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STUDY OF ENVIRONMENTAL VARIABLES AND CONNECTIVITY OF NORTHERN MEXICO FOR CRANES: CONSERVATION IMPLICATIONS

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Abstract: Wetlands are one of the most important ecosystems for biodiversity and as a resource for humans. Humans depend on wetlands for water and food, but with expansion of urban cores, water overexploitation, and the increase of croplands, wetlands are at risk. The Chihuahuan desert is an ecoregion important for the economy and development of Mexico. Although there are many temporal wetlands that support many migratory birds, water in some desert landscapes is being overexploited due to development. This leads to the desiccation of wetlands important for migratory birds such as cranes. The cranes as a group are associated with grasslands and wetlands and of the 15 species, 7 are under CITES Appendix I risk. In America there are 2 species, the whooping crane (*Grus americana*) and the sandhill crane (*G. canadensis*). The whooping crane is under extinction risk and is extirpated from Mexico. The distribution of the sandhill crane at winter sites in northern Mexico is incomplete. Tacha et al. (1992, 1994) and Meine and Archibald (1996) are the principal studies outlining the distribution of cranes in Mexico. They described the distribution of sandhill crane to the states of Chihuahua, Durango, and Coahuila, but they did not study the possible more southern distribution. Chavez-Ramirez (2005) expanded the distribution of the sandhill crane to the south. He included the states of Zacatecas and San Luis Potosi and other wetlands in Coahuila and Nuevo Leon. In spite of this knowledge, it is important to evaluate the degree of conservation of wetlands that cranes use in winter and to evaluate new wetlands with potential for the reintroduction of whooping cranes. In this study, we try to evaluate the environmental parameter of wetlands in northern Mexico and the connectivity within them for conservation and potential reintroduction of cranes.

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Key words: distribution, *Grus canadensis*, northern Mexico, sandhill cranes, wetlands.
