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## DISTRIBUTION OF COLOR-MARKED GREATER SANDHILL CRANES BANDED IN UTAH

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**Abstract:** Twenty-eight greater sandhill cranes (*Grus canadensis tabida*) were banded and color-marked on nesting grounds in northern and central Utah during summers 1986 and 1987. Sixteen were observed 1 or more times between October 1986 and February 1988 on migration, winter and summer areas. Marking studies showed that cranes nesting east and southeast of the Great Salt Lake in northern and central Utah are affiliated with the Rocky Mountain population, with most individuals migrating during the spring and fall through the San Luis Valley, Colorado and wintering in southcentral and southwestern New Mexico, southeastern Arizona and possibly northern Mexico. Future color-marking efforts will be in north-west Utah to determine population affiliation of these cranes.

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Historically, greater sandhill cranes were common summer residents throughout central and northern Utah (Walkinshaw 1949; Drewien & Bizeau 1974; Hayward et al. 1976). Their numbers steadily declined during the late 1800's and early 1900's due to increased human disturbance and subsequent loss of habitat. By the mid-1940's, Behle (1944) no longer considered the species a summer breeding resident, whereas Walkinshaw (1949) estimated only 3 to 5 nesting pairs remained in Utah.

But greater sandhills are reoccupying former ranges and we currently estimate a minimum summer population of about 600 in Utah. The population increase is attributed to protection from unrestricted hunting and protection and enhancement of key habitat throughout their flyway (Drewien & Bizeau 1974).

Sandhill cranes nesting in Utah may belong to 2 distinct populations. Those cranes nesting throughout central and northern Utah, east of the Great Salt Lake, probably are affiliated with the Rocky Mountain population that winters in the Rio Grande Valley and southwestern New Mexico, southeastern Arizona and northcentral Mexico (Drewien & Bizeau 1974; Braun et al. 1975; Lewis 1977; Will 1987). Several color-marked in Rich County, northeastern Utah, in 1969-70, were ob-

served wintering in western New Mexico, the principal winter area for the Rocky Mountain population (Drewien & Bizeau 1974). Cranes nesting in northwestern Utah possibly belong to the Lower Colorado River Valley population that winters in southern California, southwestern Arizona and Baja California (Braun et al. 1975; Drewien et al. 1976; Lewis 1977; Brown 1983). Although staging, migrating and wintering areas of these 2 populations are fairly distinct, boundaries of summer areas in Utah are poorly defined.

Each population has distinct management problems and opportunities. We initiated a marking study to better define nesting distributions and population affiliations in Utah. This paper summarizes reports through February 1988 of cranes banded and color-marked in Utah during summers 1986 and 1987 as part of that effort.

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## METHODS

During July and August of 1986-87, flightless young and adults were located in Box Elder, Cache, Davis, Emery, Rich and Weber counties (Fig. 1). Flightless young and molting adults, located by using spotting scopes from vehicles, were pursued on foot and captured. Two-way portable radios were utilized for communication between the observer and the pursurer. Cranes were weighed and banded with a #9 USFWS metal leg band above the tibio-tarsus joint. Black patagial streamers (TXN226 smooth fabric, Cooley Inc., 50 Eastern Ave., Pawtucket, RI 02860) measuring cm x 22 cm and bearing a painted white alpha-numeric code were attached to each wing using an Allflex livestock eartag button and were similar in design to those used by Rawlings (1985). After release, tagged individuals were observed for a short time to monitor their response to being captured and color-marked.

Approximately 45 hours were spent searching for marked cranes during the 1987 summer in Utah. Marked cranes were also recorded during annual surveys for whooping cranes and sandhill cranes in migration and winter areas in the Rocky Mountain states and in Chihuahua, Mexico.

## RESULTS

### Capture and Color-marking

Twenty-eight flightless cranes—26 young and 2 adults—were marked on summer areas in 6 counties in northern and central Utah in 1986 (11) and 1987 (17) (Table 1, Fig. 1). One crane marked in 1986 was found dead 5 months later from unknown causes 1 km from the banding site. Consequently, a maximum 27 cranes were alive for future observations. Marked cranes were observed following release until they either disappeared in vegetation or were joined by their parents. The time between release and young rejoining their parents ranged from 5 minutes to 2 hours. No reactions to patagial streamers by adults were observed. One marked young pecked at the ear tag button that held the patagial streamer on the wing of its marked sibling immediately following release of the 2 cranes, after which they walked in the direction from which their parents were calling.

### Distribution Outside Summer Areas

Sixteen individual cranes were observed along

the spring-fall migration route and on winter areas from October 1986 through February 1988. Nine were observed in the San Luis Valley in southcentral Colorado during fall migrations in 1986 and 1987, between 11 October and 9 November. At least 4 utilized the Monte Vista NWR during their stay; others used private lands near the town of Monte Vista. Two broods containing 2 young each were observed (nos. 14 & 16, 20 & 21). Only 2 birds observed during fall 1986 were resighted in the Valley in spring 1987. In all, 3 marked birds were observed during spring migration—2 near Monte Vista in Rio Grande County and 1 near Sanford and LaJara, Conejos County, Colorado (Table 1). These cranes were observed in the San Luis Valley, Colorado, during spring migration from 27 March to 4 April (Table 1).

Fifteen individuals, including 9 observed during spring-fall migrations in Colorado, were observed on winter areas, 14 in the Rio Grande Valley, New Mexico, 1 at Willcox Playa in southeast Arizona, and 1 near Washington in southwestern Utah (Table 1, Fig. 1). One crane (no. 00) was observed at 2 different winter areas. In November 1986 it was in the Rio Grande Valley, New Mexico, and the following winter at Willcox Playa, Arizona (Table 1, Fig. 1).

A winter record of juvenile no. 13 in southwestern Utah occurred outside traditional winter areas for sandhill cranes, associated with 2 other cranes, possibly its parents, in an area not normally frequented by sandhills (N. Stephens pers. comm.). Only 1 other record of a single crane exists from this area in recent years (12-14 December 1984) according to N. Stephens (pers. comm.). All reports on winter areas were sight records except for bird no. 15, which was shot during a special sandhill crane hunt north of the Bosque del Apache National Wildlife Refuge near San Antonio, New Mexico (Table 1).

Utah cranes were frequently observed in mixed winter flocks containing marked greater sandhill cranes from nesting areas in Idaho and Wyoming. Often, lesser sandhill cranes (*G. c. canadensis*) and occasionally whooping cranes (*G. americana*) from the experimental population (Drewien & Bizeau 1978) occurred in the same flocks. For example, on 14 February 1987, crane no. 04 was located at Caballo Reservoir, Sierra County, New Mexico (Table 1) in a flock of 320 greater sandhill cranes, including 2 marked birds from Grays Lake, Idaho, and a whooping crane which 18 days earlier had been wintering near Ascension in northwest Chihuahua, Mexico. Possibly this flock, including the

Utah bird, had recently started the spring migration northward from Mexico.

On 8 February 1988, we observed 2 Utah cranes (nos. 14 & 16) in a flock of 717 cranes at Los Lunas, Valencia County, New Mexico (Table 1, Fig. 1). This flock consisted of 1 whooping crane, 3 marked sandhill cranes from Grays Lake, Idaho; 1 from Big Piney, Sublette County, Wyoming; 1 from the Sweetwater River, Fremont County, Wyoming; and 186 lesser sandhill cranes.

Four Utah cranes were sighted at the Bosque del Apache National Wildlife Refuge, Socorro County, New Mexico, a major winter site for the Rocky Mountain population (Drewien & Bizeau 1974). Utah cranes were reported on winter areas between 27 October and 12 March (Table 1).

### Resightings On Summer Areas

Of 10 marked cranes possibly alive from 1986, 5 were resighted in Utah and northwest Colorado during the summer and fall 1987. Four were resighted in Utah between July-September 1987 and were 2, 11, 13, and 64 km from their respective 1986 banding locations. However, a fifth bird was sighted in September 1987 near Hayden in northwestern Colorado (Table 1, Fig. 1) at a fall pre-migration staging area (V. Graham pers. comm.). Hayden is over 400 km east-southeast of Plain City, Utah where this bird was banded, indicating that it did not return to Utah as a yearling, instead may have summered in northwest Colorado or in an adjoining area in Wyoming.

### DISCUSSION

Observations of cranes color-marked on nesting and summer areas in northern and central Utah show that they are affiliated with the Rocky Mountain population. One band recovery and all resightings except 1 are within the geographical range frequented by this population. The winter location of a juvenile near Washington, Utah is outside any known winter area frequented by cranes.

Sixteen (59.3%) of 27 color-marked cranes were resighted after departing their respective banding locations, a rate similar for cranes banded in 1986 (60.0%) and 1987 (58.8%).

Sightings of marked cranes from Utah on migration and winter areas revealed that they occurred in mixed flocks of greater sandhill cranes containing marked birds originating from summer areas in adjoining Idaho and Wyoming. In addition,

most winter flocks also included various proportions of the lesser subspecies and occasionally a whooping crane. Some Utah cranes (nos. 03, 04, 06, 09, 10, 20, & 21) were only observed on winter areas in the Rio Grande Valley, New Mexico in November or from mid-February to mid-March. During these periods, migrants moving between the San Luis Valley and winter areas farther south pass through the Rio Grande Valley, New Mexico. These sightings suggested that some of these cranes may have wintered in northern Mexico or in other locations in the southwestern United States frequented by the Rocky Mountain population.

No cranes were captured during the first 2 summers of banding in northwestern Utah, an area where cranes associated with the Lower Colorado River Valley population may occur (Brown 1983). Future banding efforts will be directed in this region to clarify population affiliation of these cranes.

### LITERATURE CITED

- Behle, W.H. 1944. Check-list of the birds of Utah. *Condor* 46:67-87.
- Braun, C.E., R.C. Drewien, C.D. Littlefield & L.H. Walkinshaw. 1975. Conservation committee report on the status of sandhill cranes. *Wilson Bull.* 87:297-302.
- Brown, D.E. (Chairman). 1983. Pacific Flyway management plan for the greater sandhill crane population wintering along the Lower Colorado River Valley. *Pac. Flyway Study Comm., Subcomm. Colo. River Valley Popul. Greater Sandhill Crane, U.S. Fish & Wildl. Serv., Portland, Ore.,* 26p.
- Drewien, R.C. & E.G. Bizeau. 1974. Status and distribution of greater sandhill cranes in the Rocky Mountains. *J. Wildl. Manage.* 38:720-742.
- Drewien, R.C., R.J. Oakleaf & W.H. Mullins. 1976. The sandhill crane in Nevada. Pp. 130-138 in J.C. Lewis (ed.), *Proc. Int. Crane Workshop, Oklahoma State Univ.*
- Drewien, R.C. & E.G. Bizeau. 1978. Cross-fostering whooping cranes to sandhill crane foster parents. Pp. 201-222 in S.A. Temple (ed.), *Endangered Birds: Manage. Tech. Preserving Threatened Species, Univ. Wisc.*
- Hayward, C.L., C. Cottom, A.M. Woodbury & H.H. Frost. 1976. *Birds of Utah. Great Basin Nat. Mem.* 1:74-75.
- Lewis, J.C. (Chairman). 1977. Sandhill crane (*Grus canadensis*). Pp. 5-43 in G.S. Sanderson (ed.), *Manage. Migratory Shore & Upland Game Birds N. Am., Int. Assoc. Fish & Wildl. Agencies,* 358p.

Rawlings, M. 1985. Greater sandhill crane investigations. Nev. Dept. Wild. Proj. W-53-Rept., 13p.

Walkinshaw, L.H. 1949. The sandhill cranes. Bull. 29 Cransbrook Inst. Sci., Bloomfield Hills, Mich., 202p.

Will, G. (Chairman). 1987. Management plan of the Pacific and Central Flyways for the Rocky

Mountain population of greater sandhill cranes (revised 28 July 1987). Pac. Flyway Study Comm. & Central Flyway Tech. Comm., Subcomm. Rocky Mt. Popul. Greater Sandhill Crane, U.S. Fish & Wildl. Serv., Portland, Ore., 57p.

**Table 1. Reports through February 1988 of greater sandhill cranes captured and colored-marked on summer areas in northern and central Utah, July-August 1986-87.**

CRANE ID. NO.(1) & BANDING	LOCATION(2)	LOCATION			
		FALL/SUMMER	FALL MIGRATION	WINTER AREA	SPRING MIGRATION
00	Honeyville, Box Elder	8-17 & 9-16-87 Corinne, UT		11-12-86 Bosque Refuge(3), NM 11-24-86 Socorro, NM 01-02-88 Willcox Playa, AZ	04-04-87 Monte Vista, CO
03	Plain City, Weber	09-04-87 Hayden, CO	10-27-86 Monte Vista, CO	03-06 to 03-12-87 Bosque Refuge(3), NM	03-27-87 Sanford, CO 04-03-87 LaJara, CO
04	West Kaysville, Davis	09-17-87 Corinne, UT		02-14-87 Caballo Res., NM	
06	Honeyville, Box Elder	07-08-87 Salt Cr. WMA(4), UT 08-17 & 09-21-87 Corinne, UT	10-17 to 10-27-86 Monte Vista, CO	11-09-87 Belen, NM	
09	Mendon, Cache			11-11-86 & 02-22-87 Bosque Refuge(3), NM	
10	Salt Cr. WMA(4), Box Elder	07-12-87 Salt Cr. WMA(4), UT	11-09-86 Monte Vista, CO	03-12-87 & 02-22 to 02-29-88 Bosque Refuge(3), NM	03-27-87 Monte Vista, CO
11 & 12(5)	Desert Lake WMA(4), Emery			11-23 to 12-01-87 Los Lunas, NM	
13	Mendon, Cache			12-31-87 to 03-04-88 Washington, UT	
14 & 16(5)	Corinne, Box Elder		10-12-87 Monte Vista, CO	02-08-88 Los Lunas, NM	
15(6 & 7)	Salt Cr. WMA(4), Box Elder		10-11-87 Monte Vista, CO	10-27-87 San Antonio, NM	
20 & 21(5)	Honeyville, Box Elder		10-12 to 10-20-87 Monte Vista, CO	11-09-87 Belen, NM	
22	Woodruff, Rich		10-12-87 Monte Vista, CO		
24	Randolph, Rich			12-22-87 Belen, NM	

(1) Number on patagial tag; bird 02 dead near banding site, nos. 01, 05, 07, 08, 17, 18, 19, 23, 25, 26 & 27 not observed.  
 (2) Nearest city, county.  
 (3) Bosque Refuge = Bosque del Apache National Wildlife Refuge.  
 (4) WMA = Waterfowl Management Area.  
 (5) Siblings marked in brood.  
 (6) Adult crane.  
 (7) Shot during sandhill crane hunting season.

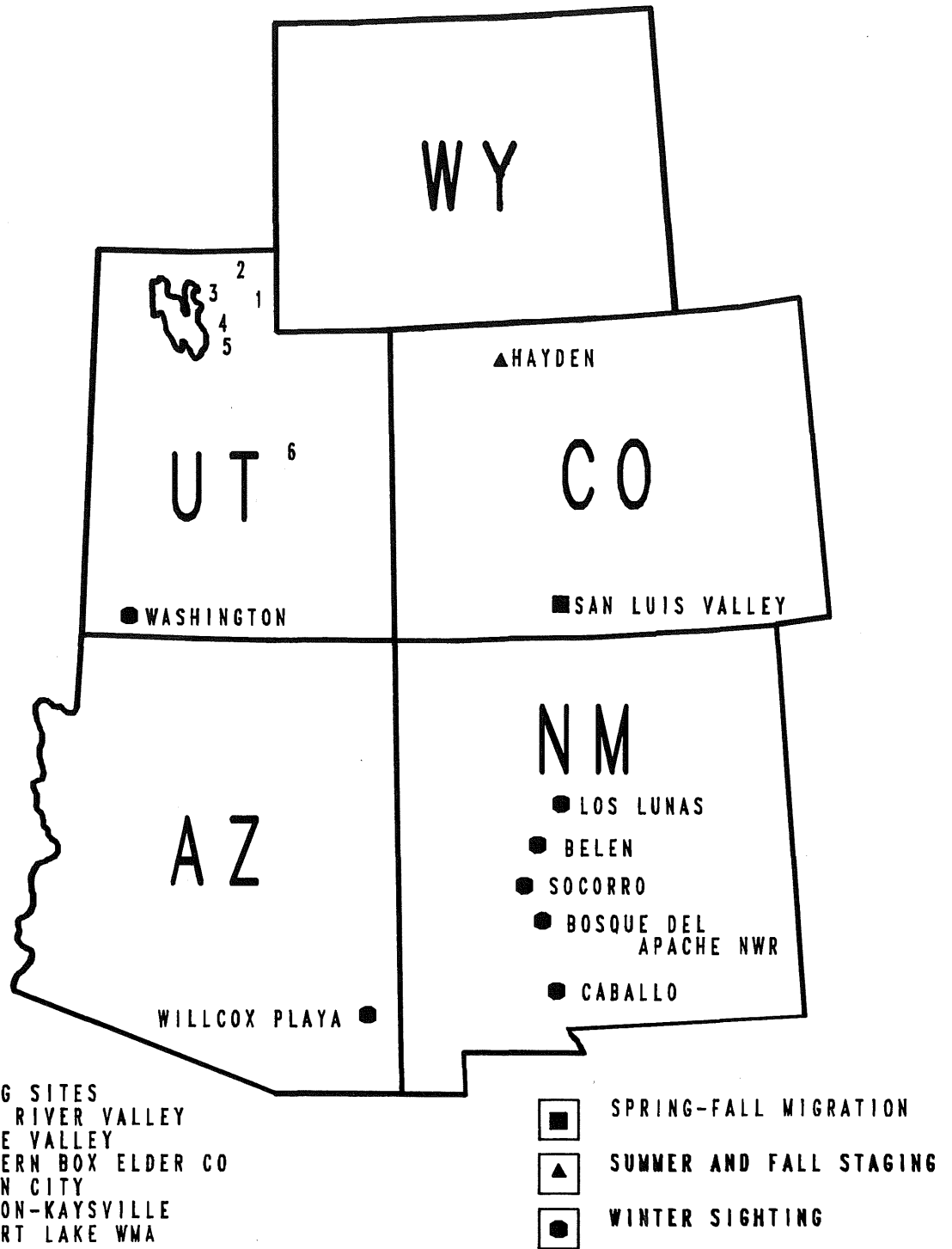


Figure 1. Capture and observation site locations of greater sandhill cranes marked with patagial streamers in Utah, 1986-87.