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THE BIRDS OF MOLLY ISLAND, YELLOWSTONE NATIONAL PARK

By M. P. SKINNER

WITH TWO PHOTOS

AT THE southern end of Yellowstone Lake, twenty miles from the nearest tourist route and consequently secluded enough to tempt birds who prefer such a home, are two little islands rising only a few feet above the water. The islets are an eighth of a mile apart, each about four hundred feet long by two hundred feet wide, their summits eight to ten feet high. No soil is present, and the expanse of sand and gravel is broken only by a few larger stones and some rather bedraggled and discouraged bushes. From the fierce winds that sweep across the more open parts of the lake, these islets, the northernmost of which is known as "Molly Island", are nicely protected in a bay of the Southeast Arm, by the shore, a mile away.

California Gulls nest on Klamath Lake, Oregon, in considerable numbers, but are not reported as now breeding commonly east of there, save far to the northward, on Great Slave Lake. Hence I was greatly surprised at the gulls of Molly Island. Such reports as I could find noted the Ring-billed Gull (*Larus delawarensis*) as present and nesting in the Yellowstone; yet the California Gull (*Larus californicus*) outnumbers the former species greatly, although there are usually a few of the Ring-billed present. Both gulls and pelicans have been reported from Yellowstone Lake since 1870, but were not stated to be breeding there until 1890, although it is probable that such was the case long before the earlier date. From the best information obtainable, the colony has been holding its own in numbers and should continue to do so.

My first visit to Molly Island was in 1898, and during each season since I have returned one or more times to a scene that has never lost its interest. Molly Island is accessible from the Lake Hotel by either motor launch or small

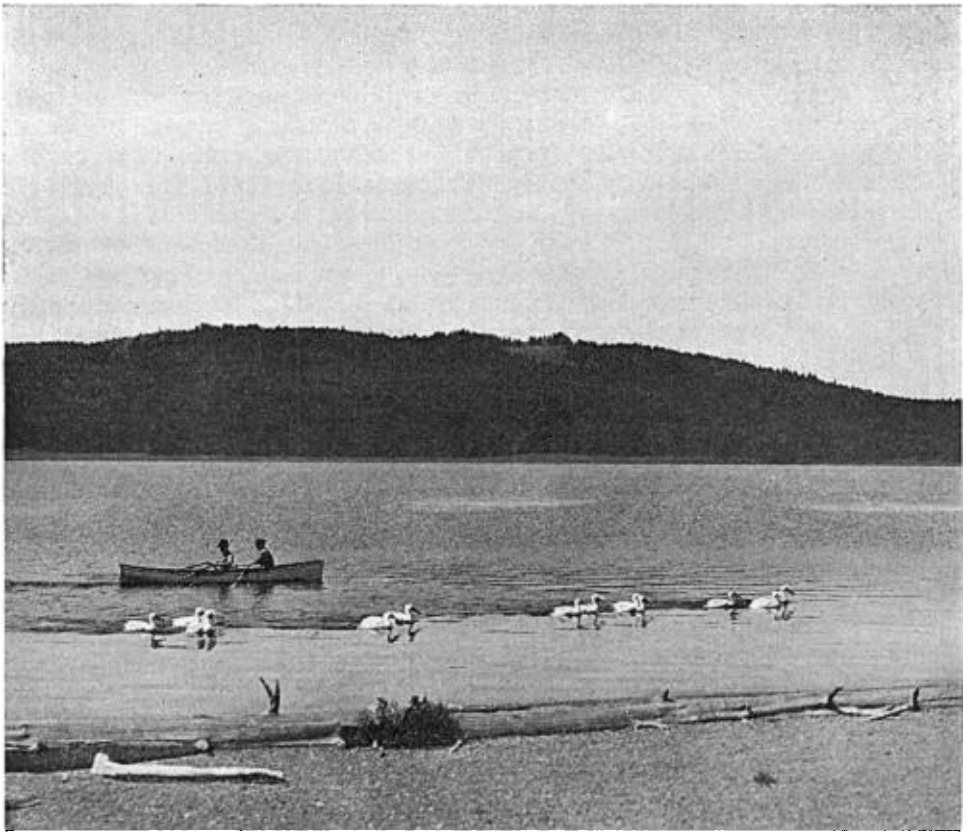
boat. As one approaches, one is met a mile away by a gull or two circling overhead and screaming vociferously, followed by more and more gulls until the air is filled with a whirling, darting throng of gray and white birds. It is noticeable, here as elsewhere, that gulls are much noisier on the wing than on shore or on water. So alert and so ready are they to announce an intruder that they have well been called "chipmunks of the sea". About a thousand gulls are resident in the Yellowstone and practically all of them nest on Molly Island. Their nests are scattered in among those of the pelicans, but the gulls prefer the higher parts as a rule and leave the lower beaches to the larger birds. The nests of the gulls are a little the more pretentious, being formed roughly of grass stems with from one to three rather dark lavender eggs marked with black in an irregular manner. The gulls begin nesting from about May 15 to 25 and often before the ice has left the lake; the young gulls are hatched early in June, are covered with down of a gray color dotted with black, and are very difficult to see against a background of sand and gravel. They can run about almost as soon as they emerge from the shell, and are so adept at hiding that I did not become aware of their abundance on my first visit. Not until I retired under a blind and the little ones began to respond to the parents' calls did I really begin to see them. The young gulls, themselves, have a shrill, whining call.

The gulls eat fish that they find dead, sometimes they rob the mergansers before the latter have a chance to swallow their catch; and many of the gulls resort regularly to the hotel garbage piles. While the bears are present, the birds sweep by in circles uttering their piercing screams; often they swoop down until they seem to miss the bears' backs by only a few inches. When the bears have satisfied their hunger and leave, the gulls settle down in a white cloud and soon clean up what bruin has left. At times when the gulls were resting on the water, I have seen one jump up two or three feet and plunge forward into the water. What they do this for, I cannot tell positively, but they seem to be feeding.

Most noticeable of the water-birds of the Yellowstone, by virtue of his great beauty either when swimming or when flying past is the White Pelican (*Pelecanus erythrorhynchos*). On the water the pelican is grace personified. With head bent back and close to his shoulders, and with his deep pouch tucked away between chin and throat, he moves majestically along like a ship under full sail. Pure white except for the black wing-tips, he can be seen and recognized at an astonishing distance away. In flight, he is still more majestic. The main auto road runs beside the Yellowstone River at one point, and here the birds have become so used to the passing machines that they come near enough for the tourists to admire their great spread of wings (ten feet in some cases) and to hear the soft *fluf-fluf* of their pinions. The leader of a flock shows even better command than is the case with flying geese. Pelicans fly one behind the other, and, as a rule, vary their flapping flight with short periods of coasting upon deeply bowed wings. At the end of such a period, the leader loses headway first, possibly because he is subjected to air pressure that his followers do not feel, and recommences his wing-strokes first, followed shortly by the second bird; then the third and fourth take up the stroke after accurately timed intervals, and the entire line is finally in full, strong flight with wings beating together perfectly.

The pelican is an old form of bird-life that has come down to us little changed through long ages; certainly he existed before the first song-birds as

we know them now. If such as he had records, of what strange things could he tell us! What strange tales of the lost Atlantis and of the glacial epochs. The close resemblance of the European Pelican to ours would indicate that they were once a single species, for it is not easy to imagine two such similar forms developing eight thousand miles apart. Perhaps they are descendants of common ancestors who nested around the north pole when that region was far warmer than now, and before Europe and America were separated by the wide Atlantic! It is not easy to determine to how great an age individual pelicans attain, although they are believed to be long-lived.



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Fig. 55. YOUNG WHITE PELICANS ON YELLOWSTONE LAKE

Little is known about the winter home of the Yellowstone birds, but it is probably at the head of the Gulf of California, near the mouth of the Colorado River. Large numbers of White Pelicans are known to winter there. A few also winter on the lakes of the Mexican plateau, and on the Gulf coast to the east. Still it isn't likely that our birds would wander as far as that, at least not regularly. The White Pelican does not breed along the sea coast, but retires in spring to the inland lakes stretching from Salton Sea as far north as Fort Smith in northern Canada. In Canada it breeds farther to the east, but the Yellowstone is the most eastern of the American colonies, although former-

ly the breeding range extended to Chase Lake, North Dakota, and even to Minnesota. Such an adaptability to the moist, showery atmosphere of Manitoba, to the cold mountain heights of the Yellowstone, to the northern wilds of Great Slave Lake, to the deserts surrounding Great Salt Lake and Pyramid Lake, and to the torridity of Salton Sea, is fortunate for the good of the species; else the peculiar conditions essential to a nesting colony would not afford sites enough for the maintenance of the race.

The species is holding its own fairly well, for while the number of colonies has been steadily decreased by the advancing civilization of the west, the number of birds in some of the colonies is increasing. The pelican requires peculiar conditions for his home. First, there must be an inexhaustible supply of fish. Kind of fish does not seem to matter, for on the muddy lakes of the Canadian prairies he eats pickerel and smaller fry with as great a relish as he does the toothsome trout of the crystal-clear waters of Pyramid and Yellowstone lakes. Second, as the bird cannot walk well the nest must be near the water. Third, the nest must be low to afford easy access to the water, in which the young swim long before they can fly. Fourth, the parents and the young are white, and such conspicuous prey must be protected from terrestrial prowlers by the isolation of an island. Fifth and most important, the island must be remote, to afford privacy. Hence breeding pelicans are restricted to large bodies of water remote (or protected) from man, and containing low-lying islands.

In the Yellowstone, the earliest of the returning pelicans arrive about May 1, but the lake is then usually still covered with ice, and the birds spend their time fishing in the open Yellowstone River. All through May the number steadily increases until there are about seven hundred birds; occasionally one or two wander to other parts of the Park but as a rule they confine themselves to Yellowstone Lake and to the river as far north as Hayden Valley. As soon as the ice disappears, and possibly slightly before, especially if the season is a late one, they resort to Molly Island and begin nesting operations. The first egg appears about May 25 and incubation begins a week later. To be exact, there is little attempt at building a nest, for the eggs, two or three large white ones, are laid within a slightly raised rim of sand and pebbles. The horny knobs on the bills of both sexes are at their prime in late May, but by the middle of June they begin to fall, and before the end of the month all are shed. At the same time the color of bill and pouch and the bare skin about the eyes loses the red tinge of the breeding season, and remains yellow until the following May brings its seasonal change again. The white nuchal crest of the breeding season is also at its prime in May, but is lost some ten days later than the bill-knobs, and replaced by gray on the crown and nape.

Both sexes share in the incubation duties, nest relief taking place near noon each day, and, I have reason to believe, again at midnight. The extreme similarity of the sexes prevents me from knowing whether the incoming birds at noon are males, or even if there is any regularity at all. But I do know that this change affords each day a fine opportunity to observe the wonderful flight of pelicans in large flocks. Often they mount high in air and perform maneuvers marvellous in a bird so large and apparently so clumsy (when seen in our zoo's). Acquaintance with them in their native haunts shows them to be as strong and graceful as their great spread of wing should indicate. I believe that flocks follow the leadership of a wise old female pelican if any of that sex are present, otherwise the most sagacious male.

When newly hatched, pelicans are helpless little creatures, naked, blind, and too weak even to move about in the hollow that is their home. In two weeks their ruddy little bodies have become more or less covered with white down, and they are able to move about. The parents are devoted to the nestlings, shielding them from the hot sun, feeding them on regurgitated fish, and leaving them with extreme reluctance. But later, the parents leave when one comes within three hundred yards, and crowd toward the far side of the island. Then, on still closer approach, all take wing, the nesting birds flying only a few hundred feet before alighting on the water, the non-breeding birds (usually a hundred or more) departing to distant parts of the lake. If the young are large enough to walk, they follow the older birds to the edge of the island and swim out to the parents. After the intruder leaves, the birds return to their

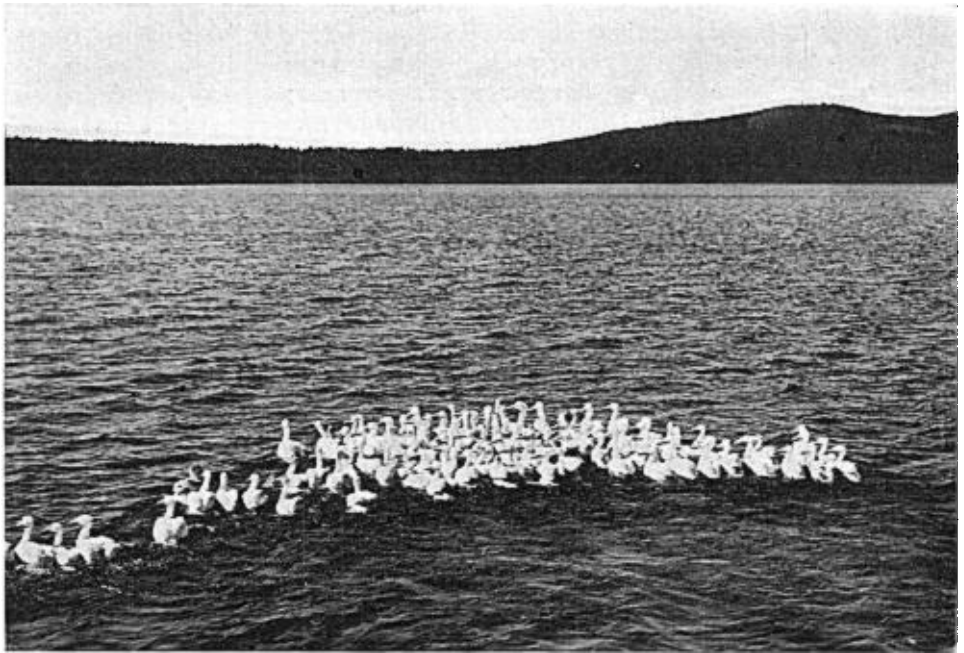


Fig. 56. DROVE OF YOUNG WHITE PELICANS ON YELLOWSTONE LAKE

homes. How the parents ever distinguish their own youngsters is a mystery to me, but I have seen an old bird return with fish and refuse to open his bill to youngster after youngster until he came to his own. Then he would open his pouch wide and the little fellow would thrust in his head and neck until he threatened to disappear entirely, and prod around for his fish. Usually only one bird at a time is fed. Possibly only one bird in a brood reaches maturity, for I have often noted a great discrepancy between the numbers of eggs laid and the young birds maturing. One season I counted over five hundred eggs, yet there were only one hundred and seventy young to be found in mid-August. What became of the others I could not tell, but I have never found any dead pelicans of any age except those killed on the mainland by coyotes, and a few young birds killed by exposure to the sun. Perhaps the gulls have developed

an inordinate appetite for pelican eggs. Young pelicans grow fast, and while they cannot fly for two months, they can swim expertly at a much earlier period. If it were not for the gulls, Molly Island would be a rather solemn and quiet nesting ground, for the old pelicans never make a sound and even the young have only a low grunt.

The White Pelican gets his prey by scooping up fish as he swims along; often a school is driven before him into a sheltered cove where a sudden rush and a violent plunge secures a pouch full. A White Pelican is said never to dive, yet on at least one occasion while riding along the shore of the Yellowstone River I saw one do that very thing. He did not drop from the air with a mighty splash as a Brown Pelican would have done, but plunged forward and down from the river surface after the manner of a grebe. He went clear under the surface, but I could not say whether or not he caught his fish. This bird does not use his pouch to hold fish in, but gulps them down as fast as caught; still the pouch does serve to strain the fish from the water. Sometimes I have seen a pelican rob a fish-duck when that bird incautiously fished too near.

This Yellowstone colony bids fair, under government protection, to maintain its size indefinitely. While the mortality is high among the young birds, enough reach maturity to a little better than maintain the number. Pelicans are hardy birds, and their greatest danger is from the encroachments of civilization. Here on Molly Island they seem to be secure, for they are too far from the regular tourist route to be molested often. Almost all of the pelicans are infested with a tapeworm (*Dibothrium cordiceps*) in the intestinal tract. Here the parasite lives and discharges its eggs out into the waters of the lake to be eaten by the trout, who become the unwitting hosts of the worms in their larval, or intermediate stage. And of course the consumption of the trout by the pelicans completes the circle and permits the larvae to develop. However, these parasites do not destroy the pelican nor even affect his health to an appreciable extent.

A third bird that I have noted on Molly Island is the Caspian Tern (*Sterna caspia*). I have seen small flocks there twice, both times in late May, the birds with the black cap and the coral-red bill of the breeding season. But, unfortunately, I have never been able to determine positively that these terns nested on the islets, although I believe they do.

Summerville, South Carolina, March 31, 1917.

A NEW SUBSPECIES OF *GEOTHYLPIS BELDINGI*

By HARRY C. OBERHOLSER

THE Belding Yellow-throat, *Geothlypis beldingi* Ridgway, is a rather uncommon bird in collections. Occurring, as it does, only in the southern portion of the peninsula of Lower California, its development into two subspecies would seem hardly probable, but such is now seen evidently to be the case. During the course of the identification of specimens of *Geothlypis* in the Biological Survey collection, the writer's attention was called to the very conspicuous differences between individuals of this species from the Cape San Lu-