



2004 Best Year for Mono's Gulls in 22-Year Study

by Justin M. Hite

Editor's note: PRBO Conservation Science biologist Justin Hite has researched Mono's California Gulls since 1998 and sent us these findings derived from the formal report "Population Size and Reproductive Success of California Gulls at Mono Lake, California, in 2004." Gull research reports can be found online at www.monobasinresearch.org.

Immediately after walking the first stretch of shoreline on Twain Islet, just a few hundred meters from Negit Island, on the morning of May 25, 2004, our group of biologists and volunteers realized something amazing had happened. Before arriving on the islet I had explained to the volunteers that most nests have two eggs, some only one egg, and only a small minority have three. But what we had just observed was something totally different: nearly half of the nests had three eggs! The 2004 season marked the 22nd consecutive year that PRBO Conservation Science (PRBO) researchers had monitored Mono Lake's California Gull population. Through these two decades, the average clutch size at Mono Lake has usually hovered somewhere around 1.8 eggs per nest, but in 2004 the average jumped to 2.4 eggs per nest—a remarkably large increase.

2004 was also my last year as the field coordinator of the gull research on Mono Lake. I was finishing my six-year

tenure, which started when I was 18. So, it was marvelous to walk the islands one last time in May as, once again, the first tiny wet chicks chiseled their way out of their eggs, and to see the incredible fecundity and fertility in the form of abundant three-egg clutches.

Research Results

In general, 2004 was a banner year for Mono's gulls. The gulls laid more eggs per nest than in any other year and the total number of nests, 25,954, was one of the highest in 22 years. At the end of the season, an average of 1.5 young per nest succeeded in fledging, which was also the highest number in 22 years.

But why? We hypothesize that it was a combination of several factors working together. First, the lake had just recently recovered from a seven-year period of meromixis, a condition whereby most of the lake's nutrients are trapped in the lower part of the lake—unavailable to the lake's food chain. With the end of meromixis, the majority of the lake's nutrients were returned to the upper part of the water column, meaning that the algae, shrimp, and flies could once again thrive. Second, spring temperatures play a large role in the timing and extent of the brine shrimp hatch, which is the major food source used by the gulls in the early stages of chick feeding. The unusually warm spring temperatures in 2004 favored a large and early

Continued on page 10

The End of the Road

Mono Lake Shoulder Widening Project is Over and Mono Can Breathe a Sigh of Relief

by Jen Nissenbaum

Albeit slowly, the Mono Lake Shoulder Widening Project is moving closer its end. In the last *Newsletter*, the Mono Lake Committee wrote that the Project was “suspended” by the Mono County Local Transportation Commission (LTC), the decision making body for highway projects in Mono County. At a public meeting held in Lee Vining in March, the LTC commissioners voted to take the project off suspension and begin the process of closing the Project. In other words, the Final Environmental Impact Report (EIR) will never be released, and construction of the damaging highway project within the Mono Basin Scenic Area will not begin.

The Project was a major concern to the Mono Lake Committee, as it threatened the scenic and natural resources along Mono Lake’s west shore. Members and Mono Lake supporters made a big difference by making numerous comments on the draft EIR and at other opportunities—thank you! While a majority of the Project’s funds have already been shifted to another project in Mono County, close to \$3 million remains dedicated to highway improvements along the 3.1 mile stretch of Hwy 395 adjacent to Mono Lake. At the March LTC meeting, Caltrans discussed the potential for constructing one or two significantly scaled-back project components such as im-

proving the entrance to Old Marina, adding a new scenic vista, or replacing the existing guardrail (see Winter/Spring 2005 *Newsletter* for complete list of proposed options).

Two things became clear at the public meeting: 1) Caltrans has not developed sufficient information to make informed decisions about any of the proposed options; and, 2) Caltrans appears resistant to using the most sensitive technologies available within this unique area. Because of this reluctance, many people present at the meeting—including local community members, Committee staff, and even a few of the LTC commissioners—remarked that more details are needed prior to approving any of the proposed project components.

The public meeting ended with the LTC commissioners directing Caltrans to open a new Project Study Report (PSR), which is a document that essentially establishes the framework for new highway projects. The PSR will include more specifics about each of the proposed, scaled-back options, including costs.

The Committee will remain involved in developing and reviewing any project component proposed for Mono Lake’s west shore and remains optimistic that positive actions which respect Mono Lake are possible. ❖

Gulls from page 3

brine shrimp population (although exactly how we do not know). Mono’s gull population capitalized on this occurrence, and laid the largest clutches observed in the history of the research.

Nests fail for a variety of reasons, and if the failure happens soon enough in the season, the pair will often lay a second clutch. We have a rough idea of how many pairs do this by the number of small down-covered chicks in the plots when we do the chick banding in July. In most years, these downy chicks make up 5–10% of the chick population that we band. In 2004, however, there was not a single downy chick among the 838 chicks we banded. It seems that not only did the gulls lay more eggs, but their clutches and broods also survived the early part of the season at a much higher rate than in other years, further attesting to the unprecedented success of the 2004 season.

Coyotes Still Like Gulls

The specter of coyote predation on nesting California Gulls, which caused the abandonment of more than 15,000 pairs from Negit Island in the early 1980s when that island became connected to the shore by a landbridge, has occurred again. This time, however, it’s in a new location and on a smaller scale. In 2002 a small number of gulls began to build nests, lay eggs, and raise chicks on a small mound of rock near Old

Marina, adjacent to Highway 395. This ‘island’, which in 2002 was separated from the shoreline by no more than 100 feet of shallow water, is easily visible from the highway. In 2002 the gulls succeeded in fledging chicks, and returned in 2003 to lay again. Again they fledged chicks. In May of 2004 we counted 511 nests on Old Marina Island, though we could barely call it an island anymore since we were able to get there by hopping from rock to rock without getting our feet wet. Pulling over on Hwy 395, I could see hundreds of chicks begging for food on the island and hear their clear whistled calls through the din of raucous adult calls and the drone of passing cars.

I stopped again one day in early July, looked through my binoculars, and saw not a single adult or chick on the entire island. On a visit shortly after we found that not only were there no living chicks, there were no dead ones either. We never observed coyotes preying on the chicks, but as coyotes are commonly seen throughout the area and would have had little difficulty reaching the island, we are relatively sure this was the cause of this rookery’s demise. 511 nests, harboring more than 1,000 eggs and later hatched hundreds of chicks, had simply disappeared.

Until 2005, the water level in Mono Lake had been falling

Continued on page 19

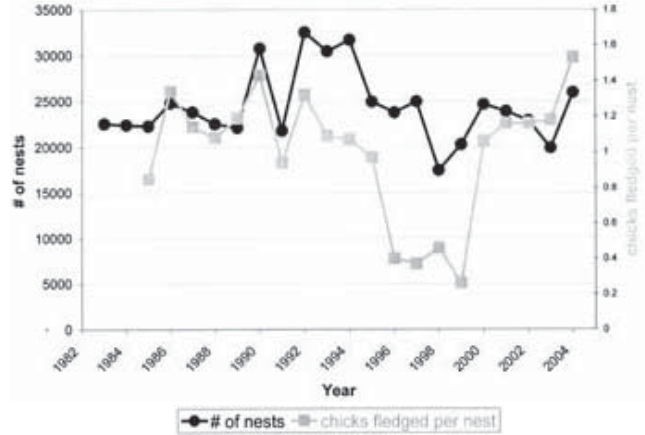
steadily since 1999 due to both drought conditions and water diversions to Los Angeles. If this had continued, Negit may have once again been connected to the mainland. Worse than that, Twain Islet, home to nearly 50% of Mono's gulls each season, could be reconnected to the mainland as it was in 1982. Coyotes, wonderful and amazing creatures in their own right, and whose nighttime howls I could sometimes hear from the islands, would not hesitate to take advantage of such easy prey.

Predators of a Different Kind

Mono Lake's islets are not just home to California Gulls, where perhaps 25% of the world population breeds. They are also home to a specialized bird tick found only on Mono's islets and that feeds exclusively on the gulls (and, unfortunately, sometimes on researchers as well). They're remarkably well adapted creatures; and to me, "Long Live *Argas monolakensis*" has an oddly appealing ring to it. We monitor the prevalence of ticks on the gull chicks that we band, and have noted an interesting pattern in the last several years. On Little Norway, an islet named for the dramatic cliff-walled 'fjord' that bisects it, the tick population appears to have risen dramatically in recent years. The gulls are slowly abandoning this islet (the number of nests has dropped from almost 900 in 2000 to 200 in 2005), and for those that haven't, their chicks suffer much higher mortality than other islets. As Little Norway's gull population drops, the ticks will probably also suffer in the next few years because their food supply will have left. And then, with a drop in the tick population, the gulls will likely recolonize the islet. (See more on tick research on page 13.)

And the Research Continues On

The wonders discovered during the annual gull research continue on. This year, PRBO biologist Kristie Nelson takes the lead on the project and continues the legacy of this research.



Number of nests and chicks fledged per nest at Mono Lake, 1983 to 2004.

The graph above shows there is tremendous variation in both overall nest numbers and chick fledging success over time. By continuing to collect these data, and by comparing them to weather, water diversions, and consequent changes in the lake's chemistry, we can learn in great detail how the successes and failures of Mono Lake's gulls are tied to the environment in which they live. Long-term data sets are a rarity, and we have a gem in the work that dozens of biologists and hundreds of volunteers have helped collect over the years at Mono Lake. May it continue for a long time. And may further work begin, probing deeper into the myriad life forms that survive and thrive in the shimmering waters of Mono Lake. ❖

Justin Hite is a research biologist at large. Mono Lake is a magical place for him, and he will never forget the days and years he spent perched on its lonely islets admiring its gulls.

The California Gulls Need Your Help ... Again

PRBO Conservation Science, in collaboration with Cornell University and the Mono Lake Committee, has been tracking the health of the California Gull population at Mono Lake since 1982. Increasingly, this essential research has become more difficult to fund. Grantors are often not inclined to fund long term monitoring because it does not seem as exciting as new projects. However, this important research is intimately connected to measuring the health of Mono Lake.

The Committee and the gulls need your help. Two dedicated Mono Lake supporters already make a generous annual gift in support of the gull work and we are actively seeking a few more individuals to help financially support this ongoing research for the long term. The researchers operate on a shoestring budget and need \$12,000 each summer to get the job done and summarize the results.

Back in 1979, the California Gull became a focal point for saving Mono Lake as the declining lake level exposed a land

bridge which predators easily crossed. The gull population was severely threatened by the dropping lake level until 1994 when the State Water Resources Control Board issued its decision to curtail water diversions to Los Angeles and raise the surface level of Mono Lake.

Through the years scientists have seen the gulls respond to changes in lake level, water chemistry, and food resources. Every year researchers collect data by conducting nest counts, banding chicks, and conducting mortality counts on the Negit Islets. The California Gull research project at Mono Lake is one of the oldest, continuous bird research projects in California, and its value as a long term monitoring project increases with each year of data collection. Help sustain this important project for years to come!

If you are able to help, please contact Eastern Sierra Policy Director Lisa Cutting (lisa@monolake.org) at (760) 647-6595.