

## WOOD STORK *Mycteria americana*



Photo of adult wood stork in landing posture and chicks in nest.

Photo courtesy of U.S. Army Corps of Engineers.



Close-up photo of adult wood stork.

Photo courtesy of USFWS/Photo by George Gentry

**FAMILY:** Ciconiidae

**STATUS:** Endangered - U.S. Breeding Population (*Federal Register*, February 28, 1984)  
[Service Proposed for status upgrade to Threatened, December 26, 2013]

**DESCRIPTION:** Wood storks are large, long-legged wading birds, about 45 inches tall, with a wingspan of 60 to 65 inches. The plumage is white except for black primaries and secondaries and a short black tail. The head and neck are largely unfeathered and dark gray in color. The bill is black, thick at the base, and slightly decurved. Immature birds have dingy gray feathers on their head and a yellowish bill.

**FEEDING HABITS:** Small fish from 1 to 6 inches long, especially topminnows and sunfish, provide this bird's primary diet. Wood storks capture their prey by a specialized technique known as grope-feeding or tacto-location. Feeding often occurs in water 6 to 10 inches deep, where a stork probes with the bill partly open. When a fish touches the bill it quickly snaps shut. The average response time of this reflex is 25 milliseconds, making it one of the fastest reflexes known in vertebrates. Wood storks use thermals to soar as far as 80 miles from nesting to feeding areas. Since thermals do not form in early morning, wood storks may arrive at feeding areas later than other wading bird species such as herons. Energy requirements for a pair of

nesting wood storks and their young is estimated at 443 pounds of fish for the breeding season (based on an average production of 2.25 fledglings per nest).

**REPRODUCTION AND DEVELOPMENT:** The wood stork is a highly colonial species usually nesting in large rookeries and feeding in flocks. Age at first breeding is 3 years but typically do so at 4. Nesting periods vary geographically. In South Florida, wood storks lay eggs as early as October and fledge in February or March. However, in north and central Florida, Georgia, and South Carolina, storks lay eggs from March to late May, with fledging occurring in July and August. Nests are frequently located in the upper branches of large cypress trees or in mangroves on islands. Several nests are usually located in each tree. Wood storks have also nested in man-made structures. Storks lay two to five eggs, and average two young fledged per successful nest under good conditions.

**RANGE AND POPULATION LEVEL:** The current population of adult birds is difficult to estimate, since not all nest each year. Presently, the wood stork breeding population is believed to be greater than 8,000 nesting pairs (16,000 breeding adults). Nesting has been restricted to Florida, Georgia, and South Carolina, however they may have formerly bred in most of the southeastern United States and Texas. A second distinct, non-endangered population of wood storks breeds from Mexico to northern Argentina.

Storks from both populations move northward after breeding, with birds from the southeastern United States population moving as far north as North Carolina on the Atlantic coast and into Alabama and eastern Mississippi along the Gulf coast, and storks from Mexico moving up into Texas and Louisiana and as far north as Arkansas and Tennessee along the Mississippi River Valley. There have been occasional sightings in all States along and east of the Mississippi River, and sporadic sightings in some States west of the Mississippi and in Ontario.

**HABITAT:** Storks are birds of freshwater and estuarine wetlands, primarily nesting in cypress or mangrove swamps. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Particularly attractive feeding sites are depressions in marshes or swamps where fish become concentrated during periods of falling water levels.

**REASONS FOR CURRENT STATUS:** The southeast United States breeding population of the wood stork declined from an estimated 20,000 pairs in the 1930's to about 10,000 pairs by 1960, and to a low of approximately 5,000 pairs in the late 1970s. Nesting primarily occurred in the Everglades. The generally accepted explanation for the decline of the wood stork is the reduction in food base (primarily small fish) necessary to support breeding colonies. This reduction is attributed to loss of wetland habitat as well as to changes in water hydroperiods from draining wetlands and changing water regimes by constructing levees, canals, and floodgates to alter water flow in south Florida.

Wood storks have a unique feeding technique and require higher prey concentrations than other wading birds. Optimal water regimes for the wood stork involve periods of flooding, during which prey (fish) populations increase, alternating with dryer periods, during which receding water levels concentrate fish at higher densities coinciding with the stork's nesting season. Loss of nesting habitat (primarily cypress swamps) may be affecting wood storks in central Florida, where nesting in non-native trees and in man-made impoundments has been occurring recently. Less significant factors known to affect nesting success include prolonged drought and flooding, raccoon predation on nests, and human disturbance of rookeries.

**MANAGEMENT AND PROTECTION:** Large, fully protected colonies in south Florida (Everglades National Park and Corkscrew Swamp Sanctuary) experienced frequent nesting failures in recent decades. This is due to adverse water management practices in south Florida. a result of such drainage, many nesting storks have shifted colony sites to managed or impounded wetlands in central/north Florida and also expanded the nesting range up into Georgia and South Carolina. The Everglades Restoration project includes the needs of the wood stork and restoration milestones include wood stork nesting success and feeding habitat goals in this historic restoration effort.

Water level management may also be crucial at rookeries throughout the southeast U.S. Flooding may be necessary to stimulate nesting and prevent predators from destroying nests. Periodic drying also may be necessary to prevent trees from dying and to allow recruitment of new trees.

At a minimum, for continued survival of the United States breeding population of wood storks, currently occupied nesting, roosting, and foraging habitat must be protected from further loss or degradation. A prerequisite for complete recovery of the population is the restoration and enhancement of suitable habitat throughout the mosaic of habitat types used by this species. Recovery efforts for the wood stork would be more effective with a complete understanding of population biology, movement patterns of United States and neighboring populations of storks, foraging ecology and behavior, the importance of roost sites, and the possible impacts of contaminants.

#### **REFERENCES:**

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