

Young Naturalist

Standing TALL

Sandhill cranes have big wings, big voices, and dazzling dance moves.

by Christine Petersen

IT'S A MISTY, moonless night, and the air smells like warm mud as David Wolfson gets ready to wade into a wetland. Wolfson pulls a pair of waterproof waders over his legs. He straps on a heavy backpack. He grabs a big, bright flashlight in one hand and a long-handled net in the other. Then he's off. Insects swarm around his flashlight as he moves through the water, looking for huge birds.

Wolfson is a wildlife biologist who studies sandhill cranes. It's not an easy job. Adult sandhills have a seven-foot wingspan and stand up to 60 inches high—as tall as an average 12-year-old child. If the birds hear Wolfson approaching, they'll startle awake and fly away. He solves that problem by carrying a sound system in his big backpack. The speakers play a soundtrack of crackling *white noise* that conceals his splashing footsteps.

There! Wolfson's light reveals a crane among the lush cattails. Swoosh! He swings the net over the sleepy bird. After gently taking measurements, he places a band around its left leg. Within half an hour, the crane is

free. But Wolfson will be able to follow it for months to come. The leg band holds a small electronic device that tracks the bird's location. There! Wolfson's light reveals a crane among the lush cattails. Swoosh! He swings the net over the sleepy bird. After gently taking measurements, he places a band around its left leg. Within half an hour, the crane is free. But Wolfson will be able to follow it for months to come. The leg band holds a small electronic device that tracks the bird's location.

What is a crane?

There are 15 crane species in the world, and two live in North America: sandhill cranes and whooping cranes. Whooping cranes have been seen in Minnesota but are extremely rare. Sandhill cranes—the kind Wolfson studies—nest in Minnesota's wetlands, wet meadows, and grasslands, or gather in the state during their fall migration.

Cranes of any kind are round-bodied, like geese. Everything else about a crane is long—from its dark bill and slender neck to its leathery legs. Whooping cranes are snowy white, with black wingtips and a red “mask” over the face. The elegant sandhill crane has mostly gray *plumage*, including a tuft of long feathers over its rump.

Name that bird

Sandhill cranes are often confused with great blue herons, another large, slim bird found throughout Minnesota. To tell them apart, look at the head. The great blue heron has a blue-black stripe above its eyes, while a sandhill crane’s forehead is fire-engine red. There are no feathers on the sandhill’s *crown*—just a thin layer of short, black bristles. Its red coloration comes from many tiny blood vessels that flow just under the skin.

Behavior is another good clue for identification. Great blue herons usually fly alone. They stand perfectly still or stalk through shallow water, lunging forward to grab frogs, fish, and other prey. Sandhills hang out in pairs or flocks. They wander through fields in search of grains, or pluck berries from shrubs. Sometimes, a crane uses its massive bill to probe the mud for plant roots, worms, and crayfish. Or it scrapes the soil with sharp-clawed toes to rustle up insects, snakes, and mice.

On the move

Sandhill cranes *migrate*, or fly seasonally, from one place to another. This means they have two “homes”—summer and winter—with stopovers in between. “They’re one of the first birds of spring,” says Wolfson, “even though we might not see them, just hear their calls from high overhead.”

Migrating sandhill cranes can cover several hundred miles in a single day, especially if the wind is pushing from behind. They flap when necessary but can save energy by gliding on *thermals*, warm columns of air that rise off the land. Although sandhills usually remain within 2,500 feet of the ground, they have been spotted up to three miles above the Earth.

Decades ago, biologists realized that Minnesota has two main sandhill crane *populations*: Midcontinental and Eastern. Midcontinental sandhills nest in northwestern Minnesota and retreat to coastal Texas for winter. Nebraska’s Platte River valley is the most important stopover on this route.

Eastern sandhills nest throughout Minnesota and overwinter in the southeastern United States, from Indiana all the way to Florida.

Bad news and good. As settlers moved westward in the 19th century, they converted wetlands and prairies to farmland. Cranes were hunted as food. Their lovely feathers were sold to decorate women's hats. By 1900, sandhill cranes had been driven almost to extinction. Only a few pairs remained in Minnesota, hidden away in the most remote wetlands.

In 1918, the federal government passed a law, the Migratory Bird Treaty Act, that made it illegal to hunt or collect birds that migrate—including sandhill cranes. States also began to preserve the places where cranes breed and find food.

There are now about 15,000 sandhill cranes in Minnesota. Wolfson's tracking project confirms that the Midcontinental and Eastern populations are healthy and spreading. Their breeding areas, once separated by hundreds of miles, have begun to overlap in central Minnesota. Birds from this zone seem to use both migratory paths.

Sharing space. Sandhill cranes sometimes visit farm fields. Autumn feeding isn't a problem—cranes are eating waste grains left after harvest. In spring, however, groups of young sandhills may feed on newly sprouted corn, wheat, and other plants.

Crop damage is costly for farmers, so scientists tried soaking corn seeds in a substance the birds dislike. This doesn't harm the cranes, but they are discouraged from feeding on crops. The birds sometimes stay in the fields anyway, helping farmers by hunting grubs, caterpillars, and other plant-eating insects.

Song and dance

Like other crane species, sandhills use movement and sound to communicate. "They're bursting with an instinct to dance," says Wolfson.

Cranes don't mate until they are several years old. They try out partners by bowing to each other, spreading and flapping their wings, and bouncing gracefully in the air. The birds may touch beaks, or pick up twigs and toss them into the air. Male and female sandhills look alike. This courtship dance

offers a rare way to tell them apart. With necks extended, the birds point their bills. The female tilts her head slightly upward, while the male points his bill straight up to the sky.

If it feels like a good match, the birds form a lifelong bond. Sandhill cranes can live more than two decades. Over the years, the pair learns to dance in perfect time with each other. They perform year-round, but this behavior is especially important in spring, to show they are ready to raise a family.

Made for music. Each pair chooses a breeding territory and calls to announce its location. Sandhill cranes make a symphony of hums, honks, croaks, and gargles that can be heard from more than a mile away. Male sandhills produce lower-pitched calls that are strung together. The female's voice is higher. Her sharp calls come in a quick series.

The sandhill crane's unique and powerful voice is made by pushing air through a series of tubes in its chest. Air from the lungs passes first into a Y-shaped voice box called the *syrinx*. By changing the shape of the syrinx, a crane alters the pitch of its calls and layers different sounds together.

From the syrinx, air moves into the windpipe, or *trachea*. An adult human's trachea is about 4 inches long. The sandhill crane's trachea is six times longer—about two feet. It coils inside the bird's chest like the curved pipe of a trumpet. Air vibrates as it flows through the trachea, increasing the sound's volume.

Family life

Sandhill pairs begin to arrive on their Minnesota nesting grounds in March and April. After resting and feeding for a couple of weeks, each pair chooses a nest site. It might be on land, floating in shallow water, or attached to wetland plants. They collect a pile of grass, sticks, cattails, and other nearby plants. The female adds mud to form a mound, which is topped with a soft cup of twigs and leaves. The final product is just half a foot tall but about 40 inches wide.

The female usually lays two eggs. She and her mate take turns *incubating* them. After about four weeks, the little birds begin to call inside their eggs. The parents stand close, purring encouragement as their babies break free.

Many birds are born naked, blind, and completely helpless. Not so with sandhill cranes! These chicks are covered in fuzzy orange down. Their eyes open within hours of hatching, and they can walk, run, and even swim.

Out and about. The family leaves its nest every morning. Each adult goes off in a different direction with a youngster, called a *colt*, in tow. Separation keeps the colts from fighting. At first, sandhill parents provide tiny bits of food. But the colts soon learn where and how to feed themselves. They trot along on lanky legs for a while, then snuggle under a parent's body to rest. At night, one parent cozies up in the nest with the colts. The other takes a nearby post, sleeping on its feet. It will wake to flap and kick at great-horned owls, foxes, and other predators that dare to come close.

Colts grow to half their adult size within two months. By this time, they are already strong fliers. The family migrates together in autumn. Over the winter, colts practice the dance moves they'll use to impress a future partner. Their weak voices gradually change to growly adult tones.

In spring, back in their northern range, young sandhill cranes form large groups that live separately from nesting adults. "The young birds are trying to figure out how to be cranes," explains Wolfson.

Everyone join in!

Sandhill cranes form huge flocks at migration stopovers and on wintering grounds. Such big groups keep the birds safe. If one individual spots a threat, it stands with its head held high. Other cranes notice and freeze, too. Predators are less likely to notice animals that don't move.

Copying can also keep the peace. When a crane lands near others, it bows and waggles its body. Nearby birds do the same. These movements create space, easing the tension between individual cranes. That's especially important when hundreds or thousands are crowded together. If a crane forgets to keep social distance, its neighbors peck and flap or bite and kick to send a message: "Back off!" Frustration also shows in a crane's face, as its red crown becomes brighter. But fighting is dangerous and tiring, so most of these confrontations end quickly.

Sandhill cranes awake at sunrise. One bird calls, then a few. The sound becomes a roar as the whole flock joins in. Cranes on the ground greet flocks flying past. One bird leans down, stretching

its wide wings in preparation for flight. Others notice, and do the same. They rise as a group, filling the sky with movement and sound.

Cranes all around

Not too long ago, sandhill cranes were a rarity in Minnesota. Today, these magnificent birds appear in many parts of the state. During spring and fall migration, watch for pairs and groups flying overhead. Listen for their harsh, croaking calls. Agassiz, Minnesota River Valley, and Sherburne national wildlife refuges are great places to witness the spectacle of sandhill cranes. But you might also see these birds near where you live—anywhere with wetlands, grasslands, and farm fields. Sandhill cranes even show up in parks and open spaces around the Twin Cities!

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