

# PALM BEACH DOLPHIN PROJECT FACT SHEET



The Taras Oceanographic Foundation  
5905 Stonewood Court - Jupiter, FL 33458 - (561-762-6473) taras@taras.org

## BROWN PELICAN *Pelecanus occidentalis*

CLASS: Aves  
ORDER: Pelecaniformes  
FAMILY: Pelecanidae  
GENUS: *Pelecanus*  
SPECIES: *occidentalis*



“A wonderful bird is the pelican; his bill can hold more than his belly can. . . .” So begins Dixon Lanier Merritt’s well-known limerick. It is not far from the truth. The pouch suspended from the lower half of the pelican’s long, straight bill really can hold up to three times more than the stomach.

**PHYSICAL DESCRIPTION:** Measuring up to 54 inches long, weighing 8 to 10 pounds, and having a wingspan between 6.5 and 7.5 feet (approximately 2 meters), brown pelicans are the smallest members of the seven pelican species worldwide. They can be identified by their chestnut-and-white necks; white heads with pale yellow crowns; brown-streaked back, rump, and tail; blackish-brown belly; grayish bill and pouch; and black legs and feet. Sub-adults have brown heads.

**Behavior, Diet and Nesting Habits:** Pelicans are long-lived birds. One pelican captured in Florida had been banded 31 years earlier! Brown pelicans are strong swimmers; young ones barely able to fly have been timed swimming at 3 m.p.h. Rather clumsy on land, pelicans fly elegantly with their necks folded and their heads resting on their backs, using slow, powerful wing beats. Pelicans are primarily fish-eaters, requiring up to four pounds of fish a day. Their diet consists mainly of “rough” fish such as menhaden, herring, sheepshead, pigfish, mullet, grass minnows, topminnows, and silversides. On the Pacific Coast, pelicans rely heavily on anchovies and sardines. The birds have also been known to eat some crustaceans, usually prawns.

Brown pelicans have extremely keen eyesight. As they fly over the ocean, sometimes at heights of 60 to 70 feet, they can spot a school of small fish or even a single fish. Diving steeply into the water, they may submerge completely or only partly—depending on the height of the dive—and come up with a mouthful of fish. Air sacs beneath their skin cushion the impact and help pelicans surface. Once they catch a fish, they shake or ‘wag’ their tail feathers.

Pelicans are social and gregarious. Males and females and juveniles and adults congregate in large flocks for much of the year. Brown pelicans typically begin to breed between the ages of 3 and 5 years. The birds nest in large colonies on the ground, in bushes, or in the tops of trees. On the ground, a nest may be a shallow depression lined with a few feathers and a rim of soil built up four to ten inches above ground, or it may be a large mound of soil and debris with a cavity in the top. A tree-top nest usually consists of reeds, grass, and straw heaped on a mound of sticks interwoven with the supporting tree branches. The male delivers material to the female, who builds the nest. She typically lays 2 to 3 chalky white eggs that hatch in about a month. In Florida peak egg-laying usually occurs in March through May.

Parents share in incubating the eggs and raising the young. Like many birds, newly hatched pelicans are blind, featherless, and altricial - that is, completely dependent upon their parents. They soon develop down that is soft and silky, followed by feathers. Average age at first flight is 75 days.

**THREATS:** Brown pelicans have few natural enemies. Although ground nests are sometimes destroyed by hurricanes, flooding, or other natural disasters, the biggest threat to pelicans comes from people. Pelicans have been persecuted by humans for their

perceived competition for fish, despite the fact that their diet overlaps little with fish caught by people. Starting in the 1880s, American white pelicans were clubbed and shot, their eggs and young were deliberately destroyed, and their feeding and nesting sites were degraded by water management schemes and wetland drainage. In the late 19th and early 20th centuries, pelicans were hunted for their feathers, which adorned women's clothing, particularly hats.

Several efforts in the early part of the 20th century were meant to curb the decline of brown pelicans. In 1903, President Theodore Roosevelt designated Florida's Pelican Island as the first national wildlife refuge, a move that helped reduce the threat of plume hunters. Passage of the Migratory Bird Treaty Act in 1918 gave protection to pelicans and other birds and helped curb illegal killing.

DDT pollution in the environment was a major cause of decline of brown pelican populations in North America in the 1950s and 1960s. It entered the oceanic food web, contaminating and accumulating in several species, including one of the pelican's primary food fish – the northern anchovy. Its metabolite DDE is a reproductive toxicant in pelicans, causing eggshell thinning and weakening, and consequent breeding failure through the eggs being accidentally crushed by brooding birds. Since an effective ban on the use of DDT was implemented in the US in 1972, the eggshells of breeding brown pelicans there have thickened and their populations have largely recovered.

As waterbirds that feed on fish, pelicans are highly susceptible to oil spills, both directly by being oiled, and indirectly by the impact on their food resources. A 2007 report to the California Fish and Game Commission estimated that, during the previous 20 years, some 500–1000 brown pelicans had been affected by oil spills in California alone. A 2011 report by the Center for Biological Diversity, a year after the April 2010 Deepwater Horizon oil spill, said 932 brown pelicans had been collected after being affected by oil and estimated that ten times that number had been harmed as a result of the spill.

Where pelicans interact with fishers, through either sharing the same waters or scavenging for fishing refuse, they are especially vulnerable to being hooked and entangled in both active and discarded fishing lines. Fish hooks are swallowed or caught in the skin of the pouch or webbed feet, and strong monofilament fishing line can become wound around bill, wings or legs, resulting in crippling, starvation, and often death. Local rescue organizations have been established in North America and Australia by volunteers to treat and rehabilitate injured pelicans and other wildlife.

In 1970, under a law that preceded the Endangered Species Act of 1973, the U.S. Fish and Wildlife Service listed the brown pelican as endangered, a term that means the species is in danger of extinction throughout all or a significant portion of its range. In 1972, the Environmental Protection Agency banned the use of DDT in the United States and restricted the use of other pesticides. Since then, there has been a decrease in the level of chemical contaminants in pelican eggs, and a corresponding increase in nesting success. As a result of the ban on the use of DDT in the United States, as well as complementary conservation efforts, the species has made a strong comeback and, in view of its improved status, has been removed from the list of threatened and endangered species throughout its range. The U.S. Fish and Wildlife Service now estimates the global population of brown pelicans at 650,000 individuals.

**BIBLIOGRAPHY:** For further details about pelicans you may want to consult the following literature:

- Audubon's Birds of America. Macmillan Company.
- The Return of the Brown Pelican. Dan Guravich. Ecology Environment Nature Book.
- North American Pelicans. Lynn Stone. Nature Watch Book.

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*There is no seam between the doings of wild animals and human affairs.  
We can't go on losing them and not lose part of ourselves.*

Kenneth S. Norris