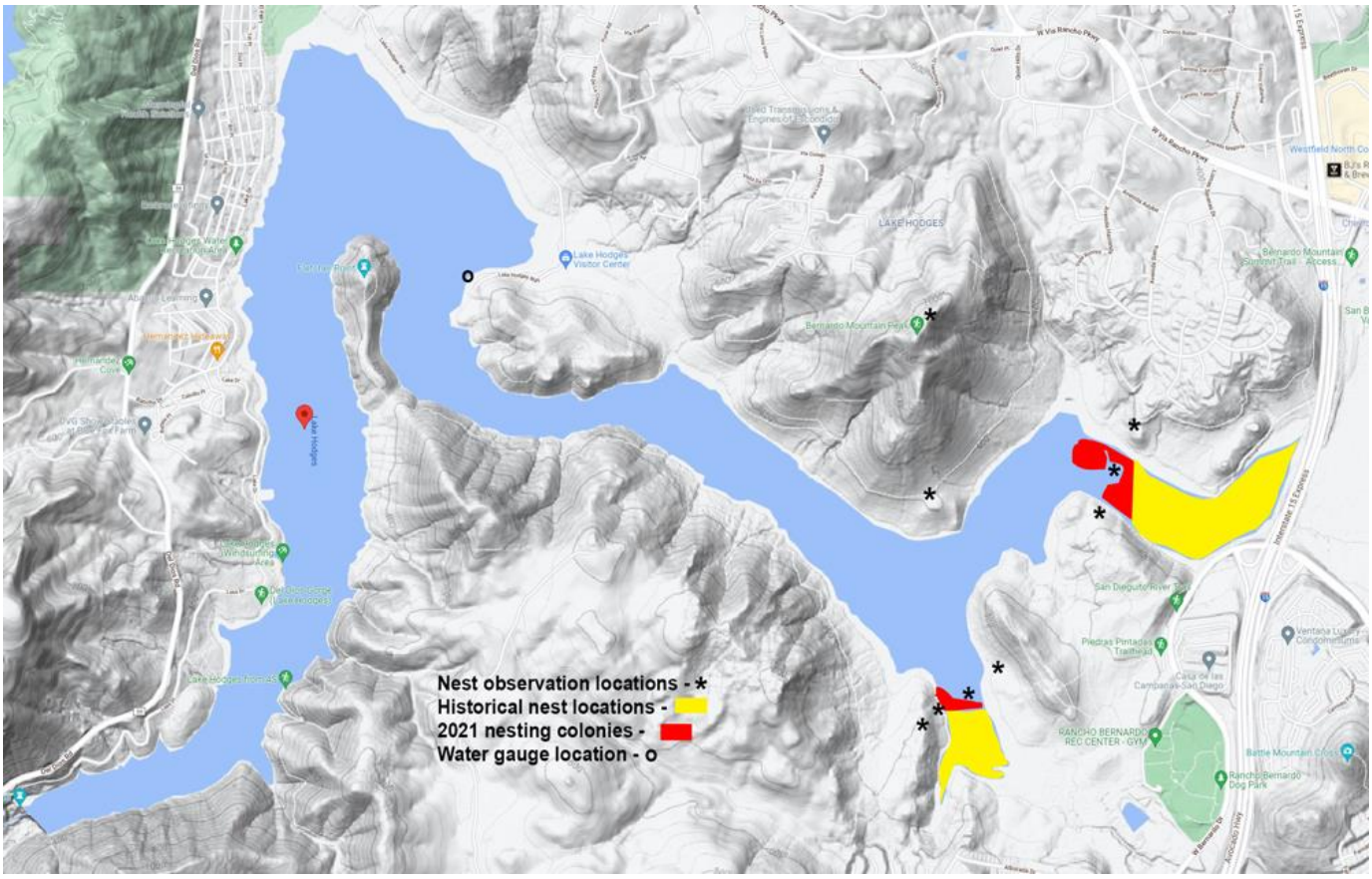

Figure 1

There are 2 colonies of nesting Grebes on Lake Hodges. One colony is located on the north-east finger of the lake, slightly east of Felicita Cove, the other in Bernardo Bay on the south eastern side. From past experience of counting Grebe nests on Lake Hodges, the only way to retrieve accurate data is by getting as close as possible to the colony area in the least intrusive way possible. I used a low draft camouflaged boat with a silent trolling motor. The birds were not disturbed by our presence. The other benefit of using the boat is being able to measure the water depth at the colonies.

- The actual number of eggs per nest cannot be determined without disturbing the colony but on average, Grebes lay 2-3 eggs per clutch. Active nests were recorded when an adult was observed sitting on a nest incubating eggs. The difficulty in observing nests from shore is apparent in figure 2. The left photo was taken from the water. The right photo was taken from the shore.

Throughout the nesting period, the north east colony had a total of 68 active nests, and the Bernardo Bay colony a total of 46, an overall total of 114 nests.

Figure 2

Water level

The Lake level fluctuated several times within the observation period from a peak depth of 93.9' on Aug 13th to a low of 92' on Aug 26th, vertical difference of a 22.9". Figure 3 shows the 2 gauge readings of Lake Hodges taken at the main launch ramp. At the nesting sites this difference in the water level amounts to a 50 - 75 yard horizontal reduction of the shoreline.

Figure 3

On Aug 8th the depth of water measured from the boat at the edges of the colonies was estimated at 18", the actual depth varying by a few inches within the colonies themselves.

On Aug 27th the water level dropped to the point where all the nests were abandoned as shown in figure 4.

Figure 4

Grebe Chick Observations.

In the first few weeks after hatching Grebe chicks spend most of their time on their parents' backs. In the first week, the chicks remain mostly hidden under the parents' feathers and only the most trained observer can discern if chicks are present.

-Knowing that ambiguous results can occur when trying to count chicks in the first week after hatching we waited until Sept 4th, ten days after the colony failure to eliminate false positives. If the chicks are hidden under the feathers of the parents at this age even the less experienced can discern the distinct hump on the back of the parents regardless of the chicks being visible themselves. Figure 5 shows an example of a parent in the first week after the colony collapse. At this stage in their development it is not uncommon for observers to miscount the number of chicks, or count chicks when there are none. There are actually 3 chicks riding this same parent. The 2 photographs are of the same bird taken on the same day.

Figure 5

Along with 2 volunteers specializing in in conservation biology, starting early morning at the dam, we used a boat to comb every inch of the lake for Grebes with chicks. Grebes can move quite fast when they choose, so it is imperative that a consistent zig-zag pattern is used with the boat to insure no birds are double counted. Conditions were optimum

for Grebe observation, no wind, the lake was glassy and well lit. We counted a total of 32 pairs, of which 28 were Western Grebes, 3 were Clark's Grebes, and 1 Clark's / Western couple with Western Chicks.

Conclusions

Given a viable nesting area on Lake Hodges, Western and Clark's Grebes can build nests and lay eggs in as little 10 days. Grebes require approximately 23 days for incubation. It is likely only a small number of eggs laid early in the 2021 season produced viable chicks. Considering a recorded 114 nests, only 32 parent pairs were observed with chicks, or a nesting success rate of approximately 28%.

- Using observations of previous years, had the water not fluctuated, it is likely the success rate would have been significantly higher. The suggested protocols set in place after the large colony failures of 2019 appeared to have been ignored by the City of San Diego, SDG&E and San Diego County Water Authority.