

# Sandhill Crane

*Grus canadensis*

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*Disclaimer: The following document was compiled based on a review of information currently available for this species as of November 25, 2005. This document can be used to assist with the identification of this species and to support the development of management recommendations as they relate to forestry activities. For more information on this species, please refer to the reference section or consult with a Species at Risk specialist.*

## Description

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<sup>1</sup>. In flight, the neck is held straight (Great Blue Herons, which are of similar size and shape, hold their neck in an “S” shape during flight).

Sandhill Cranes have a variety of vocalizations, the most common of which is generally described as a repeated series of trumpeting “garoo-a-a-a” calls that can be heard for over four kilometers<sup>1</sup>. [Click here](#) for more information on this species including a recording of its vocalization.

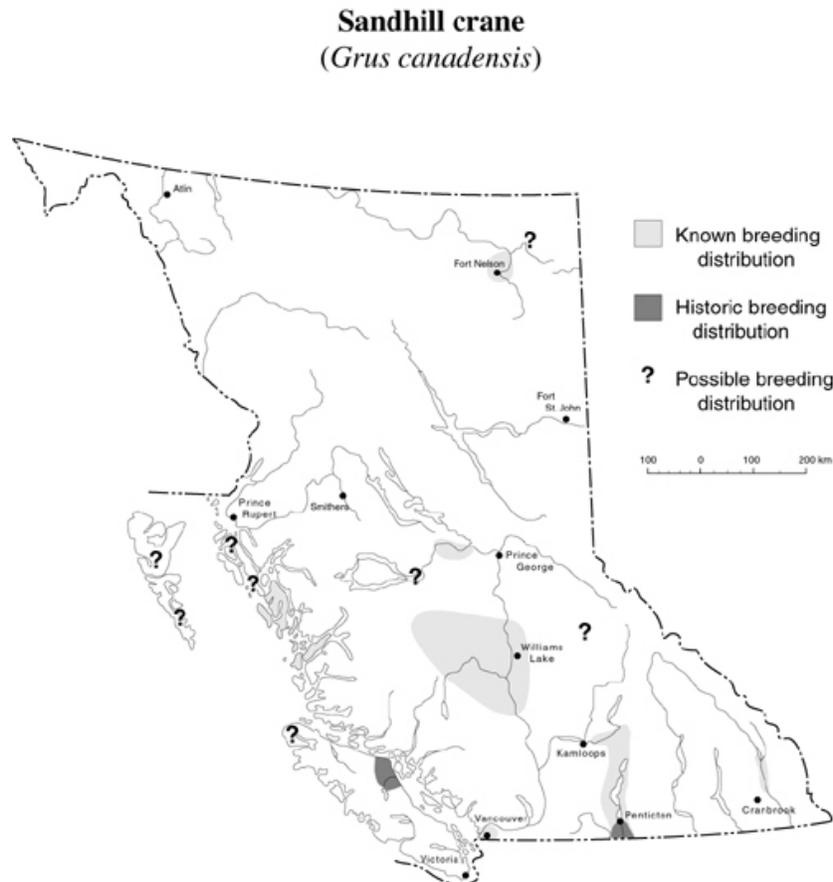


*Photo courtesy of Jack Binch SLC, Ut*



## Distribution

The Sandhill Crane is widespread in British Columbia, although the breeding distributions of the three subspecies found in British Columbia are not well known. Known breeding areas include much of the Central Interior ecoprovince (especially the Chilcotin Plateau, Cariboo Basin, and Nazko Upland), the Queen Charlotte Islands, central mainland coast, Mara Meadows near Enderby, East Kootenay Trench, Fort Nelson Lowland, and Fraser Lowland<sup>2</sup>.



### Forest Districts<sup>4,5</sup>

- Central Cariboo Forest District (DCC)
- Chilcotin Forest District (DCH)
- Chilliwack Forest District (DCK)
- Columbia Forest District (DCO)
- Fort Nelson Forest District (DFN)
- Headwaters Forest District (DHW)
- North Island - Central Coast District (DIC)
- Fort St. James Forest District (DJA)
- **Kamloops Forest District (DKA)**
- **100 Mile House Forest District (DMH)**
- Mackenzie Forest District (DMK)

- North Coast Forest District (DNC)
- North Island Forest District (DNI)
- Okanagan Shuswap Forest District (DOS)
- Peace Forest District (DPC)
- Prince George Forest District (DPG)
- Queen Charlotte Islands Forest District (DQC)
- Quesnel Forest District (DQU)
- Vanderhoof Forest District (DVA)

**Ecoprovinces and ecosections<sup>5</sup>**

- BOP: CLH, HAP, KIP, PEL
- CEI: BUB, CAB, CAP, CHP, FRB, NAU, NEU, QUL, WCR, WCU
- COM: CPR, CRU, FRL, HEL, KIM, KIR, NAB, NAM, NIM, NPR, NWL, OUF, QCL, SKP, WIM, WQC
- GED: FRL, LIM, NAL
- NBM: LIP, TEB, TEP
- SBI: BAU, ESM, MAP, MCP, NEL, NHR, PAT, SHR
- SIM: BBT, CAM, EKT, QUH, SCM, SFH, SHH, SPM, UCV, UFT
- SOI: GUU, NIB, NOB, NTU, OKR, SHB, SOB, STU, TRU, (THB – eastern end only)
- TAP: ETP, FNL, MAU, MUP, PEP, TLP

**Biogeoclimatic Units<sup>4,5</sup>**

- BG – Bunchgrass - all
- BWBS - Boreal White and Black Spruce - dk1, dk2, mw1, mw2
- CDF - Coastal Douglas Fir – all
- CWH - Coastal Western Hemlock - all
- ICH - Interior Cedar-Hemlock - all
- IDF - Interior Douglas-fir - dk1, dk1a, dk1b, dk2, dk3, dk4, mw1, mw2, mw2a
- MS - Montane Spruce - all
- PP - Ponderosa Pine - all
- SBPS - Sub-Boreal Pine-Spruce - dc, mc, mk, xc
- SBS - Sub-Boreal Spruce - dk, dw1, dw2, dw3, mc, mc1, mc2, mc3, mh, mk1, mk2, mw

**Broad ecosystem units<sup>5</sup>**

- BB, BG, BS, CB, CF, ES, ME, OW, RE, SS, TF, WL

**Elevation**

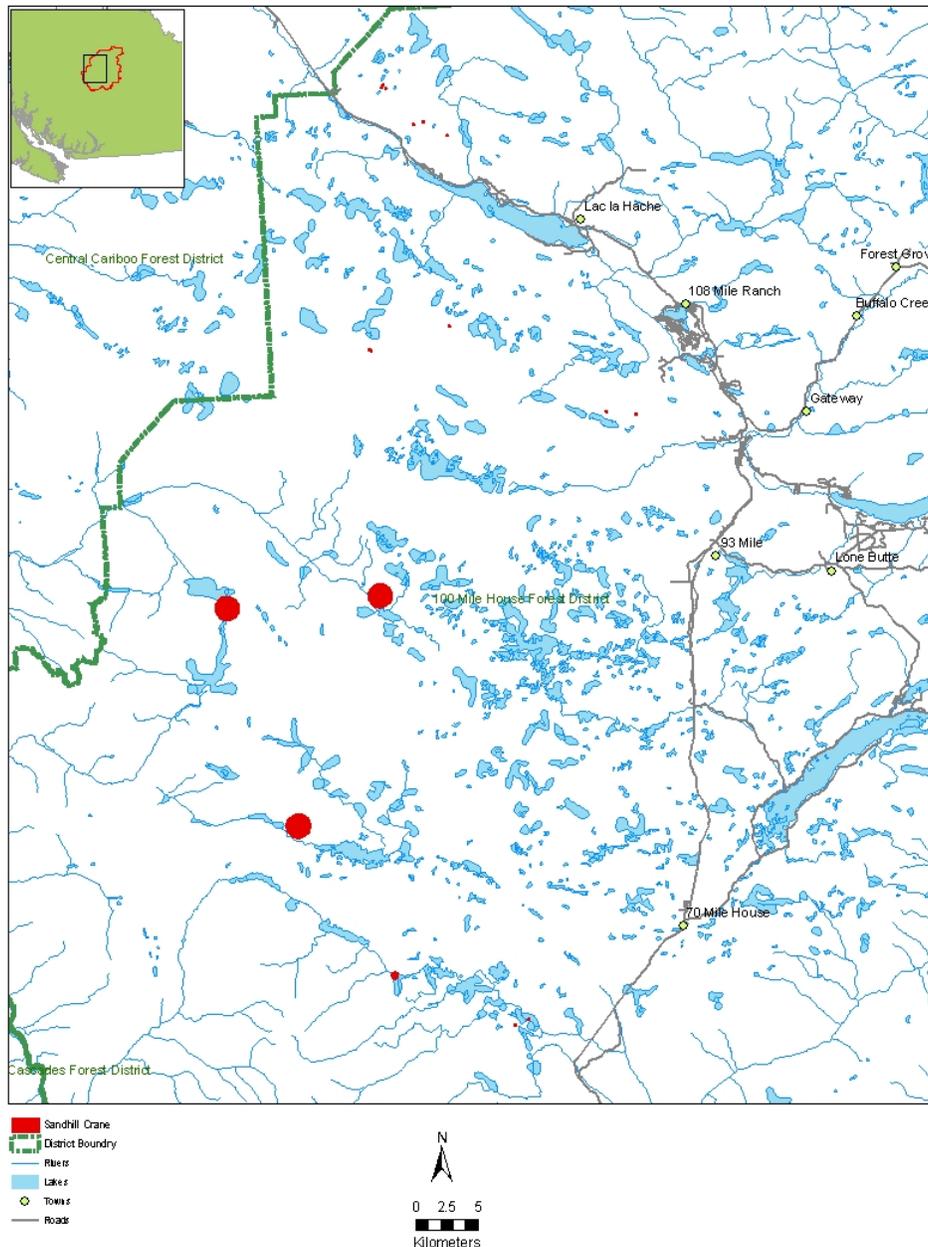
Breeding: sea level to 1220 m

Non-breeding: sea level to 1510 m<sup>2</sup>.

### Map of Known Locations



Known locations for Sandhill Crane (*Grus canadensis*), in the Kamloops Forest District as of September 2005 (data source: Conservation Data Centre).



Known locations for Sandhill Crane (*Grus canadensis*), in the 100 Mile House Forest District as of September 2005 (data source: Conservation Data Centre).

## Biology

Sandhill cranes winter in California's central valley, New Mexico, Texas and northcentral Mexico. They migrate to British Columbia in early spring<sup>1</sup>.

### **Reproduction**

There are few data on the breeding ecology of Sandhill Cranes in British Columbia. Cranes mate for life and tend to return to the same territory each year<sup>6</sup>. Greater Sandhill Cranes (from the Eastern population) are known to breed successfully as early as their

third year, but most do not breed successfully until four years of age. Sandhill cranes have developed elaborate courtship rituals and a wide range of vocalizations<sup>1</sup>.

Cranes lay clutches of 1-3 eggs, but 2 eggs is the normal clutch<sup>2,5</sup>. Eggs are laid in late April or early May and are incubated for 30-34 days<sup>1</sup>. In British Columbia the dates for 20 clutches ranged from 2 May to 25 June<sup>5</sup>. Replacement clutches are laid if the first clutch is lost, after an interval of about 20 days<sup>7</sup>. Average egg length is 9 to 10 cm<sup>7</sup> and they are light brown with reddish blotches. Broods were observed in nests from 15 May to 1 September with the majority occurring between 15 June and 15 July. Fledgling period ranges from 65-70 days<sup>5</sup>. By August, young are nearly adult size and soon after are able to fly. Once the young have fledged they forage with their parents around the perimeter of the natal wetland, primarily in sedge meadows. Migration occurs in late August to early September<sup>1,5</sup>.

### **Foraging**

Sandhill Cranes eat a variety of plant and animal foods and are classed as opportunistic omnivores<sup>3,8</sup>. During winter and spring migration, they eat mainly waste grains (corn, barley, wheat, rice)<sup>9</sup>. Invertebrates and vertebrates are more important during the breeding and fall migration seasons<sup>10</sup>. Breeding birds likely eat a wide variety of foods that are available near their nesting sites including insects, snails, crayfish, spiders, herbage, voles and mice, frogs, toads, snakes, nestling birds, birds eggs, berries, and carrion<sup>11</sup>.

## **Habitat**

Sandhill Crane breeding habitat includes four primary attributes: nest site, roosting area, feeding area, and isolation from human activities<sup>12</sup>. These habitat elements can be supplied by large wetland complexes, smaller scattered wetlands, forest bogs, mountain meadows, beaver ponds, and irrigated wet meadows<sup>13</sup>. Sandhill Cranes generally show strong site fidelity; however, this can vary between regions. Home range size has not been determined in British Columbia but elsewhere, they have been measured to be between 17ha and 85ha<sup>5</sup>.

### **Important Habitats and Habitat Features**

Shallow, open wetlands with clear water and emergent vegetation are important as they are used for roosting, nesting and foraging. Some general roost site characteristics are large expanses of shallow water, not close to obstructions, and a soft bottom substrate<sup>14</sup>. Cranes seem to prefer water with a pH of 4.5-7.6<sup>15</sup>.

### **Nesting**

Breeding habitat in British Columbia has been described as<sup>5,16</sup>:

- isolated bogs, marshes, swamps, and meadows generally >1 ha in size surrounded by forest cover from near sea level to 1220 m elevation;
- heavily-vegetated bulrush marshes in rangelands;
- marshes and meadows;
- sphagnum heathlands and pond complexes.

Emergent vegetation such as sedges (*Carex* spp.), Cattail (*Typha latifolia*), bulrush (*Scirpus* spp.), Hardhack (*Spiraea douglasii*), willows (*Salix* spp.), and Labrador Tea (*Ledum groenlandicum*) are important for nesting and brood rearing. Nesting wetlands

are usually secluded, free from disturbance, and surrounded by forest. Forested buffers around nesting marshes are likely critical for relatively small (1–10 ha) wetlands<sup>5</sup>. Unlike most wetland-associated birds in British Columbia, adult Sandhill Cranes with young use coniferous forests for escape cover and possibly when resting and feeding<sup>15</sup>.

### ***Foraging***

One of the most important habitat characteristics for Sandhill Cranes is an unobstructed view of surrounding areas and isolation from disturbance. Typical foraging habitat includes shallow wetlands, marshes, swamps, fens, bogs, ponds, meadows, estuarine marshes, intertidal areas, and dry upland areas such as grasslands and agricultural fields. In the Interior, flooded meadows and agricultural fields provide good roosting habitat<sup>5</sup>. Grain fields, farmlands and grasslands are important feeding areas during migration<sup>17</sup>.

### ***Roosting/staging***

Roosts are characterized by level terrain, shallow water bordered by a shoreline either devoid of vegetation or sparsely vegetated, and an isolated location that reduces potential for disturbance by humans<sup>5</sup>.



*Wetland nesting habitat*

## **Conservation and Management**

### ***Status***<sup>4</sup>

Provincial Status: S3S4B (Provincially Vulnerable/Apparently Secure, breeding population)

BC List: Blue (Special Concern)

COSEWIC: NAR (May 1979) (Not at Risk)

### **Threats**

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*)<sup>1</sup>.

While information is limited, several threats have been identified. Habitat loss and degradation is likely the greatest threat to Sandhill Cranes in British Columbia. Nesting sites have been disturbed or destroyed by drainage projects, agricultural and urban development, and logging activity. Land use practices such as logging up to the edge of wetlands, draining of wetlands for agriculture, and trampling of emergent vegetation by livestock have resulted in loss of habitats. Preliminary investigations have suggested that wetlands with recent nearby clearcutting in the Chilcotin region are not used for nesting by cranes<sup>5</sup>.

As well, cranes are sensitive to disturbance; birds may desert a nest due to intrusive disturbance. Cranes also face many natural hazards, including flooding of their nests and predation on eggs, chicks and the occasional adult. Low population growth rates due to late sexual maturity and small number of young each year, means a slow recovery rate after disturbances. Therefore, even a small amount of additional mortality due to human activities can cause their numbers to decline<sup>1,16</sup>.

## **Management Recommendations**

Consult with a Registered Professional Biologist prior to implementing the following management recommendations because certain situations may require custom solutions based on specific site characteristics.

- Budget permitting, develop a habitat model to help identify high value habitat found within your areas of interest. The complexity of the model, and therefore its accuracy, will be dependent on budgetary constraints.
- Identify locations where this species is known to occur: obtain occurrence data from the Conservation Data Centre (<http://srmwww.gov.bc.ca/cdc/>) and if necessary conduct surveys to confirm presence or absence of this species.

In areas where this species is identified:

- Establish a no harvest buffer zone of at least 50 m around the wetland. A 200-350 m management zone should surround the buffer zone to maintain seclusion of the wetland and minimize disturbance. No forestry activities should occur within the 50 m restricted zone.
- Do not conduct forestry activities (including harvest, salvage, hauling, and road construction) within 800 m of nesting sites during the breeding season (April 15 to August 15)<sup>5</sup>.

- Avoid human disturbance within 400 m of nesting sites during the breeding season (April 15 to August 15) and to important staging areas during the migratory period (April and Sept./Oct.).
- Mechanical site preparation is permitted between August 16 and April 14 in areas outside of the 50 m restricted zone.
- Planting areas adjacent to the 50 m restricted zone should occur as late as possible during the summer in order to minimize disturbance to nesting birds during the incubation period (which generally occurs between May and June).
- Retain at least 40% of the dominant and codominant trees near active nesting sites<sup>5</sup>.
- Maintain the structural integrity of emergent vegetation in the management zone to provide cover and nesting habitat<sup>5</sup>.
- Maintain a vegetated screen in the management zone around breeding wetlands.
- Do not use pesticides.
- Do not remove beaver (*Castor canadensis*) dams where dams flood areas being used by breeding cranes.

## References

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