

# Greater Sandhill Crane



ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS



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Greater sandhill cranes (*Antigone canadensis tabida*, Family *Gruidae*) are impressive birds with a wide wingspan, red eye patch, and loud trumpeting call.

## Species Description

### Identification

With a height of 4½–5 feet and a wingspan of 6–7 feet, sandhill cranes are hard to miss, but with mostly gray plumage and long legs and neck, they are sometimes mistaken for great blue herons. Their graceful dancing helps establish and maintain pair bonds, which last a lifetime, and their warbling or trumpeting calls can be heard from a mile away.

### Preferred Habitats

Sandhill cranes occupy numerous wetland habitats, including emergent marshes, seeps and springs, wet meadows, moist soil units, playas, reservoirs, and streams. During their breeding season, they rely on three, preferably contiguous, habitat components for nesting, foraging, and roosting. During migration, they prefer shallow open water roosting areas near foraging

habitats, including wet meadows, seasonal wetlands, and croplands.

### Diet

Food items include but are not limited to snails, crayfish, insects, roots, tubers, small vertebrates, and waterfowl eggs. During migration and winter, sandhill cranes exploit agricultural crops, including corn, wheat, barley, potatoes, and alfalfa.

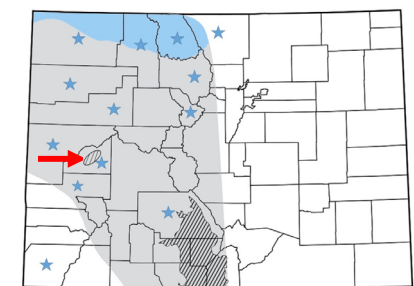
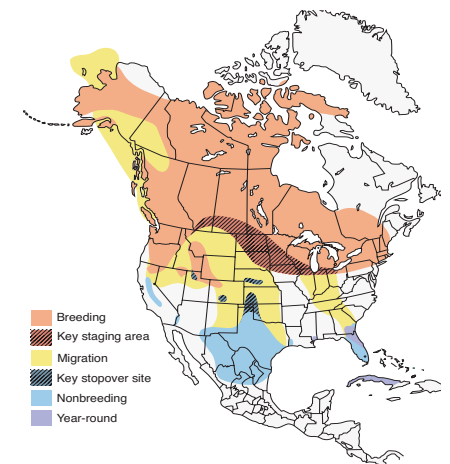
### Conservation Status

Greater sandhill cranes in Colorado belong to the Rocky Mountain Population (RMP). The subspecies is listed as a Tier 1 Species of Greatest Conservation Need in Colorado (CPW 2015). The RMP appears to be stable or increasing in most areas. Breeding records in Colorado increased 40% from 1994 to 2011. Sandhill cranes observed on the eastern plains could be another subspecies, the lesser sandhill crane (*A. c. canadensis*).

## Species Distribution

### Range

The RMP breeds throughout the Rocky Mountains. In Colorado, they breed primarily in Routt, Moffat, Rio Blanco, and Jackson Counties. Increasing numbers winter near Delta and in the San Luis Valley. During migration, the San Luis Valley provides important stopover habitat.



North America map used by permission from Birds of the World, published by Cornell Lab of Ornithology. Colorado map based on: 1) Pacific Flyway Council and Central Flyway Council (2016) for primary breeding/staging (blue) and migration/staging (gray); 2) Ortega (2016) for counties with at least one breeding observation during the Colorado Breeding Bird Atlas (blue stars); 3) Colorado Parks and Wildlife (Sandhill Crane Profile) for San Luis Valley migratory stopover (hatched); and 4) Colorado Parks and Wildlife (institutional knowledge) for wintering at Escalante State Wildlife Area and Fruitgrowers Reservoir in Delta County (hatched oval with red arrow). Note: This Colorado map is based on the most recent information available; however, the distribution of sandhill cranes has changed significantly since the early 1990s.

Version Date: November 2020

# Preferred Habitat Conditions

<b>For Nesting</b>	
General habitat	Ponds or willow-lined streams, wet meadows, emergent marshes, irrigated fields, beaver ponds/lodges
Juxtaposition of habitat	Contiguous areas of nesting, foraging, and roosting
<b>For Foraging</b>	
General habitat	Wet meadows, irrigated fields, sage and aspen near willow-lined streams, low grasses and forbs, crops with ample waste grain
<b>For Roosting</b>	
Water depth	4–8 inches, interspersed by deeper areas
Vegetation	Sparse, soft, and short
<b>For All Habitat Needs</b>	
Minimum distance from human disturbance	>220 yards

## Management Recommendations

This fact sheet contains easy-to-use guidelines for understanding habitat needs of Colorado Parks and Wildlife priority wetland-dependent wildlife. Biologists with expertise in sandhill cranes have suggested numerous practical steps that can be taken to improve habitat quality for this species.

### Hydrology

- Manage hydrology to maintain adequate depth (4–8 inches deep) for roosting.
- Maintain flowing water to provide habitat.
- Assess impacts of potential water development projects.
- Assess impacts of water administration rules and policies on manager's ability to provide water resources.

### Vegetation

- Maintain availability of vegetation that produces food.
- Where and when appropriate, implement strategies to provide optimal structure during all life cycles, such as mowing, mulching, and/or grazing to maintain grass height <10 inches.

### Land Use / Other

- Maintain high water quality (low turbidity, moderate pH, low dissolved solids and salinity, low heavy metals, avoid contaminants or pathogens).
- Remove unused fences, towers, and utility lines.
- Avoid development of new crane habitat adjacent to dangers, e.g., utility lines.
- Work with utilities to install visual markers/objects on lines to reduce collisions.
- Coordinate prescribed burns, grazing, haying, timber management, and resource extraction activities so they do not adversely affect habitat during seasonal use.
- Create and/or maintain connection among nesting, foraging and roosting sites.
- Consider seasonal closures of public lands during crane nesting and brood rearing season to minimize disturbance and possible nest abandonment or colt mortality.
- Discourage land use changes that reduce availability of small grains.

### Conservation

- Monitor breeding distribution and success.
- Form and maintain partnerships between agencies, non-governmental organizations, and agricultural producers.
- Promote partnerships with landowners to time their agricultural activities to benefit crane use (e.g., no fall tilling, allow waste grain to remain, no burning in the fall, etc.).
- Promote partnerships across state and federal agency boundaries to manage on a regional scale in order to provide roosting and foraging habitat.
- Continue annual fall staging surveys across the states in conjunction with U. S. Fish and Wildlife Service.



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### Acknowledgements

James Gammonley, Liza Rossi, Jeff Yost (Colorado Parks and Wildlife), Cary Aloia, Jenny Nehring (Wetland Dynamics), and Dan Collins (U. S. Fish and Wildlife Service) offered their knowledge and expertise in reviews. Rick Schnaderbeck (U. S. Fish and Wildlife Service) reviewed an earlier version and provided input on preferred habitat conditions.

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# Habitat Scorecard for Greater Sandhill Cranes (v. Nov 2020)

## *Assessment of habitat before and after restoration or management actions*

Project Name: \_\_\_\_\_ Project Area (acres): \_\_\_\_\_ Habitat Area (acres): \_\_\_\_\_

Size of Contiguous Habitat outside Project Area (acres): \_\_\_\_\_ Ownership (circle): Same / Different / Conservation Easement

**Scorecard Instructions:** Select appropriate checklist: (1) **Nesting**, (2) **Foraging**, or (3) **Roosting**. Enter one value that best describes early to mid-summer conditions of each habitat variable, using the numbers in the value column. Habitat variables are in shaded boxes; ranges of condition are directly below each variable. **If condition is outside range or is not described, enter a zero.**

**Project Area and Habitat Area:** The project area includes the entire area affected by the project. The habitat is the area that will provide (in case of pre-project) or does provide (post-project) habitat for each potential target species within the project area. The habitat area may be the same size as the project area or it might be smaller and it may be defined differently for different target species. If there is contiguous habitat area outside the project area, note the size and whether the ownership of the contiguous areas is the same or different and whether it is under conservation easement or other habitat protection. If the habitat area within your project area is noncontiguous and/or if sections are in very different conditions, consider using multiple scorecards so that each scorecard represents the general conditions. If you use multiple scorecards, identify each habitat area on a map.

### **Nesting Habitat (e.g., ponds or willow-lined streams, wet meadows, emergent marshes (particularly in NW Colorado), irrigated fields, and beaver ponds/lodges)**

Key habitat variable and conditions	Value	Pre-Project	Expected Post-Project	Actual Post-Project
<b>Date of assessment</b>				
<b>General nesting habitat</b>				
Ponds or willow-lined streams surrounded by large grassy meadows or sagebrush ridges (most relevant in NW CO), beaver dams/lodges, hummocky wet meadows, other hummocky wetlands	26.7			
Wet meadows with few hummocks, irrigated fields, grass fields, oxbows, emergent marshes, ponds with islands	17.8			
Sagebrush, pastures	8.9			
<b>Isolation from human disturbance</b>				
Both of following: (1) from height of 4.5', visually isolated from human activity, (2) > 220 yards from human activity	26.7			
One of following: (1) from height of 4.5', visually isolated from human activity, (2) > 220 yards from human activity	17.8			
<220 yards from human disturbance	8.9			
<b>Proximity to feeding areas, including wet meadows, irrigated fields, and in NW Colorado sagebrush and aspen</b>				
Foraging within nesting habitat	24.0			
Foraging immediately adjacent to nesting habitat	16.0			
Foraging 200 – 1,000 yards from nesting	8.0			
<b>Environmental hazards</b>				
No environmental hazards (e.g., utility lines, fences, and towers) within 1,000 yards	22.7			
One environmental hazard (e.g., utility lines, fences, and towers) within 500 yards or two or more environmental hazards 500-1,000 yards from habitat	15.3			
Two environmental hazards (e.g., utility lines, fences, and towers) within 500 yards or three or more environmental hazards 500-1,000 yards from habitat	7.7			
<b>Total (of 100 possible): add all numbers in before or after columns</b>				

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### **Foraging Habitat (e.g., wet meadows, irrigated fields, sage and aspen near willow-lined streams (especially NW Colorado), low grasses and annual forbs, wet meadows)**

Key habitat variable and conditions	Value	Pre-Project	Expected Post-Project	Actual Post-Project
<b>Date of assessment</b>				
<b>Vegetation height</b>				
<6 inches	22.2			
6 – 12 inches	14.8			
>12 inches	7.4			
<b>Proximity to roosting areas</b>				
<1.5 miles	21.1			
1.5 – 3 miles	14.1			
>3 miles	7.0			
<b>Dominant vegetation in wetland</b>				
Native/non-invasive grasses and forbs with <10% invasive weeds	20.0			
Native/non-invasive grasses and forbs with 10 – 25% invasive weeds	13.3			
Native/non-invasive grasses and forbs with >25 – 50% invasive weeds	6.7			
<b>Size of habitat (non-breeding season)</b>				
>250 acres	18.9			
50 – 250 acres	12.6			
<50 acres	6.3			
<b>Environmental hazards</b>				
No environmental hazards (e.g., utility lines, fences, and towers) within 1,000 yards	17.8			
One environmental hazard (e.g., utility lines, fences, and towers) within 500 yards or two or more environmental hazards 500-1,000 yards from habitat	11.9			
Two environmental hazards (e.g., utility lines, fences, and towers) within 500 yards or three or more environmental hazards 500-1,000 yards from habitat	5.9			
<b>Total (of 100 possible): add all numbers in before or after columns</b>				

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## Roosting Habitat (e.g., shallow water wetlands)

Key habitat variable and conditions	Value	Pre-Project	Expected Post-Project	Actual Post-Project
<b>Date of assessment</b>				
<b>Water depth when crane present; if water is iced over temporarily, use normal water depth; if water is iced over longer-term (&gt; 2 weeks) when cranes present, skip question</b>				
4 – 10 inches or measured by crane legs, between above toes and heel joint (bends to rear)	19.0			
10 – 15 inches or measured by crane legs, close to heel joint (bends to rear)	12.7			
<4 inches or >15 inches or measured by crane legs, toes show or water at or above heel joint	6.3			
<b>Proximity to feeding areas</b>				
<1.5 miles	18.1			
1.5 – 3 miles	12.1			
>3 miles	6.0			
<b>Percent of cropland with waste grain within 1,000 yards of project area</b>				
65 – 100%	17.1			
30 – 64%	11.4			
<30%	5.7			
<b>Interspersion</b>				
A or E	16.2			
B or C	10.8			
D	5.4			
Interspersion patterns refer to the diagram on the right (stippled = water, solid = vegetation)				
<b>Dominant vegetation</b>				
Little (native) to none	15.2			
Native grasses, soft emergents <12 inches or stiffer vegetation if <6 inches (e.g., mowed cattails)	10.2			
Native grasses, soft emergents >12 inches or stiffer vegetation if 6-12 inches	5.1			
<b>Environmental hazards</b>				
No environmental hazards (e.g., utility lines, fences, and towers) within 1,000 yards	14.3			
One environmental hazard (e.g., utility lines, fences, and towers) within 500 yards or two or more environmental hazards 500-1,000 yards from habitat	9.5			
Two environmental hazards (e.g., utility lines, fences, and towers) within 500 yards or three or more environmental hazards 500-1,000 yards from habitat	4.8			
<b>Total (of 100 possible): add all numbers in before or after columns</b>				