



Sandhill Crane

*Small populations
and threats to
nesting habitat
put this species
at risk in British
Columbia.*



BRITISH
COLUMBIA

Ministry of Environment, Lands and Parks



Why are Sandhill Cranes at risk?

Some, but not all, Sandhill Cranes are at risk. Their situation is complicated, since the scientific classification of the subspecies and populations found in British Columbia needs clarification. However, most experts agree that three subspecies occur in British Columbia – the Lesser Sandhill Crane (*Grus canadensis canadensis*), the Greater Sandhill Crane (*G. c. tabida*) and the Canadian Sandhill Crane (*G. c. rowani*). Information on the distribution and abundance of Sandhill Cranes that breed in the province is poor because they are very secretive when nesting and often choose remote habitats that are difficult to survey.

The Lesser Sandhill Crane breeds across the Northwest Territories, Yukon, Alaska and the northern reaches of the prairie provinces. Thousands migrate through British Columbia each spring and fall, traveling between their wintering grounds in the southern United States and their Arctic nesting sites. Most stay east of the Rocky Mountains, but a few travel through the Interior and along the Coast. A few cranes have been known to nest in the northeast corner of the province but their subspecific status is unknown.

The Greater Sandhill Crane is divided into four breeding populations. Members of one of these – the Central Valley population – nest in

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small groups in scattered locations across the southern half of British Columbia. Many of these areas are of great conservation concern.

The Canadian Sandhill Crane is believed to breed in B.C., but its distribution is uncertain and some biologists dispute whether it should even be classed as a separate subspecies. Field researchers often group the Canadian and the Greater subspecies together as “large” cranes when conducting surveys.

Habitat loss and degradation is likely the greatest threat to Sandhill Cranes in British Columbia. Some former nesting sites on Vancouver Island and in the Fraser and Okanagan valleys have been disturbed or destroyed by drainage projects, agricultural and urban development, and logging activity. However, most of British Columbia’s nesting cranes use remote areas that, to date, have not been subject to significant development or resource extraction. During the province’s settlement era, cranes were commonly shot for

food, but today they are protected from hunting and other direct disturbance in B.C.

Cranes also face many natural hazards, including flooding of their nests and predation on eggs, chicks and the occasional adult. In addition, the growth of crane populations is very low due to their delayed sexual maturity and small clutch size. Even a small amount of additional mortality due to human activities can cause their numbers to decline.

Such declines probably occurred in the past century, but whether the total British Columbia breeding population is currently increasing or decreasing is not known.

What is their status?

Due to the size of the province and the remoteness of most crane nesting areas, there has never been a complete survey of Sandhill Cranes nesting in British Columbia. In any one year, only small numbers are seen. The size of the provincial population during the breeding season is best estimated from counts of migrants in Washington and Oregon, and wintering birds in California. These data suggest that the number of cranes summering in B.C. is 1000 to 1500 along the Coast and 2500 to 3500 in the Central Interior. About 20 percent are assumed to be non-breeders,

Over thousands of years Sandhill Cranes have evolved elaborate courtship rituals and a wide array of vocalizations.

giving a rough estimate of 1400 to 2000 breeding pairs. This does not include the unknown number of Sandhill Cranes that nest in the Fort Nelson area.

The status of the Lower Mainland nesting populations of Greater Sandhill Cranes is of particular concern. These have dwindled to four or five pairs at Pitt Polder, two or three at Burns Bog

and one at Langley Bog.

In light of these small population estimates and the continuing threats to their nesting habitat, the Sandhill Crane has been placed on the provincial Blue List of vulnerable species. Sandhill Cranes receive protection against shooting and harassment under the federal *Migratory Birds Convention Act* and the provincial *Wildlife Act*. Little of their known nesting habitat has been protected.

The Sandhill Crane is classified as Endangered in Washington State,



Sensitive in Oregon and Threatened in California. The larger populations of the Great Plains and Gulf Coast states are generally not endangered, and are legally hunted in some areas.

What do they look like?

Sandhill Cranes are among the largest of North American birds, standing over one metre tall and having a wingspan of about two metres. Adults usually weigh between three and four kilograms. The neck, body and wings are slate blue to grey, with a rusty tinge on some feathers. The head is more distinctly marked, with bare red skin over the forehead and upper face, and contrasting white cheeks. The bill and legs are black. Immature birds lack the bare patch on the head and are usually browner in colour.

With their very long legs and non-webbed feet, Sandhill Cranes are adapted for walking on the ground or in water. They never perch on trees or other high objects. In flight, the Sandhill Crane holds its neck straight, while

its long legs trail beyond its short tail.

The only other crane in North America, the endangered Whooping Crane, occurs in British Columbia only as an “accidental” migrant and is easily distinguished by its white body and black wingtips. Great Blue Herons – which are sometimes confused with Sandhill Cranes – lack red face markings, have head plumes, and fly with their neck bent back, often resting their head on their shoulders. At a distance, migrating flocks of cranes might be mistaken for geese, but cranes can be identified by their loud, rolling calls, which can be heard up to four kilometres away, and by their flight patterns.

Why are they unique?

Cranes are ancient birds. Over thousands of years they have evolved elaborate courtship rituals and a wide array of vocalizations. Courtship dancing is particularly evident at migration stopover sites – often a bog

or stubble field – on the way to northern nesting areas. Invariably, soon after landing, a few birds begin to jump about with partially raised wings, sometimes leaping high in the air. Others gradually join in the exuberant antics, which are an essential preliminary to pairing.

The flight behaviour of cranes differs from that of swans and geese. During migration, which is largely by day and during sunny weather, flocks of a few to several hundred birds frequently spiral upward on thermal updrafts, glide or flap for a distance, then spiral upward again. When flying in straight lines they use a V-formation. Distances between rest stops average about 250 kilometres, while flight speeds range from 20 to 80 kilometres per hour, depending on wind speed and direction. The cranes’ snapping upstroke and slower downstroke distinguishes them from other long-legged, long-necked birds.

In British Columbia, people usually see these cranes only during migration. Often they are first alerted to the presence of flocks flying high

The age-old crane migrations through British Columbia follow the same routes, use the same rest stops and occur at the same time each year.

overhead by the sound of their 7- to 20-note “loud rattle” calls, sometimes referred to as trumpeting or bugling, which have a rising or falling inflection when the birds are in flight. The age-old crane migrations through our province follow the same routes,

use the same rest stops and occur at the same time each year, and were familiar to native people long before European settlers arrived.

How do they reproduce?

In British Columbia, Sandhill Crane nesting habitat includes marshes, swamps, bogs and meadows from near sea level to elevations up to 1220 m. They nest in open areas, rather than in dense brush or forest. The 1- to 1.5-metre-wide nests, made of grasses, sedges, rushes, sphagnum moss or branches of shrubs, sit on the ground or are anchored in shallow water.

In southern and central British Columbia, the clutch of two (occasionally one or three) eggs is usually laid in late April or early May, and incubated by both adults for 30 to 34 days. The eggs, laid at two-day intervals, are light brown with reddish blotches. During incubation the nest is attended constantly, the adults exchanging duties several times a day.

During pipping, which takes about 24 hours, the chicks produce three distinct calls from inside the egg, and their parents respond with a purring sound. In a two-egg clutch, the young hatch about one day apart. The downy, reddish-brown hatchlings are active at birth and able to leave the nest within 24 hours. For the first two to three weeks after hatching, the chicks remain very close to the adults. Both parents dutifully feed their offspring until they are about half-grown and able to find their own food. By 60 days the young cranes are almost adult size, and at 65 to 75 days they start to fly. However, growth is not complete until 10 months of age.

Although normally two eggs are laid, it is usual for only one young to fledge. This is attributed to intense sibling aggression, which results in one chick becoming dominant and taking most of the food brought by the adults.

Soon after their first flight, young Sandhill Cranes become strong fliers and they may begin to migrate with their parents only days later. They stay with their parents, usually within a few metres of them, until one or two months before the adults' next clutch is due, a period of nine or ten months. The young birds then begin associating with flocks of subadult, non-breeding cranes.

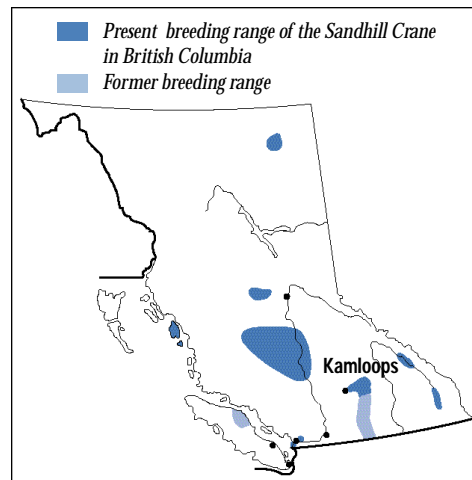
Subadult cranes may begin pairing when three or four years old, but successful nesting usually doesn't occur until they are five to eight years old. Pairs stay together until one or the other dies. They usually nest each year and may live for up to 20 years.

What do they eat?

Sandhill Cranes are omnivores – they mainly eat plant foods, but animal matter may comprise five to ten percent of their diet and is believed to be an important source of essential amino acids and calcium. Feeding primarily on land or in shallow marshes with emergent vegetation, they probe with their sturdy bills for underground food items, glean seeds and grain from the surface and pick berries from bushes.

The growth rate of crane populations is very low because of their delayed sexual maturity and small clutch size.

Although their feeding habits have not been studied in British Columbia, B.C.'s nesting cranes likely have diets similar to cranes in other areas: the underground parts of aquatic plants like sedges and rushes, as well as seeds, berries, insects, snails, amphibians and mice. In the boggy habitats used in this



province, berries such as the cranberry and bog blueberry are probably of some importance from mid to late summer. Insects reported to be eaten include grasshoppers, beetles, caterpillars and the larvae of aquatic species.

On the prairies, grains such as wheat, barley, sorghum and corn are the main foods of migrating and staging cranes. Some waste grain is probably also eaten by migrants that stop in British Columbia's Okanagan Valley, Bulkley Valley and Peace River areas.

In order to secure enough food resources for themselves and their young, Sandhill Crane pairs usually ensure that their nests are widely dispersed. A 20- to 80-hectare territory surrounding the nest is defended against other cranes.

Where do they live?

Sandhill Cranes have a wide distribution in North America, and some birds from this continent even nest in eastern Siberia. The breeding range of migratory flocks extends from Siberia and Alaska eastward to Hudson and James bays, and south to northern California, Idaho, Utah, Minnesota and Michigan. Major wintering areas of these birds include California's central valley, New Mexico, Texas and north-central Mexico. Small resident (non-migratory) populations also exist in Mississippi, Florida and Cuba.

In British Columbia, nesting has been documented on Vancouver Island, the Queen Charlotte Islands, various mid-coast islands, the Fraser Valley, the Okanagan-Shuswap area, the Cariboo-Chilcotin Plateau north to Vanderhoof, the Rocky Mountain Trench near Cranbrook, and the Fort Nelson area. The Vancouver Island and South Okanagan records are over 50 years old, and nesting may no longer occur in those areas.

The best known nesting sites in southern British Columbia are Burns Bog in Delta, and Pitt Polder near Pitt Meadows. At Burns Bog, cranes nest and roost in sphagnum heathlands and pond complexes created by the harvesting of peat. The predominant shrubs there are Labrador tea and blueberries; other common plants include bog cranberry, cloudberry, sundew and sphagnum moss. At Pitt Polder, the cranes nest in swampy sites covered with shrubs such as hardhack, sweet gale and Labrador tea. Although these nesting areas are near large centres of human population, they still provide the isolation needed by nesting cranes. In the Cariboo-Chilcotin area, where most of British Columbia's nesting cranes are found, the usual nesting habitat is sedge-dominated wetlands surrounded by coniferous forest. Most of these wetlands have convoluted shorelines with numerous bays and points. In the Interior, dense bulrush marshes in rangelands may also be used for nesting. The wetlands selected by nesting cranes vary greatly in the amount of water and in size, which seems to be less important than their degree of isolation. On the Queen Charlotte



SANDHILL CRANES FLY WITH NECKS STRAIGHT AND LEGS TRAILING.
R. Wayne Campbell photo

Islands, one nest was found among logging slash, but this choice appears to be quite unusual.

Stopover sites used by cranes migrating through the province include swampy fields, the edges of wetlands, dry rangelands, grain fields and estuarine meadows. During spring migration, cranes have been seen resting in the Okanagan Valley at the north end

The major need in British Columbia is to protect key habitats used by nesting Sandhill Cranes.

of Osoyoos Lake, at White Lake near Okanagan Falls and at Crescent Beach north of Summerland. Known resting stops further north are the Knutsford area near Kamloops, Bechers Prairie west of Williams Lake, and the Bulkley and Kispiox valleys. The best opportunity for seeing these predictable migrants is in the south Okanagan in late April or late September.

What can we do?

The major need in British Columbia is to protect key habitats used by nesting Sandhill Cranes. Before meaningful habitat protection programs can be started, however, more information is needed about this species' distribution,

abundance and habitats in many parts of the province.

In the lower Fraser Valley, crane populations and habitats are fairly well documented, and the main need is to prevent further habitat degradation and human disturbance. An educational program and signs advising people to stay out of nesting areas would benefit cranes in these locations.

On the Queen Charlotte Islands and mid-coast islands in Hecate Strait, nesting crane populations are probably fairly secure, although logging to the edges of their nesting bogs may be a concern. Since little is known about these cranes, the immediate need is to establish population size and identify key habitats.

Cranes nesting in the Cariboo-Chilcotin area could be harmed by agricultural land development or logging. Water storage or drainage projects could flood nests or dry out nesting habitat; logging that results in the loss of a treed buffer zone around nesting wetlands exposes these reclusive birds to disturbance. Heavy grazing or hay cutting in wet wild-hay meadows could also be damaging. Management plans are needed to protect the Interior populations from such disturbances, but more complete surveys of the birds and their habitats must be available if suitable plans are to be implemented. In the meantime, habitat protection measures in the Biodiversity Guidelines, Riparian Management Area Guidelines, and Identified Wildlife Management Strategy areas under the Forest Practices Code should help curtail the impacts of logging and other disturbances adjacent to their nesting areas.

In the Fort Nelson Lowland and adjacent areas in northeastern British Columbia, so little is known about nesting cranes that conservation




R. Wayne Campbell photo

planning is almost impossible. There, too, comprehensive surveys are a high priority. Oil and gas exploration is a concern in this area.

In addition to measures to protect nesting habitat, consideration also needs to be given to staging or stopover habitats used by migrating cranes. Regularly used sites need to be better identified and conserved, with stewardship agreements made where applicable on private land.

The public can assist in the conservation of British Columbia's Sandhill Cranes in several ways. This vulnerable species needs space and seclusion, and should only be viewed from a respectful distance. Because available nest records are few, any sightings of nests or of cranes with flightless young should be reported to the nearest BC Environment office. Observations of any activities that could harm these birds or their habitat should also be reported.

Prior to European settlement, the Katzie Indians of the Pitt Meadows area knew well the haunting calls and intricate dances of the Sandhill Crane. The arrival of large flocks of these stately birds each spring made a deep impression on them, and they called March "the month of the cranes."

The Katzie honoured the Sandhill Crane as the guardian spirit *syhaha'w*, meaning "superior in everything." Surely such a magnificent bird deserves our utmost attention and protection. 



THESE CRANES CONGREGATE AT STAGING AREAS.

R. Wayne Campbell photo



SANDHILL CRANES HAVE DISTINCTIVE RED FACE MARKINGS.

David F. Fraser photo



SANDHILL CRANE CHICK.

R. Wayne Campbell photo

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