

**The Second Year of the Pacific Gull-Banding Project.**—In the project sponsored by the Western Bird-Banding Association to study gull migration and life history, 4000 nestling gulls of three species have been marked to date. Each bird bears two colored celluloid bands and a Biological Survey band. In the summer of 1939, young of the seven colonies of 1938 were again distinctively banded, and a new colony at Great Salt Lake, Utah, was added. Color combinations used are as follows:

Colony	1938		1939	
	right leg	left leg	right leg	left leg
1. <i>N. Coronado Island, Mexico</i> (off San Diego, Calif.): Western Gulls ( <i>Larus occidentalis wymani</i> ). Banders: Grace Sargent, David Michener, William Webb, Har- old Hill, Thomas Miller, Fred Gallup.	Red Survey Red		Red Red	Survey
2. <i>Mono Lake, California</i> : California Gulls ( <i>Larus californicus</i> ). Bander, Walter Nichols.	Blue Survey	Blue	Survey Blue	Blue
3. <i>Three Arch Islands, Oregon</i> : Western Gulls ( <i>L. o. occidentalis</i> ). Bander, Reed Ferris.			Blue Red Survey Red	
4. <i>Haystack Rock, Oregon</i> : Western Gulls. Bander, Reed Ferris.			Red Red Survey	Blue
5. <i>Mittlenatch Island, Gulf of Georgia, B. C.</i> : Glaucous-winged Gulls ( <i>Larus glaucescens</i> ). Bander, Theed Pearse.	Yellow Survey		Yellow Yellow	Survey
6. <i>Yellow Island, Haro Straits, B. C.</i> : Glaucous-winged Gulls. Bander, Dennis Ashby.	Yellow Blue		Blue Yellow	Survey
7. <i>Gull Island, Howe Sound, B. C.</i> : Glaucous-winged Gulls. Bander, Kenneth Alexander.	Yellow Survey		Yellow Survey Blue	
8. <i>Great Salt Lake, Utah</i> : California Gulls. Bander, A. M. Woodbury.			Red Survey	Yellow

Many reports are being received on the movements of these young gulls, but since the birds are not yet adult, much still remains to be learned. Every bird student can help the project by watching for these gulls. If a color-banded bird is seen, report the exact color combination, date, and place, and your name to the address below. If a bird is found dead, also send the Survey band to the Biological Survey, Washington, D. C.—GRACE TOMPKINS SARGENT, *Chairman, Pacific Gull Project, Scripps Institution, La Jolla, California, November 1, 1939.*

**An Ancient Nesting Site of the White Pelican in Nevada.**—To look down from the mountain on a straight white line of pelicans gliding over the intensely blue waters of Pyramid Lake, rimmed round by a gleaming band of alkali, is to see these birds to good advantage. Then to look beyond into the afternoon's haze, and back again at the vividly clear picture of these soaring birds, whose white cloaks, with jet black cuffs, are surmounted by unbelievably grotesque, orange head dresses, like the long-nosed masks of aboriginal witch doctors, leads almost any imaginative observer to speculate, with a certain reverence and humility, on the innumerable years that have elapsed since the first big birds of their kind found secure haven here in the ancient desert. Then, as now, they must have sought some island on which to nest. The watcher muses and his eyes mark, one after another, low mountain tops that in centuries past barely protruded above Quaternary Lake Lahontan of which Pyramid Lake is but a remnant.

Although on a few of these eminences I have looked, in a casual sort of way, for evidences of the use that I suspected once was made of them, never did I see proof thereof until May 7, 1939, when Miss Laura Mills showed me bones and egg shells of pelicans in a deposit on Rattlesnake Hill at Fallon, Nevada.

With the aid of Messrs. J. R. Alcorn and Vernon Mills, and their wives, we recovered about a gallon measure of bones. Roughly three out of four were those of the White Pelican (*Pelecanus erythrorhynchos*), more than half of them from immature birds. The remaining bones were mostly of adult Double-crested Cormorants (*Phalacrocorax auritus*), although one bone of a Canada Goose (*Branta canadensis canadensis*) was found, and there were many bones of fishes of several sizes and of more than one species. The bones are fragile, and some seem to be partly fossilized; minerals from the enveloping sediments appear to have replaced some of the original substance of the bone. About a third of the bones are more or less water worn. The egg shells all are in fragments whose curvature and texture suggests that they were laid by pelicans and not cormorants.

Contemplation of these remains recalls to mind one colony of White Pelicans that in 1924 nested on the low, gravelly, northeastern arm of Anaho Island in Pyramid Lake (Condor, vol. 27, 1925, pp. 147-160); that colony could have provided an assemblage identical with the one at Rattlesnake Hill. There, on Anaho Island, innumerable fish, discarded by the pelicans, lay about in the colony which extended down to within a dozen steps of the water's edge. Every day, cormorants came to sit on four low, partly submerged rocks, and once sixteen Canada Geese swept past my blind, alighted on the gravel bar, and waddled by the evenly spaced White Pelicans, each patiently at its appointed task of incubating two white eggs. In the ensuing weeks, dozens of short-lived young pelicans, and an occasional adult pelican and cormorant, died there. At this very time one had only to drag his boot through the sand to uncover bones left by deceased members of the previous years' nesting colonies.

At other places—places far removed from any nesting colony—remains accumulate on the shore of Pyramid Lake that resemble those on Rattlesnake Hill. These places are where pelicans consort with cormorants for resting. Toward the beginning of the nesting season some of these pelicans, and more rarely cormorants, deposit isolated eggs in the shallow water, and the eggs, in time, are covered by sand.

Nevertheless, the large number of fragments of egg shells and the high percentage of bones of young birds in the deposit at Rattlesnake Hill make me think that it was the site of an actual nesting colony. Supposing it to have been on a low bar of gravel and sand, like the colony referred to on Anaho Island, wave action, following a slight rise in the water level, would have imparted to many bones the same water-worn character as have about a third of those at Rattlesnake Hill.

The bones and egg shells were in an eight-inch stratum of sand and slightly water-worn gravel, conformably overlain by a hard calcareous deposit about five inches thick. This is capped by four to six feet of sediments varying in nature from place to place. The two underlying strata appear to extend through the entire hill; certainly both are present at each of the widely separated places where excavations have been made to obtain sand and gravel used in paving the streets of Fallon. By reason of the generous measure of bird bones which went into the construction of its thoroughfares, the town, ornithologically, has a rare, and perhaps unique, distinction.

Rattlesnake Hill is on the northeastern edge of the town of Fallon, Churchill County. As may be seen on the Carson Sink Quadrangle (1910 edition of the U. S. G. S. topographic series), the hill rises a little more than 200 feet above the level of the surrounding basin. The top of Rattlesnake Hill, which is less than 4300 feet above sea level, may have been completely covered by the waters of Lake Lahontan when they reached their highest level of about 4400 feet. Although the water-formed calcareous layer above the bones proves



Fig. 25. Rattlesnake Hill, Fallon, Nevada, showing horizontal calcareous stratum beneath which bones were found. Photo by Laura A. Mills, September 23, 1939.

that they were under water at least once, I do not know if this was before, at, or after, the time when Lake Lahontan attained its maximum level. This time has been variously estimated at from as little as five hundred years to as much as several hundred thousand years ago. Whenever that may have been, the nesting colony was occupied long before white men knew the place and our information goes to show that the avian associates of the White Pelican then were about the same as they are now at nearby Pyramid Lake.—E. RAYMOND HALL, *Museum of Vertebrate Zoology, University of California, Berkeley, October 30, 1939.*