BIRDS OF ANAHO ISLAND, PYRAMID LAKE, NEVADA

WITH FOUR ILLUSTRATIONS

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Twenty-four hours on June 21 and 22, 1940, were spent on Anaho Island, in Pyramid Lake, Nevada, with Mr. Atwell Wallace, a Soil Conservation Service range surveyor. This was a very short visit, and much of the time was spent on a study of the plant life. Nevertheless, observations were made on birds there, and it is interesting to compare present conditions with those found by Hall (Condor, vol. 27, 1925, 147-160; vol. 28, 1926, 87-91) sixteen years earlier.

About 3000 half-grown young White Pelicans (*Pelecanus erythrorhynchos*) were present on the northeast part of the island. There had apparently been three or four nesting colonies, all close together. The lowest colony had the largest young, and also about 100 nests containing eggs or very small young. Hall, in 1924, found 13 colonies more or less scattered, with two on the flat top of the island, where no pelicans nested in 1940. On June 5 and 6 he found a total of 7050 eggs and young on the island in 4534 nests, but by June 21-22 only 1562 young remained. On the basis of number of young only, it would appear that the pelicans had about doubled in number since 1924. Hall, however, attributed about 75 per cent of the loss he found to human (Indian) interference. Indians apparently no longer take pelican eggs for food, and there was extremely little evidence this year of any past disturbance, except perhaps in the lowest colony where the fresh eggs found may indicate renesting. The area used by the nesting pelicans was much larger in 1924 than in 1940, and this would suggest that the population was larger in the former year. It is my impression that this is probably the case, and that the numbers of young present in 1940 represent a variation in survival in the nesting period. If there has been any change in the population, it has been a decrease rather than an increase.

Fig. 70. Pod of young White Pelicans on Anaho Island, Pyramid Lake, Nevada. Bird in left foreground has just been banded and is hurrying back to the pod. Gulls in left background ready to seize regurgitated fish.

Now, as at the time of Hall's visit, local residents are convinced that the pelicans are seriously affecting the fishing in the lake. Because of the continued lowering of the lake, it has been practically impossible for several years for trout to ascend the river to spawn, and the relative guiltlessness of the pelicans in taking trout is recognized. The birds are now blamed for the rapid diminution of the runs of Cui-ui (*Chamistes cujus*). This fish also spawns in the river and is affected by water conditions in the same way as the trout, although not as yet so seriously. It is possible that the pelicans take some of these fish in the spawning run, although they would have to compete with the Indians, who rather well cover the river.

With the possibility of damage to fishing in mind, 211 fish regurgitated by the young pelicans were identified. The results are shown in the table where they are compared with the 2897 fish identified by Hall in 1924. Weights of various species are taken from Hall (*op. cit.*) except for *Richardsonius,* the weight of which was calculated from measurements.

Fish fed to young White Pelicans, Anaho Island, Pyramid Lake, Nevada

	Number in 1940	Number in 1924	Per cent by number, 1940	Per cent by number, 1924	Per cent by weight, 1940	Per cent by weight, 1924
Suckers (*Catostomus* or *Pantosteus*)	2	5	.9	.2	3.9	.7
Carp (*Cyprinus carpio*)	25	185	11.8	6.4	60.8	32.6
Red-striped Shiner (*Richardsonius egregius*)	79	0	37.5	0	2.7	0
Lake Chub (*Siphateles obesus*)	7	248	3.3	8.6	2.7	6.8
"White Fish" or Lake Minnow (*Leucidius pectinifer*)	74	2370	35.1	81.8	25.4	58.7
Catfish (*Ameiurus nebulosus*)	1	24	.5	.8	.2	.4
Sacramento Perch (*Archoplites interruptus*)	23	65	10.9	2.2	4.3	.9
Totals	211	2897	100.0	100.0	100.0	100.1

No trout or Cui-ui were found, although they were searched for carefully. The percentages by number of the various species differ considerably from those of 1924, but this is largely because of the inclusion of the minnow or red-striped shiner (*Richardsonius egregius*), not found by Hall, and probably taken by the pelicans in the Truckee River, since it has not been reported from the lake itself. This fish is so small that the changes in the percentages by weight are much less. Carp have apparently become more important in the diet, but this apparent change is believed due in part to the activities of the gulls which ate the smaller fish that were regurgitated much more quickly than they did the carp, so that a larger proportion of the latter was counted. It would seem that the pelicans are no more harmful to the fishing in Pyramid Lake than they were in 1924.

One hundred forty-nine young pelicans were given Biological Survey bands (nos. 40-809551–40-809650; 40-809701–40-809750), one individual was inadvertently given a band on each leg. Since, a month earlier, I had banded 450 California Brown Pelicans (*Pelecanus occidentalis californicus*), it was interesting to compare the behavior of the two species. The adult Brown Pelicans showed more concern than the White Pelicans did at the presence of the banders, left eggs or small young less readily, and returned sooner after having been flushed. They flew around in great numbers over the heads of the banders all the time we were in the colony, whereas the White Pelicans simply kept out of the way. The young Brown Pelicans were much noisier than the young White Pelicans. They had many more lice. The young White Pelicans formed pods, and fled

Fig. 71. Half-grown White Pelican.

from the banders en masse and in confusion at a considerably earlier stage of development. The young White Pelicans, or at least the colony, smelled much worse. In fact, the smell of both guano and regurgitated fish was so frightful that I was delighted when Mr. Wallace professed his inability to continue banding after only 150 bands were used, whereas I had been disappointed, when banding the Brown Pelicans, to have to stop after 450.

Aechmophorus occidentalis. Western Grebe. Not mentioned by Hall. Four or five pairs seen on the lake near Sutcliff and near Anaho Island. Young were not observed.

Phalacrocorax auritus ssp. Double-crested Cormorant. Like the pelican, the cormorant appears to have become rarer at Pyramid Lake since 1924. The pinnacles at the north end of the lake are now mostly connected with the shore, and I observed no cormorant nests there when I drove by in a car. Cormorants were reported to be nesting in some numbers on the Pyramid, and about 50 nests were found on the flat shore on the southwest side of Anaho Island in a mixed colony with gulls. A good many of these nests were empty; three contained very small young; nine had one to three well-grown young; two had eggs; 16 contained dead young from about a fourth to half grown. The cause of death could not be determined, but human interference during the previous week of extremely high temperatures is suspected. Eight young were given bands (nos. 34-647093–34-647100).

Ardea herodias ssp. Blue Heron. About 25 pairs were nesting in the dead weeds along shore on the east side of the island. An old nest of some previous year was found on a *Sarcobatus* bush on the west side. Eight of the well-grown young were banded (nos. 40-724973–40-724980). Several of these young took to the water and swam to escape us, though not very strongly, since a light, on-shore breeze brought them in after a few minutes. Nearly half the young in the colony were able to fly a little.

Fig. 72. Young Double-crested Cormorants. One of the few nests containing live young of this age.

Fig. 73. California Gulls at the nesting colony. Note downy young.

Branta canadensis canadensis. Canada Goose. This bird was not mentioned by Hall, but 115, mostly young, used the flat on the southwest side of the island for feeding and roosting. Their tracks, molted feathers and excrement were everywhere. We chose to sleep in this area because of its comparative freedom from rattlesnakes, and the geese spent much of the night swimming up and down past our beds in the bright moonlight, honking dismally from time to time. By morning all were ashore, some far from the water, and a strenuous effort was made to cut these off by a desperate sprint so that they could be banded, but though they are flightless at this time of the year, they made good their escape. It is assumed that the geese bred on the lake, perhaps most of them on the island. The main food of the birds seemed to be salt grass, *Distichlis stricta*.

Anas platyrhynchos platyrhynchos. Mallard. One female with one well-grown young seen near the island.

Chaulelasmus streperus. Gadwall. About eight seen near the island.

Mergus merganser americanus. American Merganser. About 60 males seen.

Cathartes aura teter. Turkey Vulture. Eight or 10 over the island, apparently feeding mostly on dead pelicans. At least one recently used nest found in a cave in the rocks.

Oxyechus vociferus vociferus. Killdeer. At least two pairs on the island.

Larus californicus. California Gull. This species also seems to have decreased since 1924. The nesting colony at the north end of the lake which was described by Hall is apparently no longer in use. Whether gulls now nest on the pyramid is not known. There is, however, a colony of about 200 pairs nesting on the flat on the southwest side of Anaho Island. Some of the nests still held eggs, but most of the young were nearly half grown. Some of these took to the water when we approached the colony, although they went only a few yards from land. Forty-five young were banded (nos. 40-671841–40-671885).

Corvus corax sinuatus. American Raven. About eight present.

Salpinctes obsoletus obsoletus. Rock Wren. This was the commonest land bird on the island.

Amphispiza bilineata deserticola. Desert Sparrow. At least one pair present.

Spizella breweri breweri. Brewer Sparrow. At least two pairs noted.

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