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# Nebraska Fauna

## AMERICAN WHITE PELICAN

By Paul A. Johnsgard,

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Few birds are more familiar to the average person than are white pelicans, but few Nebraskans also realize that thousands of these birds migrate through the state every year, and hundreds stop over to spend the summer on some of our larger lakes and reservoirs. No pelicans breed in Nebraska, but the nearest breeding area is only a short distance north of us, at LaCreek National Wildlife Refuge, near Martell, South Dakota. Since it requires three—or more probably four—years for white pelicans to become sexually mature, many of the immature birds simply stop off in Nebraska rather than completing their migrations to the Dakotas or the prairie provinces of central Canada, and spend a leisurely summer fishing in such reservoirs as Lake McConaughy or the deeper Sandhills lakes that support good populations of fish.

Although pelicans may appear somewhat comical—even grotesque—when observed at close range, they are masters of aerial precision, and are among the heaviest of all birds able to soar endlessly on the thermal updrafts that develop over the prairies on warm summer days. Then they wheel about in graceful slow-motion, their white plumage alternately shaded and exposed to the sun as they make their great gyrations in the sky, presenting a hypnotizing and unforgettable spectacle. With their contrasting black wingtips, the birds might easily be confused with whooping cranes, and I believe that some of the early published records of large flocks of whooping cranes supposedly seen in Nebraska probably actually relate to pelicans.

When flying any distance, the birds assume a loose V or echelon formation, thereby gaining some energy reduction, for the birds that fly in the slipstream of the one immediately in front (some estimates are of as much as 20 percent energy savings), and also spreading themselves out to maximize visibility and minimize the danger of mid-air collisions with other flock members. As with other species that fly in such formations, the lead bird of such flocks changes often, but it appears to be true that on foraging flights of some distance, the destinations are chosen by more experienced birds, and the younger ones simply follow along and gain the benefits provided by following these individuals. Pelicans do not fly fast, and generally average slightly less than 40 miles an hour (although once I had to drive

a van 43 miles an hour along the crest of Kingsley Dam to remain directly underneath and measure the ground speed of a flock that was flying exactly parallel to the dam, much to the consternation of my ornithology class sharing the van with me).

In contrast to the smaller and coastally distributed brown pelicans, which use aerial plunge-dive techniques to obtain their prey, American white pelicans are perhaps too large and ponderous to use such techniques. Instead, they capture their prey by swimming on the water while watching intently for prey, and then quickly spearing down to engulf and trap it within their expanded lower bills and pouches, much as a person might capture a fish in a landing net. Besides being a less dangerous and demanding mode of hunting than plunge-diving, surface fishing has the advantage of allowing several pelicans to fish cooperatively. Thus a small group of swimming pelicans may drive fish into the shallows or into a small area by surrounding them, and then quickly and almost simultaneously begin to catch and swallow them.

Pelicans normally breed in large colonies, typically situated on low, sandy islands in lakes rich in fish. Often space on these islands, which occasionally support several thousand nesting pairs, is extremely limited, and each pair defends only its actual nest site from intrusion. Both members of the pair defend the nest and help incubate the typically two-egg clutch, with each egg receiving incubation heat from the bird's large, webbed feet. Pelicans, cormorants and a few other groups of "pelicaniform" birds are unique in this manner of incubation, since they lack incubation patches. However, as soon as the eggs begin to hatch they are shifted in position from under the feet to directly on top of them, where the hatching bird is perhaps less likely to be suffocated or crushed. Newly hatched pelicans are hardly objects of endearment; they emerge from the egg entirely naked and blind. However, within a few days the eyes open and white down begins to emerge, and gradually the chick is transformed into something that humans find more attractive. If it hasn't already fallen off, the curious knob on top of the adult's bill drops off about this time. The function of this unique knob is still uncertain, but it has been suggested that it might either serve as a courtship signal or as a kind of "target" to which beak blows by other birds tend to

be directed, thus diverting them from the head region.

From the time of hatching until fledging, probably at least three months, the young are dependent upon their parents for food. Within hours after hatching their first chick, the parents begin feeding it by regurgitating semi-digested food. Within a week or two after hatching, the young birds begin to insert their entire heads and necks into an adult's enormous throat-pouch, and obtain their food directly as soon as it is regurgitated by the parent. Although two chicks are normally hatched by pelicans, they usually hatch two or three days apart, and the chick hatched from the first-laid egg is thus older and stronger than its younger sibling. This difference may mean that the younger chick is unable to compete for food effectively, especially when food is limited. As a result, broods are often reduced to a single surviving chick during the first few weeks of life.

As the chicks grow older and stronger, they often begin to wander away from the nests and mingle with other unfledged young. These groups of still-dependent young are often called "nurseries" or "creches," although they are not specifically cared for or guarded by any adults. However, when parents return to the colony they seek out and will feed only their own young, somehow selecting from the group of begging youngsters their own individual chick or chicks, presumably by using visual or vocal clues.

Like that of many other fish-eating bird species, the fertility and reproductive success of American white pelicans suffered greatly during the hard-pesticide era, and some colonies were effectively eliminated. However, surveys taken in the United States and Canada during the 1980s indicate that the population has effectively recovered, and by the early 1980s there were probably about 45,000 breeding birds in 19 American colonies and around 65,000 in 36 Canadian colonies. This represents a very substantial increase since the 1960s, and doesn't include immature non-breeders, which may well represent a comparable total, so that perhaps around 200,000 American white pelicans now exist.

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