

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Removal of the Brown Pelican in the Southeastern United States From the List of Endangered and Threatened Wildlife**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: The Service removes from the List of Endangered and Threatened Wildlife the brown pelican (*Pelecanus occidentalis*) in Alabama, Florida, Georgia, South Carolina, North Carolina, and points northward along the Atlantic coast. The brown pelican remains endangered throughout the remainder of its range, which includes Mississippi, Louisiana, Texas, California, Mexico, Central and South America, and the West Indies. This change in status is based on evidence that the pelican is at or above historical breeding levels and has stable population numbers and productivity. The species no longer fits the definition of "endangered" or "threatened" in the southeastern States.

DATE: The effective date of this rule is March 6, 1985.

ADDRESS: The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Endangered Species Field Station, Jackson Mall Office Center, 300 Woodrow Wilson Avenue, Suite 316, Jackson, Mississippi 39213.

FOR FURTHER INFORMATION

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SUPPLEMENTARY INFORMATION:**Background**

The brown pelican is one of two species of pelican in North America; the other is the white pelican (*Pelecanus erythrorhynchos*). The brown pelican weighs up to 8 pounds and may have a wingspan of 7 feet. It feeds almost entirely on fishes captured by plunge diving in coastal waters. The brown pelican is rarely found away from salt water and does not normally venture more than 20 miles out to sea.

This rule addresses a particular population of the brown pelican: Alabama, Florida, South Carolina, North Carolina, and northward along the Atlantic coast. In the eastern United

States, large numbers of brown pelicans historically nested on small coastal islands in Texas, Louisiana, Florida, and South Carolina; some nesting also occurred in North Carolina and possibly Georgia. There are no verified reports of nesting in Mississippi or States north of North Carolina. In 1983, several pairs of pelicans were discovered nesting on a spoil island in Mobile Bay, Alabama. This was the first substantiated nesting record for pelicans in that State. The brown pelican regularly occurs as far north as the mouth of the Chesapeake Bay, although numbers and timing (usually late summer) are dependent largely upon water temperatures and prey availability. In some years, post-breeding movements extend as far north as New Jersey.

Islands chosen as colony sites are generally 5 acres or less in size, and of very recent origin, being mangrove islands, natural sand spits, or dredge spoil sites. Elevation of these islands is essentially at or only a few feet above sea level. The dune islands in particular are subject to erosion and flooding by storm and spring tides, and they are constantly shifting position.

In Florida, most brown pelicans nest 2-25 feet above the high tide line on islands of black mangroves (occurs statewide) and red mangroves (on the west coast). Brown pelicans have also been observed nesting in white mangroves, and to a lesser extent, in other trees and shrubs, including Australian pine, red cedar, live oak, redbay, and seagrape.

In North and South Carolina, pelicans nest almost without exception on low sand islands of natural or artificial origin. Nesting is concentrated on the highest portion of these islands (rarely more than 6 feet above mean high tide), which are often characterized by a panicgrass-cordgrass association. Nesting also occurs in seashore saltgrass, pigweed, and other characteristic beach and dune species. The elevation of the area appears to be a more essential feature governing nest site selection than the specific vegetation present, although the two factors are in many cases related. The recently discovered nesting pelicans in Alabama have been utilizing driftwood and other debris on a dredge spoil island.

Between 1957 and 1961, the brown pelican disappeared as a nesting species on the Louisiana coast and became nearly extirpated on the Texas coast. Prior to this decline, the brown pelican population in these two States may have numbered about 50,000 individuals (King *et al.*, 1977). Of the several species of coastal breeding birds along the

Louisiana and Texas coasts, only the brown pelican was known to suffer so severely. In the late 1950's, there was no adequate explanation for this population crash, but the severity and suddenness of the decline, which affected all age groups, suggested to biologists in the mid-1960's the involvement of an extremely toxic agent. Subsequent research has implicated the organochlorine pesticide endrin as the probable causative substance (Blus, Cromartie, *et al.*, 1979).

Around the same time (late 1960's, early 1970's), brown pelican populations in South Carolina showed some evidence of decreased reproduction, resulting primarily from eggshell thinning (Blus, Cromartie, *et al.*, 1979). This decrease in reproduction was similar to, although less severe than, the concomitant situation in California, where thin-shelled eggs and other complications had resulted in a complete reproductive failure of brown pelicans in the 1960's (Anderson and Hickey, 1970). This impairment of reproduction has been attributed primarily to the organochlorine pesticide DDT and its principal metabolite DDE. These substances, which are not easily broken down, accumulate in the tissues of species at the top of the foodchain, such as the brown pelican. DDE interferes with calcium deposition during shell formation, resulting in the production of thin-shelled eggs that are easily crushed during incubation (Peakall, 1975).

In summary, organochlorine pesticide pollution apparently contributed to the endangerment of the brown pelican via two mechanisms—direct toxicity (affects all age classes) and impaired reproduction (reduces recruitment into the population). As a result of the observed population declines, the threat of further declines from probably increasingly contaminated food supplies, and the uncertain population status of the species in other areas where contamination was expected, the brown pelican was listed as endangered throughout its U.S. range on October 13, 1970 (35 FR 16047), and in its foreign range on June 2, 1970 (35 FR 8495).

Since the time of listing, the Environmental Protection Agency has placed a ban on the use of DDT in the United States (37 FR 13369-13376, July 7, 1972) and has sharply curtailed the use of endrin. As a result, the environmental residue levels of these persistent compounds have steadily decreased in most areas. There has also been a corresponding increase in the eggshell thickness and reproductive success of brown pelicans as well as of many other

avian predators, including bald eagles and peregrine falcons. Pesticide residue levels in brown pelican eggs in the area affected by this rule have steadily decreased since they were first measured in 1969 (Blus, Cromartie, *et al.*, 1979; Blus, Lamont, and Neely, 1979; Schreiber, 1980).

The historic population levels of the eastern brown pelican are based on observations made as far back as the early 1800's (Audubon in Florida) to the early part of this century. The best estimate of the number of pairs of pelicans nesting in Florida before 1900 is 6-9,000 pairs. The best estimate for South Carolina's historic population is

3-6,000 pairs. North Carolina ranged from none to perhaps a hundred pairs historically. A small colony sporadically was seen in Georgia and usually had a few hundred birds, if any. Prior to 1983, no nesting pelicans were known from Alabama (see above) and Mississippi (still no records). Historically, about 10-15,000 pairs of birds nested in Louisiana and 1,500-4,000 in Texas.

Breeding population censuses of the eastern brown pelican, conducted annually since the late 1960's, now indicate stable or increasing breeding populations in many areas, as indicated in the table below:

NUMBER OF BROWN PELICAN NESTS COUNTED

Year	Florida	South Carolina	North Carolina	Louisiana ¹	Texas	Total ²
1968	6,936	NS	NS	0	2	
1969	6,133	1,266	NS	0	5	
1970	7,690	1,116	NS	0	8	
1971	5,923	1,469	NS	11	3	
1972	7,990	1,415	NS	23	9	
1973	6,010	1,646	NS	67	6	
1974	6,090	1,670	NS	90	7	
1975	5,950	2,400	NS	118	11	
1976	5,491	2,540	75	63	11	8,106
1977	6,532	3,376	82	83	17	9,090
1978	7,780	3,353	172	140	25	11,305
1979	8,942	4,236	426	196	37	13,604
1980	8,095	5,346	425	174	51	13,866
1981	8,125	5,705	658	254	56	14,488
1982	8,546	6,653	600+	331	96	15,800+
1983	6,980	4,919	1,250	602	96	13,149
1984	NS	5,070	NS	709	115	NA

¹ Birds transplanted from Florida 1988-1980 and their offsprings.

² Total covers only Florida and Carolinas (LA and TX not affected by this rule).

NOTE—NS—Not surveyed adequately, NA—Not available.

In Florida, over the past 16 years, brown pelicans have nested on a total of 46 colony sites located throughout the State's coastal areas. The westernmost known breeding site in the State is near Panama City.

In contrast to the situation in Florida, South Carolina brown pelicans breed on only two sites. The average number of nests is currently (1980-84) at, or above, the reported historical level of 5,000.

The decline in the number of nests counted in Florida and South Carolina in 1983 is believed due to an unusually late nesting season in Florida and the partial loss of one of the two sites in South Carolina (to be discussed further below). The 1984 data are incomplete, but the Service believes they show a slight increase over 1983. Such fluctuations in annual numbers are to be expected.

The explosive increase of brown pelicans in North Carolina may be related, in part, to the expansion of the South Carolina colonies, but cannot otherwise be explained fully. North Carolina is at the northern periphery of the brown pelican's breeding range and, as such, the colonies may be expected to fluctuate more dramatically than they

would in more centrally-located breeding areas. The fact that some North Carolina brown pelicans nest on recently-created dredge spoil islands may also have contributed to the birds' increase in the State. Brown pelicans currently use three to seven colony sites in two disjunct North Carolina coastal areas.

The 1983 and 1984 breeding population expansion in Alabama is considered further evidence of the healthy state of this pelican population. In 1983 there were four nests and in 1984 there were eight.

In the *Federal Register* of November 10, 1983 (48 FR 51736-51741), the Service proposed to remove this population segment of the brown pelican from the List of Endangered and Threatened Wildlife. In the area affected by this rule, pelican nesting populations are presently at or above known historical levels. Furthermore, over the past 6-8 years, the average current fledgling rate has remained greater than or equal to the level of 1.0 young per nest considered necessary to maintain a stable population over the past 6-8 years. Based on these data, the Eastern

Brown Pelican Recovery Team (U.S. Fish and Wildlife Service, 1980) recommended that the pelican be removed from the List of Endangered and Threatened Wildlife in the portions of its range covered by this rule. The team had suggested the pelican be delisted on the Gulf Coast from the Louisiana-Mississippi border eastward and on the entire Atlantic Coast. The Service has selected the Alabama-Mississippi border as the boundary for this action. This will ensure continued protection for the pelicans from Louisiana, if they feed or loaf in Mississippi waters.

Before addressing specific comments on the proposed rule, it should be noted that in taking this action, the Service is by no means divesting itself of any future concern for the brown pelican from Alabama eastward and northward. Within its planning and budgeting process, the Service has ranked the brown pelican as a National Species of Special Emphasis. Every region within the Service in which the brown pelican occurs in significant numbers has prepared a Regional Resource Planning Document (RRP) that specifically addresses the needs of the brown pelican in that region. The RRP's are to be used by the Service both in short-term and long-term planning of funding allocations.

The RRP for the brown pelican in the area affected by this rule emphasizes the desirability for continued monitoring of breeding populations and pesticide levels, protection and management of nesting habitat, and further efforts toward research and public education regarding this species. The Atlanta Regional Office of the Service is coordinating the development and implementation of necessary monitoring, protection, and research efforts. Copies of the RRP document for the area covered by this rule are available through the U.S. Fish and Wildlife Service, Regional Office, Region 4, Richard B. Russell Federal Building, 75 Spring Street, SW, Atlanta, Georgia 30303.

Summary of Comments and Recommendations

In the November 10, 1983, proposed rule (48 FR 51736) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations and other interested parties were contacted and requested to comment. Newspaper notices inviting

public comment were published in 15 major and local papers throughout the area affected by the rule.

A total of 47 comments were received and are discussed below. Comments were received from the following sources: State wildlife agencies, local governments, national conservation groups and zoological societies, seabird hospitals, professional biologists, and other private citizens. Additionally, a petition with 281 signatures advocating reclassification to threatened status was received from John's Pass Seafood Company, Treasure Island, Florida.

The North Carolina Wildlife Resources Commission favored a reclassification to threatened status but opposed total delisting on the grounds that since pelicans breeding in North Carolina are concentrated in only two areas, they are still susceptible to decimation from flooding, erosion, and winter mortality. The commission also alluded to the potential future threat of increased pesticide runoff associated with the massive agriculture land conversions scheduled for the Dare/Hyde/Tyrrell County peninsula. On March 15, 1984, 120,000 acres of the land in question were donated to the Fish and Wildlife Service as a part of the National Wildlife Refuge system. There are no known pesticides presently being used in the range of the brown pelican in the southeastern U.S. that appear to pose any threat to the existence of the North Carolina birds or the remainder of this population.

The South Carolina Wildlife and Marine Resources Department indicated that pelicans in South Carolina have nested on only two coastal islands; three quarters of one of these was lost due to erosion in the winter of 1982, and reproduction in 1983 was reduced (see section on destruction of habitat below). It was the opinion of this agency, as well as several other commenters, that continued listed status would increase the likelihood of continued monitoring and cooperation among various State and Federal agencies.

None of these comments contained information that had not already been evaluated in the Service's original formulation of the proposed rule. The Service is mandated to make determinations regarding endangered species solely on the basis of the best available biological information. This information indicates that the eastern brown pelican has achieved or surpassed historical levels of some 14,000-18,000 breeding adults in Florida and 10,000 in the Carolinas, the area affected by this action. The recent Dare/Hyde/Tyrrell County peninsula land acquisition further ensures the safety of

the North Carolina pelicans. The States of North and South Carolina may exercise the option of retaining the pelican as endangered (or threatened) on their respective State lists. This would focus concern for the pelican at a more accurate level and should provide adequate impetus for continued monitoring and/or habitat restoration work, as necessary. Some of this work may also be funded through the Service's RRP process, as described above. Habitat has not been a limiting factor regarding the continued existence of the pelican. Shifting islands or breeding sites are frequent elements of the pelican's ecology. Other aspects of the above concerns are addressed below.

Four commenters, including one seabird biologist, and the Town of Holden Beach, North Carolina, cautioned that we have no adequate explanation for the dramatic upswing of pelican numbers in North Carolina and that this population could crash just as rapidly as it has risen. For this reason, they favored a reclassification to threatened status. The Service agrees that the recent pelican increase in North Carolina is without known precedent and cannot be fully explained. However, we do not agree that this is adequate justification for retaining the brown pelican in threatened status. As stated elsewhere in this rule, *P. occidentalis* reaches the northern periphery of its breeding range in North Carolina. Unexplained increases or decreases may be expected to occur towards the periphery of any animal's range, as environmentally favorable conditions wax and wane over time. Therefore, a decrease in pelican breeding numbers in North Carolina, which could be attributed, for example, to inclement weather or loss of habitat, would not necessarily be of adverse consequence to the population as a whole.

Similarly, several individual commenters expressed concern over the effects of natural phenomena such as severe storms and fluctuations in food supply. The Service believes that while the pelican, as well as many other organisms, might be negatively impacted by such factors, these natural phenomena provided the evolutionary backdrop in which the species evolved (see section on natural factors below) and cannot be taken as serious threats to the brown pelican's continued existence. This bird has survived many tens of thousands of years of hurricanes, high tides, freezes, warming and cooling periods, and other natural factors and can be expected to cope with these same factors in the future, provided environmental contamination and other

human-related factors do not cause significant adverse problems.

Along these same lines, several commenters, including the Florida Audubon Society and officials of Dade County, Florida, mentioned that pelican populations in certain areas of Florida, particularly the southwest coast and the Everglades, have shown a downward trend for a number of years. These trends are most likely associated with changes in the distribution patterns of fish species upon which the pelicans feed and do not constitute threats to the species' continued existence. There are no downward trends in pelican population numbers for the State of Florida as a whole, and there is no evidence that the above-mentioned population declines are associated with thinned eggshells or other indications of pesticide-induced reproductive failure.

One commenter noted that the decrease in Florida nesting pelican numbers of between 20 and 25 percent from 1979 to 1983 belied our contention that this population was stable. However, an examination of previous years' data reveals that fluctuation in nesting numbers appears to be the norm for the Florida population; year-to-year upward fluctuations of as much as 35 percent have occurred, as have downward fluctuations of nearly 25 percent. This may be partially attributed to the time that surveys were conducted, given natural variation in peak nesting time, as well as to "real" fluctuations in breeding conditions. Such variations in the counts are eventually dampened by repeated observations. The 16-year mean number of brown pelican nests in Florida is 7076. The Service believes that these data are adequate to conclude that Florida nesting pelican numbers may indeed be considered stable, fluctuating around 7000 nesting pairs.

Six individual commenters indicated that pelicans should remain threatened as a precautionary measure, until more data become available. The opinion was expressed that it seems illogical to jump from endangered to delisted status without an intermediate period under threatened classification. As stated above, the brown pelican was originally listed as endangered throughout its range, based on the species' known problems in California, Louisiana, and Texas and its expected threat from the same source (DDT) throughout the remainder of its range. In addition, the earlier laws (pre-1973) allowed for only a single level of listing: endangered. Population data gathered since listing have questioned the likelihood that the pelican population in Florida was ever endangered, as defined by the Act, and

this designation was also questionable for the pelican in South Carolina. These data were not in existence at the time of listing, and the most prudent course of action, based on the best available data at that time, was to list the entire species as endangered. Further, the present Act, as amended, requires a review of all listed species every 5 years to ensure an appropriate listing status. The brown pelican was first reviewed in 1979 under the provision, and the result of that review is this rule, which merely delineates more accurately the actual biological status of *Pelecanus occidentalis* as it is known today.

Five individuals commented that the pelican should remain listed because the problems of pollution and other forms of human interference have not been solved. This was also stated in the petition from John's Pass Seafood Company mentioned above. The Service does not feel that these generalized concerns constitute sufficient reason to continue listed status. Along these same lines, a letter from the director of a Florida seabird sanctuary documented the existence of numerous illegal sewage outlets dumping raw municipal and industrial waste directly into the coastal environment. While this is surely a problem for the pelican, as well as for many other organisms that spend part of their life cycle in estuaries, it does not constitute sufficient reason for classifying this pelican as endangered or threatened. These illegal sewage outflows generally result in, at most, very small-scale and localized water-bird and fish die-offs (see section on pollution below). The fact that such outflows are presently illegal will not be altered by any change in the brown pelican's status. Sufficient laws, both State and Federal, currently exist to regulate such infractions. Proper enforcement of these laws should in no way be dependent upon the status of the brown pelican under the Act.

A theme mentioned in many of the letters opposing this action was that the Service delisting the brown pelican would be tantamount to writing it out of any future funding considerations. This is not the case. As mentioned above, the RRP process provides a firm framework within which the Service may allocate funds for brown pelican monitoring and protection. States may also allocate Section 6 monies approved for such purposes, as well as non-game and other funds derived from other sources, to brown pelican projects. Endangered species funding priorities may indeed be readjusted once it is recognized that the brown pelican is not endangered or threatened as defined by the Act, and

some of these funds may be appropriately re-allocated to the study and protection of listed species. The State of Florida has already recognized the low priority of the brown pelican as an endangered species and has adjusted its own funding level accordingly. Funding sources and levels, past, present, and future, are not factors under the Act for listing, reclassifying, or delisting a species (see below).

Two seabird hospitals provided data indicating that we had underestimated fishline and hook injuries to pelicans. These data are discussed below.

The National Wildlife Federation (NWF) mentioned, among other points, the possible threat to pelicans from potential manganese mining operations in the Tampa Bay area. The Minerals Management Service (MMS) has indicated that this activity, if it occurs at all, is unlikely to take place before the turn of the century. The Service (FWS) is of the opinion that any threat to pelicans from this potential activity does not constitute sufficient reason to delay or alter this rule. Other points raised by the NWF are discussed in appropriate sections elsewhere in this document.

Comments supporting the proposed rule were received from four States (Alabama, Louisiana, Texas, and Maryland), seven biologists (including two members of the Eastern Brown Pelican Recovery Team), two county administrators, and the Curator of Ornithology, New York Zoological Society.

The Virgin Islands Department of Conservation and Cultural Affairs, Division of Fish and Wildlife, provided excellent data concerning the status of the brown pelican in the Virgin Islands. The agency concurred with the proposed delisting but felt that its database was not yet adequate to include the Puerto Rico and Virgin Island population in the delisting action. The Service concurs with this determination.

Summary of Factors Affecting the Species

After a thorough review and consideration of all pertinent information available, the Service has determined that the eastern brown pelican should be delisted in Alabama, Florida, Georgia, South Carolina, North Carolina and points northward along the Atlantic coast. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement provisions of the Act for listing, reclassifying or removing species (codified at 50 CFR Part 424; revision published October 1, 1984; 49 FR 38900-38912) were followed. A species may be

determined to be an endangered or threatened species (or reclassified) due to one or more of the five factors described in section 4(a)(1) and at § 424.11 of this title.

The regulations at § 424.11(d) further state that the data to support such removal must be the best scientific and commercial data available to the Director to substantiate that the species no longer meets any of the five factors of section 4(a)(1) and is neither endangered nor threatened for one or more of the following reasons:

1. *Extinction.* Unless each individual of the listed species was previously identified and located, a sufficient period of time must be allowed before delisting to clearly ensure that the species is extinct.

2. *Recovery of the species.* The principal goal of the Service is to return listed species to a point at which protection under the Act is no longer required. A species may be delisted if the evidence shows that it is no longer endangered or threatened.

3. *Original data for classification in error.* Subsequent investigations may produce data that show that the best scientific or commercial data available at the time that the species was listed, or the interpretation of such data, were in error.

The five factors in section 4(a)(1) and their application to the brown pelican in the southeastern United States are as follows:

- A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Brown pelicans generally nest on small (usually less than 5 acres) coastal islands, either on the ground or in shrubs or trees (U.S. Fish and Wildlife Service, 1980).

1. *Florida.* Most nesting occurs on mangrove islands. Due to coastal development, this type of habitat has decreased somewhat since the turn of the century. The Service's National Wetlands Inventory (NWI) indicated that as of 1980, an estimated 670,000 acres of mangrove habitat existed in Florida. Mangrove habitat is protected by section 404 of the Clean Water Act as well as by local laws in Florida.

While there are several traditional, large rookeries in Florida, there are many smaller breeding sites that may shift from year to year. Availability of appropriate and widely distributed nesting islands is apparently not a problem in Florida.

Approximately 40 percent of the brown pelican breeding population in Florida currently nests on National Wildlife Refuges. Another 5 percent uses National Park Service land for breeding

purposes. Some 8 percent of the remaining breeders in Florida nest on National Audubon Society land or that owned or leased by other conservation organizations (Florida Game and Freshwater Fish Commission, 1982). Thus, over 50 percent of Florida's brown pelicans nest on sites that are managed for the primary purpose of promoting and maintaining their reproductive success.

2. *North Carolina.* Up until 1982, brown pelicans in North Carolina used three to five colony sites in two disjunct coastal areas. In 1983, brown pelicans were observed nesting on two additional, more northerly colony sites.

The three longest-standing brown pelican colony sites in the State are currently being acquired by the National Audubon Society. These colonies will continue to be protected and monitored regardless of the brown pelican's future classification status.

During the late winter of 1982, the U.S. Army Corps of Engineers, in cooperation with the State of North Carolina and the U.S. Fish and Wildlife Service, rebuilt one severely eroded brown pelican nesting island, and pelicans have continued to nest on the island in 1983 and 1984.

3. *South Carolina.* Unlike the situation in Florida, pelicans in this State nest in only two colony sites which are not widely separated. One is located on Cape Romain National Wildlife Refuge, and the other has been on one of several islands some 50-60 miles south of the refuge. Pelicans nesting within the refuge boundaries have been, and will continue to be, protected and monitored whatever their status.

The more southerly brown pelican nesting site in South Carolina has shifted periodically, as the various islands used for nesting have eroded or been washed away. The most recent shift occurred after Hurricane David destroyed the existing pelican colony island, Deveaux Bank, in 1979. From 1980 to the present time, pelicans in the area have nested on Bird Key at the mouth of the Stono River.

This island was dedicated as a State sanctuary in 1982. In 1983, however, tidal erosion caused nest flooding and greatly reduced pelican reproductive success. This created a temporary problem for South Carolina's brown pelican population, since it is thought that all appropriate brown pelican nesting sites in the State are already occupied (Cely and Wilkinson, 1981). The South Carolina Department of Wildlife and Marine Resources coordinated the effort to stabilize Bird Key with dredge spoil material, as was done in a similar situation in North

Carolina. This effort was also successful, and pelicans are again nesting on Bird Key. Thus, nesting island stabilization using dredge spoil has proven to be an effective method of maintaining brown pelican (as well as other seabird) nesting habitat, thereby decreasing the potential threat of habitat loss even towards the periphery of the brown pelican's breeding range.

4. *Alabama.* In July of 1983, four brown pelican nests were discovered on a spoil island in Mobile Bay, Alabama, that had been created by the U.S. Army Corps of Engineers. The Corps erected warning signs and monitored the progress of these nests. Eventually, two young were fledged. This year, pelicans are again nesting on this site. In addition to constituting a range expansion for the species, this successful nesting demonstrates the readiness of pelicans to accept man-made nesting sites. This demonstrated flexibility presents a new option for management of pelican habitat and further reduces the likelihood of threat to pelicans from habitat loss.

5. *Other States.* As indicated above, pelicans in Georgia, Virginia, and States north of Virginia originate from the nesting colonies in Florida and the Carolinas. Coastal habitats used by pelicans outside of Florida and the Carolinas, used for feeding and loafing, appear adequate to meet the future needs of the species.

In summary, a large percentage of the brown pelican's nesting habitat in the area affected by this rule is protected from human intrusion and development. Furthermore, the availability of nesting habitat, on a range-wide basis, is not limiting to brown pelicans. Historical records going back a hundred years indicate that habitat has been lost, but such losses have usually resulted in the colonies moving to a nearby islet to resume nesting activities. Habitat loss was not a major factor of consideration in the original listing of the brown pelican, and the Service thinks that projected habitat loss to development or other causes cannot be considered a factor still endangering or threatening the continued existence of the brown pelican.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Since the pelicans' plight has been widely publicized, human intrusion into their nesting areas, both by scientists and the general public, has increased. While some researchers believe that such disturbance has had little effect, recent studies have indicated human disturbance can significantly decrease brown pelican productivity, by causing the adults to

flush, resulting in egg breakage, thermal stress and increased predation of eggs and nestlings (Schreiber, 1979; Anderson and Keith, 1980). Access to brown pelican colonies is limited generally to scientific investigators and resource managers on federally-owned nesting sites and those designated by local governments or private owners as sanctuaries. Individual pelicans nesting on privately-owned sites will remain protected from injury or taking by the Migratory Bird Treaty Act of 1918 and any applicable State laws. No other Federal laws are needed in the view of the Service to ensure the continued protection from take of this species in these States. Present State laws would continue to protect the species from take in those States affected by this rule. The pelican is not in trade and is not on the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

C. *Disease or predation.* Brown pelicans generally choose nesting sites that are free of mammalian predators that could attack eggs or young. Gulls, fish crows, and other avian predators occasionally destroy ungarded pelican nests, but if brown pelicans are undisturbed, at least one member of the breeding pair usually remains close to the nest to protect egg and vulnerable nestlings. In the absence of other disturbing factors, egg and nest predation does not impose a significant limitation on brown pelican reproduction. There is no significant predation on adult brown pelicans.

Like all other species of wildlife, brown pelicans are susceptible to certain diseases and parasitic infections. For example, a foot-rot disease of unknown origin has been observed in brown pelicans on the east coast of Florida. In Texas, where brown pelican numbers are still very low, reproduction was adversely affected by a tick infestation in 1981. Brown pelicans are known to host other parasites, including mites and liver flukes. However, diseases and parasites normally pose no significant problems for a healthy brown pelican population.

D. *The inadequacy of existing regulatory mechanisms.* In addition to the Endangered Species Act, the brown pelican is protected from taking by the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703 *et seq.*). Brown pelican habitat is given protective consideration by the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*), the Estuary Protection Act (16 U.S.C. 1221 *et seq.*), section 10 of the Rivers and Harbors Act (33 U.S.C. 401 *et seq.*), and sections 402 and 404 of the Federal Water Pollution

Control Act (33 U.S.C. 1251 *et seq.*), as amended by the Clean Water Act (91 Stat. 1566).

In addition, continuing pelican research or monitoring programs might be conducted using funds provided, in part, through the Federal Aid in Wildlife Restoration Act (16 U.S.C. 669) and the Fish and Wildlife Conservation Act of 1980 (16 U.S.C. 2901). Funds may also still be available to the States under section 6 of the Endangered Species Act, as State-listed species or State-candidates (as well as federally listed species) qualify for study funding. The pelican is listed as endangered under the State laws of all the affected States except Florida, where it is presently listed as threatened. Additionally, funds for brown pelican management and study may be available through the Service's RRP process, as described above. These regulations and laws, if enforced and/or funded, will provide adequate protection for the brown pelican and its habitat.

E. Other natural or man-made factors affecting its continued existence.

1. *Natural factors.* Brown pelican reproductive success is strongly influenced by the weather at the time of breeding. High winds or waters can destroy or inundate nests; untimely cold snaps may contribute to the death of eggs or nestlings, and periodic food shortages may result in decreased nesting and/or fewer young reared (Schreiber, 1979). Therefore, brown pelican productivity normally fluctuates considerably from year to year and place to place. A complete local reproductive failure in one season in one locality is not an uncommon occurrence and no cause for immediate alarm, if the brown pelican population is at safe levels overall. The pelican is a long-lived species that has evolved with this "boom or bust" reproductive strategy.

Brown pelicans may switch breeding sites from year to year, especially in Florida, where the breeding population is widely distributed. Therefore, abandonment of one or several rookeries is no indication of an overall declining population. Examples of localized population declines and reproductive failures are numerous. Brown pelican populations have apparently been declining in the Florida Keys recently and may be declining on the southwest coast of Florida as well. These declines (or population shifts) are possibly related to a changing distribution and/or abundance of fish species. Despite these apparent local declines, however, the total population of brown pelicans in Florida has remained relatively stable.

In summary, natural factors may adversely affect brown pelican reproduction on a short-term localized basis, but in and of themselves pose no threat to the continued existence of the species.

2. *Man-related factors.*

a. *Pesticides.* As stated above, susceptibility to organochlorine pesticide residues was the primary factor contributing to the original endangerment of the brown pelican. Due to environmental regulations promulgated over the past 12-15 years, the threat of organochlorine pesticide pollution has been greatly reduced, and the residues of those persistent compounds in brown pelican eggs have shown a steady decrease. This highly encouraging trend is a major factor supporting this delisting action. However, the Service is aware that there are some pesticides currently registered for use that contain small amounts of DDT. Some of these products are under EPA review, and their use may be restricted or cancelled. Such products will likely be replaced by less persistent chemicals of unknown effects to pelicans and other susceptible estuarine-dependent life forms. At the present time, such materials do not pose a known threat to the brown pelican.

While the effects on brown pelicans from environmental contaminants other than the organochlorines are not thoroughly known, there are indications that some localized contaminant-related problems still exist for this highly susceptible species. National Wildlife Health Laboratory records of eastern brown pelican mortality from 1976 to 1983 document 10 die-off incidents totaling over 212 birds in the States covered by this rule. Almost 5 percent of these reported mortalities were related to actual or suspected pesticide or heavy metal contamination. About 47 percent of the reported mortalities occurred in the vicinity of illegally released untreated sewage. Other sources of mortality included parasites or enteritis (33 percent—possibly a secondary result of previous debilitation), drowning and/or starvation (7 percent) and unknown causes (8.5 percent). However, these die-offs are generally small and occur in numerous other seabirds feeding in coastal areas as well.

In summary, neither the threat of future "unknown" pesticides nor the threat from existing short-lived, non-organochlorine pesticides constitute sufficient reason for continued listed status of an animal with as large and stable a population as the brown pelican. To maintain this species on the

list (§ 17.11) in the area addressed by this rule would be inconsistent with the Act's definitions of "endangered" and "threatened" and would be incongruous with the status of truly endangered or threatened species.

The Service believes that by the very conspicuous nature of the pelican, the sudden loss of an unusual number of birds or nests, for example, would be reported quickly. The pelican is a very popular bird, not just with the public at large, but with scientists (public and private) as well. The bird continues to be heavily studied throughout its range by bird watchers and ornithologists. Should the pelican experience any new problems, these very likely would soon be brought to the attention of the Service, even without intensive Federal or State monitoring.

b. *Commercial fishing activity.*

Throughout much of its range, the diet of the eastern brown pelican is composed largely of Atlantic and Gulf menhaden. The menhaden fisheries are the largest in North America, comprising between 24 percent and 43 percent of the total U.S. fishery landings over the past decade.

There does not appear to be a conflict between pelican conservation and the menhaden fishery in the area of this proposed rule, since the portion of the Atlantic menhaden fishery that occurs within the range of the Atlantic coast pelican population is compatible with peak historical pelican numbers. There is virtually no commercial menhaden fishing in peninsular Florida.

c. *Recreational fishing activity.* Every year, a number of brown pelicans become hooked or entangled in monofilament line or caught by baited hooks, resulting in injury and some mortality. The Pelican Harbor Seabird Station, Inc., which covers an estimated 10-mile section of coastline in the Miami area, reports that of 200 pelicans handled in 1982, roughly 71 percent had fishing-related injuries. Of these, 12 (8.5 percent) died or were permanently crippled; the remainder were rehabilitated. Fishing-related injuries comprised about 35 percent of all observed mortality. Another seabird rehabilitation group, the Endangered Species Protection Fund, reports treating some 450 brown pelicans for fish line or hook injuries over a 4-year period in the Port Canaveral, Brevard County vicinity.

These data indicate that our original estimate of 500 pelican injuries per year from fish lines and hooks was quite low. This source of mortality, however, is still not considered to be detrimental to overall pelican numbers (stable at about 30,000 breeding and non-breeding birds

in Florida). Additionally, it is likely that much of this mortality is compensatory; i.e., many of these pelicans would have died of other causes had they not succumbed to this source of mortality. Finally, this impact is largely accidental; therefore, this rule is not anticipated to have any effect on its occurrence. This problem is probably more effectively dealt with through educational, rather than legal channels. The net effect of such losses has not depressed the pelican population below historical levels.

d. Coastal oil and gas development.

Any oil and gas development could increase the likelihood of introducing some hydrocarbon pollutants into the marine environment. Demonstrated adverse effects of oil on avian species include decreased hatchability of eggs, direct toxicity and stress from oil ingested during feeding or preening, and feather fouling, resulting in decreased insulation and possible drowning (Holmes and Cronshaw, 1977). Brown pelicans breeding in North and South Carolina could be vulnerable to oil spills, because of their concentration on small areas during the breeding season. Such spills might impact one or more colonies, but the long-term effects would be minimal. (After the 1969 Santa Barbara spill the local pelican population was greatly augmented by breeders from other areas over the next 5-6 years.)

Outer Continental Shelf (OCS) oil and gas leasing in the area of this proposed rule is in its infancy, and it is difficult even to speculate on the area's potential. The Minerals Management Service's (MMS) 1982, 5-year OCS oil and gas leasing schedule proposes 6 sales in two OCS regions covering the area addressed by this proposed rule. Two of these sales have been held on schedule. Response has been moderate. To date, only 6 exploratory wells have been drilled in the South Atlantic Region, and 25 wells in the East Gulf of Mexico Region. None of these wells has been productive. Interest in offshore leases has generally been confined to tracts 100 miles or more from the coastline.

Of the States in the proposed rule area in which brown pelicans nest, only Florida and Alabama have any current oil and gas development in State waters. To date, only the Alabama coastal zone has shown any promise of productivity, and this has been for gas, rather than oil production. The States of North Carolina, South Carolina, and Florida, in particular, are very concerned about the potential adverse environmental effects of oil and gas development in coastal

areas and are not encouraging oil and gas leasing in State waters. Florida recently passed a law prohibiting drilling in all bays, estuaries, and rivers, and within 1 mile of the coastline. Florida and North Carolina are conducting studies to determine whether, and what type of, leasing should be allowed in State waters. The Florida Department of Environmental Regulation also has strict requirements for state-of-the-art equipment to prevent blowouts and spills and to protect the environment, should they occur.

Federal laws regulating offshore oil and gas operations have also become more stringent within the past decade. The oil content of water produced from offshore operational discharges is limited by effluent guidelines promulgated by EPA, which are enforced by National Pollution Discharge Elimination System permits. The U.S. Geological Survey is responsible for day-to-day inspection and monitoring of OCS oil and gas operations and monitoring hydrocarbon discharges resulting from such operations. Additionally, an Environmental Impact Statement must be prepared for all MMS OCS lease sales.

Therefore, the possibility of oil spills impacting brown pelican nesting colonies in the area of this proposed rule is minimal and speculative due to: (1) The relatively great distance offshore of current and projected future OCS leases, (2) the general reluctance of the States involved to lease tracts in State waters, (3) the stringent regulations (both State and Federal) governing drilling operational procedures and equipment, and (4) the general lack of interest in this part of the coastline as a potential oil-producing region.

In summary, the Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Biological data indicate that the brown pelican is not currently endangered or threatened in the area covered by this rule. Based on this evaluation, the preferred action is to delist the brown pelican on the Atlantic Coast and in Florida and Alabama. Any alternative action would not truly reflect the biological status of the pelican in the area where this rule applies and would be contrary to the Act's intent.

Available Conservation Measures

The prohibitions pertaining to an endangered species found in section 9(a)(1) of the Act, as implemented at § 17.21, no longer apply in the area

covered by this rule. These include prohibitions on taking, harm, possessing, selling or offering for sale, exporting, and shipping in interstate or foreign commerce. However, these same general prohibitions will still be provided under the Migratory Bird Treaty Act and other laws and regulations.

The protection afforded the brown pelican under section 7(a) of the Act is eliminated in the area covered by this rule. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out, are not likely to jeopardize listed species or result in the destruction or adverse modification of designated critical habitat. Any economic consequences that may have occurred as a result of sections 7 and 9 of the Act would be eliminated in the area covered by the rule. All prohibitions and provisions set forth in the Act would still apply to the brown pelican in those portions of its range not specifically addressed by this rule.

Survey work leading to the recommendation for delisting was made possible by partial funding through grants-in-aid to qualifying States under section 6 of the Act. The Service strongly recommends and solicits the participation of the affected States in carrying out continued monitoring of brown pelican reproductive success. The Service intends to give the pelican continued consideration for any available Section 6 monies for such study. In order to ensure the maintenance of this population's non-endangered status and the welfare of this bird, the Service has established an RRP, as described above.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

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- A more complete list of references is on file in the Jackson, Mississippi, Office, as well as various letters, administrative reports, and other documents not referenced here. These are available for inspection along with the rest of the administrative record as indicated under the **ADDRESSES** section in this document.

Author

The primary author of this rule is Judy F. Jacobs, formerly of the Jackson Endangered Species Field Station (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for Part 17 reads as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531, *et seq.*).

2. Amend § 17.11(h) by revising the entry for the brown pelican under "BIRDS" to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
BIRDS							
Pelican, brown	<i>Pelecanus occidentalis</i>	U.S.A. (Carolinas to Texas, California), West Indies, and Central and South America: coastal.	Entire—except U.S. Atlantic coast, Florida, and Alabama.	E	2, 3, 170	NA	NA

Dated: January 11, 1985.

J. Craig Potter,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 85-2694 Filed 2-1-85; 8:45 am]

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