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## MATE FIDELITY IN A DENSE BREEDING POPULATION OF SANDHILL CRANES

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**Abstract:** The objective of this study was to investigate mate switches observed in a dense breeding population of banded Sandhill Cranes (*Grus canadensis*). Over a 14-year period, 50 of 70 breeding pairs switched mates (71%), with 45 pairs switching permanently (64%). Mean mate retention between years was 83%, with an average pair bond lasting 5.7 years (range 1-13 years). Most permanent switches occurred following the death or disappearance of a mate, and overall permanent divorce (19%; 13 of 70 pairs) and annual divorce rates (6%) were low. Territory retention following mate switches was high. Males and females did not differ in their ability to retain their original territory. Retaining their original territory after a mate switch, however, did not increase reproductive fitness for either sex. Previous reproductive success was not a significant cause of divorce, nor did an individual crane's reproductive success significantly increase following divorce. Five of the 13 divorced pairs (38%) fledged at least one chick to fall migration prior to divorcing. Also, 10 of 57 pairs that did not divorce went 5-8 years without fledging chicks without observation of divorce. There was evidence to suggest that sandhill cranes may choose to divorce in response to an opening on a nearby territory. Having a breeding territory may take precedence over reproductive success experienced by a pair. If a nearby territory becomes available, a breeding adult sandhill crane in this population may have to choose between staying with a current mate (possibly weighing reproductive history) and changing mates and perhaps territories to increase reproductive success.

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**Key words:** divorce, *Grus canadensis*, mate fidelity, mortality, reproductive success, sandhill crane.

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