

Argos/GPS Transmitters Reveal New Information About Post-Fledging Movements of Juvenile Wood Storks

South Florida was once the stronghold of the North American nesting population of Wood Storks, but nesting there has declined by approximately 95% since the 1960's. This decline is generally thought to be due to habitat loss and dramatic changes in water management in the vast Everglades marshes. Because these birds detect prey (fish and invertebrates) by feeling around in the water with their bills rather than relying on eyesight, storks require high concentrations of fish in shallow waters to sustain themselves and their young. Due to their sensitivity to hydrological conditions and fish abundance, they are considered to be indicator species for the restoration of the Everglades. Although the Southeastern population of Wood Storks has been listed as endangered in the United States since 1984, population dynamics for the species remain poorly understood. Among the data that have been lacking for the species are age at first breeding, fledging success, juvenile

survival, and annual survival of adults. Factors affecting mortality rates for young and adult Wood Storks are also poorly understood.

Dr. Peter Frederick and Rebecca Hylton of the University of Florida used

Microwave Telemetry's solar 35g PTT-100 transmitters to monitor the fledging success, survival and movements of juvenile Wood Storks in 2002 and 2003. To supplement this work and increase the quality of our locational data, in the spring of 2004 we added the 45g Argos/GPS PTT to our program. We placed GPS transmitters on 17 juvenile Wood Storks and monitored their dispersal and subsequent movements and survival.

In all three years we observed the postfledging dispersal of Wood Storks out of south Florida into central and northern Florida, Georgia, South Carolina, and Alabama and occasionally



Photo courtesy of Melanie Colon

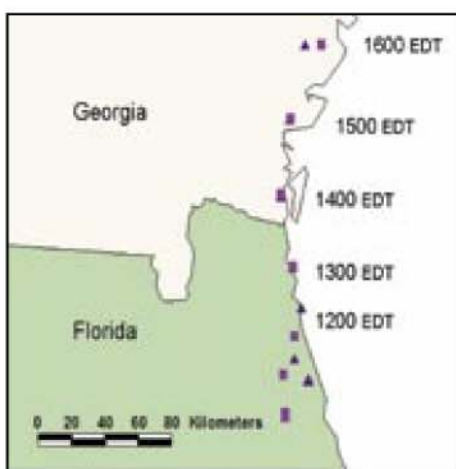
We performed health exams and placed transmitters on chicks that were between 4 and 5 weeks of age and returned them to their nests.



A young Wood Stork wearing a 45 g Argos/GPS PTT. Tagged birds acted normally and did not seem to be bothered by the transmitters. All but one tagged bird fledged successfully from the colony.

Mississippi. This northward dispersal has been followed in all cases by a return to the southern end of the Florida peninsula in winter, confirming a regular migratory pattern for the storks. The GPS PTTs have allowed us to detect new patterns and occurrences that we may have missed in previous years. This year we were excited to discover that young birds from the same colony may forage together after leaving the colony. The fine spatial and temporal resolution of the locations supplied by the GPS PTTs showed two young birds traveling together up the east coast. To the south, three birds spent a few days foraging within 2 km of one another and sometimes only a few hundred meters apart. This took place over 60 miles away from the colony. We were also able to detect different birds using the same locations within a few days of one another. The fine scale of the information is also now allowing us a much finer ability to identify preferred microhabitats. With three years of data now under our belt, we have a good idea of variation in first year survival, which we have incorporated into a preliminary demographic model.

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Paths of two juvenile Wood Storks on 9 July 2004. These storks had traveled together along the east coast of central Florida before splitting apart on 7 July. On 9 July they join each other once again at 1300 h, when they were located within 500 m of one another. At 1400 h they are approximately 1.1 km apart, but at 1500 h they are less than 200 m apart. By 1600 h they have parted ways, and are located approximately 8.5 km from one another. They spent the rest of the summer in separate locations in South Carolina.



This juvenile Wood Stork followed a similar path one week later at a much slower pace. This stork took 3 days to cover the same distance covered by the previous two storks in just a few hours.

Photo (above left) and maps courtesy of Rena Borkhataria