

FALL SURVEY OF THE EASTERN POPULATION OF GREATER SANDHILL CRANES 2019 FINAL REPORT



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This report contains data tables and charts 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's Mississippi Flyway Representatives office (612/713-5411).

INTRODUCTION

A fall survey of Eastern Population (EP) of greater sandhill crane (*Grus canadensis*) staging areas has been conducted throughout the Mississippi and Atlantic Flyways since 1979. This survey is coordinated by the U.S. Fish and Wildlife Service (hereafter Service) and is conducted each year by a multitude of volunteers.

This survey is not a complete census, but instead serves as an index of abundance for the EP sandhill cranes. Over the past decade, the eastern population has expanded in both size and geographic range. The information volunteers collect allows the Service to quantify continental estimates and trends of sandhill crane populations in an attempt to better manage this species.

In 2019, the Service launched the sandhill crane Online Web Portal. This online platform was designed to improve survey coordination, enhance communication, reduce the burden of data entry, and provide precise information about where roosting and foraging locations occur each year. This platform provided both volunteers and the Service more refined information about habitat use and selection, as well as population distribution across the Midwest landscape.

RESULTS

- In 2019, volunteers in eight states and the Province of Ontario conducted the fall survey. The Service was pleased to bring Ontario into the survey effort, as well as adding New York and Delaware to our roster of states conducting the survey.
- The total number of sandhill cranes counted across the region in 2019 was 89,513. The largest percentage of birds were counted in Wisconsin (43%) followed by Indiana (20%), Minnesota (16%), and Michigan (15%). Interestingly, the birds in Indiana are confined to a handful of areas (e.g. Jasper-Pulaski Fish & Wildlife Area) and in Minnesota they are counted at a single area – Sherburne National Wildlife Refuge. This emphasizes the importance of these areas to staging cranes. In both Wisconsin and Michigan, the birds are much more dispersed across the landscape and it's likely that we are missing additional large roosting areas in our seasonal counts. In other words, this is a conservative estimate of the actual number of staging birds. The total number of birds counted was slightly lower in 2019 than in 2018 despite effort being similar between the two years. However, 2019 was a relatively warm fall so this may have had an effect on crane movement (i.e. cranes may have been delayed in their southward movement). This lower count was also certainly affected by the loss of volunteers at a few large roosting locations in Wisconsin (e.g. Sauk/Iowa, Marquette, & Wood Counties were not surveyed, which typically accounts for thousands of birds).
- The online web portal that was used for the first time in 2019 was a great success. Getting volunteers signed up in the portal was relatively straightforward and we had very few issues. Likewise, we heard that data entry was relatively problem free. The greatest benefit was that the data that was entered was spatially accurate (i.e. no more missing latitude/longitudes so we have an exact location of where birds were counted). Further, the data was easily downloaded for analysis which greatly reduced the time spent coordinating the survey and analyzing the

data. The biggest downside of the data platform is that in future years, it will likely be more difficult to know how many people will participate in the survey and whether or not the survey data has been uploaded by volunteers. Likewise, it will also be difficult to tell whether a specific site is likely to be surveyed. This underscores the need to continue fostering open communication between the survey coordinator and the volunteers each year.

Figure 1. Total number of Eastern Population sandhill cranes counted, 2016 – 2019.

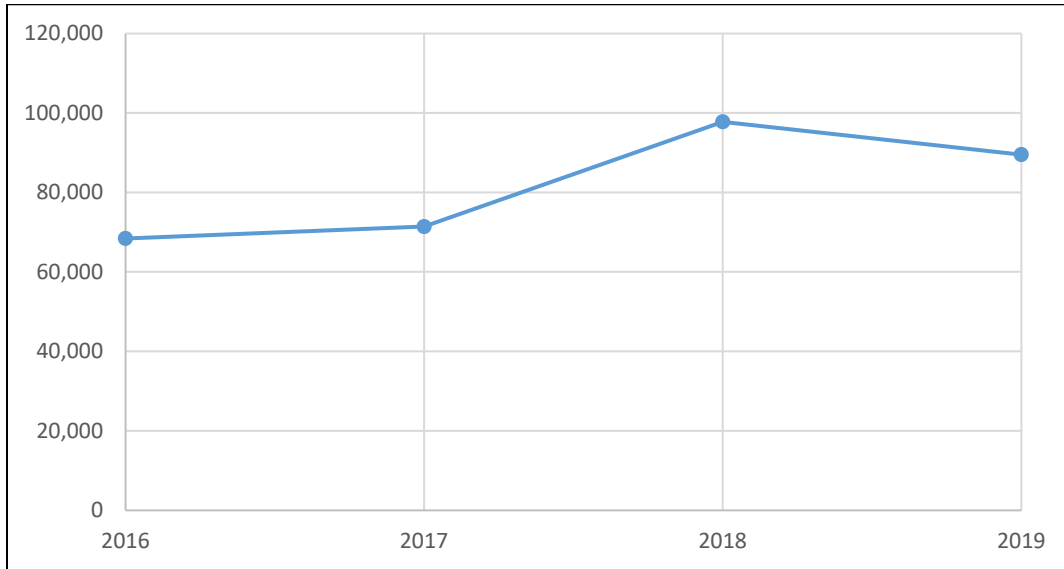


Figure 2. Total number of Eastern Population sandhill cranes counted by State, 2017 - 2019.

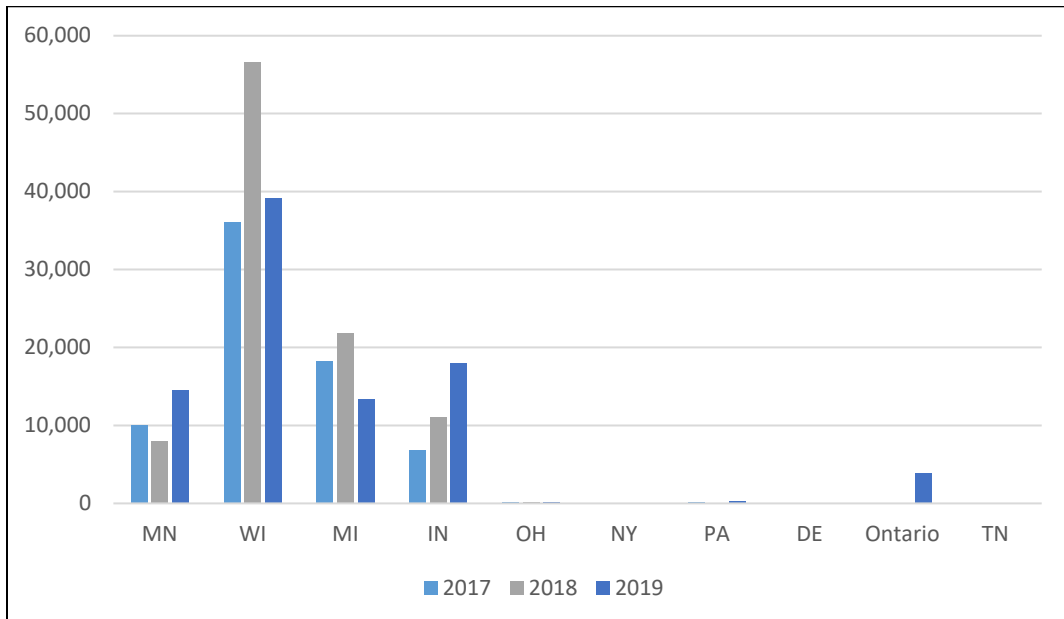


Figure 3. Total number of sites surveyed in each State, 2017 - 2019.

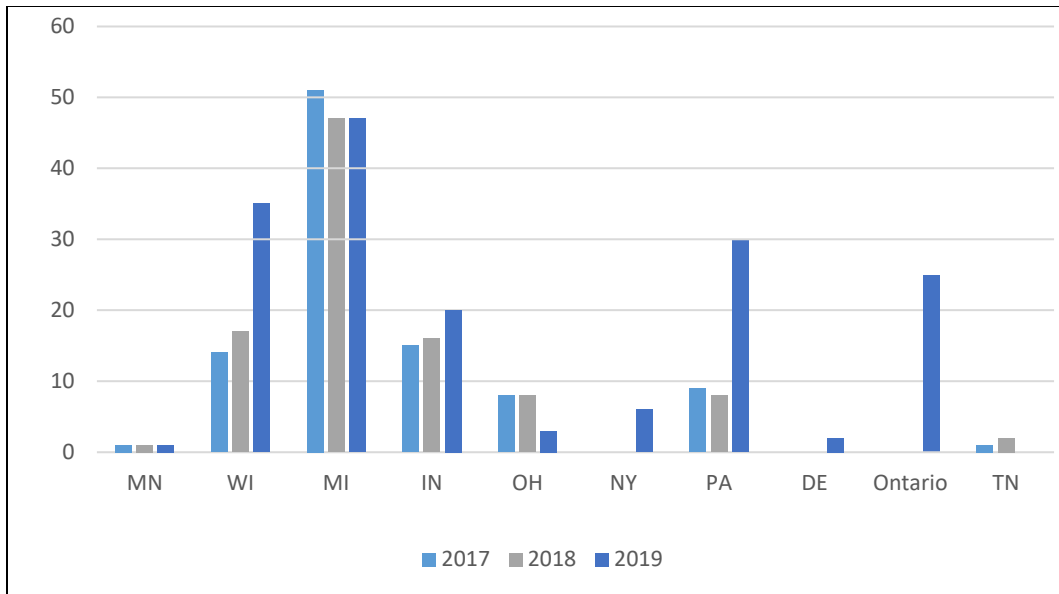


Figure 4. Mean temperature departures from average for September – November 2019 (<https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202210>).

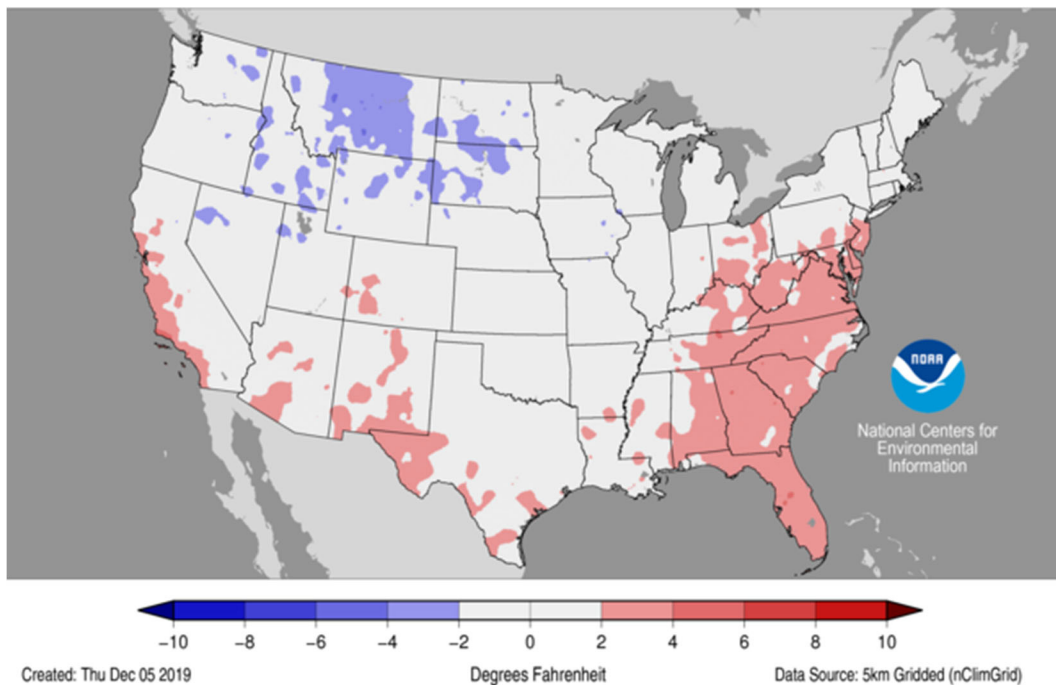


Figure 5. Percent of average precipitation for September – November 2019
(<https://www.ncei.noaa.gov/access/monitoring/us-maps/3/202210>).

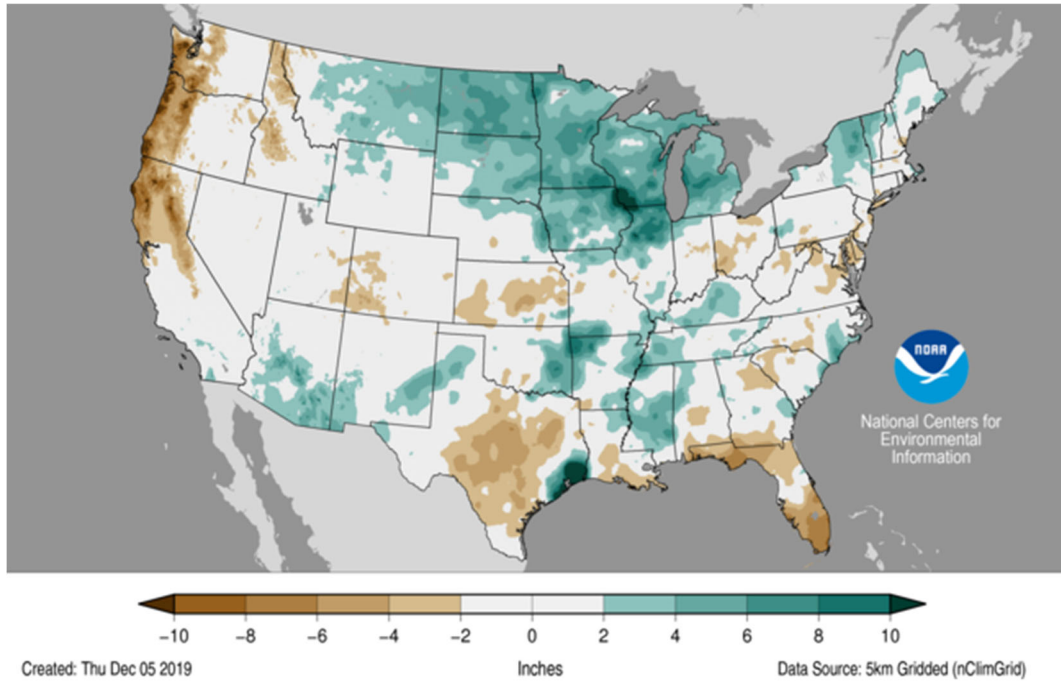


Table 1. Ten-year estimates of Eastern Population of greater sandhill cranes.

STATE / PROVINCE	COUNTY / MUNICIPALITY	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites
Delaware	New Castle																			10	1
Delaware Total																				10	1
Georgia	Jasper			0	1																
	Ware	52	1	85	1	48	1	45	1												
Georgia Total		52	1	85	2	48	1	45	1												
Indiana	Decatur																			9	1
	Elkhart	130	1	100	1					5	1	90	1	180	1	66	1	66	1	135	1
	Greene			1	1	9	1						2	1	2	1	0	1	9	1	
	Henry	30	1																0	1	
	Jackson	0	1							96	1								0	1	
	Jasper	5670	1	6607	1	9602	1	8445	1	5950	1	8526	1	9966	1	5768	1	7334	1	9302	1
	Jennings			4	1								4	1							
	Kosciusko	60	1	2	1							34	1	9	1			67	1	39	1
	LaPorte	7	1	427	1	525	1	545	1	656	1	1200	1	1305	1	765	1	2383	1	7500	1
	Monroe																			0	1
	Newton	5	1			12	1	6	1	1	1	6	1	5	1	8	1	17	0	4	1
	Noble							20	1												
	Steuben	550	1	278	1	978	1	687	1	526	1	287	1	964	1	201	1	1210	1	960	1
	Union																	0	1	1	1
	Whitley			8	1											13	1				
Indiana Total		6452	8	7427	8	11126	5	9703	5	7234	6	10143	6	12435	8	6823	7	11077	8	17965	11
Michigan	Allegan	432	1	572	1	197	1	64	1	428	1	465	1	1391	1	1287	1	1140	1	0	1
	Barry	1251	1	1683	1	436	1	662	1	1010	1	930	1	203	1	127	1	70	1		
	Branch	103	1	138	1	121	1	61	1	68	1	158	1	114	1	150	1	176	1		
	Calhoun	7523	1	6790	1	9378	1	5310	1	5732	1	4028	1	2570	1	1548	1	6928	1	2378	1
	Cass	1172	1	588	1	1469	1	755	1			2157	1								
	Charlevoix												150	1							
	Cheboygan								39	1	84	1	7	1	26	1	4	1			
	Chippewa							200	1												
	Clinton	3	1	113	1			226	1	226	1	4	1								
	Eaton																			72	1
	Genesee	142	1	162	1	178	1	156	1						260	1	370	1	365	1	
	Hillsdale	36	1	30	1	37	1			33	1	12	1				30	1			
	Ingham	64	1	169	1			6	1	22	1	77	1	38	1	21	1			72	1
	Ionia	2	1	4	1																
	Iosco			0	1	55	1	68	1	36	1			38	1	30	1	14	1		
	Isabella	150	1																		
	Jackson	4581	1	3942	1	6469	1	2921	1	3328	1	4240	1	2793	1	3266	1	3130	1	1889	1
	Kalamazoo	2184	1	976	1	2322	1	2289	1	2246	1	3599	1	5820	1	3223	1	2606	1	3640	1
	Lapeer	33	1	36	1	137	1	72	1	186	1	175	1	116	1	17	1	68	1	191	1
	Lenawee	2	1	37	1	2	1	9	1	23	1	4	1			47	1	25	1	131	1
	Livingston	930	1	1002	1	1184	1	1261	1	757	1	295	1	905	1	917	1	308	1	1059	1
	Mason							40	1	33	1	80	1	318	1	418	1	554	1	434	1
	Menominee	91	1	107	1	297	1	198	1	2	1	197	1	103	1	192	1	42	1	181	1
	Missaukee	446	1	2324	1	0	1	520	1	785	1	530	1								
	Montcalm	94	1	110	1	75	1	185	1	90	1										
	Muskegon					34	1	2	1												
	Oakland	113	1			69	1	98	1	76	1	165	1					74	1	106	1
	Ogemaw	900	1	507	1	1008	1	1400	1	1315	1	2488	1	1260	1	894	1	1027	1	1463	1
	Ottawa														1281	1					
	Presque Isle									2	1										
	Roscommon					0	1									1705	1	2310	1	990	1
	Saginaw	362	1			206	1	586	1	569	1	768	1	679	1			1520	1		
	Schoolcraft											2	1			2	1	0	1	0	1
	Shiawassee	236	1	379	1	626	1	812	1	1141	1	1881	1	2156	1	265	1	486	1	73	1
	St. Joseph	165	1			364	1	324	1	500	1	193	1							283	1
	Washtenaw	324	1	193	1	121	1	90	1	310	1	531	1	195	1	352	1	245	1	25	1
Michigan Total		21339	25	19862	22	24785	24	18315	26	18955	24	23065	25	18856	18	16028	21	21127	22	13352	19
Minnesota	Sherburne			5352	1	4600	1	5918	1	8600	1	11331	1	7091	1	10026	1	8028	1	14578	1
Minnesota Total				5352	1	4600	1	5918	1	8600	1	11331	1	7091	1	10026	1	8028	1	14578	1
New York	Cayuga																			0	1
	Seneca																			71	1
	Wayne																			0	1
New York Total																				71	3
Ohio	Ottawa																			0	1
	Trumbull																			41	1
	Wayne			89	1	47	1	47	1	105	1	78	1	110	1	165	1	137	1	212	1
	Williams																			0	1
	Wyandot																			0	1
Ohio Total				89	1	47	1	47	1	105	1	78	1	110	1	165	1	178	5	216	2

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STATE / PROVINCE	COUNTY / MUNICIPALITY	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019			
		Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites	Count	# of Sites		
Ontario	Algoma District															563	1						
	Dufferin																				543	1	
	Haldimand-Norfolk													224	1						64	1	
	Simcoe																				1517	1	
	Victoria													298	1						1732	1	
Ontario Total													522	2	563	1					3856	4	
Pennsylvania	Bradford					7	1	17	1	29	1							4	1		0	1	
	Crawford					71	1	67	1	84	1		96	1		76	1	71	1		195	1	
	Erie															6	1	3	1		4	1	
	Lackawanna																				1	1	
	Lancaster																				1	1	
	Lawrence					17	1	4	1	26	1		37	1		58	1	20	1		56	1	
	Mercer																				9	1	
	Pike																				0	1	
	Somerset																				0	1	
	Sullivan					3	1	3	1	2	1		7	1		30	1	5	1		4	1	
	Susquehanna							2	1														
	Tioga																					0	1
Wayne																					0	1	
Wyoming																		3	1		4	1	
Pennsylvania Total						98	4	93	5	141	4	140	3	170	4	106	6	278	13				
Tennessee	Meigs	163	1	87	1	551	1	48	1	175	1		22	1	0	1	0	1					
	Obion														0	1	0	1					
Tennessee Total		163	1	87	1	551	1	48	1	175	1		22	1	0	1	0	2					
Wisconsin	Adams			706	1							455	1			405	1						
	Burnett	10403	1	12957	1	12016	1	13327	1	21222	1	11352	1	11279	1	10929	1	9022	1	14543	1		
	Columbia	2686	1	2368	1	4438	1	2263	1	3928	1	5068	1			2962	1	7222	1	2498	1		
	Dodge	427	1	5267	1	5465	1	593	1	120	1	0	1			2814	1	2152	1	7324	1		
	Fond du Lac					0	1	0	1														
	Iowa	1541	1			2539	1	1733	1			2131	1										
	Juneau	520	1			2518	1	1940	1	1111	1	1227	1					2085	1	1881	1		
	Kenosha	6	1			451	1	4	1	296	1	112	1	0	1	467	1	0	1	4	1		
	Marathon					2101	1	1949	1	3105	1	1210	1	2152	1	3569	1	2321	1	2697	1		
	Marquette	1323	1	1832	1	1436	1	1501	1	1421	1	1081	1								685	1	
	Oconto																	765	1		807	1	
	Outagamie			558	1			19	1	622	1			107	1	2987	1	6275	1	1015	1		
	Sauk			1479	1					2452	1					1922	1	1900	1	2424	1		
	Shawano			6088	1	9333	1	1909	1	7301	1	20626	1	12525	1	8812	1	15870	1	4124	1		
	Walworth	1256	1	641	1	1484	1	2323	1			156	1	20	1	280	1						
	Waupaca			2017	1	532	1	421	1	2761	1	786	1	385	1	1067	1			905	1	653	1
	Waushara	3479	1	7225	1	1969	1					555	1							2366	1		
Wood			1988	1	1550	1	2057	1	3193	1	5159	1	5214	1					5674	1	523	1	
Wisconsin Total		21641	9	43126	12	45832	14	30039	14	47532	12	49918	14	31682	8	36214	11	56557	13	39178	13		
Grand Total		49647	44	76028	47	86989	47	64213	53	82694	50	94676	51	70858	42	69989	47	97073	57	89504	67		