

Whooping Crane Survey Results: Winter 2019–2020

506 Wild Whooping Cranes Estimated (95% CI = 342.6–678.0)

The U.S. Fish and Wildlife Service estimated the abundance of whooping cranes in the Aransas-Wood Buffalo population for the winter of 2019–2020. Survey results indicated 506 whooping cranes (95% CI = 342.6–678.0; CV = 0.168) inhabited the primary survey area (Figure 1). This estimate included at least 39 juveniles (95% CI = 26.4–52.3; CV = 0.170) and 192 adult pairs (95% CI = 131.2–262.7; CV = 0.171). Recruitment of juveniles into the winter flock was 8.4 chicks (95% CI = 7.8–9.1; CV = 0.040) per 100 adults.

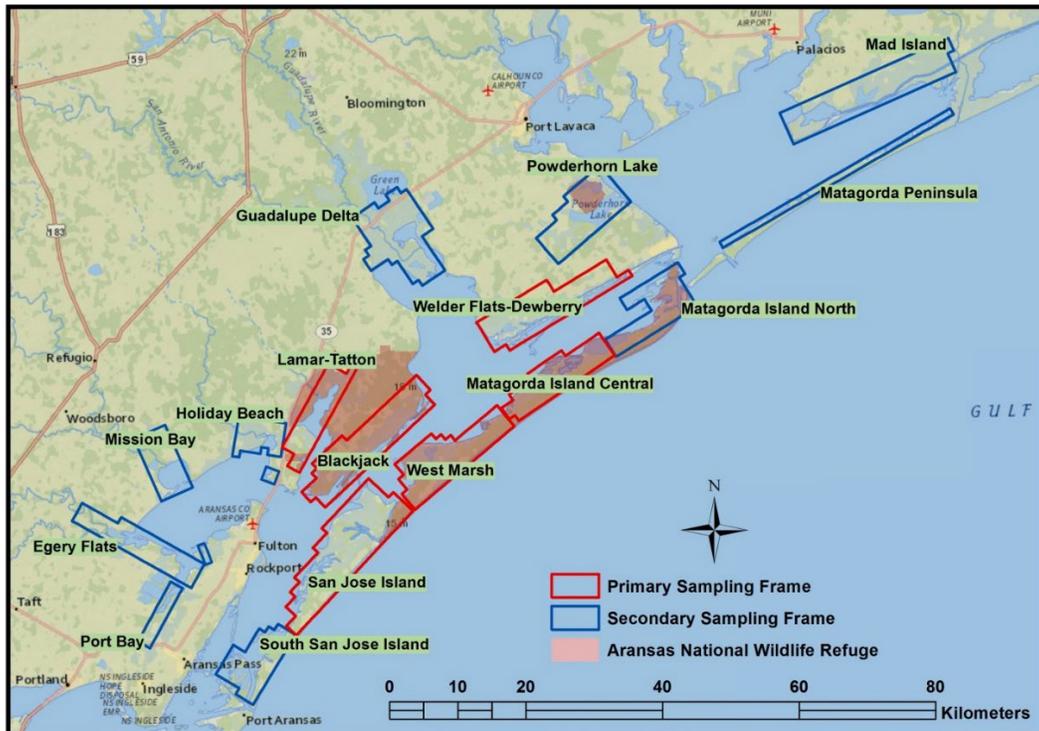


Figure 1. The sampling area used to monitor whooping crane abundance on their wintering grounds along the Texas Coast of the Gulf of Mexico, USA.

During winter 2019–2020, the U.S. Fish and Wildlife Service continued to use a Quest Kodiak aircraft and surveys were conducted in late-January. The primary survey areas (approximately 153,950 acres; Figure 1) were surveyed once during January 27–28, 2020. The secondary survey areas (approximately 169,300 acres; Figure 1) were surveyed twice this winter during January 24–27, 2020. A concerted effort was made to survey the secondary areas this year since weather conditions precluded surveying them in winter 2018–2019 and only portions of them have been surveyed since winter 2015–2016.

The long-term growth rate in the whooping crane population has averaged 4.4% ($n = 80$; 95% CI = 1.85–6.96%). The population remained stable from winter 2017–2018 to winter 2019–2020 (Table 1). The Canadian Wildlife Service reported 24 whooping crane chicks were fledged at Wood-Buffalo National Park in summer 2018 and 37 in summer 2019. Low fledge rates have resulted in reduced recruitment and no population growth since winter 2017–2018 (Figure 2).

During the survey period, some whooping cranes were observed outside of the primary survey areas. 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.

The survey protocol contains guidelines for promoting secondary survey areas into the primary survey area. This winter, we observed enough whooping crane groups in the Holiday Beach survey area to promote it to the primary survey area in winter 2020–2021.

Table 1. Preliminary whooping crane abundance estimates for the Aransas-Wood Buffalo population on their wintering grounds, winter 2015–2016 through winter 2019–2020 (95% CI).

Survey year	Survey Month	Aircraft	Abundance ^a	CV	LCL	UCL	No. assumed beyond primary survey area ^b
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
winter 2019–2020	January	Kodiak	506	0.168	342	678	29

^a Estimated whooping crane abundance in the primary sampling area using aerial surveys and hierarchical distance sampling. CV = coefficient of variation, LCL = lower 95% confidence limit, and UCL = upper 95% 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, iNaturalist reports, the whooping crane GPS tracking study, and aerial surveys conducted in the secondary survey areas.

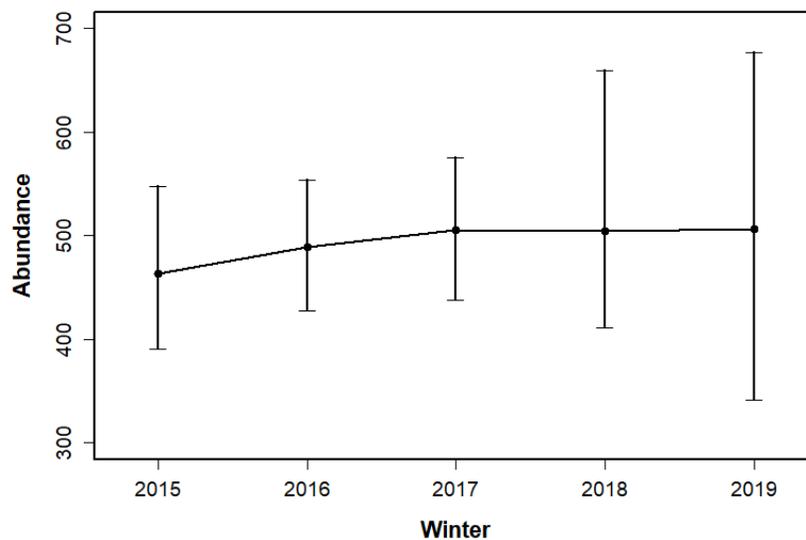


Figure 2. Time-series of whooping crane abundance estimates and 95% confidence intervals for the Aransas-Wood Buffalo population beginning in winter 2015–2016.

Table 2. Whooping cranes documented outside of the primary survey area during January 23–28, 2020.

General area	Data source	Adults	Chicks	Total	Notes
Aransas County (near Lamar, Texas and Goose Island State Park and residential area)	eBird	NA	NA	6	17 reports of 2 to 13 birds between January 23–27, 2020. The median count is used.
Nueces County (near Port Aransas, Texas)	eBird	2	0	2	Pair reported in area for most of the winter and 17 reports during January 23–28, 2020. A pair has used the area multiple winters.
Heron Flats, Aransas National Wildlife Refuge	iNaturalist	2	0	2	Photo of a pair of unmarked birds on January 26, 2020.
Mad Island (secondary survey area)	Aerial Survey	4	1	5	Two groups detected during aerial survey on January 25, 2020.
Holiday Beach (secondary survey area)	Aerial Survey	7	0	7	Three groups were observed during aerial survey on January 26, 2020 and two groups on January 27, 2020.
North Matagorda Island (secondary survey area)	GPS tracking study Aerial Survey	2	1	3	Family was detected during the aerial survey on January 24, 2020.
Wharton and Colorado Counties, Texas	GPS tracking study	2	1	3	Used flooded agricultural habitat in the two counties through the winter.
Central Kansas	GPS tracking study	0	1	1	Tracked throughout central Kansas through the winter. Photo evidence of the bird alone with sandhill cranes.

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.

Matthew J. Butler, U.S. Fish and Wildlife Service, National Wildlife Refuge System, Division of Biological Services, P.O. Box 1306, Albuquerque, NM 87103, USA.

Colt R. Sanspree, U.S. Fish and Wildlife Service, Aransas National Wildlife Refuge, 1 Wildlife Circle, Austwell, TX 77950, USA.

Wade Harrell, U.S. Fish and Wildlife Service, Ecological Services, Aransas National Wildlife Refuge, 1 Wildlife Circle, Austwell, TX 77950, USA.