

BALD EAGLES PREY ON SANDHILL CRANES IN FLORIDA

PETRA BOHALL WOOD¹

*Department of Wildlife and Range Sciences and Florida Cooperative Fish and Wildlife Research Unit,
University of Florida, Gainesville, FL 32611 U.S.A.*

STEPHEN A. NESBITT

Florida Game and Fresh Water Fish Commission, 4005 S. Main Street, Gainesville, FL 32601 U.S.A.

ANTHONY STEFFER

Biological Research Associates, 3910 U.S. Hwy. 301 N, Tampa, FL 33619 U.S.A.

We collected the remains of at least four Sandhill Cranes (*Grus canadensis*) from two Bald Eagle (*Haliaeetus leucocephalus*) nests in Florida. We are not aware of other reported cases in the literature of successful predation by Bald Eagles on cranes (Stalmaster 1988), although Brill (1987) reported a Bald Eagle striking a Sandhill Crane in Nebraska. R. Johnson (pers. comm.) observed two sub-adult Bald Eagles feeding on a fresh adult Sandhill Crane carcass at Lake Almanor, Plumas County, California in winter 1986–87. He was not able to determine how or if the eagles captured the Sandhill Crane. Windingstad et al. (1981) reported a Golden Eagle (*Aquila chrysaetos*) striking and killing a healthy immature Whooping Crane (*G. americana*), while Johns (1977) reported a Golden Eagle attempting to kill a Sandhill Crane. R.E. Gill, Jr. (pers. comm.) has found remains of Lesser Sandhill Cranes (*G. c. canadensis*) in Golden Eagle nests in Alaska and has observed attacks by Golden Eagles on cranes migrating across the Seward Peninsula.

On 9 March 1991, we collected four crane legs in fairly fresh condition from a Bald Eagle nest near Kanapaha Prairie, Alachua County, Florida. They had been woven into the rim of the nest. We concluded that the legs represented three different individuals based on their length. One leg was marked with a numbered U.S. Fish and Wildlife Service (USFWS) band and color leg bands. This bird was identified as a 6-yr-old Greater Sandhill Crane (*G. c. tabida*) banded in 1986 (hatch year 1985) on the Florida wintering grounds. A shorter leg also was marked with a color leg band, but no USFWS band was found. On 3 April 1992, we found an unbanded Sandhill Crane leg in an eagle nest near Orange Lake, Marion County, Florida.

Both eagle nests were located near areas frequented by

large flocks of Sandhill Cranes, primarily wintering Greater Sandhill Cranes. In 1991, between 200 and 300 cranes used Kanapaha Prairie for roosting, loafing, and, to a lesser extent, feeding. Between 500 and 700 cranes used the area near the Orange Lake eagle nest for feeding in 1992. Six to eight pairs of Florida Sandhill Cranes (*G. c. pratensis*) nest on each of these areas.

Bald Eagles have been reported to kill prey heavier than themselves, although this generally involved sick or injured individuals (Stalmaster 1987, Gerrard and Bortolotti 1988). The crane remains found in these two eagle nests probably were sick, injured, or dead individuals. Healthy adult cranes likely are too large and aggressive to be preyed on by Bald Eagles. An average weight for an adult crane of the *tabida* subspecies is 4.4 kg for females and 5.1 kg for males (Nesbitt et al. 1992). Adult southern Bald Eagles weigh approximately 3–4.5 kg.

Each winter since 1986, 30–50 Sandhill Cranes at the Kanapaha site have suffered from mycotoxicosis after feeding on waste peanuts from nearby fields. Cranes affected by this toxin are unable to raise their head and neck (Windingstad et al. 1989). They soon became debilitated to the point of being unable to fly or defend themselves.

Several crane carcasses were found near traditional crane winter roost sites with evidence of raptor predation, i.e., talon marks and extensive plucking. Since eagles frequently scavenge, it is likely that some crane carcasses were retrieved after death. There is evidence, however, that Bald Eagles killed live Sandhill Cranes. The size and spacing of talon marks found on some crane carcasses were likely those of a Bald Eagle and their location in the head and neck and associated hemorrhage suggest that predation was the final cause of death (M. Spalding pers. comm.). The eagle pair nesting at the Kanapaha site routinely flew over the Sandhill Crane flock morning and evening and attempted to capture cranes that were debilitated by mycotoxin poisoning. Prior to the appearance of mycotoxicosis in the Kanapaha flock in 1985, the cranes took little notice of eagles in their vicinity. Since 1985, they have become noticeably wary and will flush at the approach of an eagle. This eagle pair also preyed on Cattle Egrets

¹ Present address: U.S. Fish and Wildlife Service, West Virginia Cooperative Fish and Wildlife Research Unit, West Virginia University, P.O. Box 6125 Percival Hall, Morgantown, WV 26506-6125 U.S.A.

(*Bubulcus ibis*), particularly after the Sandhill Cranes departed the area in the spring (Folk 1992).

Wintering cranes are most abundant in Florida from November through March, which closely corresponds with the Florida Bald Eagle nesting season (November through May; Wood and Collopy 1993). Florida eagles feed young January through May. As opportunistic predators, these Bald Eagles have learned to capitalize on the large food source provided by debilitated Sandhill Cranes.

RESUMEN.—Colectamos los remanentes de la menos cuatro *Grus canadensis*, desde dos nidos de *Haliaeetus leucocephalus*, en Florida. Una pierna estaba marcada con un anillo seriado del Servicio de Pesca y Vida Silvestre de Los Estados Unidos. Esta ave fue identificada como un *G. c. tabida* de seis años, marcado en 1986 en los hábitat invernales de Florida. Los dos nidos de *H. leucocephalus* cerca de áreas frecuentadas por grandes bandadas de *G. canadensis* invernantes. Sospechamos que los individuos de *G. canadensis* capturados estaban debilitados por mycotoxicosis, una enfermedad que afecta entre 30 a 50 de los 200 a 300 *G. canadensis* que invernan cerca de uno de los nidos de *H. leucocephalus*.

[Traducción de Ivan Lazo]

ACKNOWLEDGMENTS

We thank R.E. Gill, Jr., R.J. Johnson, C.M. Sekerak, M.G. Spalding, and D.W. Stahlecker for their helpful comments on this manuscript. This is contribution number R03159 of the journal series of the University of Florida Agricultural Experiment Station.

LITERATURE CITED

- BRILL, N. 1987. Bald Eagle strikes Sandhill Crane. *Nebr Bird Rev.* 55:44.
- FOLK, M. 1992. Cooperative hunting in Bald Eagles. *Fla. Field Nat.* 20:110-112.
- GERRARD, J.M. AND G.R. BORTOLOTTI. 1988. The Bald Eagle: haunts and habits of a wilderness monarch. Smithsonian Inst. Press, Washington, DC U.S.A.
- JOHNS, B.W. 1977. Golden Eagle attempts to kill Sandhill Crane. *Blue Jay* 35:92-93.
- NESBITT, S.A., C.T. MOORE AND K.S. WILLIAMS. 1992. Gender prediction from body measurements of two subspecies of Sandhill Cranes. Proc. North Am. Crane Workshop 6:39-43.
- STALMASTER, M.V. 1987. The bald eagle. Universe Books, New York, NY U.S.A.
- . 1988. Bald eagle. Pages 232-237 in R.S. Palmer (Ed.), Handbook of North American birds, Vol. 4 Yale Univ. Press, New Haven, CT U.S.A.
- WINDINGSTAD, R.M., H.E. STILES AND R.C. DREWEN. 1981. Whooping Crane preyed upon by Golden Eagle. *Auk* 98:393-394.
- , R.J. COLE, P.E. NELSON, T.J. ROFFE, R.R. GEORGE AND J.W. DORNER. 1989. *Fusarium* mycotoxins from peanuts suspected as a cause of Sandhill Crane mortality. *J. Wildl. Dis.* 25:38-46.
- WOOD, P.B. AND M.W. COLLOPY. 1993. Effects of egg removal on Bald Eagle productivity in northern Florida. *J. Wildl. Manage.* 57:1-9.

Received 22 December 1992; accepted 4 May 1993

J. Raptor Res. 27(3):165-166

© 1993 The Raptor Research Foundation, Inc.

FEMALE PARTICIPATION IN COURTSHIP DISPLAYS OF WESTERN MARSH HARRIERS (*CIRCUS AERUGINOSUS*) IN CENTRAL SPAIN

GUILLERMO BLANCO, MARIO A. HERRERA, JUAN A. FARGALLO AND JESÚS A. CUEVAS
*Departamento de Biología Animal, Universidad de Alcalá de Henares,
Alcalá de Henares, 28871 Madrid, Spain*

As part of territorial advertisement, courtship behavior or both, harriers (*Circus* spp.) perform complex aerial displays on their breeding grounds. The intensity and form of aerial displays vary among the species and between sexes of the same species. Since aerial displays of harriers are presumed to be stable species specific characters which function in mate recognition (Clouet 1978, Cramp and Simmons 1980, Simmons 1988, 1991), they have been useful in assessing the taxonomy of the marsh harrier complex (Simmons 1991).

The aerial dances performed by male Western Marsh Harriers (*C. aeruginosus*) have been described as including a basic undulating display in the horizontal plane, also seen in other species (so-called "sky-dancing"), and several other aerobatics such as plunges, somersaults and rolls (for details see Glutz et al. 1971, Cramp and Simmons 1980). However, these elaborate aerial maneuvers are unrecorded in female *C. aeruginosus*. Here we describe the prebreeding aerial evolutions of male and female Western Marsh Harriers in central Spain.