

Eastern Brown Pelican

Scientific Name: *Pelecanus occidentalis occidentalis*

Federal Status: Endangered, 10/13/70 • State Status: Endangered

The Eastern Brown Pelican has recovered sufficiently in Florida, Alabama, and the United States Atlantic coast to be delisted. Although numbers are increasing in Louisiana and Texas, it is currently still listed as Endangered in Texas and Louisiana.

Description

With its 6-foot wingspread and 18-inch bill with pouch along the underside, no other bird could be easily mistaken for this unique seashore dweller. Possessing broad wings and a bulky body, a Brown Pelican weighs about 9 pounds. A graceful flier, the pelican's powerful wingbeat is one of the slowest among birds. Its feet are webbed to provide power while swimming in or under the water.



Brown Pelican
© TPWD Glen Mills

Nonbreeding adults have a white head and neck, often washed with yellow; a grayish-brown body; and a dark brown to black belly. In breeding birds, the back of the neck is a dark chestnut color with a yellow patch at the base of the foreneck. Some breeding birds develop red or plum colored pouches. Adults molting during incubation and chick-feeding have cream-colored heads and necks. Juveniles are grayish-brown above with whitish underparts. Young birds appear more brown in color as they age, acquiring adult plumage by their third year.

Distribution and Habitat

Historically, the Brown Pelican was found in large numbers along the Atlantic and Gulf coasts from South Carolina to Florida and west to Texas. Today, the birds occur throughout their historic range but their numbers have been greatly reduced.

The earliest population estimate of Brown Pelicans in Texas was that of Sennett in 1879, who estimated 5,000 adults nesting on two islands in Corpus Christi Bay. By 1918, the estimated number was 5,000 birds nesting on the entire Texas coast. The numbers continued to decline sharply from about 1,034 breeding birds on the central coast in 1939 to only 50 birds in 1964. During the period 1967-1974, the Texas population was estimated to be less than 100 birds, with fewer than 10 breeding pairs. Only 40 young were fledged on the entire Texas coast during this period.

Today, Brown Pelicans are found along the Texas coast from Chambers County on the upper coast to Cameron County on the lower coast. Most of the breeding birds nest on Pelican Island in Corpus Christi Bay and Sundown Island near Port O'Connor, both National Audubon Society Sanctuaries. Smaller groups or colonies occasionally nest on Bird Island in Matagorda Bay, a series of older spoil islands in West Matagorda Bay, Dressing Point Island in East Matagorda Bay, and islands in Aransas Bay. Pelican numbers have increased slowly from very low levels in the 1960's and 1970's to an estimated 2,400 breeding pairs in 1995.

Brown Pelicans nest on small, isolated coastal islands where they are safe from predators such as raccoons and coyotes. Nesting habitat ranges from mud banks and spoil islands to offshore islands covered with man-

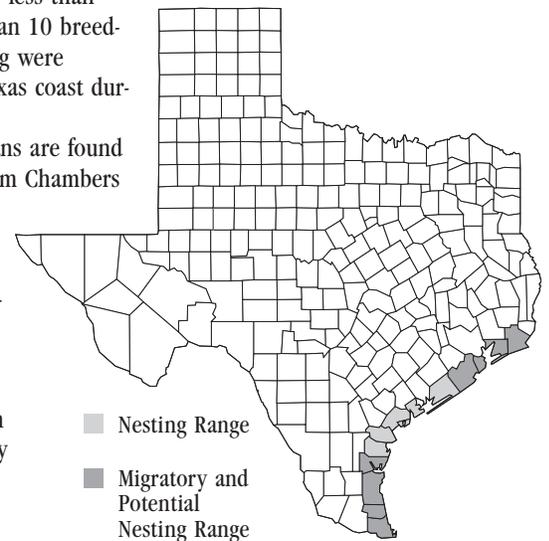
groves and other woody vegetation. Part of the Texas population spends the nonbreeding season along the Texas coast, while others migrate south to spend the winter along the eastern coast of Mexico.

Life History

It is quite an experience to watch a Brown Pelican feeding. Soaring overhead, the bird spots a fish near the surface and keeps it in sight. Rotating into a dive, the pelican plunges 30 to 60 feet bill-first into the water. The impact of hitting the water with such force would stun an ordinary bird, but the Brown Pelican is equipped with air sacs just beneath the skin to cushion the blow. As it enters the water, the loose skin on the underside of the bill extends to

form a scoop net with an amazing capacity of 2.5 gallons. If the dive is successful, the pelican quickly drains the water from its pouch and tosses its head back to swallow the fish.

Brown Pelicans can often be seen flying in formation with slow powerful wingbeats, searching the water for Menhaden and Mullet, which form the major portion of



their diet. Several studies of food habits have shown that the diet of Brown Pelicans consists almost entirely of these fish. In one study, Menhaden was by far the most prevalent fish found regurgitated and left lying in pelican colonies. Since gamefish considered desirable by fishermen are not typically included in the pelican's diet, the birds do not compete with man for food.

Brown Pelicans breed in the spring, building their nests in mangrove trees or on the ground. Nests vary greatly in size and structure, consisting of piles of sticks, grass, reeds and other available vegetation. Pelicans usually lay two to four white eggs which are often stained brown by nest materials. The young hatch in about 30 days. Newly hatched pelicans appear helpless indeed, with their black, featherless, leathery skin. They are blind at first and completely dependent upon their parents for food and protection. Until the young birds develop a coat of down, about two weeks after hatching, it is often necessary for the adults to shade them from the direct rays of the sun, which can be fatal.

Young pelicans are fed by both parents. Using its pouch as a feeding trough, the adult regurgitates semidigested fish into it for the young to eat. As the young pelicans grow, they reach farther into the pouch, occasionally reaching down the parent's throat for food. The young are fed for about nine weeks. During this time, each nestling will devour about 150 pounds of fish. The parents spend most of every day catching fish to satisfy the ravenous appetites of their offspring.

Although mortality from predators, weather, and accidents is high for hatchlings, once on their own, Brown Pelicans have a fairly long life span. Adult survival approaches 80% per year, and some birds live 30 years or longer.

Threats and Reasons for Decline

Brown Pelican numbers in Texas began to decline sharply in the 1920's and 1930's, when adult birds were killed and nesting colonies destroyed by fishermen, in the mistaken belief that pelicans compete with man for

food. It is estimated that pelican numbers declined by more than 80% in just 16 years, between 1918 and 1934.

Even more damaging, however, was the widespread use of DDT and similar insecticides beginning in the late 1940's. These insecticides were used on farmlands across the United States and in coastal areas to control mosquitoes. DDT does not usually kill adult birds, but it does interfere with calcium metabolism. The result is that the birds lay thin-shelled eggs that break during incubation or are too thin to protect the embryo. Pelicans are fish eaters, and fish are great accumulators of all toxic chemicals that get into coastal waters. The pelican's favorite food, Menhaden, a small filter-feeding fish, trap plankton for food. The plankton absorbed DDT residues from runoff. Thus, the concentration of DDT and Endrin in the environment had a devastating impact on the reproduction of Brown Pelicans, along with other top-of-the-food-chain birds such as Bald Eagles, Ospreys, and Peregrine Falcons. Recovery of these species has been steady since the early 1970's, when DDT and Endrin were banned in the United States.

In Texas today, the major threats to the continued recovery of the Brown Pelican appear to be human disturbance and loss of nesting habitat. Pelicans need safe places to nest, away from predators and man. Many former nesting sites have become accessible to both due to new construction and siltation. The hope is that as the pelican population expands, the birds will colonize the more remote islands still available as nesting sites.

Ongoing Recovery Efforts

The National Audubon Society, U.S. Fish and Wildlife Service, and Texas Parks and Wildlife Department have combined forces to count, band, and inspect the Brown Pelican nesting colonies. Brown Pelicans banded on the central Texas coast have been reported from the Louisiana coast, Mobile Bay, Alabama, Naples, Florida, and the northeastern coast of Yucatan. Researchers are studying the migration patterns of Brown Pelicans, particularly movements between Texas and Mexico.

Biologists continue to monitor the nesting success of pelicans at



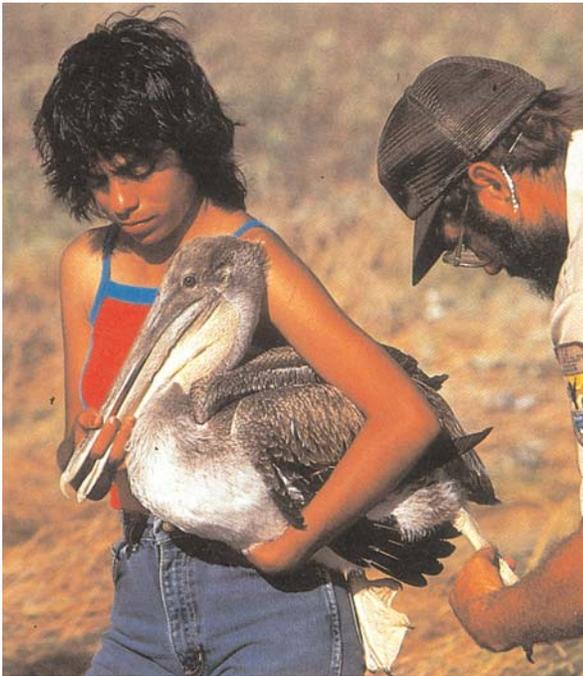
Brown Pelican with young
© TPWD



Brown Pelican in non-breeding plumage
© TPWD Leory Williamson

existing colonies and surveying the bays for possible new nesting sites. One recently developed technique involves placing pelican decoys near suitable islands in an effort to establish new nesting colonies.

Also, individuals from Texas Parks and Wildlife Department and the National Audubon Society regularly patrol the nesting islands to help minimize the effects of human disturbance. Many of the islands are owned or



Banding pelicans
© TPWD

leased by the National Audubon Society as colonial waterbird nesting sanctuaries. These islands are regularly posted and patrolled.

Where To See Brown Pelicans

Matagorda Island and Mustang Island State Parks and Padre Island National Seashore offer visitors the opportunity to see and learn more about Brown Pelicans. Public piers and jetties, such as those in Port Aransas, are also good places to watch pelicans.

What You Can Do To Help

Brown Pelicans and other colonial nesting birds (herons, egrets, spoon-bills, ibis, terns, gulls, and skimmers) nest on islands. Islands offer protection from predators, but the birds are still vulnerable to human disturbance. Since the hot sun can kill small chicks and embryos in unhatched eggs in a matter of minutes if the adults are flushed from the nests, you can help by staying off islands where birds are nesting. Islands maintained as bird sanctuaries are identified with posted signs. Boaters wishing to observe the birds should bring binoculars and stay behind designated signs so as not to disturb the birds. And whatever you do, don't get off the boat. Pelicans (and other birds) will become agitated and leave their nests if approached. Remember that state and federal laws protect nongame and endangered species, and harassing the birds at

any time is illegal. The Endangered Species Act provides protection for listed species against any action that significantly disrupts normal behavior patterns, including breeding, feeding, or sheltering.

Occasionally, a Brown Pelican will mistake a fishing lure or bait for a swimming fish and accidentally gets hooked. If this happens to you, don't just cut the line and leave the bird with trailing line that can entangle and kill it. Gently reel the pelican in. Even though pelicans are big birds, they are not that strong, and this is easy to do. Grab the bill first and then fold the wings up to restrain the bird. Next, remove all fishing line and try to remove the hook. Cut the barb or push the hook through, just as you would for a person. If the hook is impossible to remove, leave it in and release the bird.

For years, pelicans reared in Texas have been banded. If you see a pelican with a colored plastic band or an aluminum U.S. Fish and Wildlife Service band on its leg, note which leg, the color of the band, the date, and the location. Send a post card to: Bird Banding Laboratory, U.S. Fish and Wildlife Service, Laurel, Maryland, 20811. This valuable information will help biologists to better understand the life cycle and movements of Brown Pelicans in Texas.

You can be involved in the conservation of Texas' nongame wildlife resources by supporting the Special

Nongame and Endangered Species Conservation Fund. Special nongame stamps and decals are available at Texas Parks and Wildlife Department (TPWD) Field Offices, most State Parks, and the License Branch of TPWD headquarters in Austin. Part of the proceeds from the sale of these items are used to conserve habitat and provide information concerning rare and endangered species. Conservation Passports, available from Texas Parks and Wildlife, are valid for one year and allow unlimited access to most State Parks, State Natural Areas, and Wildlife Management Areas. Conservation organizations in Texas also welcome your participation and support.

For More Information Contact

Texas Parks and Wildlife Department
Endangered Resources Branch
4200 Smith School Road
Austin, Texas 78744
(512) 912-7011 or (800) 792-1112

or
U.S. Fish and Wildlife Service
Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, Texas 78758
(512) 490-0057

or
National Audubon Society
P.O. Box 5052
Brownsville, Texas 78523
(210) 541-8034

References

- King, K.A. and E.L. Flickinger. 1977. *The decline of Brown pelicans on the Louisiana and Texas gulf coast*. The Southwestern Naturalist 21(4):417-431.
- Mabie, David. 1990. *Brown pelican/Reddish egret colony monitoring*. Texas Parks and Wildlife Department Section 6 Report. Project W-125-R-1, Job. No. 9.4. 4 pp.
- Texas Parks and Wildlife Magazine:
Paul R.T. "Pelican comeback." March 1977.
Middleton, R. "On the way back." November 1984.
- U.S. Fish and Wildlife Service. 1979. *Eastern Brown pelican recovery plan*. Endangered Species Office, Atlanta, Georgia.

Funds for the production of this leaflet were provided by the U.S. Fish and Wildlife Service, under Section 6 of the Endangered Species Act.