

A O S SPRING MEETING, APRIL 17-19, 2009

Meet the Speaker: Dr. Mark Woodrey

DR. MARK WOODREY is a Research Biologist at the Mississippi State University Coastal Research and Extension Center in Biloxi, Mississippi. He is also the Research Coordinator at the NOAA/Mississippi Department of Marine Resources Grand Bay National Estuarine Research Reserve (NERR) in Moss Point, Mississippi. He received his Ph.D. in Biology from the University of Southern Mississippi, where he studied fall bird migration in coastal Alabama. He worked on his M.S. and B.S. degrees in Zoology from The Ohio State University, where he studied the food storing behavior of White-breasted Nuthatches. Mark has extensive background developing monitoring programs and conducting avian conservation biology research. In addition to his recent focus on marsh bird research, including monitoring and ecological studies, he has studied a variety of bird groups, including colonial beach-nesting birds, grassland birds, and breeding birds of bottomland hardwood forests. He is strongly involved in The Partners in Flight program and has co-authored several Partners in Flight Bird Conservation Plans. He continues to promote the use of science-

based information to support the management of bird species of high conservation concern. Mark's numerous publications include work on management of wintering passerines, habitat issues of migratory land birds, and age-dependent aspects of stopover biology.

Recently, he has found himself broadening his research interests. In addition to the bird work noted previously, he coordinates the Grand Bay NERR's System-wide Monitoring Program; a national, standardized water quality and meteorological monitoring effort, and is involved in collaborative research projects focused on the ecology of estuarine fishes, effects of prescribed fire and sea level rise on coastal plant and animal communities, levels of mercury contamination in estuaries, and the nesting ecology of diamondback terrapins. The main goal of his research efforts is to better understand the ecological relationships between the flora and fauna of rare coastal habitats along the northern Gulf of Mexico. Results from this work will allow management agencies and conservation organizations to make more informed and effective natural resource management decisions.

Breeding Ecology of Marsh Birds in Tidal Marshes of the Northern Gulf of Mexico Coast

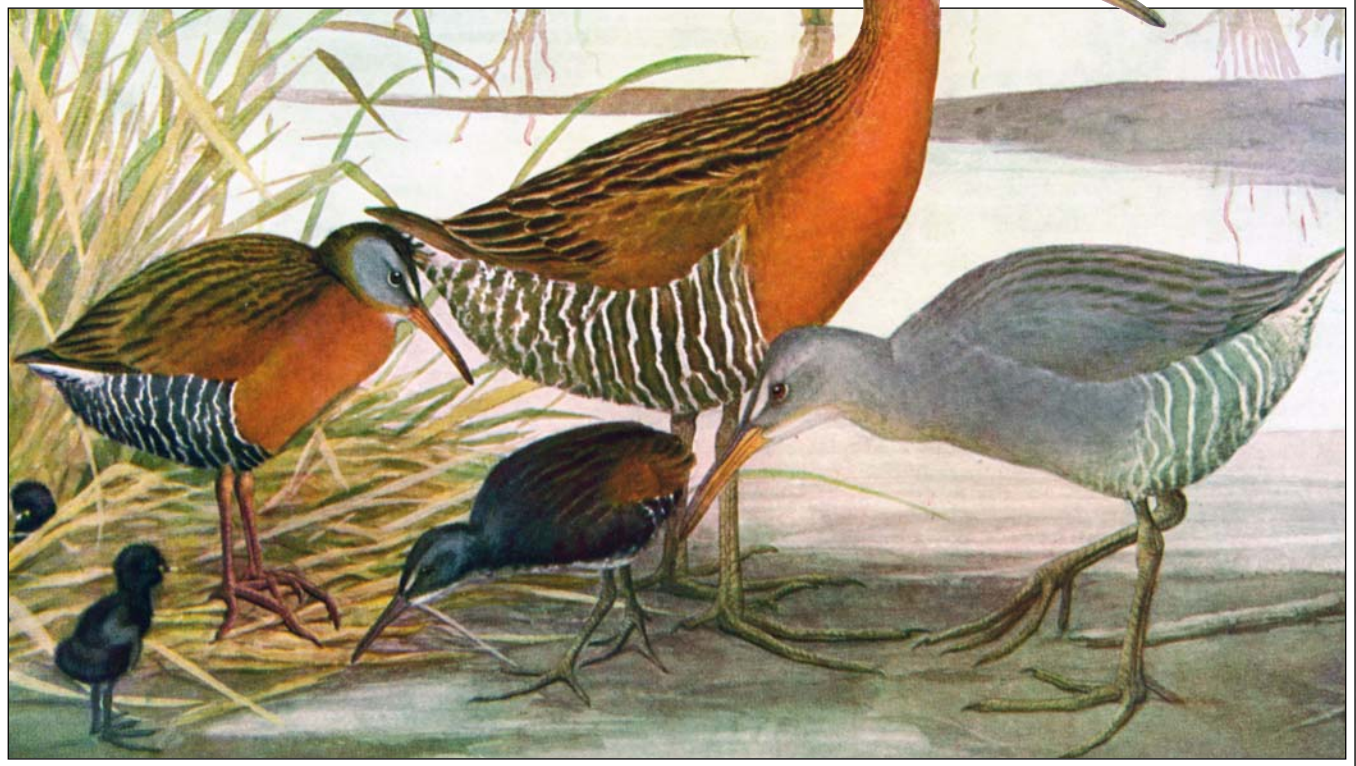
By DR. MARK WOODREY



THE ACREAGE OF EMERGENT WETLANDS IN NORTH America has declined sharply during the past century. Yet, we know little about how populations of many marsh bird species that are dependent on coastal emergent wetlands may be adversely affected. Primary species of concern along the Gulf Coast include Pied-billed Grebes, Least Bittern, Purple Gallinule, Common Moorhens, American Coots, rails such as Clapper, King, Virginia, Sora, Yellow, and Black, as well as passerine species such as Marsh Wren, Nelson's Sharp-tailed Sparrow, and Seaside Sparrow. Many of these species are rare in some or all of their breeding range and are listed on many regional and national lists of conservation

concern. For example, King Rails are federally endangered in Canada and several subspecies of Clapper Rails are federally endangered in Mexico and the U.S. Moreover, King Rail populations have declined dramatically over the past 30 years.

Despite the rapid loss of tidal marsh along the U.S. Gulf Coast, little is known about the marsh birds that inhabit this ecosystem. Specifically, we know little about the population status or distribution of many of these species, how their populations may be changing over time, which habitats are used by species throughout their annual cycle, how these species respond to tropical storms and hurricanes, and how they might be impacted by contaminants. To address the lack of



information and scientific data for marsh birds, we initiated ecological studies during the breeding and wintering seasons to gain a better understanding of these poorly known species. We have conducted our work in a variety of tidal marsh systems, including coastal Alabama, the Grand Bay National Estuarine Research Reserve and National Wildlife Refuges and the Lower Pascagoula River Marshes in Mississippi. Using a variety of field and laboratory techniques, we have focused our current efforts on passerine marsh birds during the winter and Clapper Rails during the breeding season.

To date, we have conducted 1,600+ standardized "secretive" marsh bird monitoring counts in coastal Alabama and Mississippi. Results indicate that Clapper Rail densities are significantly higher at the Grand Bay NERR but Least Bitterns are significantly more common in the Lower Pascagoula River Marsh Coastal Preserve. We also located and monitored 100+ Clapper Rail nests during the first three years of our work. Of the 100+ nests, 82 nests produced at least one fledgling. In addition to our field research, we have focused significant effort on incorporating our results into various conservation and management plans in Alabama and Mississippi and have made significant outreach efforts, includ-

ing multiple field site tours for research scientists, graduate students, and the public.

This project is an integral element in a multiyear, programmatic effort to develop a coastal marshbird conservation program based on long-term monitoring, research, education/outreach, and management. The initial phase in this effort is to develop a solid biological foundation, which in this case focuses on improving our understanding of the poorly known ecology of marshbirds. Building this strong foundation is critical to developing a broader conservation strategy which includes conservation design (designing sustainable landscapes for long-term conservation) and conservation delivery (delivery of on-the-ground, coordinated, and targeted wildlife and habitat conservation programs). Further, the integration of monitoring, research and management, will lead to the involvement of resource professionals, including students, colleagues from academia and resource management agencies, non-governmental conservation organizations, and volunteer amateurs. The use of education components such as the "Master Naturalist Program" and Coastal Training Program Workshops through NERR sites will further promote our efforts to influence the sound management of coastal habitats.