

SEPTEMBER 2018 SURVEY OF THE ROCKY MOUNTAIN POPULATION OF GREATER SANDHILL CRANES

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Greater sandhill cranes of the Rocky Mountain Population (RMP) were counted at fall pre-migration staging areas in Colorado, Idaho, Montana, Utah, and Wyoming during September 2018. Migrants that had arrived at RMP migration stopover areas near Jensen, Utah and in the San Luis Valley, Colorado were also recorded. The cooperative survey was organized by the Pacific Flyway Subcommittee on RMP of Greater Sandhill Cranes and the U.S. Fish and Wildlife Service (FWS). The FWS, Division of Migratory Bird Management (DMBM), Denver, provided a Quest Kodiak for a portion of the survey. Aerial and ground surveys were conducted by personnel from respective state agencies, FWS and volunteers (participants listed in Table 1).

We counted **21,801** RMP cranes at 77 survey areas with 34.6% in Montana, 23.4% in Wyoming, 20.5% in Idaho, 12.7% in Utah, and 8.8% in Colorado (Figure 1; Table 2). All normally surveyed areas were covered except for the Delta, CO area and the Carey Lake, ID area. Both areas have traditionally had low counts (zero for Carey Lake for the last 14 years), although the Delta area can be a good area to use as an indicator of migration progress. The majority (87%) of the survey areas were counted during the designated survey week (17-21 September) with 52% of the areas surveyed during the three-day target period (18-20 September) (Table 1).

Five pre-migration staging areas had concentrations exceeding 1,000 cranes: 1) the contiguous tri-state Upper Bear River Valley in ID, UT, and WY – 3,172; 2) Dillon-Twin Bridges, MT – 2,899; 3) Farson, WY – 1,506; 4) Clark Fork of the Yellowstone, MT – 1,034; and 5) Teton Basin, ID – 1003. Over 500 cranes were recorded at six other pre-migration sites: 1) Yampa River, CO – 864; 2) Box Elder Co, UT – 663; 3) Toston-Townsend, MT – 602; 4) Star Valley, WY – 579; 5) Dayton, WY – 564; and 6) White Sulphur Springs, MT – 525 (Table 1). These 11 areas accounted for 61.5% of all cranes recorded.

The Jensen and Pelican Lake area, UT, primarily a migration stopover site on the Green River in Uintah County, had estimates of 776 and 89 cranes recorded during the survey week (Table 1). Both of these estimates were below their respective 10-year averages (1,156 and 135) and suggest that large scale crane movement was probably not a factor during the survey week. In the San Luis Valley, CO 856 cranes were counted and that was above the 10-year average of 300 cranes, but given the counts from the pre-migration staging areas we believe that the majority of RMP cranes were still on the breeding grounds during the survey week.

Temperatures for the period from January through September 2018 were above average across the RMP breeding states with record warm temperatures in Utah and Colorado. Spring precipitation in Idaho, Montana and Wyoming was average to above average. Spring precipitation in Utah and Colorado was below to well-below average. June across the breeding range states was characterized

by above average temperatures and below average precipitation. The summer overall across the breeding range was warmer and drier than average with record drought in Utah. The warmer and drier trend continued into September with record temperatures in Utah and Colorado and above average temperatures in the tri-state area of Montana, Idaho and Wyoming. Average to above-average precipitation occurred in Wyoming and Montana during September, but the remainder of the breeding range had well-below average precipitation.

Weather conditions for the FWS aerial survey were ideal with mostly clear skies for the duration of the survey, which is optimal for crane detection. Other survey participants reported similar survey weather conditions for counting cranes. We believe that the ideal weather and slightly later than normal survey dates resulted in a good crane count for the 2018 survey. Cranes were in larger groups and we observed fewer scattered pairs and family groups on staging areas like we experienced last year in many areas. Higher elevation breeding areas also had fewer cranes indicating that the later departing family groups had mostly left for valley pre-migration staging areas.

We thank all who participated in the survey and we especially appreciate the effort made to complete counts during the designated period.

Manes, S. S., R. C. Drewien, J. D. Huener, T. W. Aldrich, and W M. Brown. 1992. Distribution of color-marked greater sandhill cranes banded in Utah. Pages 55-60 *in* D. A. Wood, editor. Proceedings of the 1988 North American Crane Workshop. Florida Game and Fresh Water Fish Commission Nongame Wildlife Program Technical Report 12.

This report contains data tables and figures that may be large and complex. Readers that may need help reading and interpreting the data, or that may need data presented in an alternative format to facilitate reading and interpretation, should contact the U.S. Fish and Wildlife Service, Migratory Bird Survey Office (303/275-2358).

Table 1. Counts in September 2018 of the Rocky Mountain Population of greater sandhill cranes at premigration staging and migration stopover areas in Colorado, Idaho, Montana, Utah, and Wyoming (Figure 1). Surveys were conducted by air (a) and ground (g) between 13 - 21 September.

Map No. & Location(a/g) Date	No. Cranes	Source
<u>COLORADO</u>		
1 Yampa River (g) 9/19	864	
Axial Basin (g) 9/19	4	J. Goncalves, CSTG Crew, CPW
County Line grain fields (g) 9/19	77	A. Reishus, CPW
Craig vicinity fields (g) 9/19	192	M. Swaro, E. Jones, CPW
Hayden airport/racetrack (g) 9/19	55	J. Pollock, K. Bond, CPW
Morgan Bottoms (g) 9/19	484	L. Rossi, CPW
Yampa River SWA (g) 9/19	52	J. Yost, CPW
2 Elk River	40	
Selby's grain fields (g) 9/19	40	J. Taylor, CPW
3 White River	146	
East of Meeker - Agency Park (g) 9/19	9	B. Holmes, R. McGee, B. Smithers, CPW
Little Beaver-Irish Mesa (g) 9/19	137	B. Holmes, R. McGee, CPW
4 Williams Fork River	0	
East of Hamilton (g) 9/19	0	M. Swaro, CPW
5 Little Snake River (g) 9/19	2	
Slater (g) 9/19	2	J. Lambert
Two Bar Ranch (g) 9/19	0	" "
6 Delta Co., Harts Basin (g) 9/19	0	B. Banulis, CPW
7 San Luis Valley (g) 9/18-20	856	D. Wilder, FWS
Subtotal	1,908	8.8%
<u>IDAHO</u>		
1 Amer. Falls Res. (a) 9/17	324	FWS survey ^a
2 Ashton-St. Anthony (a) 9/19	167	" "
3 Bear River Valley	1,625	
Bear Lake Valley (g) 9/19	614	B. Wishnek, FWS
Border-Pegram (a) 9/17	97	FWS survey
Bennington-Soda Spr. (a) 9/17	100	" "
Grace-Thatcher (a) 9/17	124	" "
Thomas Fork (a) 9/17	690	" "
4 Blackfoot Res. (a) 9/17	193	" "
5 Camas NWR (g) 9/19	270	A. Kristof, F. Downs, B. Wehausen, S. White, FWS
6 Camas Prairie (g) 9/20	0	T. Gregory, IDFG
7 Carey Lake area (g)	NS	
8 Chesterfield Res. (a) 9/17	77	FWS survey
9 Grays Lake NWR (a) 9/19	31	" "
10 Henrys Lake Flats (a) 9/18	6	" "
11 Island Park Res. (a) 9/18	81	FWS survey

Table 1 (continued)

Map No. Location(a/g) Date	No. Cranes	Source
12 Kilgore	no survey	
13 Market Lake WMA (g) 9/17	0	B. Gullett, IDFG
14 Marsh Valley (a) 9/17	178	FWS survey
15 Mud Lake WMA (g) 9/18	43	J. Panting, IDFG
16 Oxford Slough-Swan Lake (a) 9/17	81	FWS survey
17 Silver Creek (g) 9/20	239	B. Hurd, C. Shackelford, IDFG
18 Teton Basin (a) 9/20	1,003	FWS survey
19 Malad River (a) 9/14	151	B. Stringham, UDWR
subtotal	4,469	20.5%

MONTANA

1 Blackfoot/Ovando Valley (a) 9/15	144	S. Eggeman, MFWP
2 Cascade-Ulm (a) 9/18	124	K. Smucker, MFWP
3 Centennial Valley (g) 9/21	0	M. Crane, FWS
4 Clark Fork of the Yellowstone (a) 9/21	1,034	S. Stewart, MFWP
5 Deadman's Basin (a) 9/17	218	S. Mitchell, MFWP
6 Dillon-Twin Bridges (a) 9/18	2,899	FWS survey
7 Gallatin Valley (a) 9/18	256	J. Cunningham, MFWP
8 Helena Valley (a) 9/20	88	J. Vore, MFWP
9 Melville (a) 9/17	14	S. Mitchell, MFWP
10 Musselshell River (a) 9/17	368	" "
11 Otter Creek (a) 9/17	448	" "
12 Teton River-Eureka Res. (a) 9/25	312	K. Smucker, MFWP
13 Toston-Townsend (a) 9/21	602	A. Grove, MFWP
14 Upper Madison Valley (a) 9/18	132	FWS survey
15 Warm Springs (a) 9/18	137	J. Golla, MFWP
16 White Sulphur Spr. (a) 9/18	525	J. Kolbe, MFWP
17 Whitehall (a) 9/18	252	FWS survey
subtotal	7,553	34.6%

UTAH

1 Cache Co. (a) 9/17	434	B. Stringham, UDWR
<u>Great Salt Lake Basin</u>		
2 Box Elder Co. (a) 9/17	663	B. Stringham, UDWR
3 Davis Co. (a) 9/17	25	" "
4 Weber Co. (a) 9/17	70	" "
5 Morgan Co. (g) 9/13	81	" "
<u>Rich Co.</u>		
6 Bear River Valley (a) 9/17	501	B. Stringham, UDWR
7 Round Valley (a) 9/17	25	" "
8 Summit Co. (g) 9/13	46	" "

Table 1 (continued)

Map No.	Location(a/g) Date	No. Cranes	Source
<u>Utah Co.</u>			
9	Jensen (a) 9/14	776	B. Stringham, UDWR
10	Pelican Lake area (a) 9/14	89	" "
11	Leland Bench (a) 9/14	0	" "
12	Wasatch Co. (g) 9/13	60	" "
	subtotal	2,770	12.7%
<u>WYOMING</u>			
1	Baggs (g) 9/19	6	S. Stephens, WGFD
2	Bear River Valley (a) 9/17	1,046	FWS survey
<u>Big Horn Basin</u>			
3	Greybull River/Otto (a) 9/18	58	N. Huck, WGFD
4	Shoshone River/Ralston (a) 9/18	228	" "
5	Worland (a) 9/18	28	" "
<u>Green River Basin</u>			
6	Big Piney-Daniel (a) 9/19	2	FWS survey
7	Bridger Valley (g) 9/18	150	A. Deru, WGFD
8	Lonetree (g) 9/18	0	" "
9	Farson (a) 9/19	1,506	FWS survey
10	Hams Fork (a) 9/19	0	" "
11	Pinedale-Cora-Boulder (a) 9/19	0	" "
12	Saratoga (g) 9/19	62	T. Joseph, WGFD
<u>North Platte River Basin</u>			
13	33 Mile (a) 9/17	238	N. Huck, WGFD
<u>Powder-Tongue River Basin</u>			
14	Barnum - Middle Fork Powder R. (a) 9/17	0	N. Huck, WGFD
15	Mayoworth - N. Fork Powder R. (a) 9/17	18	" "
16	Kaycee-Sussex (a) 9/17	284	" "
17	Buffalo (a) 9/17	57	" "
18	Dayton (a) 9/17	564	" "
<u>Snake River Basin</u>			
19	Jackson Hole		
	Natl Elk (g) 9/15	78	E. Cole, C. Mulcahy, B. Mulcahy
20	Star Valley (a,g) 9/17,18	579	FWS Survey, J. Bohne
<u>Wind River Basin</u>			
21	Hidden Valley (a) 9/18	40	N. Huck, WGFD
22	Ocean Lake (a) 9/18	101	" "
23	Riverview Valley (a) 9/18	56	" "
	subtotal	5,101	23.4%
TOTAL CRANES		21,801	

^a Fish & Wildlife Service aerial survey flown by P. Thorpe, P. Donnelly, and D. Collins.

Table 2. September pre-migration staging area counts by state of the Rocky Mountain Population of greater sandhill cranes during 1987, 1992, 1995-2005, 2007-2018.

Year	Colorado ^a	Idaho	Montana	Utah	Wyoming	Total
1987	1,443	10,686	1,447	1,578	2,327	17,481
1992	3,181	5,801	5,264	2,810	2,248	19,304
1995	2,284	6,864	3,681	1,528	1,671	16,028
1996	1,255	8,334	2,974	1,849	2,526	16,938
1997	1,604	8,132	3,595	2,450	2,255	18,036
1998	1,273	8,067	3,415	2,185	3,162	18,102
1999	1,102	8,761	3,141	2,292	4,205	19,501
2000	749	9,337	3,598	2,416	3,890	19,990
2001	666	7,160	4,585	1,522	2,626	16,559
2002	1,355	7,698	4,843	1,869	3,038	18,803
2003	745	7,822	4,964	2,546	3,446	19,523
2004	1,410	7,152	4,637	2,239	3,072	18,510
2005	1,052	7,668	5,588	2,646	3,911	20,865
2007	1,743	8,262	6,509	2,401	3,907	22,822
2008	1,080	6,123	6,419	3,708	3,826	21,156
2009	1,162	6,934	6,329	2,283	3,613	20,321
2010	985	5,776	7,335	3,242	3,726	21,064
2011	1,347	5,029	6,642	1,498	2,978	17,494
2012	413	3,432	5,876	2,109	3,587	15,417
2013	1,594	5,228	7,218	2,732	3,588	20,360
2014	1,258	6,064	6,555	2,783	3,008	19,668
2015	1,089	6,454	9,493	3,698	3,596	24,330
2016 ^b	1,135	5,445	7,507	3,298	4,879	22,264
2017	1,658	4,066	7,149	2,994	3,725	19,592
2018	1,908	4,469	7,553	2,770	5,101	21,801
Mean	1,340	6,831	5,365	2,458	3,356	19,135

^a Colorado counts include migrants that had arrived at the staging area in the San Luis Valley.

^b Wyoming added six new survey areas per management plan guidelines.

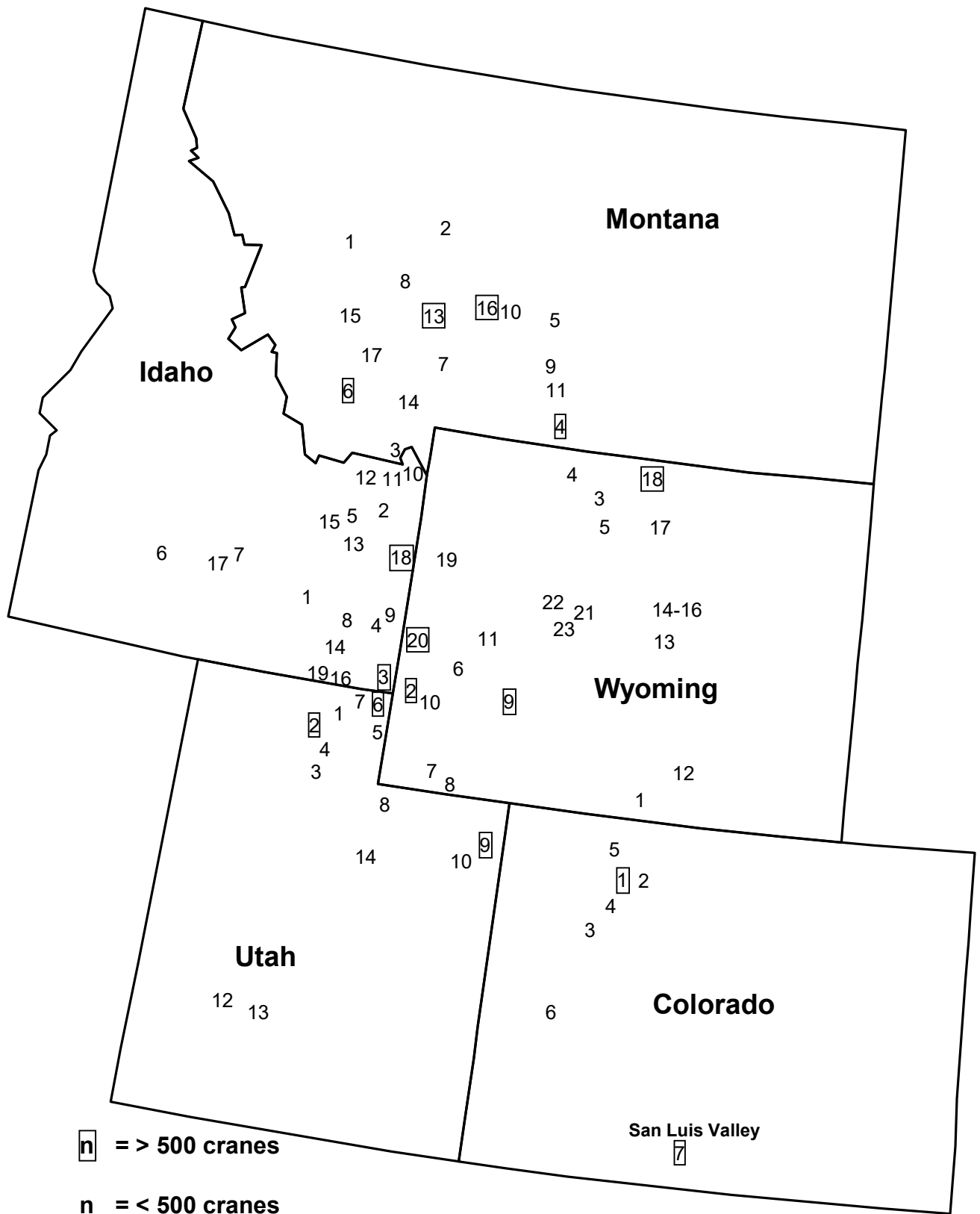


Figure 1. September survey locations for the Rocky Mountain Population of Greater Sandhill Cranes. See Table 1 for location names and numbers.