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THE ECOLOGY OF NATIVE GRASSLAND MACROINVERTEBRATES AND FEEDING ECOLOGY OF SANDHILL CRANES

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HABITAT USE BY FLORIDA SANDHILL CRANES ON THE KISSIMMEE PRAIRIE IN CENTRAL FLORIDA

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Abstract: Radio-tagged Florida sandhill cranes (Grus canadensis pratensis) were monitored for habitat use during 1985 and 1986 on the Kissimmee Prairie in central Florida. For both breeding and nonbreeding cranes, 93% of the daytime locations were in 3 habitat types: cropland and plowed pasture, improved pasture, and palustrine emergent wetlands. Improved pasture was the most frequently used daytime habitat for both social classes. Radio locations were divided among 4 time blocks (3 diurnal, 1 nocturnal) and 4 3-month seasons. Time effects for use of wetlands and improved pasture were only marginally significant (P < 0.08 and P < 0.09, respectively) for breeders and not significant (P < 0.30 and P < 0.43, respectively) for nonbreeders. There was no significant difference in habitat use by breeders among seasons. Chi-square analyses of diurnal locations indicated that 4 of the 6 breeding cranes monitored used palustrine emergent wetlands more than their availability. The selection for wetlands reflects not only the rich food sources available, but also their use as midday loafing and drinking sites and as a source of cover that the upland habitats do not offer.

Key Words: Florida, Grus canadensis pratensis, habitat use, sandhill crane, wetlands

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Abstract: The ecology of native grassland macroinvertebrates along the Platte River in central Nebraska and their role in the feeding ecology of sandhill cranes (Grus canadensis) was examined on 3 native grasslands along the Platte River during late winter—early spring, 1989 and 1990. Four hundred forty-four soil samples from the study area were sorted for macroinvertebrates. Environmental factors such as soil moisture, water table depth, soil texture, and plant species composition were recorded from each soil collection site. Fifteen sandhill cranes, observed feeding for 40 minutes, were collected from 1 of the study areas. Macroinvertebrates were collected from 4 sites in close proximity to the location where each crane was feeding. In 1989, nearly all earthworms were found at sites with a water table depth > 60 cm, whereas in 1990 earthworms were found at sites with water table depths ≤ 10 cm of the surface; however, the greatest numbers were found on sites where water table depths varied between 50 and 60 cm. The 1989 collections corresponded to severe drought conditions. Insect biomass was positively correlated with water table depths. Other relationships were documented. The dominant insect taxa found on the 3 study areas were scarab beetles (Scarabeidae), click beetles (Elateridae), Lepidoptera, crane flies (Tipulidae), and ground beetles (Carabidae). Aporrectodea spp. and Diplocardia spp. were the predominant earthworm genera. Scarab beetle larvae occurred in 58% of the crane esophagi, and snail shells and vegetation occurred in 50% of the crane esophagi. Other food items included earthworms, crane fly larvae, and ground beetles.

Key Words: Grus canadensis, macroinvertebrates, native grasslands, Nebraska, Platte River, sandhill cranes, water table

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