

RECENT RANGE EXPANSION OF SANDHILL CRANES (*GRUS CANADENSIS TABIDA*) IN SOUTHEASTERN BRITISH COLUMBIA

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Abstract

A small population of Sandhill Cranes (*Grus canadensis tabida*) became established in two discrete areas in the East Kootenay region of British Columbia since the mid-1980s. This paper discusses the taxonomy, origin, size, growth, habitat requirements, breeding chronology, and conservation for this population over the past two decades.

Introduction

Over the past two decades Sandhill Cranes (*Grus canadensis tabida*) (Figure 1) have established two breeding populations of one or two territorial pairs each in the southern Rocky Mountain Trench in southeastern British Columbia. The first population, which was probably established in the mid-1980s, is in the Bummers Flats (Figure 2) area along the Kootenay River north of Cranbrook. The second population, breeding since 1998 in the Columbia River and lower Blaeberry River valleys north of Golden, is the primary focus of this paper. Based on 256 records from 1985 to 2005, my emphasis is to



Figure 1. Sandhill Crane. Reifel Island, BC. 14 April 1995 (Douglas Leighton).



Figure 2. The continuous mosaic of wetlands, with islets of emergent vegetation, provide ideal nesting habitat for Sandhill Cranes at Bummers Flats, BC. 7 May 1997 (R. Wayne Campbell).

document the development, breeding, and habitat use of the breeding population established near Golden, British Columbia.

Taxonomy

The American Ornithologists' Union (1957) recognized three subspecies of Sandhill Crane. Of these the Greater Sandhill Crane (*G. c. tabida*) was known to breed along the coast and in the central interior of British Columbia while the Lesser Sandhill Crane (*G. c. canadensis*) occurred as a migrant in the province. Later, Walkinshaw (1949) and Lewis (1980) recognized six subspecies, adding the Canadian Sandhill Crane (*G. c. rowani*) to the known subspecies occurring in British Columbia. These are the subspecies recognized in British Columbia (Campbell et al. (1990).

Over the next decade the taxonomic status remained confused. Tacha et al. (1985) questioned "the propriety of separating medium-sized *rowani* from smaller *canadensis* and larger *tabida*, demonstrating a continuum in morphology and random pairing among the supposed subspecies". Later Tacha et al. (1992) list the Eastern, Rocky Mountain, Colorado River, and Central Valley populations as *G. c. tabida*, the Pacific coast population as *G. c. canadensis*, and a mid-continent population (e.g., breeding in the Yukon-Kuskokwim Delta, Alaska) as comprising all three subspecies.

Source of the East Kootenay Population

Three geographically discrete populations of Sandhill Cranes occur to the south of British Columbia in the United States (Tacha et al. 1992). The Colorado River population breeds in northeastern Nevada and southwest Idaho and winters in the Colorado River Valley in Arizona. The Central Valley population nests in Oregon and northern California and winters in the Central Valley of California. The Rocky Mountain population nests in northwest Colorado, Idaho, Montana, Utah, and Wyoming, and winters primarily in the Rio Grande Valley of New Mexico.

The Rocky Mountain population is the largest and most robust. Between 1987 and 2005 the population averaged 18,239 birds with a gradual increasing trend, and a record high count, of 20,865 birds in 2005 (Drewien and Thorpe 2005). In the spring of 1944, however, the Rocky Mountain population was estimated at 185 to 245 breeding pairs, and the Montana population was estimated at 60 to 72 birds with about 25 to 30 breeding pairs (Walkinshaw 1949). Between 1987 and 2005 the mean population in Montana was 3,845 birds, and from 2000 to 2005 all counts had > 4,585 birds, with a record high of 5,588 birds in 2005 (Drewien and Thorpe 2005). New breeding territories have developed in “most of the open intermountain valleys” in this state (R. Northrup pers. comm.).

The southern Rocky Mountain Trench is a relatively straight and broad valley that runs north-northwest to south-southeast between the Rocky Mountains and Columbia Mountains in British Columbia, and south to the Flathead Basin in northwestern Montana. From Montana to Cranbrook and north to Golden, the Rocky Mountain Trench is a direct flight path for Sandhill Cranes over inviting habitat patches (Figure 3). The nearest breeding area of the Rocky Mountain population is in Montana in the Flathead Basin near Kalispell, approximately 200 km south of Cranbrook (Price et al. 1995, S. Leonard pers. comm.). As late as 1975, this region was unoccupied Sandhill Crane habitat (Lewis 1980), but by 2005 the breeding population was about 50 pairs. The population continues to expand, although recent habitat losses are expected to cap further growth (D. Casey pers. comm.). With such a considerable breeding population in the south, “surplus” individuals may serve as potential

emigrants to the trench. In 1992, Drewien and Thorpe (2005) documented a peak in both the Montana (5,264 cranes) and Rocky Mountain (19,297 cranes) populations. This closely correlates with the initial 1990 dispersal to Cranbrook.

There are migration records in the Rocky Mountain Trench between Montana and Cranbrook (S. Leonard pers. comm.) and now between Cranbrook and Golden (R.S. Ferguson, R. Krisch, pers. comm.). It seems likely that Sandhill Cranes from the expanding Montana population are the first to colonize the Rocky Mountain Trench. The regional landscape suggests that the cranes now visiting the Creston Valley (L.M. Van Damme pers. comm.), and the population in extreme southwestern Alberta since 1974 (Pinel et al. 1991, Semenchuk 1992), originate from the Rocky Mountain population in Montana.

The Cranbrook Population

Given the expanding Rocky Mountain population in adjacent Montana, the extension northward up the Rocky Mountain Trench of British Columbia was predictable. So was the selection of their first breeding territories at Bummers Flats (see Figure 2), along the Kootenay River between Fort Steele and Wasa north of Cranbrook. For north-bound cranes it is the first significant wetland in the province, providing a relatively rich, diverse, and secure area. Moreover, it is in the ponderosa pine (*Pinus ponderosa*) biogeoclimatic zone, a familiar habitat for Rocky Mountain population birds, where breeding wetlands



Figure 3. Sandhill Cranes migrating to nest in the lower Blaeberry River valley select wetlands situated among a mixture of forests and cleared agricultural land. 2 August 1996 (Douglas Leighton).

are near or adjacent to natural meadows, grasslands, and agricultural fields where they feed. This habitat theoretically could have supported today's one to two pairs in some earlier era, although there are no historical records for the area (R.W. Campbell pers. comm.).

Sandhill Cranes began breeding in the Bummers Flats area around 1985 when a pair was found with a large chick (P. Davidson and R.W. Campbell pers. comm.). In 1991 and 1994, sightings of late summer pairs with one juvenile confirmed that it continued to be a productive breeding site (P. Davidson and R. W. Campbell pers. comm.). In 1995 one to two pairs still frequented the area (Cooper 1996). That may still be the current status as there may be limiting resources (e.g., habitat or food) available for additional expansion (P. Davidson pers. comm.). In 2005 P. Ohanjanian, P. Davidson, and R. Goodwin (pers. comm.) counted as many as nine cranes in May.

The Golden Population

From 1997 to 2005 a small population of Sandhill Cranes has nested and foraged around the confluence of the Blaeberry and Columbia rivers 10 to 15 km north of Golden (elev. 799 - 840 m). Within this region the cranes utilize two distinct areas: the Moberly Marsh along the Columbia River (Figure 4) and the adjacent lower Blaeberry River valley (Figure 5) about four to six km northeast of Moberly Marsh.

An early description of Moberly Marsh was provided by James Hector, during the Palliser Expedition, in September 1859: "These swamps have their edging of willow thicket, and from these the side of the valley rises at once clothed with dense forest" (Spry 1968). Today the Moberly Marsh is one of the largest cattail (*Typha latifolia*) marshes in the region and is bordered on the east by the Canadian Pacific Railway and Highway 1. It covers most of the 401 ha Burgess and James Gadsden Provincial Park and includes a 25 ha hayfield at the northeast end and the Columbia River and the adjacent wetlands to the west, south and north. The area is part of

the newly established (1996) Columbia Wetlands Wildlife Management Area.

Moberly Marsh is part of the northern tip of the "Columbia Wetlands," the annually renewed product of a huge watershed of mountain snow-packs melting to flood the upper Columbia River and the largely flat and narrow bottom of the Rocky Mountain Trench each spring. With annual variations in timing and degree, this surge typically creates extreme and often rapid water level fluctuations. Large parts of this flood-zone are often dry until mid-May or later, flooded with cold water by late June, and then dry again by September. Moberly Marsh is further specifically impacted by the Kicking Horse River, a major tributary that joins the Columbia River about

10 km upstream at Golden. Most of Moberly Marsh is subject to this severe and irregular natural hydrological regime. Part of

"...Sandhill Cranes from the expanding Montana population are the first to colonize the Rocky Mountain Trench."

Moberly Marsh in Burgess and James Gadsden Provincial Park is stabilized by the dykes of a Ducks Unlimited project.

The southern part of Moberly Marsh includes the narrow northern tip of the Interior Douglas-fir biogeoclimatic variant (IDFdm2). The northern Moberly Marsh and the lower Blaeberry River valley are classified as a cool Interior Cedar-Hemlock variant (ICHmk1) (British Columbia Forest Service 1992).

The lower Blaeberry River valley breeding site includes the Blaeberry wetland, a > 50-ha diverse wetland complex surrounded by mixed forest, and about 150 ha of cleared agriculture fields. Prior to severe fires and land clearing that began in the lower Blaeberry River valley in 1912 (Seward 1982), the fields, where Sandhill Cranes now feed, were coniferous and/or mixed forests.

The Blaeberry wetlands have no direct connection to any river. Water levels depend on a single mountain watershed which, via small seasonal creeks and seepage, spreads out over a relatively large, level, and partially porous area. Though annually variable, seasonal flooding is moderate and fluctuations are stabilized by permanent beaver ponds.



Figure 4. Cattails dominate the vegetation at Moberly Marsh, near Golden, BC. 15 July 1999 (Douglas Leighton).

Field Observations

No specific Sandhill Crane surveys were conducted, but 253 records, including sightings and voice recognition, were documented from 1996 to 2005 during the course of outdoor activities in the Golden region (Table 1). Most records (235) are from the lower Blaeberry River valley, where cranes occur on and around our home acreage, and where survey coverage was more consistent since 1993.



Figure 5. The Blaeberry wetland, with Willowbank Mountain in the background, near Golden, BC. 26 November 1998 (Douglas Leighton).

Observations at Moberly Marsh (since 1993) peaked from 1998 to 2001 with the addition of 54 fixed-route bird surveys conducted annually from 26 March to 23 June. Coverage of Moberly Marsh from 2002 to 2005 was minimal.

During 10 years of observation, the number of records of Sandhill Cranes at Moberly Marsh ranged from zero to six (Table 1). The lower Blaeberry River valley population showed a steady increase in the number of detections, from three to 49, and averaged over 26 per year. Because observations were inconsistent, the total number of records are correspondingly biased. However, given the actual observations that they represent, I am confident that they provide a generally accurate description of the development of this population through 2005, particularly in the lower Blaeberry River valley.

Annual Chronology

Sandhill Cranes arrive in the study area as early as 5 April in some years but most arrive during the remainder of the month and into early May (Table 2). Nesting territories are quickly established, young are raised, and by late August and early September family groups and nonbreeding cranes gather for the autumn migration. Some birds may linger in the area as late as 10 October (Table 2).

Breeding Habitat

The breeding habitats near Golden fit those described by Campbell et al. (1990) as “isolated bogs, marshes, swamps, and meadows.” Cooper (1996) further emphasized the importance of forest edges around breeding wetlands, optimally maximized on convoluted shorelines, as “escape cover” for pairs with colts and for isolation. He also suggested that “isolation and the presence of water” are more important than size of the breeding territory.

All breeding territories near Golden were isolated from human activity and protected from terrestrial predators by open water. The Blaeberry wetlands site, which is roughly T-shaped, is about 95% surrounded by at least a strip of forest (the rest is agricultural lands), and has multiple internal bog-birch and spruce edges. The Moberly Marsh site, which is about 50% bordered by riparian growth and has numerous islets of low vegetation, is more open and exposed to Highway 1 and the Canadian Pacific

Table 1. Summary of Sandhill Crane observations by year for the Golden population, 1996 - 2005. MM = Moberly Marsh area; LBRV = lower Blaeberry River valley.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
MM	1		3	6	1	3	1	1	2		18
LBRV		14	3	17	3	49	37	40	25	47	235
Total	1	14	6	23	4	52	38	41	27	47	253

Railway on the east side.

Flooding can impact nest success and foraging areas. In the East Kootenay region the natural hydrological regime of the upper Columbia River appears to be a critical factor at Moberly Marsh and in the Columbia Wetlands Wildlife Management Area. Water levels for breeding Sandhill Cranes are minimal when nest sites are selected and incubation begins. Flooding begins, and can reach peaks, during incubation, and continues during most of the fledging period. Successful breeding was confirmed at Moberly Marsh in 1998, that year being an extremely dry El Nino year. Successful breeding may also have occurred in 2005, another dry spring year. The relative stability of the Blaeberry wetlands is likely a key factor in the shift from Moberly Marsh

to Blaeberry wetlands as the primary nesting area (Table 2).

Breeding Chronology

No nests or clutches were documented at Golden but adults with flightless young were observed twice. On 13 June 1998, a single young, about “leg-high” compared to the adults, was noted on the edge of a cattail marsh at Moberly Marsh. The second family group was observed on 25 June 2004 walking along a fenland creek on a spruce/bog birch edge at Blaeberry wetlands. This young was “1/2 as tall” as the adults and “bigger” than the young seen at Moberly Marsh.

Estimating that the 13 June young was about 40 cm tall, and therefore about 15 days old (Walkinshaw

Table 2. Annual chronology of Sandhill Cranes breeding near Golden, BC, 1996 - 2005. (MM = Moberly Marsh; BW = Blaeberry wetland; Nesting: Pr = probable and Po = possible.

Year	First Record	Max. Ad.	Res. Ad.	Res. Pairs	Young	Nest Area	1 st Observed Young	Last Record	Visiting Pair
1996	17 May	2							17 May
1997	23 July	2	2 (Pr)	1 (Pr)		MM(Pr)		30 Aug	
1998	17 May	2	2	1	1	MM	13 Jun, MM	11 Sep	
1999	25 Apr	1	1					22 Aug	
2000	8 May	1	1					25 Aug	
2001	18 Apr	3	1					9 Sep	21 May
2002	20 Apr	1	1					10 Oct	
2003	6 Apr	2	2	1		BW (Pr)		21 Sep	
2004	23 Apr	2	2	1	1	BW	25 Jun, BW	20 Sep	
2005	5 Apr	6	4	2	1			16 Sep	14 May
2005				Pair A		BW (Pr)		2 Sep	
2005				Pair B	1	(Po)		16 Sep	

1949), nest-building could have commenced about 23 April and clutch initiation about 1 May. The young bird seen on 25 June was first seen weakly flying on 8 August. Back dating, using a fledging period of 70 days, an incubation period of 30 days, and nest-building of seven days (see Tacha et al. 1992), the chronology is very similar. Although the sample is small, nest-building occurs in the last week of April followed by incubation in May and growth and development of the young into early August. These dates fall within the ranges reported by Campbell et al. (1990) for British Columbia.

Use of Breeding Habitat

Ideal Sandhill Crane breeding territories have four basic elements: 1) a nest site usually over water, 2) a variety of roosting sites, 3) foraging areas, and 4) some isolation from human disturbance (Tacha et al. (1992). The estimated combined summer range for Moberly Marsh and the lower Blaeberry River valley habitats, including flight paths, is < 24 km². The core use areas are estimated at > 6 km² for Moberly Marsh and < 4 km² at lower Blaeberry River valley.

Foraging and rearing habitats were broadly classified into two categories: 1) wetlands that included marshes, fens, peatlands with scattered spruce, beaver ponds, and river shorelines, and 2) agricultural that included hayfields, cattle pastures, and croplands. Except for flight paths, no other habitat use was observed.

Habitats were utilized according to breeding requirements and varied annually. Table 3 shows the gradual move from wetland to agricultural habitats as the breeding season progressed. From April to July, 60% of records were from wetlands, with monthly use being greatest in April (73%) and May (70%), corresponding with the arrival and nesting periods. From August to October, 77% of records were from agricultural lands, with monthly use being greatest in September (90%) and October

(100%). Some September birds and the only October bird apparently used them exclusively and roosted in a shallow pool on agricultural land. About 27% of recorded use during the breeding period was on agricultural lands.

Use of Foraging Habitats

Adult Sandhill Cranes are primarily vegetarian opportunistic omnivores, with unspecialized bills for grazing, pecking, stabbing, probing or digging the most nutritious and efficiently available plant and animal foods in any given habitat, season or year (Walkinshaw 1949). Animal protein is most vital for growing young (Lewis 1980).

Habitats were again classified as wetland or agricultural land. Table 4 shows the monthly shift from wetlands to agricultural lands as the breeding progressed, probably driven by nutritional requirements and the importance of agricultural lands for foraging later in the summer. Use of wetlands was ≤ 30% only in April and May when breeding birds were either nest building or incubating; later in summer, when young birds could fly to them, a substantial increase in use was observed. In 2004, a recently fledged Sandhill Crane was first seen flying in the Blaeberry wetlands with its parents on 8 August and the next day was foraging on agricultural fields. By late summer this family group consistently fed on fields in the lower Blaeberry River valley, and used the Blaeberry wetlands primarily for roosting. This clear preference almost certainly reflects seasonal food availability.

Foods in Wetlands and Agricultural Lands

Sandhill Cranes in the Blaeberry wetlands probably utilize a wide variety of natural plant and animal foods depending on what is available. Berries can be a staple crane food (Walkinshaw 1949) and several species grow on the edges of wetlands and peatlands and are probably utilized at Golden. Most

Table 3. General monthly habitat use by Sandhill Cranes near Golden, BC, 1996 - 2005.

	Apr	May	Jun	Jul	Aug	Sep	Oct	All
Wetland	8 (73)	19 (70)	3 (50)	8 (42)	16 (29)	2 (10)	0 (0)	56 (40)
Agriculture	3 (27)	8 (30)	3 (50)	11 (58)	39 (71)	19 (90)	2 (100)	85 (60)
Total	11	27	6	19	55	21	2	141

sedges, grasses, forbs and deciduous foliage are at nutritional peaks during the crane breeding season (Woods 1991) and cranes at Golden probably graze on a variety of these items then, as well as available roots and bulbs. Other identified natural plant foods include grass rachises, seeds, and *Equisetum* (Mullins 1974) and aquatic plant roots (Bent 1926). The most common potential vertebrate prey observed in the Blaeberry wetlands were meadow voles (*Microtus pennsylvanicus*), Columbia Spotted Frogs (*Rana luteiventris*) and Western Toad (*Bufo boreas*) hatchlings, but these populations varied dramatically from year to year. At Moberly Marsh, the Columbia River flood regime defines the annual availability and overall quality of natural foraging areas.

Three types of agricultural lands in the lower Blaeberry valley, near to or adjacent to the Blaeberry wetlands, produce seasonal foods for cranes. Grazed pastures produce green shoots, earthworms, and often abundant late summer grasshopper populations, and the cattle and dung attract other insects. Single-crop hayfields (included at Moberly Marsh) produce spring shoots and, after harvest, continue to offer Timothy corms (*Phleum pretense*), insects, and rodents. Cropland is a minor part of the total available area for Sandhill Cranes, but grain (oats, winter rye) production makes it a highly preferred and intensely used habitat in August and September. The most consistently used area is comprised of an oat field (where use was concentrated), grazed pasture, a hay field, and a shallow but exceptionally rich (cattle-fertilized) pool, which was probably used as a seasonal roost.

In Idaho, Timothy corms and short-horned grasshoppers were the most prevalent plant and animal foods (Mullins 1974) and both appear to be important foods at Golden. Recent increases in Timothy plantings, for the benefit of elk (*Cervus canadensis*) and as part of mixed hay crops (M. Peterson and J. Booher pers. comm.), is a very positive trend for these cranes. Grasshopper populations vary with summer precipitation but become very abundant on closely grazed pastures in dry years. The observed habituation of individual cranes to distant neutral human activity over time has clearly increased available foraging area on agricultural lands, particularly in the lower Blaeberry valley.

Table 4. Monthly observations of foraging habitats for Sandhill Cranes near Golden, BC, 1996 - 2005. MM = Moberly Marsh area; BW = Blaeberry wetland; LBRV = lower Blaeberry River valley.

	Apr	May	Jun	Jul	Aug	Sep	Oct
Wetland							
MM	1	7	1				
BW/LBRV		6	2	2	5	1	
Agriculture							
MM	2	1					
LBRV		3	2	1	11	14	2
Total	3	17	5	3	16	15	2

Ecological Considerations for Breeding

The selection of open, marshy breeding habitat for the Cranbrook population of Sandhill Cranes at Bumpers Flats was ecologically predictable. Golden, however, is situated in the heavily forested Interior Cedar Hemlock Zone. Along the approximate 200-km flight north from Cranbrook, the founding cranes pass over what appears to be potential breeding habitat in the Interior Douglas-fir Zone, a more familiar forest type for the Rocky Mountain population. More significantly, the cranes passed over 27,430 ha of almost continuous Columbia River wetlands, including the 15,070 ha protected Columbia Wetlands Wildlife Management Area, to the Golden territory at its northern tip. This region remains the only confirmed breeding location north of Cranbrook. Compared to areas south of Golden, including the Columbia Wetlands Wildlife Management Area, the Golden area appears to be more suitable for the following four reasons:

1) Topography/Isolation: the confluence of the Blaeberry and Columbia river valleys creates an exceptionally wide effective valley bottom (about 10 km east to west). This relatively level landscape holds multiple large wetlands, encourages agricultural development, and provides suitable distance and isolation from concentrated human activity along the Highway 1/Canadian Pacific Railway corridor. South of Golden, the Canadian Pacific Railway and most of Highway 93 parallels the more narrow Columbia River wetlands, and in many areas rural

homes overlook them from adjacent slopes.

2) Wetland Stability: water level stability from May through July appears to be a critical factor determining nest survival and food availability for breeding activities. The two identified breeding wetlands near Golden are either separate from (i.e., Blaeberry wetlands), or only partially impacted by (i.e., Moberly Marsh), the Columbia River flood regime. Therefore, with the exception of other areas that also are not connected to, or flooded by, the Columbia River, most of the Columbia Wetlands Wildlife Management Area is probably not viable crane breeding habitat because of these natural fluctuations.

3) Agricultural Lands: a concentration of cleared agricultural lands produce important foods for cranes near or adjacent to breeding wetlands and, in the lower Blaeberry valley, they are relatively isolated from human activity. The importance of these lands is compounded here by the lack of alternative natural upland foraging areas; fresh burns or clear-cuts grow in rapidly. Moreover, the available wetlands appear to be seasonally poor in crane foods.

4) Habitat Diversity: three distinct wetland types (Blaeberry wetlands, Moberly Marsh, and mitigated areas), three types of agricultural lands, the Columbia River, and the resulting variety of edges, shorelines and habitat patches collectively create an ecological mosaic that offers a variety of potential nest sites and produces a diverse and more dependable food supply.

Conservation

At Golden the natural Interior Cedar Hemlock landscape was not viable Sandhill Crane habitat. This Sandhill Crane population has adapted to the current human-modified landscape, where agricultural lands provide food and positive conservation attitudes provide security. It appears that cranes were driven to pioneer this landscape by successful American conservation management programs and the resulting Rocky Mountain population pressures: “where more birds [are] available than their preferred habitat could accommodate, some species... expand into other habitat types” (Cody 1985).

The breeding wetlands at Moberly Marsh are legally protected. Blaeberry wetlands is on private land but is largely protected by its characteristics and by voluntary stewardship. Although there *may* be sufficient suitable wetland habitat for more than two breeding pairs at Golden, this population’s dependence on a small area of agricultural land appears to be the most critical limiting factor. Any increased plantings of Timothy corms or grains would directly benefit this population and could increase the local carrying capacity. Given suitable nesting wetlands, the promotion of crane-friendly agricultural practices could potentially increase the population at Golden and support additional pairs further south to establish a more secure Rocky Mountain population.

The taxonomy and range of the various subspecific populations in North America, and hence British Columbia, is still being determined. In the meantime nesting populations in the Lower Mainland and Shuswap region of the province are threatened. The status of populations along the coast, in the central interior, and the Peace River region is still unknown. Their link to wetlands makes them vulnerable, and populations throughout the province are *blue-listed* (Fraser et al. 1999). Breeding numbers in the East Kootenay are small, and of recent origin, with probably fewer than six breeding pairs and fewer than 12 summer birds in 2005 near Golden.

It could be argued that Sandhill Cranes in the East Kootenay should be provincially Red-listed (see Red-listed populations in Fraser et al. 1999). However, the robust state of the entire Rocky Mountain population, a legally hunted game bird in the United States, combined with the emerging debate about conservation priorities and peripheral species (Bunnell et al. 2004), would seriously question the management rationale of that decision. But conservation by choice is another matter. It is already happening, and working. With increased awareness, conservation (and the breeding population) will almost certainly increase. The sound and sight of Sandhill Cranes adds to the quality of life that most rural residents now seek.

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About the Author

Doug was born in Banff, Alberta and spent his childhood there, becoming a naturalist as early as he can remember. His family moved to Penticton where, thanks to Dick and Syd Cannings who he went through junior and senior high school with, he became an enthusiastic birder. Doug went on to become a park naturalist with British Columbia Parks before returning to Banff to pursue a professional photography career. Since 1992, when Doug and his wife Myriam purchased their 40 acre “songbird ranch” near Golden, the area has been the focus of his birding activities.

“All creatures are part of nature’s balance. By tampering with one, we affect all living things on earth.”

Jim Saba, Nature Photographer, 1996
