

2008

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Krapu, Gary L. and Brandt, David A., "IS THE ANNUAL MARCH SURVEY OF THE MIDCONTINENTAL SAN DHILL CRANE POPULATION APPROPRIATELY TIMED TO RELIABLY ESTIMATE POPULATION SIZE?" (2008). *North American Crane Workshop Proceedings*. 178.

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IS THE ANNUAL MARCH SURVEY OF THE MIDCONTINENTAL SANDHILL CRANE POPULATION APPROPRIATELY TIMED TO RELIABLY ESTIMATE POPULATION SIZE?

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Abstract: The U.S. Fish and Wildlife Service relies on an annual aerial photo-corrected survey conducted on the fourth Tuesday of March each year in the Central Platte River Valley (CPRV) and North Platte River Valley (NPRV) of Nebraska to estimate size of the midcontinental population (MCP) of sandhill cranes (*Grus canadensis*) to help guide population management. Wide unaccounted for annual fluctuations in survey counts over the past 25 years have raised concerns that many cranes either have left the Platte before the survey, have not yet arrived, or over fly the Platte entirely in some years. As a result, crane managers in the Division of Migratory Bird Management of the U.S. Fish and Wildlife Service and states in the Central Flyway requested that we evaluate temporal patterns of use of the CPRV in spring, and estimate percentage of MCP cranes present on the survey date each year, and assess whether part of the population uses the CPRV and NPRV intermittently. To evaluate length and pattern of stay, we monitored a representative sample of radio-marked sandhill cranes ($n = 179$) from their arrival to departure from the CPRV in year(s) following capture and estimated percentages of the population present on each survey date over a 5-year period (2001-2005). To evaluate whether part of the population over flies the CPRV and NPRV in some years we monitored a representative sample of PTT-marked sandhill cranes ($n = 70$) on their spring migration from the wintering to breeding grounds in the year following their capture and marking (1998-2002). Results of the study will provide crane managers with improved insight into the temporal dynamics of use of the CPRV and NPRV by the MCP and help establish how reliably the annual March survey tracks population change.

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Key words: *Grus canadensis*, midcontinental population, Nebraska, Platte River, sandhill crane, spring migration, survey.
