

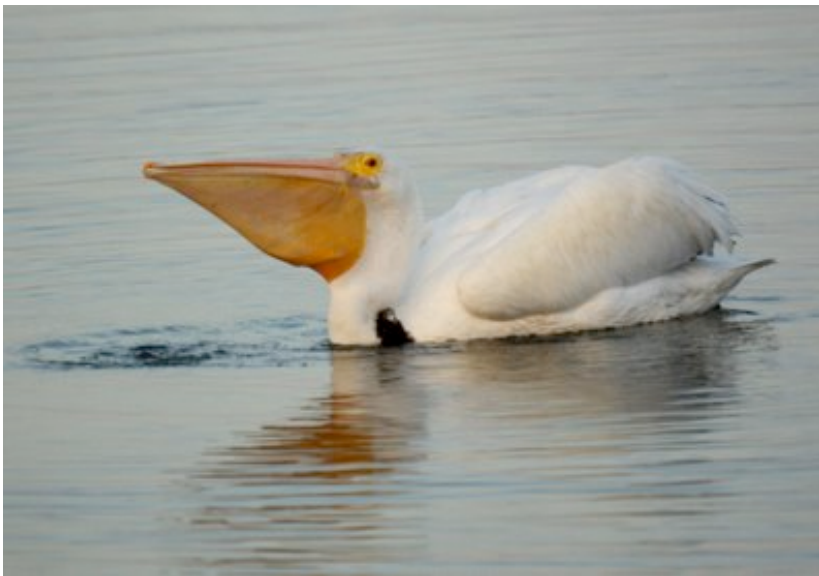
American White Pelican

Pelecanus erythrorhynchos
(red-billed pelican)

*A wonderful bird is the pelican
His bill can hold more than his belican.
He can take in his beak
Food enough for a week;
But I'm damned if I see how the helican.*
Dixon Lanier Merritt (1879 - 1972)
American journalist, poet and humorist

A wonderful bird, in deed! Most of us have seen the spectacular American white pelican flying over the Laguna on one of our field trips. What strikes you the most when you first see these high soaring birds? Is it their bright white feathers and contrasting black wing tips? Or their immense wingspan? Or is it the feature that most distinguishes this gorgeous bird—its unusually large bill?

Pelicans are a most distinctive bird. They have large bodies and are among the heaviest flying birds. Our white pelican weighs in at a hefty 11 to 18.75 pounds. (Compare to a Great Horned Owl that weighs 4-6 lbs). Their wingspan reaches 8' to 9' 10". But it is the bill that is the most distinguishing of characteristics. It ranges from 12.5 to 14 inches long. The upper mandible is ridged and ends in a



sharp nail at the tip, serving to grip its prey. The lower mandible is flexible to allow the distension of the enormous tough skin pouch. The tongue is very small but it is the tongue muscle that controls the pouch and permits the pelican to expel as much as three gallons of water after a catch.

The unusual bill of the pelican is an adaptation allowing the heavy bird to catch large quantities of fish by acting as a net.

Pelicans are adapted in important ways to support their large bodies. They are able to catch and consume large quantities of fish, sometimes eating as much as

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40% of their body weight in a day. But because they are such large birds it is important that they economize on any unnecessary weight. Therefore, their bones are hollow and very light, making up less than one pound of the birds' weight.

Pelican legs are short, set far apart and far back on the body, making the birds well suited for efficient paddling. In addition, the feet are specially adapted. The hind toe is pushed forward and all four toes joined by webs, creating large paddles. The underside of the body is streamlined for swimming, enabling the bird to move as fast as 6 km/h.

White pelicans are such efficient fishers that they spend only a small portion of their day seeking prey, and may spend more than 21 hours of the day loafing, preening, standing or sitting. While spending months in their nesting grounds in warm regions of northeastern California and northwestern Nevada, regulating body temperature is very important. Toward this end the large pouch serves a second purpose. In hot weather it is used to dissipate heat by "gular fluttering": the gape is open wide and the pouch distends and pulsates.

The American white pelican is one of the world's seven species of pelican. Fossil records indicate that pelican anatomy has changed very little during the past 30-40 million years. Except for the brown pelican, all pelicans are white and share many similar behaviors. It is the brown that is distinctive from other pelican species in that it is the only truly marine species and exclusively plunge dives for food. (Aren't we lucky to have two of the world's pelican species right in our neighborhood?)

White Pelicans are gregarious in nature. They feed and migrate in flocks and nest colonially. White pelican feeding habits differ from the brown. Instead of plunge diving for fish, they paddle in a group, often forming a line or arc, herding fish and then scooping up the prey as they move forward.



Pelicans' large appetite for fish requires that they live near water. Their gregarious nature means that breeding colonies must find water with an abundant fish supply.

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American white pelicans eat a diet mainly of fish, although they may also take salamanders and crayfish. White pelicans are known to travel great distances to find food for their young, but will abandon a colony if their prey is depleted.



At the onset of breeding season, facial skin and the pouch take on a more vivid color. Both sexes of American white pelicans will grow a horny knob on the upper mandible before pair formation. Knobs are shed before the end of breeding season.

Pelicans are colonial nesters. Nests are built on the ground, unlined, and are 2-3 feet across and up to 1 foot high. The female lays a clutch of 2 or 3 eggs. Both parents incubate the eggs for approximately 30 days. Eggs in the same nest hatch at different times. Chicks are born naked but at 10 days old they are covered with thick white down. Sibling rivalry accounts for the majority of chick mortality. The older, larger bird outcompetes the younger, smaller birds for food. Rarely more than one chick survives in each nest. Chicks remain in the nest 2-3 weeks and then gather in groups called creches or pods. Young pelicans begin to fly at 7-10 weeks. After fledging, the parents care for their offspring some three more weeks, until the close family bond separates in late summer or early fall, and the birds gather in larger groups on rich feeding grounds in preparation for the migration to the winter quarters.



An aerial view of an American White Pelican colony. Each white dot is one pelican. PRBO Conservation Science

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Habitat loss is the largest known cause of nesting failure, with flooding and drought being recurrent problems. Predation by coyotes, ravens and gulls is common. Human-related losses include entanglement in fishing gear, boating disturbance and poaching. There was a pronounced decline in American White Pelican numbers in the 1950s and 1960s, perhaps attributable to the excessive spraying of DDT, endrin and other organochlorides in agriculture as well as widespread draining and polluting of wetlands. But populations have recovered well after stricter environmental protection laws came into effect, and are stable or slightly increasing today. Around 1980, more than 100,000 adult American White Pelicans were estimated to exist in the wild, with 33,000 nests altogether in the 50 colonies in Canada, and 18,500 nests in 15 United States colonies. Shoreline erosion at breeding colonies remains a problem in some cases, as are the occasional mass poisonings when pesticides are used near breeding or wintering sites.

Once breeding has been completed, adults and young leave the breeding grounds, although pelicans are not long distance migrants. White pelican migration routes are always over land, never crossing distances of ocean or open water. Our local population of white pelicans breeds near inland lakes of northeastern California and northwestern Nevada. They return to the Laguna de Santa Rosa and Bodega Bay after raising their young. Younger, non-breeding adults may not migrate.



When flying in formation all birds flap in time with the leader, either in unison or more commonly in a regular succession. Pelicans, like migrating raptors and vultures, will kettle (group together) to share a thermal.

Carolyn Johnson

"To his good friend thus wide I'll open my arms/And like the kind, life-rendering pelican,/Repast them with my blood."
Shakespeare's **Hamlet** (act iv):