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SANDHILL CRANE STAGING AND WHOOPING CRANE MIGRATORY STOPOVER DYNAMICS IN RESPONSE TO RIVER MANAGEMENT ACTIVITIES ON THE CENTRAL PLATTE RIVER, NEBRASKA, USA

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Abstract: The Central Platte River Valley (CPRV) is a critical stopover for migrating whooping cranes (*Grus americana*) and the most important staging area for sandhill cranes (*G. canadensis*) in North America. Due to reduced water flows caused by human activities, the Platte River no longer follows its traditional hydrograph which consisted of high spring flows that produced scouring action that eliminated vegetation. To provide adequate crane roosting habitat during stopover and staging periods, annual and woody vegetation has been mechanically cleared on eastern portions of the CPRV since 1980. Staging sandhill crane riverine roosting area has decreased since 1950 (160 km) to the present (<80 km) with roosts concentrated on the eastern managed area (approximately 60 km). Sandhill crane roosting has dramatically decreased in western reaches of the CPRV between 1945 (90% of population) and 2007 (10% in 2000, <1% in 2007) as a result of woody vegetation encroachment on the river and no management. Whooping crane stopovers in western areas of the CPRV have decreased over time (80% of total observations in 1950-1979, 17% in 1980-2005) while increasing proportionally overall in the eastern portion of the CPRV. Individual sections show higher density and longer permanence of roosting cranes in areas with more intensive channel management. Mechanical clearing is necessary to recreate the appropriate conditions (open and wide river) for roosting cranes during spring and fall migration.

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