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USE OF SATELLITE TELEMETRY TO IDENTIFY TEMPORAL AND SPATIAL DISTRIBUTION OF THE MIDCONTINENT SANDHILL CRANE POPULATION THROUGHOUT THE ANNUAL CYCLE

Gary L. Krapu
USGS Northern Prairie Wildlife Center, gkrapu@usgs.gov

David A. Brandt
USGS Northern Prairie Wildlife Research Center, dbrandt@usgs.gov

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GARY L. KRAPU, USGS Northern Prairie Wildlife Center, 8711 37th Street SE, Jamestown, ND 58401, USA
DAVID A. BRANDT, USGS Northern Prairie Wildlife Research Center, 8711 37th Street SE, Jamestown, ND 58401, USA

***Abstract*:** Effective management of the midcontinent sandhill crane (*Grus canadensis*) population requires having detailed information available on the distribution of subspecies and subpopulations throughout the annual cycle. The current study is being undertaken in partnership with several federal and state agencies and private organizations to obtain key information not currently available. We are monitoring crane movements throughout the year by attaching Platform Transmitting Terminals (PTTs) to plastic leg bands and with the aid of equipment on board orbiting NOAA weather satellites relocating the radio-marked individuals at 4-10 day intervals throughout the year. Twenty-one cranes were captured and radio-marked in the Central Platte River Valley in early spring 1998 and 1999. Results to date indicate the technique is well suited for obtaining the types of information being sought. Most of the radio-marked cranes after departing from the Platte River in spring staged again at sites in southern Saskatchewan but those of the Canadian subspecies (*G. c. rowani*) breeding in Manitoba and Ontario staged in northwestern Minnesota. Distribution of radio-marked individuals on the breeding grounds suggests that northeastern Russia may be a more important breeding area for lesser sandhill cranes (*G. c. canadensis*) than previously thought; 50% of lesser sandhill cranes tagged to date (6 of 12) migrated to locations in northeastern Siberia. Onset of fall migration occurred from mid-August to mid-September depending on latitude; fall staging was centered primarily in 3 areas of southern Saskatchewan with fewer radio-marked cranes staging in southwestern Manitoba and central North Dakota. Most radio-marked cranes have spent winter in west Texas, 2 (both *G. c. rowani*) have occupied sites near the Texas Gulf Coast, and 1 each spent winter at sites in Arizona and New Mexico (both *G. c. canadensis* breeding in northeastern Siberia). Habitats occupied by cranes are being identified throughout the annual cycle with the aid of GIS methodology as are temporal and spatial patterns of use of the Central Platte River Valley. Information obtained from the study will be used to delineate breeding ranges, migration corridors, staging areas, and wintering grounds of subspecies and subpopulations to allow crane managers to better meet the needs of the midcontinent population. Current plans are to gather information on a total of 200 sandhill cranes over the study period with 42 cranes to be radio marked in 2000. Those interested in following the radio-marked cranes during their annual cycle or learning more about the crane study can do so by logging on our web site at www.npwrc.usgs.gov/perm/cranemov/cranmov.htm.

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