WATERBIRD USE AND FOOD AVAILABILITY ON WETLAND RESERVE PROGRAM EASEMENTS ENROLLED IN THE MIGRATORY BIRD HABITAT INITIATIVE

Jessica Tapp

Dr. Elisabeth Webb, Thesis Supervisor

ABSTRACT

The Natural Resource Conservation Service implemented the Migratory Bird Habitat Initiative (MBHI) in summer 2010 to mitigate potential loss of wetland habitat caused by the Deepwater Horizon oil spill. The goal of MBHI was to improve seasonal wetlands enrolled in conservation easements in the Lower Mississippi Alluvial Valley (LMAV) to provide additional habitats for wintering and migrating waterbirds. My main objectives were to evaluate factors influencing waterbird density and species richness by making relative comparisons between MBHI wetlands and reference wetlands (i.e. WRP wetlands not enrolled in MBHI, publicly managed wetlands) with differing management activities, food biomass, and surrounding landscapes. Drought conditions combined with landowner reluctance to flood sites until winter resulted in approximately 50% of sites being completely dry for most/all of the shorebird survey period, therefore I was unable to detect patterns in shorebird use among wetlands (other than influences of vegetation structure). However, management activities did positively influence dabbling duck densities and increased food production. Additionally, dabbling duck densities at MBHI wetlands were 2.1 times greater than at WRP wetlands. I attempted to explain additional variation in waterbird response variables by creating sets of *a priori* models that include local and/or landscape habitat variables. Effects of landscape variables on some waterbird responses were likely masked due to variation in species specific behaviors. Nevertheless, I found strong evidence that dabbling ducks were seasonal wetlands that contained abundant local wetland foods (at least moist-soil seeds) that had several agricultural fields within 10km, indicating a reliance on natural and anthropogenic food sources.