

The 2 smaller ducks stayed close to, and occasionally disappeared into, a large stand of cattails (*Typhus* sp.). The adult female remained within several m of them, whereas the males ranged from about 30 to 50 m away. Whenever a male moved closer to the other ducks, the adult female lowered her head, stretched out her neck, and swam rapidly toward him. Based on size and behavior, we feel certain that the smaller birds were young of the year. We found no way to approach these birds closely enough to determine whether they were capable of flight.

Although small numbers of Ruddy Ducks probably summer in Florida every year, only one previous unequivocal record of breeding has been published. Mrs. H. E. Robinson and Mrs. John Stone saw a female with 6 young near Mayport, Duval County, on 2 June 1964 (Stevenson 1964, Aud. Field Notes 18: 503). This identification was later corroborated by Samuel A. Grimes. Ruddies were also suspected of breeding near Lakeland, Polk County, in the summer of 1970, where a pair "seemed to have a nest" (Ogden 1970, Aud. Field Notes 24: 675). — Gail E. Menk, 1128 Ocala Road, Apt. G-5, Tallahassee, Florida 32304, and Henry M. Stevenson, Tall Timbers Research Station, Route 1, Box 160, Tallahassee, Florida 32303.

Bathing in captive Sandhill Cranes. — Patterns of behavior, such as bathing, are often useful as taxonomic tools (Simmons 1964, Feather Maintenance. Pp. 278-279 in A new Dictionary of Birds [A. L. Thomson, Ed.]. New York, McGraw Hill Book Co.). To my knowledge, no detailed account of bathing behavior for Sandhill Cranes (*Grus canadensis*) has been published. Walkinshaw briefly describes bathing in the Sandhill Crane (Walkinshaw 1949, The Sandhill Cranes, Bloomfield Hills, Michigan, Cranbrook Ins. of Sci. Bull. 29: 39-40) and the Sarus Crane (*Grus antigone*) (Walkinshaw 1973, Cranes of the World, New York, Winchester Press, p. 200), and gives more details of bathing in a semi-captive Whooping Crane (*Grus americana*) (Walkinshaw *ibid.* p. 176). In view of this lack of detail, it seems appropriate to describe the bathing sequence as observed in captive Florida Sandhill Cranes (*G. c. pratensis*).

During December and January 1974, 8 two-year old Florida Sandhill Cranes were observed bathing on several occasions. These birds had been raised from eggs by personnel of the U. S. Fish and Wildlife Service, Patuxent Research Center, Laurel, Maryland, and subsequently returned to Florida for attempted reintroduction. The birds were kept at our facilities on the edge of Paynes Prairie, Alachua County, Florida, in pens containing a concrete pool large enough to permit 3 or 4 individuals to bathe simultaneously. Cranes were in-

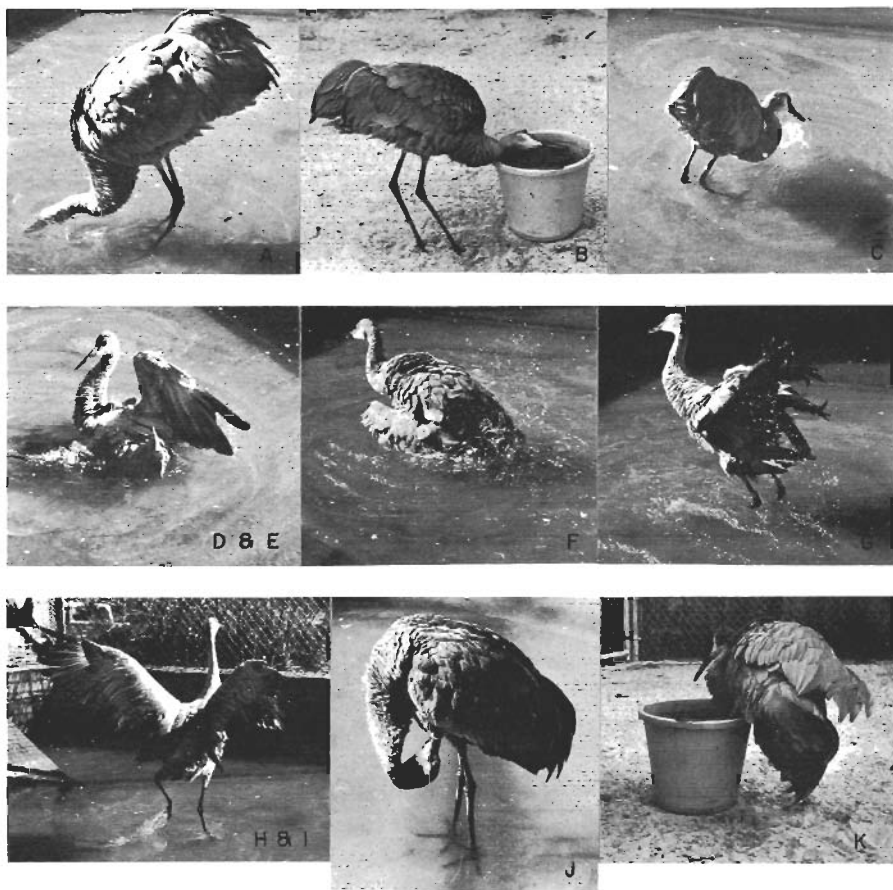
duced to bathe at various times of the day by depriving them of the opportunity to bathe for 3-5 days. When the pool was subsequently refilled, cranes began bathing immediately after entering the pool.

A typical bathing episode had several characteristic components (Figure 1). a) The bill and head were submerged to above the eyes, withdrawn, and then the bill was shaken vigorously from side to side, as in bill cleaning during probing and feeding episodes. b) The head was returned to the water and turned to the side several times splashing water on the back of the head and neck. c) The bird began bobbing with ankles flexed and feathers partially erected, and then the bird collapsed to a squatting position resting on the tarsi. d) While the bird was lying in the water, the head and neck were used to distribute water over the back. e) At this point, the crane often rolled on its side. f) Then the wings were flapped, spreading water over the back and sides, the body feathers fully erected, and the tail spread and turned sideways. g) Wing flapping continued as the bird returned to standing position. Stages d through f were often repeated. h) The bird dried its plumage by flapping vigorously in place, erecting and shaking its feathers, and with short hopping flights. i) Feathers were erected and bird assumed a "spread-wing" posture. j) After bathing, the bird preened extensively, massaging the uropygial gland between bill tips and dressed the body feathers. The sides and back of the head, inaccessible to the bill, were wiped across the gland.

Cranes not allowed access to the pool for bathing attempted to bathe when given a fresh bucket of water and often tried to enter the bucket (Fig. 1,k). Typically, bucket bathing was similar to full bathing, but usually proceeded only through stage f. During stage c, the bird collapsed to the ground, with subsequent stages occurring on the ground and not in water. The bucket bathing sequence may be repeated several times from the beginning, with the entire episode lasting up to 13 minutes. In both types of bathing, stages c through f appear to progress automatically, and water deep enough to cover the eyes when the bill is submerged vertically seemed to be essential for eliciting bathing.

The general description of bathing behavior for the Whooping Crane is identical to that given here for the Sandhill Crane. Walkinshaw (pers. comm.) has noted the difficulty of observing cranes bathing in the wild, and I have observed it only once at a distance too great to permit detailed observation. However, I do not think that bathing in the wild differs significantly from what has been described here. — Stephen A. Nesbitt, *Florida Game and Fresh Water Fish Commission, The Wildlife Research Laboratory, 4005 S. Main Street, Gainesville, Florida 32601.*

Figure 1. Components of bathing behavior in captive Sandhill Cranes.



Recent changes in winter crane use of Paynes Prairie. — William Bartram visited Alachua Savannah (Paynes Prairie) in what is now Alachua County, Florida, in 1774 when it was relatively dry. He provides an early account of the prairie and its wildlife (Van Doren 1928, *Travels of William Bartram*, New York, Dover Press). The prairie has been described by subsequent authors under conditions ranging from complete inundation to those of a very dry prairie (White undated, *Ecosystem Analysis of Paynes Prairie*, Univ. Fla. School of Forest Resources and Conservation, Research Report No. 24). During drier periods since at least the 17th century, the prairie has been intensively grazed (Arnade 1965, *Cattle raising in Spanish Florida*, St. Augustine Historical Society Pub. No. 21; White, op cit). For some years prior to acquisition by the State of Florida in 1970, the prairie was a commercial cattle ranch. The State now owns 18,000 acres, including a majority of the prairie basin and portions of the surrounding uplands. Private ownership accounts for about 3,000 acres of the approximately 15,000 acres of prairie basin. This private land continues to be used for grazing and, to a lesser extent, agriculture.

The prairie has been known as a major wintering area for Greater Sandhill Cranes (*Grus canadensis tabida*) in Florida (Williams and Phillips 1972, *Auk* 89: 548; Walkinshaw 1975, *Cranes of the World*, New York, Winchester Press). Williams and Phillips (op. cit.) estimated a peak wintering population of 1,000 cranes in January 1969 and 1,800 cranes in January 1970. The peak during January 1977 was less than 400 cranes.

Winter crane use has principally been on that part of the prairie east of Highway 441. Cranes roosting on this part of the prairie have been observed since fall 1971. On 17 January 1972, 252 cranes roosted at one of the three main roost sites on the prairie. On 28 November 1973, 166 cranes went to roost at this site. One hundred and twelve cranes roosted there 15 January 1974, 10.7% of which arrived from feeding areas off the prairie. Previously no birds were observed arriving from feeding areas off Paynes Prairie. On 21 January 1975, of 81 cranes roosting at the site, 53.1% arrived from off the prairie. No observations were made during 1976, but on 1 February 1977, 137 cranes roosted at two sites on this same area of the prairie, and all of the birds had been feeding on the privately owned areas of the prairie. Periodic roosting counts at the other two main roosting areas on the prairie indicate a similar trend.

During this same 6-year period, there has been a dramatic increase in the population of Greater Sandhill Cranes in eastern North America (Shroufe 1976, *Proc. Int. Crane Workshop* 1: 51-58; Melvin 1977, *Fla. Field Nat.* 5: 8-11). Since the winter of 1973-1974

there has been an increase in the number of cranes wintering on agricultural lands in Marion and Lake Counties. Three birds color marked on Paynes Prairie in February 1974 and February 1976 were subsequently observed wintering on areas in these two counties during 1975 and 1977. Many cranes which previously wintered on Paynes Prairie now are apparently wintering elsewhere.

Since State acquisition, land-use practices on the prairie have changed substantially. The intensity of cattle grazing was reduced and finally eliminated in 1975. The effects of grazing were to be replaced with fire and water management, but increases in vegetation height have made much of the prairie unattractive to cranes. Some increased crane use has resulted from uncontrolled burning of several hundred acres during 1976-77. About 95 cranes foraged throughout the winter on these burned areas. However, the increased crane use noted for the roost area during 1977 was probably the result of expanded cultivation and grazing on the private land adjacent to the state holdings. It is hoped that controlled burning can be continued and expanded and that other positive management practices will be implemented. It would be unfortunate if an area so uniquely suited for Sandhill Cranes did not support an appropriate winter population.— Stephen A. Nesbitt, *Florida Game and Fresh Water Fish Commission, Wildlife Research Laboratory, 4005 S Main Street, Gainesville, Florida 32601.*

Laughing Gull breeds in northeast Florida. —Although the Laughing Gull (*Larus atricilla*) is widely distributed along the Florida coast during the breeding season, it only breeds in a few widely scattered localities, chiefly the Tampa Bay area (Howell 1932). The species has recently established a large breeding colony at Merritt Island, Brevard County, which contained 1050 nests in June 1974 (Jim Baker in Ogden 1974) and 1350 pairs in 1975 (A. E. Ellis in Ogden 1975). In “about 1866” the species bred in “large numbers” on an island in the Halifax River near Port Orange, Volusia County (Howell 1932).

On 30 May 1976 we found a single pair of Laughing Gulls nesting on (Big) Bird Island in Nassau Sound, Duval County, Florida. The nest contained two eggs, and we observed an adult incubating. On 8 June Loftin returned during a very high tide and found the two eggs awash. The adults were wheeling and screaming overhead. On 10 July the first nest was gone, but another nest, also with two eggs, was about 10 m from where the first had been. This is very late for a first nest of this species in Florida (Dinsmore and Schreiber 1974), therefore it was probably a second effort by the same pair of birds. On 25 July there were two downy chicks in the nest. On 1 August no young