

Sandhill Cranes of Bosque del Apache

by Jon Morrison



Cranes are members of a very old order of birds the *Gruiformes* which evolved during the Cranes are tall, leggy, long-necked birds that live along the marshy transitional zones where land meets water. Their heads are more delicate relative to their bodies. They are ground nesters whose young are quickly mobile. They are gregarious at most times, but nest in isolated pairs.

Cranes are members of a very old order of birds. The *Gruiformes*, which evolved during the Eocene epoch (40 - 60 million years ago), diverging from the *Columbiformes* (pigeons, doves), the *Ciconiiformes* (herons, storks, and ibises) and the *Falconiformes*, (hawks, eagles, falcons and Oarcacaras). This order contains the rails, coots, limpkins and gallinules in No. America. The Crane Family, *Grudae* from the Latin *Grus* - Crane, contains a total of fifteen species in the Old and New Worlds. There are three species of cranes in North America, the Whooping Crane, the Sandhill Crane and a Common or Grey Crane which is accidental from Siberia.

There are six subspecies of sandhill cranes in North America, the greater, lesser, Canadian, Florida, Mississippi, and Cuban. The greater, lesser, and Canadian cranes are migratory. The Florida, Mississippi and Cuban cranes are nonmigratory, but evolved from migratory ancestors.

Sandhill Crane adults appear uniformly gray with a prominent red crown. The crown is a naked patch of skin that starts at the base of the bill, runs back under the eyes and over the top of the head. The throat and nape (back part of the

neck just below the back part of the head) are white. The cheeks in paired Sandhills are white, gray in unpaired individuals. The Greater sandhill crane is sometimes confused with the great blue heron, a bird that's similar in size and color; but the distinction is easy to make when they are in flight. The heron pulls its head up and back, forming an "S" with its neck, the crane's neck is fully extended in a straight line with the body in flight.

The Greater Sandhill Crane, *Grus canadensis tabida* is a very sociable bird, wintering in the thousands at the Bosque del Apache National Wildlife Refuge. The greater Sandhill Cranes stand 40 - 50 inches tall and have a wingspan of 6 - 7 feet. The males weigh between 12-15 lbs. and the females weigh approximately nine ½ lbs. They feed on corn and chufa nuts on the refuge and farms up and down the Rio Grande valley in New Mexico.

The cranes use language to control and organize social interaction. Crane calls are short, not subject to individual variation and are innate (inherited behavior) rather than learned. The calls are generated in the trachea of the sandhill. The trachea of an adult is about 48" long. Twenty-five inches are in the chest cavity lying in convoluted loops along the sternum. This is what produces the deep resonating call that notes the presence of these birds. Young cranes can be told from adults not only by their color, but by their call. Their trachea doesn't reach full length until they reach maturity. Why such a long trachea? The long trachea allows for louder, more penetrating calls which can be heard over a greater distance. The longer trachea also allows for more harmonics (overtones that are multiples of the base frequency). These harmonics enrich the vocalization of the cranes and may help in finding family members in the thousands of cranes roosting in a particular area. Young chicks make three different calls. A stress call when the

chicks are frightened, hungry or unhappy about being separated from their parents. A plaintive food-begging call that disappears from their vocabulary when they are approximately one year old and the young cranes are old enough to feed themselves. The third call is a contact call which sounds like a purring noise similar to a cats purr.

When the chicks have fledged, they acquire a flight intention call. They also acquire a high pitched alarm call when they become frightened. The young crane also acquires a location call for use when they become separated from their parents.

Adult cranes have several calls. The most important is the unison call which is used to strengthen pair bonds, advertise territory and synchronize sexual development.

Other behaviors common to cranes are body language and dancing. Whenever you see a flock of cranes feeding or roosting, you'll notice several standing very tall with their necks extended so that they can see all around them. This is known as the tall alert and is usually performed by the male of the family. Another body language is the flight intention behavior. A crane will face into the wind, bends it's neck and hold it head forward and at the same time do the flight intention call. Dancing is often a series of courtship behaviors strung together. These are more common in young cranes which have not established a lifetime pair bond.

The Greater sandhill cranes migrate north to their breeding grounds in Eastern Idaho, Southwestern Montana and Western Wyoming in late February. Each pair will defend a territory of between 40 and 1000 acres depending on the richness of the food supply on the uplands adjacent to the nesting area. The nesting area must contain a considerable amount of food because it must provide support to adult cranes and one or two chicks. Later when the young have fledged, the cranes can relocate to a habitat that offers more food and security.

The sandhill cranes are ground-nesters, building their nest out of marsh plants and grasses found in the area. The nest is a mound with a depression in the middle for the eggs which is four to five feet across. The nest is built in a large area of shallow water or on the ground in a marsh. The nesting areas must also be isolated from human activity and near dry uplands with a good supply of food.

Sandhills usually lay two eggs which are laid two or three days apart. They are buff or olive with brown or lilac spots. Incubation begins when the first eggs are laid and last between twenty-eight and thirty-one days. Hatching requires one whole day. The chicks are covered with tawny colored down. Their legs are well developed, and eyes wide open. After the first day, the chick will leave the nest and run after the parent to feed. The first chick follows the male while the second egg finishes incubation. The second chick will follow the female. For the first two months, the chicks depend entirely on their legs for transportation. The wings develop very slowly. The legs achieve their most rapid growth between the eighth and sixteenth day of life.

Sandhill crane young (colts) will fight with each other during the first two or three days of life. If food is plentiful and the parents are able to keep the colts separated, each parent will care for one colt. If food is short or two colts are not kept separated, the oldest colt will bully the younger chick until it loses it will to fight and it runs off and perishes. This fratricide helps ensure the survival of the fittest colt. Only one in five families of Sandhill Cranes will raise two chicks to migrate in the fall to New Mexico.

When the first cold snap shuts down the insect life and other food sources around October, the Cranes begin making more and more practice flights until one day the older Cranes lead the spiraling flock off toward their wintering feeding grounds.

The Zuni associated the cranes with the rain and

called them Rain Makers.

Zuni Prayer

And yonder, wherever the roads of the Rain
Makers come forth,

Torrents will rush forth, silt will rush forth,

Mountains will be washed out, logs will be
washed down,

Yonder all the mossy mountains will drip the
water,

From all the lakes will rise the cries of the
children of the Rain Maker, In all the lake
there will be joyous dancing.

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