

Whooping Crane Survey Results: Winter 2018–2019

504 Wild Whooping Cranes Estimated (95% CI = 412.4–660.3)

The U.S. Fish and Wildlife Service estimated the abundance of whooping cranes in the Aransas-Wood Buffalo population for the winter of 2018–2019. Survey results indicated 504 whooping cranes (95% CI = 412.4–660.3; CV = 0.122) inhabited the primary survey area (Figure 1). This estimate included at least 13 juveniles (95% CI = 10.4–18.8; CV = 0.156) and 198 adult pairs (95% CI = 162.7–263.3; CV = 0.124). Recruitment of juveniles into the winter flock was 2.3 chicks (95% CI = 2.2–3.4; CV = 0.101) per 100 adults.

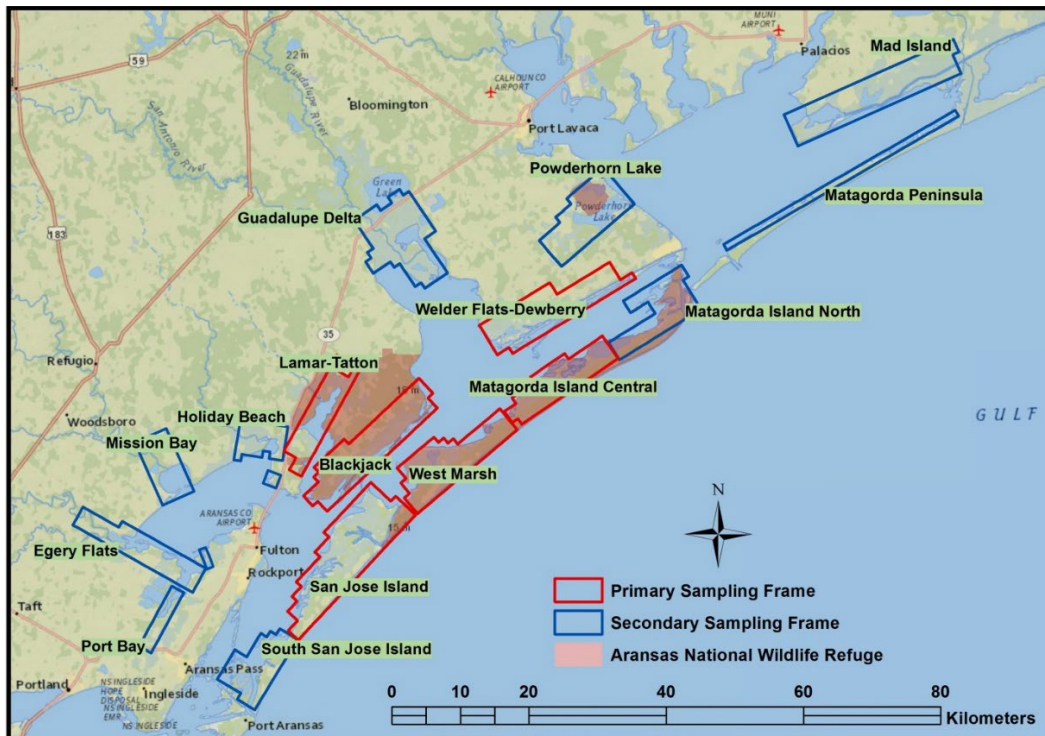


Figure 1. The sampling area used to monitor whooping crane abundance on their wintering grounds along the Texas coast of the Gulf of Mexico, USA.

During winter 2018–2019, the U.S. Fish and Wildlife Service continued to use a Quest Kodiak aircraft and surveys were conducted in mid-February. The primary survey area (approximately 153,950 acres; Figure 1) was surveyed multiple times during February 9–14, 2019. San Jose Island, West Marsh, Lamar-Tatton, Matagorda Island Central, and Welder Flats-Dewberry were surveyed 4 times and Blackjack was surveyed 5 times. Due to logistical constraints and poor weather conditions, the secondary survey areas (approximately 169,300 acres; Figure 1) were not surveyed this winter. Due to unforeseen circumstances, the U.S. Fish and Wildlife Service conducted the survey later than planned which likely resulted in underestimates of recruitment due to late season changes in plumage coloration.

The long-term growth rate in the whooping crane population has averaged 4.5% ($n = 95$; 95% CI = 1.77–6.98%). The population remained stable from winter 2017–2018 to winter 2018–2019 (Table 1). In summer 2018, the Canadian Wildlife Service reported 24 whooping crane chicks were fledged at Wood-

Buffalo Nation Park which is lower than normal. Recruitment was low this year resulting in no population growth (Figure 2).

Table 1. Preliminary whooping crane abundance estimates for the Aransas-Wood Buffalo population on their wintering grounds, winter 2015–2016 through winter 2018–2019.

Survey year ^a	Survey month	Aircraft	Abundance ^a	CV	95% CI		No. assumed beyond primary survey area ^b
					LCL	UCL	
winter 2015–2016	March	Kodiak	463	0.095	392	549	8
winter 2016–2017	March	Kodiak	489	0.116	428	555	6
winter 2017–2018	February	Kodiak	505	0.069	439	576	21
winter 2018–2019	February	Kodiak	504	0.122	412	660	12

^a Estimated whooping crane abundance in the primary sampling area using aerial surveys and hierarchical distance sampling. CV = coefficient of variation, CI = confidence interval, LCL = lower confidence limit, and UCL = upper confidence limit.

^b Provides our best understanding of the number of whooping cranes, at the time of the aerial surveys, that were outside of the primary survey areas. This information was based on data from Texas Whooper Watch, Ebird reports, the whooping crane GPS tracking study, and aerial surveys conducted in the secondary survey areas.

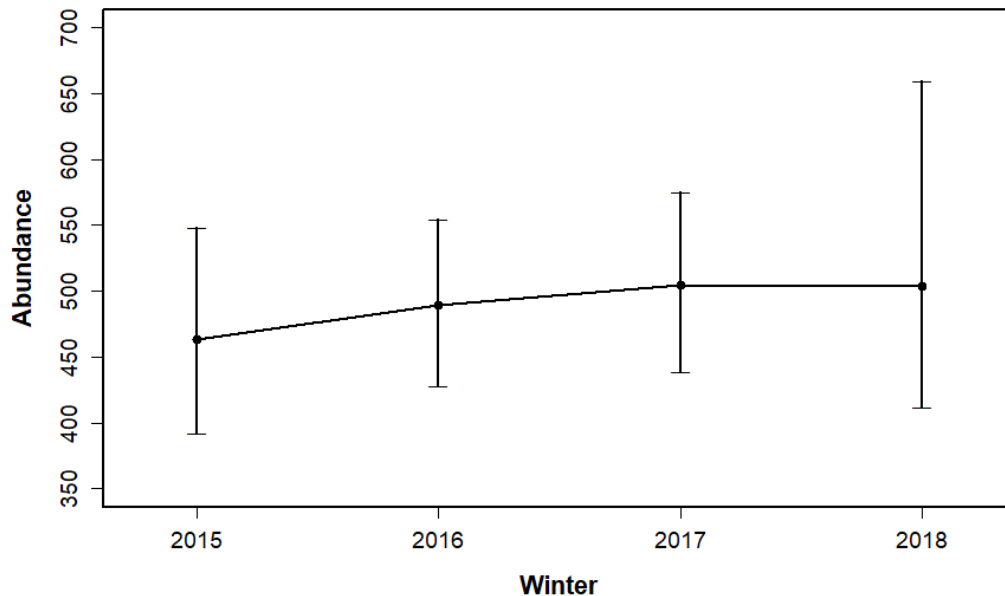


Figure 2. Time-series of whooping crane abundance estimates and 95% confidence intervals for the Aransas-Wood Buffalo population beginning in winter 2015–2016.

During the survey periods, some whooping cranes were observed outside of the primary survey area. Table 2 provides our best understanding of whooping cranes outside the primary survey areas during the survey period. Some birds may have been missed. It is impossible to be certain that individuals did not move between these locations and to/from the primary survey area during the survey period.

Table 2. Whooping cranes documented outside of the primary survey area during February 9–14, 2019.

General area	Data source	Adults	Chicks	Total	Notes
Lynn County (near Tahoka, Texas)	Ebird	1	0	1	7 reports on February 9, 2019, and 1 report on February 12, 2019. With a large flock of sandhill cranes.
Refugio County (near Tivoli, Texas)	Ebird	2	0	2	3 reports on February 10, 2019.
Calhoun County (near Powderhorn Lake, secondary survey area was not surveyed)	Ebird	2	0	2	2 reports on February 15, 2019. This observation would likely occur within the secondary survey frame.
Nueces County (near Port Aransas, Texas)	Ebird	2	0	2	Many February reports before and after survey period and a pair has used the area multiple winters.
Aransas County (near Lamar, Texas and Goose Island State Park and residential area)	Ebird	NA	NA	5	33 reports of 2 to 13 birds between February 10–14, 2019. The median count is used.

The data and results presented in this report are preliminary and subject to revision. This information is distributed solely for the purpose of providing the most recent information from aerial surveys. This information does not represent and should not be construed to represent any U.S. Fish and Wildlife Service determination or policy.

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