



Sandhill Cranes Wintering Ecology Study

Bosque del Apache National Wildlife Refuge

Due to recent declines of the Rocky Mountain Population of sandhill cranes, the U.S. Fish and Wildlife Service's Southwest Region Division of Migratory Birds initiated this study in partnership with the New Mexico Cooperative Fish and Wildlife Research Unit - through the New Mexico State University. The study focuses on the Middle Rio Grande Valley (MRGV), the principal wintering area for the Rocky Mountain Population (RMP) of sandhill cranes. This population winters mainly from the City of Albuquerque south to Bosque del Apache National Wildlife Refuge (NWR) near San Antonio, New Mexico. The valley has long been recognized as the most important wintering area for these cranes. Tens of thousands of visitors travel great distances every year to attend the annual Crane Festival to see cranes on their wintering grounds.

Most of this population of cranes winter on Bosque del Apache NWR and Bernardo Wildlife Area, managed by the New Mexico Department of Game and Fish. Survey estimates indicate that the population size has been relatively stable since 1995. However there is concern that habitat fragmentation, changes in agricultural practices, low recruitment, and harvest pressure have impacted the population. These two areas are the most important wintering areas for these cranes in the MRGV making it the ideal location to conduct the study. These wintering grounds allow for efficient capture and PTT deployment on cranes allowing the Service to conduct studies that capture full life cycle events and potential impacts to cranes across seasons.

Smaller numbers of this population of cranes winter in southwestern New Mexico, including the Hatch and Uvas valley in Sierra and Dona Ana counties, the Deming-Columbus area in Luna County, and the upper Gila River, near Cliff in Grant County along with a small number in Sulphur Springs Valley in Cochise County, Arizona (specifically the Wilcox Playa and surrounding area). Historically, about 10 percent of the population winter in Chihuahua and Durango, Mexico. Across all wintering sites, the quality of winter habitat is especially important because of the high densities of wintering cranes that are dependent on limited resources due to changing agricultural practices, decreasing acreage of corn and small grains, and water availability due to persistent drought is declining. This study will aid in

identifying the limiting factors driving seasonal movement patterns, habitat use, resource selection, and mortality of cranes on the wintering grounds.

Over the next four years, the study team will work towards completing objectives identified below as a means to inform conservation and management decisions. It will also set the stage for studies that address the Intermountain West Joint Venture identified Greater Sandhill Crane Habitat Initiative on the breeding grounds in Colorado, Idaho, Montana, Utah, and Wyoming, and help inform the Cooperative Central and Pacific Flyway RMP management plan goals and objectives.

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Primary Objectives of the Wintering Ecology Study:

1. Estimate over winter survival and non-hunting mortality of RMP Sandhill Cranes in the MRGV
2. Determine seasonal habitat use and resource selection using VHF radio and GPS satellite transmitters
3. Use GPS locations to understand spatially explicit winter movement patterns of RMP Sandhill Cranes in the MRGV
4. Link winter movements to managed habitats on private and public land to understand role of RMP Sandhill Cranes in crop depredation
5. Use movement, habitat use, and resource selection to build a bioenergetics model for RMP Sandhill Cranes in the MRGV
6. Estimate carrying capacity from habitat use, habitat availability, winter movements, and bioenergetics model
7. Initiate coordination of on the ground conservation measures outside the National Wildlife Refuge and State Wildlife Area boundaries.

Learn more about the Southwest Region's Migratory Bird program, visit:
www.fws.gov/southwest/migratorybirds/index.html

Learn about Webless Migratory Game Birds at:
www.fws.gov/migratorybirds/NewReportsPublications/Research/WMGBMR/WMGBMR.html