U.S. Fish & Wildlife Service

Mid-Continent Sandhill Crane

Population Status, 2025

Coordinated Spring Survey of Mid-Continent Sandhill Cranes, 2025

U.S. Fish and Wildlife Service
Division of Migratory Bird Management
Branch of Migratory Bird Surveys
11924 Corporate Way
Broomfield, CO 80021

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Cover photograph: Sandhill cranes roosting on the Platte River.

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Thank you to all coordinators, observers, and participants who assisted in the 2025 survey.

This report contains data tables and charts that may be large and complex. Readers that may need assistance reading and interpreting the data, or that may need data presented in an alternative format to facilitate reading and interpretation, should email the author at phil_thorpe@fws.gov.

Coordinated Spring Survey of Mid-Continent Sandhill Cranes, 2025

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Abstract: We flew the annual photo-corrected aerial transect survey (ocular transect survey; OTS) for the Mid-continent Population of sandhill cranes (MCP) on 24-25 March in Nebraska's Central Platte River Valley (CPRV) and North Platte River Valley (NPRV). The 2025 OTS estimate was 1,415,088 cranes. Ground and aerial surveys conducted in Nebraska, Kansas, Texas, Oklahoma, and Wyoming concurrently with the annual OTS reported an additional 29,499 cranes. The total index of 1,444,499 cranes that includes the OTS estimate and the additional state survey counts is 225.7% higher than the 2024 total index and the highest annual index in the history of the survey. The current three-year (2023 – 2025) total index average is 1,057,503. The current three-year (2023 – 2025) average OTS-derived estimate is 1,031,667.

INTRODUCTION

The primary purposes of the Mid-continent Sandhill Crane Survey (MCSHC) are to provide an annual index of the mid-continent sandhill crane abundance, track population trends, and describe migration staging distribution and habitat use along the central Platte River Valley in Nebraska. The data collected during the MCSHC survey is central to the development of annual sandhill crane hunting regulations in the Central Flyway. The data from the MCSHC also serve several other uses that, although not envisioned when the survey was initiated, have become very important as the methodology and coverage have improved. They include:

1. Assessing Distributional Changes - MCSHC survey data are the only source of information about distributional changes in migratory concentrations of sandhill cranes over the long-term, within the Central Flyway. Importantly, given the long-term nature of the database, this information could become increasingly useful for assessing potential impacts of climate change on a regional basis, or in understanding the effects of large-scale habitat alteration.

2. Development of Management Programs - Staging population and distribution information from the MCHCS is an important component of the Central Flyway and agency developed management plans. Harvest regulations are based on predetermined minimum population and rolling three-year average triggers.

3. Supporting Research Projects - MCSHC data are an important source of comparative information to support various research projects. Several projects have documented critical species/habitat associations and shown significant changes that have taken place over the long-term.

The data collected during the MCSHC provides unique species-and scale-specific information for management. The uses have evolved far beyond those initially envisioned and have been invaluable not only for assessing population status, but also

for the conservation of migration and wintering habitats throughout the Central Flyway.

METHODS

The OTS is a strip transect survey where counts by aerial observers are corrected for flock-size estimation bias by comparing counts from photographed flocks (Benning and Johnson 1987). The observer-specific correction factors are then applied to the observer flock counts prior to expanding to the survey area. Mark Seamans took over the analysis from Douglas Johnson, retired USGS, this year using R code based on Doug's SAS code. Several runs of the new code using previous year's data were completed to make sure the transition was successful. The target date for the coordinated survey is set between 22-26 March (Central Flyway Webless Migratory Game Bird Technical Committee 2018). The concurrent state surveys were run outside the OTS area and completed on 24 March and the OTS survey was flown on 24-25 March. We were unable to complete the survey in one day because winds picked up midday making it difficult to count or take photographs because of moderate mechanical turbulence. We were able to finish the CPRV transects on 24 March and the NPRV transects on 25 March.

Crane counts outside the OTS are directed and summarized by state coordinators. The state efforts focus in areas of traditional crane use/occurrence and are led by observers in the air and on the ground. Observations recorded outside the aerial transect region were not photo-corrected and do not follow a statistical sampling design but are used to assess the timing of the OTS. Survey coverage in 2025 was the same as 2024. Specific survey design and detailed information are found in the MCP management plan (Central Flyway Webless Migratory Game Bird Technical Committee 2018).

RESULTS AND DISCUSSION

The total index for the MCP was 1,444,499, which was 225.7% higher than the 2024 total index and the highest annual index in the history of the survey (Table 1). The total index includes 1,415,000 cranes estimated from the OTS (98% of the total crane index) and 29,499 cranes counted during the cooperative state surveys (Table 1). North Dakota reported no cranes during the week prior to the survey and South Dakota did not complete a survey this year because of a lack of reports on crane sightings. Texas observers reported 10,596 cranes; Kansas reported 10 cranes, another low count for that state. Oklahoma reported 600 cranes and Wyoming counted 6,500 sandhill cranes; close to average for that state (Table 1). The Nebraska count that occurs outside of the OTS estimated 11,793 cranes during their count on 24 March (Table 1).

Correction factors of estimated flock counts are applied to aerial estimates and were calculated from photographs of 82 unique flocks (38 for Drahota, 44 for Thorpe) with visual correction factors (VCF) of 1.35 and 1.33 for Drahota and Thorpe, respectively. The current three-year average (2023 – 2025), based on the total photo-corrected OTS, is 1,057,503 and is above the management threshold limits (350,000 – 475,000) (Figure 1) (Central Flyway Webless Migratory Game Bird Technical Committee 2018). State observer effort in 2025 was similar to 2024 (Table 2).

Fall temperatures across the Central Flyway states were well-above average through December. In October, all Central Flyway states experienced temperatures that

were in the top five warmest average temperatures on record and Texas and New Mexico set records for the warmest average temperature on record. January and February temperatures were average to below average and March temperatures were above to well-above average for all Central Flyway states.

Fall and winter precipitation varied throughout the Central Flyway states. October was well-below average while November had well-above average precipitation. Winter precipitation for the Central Flyway states was below to well-below average through March. The Drought Monitor reported moderate to extreme drought through the fall, winter, and spring of 2024-2025 across most of the Central Flyway states. During the survey period, the snow and ice line was in the southern grasslands of Saskatchewan and weather was favorable for early migration (National Ice Center 2025).

The OTS continues to show large annual variations and this year the total OTS was 225.7% higher than 2024 (Table 1). The concurrent state counts do not always correlate with the OTS crane estimate, and it can be difficult to interpret migration chronology by using just those estimates. This year, the weekly counts from the Crane Trust surveys of the CPRV from February to April captured a large influx of cranes along the CPRV. The weekly estimates grew from 50,000 in late February to 583,000±76,000 on 8 March. The next count on 17 March was 736,000±55,000, a record high for the long running survey. The following Crane Trust survey occurred during the official survey week on 27 March, and that estimate was 705,000±193,000, considering the confidence intervals, the estimate could be higher than the week before. By comparing the Crane Trust estimates with the official survey estimate, it appears that the official survey timing was during the peak crane staging period.

We do not feel that double counting of sandhill cranes was an issue between the two-day survey this year. Daily large-scale movements between the NPRV transects and the CPRV transects has not been shown and studies indicate that the two areas generally have very little interchange once birds arrive at each separate staging area (Krapu et al. 2014)

Literature Cited

Benning, D. S. and D. H. Johnson. 1987. Recent improvements to sandhill crane surveys in Nebraska's Central Platte Valley. pp 10 – 16 in J. C. Lewis (ed.), Proc. 1985 Crane Workshop, Platte River Whooping Crane Habitat Maint. Trust, Grand Island, NE.

Central Flyway Webless Migratory Game Bird Technical Committee (CFWTC). 2018. Management Guidelines for the Mid-continent Population of Sandhill Cranes. Special Report in files of the Central Flyway Representative, Bloomington, MN.

Krapu, G. L., D. A. Brandt, D. A. Buhl, and G. W. Lingle. 2014. Spring migration ecology of the mid-continent sandhill crane population with an emphasis on use of the Central Platte River Valley, Nebraska. Wildlife Monographs 175.

National Ice Center. 2025. IMS daily Northern Hemisphere snow and ice analysis at 1 km and 4 km resolution. Digital media. URL https://usicecenter.gov/Products/ArchiveSearch?table=ImsGif&product=IMS%20USA%20Chart&linkChange=ims-one

Personnel responsible for conducting and coordinating the survey in the Central Flyway.

Aerial Survey Crew

Observer/pilot:	Philip Thorpe, U.S Fish and Wildlife Service, Division of Migratory Bird Management, Broomfield, CO
Observer:	Jeff Drahota, U.S Fish and Wildlife Service, Rainwater Basin Wetland Management District, Kearney, NE
Photographer:	Dave Fronczak, U.S Fish and Wildlife Service, National Wildlife Refuge System-Central North Dakota Complex, Bismarck, ND

State Coordinators for Ground Surveys

Kansas:	Tom Bidrowski, Kansas Dept. of Wildlife, Parks and Tourism, Emporia, KS
Nebraska:	John McKinney, Nebraska Game and Parks Commission, Lincoln, NE
North Dakota:	Jacob Hewitt, North Dakota Game and Fish Dept, Bismarck, ND
Oklahoma:	Paxton Smith, Oklahoma Dept. of Wildlife Conservation, Arcadia, OK
South Dakota:	Rocco Murano, South Dakota Game, Fish, and Parks, Brookings, SD
Texas:	Owen Fitzsimmons, Texas Parks and Wildlife Dept., San Marcos, TX
Wyoming:	Courtney Rudd, Wyoming Game and Fish Dept., Casper, WY

Table 1. Annual spring abundance indices for the Mid-Continent Population of sandhill cranes. Estimates presented for: (1) the Central Platte River Valley (CPRV), NE; (2) other areas in Nebraska outside the CPRV and in other states; and (3) total combined estimates.

Survey Dates	CPRV Ocular Cruise Transect	CPRV Ocular Transect	Percent of cranes counted in aerial transect portion of survey	CPRV Photo Corrected Ocular Transect Annual	Percent of cranes counted in aerial transect portion of survey after correction	Other NE	KS	TX	OK[3]	WY[7]	NM[3]	CO[3]	ND[2]	SD[2]	Total Ocular Cruise Transect	Total Ocular Cruise Transect	Total Photo Corrected Ocular Transect Annual
3/24-31/1974	162,600	-	-	-	-	9,000	1,900	3,200	400		-	-	-	-	177,100	-	-
3/25-30/1975	223,600	-	-	-	-	2,300	900	Tr	100		100	500	-	-	227,500	-	-
3/22-26/1976	147,500	-	-	-	-	2,800	300	800	100		1,000	-	-	-	152,500	-	-
3/13-23/1977	173,400	-	-	-	-	1,100	1,600	30,700	400		12,500	-	-	300	220,000	-	-
3/20-24/1978	149,800	188,600	96%	-	-	2,200	700	4,900	-		2,300	-	-	-	159,900	196,400	-
3/20-29/1979	-	203,600	98%	-	-	2,600	1,100	-	1,500		-	500	-	-	-	207,300	-
3/24-4/15/1980	223,400	254,400	96%	-	-	5,000	4,100	1,400	100		500	-	Tr	-	234,500	264,900	-
3/22-28/1981	-	248,900	86%	-	-	8,300	11,200	21,800	-		-	200	-	-	-	290,200	-
3/22-27/1982[1]	-	348,000	95%	417,300	95%	7,100	2,000	7,800	-		100	2,800	-	Tr	-	364,900	437,100
3/25-26/1983	-	306,300	96%	343,400	97%	4,100	200	7,000	200		Tr	-	-	-	-	317,600	354,900
3/25-30/1984	-	222,700	92%	261,800	93%	18,100	900	800	1,100		Tr	-	-	Tr	-	242,500	282,700
3/25-26/1985	-	378,100	96%	514,800	97%	11,500	3,000	1,200	-		-	-	-	-	-	393,800	530,500
3/25-26/1986	-	317,000	99%	353,000	99%	1,000	200	2,100	-		-	-	Tr	Tr	-	320,300	356,300
3/24-26/1987	-	383,600	100%	416,100	100%	-	Tr[4]	400	-		-	-	-	-	-	384,000	416,500
3/21-25/1988	-	386,900	98%	463,500	98%	-	-	7,700	-		-	-	-	-	-	394,600	471,200
3/28-29/1989	-	391,400	100%	392,000	100%	100	1,000	800	-		-	-	-	200	-	393,300	393,900
3/27-28/1990	-	386,000	94%	412,200	94%	11,000	5,200	10,300	-		-	-	Tr	Tr	-	412,500	438,700
3/25-26/1991	-	297,800	100%	340,600	100%	100	800	200	-		-	-	-	200	-	298,900	341,700
3/19-25/1992	-	257,700	95%	406,500	97%	12,200	300	1,100	-		-	-	200	Tr	-	271,300	420,100
3/23-24/1993	-	253,800	79%	378,900	85%	16,800	37,700	13,500	-		-	-	-	-	-	321,800	446,900
3/20-22/1994	-	395,500	96%	477,200	97%	14,600	-	-	-		-	2,400	400	-	-	410,100	491,800
3/28-30/1995	-	273,400	90%	326,200	91%	30,400	-	-	-		-	6,700	200	-	-	303,800	356,600
3/25-26/1996	-	318,900	98%	520,000	99%	7,600	-	-	-		-	3,900	-	-	-	326,500	527,600
3/20-26/1997	-	350,900	96%	534,600	97%	16,200	100	-	-		-	-	Tr	Tr	-	367,200	550,900
3/24-26/1998	-	337,200	96%	530,800	97%	13,600	100	-	-		-	-	-	Tr	-	350,900	544,500
3/22-25/1999	-	219,800	68%	284,900	73%	3,500	100,000	-	-		-	-	-	500	-	323,300	388,400
3/10-29/2000	-	484,600	92%	490,100	92%	16,900	26,100	500	-		-	-	100	800	-	528,100	533,600
3/25-27/2001	-	387,300	87%	413,500	88%	10,500	42,300	3,500	-		-	-	-	Tr	-	443,600	469,800
3/25-27/2002	-	309,000	90%	315,000	90%	17,100	15,100	1,200	5,800		-	-	Tr	-	-	342,400	348,400
3/22-27/2003	-	300,900	90%	348,000	91%	24,800	4,100	3,800	-		-	-	Tr	400	-	333,600	380,700
3/22-25/2004	-	365,400	95%	426,500	95%	17,700	1,200	2,200	100		-	-	50	600	-	386,500	447,600
3/5 - 25/2005	-	412,300	91%	491,900	93%	27,100	2,900	8,700	2,600		-	-	Tr	500	-	451,000	530,600
3/15-29/2006	-	178,600	70%	216,800	74%	70,000	2,100	5,500	-		-	-	Tr	Tr	-	256,200	294,400
3/12-27/2007	-	307,100	91%	384,100	93%	20,400	3,600	5,900	-		-	-	2,000	8,700	-	337,000	414,000
3/24-26/2008	-	474,100	95%	545,900	96%	24,500	1,100	-	-		-	-	-	1,600	-	499,700	571,500
3/21-26/2009	-	457,400	92%	565,300	93%	29,900	Tr	10,800	-		-	-	100	4,800	-	498,100	606,000
3/23-26/2010	-	455,100	91%	691,500	94%	17,600	1,300	28,000	-		-	-	-	2,100	-	502,000	738,400
3/20-24/2011	-	347,500	90%	482,800	93%	18,800	3,500	14,300	4,700		-	-	-	100	-	384,100	519,400
3/27-30/2012	-	253,800	94%	339,600	95%	12,900	Tr	4,200	-		-	-	970	14,600	-	270,900	356,700
3/25-27/2013	-	745,900	97%	867,100	97%	16,080	279	9,740	1,800		-	-	-	400	-	771,999	893,199
3/24-26/2014	-	402,200	91%	617,900	94%	24,390	5,996	7,534	239		-	-	-	11,973	-	440,120	655,820
3/23-25/2015	-	326,000	83%	386,500	85%	24,545	4,479	37,121	2,195		-	-	324	8,723	-	392,145	452,645
3/22-23/2016	-	272,300	91%	405,700	94%	11,218	261	16,500	175		-	-	548	8,412	-	300,279	433,679
3/21/-3/22/2017	-	436,700	94%	568,400	95%	18,674	180	9,193	Tr		-	-	79	-	-	464,747	596,447
3/22/2018	-	516,400	93%	1,005,600	96%	12,137	1,058	23,906	932	3,475	-	-	-	-	-	553,501	1,047,108
3/22/2019	-	633,800	92%	946,000	94%	16,818	2,423	39,460	777	4,140	-	-	-	-	-	692,501	1,009,618
No Survey 2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/24/2021	-	487,400	91%	782,400	94%	9,394	1,422	38,123	-	4,512	-	-	Tr	-	-	536,339	835,851
3/24/2022	-	464,900	92%	685,500	94%	23,911	727	13,869	115	6,350	-	-	Tr	-	-	503,407	730,472
3/21-22/23	-	686,700	97%	1,259,200	98%	6,661	662	11,872	68	6,100	-	-	-	-	-	705,895	1,284,563
3/22/2024	-	330,600	96%	420,800	95%	10,431	Tr	2,475	Tr	9,705	-	-	-	-	-	343,506	443,411
3/24-25/2025	-	1,053,400	98%	1,415,000	98%	11,793	Tr	10,596	600	6,500	-	-	-	NS	-	1,075,789	1,444,489

[1] Vertical photo transect conducted in 1982. Within MCPV, index was 490,100 and including Other 509,900.

[2] Crane sightings for North and South Dakota from 1985 and later are noted for over flight monitoring purposes and are not included in totals.

[3] OK, NM, CO were eliminated from the Official Survey Area in 1985 by the Central Flyway CMU; crane sightings are noted for informational purposes only.

[4] Tr <50 cranes

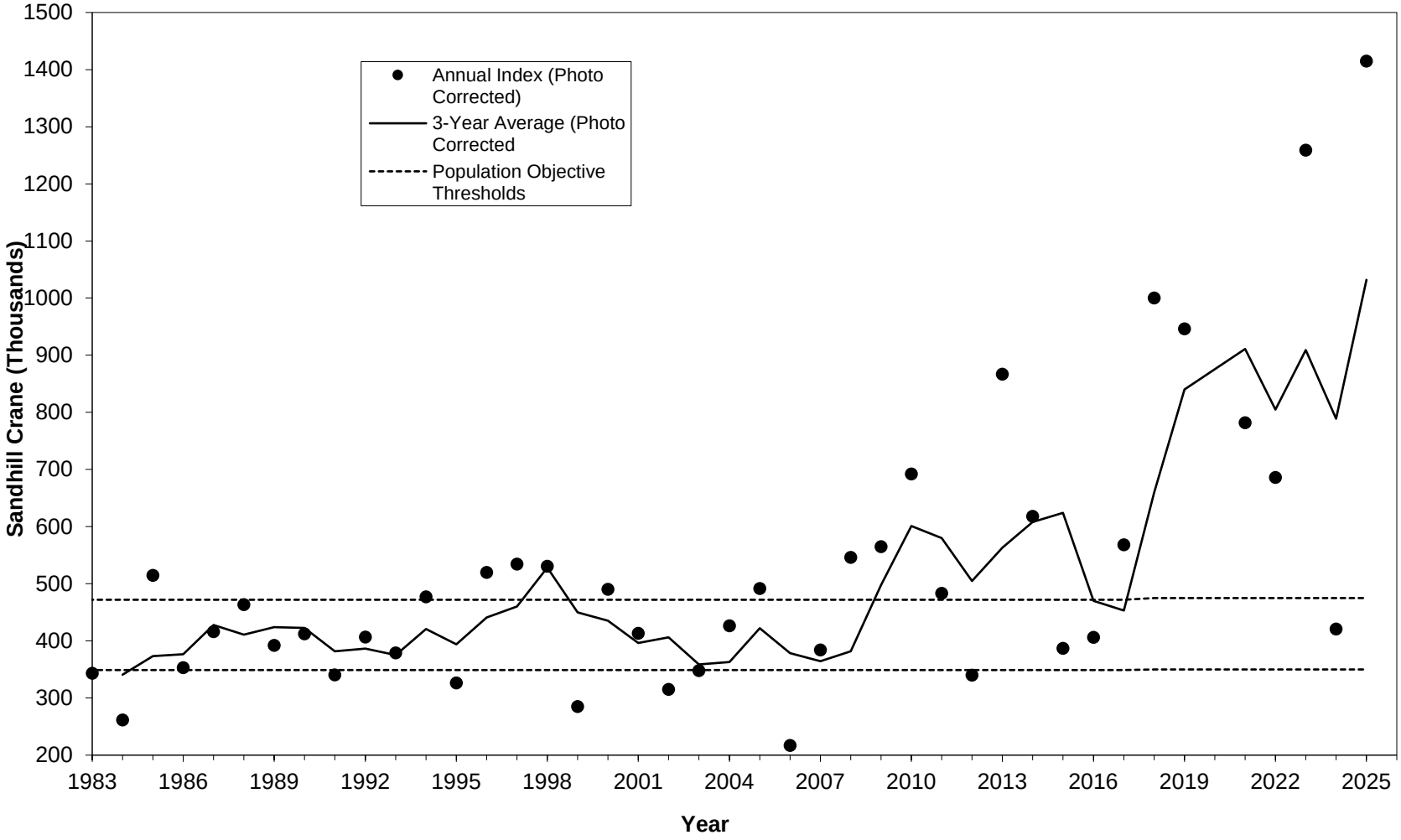
[5] Wyoming and Oklahoma were incorporated into the official survey area in 2018 by the Central Flyway CMU

Table 2. Coordinated spring MCP survey effort by state, March 2025

State	Date	Aircraft Coverage	Ground Coverage	Air Miles Covered	Ground Miles Covered	Federal	State	Volunteer
ND[1]	March 18 - 22	0	17	-	568	11	6	0
SD[1]	March 18 - 22	0	3	-	500	0	3	0
NE	March 24	1	2	-	181	0	4	0
KS	March 24	0	12	-	525	2	9	3
TX	March 24	0	11	-	1095	2	10	0
OK	March 24	0	9	-	632	1	8	0
WY	March 24	0	1	-	0	0	2	0
Total		1	55	0	3501	16	42	3

[1] Monitors for over flights on or prior to scheduled survey date.

Figure 1. Annual and three-year average photo-corrected ocular transect spring population indices and population objective thresholds for Mid-Continent sandhill cranes.



Appendix 1. Expanded population index and standard error for the ocular transect survey for the MCP in the CPRV of Nebraska.

1978	188,582	± 23,948	(± 12.7%)
1979	203,574	± 24,968	(± 12.1%)
1980	254,417	± 51,738	(± 20.3%)
1981	248,882	± 31,957	(± 12.8%)
1982	347,996	± 33,353	(± 9.6%)
1983	306,316	± 21,257	(± 6.9%)
1984	222,710	± 17,466	(± 7.8%)
1985	378,127	± 34,230	(± 9.1%)
1986	317,025	± 32,461	(± 10.2%)
1987	383,581	± 53,508	(± 13.9%)
1988	386,853	± 35,775	(± 9.2%)
1989	391,353	± 44,066	(± 11.2%)
1990	385,950	± 40,585	(± 10.5%)
1991	297,831	± 27,551	(± 9.2%)
1992	257,709	± 24,551	(± 9.5%)
1993	253,799	± 29,896	(± 11.2%)
1994	395,543	± 40,430	(± 10.2%)
1995	273,376	± 30,316	(± 11.1%)
1996	318,514	± 36,182	(± 11.3%)
1997	350,932	± 58,925	(± 16.7%)
1998	337,203	± 39,505	(± 11.7%)
1999	219,794	± 32,164	(± 14.6%)
2000	484,585	± 57,598	(± 11.9%)
2001	387,336	± 47,679	(± 12.3%)
2002	309,029	± 34,399	(± 11.1%)
2003	300,918	± 32,869	(± 10.9%)
2004	365,370	± 31,001	(± 8.5%)
2005	412,285	± 32,482	(± 7.8%)
2006	178,564	± 13,156	(± 7.4%)
2007	307,094	± 27,245	(± 8.9%)
2008	474,051	± 52,201	(± 11.0%)
2009	457,436	± 39,355	(± 8.6%)
2010	455,104	± 44,324	(± 9.7%)
2011	347,501	± 26,841	(± 7.7%)
2012	253,783	± 18,261	(± 7.2%)
2013	745,854	± 77,801	(± 10.4%)
2014	402,228	± 33,616	(± 8.4%)
2015	326,053	± 24,491	(± 7.5%)
2016	272,250	± 30,692	(± 11.3%)
2017	436,671	± 42,331	(± 9.7%)
2018	516,397	± 46,206	(±8.9%)
2019	633,839	± 85,277	(±13.5%)
2020	-	-	-
2021	487,418	± 138,697	(±28.5%)
2022	464,933	± 48,080	(±10.3%)
2023	686,716	± 77,240	(±11.3%)
2024	330,587	± 42,374	(±12.8%)
2025	1,053,387	± 222,908	(±21.2%)

[1] Survey was not flown in 2020.

Appendix 2. Expanded population index with photo correction and standard errors for the ocular transect survey for the MCP in the CPRV of Nebraska.

Year	Population Index	Standard Error	
1982	417,263	± 42,331	(± 10.1%)
1983	343,378	± 31,674	(± 9.2%)
1984	261,802	± 24,198	(± 9.2%)
1985	514,763	± 49,650	(± 9.6%)
1986	353,040	± 37,340	(± 10.6%)
1987	416,058	± 65,588	(± 15.7%)
1988	463,457	± 53,213	(± 11.4%)
1989	391,995	± 51,349	(± 13.0%)
1990	412,154	± 50,496	(± 12.2%)
1991	340,645	± 33,897	(± 10.0%)
1992	406,457	± 50,644	(± 12.4%)
1993	378,883	± 50,454	(± 13.3%)
1994	477,215	± 50,910	(± 10.7%)
1995	326,181	± 35,256	(± 10.8%)
1996	519,984	± 62,582	(± 12.0%)
1997	534,630	± 86,889	(± 16.2%)
1998	530,848	± 79,164	(± 14.9%)
1999	284,858	± 35,599	(± 12.5%)
2000	490,118	± 71,754	(± 14.6%)
2001	413,498	± 64,221	(± 15.5%)
2002	315,044	± 42,218	(± 13.4%)
2003	348,023	± 41,263	(± 11.9%)
2004	426,534	± 43,337	(± 10.2%)
2005	491,915	± 47,392	(± 9.6%)
2006	216,810	± 18,054	(± 8.3%)
2007	384,118	± 39,637	(± 10.3%)
2008	545,884	± 76,107	(± 13.9%)
2009	565,257	± 50,923	(± 9.0%)
2010	691,534	± 85,236	(± 12.3%)
2011	482,797	± 44,851	(± 9.2%)
2012	339,642	± 31,609	(± 9.7%)
2013	867,061	± 126,196	(± 14.5%)
2014	617,903	± 60,551	(± 9.8%)
2015	386,471	± 49,504	(± 12.8%)
2016	405,716	± 44,935	(± 11.1%)
2017	568,369	± 72,987	(± 12.8%)
2018	1,005,612	± 105,654	(± 10.5%)
2019	945,996	± 133,127	(± 14.1%)
2020	-	-	-
2021	782,462	± 309,357	(± 39.5%)
2022	685,476	± 85,473	(± 12.5%)
2023	1,259,199	±159,840	(± 12.7%)
2024	420,840	±66,572	(± 15.8%)
2025	1,406,071	±344,510	(± 24.5%)

[1] Survey was not flown in 2020.

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