

Pelecanus occidentalis (Brown Pelican)

Family: Pelecanidae (Pelicans)

Order: Pelecaniformes (Pelicans and Allied Waterbirds)

Class: Aves (Birds)



Fig. 1. Brown pelican, *Pelecanus occidentalis*.

[http://www.sdakotabirds.com/species_photos/wading_largewater/brown_pelican_7.htm,
Downloaded 3 November 2011]

TRAITS. It is the smallest pelican species (Wikipedia 2011). There is no sexual dimorphism of plumage but the males tend to be larger than the females (Schreiber 1980). They can grow up to 54 inches in length with a wingspan of up to 79 inches (Allaboutbirds 2011). The bill is longer than its head and there is featherless skin pouch that is connected to the lower the bill that can hold up to three times the amount of the stomach. This pouch is used to hold their food until they drain the water from it then they may carry their food in their gullet. They boast internal air sacs under their skin that allows them to float and swim easily (Fig. 1). The four toes are all connected by a web of flesh. Colour: The feet are black, the top of the head is pale yellow, with the rest of the head being white, the back, tail and rump are brown while the belly and chest are dark-brown; the young under parts are white and their necks brownish-grey (Street 1999). The adults undergo seasonal change in colour that is timed with breeding (Schreiber 1980).

ECOLOGY. Brown pelicans are found in North and South America coastal areas of the Atlantic from Venezuela up to Nova Scotia, Pacific from Chile up to British Columbia and Gulf coasts from Florida to Mexico. Some Caribbean islands also have populations of brown pelican. They prey mainly on menhaden but would also eat other small fishes such as herring, silversides, mullet and top minnows as well as the sporadic crustacean primarily prawns (Street 1999). They were once blamed for decreasing fishing resources by fishermen but this has been proven incorrect as they do not eat commercial fish, saving them from being unnecessarily killed by fishermen. They have no natural predators (Bailey 1918).

SOCIAL INTERACTIONS. They are extremely social and live in flocks of mixed genders and age groups (Fig. 2). They have even been known to nest in colonies containing other water birds (Allaboutbirds 2011). They are known to migrate in large flocks northward up the Pacific and Atlantic coastlines shortly after the ending of the breeding season but return as temperatures drop in the winter. They also know to fly in groups using either a straight line or 'V' formation (Street 1999).

MOVEMENT. Flight is the main means of locomotion for these birds as they very capable fliers able to glide and mainly use slow but strong flaps of their wings for propulsion. During flight they retract their head to shoulders and rest their beak along their neck (Fig 4.) They are also very good swimmers, using their webbed feet but unbalanced when moving on land due to their size. (USFWS 2011).

FORAGING BEHAVIOUR. Hunting for prey usually occurs near the nesting site. This species is unique among pelicans in the way it hunts for its food as it up to seventy feet in the air then quickly dives into the water with their wings somewhat folded as they identify prey which is preferably a small fish. They can plunge their body fully into the water or just a part of their body may make it to under water. The distance of the dive determines this as the higher they dive from, the more likely they become fully plunged (NPS 2011). Their pouch expands as it filled with water during the dive. When successful in their dive they keep their beak closed and slowly allow for the water to drain before flicking its head and swallowing the prey. However if no prey is caught the beak is left open and the pouch quickly drained. The height of the dive is also important is as it was found to be directly proportionate to the success of the dive but as it requires more energy to dive from higher heights the pelicans prefer to dive short distances when prey is in abundance (Arnqvist 1992). The pelican themselves however often lose their fish catches to their keltoparasites the gulls who take food from the pelican's beak. This becomes easy as the pelican is sometimes dazed as it surfaces from under the water from some of their higher dives (Finley 1907).

COMMUNICATION. There is not much published on the communication of this species but it is known that they are normally quiet after fledging (i.e. learning to fly) but the young can be heard calling to their parents (Birdweb 2011).

SEXUAL BEHAVIOUR. Breeding age for this species fluctuates between three and five years as they normally wait until they develop adult plumage (Blus and Keahey 1978). The males select a nesting site which can be on the ground or in a tree and attempts to lure a female to it by moving its head about. If the nest location is a pleasing to the female she may join the male and they will mate. The male brings sticks and nest building material to the female who constructs the nest (Street 1999). Open communication between the two halts after the nest is completed.

The typical breeding climaxes during March and April. During this time their neck's colour changes from white to brown. The female can lay between two and four eggs in the nest but most commonly lay three. Both male and female incubate the eggs by placing their webbed feet over it. Incubation occurs for approximately one month (Natureworks 2011).

JUVENILE BEHAVIOUR. After hatching the young pelicans are dependent on their parents as they are blind and featherless. The parents attempt to keep the hatchlings below its feet to protect them from the elements. They bring semi-digested food for their young and place it on the floor for the first month of their chick's life. After the first month of the chick's life it takes the regurgitated food from its parent's mouth (Birdweb 2011). Chicks that hatched in ground may walk around the ground nest at about one month old while chicks that hatch in tree nest do not leave until their first flight which occurs at around two to three months. They require at least twenty five kilograms of food to successfully fledge (Schreiber 1980). After fledging a lot of deaths of juvenile are due to them being unable to properly feed themselves (NPS 2011).

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Author: Devon Stewart

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Fig. 2. Brown pelican colony.

[http://gulfoilspill.audubon.org/sites/default/files/photos/pelican_colony_in_louisiana_-_david_j._ringer.jpg, downloaded 6 November 2011]



Fig. 3. Brown pelican diving.

[<http://www.enature.com/fieldguides/enlarged.asp?imageID=17573> downloaded 6 November 2011]



Fig. 4. Brown pelican in flight.

[http://en.wikipedia.org/wiki/File:Brown_pelican_-_natures_pics.jpg, 6 November 2011]