DEPARTMENT of the INTERIOR

news release

FISH AND WILDLIFE SERVICE

For Release September 30, 1975 McGarvey 202/343-5634

BROWN PELICAN DECLINE PUZZLES EXPERTS

The eastern brown pelican, whose populations took a mysterious nosedive in the 1960's, will receive top priority attention by a team of Federal, State, and private bird experts recently appointed by Interior's U.S. Fish and Wildlife Service.

The team members are Lovett Williams, Leader, of the Florida Game and Fresh Water Fish Commission; Burkett S. Neely and Lawrence Blus of the U.S. Fish and Wildlife Service; Dr. Ralph W. Schrieber of Seabird Research, Inc.; and Larry McNease of the Louisiana Wild Life and Fisheries Commission.

At one time, colonies estimated to total more than 75,000 of the stately birds dotted the coastlines of South Carolina, Florida, Louisiana, Texas, and Mexico, nesting on sand bars or coastal islands and feeding on the abundant fish of the shoreline. Pelicans were so numerous along the Gulf Coast of Louisiana that it was known as the "Pelican State." In 1960, however, the birds went into a sudden, mysterious decline, virtually vanishing from Louisiana and Texas and becoming severely reduced in South Carolina. The California brown pelican, a separate subspecies, also experienced a disastrous decline in the late 1960's. A separate recovery team for these birds will be appointed at a later date.

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Today, in spite of much research and some limited management efforts, the birds continue to be rare throughout their former range, numbering, some scientists estimate, around 20 to 25 thousand. Only in Florida do the birds seem to be successfully breeding and keeping up with their former abundance. The birds disappeared so quickly that the cause of their decline could not be pinpointed. They were gone before most biologists even realized what was happening. It now appears that pesticides, particularly DDT and endrin, were probably the principal culprits, for these chemicals have been shown to be the cause of heavy mortality of adults and young today.

With its six and one-half foot wingspread, dark-gray brown body, and distinctive pouch, the pelican is one of North America's largest and most familiar water birds. Before the population crash, they were a common sight on piers and pilings all along the Gulf Coast, waiting for handouts from fishermen or catching their own in a spectacular, headlong plunge into the waves that oddly saw them hit the water facing downwind and resurface facing upwind so they could be ready for a quick take off. Even at a distance, a flock of pelicans on the wing is unmistakable. They fly in a single file line, skimming the wave tops, every wingbeat in perfect unison throughout the line.

Pelicans are just as unusual in their nesting behavior. Their colonies, often consisting of thousands of birds, are always located on islands where they will be safe from predators. Nests are made on the ground or on the flat tops of mangrove trees, separated from each other by the lengths of two necks and beaks. Ground nests are more vulnerable to tides and predators, but tree nesting colonies suffer mortality from falls of the restless, clumsy young. Three eggs are laid, usually in the spring, although birds on the Atlantic Coast of Florida often begin nesting in the fall. As the eggs hatch, the island becomes a bustling nursery for the raucous young, who go through strange antics to beg food from their parents as they return from fishing expeditions. Young pelicans often can't recognize their parents from other adults. Chicks are sometimes seriously injured when repulsed by strange adults. A hungry young bird may even eat its smaller brothers and sisters if the parents are slow to return.

In Louisiana a program was begun in 1968 to transplant birds into the State from the healthy Florida population. It was hoped that this program would either succeed in reestablishing pelicans in the "Pelican State" or else shed more light on the cause of the original dieoff. At first the transplanted birds did well, and 50 to 100 birds were brought in each year. Then this spring many suddenly died. Chemical analysis has revealed lethal levels of the pesticide endrin in the dead birds' tissues. Endrin, which is heavily used in the cotton belt in the lower Mississippi River drainage, may also have been involved in the original decline.

In South Carolina, on the other hand, the birds did not experience a sudden crash, but rather a slow reduction in numbers and reproductive success which continues today. These birds have thin eggshells and high residues of DDE, a breakdown product of DDT, in their bodies. In many other birds, DDE has been shown to cause reproductive failure by interfering with normal nesting cycles and producing thin-shelled eggs which break easily during incubation. Recently, the DDE levels in South Carolina pelicans have begun to drop, but the birds are not out of danger yet.

It is possible that in some cases, several adverse environmental factors have worked together to produce the decline. Birds already weakened by DDT, endrin, or some other pesticide, for example, might have more difficulty surviving or successfully nesting when faced with food shortages or adverse weather.

The first goal of the recovery team will be to assemble all of the data so far gathered in different parts of the pelicans' range. This will then provide a basis for planning future research and management efforts to accomplish the long-term objective of reestablishing healthy, secure populations of pelicans throughout their former range.

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