

Grus Americana

Whooping Crane Conservation Association

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Reducing the Risk of Crane Collisions with Power Lines



Cranes (Sandhill Cranes in this image) are at risk of colliding with power lines as they make low-altitude flights between roosting and foraging areas, often around dawn and dusk when light levels are reduced. Photo: James F Dwyer, EDM International

A leading known cause of crane mortality is collisions with power lines, and juveniles are more likely than adults to be the victims. Power lines close to crane stopover or roosting sites, where the birds are in low-altitude flight, are especially hazardous.

Over a decade ago, WCCA President Tom Stehn issued a clarion call about the dangers of power lines to Whooping Cranes, and stressed the need to have lines marked to improve their visibility (Stehn and Wassenich, 2008).

Two recent developments in collision mitigation have propelled this story to our front page. The first, reported in an *American Bird Conservancy* article, are the efforts of regional electric utilities to mark power lines near two Whooping Crane Critical Habitat areas in Kansas — Quivira National Wildlife Refuge and Cheyenne Bottoms Wildlife Area. The second is a



1966–2019

50+ Years of Whooping Crane Conservation

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promising new technology in power line illumination, termed the Avian Collision Avoidance System (ACAS), which produced impressive results in field trials with Sandhill Cranes.

We begin with some excerpts from Tom's important article as background (the references are omitted).

- Cranes and other birds collide with lines because apparently they do not see them in time to avoid them. They suffer traumatic injury from the collision itself or from the resulting impact of falling to the ground. Non-conducting ground wires, usually installed above conduction wires to intercept lightning strikes and prevent power outages, are the wires most often struck by birds in flight... Because ground wires are smaller than conduction wires, they sometimes appear to be invisible because of background or lighting conditions. Consequently, birds often see and avoid conduction wires only to strike the less visible ground wires...
- Sandhill Cranes, a species closely related to Whooping Cranes that can serve as a surrogate species to study the problem, suffer appreciable mortality from collision with power lines... (*cont'd on p. 3*)

Dr. George Gee has been designated by the WCCA as a Trustee Emeritus for his outstanding work with cranes and long service to the WCCA. Starting in 1968, George spent 35 years conducting research and directing the crane propagation program at the Patuxent Wildlife Research Center. He authored at least 28 scientific papers and helped "write the manual" on propagating whooping cranes in captivity. The Patuxent crane program, which was initiated in the mid-1960s and ended in 2019, was the mainstay of 4 different crane reintroduction programs, including the Wisconsin and Louisiana reintroductions that are currently ongoing. Dr. Gee received the L. H. Walkinshaw Crane Conservation Award in 2003 to honor his many contributions. He served multiple years as a Trustee of the WCCA and currently lives in Maine. On a personal note, there is no finer person than Dr. Gee in regards to both his professional and personal life. — Tom Stehn, WCCA President

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Joining the WCCA is easy and your membership directly benefits North America's tallest bird. With your membership, you will also receive the WCCA newsletter, and we provide you with up-to-date comprehensive news and other items of interest about Whooping Cranes by way of our web site (www.whoopingcrane.com).

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Whooping Cranes in fall migration, in fields north of Saskatoon, Saskatchewan, October 2018. Photos generously provided by Moira Theede of Saskatoon, with additional thanks to Lorne Scott. ©Moira Theede

- Whooping Cranes are even more susceptible to striking power lines than Sandhill Cranes because of their larger body size and wingspan, slower wing beat, and relative lack of maneuverability. Juveniles are more vulnerable to collisions than adults, presumably due to lack of experience and flight skills.
- Whooping Cranes normally migrate well above the height of power lines but stop every night to roost in shallow wetlands... Encounters with power lines usually occur as Whooping Cranes are making short, low-altitude flights between foraging and roosting areas. These local flights frequently occur near sunrise and sunset when light levels are diminished. With approximately 12-15 stopovers during each 4000 km (2500 mile) migration, Whooping Cranes [of the Aransas–Wood Buffalo Population] have multiple opportunities to encounter power lines.
- Inclement weather (fog, dense cloud cover, precipitation, high-velocity winds) can increase the probability of collisions...

Tom's article also made numerous recommendations, among them:

- Monitor the placement and design of all new power lines in areas of known crane use. When possible, bury new power lines or route them around areas frequently used by Whooping Cranes. For example, lines have been buried at... the Last Mountain Lake National Wildlife Area in Saskatchewan where bird strikes had been documented.
- Mark existing problem lines to reduce collisions.
- Work with the Avian Power Line Interaction Committee (aplic.org) to better define criteria for which lines need to be marked.
- Work to gain support to increase the overall percentage of marked lines in the Whooping Crane migration corridor to reduce mortality.
- Encourage the electric utility industry and others to fund further research into reducing Whooping Crane strikes that would provide beneficial information for all diurnal species.

T. V. Stehn and T. Wassenich (2008) Whooping Crane collisions with power lines: an issue paper. *Proceedings of the North American Crane Workshop* 10: 25-36 (available at <http://digitalcommons.unl.edu/nacwgproc/203>)

A High-wire Act to Protect Whooping Cranes from Power Lines:

Kansas power companies join forces to prevent crane-powerline collisions

In 2010, the US Fish and Wildlife Service issued guidance for how power companies should address the risk of Whooping Crane collisions with power lines... Utilities could choose to mark their lines, outfitting them with devices to make them more visible to birds in flight.

Starting within a 5-mile radius around Quivira and Cheyenne Bottoms, the Kansas electric utilities worked with environmental consultants on an assessment that considered factors such as lines' proximity to crane roosting and feeding sites.

Small companies may not own additional lines in high-priority areas, however, so the utilities pooled their resources, each contributing money to a fund held by a nonprofit to be used by whomever did have high-priority lines to mark. An advisory group including representatives from nonprofits such as The Nature Conservancy and the Kansas Ornithological Society, government agencies, and power companies was formed to provide additional guidance for the project.

"There are a lot of different line-marking products out there on the market," says Westar's Eric Johnson. "Some of them have had scientific studies done on how effective they are, others haven't, but when it comes down to it, anything that makes the line more noticeable or larger in diameter will do something for birds.

"Some of them are just a spiral of pre-formed plastic that wraps around the line and makes it more obvious, and then there are others that are a little more active," Johnson continues. "You can clip them on the line and they spin with the wind."

The work began in 2015. So far, 160 miles of the identified high-priority lines have been marked in and around the two protected areas. According to Johnson, all 113 miles of high-priority lines at Cheyenne Bottoms will be completed by the end of 2019, as well as 90 miles of the total of 130 at Quivira.

Kansas Ornithological Society's Chuck Otte acknowledges that it's impossible to completely eliminate the risk of Whooping Crane collisions with power lines, but he says the work makes a difference. "These are things that aren't just going to protect Whooping Cranes, they're going to protect Sandhill Cranes, they're going to protect ducks and geese, they're going to help all sorts of birds. So that in and of itself is a success."

Excerpts from "A High-wire Act to Protect Whooping Cranes..." by Rebecca Heisman, published by American Bird Conservancy, March 4, 2019. The full article is available at <https://abcbirds.org/blog/preventing-whooping-crane-collisions/?bblinkid=164126713&bbemailid=14248997&bbejrid=1091466882>



Whooping Cranes foraging in fields north of Saskatoon, Saskatchewan, October 2018. ©Moira Theede

UV Lights on Power Lines May Help Save Sandhill Cranes*

* and Whooping Cranes, too!

Crane species are declining around the world, and lethal collisions with power lines are an ongoing threat to many crane populations. Current techniques for marking power lines and making them more visible to cranes aren't always effective, but new research published in *The Condor: Ornithological Applications* shows that adding UV lights—to which many birds are sensitive—can cut crane collisions with power lines by 98%.

EDM International's James Dwyer and his colleagues created what they dubbed the Avian Collision Avoidance System, or ACAS, by mounting UV lights on power lines' supporting structures and shining them on the lines at night. They tested its effectiveness in 2018 at Nebraska's Iain Nicolson Audubon Center, where a power line crosses the Central Platte River in key habitat for migrating Sandhill Cranes. Randomly assigning the ACAS to be on or off each night, they observed the behavior of cranes flying along the river at dusk and during the night. They documented 98% fewer collisions and 82% fewer dangerous flights when the ACAS was on and showed that cranes reacted sooner and with more control to avoid hitting the power lines.

"This project came about as a result of years of studying avian collisions with power lines throughout North America. My studies included collisions involving numerous species and families of birds, even on lines modified to industry standards to mitigate avian collisions, and I thought perhaps there could be a more effective approach," says Dwyer. "Even so, I did not imagine that the ACAS would have the effect that it did—a 98% reduction in collisions! I thought it would have some effect, but I didn't dare think the ACAS would pretty much solve the Sandhill Crane collision problem at our study site on our first try."

Conventional line markers were already in place on the power lines crossing the Central Platte River, and Dwyer and his colleagues speculate that the ACAS illuminated them and made them easier for cranes to see. "We don't know how effective the ACAS will be on wires without line markers, so we're testing that now," says Dwyer. "I hope to see the ACAS applied to and studied on other power lines and on communication towers to identify whether it is as effective with other species, habitats, and wire configurations," he continues. "From there, if the ACAS proves broadly effective, I hope to see it made easily available to the global electric industry. I also very much hope to see collision studies expanded. Because large carcasses like those of cranes and waterbirds are more easily noticed than smaller species like sparrows and warblers, collision studies have mostly focused on those larger species, and I fear that we may not understand the true distribution of species and habitats involved in the global avian collision problem."

News release of the American Ornithological Society. The abstract to the original article in *The Condor* can be found at <https://academic.oup.com/condor/article-abstract/121/2/duz008/5476728?redirectedFrom=fulltext>



A Whooping Crane family — two parents and a colt (foreground) — in Saskatchewan, October 2018. ©Moira Theede

PENNSYLVANIA'S WHOOPING CRANE NEXUS

By Earle F. Layser

Peter Matthiessen, who was once declared “the poet laureate of nature writing,” called cranes *the birds of heaven*; the most ancient of all birds, and sacred to many, Aldo Leopold, likened their time immemorial migrations to “the clicking of the geological clock.”

Heeding the primordial call of the crane, this author has traveled to Aransas National Wildlife Refuge several times to observe Whooping Cranes wintering on the Texas salt marshes. More than just “things with wings,” they are a symbol of longevity and peace and our tallest bird, about 52 inches, with a scarlet crown, an 87-inch black-tipped wingspan, and a clear resounding “bugle” —a regal, but endangered creature.

Formerly widespread across our prairie states’ wetlands, plume and other unregulated hunting, along with habitat conversion to farmland, decimated the Whooping Crane population—by the 1940s fewer than 20 were extant. At the time, most believed the cranes were inevitably destined to follow the Great Auk, Labrador Duck, Heath Hen, Passenger Pigeon, and Carolina Parakeet into extinction.

Pennsylvania is the childhood home for literally hundreds of famous personages—Barrymore, Carnegie, Franklin, Mead, and the like. When I was growing up in deeply rural Lycoming County, in the mountains near Cedar Run, we were mostly oblivious to any of them, except for Daniel Boone, who was born in Reading. In the 1950s, roaming the wilds of Pine Creek with our .22 rifles in hand, Boone was someone we could identify with. Putting it in its rosiest terms, my friends and I enjoyed childhoods uniquely suffused in unstructured outdoor experiences.

You may rightly ask what does that have to do with Whooping Cranes? Well, maybe if we had been a bit more informed, we might have discovered another Pennsylvania hero right next door to us. One that may have provided much needed positive influence or guidance for our outdoor activities and attitudes. This person was Robert “Bob” Porter Allen. A self-made field biologist, writer, artist, and conservationist, who is known today as “the man who saved the Whooping Cranes.”

Bob was born in South Williamsport on April 24, 1905. His parents brought him up in a home where commitment to cause was a matter of course. As a youth, he spent time traipsing the ridges and hollows of Bald Eagle Mountain hunting deer. He was influenced by his biology teacher and, like many others at the time, Ernest Thompson Seton’s writings; and also, perhaps not too common back then, as a Junior Audubon Club member, where he attended lectures by the likes of American Museum ornithologist Frank Chapman. Bob purchased his first binoculars on his 16th birthday, apparently not just for deer hunting.

But Bob got off to a shaky start. College did not appeal to his restless spirit. He went to sea, spending three years wandering the world’s seaports, arriving back in New York with 48-cents in his pocket. And it was the Great Depression.

Bob’s earlier mentor, Frank Chapman, referred him to T. Gilbert Pearson, head of the National Audubon Society and another important figure in ornithology. Bob had a love of books; it led to some employment cataloging Pearson’s library. Early in 1931, Pearson recognized other talents in Bob, although he also still remained the librarian, he was sent into the field to report on the heron colony conditions in North and South Carolina; and following that, a survey of coastal Maine’s breeding birds. The latter resulted in Bob being the first to report Great Black-backed Gull nesting in the United States.

Other field assignments followed, from the Director of Sanctuaries for the Audubon Society to collaboration with Roger Tory Peterson on hawk migration at Cape May, and a study of Black-crowned Night Herons in Nassau



Robert Porter Allen, Florida Bay, 1958

County, New York. In 1939, Bob gave up the sanctuary position and moved his family to Tavernier on Key Largo, Florida, to do research on the Roseate Spoonbill. His resulting publication in 1942 remains a definitive work for the spoonbill.

Bob volunteered for the Army in WWII. When he was released in early 1946, the National Audubon Society assigned him to the Cooperative Whooping Crane Project. Bob and his family moved to Austwell, Texas, just north of Aransas. The Aransas Refuge in Texas, with its 7,500 acres of tidal marsh habitat, had been established in 1937 for the remnant population of cranes. Still, little was actually known about them. Where they went in summer after they left Aransas, their migration route and breeding grounds, were a mystery.

The Whooping Cranes proved to be a challenging study. Many aerial searches were required, tracking the cranes' 2,500-mile migration route from Aransas north, up through Nebraska, across the Dakotas, then into Canada, and the northern wildernesses of Saskatchewan and the Northwest Territories. After exceedingly difficult on-the-ground searches, nesting cranes were finally located deep within the vast boreal muskeg and sedge meadows in what today is the 17, 300 square-mile Wood Buffalo National Park—the second largest park in the world. The whoopers' nesting area has since been designated a World Heritage Site by UNESCO. In my recent visit to Aransas, birders there still referred to Bob's 1952 and 1956 reports as the authoritative reference works for the cranes. Today, the Aransas Refuge supports about 400-500 wintering Whooping Cranes.

Skimming over his many contributions, besides his scientific studies, Bob popularized conservation through nontechnical publications in magazines like *National Geographic*, *Audubon*, and *Bird Lore*, and authored several books, such as *On the Trail of Vanishing Birds*, recognized in 1957 as the “best nature writing of the year.” He was the recipient of the Nash Award for conservation, the Brewster Memorial award in 1957, and the John Burroughs award in 1958 for his *Vanishing Birds* book. A posthumous honor came in 1964 when the National Park Service named three keys in Florida Bay the Bob Allen Keys. Two books have been published about Bob's life story—J.J. McCoy (1966), *The Hunt for the Whooping Cranes*, and Kaska (2012), *The Man Who Saved the Whooping Crane*, as well as a 9-page memoriam by A. Sprunt in *The Auk* (January, 1969).

I can't help but think of Thoreau's adage: “first a hunter, then a naturalist.” The basic outdoor skills Bob had learned afield on Pennsylvania's Bald Eagle Mountain and the surrounding area were essential to him throughout his career—orienteeing, camping, outdoor cookery, boating, privation and dealing with the elements. Anyone who has spent a little time in any of Bob's primary study habitats—Florida mangrove swamp, Texas salt marsh, northern Canada muskeg—knows they are incredibly demanding places to get around in; and they have a devilish thing in common, swarms of voracious mosquitoes and biting flies.

Ironically, where I attended high school in the 1950s was only 15 miles from South Williamsport, Bob's hometown. Growing up, our pastime consisted primarily of the outdoors, hunting and fishing, or related activities. There was no TV, Wi-Fi, or the likes back then, and it was over 30-miles to town. In our deeply rural environs, none of my friends, classmates, or apparently even teachers, were aware of or knew anything about Bob Allen or his accomplishments. We could have used a Pennsylvania conservation hero example like Bob. It might have helped us to see the natural world in other important ways besides viewing it through gun sights.

There are lessons to be learned from Bob Allen's story beyond his scientific contributions. Bob was a role model for how the natural environment (such as the Pennsylvania outdoors) combined with proper mentorship (Chapman, Pearson, Peterson) can help positively shape young people's interests and values. Today, with the uncertain fate of so many creatures, whose habitats and populations are rapidly disappearing in the face of ever more people and development, the world urgently needs more Bob Allens.

Earle F. Layser is a retired Forest Service ecologist and biologist, and a private consultant. He has authored six books and numerous journal and popular articles. He resides in Alta, Wyoming. This past year, Mr. Layser had the good fortune to meet George Archibald, co-founder of the International Crane Foundation, when George delivered the keynote address at the premier Greater Yellowstone Sandhill Crane Festival in Teton Valley, Idaho.

Aransas—Wood Buffalo Whooping Crane Population Summary 2015-2019

	2015	2016	2017	2018	2019
No. of nests detected at WBNP (May)	68	78	98†	87	97
Additional territorial pairs (non-nesters)	20-24	18	?	?	?
No. of fledged chicks detected (August)	23	45*	63**	24	37
Average no. of chicks per nest[#]	0.34	0.57	0.64	0.28	0.38
Estimated no. of birds at Aransas NWR in the primary survey area‡	329 95% CI 293-371 (early winter survey, Cessna)	431 95% CI 371-493 (early winter survey, Kodiak)	—	—	
	463 95% CI 392-549 (late winter survey, Kodiak)	489 95% CI 428-555 (late winter survey, Kodiak)	505 95% CI 439-576 (late winter survey, Kodiak)	?	
Estimated no. of juveniles at Aransas NWR	38 95% CI 33-43	50 95% CI 36-61	49 95% CI 42-58	?	

†Most nests ever recorded. *One family with twins; **four families with twins.

[#]20-year average is 0.48 chicks per nest.

‡Aerial surveys conducted later in winter and using a Kodiak aircraft (with improved ground viewing compared to the Cessna) were found to give higher estimates of crane numbers.

Wood Buffalo National Park (WBNP) 2014 data are from *Northern Journal* (norj.ca), Sept. 1, 2014, quoting Mark Bidwell; WBNP 2015 data are from Bidwell and Conkin (March 2016), *Recovery and Ecology of Whooping Cranes: Monitoring of the Aransas-Wood Buffalo Population during the Breeding Season 2015 Report*; WBNP 2016 data are preliminary results from the Canadian Wildlife Service, with thanks to Mark Bidwell; 2017 nest survey data are from Mike Keizer, Parks Canada; 2017 fledgling data are from CBC News, August 16, 2017 (www.cbc.ca/news); 2018 data are from an article posted by Cabin Radio, Yellowknife, NWT, September 7, 2018 (<https://cabinradio.ca>), citing Rhona Kindopp, Parks Canada; 2019 nest survey and fledgling numbers were reported by Friends of the Wild Whoopers (<https://friendsofthewildwhoopers.org/>), July 12 and August 8, 2019; Aransas NWR winter data are from 'Whooping Crane Updates' at the ANWR website.

Eastern Migratory Population Update

Hillary Thompson, North America Program Crane Analyst, International Crane Foundation

Current population size and status

As of 21 June 2019, the estimated population size of the Eastern Migratory Population of Whooping Cranes is 86 (39 F, 45 M, 2 U)*. This does not include wild-hatched chicks from 2019. At least 75 Whooping Cranes are back in Wisconsin, 4 are in Michigan, and 1 is in Illinois. Nesting season is almost done, with only one pair still incubating, due to hatch later this month.

Nesting season

This spring we had 25 nests, 7 of which hatched, 5 failed, 2 sat full term, and 11 we pulled eggs from prior to emergence of black flies on the landscape. There were 9 known second nests, 6 hatched, 2 failed for unknown causes, and 1 we collected eggs from after finding the mate dead next to the nest two days prior to anticipated hatch. One of those collected eggs from the re-nest hatched in captivity.

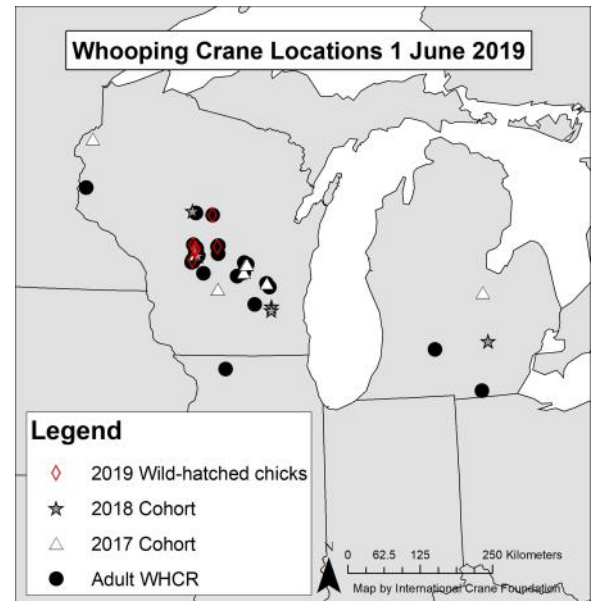
We had 18 chicks hatch so far, and we have one nest still active, which is due to hatch in the end of June. As of today, we have 7 chicks still alive, in Juneau and Marathon Counties, Wisconsin. The oldest chick, W1-19, is currently 7 weeks old! [*In an August 6th communication from Hillary, W-19 had been banded, and had fledged! The number of surviving wild-hatched chicks was down to 3-4. — ed.*]

2018 cohort

Last year's cohort of birds is still doing well. 77-18 is currently in Michigan and spent much of the spring wandering around, but has now settled in Livingston County, MI. 73-18 and 74-18 are still together, currently in Dodge County, WI. [*As mentioned by Hillary in our previous newsletter, this brother-and-sister pair was hatched in captivity in 2018 at White Oak Conservation in Florida; the two were released as colts along with their parents at Horicon National Wildlife Refuge in August of last year. — ed.*]

All 5 of last year's wild-hatched chicks that migrated with their parents also returned to Wisconsin this spring and are starting to explore a bit. W1-18 has moved north to Marathon County, W3-18 is now associating with an adult male at Necedah National Wildlife Refuge, and W5-18, W6-18, and W10-18 are still moving around and turn up at Necedah NWR fairly regularly.

*Down from 102 (46 F, 53 M, 3 U) reported in our previous newsletter — ed.



W1-19, the oldest wild-hatched chick from this year, with a parent. Photo credit: Bev Paulan

Parent-reared releases

We also released two additional parent-reared Whooping Cranes from the 2018 cohort this spring at Horicon National Wildlife Refuge. 75-18 (M) and 78-18 (F) were raised at the Calgary Zoo and were transferred to Wisconsin and released into the EMP this spring. They are currently together at Horicon NWR, and are exploring some new areas and getting used to their life in the wild! [*In an update from Hillary, as of 6 August, they remain together in Dodge Co., WI. — ed.*]



Colts 75-18 and 78-18, raised at the Calgary Zoo, after release at Horicon National Wildlife Refuge. Photo credit: Hillary Thompson



Whooping Cranes of the Arkansas—Wood Buffalo flock, flying and foraging north of Saskatoon, Saskatchewan, October 2018.

©Moirá Theede

Louisiana Whooping Crane Update

Eva Szyszkoski, Louisiana Department of Wildlife and Fisheries

2018 cohort – Thirteen captive-reared juveniles were released into the Louisiana population in the winter of 2018/19. Twelve juveniles (6 males, 6 females) arrived at the Rockefeller Wildlife Refuge in Cameron Parish in two shipments on 19 November 2018: seven from the International Crane Foundation in Wisconsin and five from the Freeport-McMoRan Audubon Species Survival Center (ASSC) in New Orleans. They received their permanent bands and transmitters on the day of their arrival and were placed in the top-netted portion of the release pen until their release on 3 December. One additional male was transported to the White Lake Wetlands Conservation Area, Vermilion Parish, from the ASSC on 15 January 2019, where he was banded and released on nearby private property.

Cranes from the Florida population – Two adult females from the remnant Florida non-migratory population were transported to the White Lake Wetlands Conservation Area on 6 February. They received their permanent bands and transmitters that evening and were released the following morning.

Captures – Fourteen free-flying cranes were captured for banding or transmitter replacement on 26 days of attempts from 1 November 2018 – 6 February 2019, including 4 of 5 wild-fledged juveniles.

Reproduction – Twenty-seven nests by 13 pairs were initiated in seven parishes (Acadia, Allen, Avoyelles, Calcasieu, Cameron, Jefferson Davis and Vermilion) in central and southwestern Louisiana in 2019, the sixth year of nesting by the Louisiana flock. First nesting attempts were initiated in February (6) and March (7). Re-nesting attempts were initiated an estimated average of 17 days after the first nest attempt was completed, or after loss of their chick in the case of one pair, and occurred during March (1), April (5) and May (2). Third nesting attempts occurred in April (2) and May (2) and two fourth nesting attempts were initiated in May. Third and fourth attempts were initiated an average of 11 days after failure of the previous attempt.

A minimum of 46 eggs was produced in 2019, 45 confirmed by visual sighting or discovery of eggshells and 1 presumed due to the pair sitting on a nest platform for a minimum of 2 weeks. Twenty eggs were confirmed fertile; eleven died prior to hatch (4 early dead, 1 mid-dead, 6 late dead), seven successfully hatched either in the wild or in captivity, and two are due to hatch in captivity within the next week. Ten eggs were determined to be non-viable and the remaining 16 eggs were of unknown viability, with most disappearing or breaking at the nest.

Six chicks hatched to six pairs in 2019; three hatched naturally to their biological parents and three hatched from fertile eggs that were swapped into wild nests. Two of these latter eggs hatched or were nearly hatched prior to placement into nests. All six chicks disappeared at 2-22 days old, despite four of the six pairs having previously raised offspring to independence.

Nesting season was plagued by frequent, extremely heavy flooding rains, which likely



Partially hatched LW6-19 was swapped into the nest of L3-11 and L1-13 on 22 May. The adults readily adopted the chick, but unfortunately, it disappeared between 3-6 days old. Photo by Sara Zimorski, LDWF.

contributed to the failure of at least five nests and to the death of two chicks. Seven nests were incubated to, or past, full term with no hatch, and the remaining failed for various reasons, including a snake attempting to eat the egg (see photo below), human disturbance due to attempted camera deployment, abandonment, failed egg swaps (embryo deaths prior to hatch) and other, unknown, reasons.

Of particular interest, one two-year-old female produced two eggs and one two-year-old male produced at least one fertile egg, becoming the second Louisiana male to do so. Additionally, one pair produced a three-egg clutch during their first nesting attempt.

Use of data-logging eggs – We continued the use of data-logging eggs (*Advanced Telemetry Systems, Inc.*) to collect real-time incubation data in wild nests in Louisiana. Data-logging eggs were deployed in four nests in 2019 for an average of 15.5 days.

Long distance movement – Female L4-17 wintered at the Wheeler National Wildlife Refuge in northern Alabama with thousands of Sandhill Cranes and numerous Whooping Cranes from the Eastern Migratory Population. In early March, she returned to northern Louisiana before departing again to NE Oklahoma where she summered in 2018.

Mortalities – Mortalities from mid-November through mid-June included one yearling male, one adult female and one adult male in Louisiana and one yearling female in Texas.

Current population size – As of 13 June 2019, the Louisiana non-migratory population consisted of a maximum of 73 cranes (34 males, 38 females and 1 unknown).



Frequent heavy rainfall and storms played a role in failure of multiple nests in 2019. Here, the re-nest of L5-14 and L12-16 is seen the morning after heavy rains in the area. The pair had laid their first egg just a day or two prior to the storm. Photo by Eva Szyszkoski.



A large snake attempts to eat an egg in L3-11 and L1-13's nest in the middle of the night. This egg was a plaster-filled dummy egg from a swap that was conducted just a couple of days earlier; however, the end result was that the egg ended up in the water, causing the nest ultimately to fail.

Q & A with Eva Szyszkoski

Q: I hadn't thought of snakes as potential predators of Whooping Cranes. So, the dummy egg ended up in the water because of the snake, and the parents then abandoned the nest?

Eva: The snake was definitely a surprise to us as well. And yes, it apparently knocked the egg into the water (or swallowed the egg and then regurgitated it). With nothing left to sit on, the nest was abandoned. We had attempted to give the pair an internally pipped egg the week before; however, the chick ended up malpositioned and didn't hatch. We removed that dead egg and gave them a plaster egg to keep them as an option for future eggs since they hadn't yet sat full term.

Q: How well are the two cranes from Florida adapting to their new home?

Eva: The Florida cranes are doing okay. The younger one (4 years old) has been hanging out with or near some of our cranes. The older one (21 years old) has been more of an issue...while physically she's fine, she is choosing less than ideal locations to hang out at...namely at feeders on a neighboring property where they have captive deer. Unfortunately, she lived in a residential area in Florida.

This August, 37 Whooping Crane fledglings were counted in Wood Buffalo National Park — up from just 24 fledglings last year

Friends of the Wild Whoopers, a Whooping Crane conservation organization, reported the Parks Canada and Canadian Wildlife Service count last week on its website (www.fotww.org).

The endangered cranes that nest in Wood Buffalo are the last natural wild migratory flock in the world. In late May, according to *Friends of the Wild Whoopers*, Parks Canada counted 97 nests. This is the second-highest number of nests recorded — in 2017, Parks counted 98 nests and a record 63 fledglings. (See the table on page 5 for inter-year comparisons, 2015-2019.)

Last year, 87 nests were counted, but a very rainy season likely caused fewer fledglings, only 24, to survive.

"There's natural year-to-year fluctuation in the number of breeding pairs [and fledglings surviving], but the trend is really positive overall," said Rhona Kindopp, manager of resource conservation with Parks Canada in Fort Smith, NWT. She said 2018 was a "down year" but still within the variation expected.

"Whooping cranes start breeding when they're about four years old. About five to six years ago, there was a boom in the number of fledglings and so those fledglings have been getting to breeding ages recently in the last couple of years," said Kindopp.

"I think that's why the numbers have been higher than what we'd seen a decade ago."

Wintering numbers at Aransas National Wildlife Refuge in Texas for 2018-19 have not yet been released by the US Fish and Wildlife Service.

The Whooping Cranes will start their migration in September or October, heading 4,000 km (2,500 miles) south.

Adapted from 'Trend Really Positive' as *Wood Buffalo Whooping Cranes Counted*, by Sarah Pruys, published 15 August 2019 by cabinradio.ca. Thanks to Chester McConnell of *Friends of the Wild Whoopers* for obtaining the count data from Parks Canada and Tom Stehn for submitting the article to *Grus Americana*.

Malicious Shooting of a Whooping Crane in Ontario: Reward Offered

Sadly, another Whooping Crane of the Eastern Migratory Population was wantonly shot and killed, this time in Ontario, on Barrie Island in Lake Huron. What little we know about the incident has come from local reporting in the Manitoulin Expositor (manitoulin.ca), as outlined below in these edited excerpts from several news articles by Tom Sasvari.

The Whooping Crane was first spotted April 20 (or 21) on private property on Barrie Island by two residents. The bird stayed around, and on April 30 two other residents contacted Terry Land [a local birder and photographer], as they had just seen the bird. Mr. Land went out to view the Whooping Crane and tried to get pictures of it in the fading (evening) light.

Mr. Land said it was “probably the first Whooping Crane ever seen in the Algoma-Manitoulin District. As it is a rare bird, everyone who had seen the bird felt it would be wise to keep this information under our hats to protect the bird, which as it turns out didn’t work.”

He noted the Whooping Crane is predominantly white in colour and is larger in body size than a Sandhill Crane. “This one had coloured bands on its legs and a transmitter on one leg with a number on it.” [The bird was 39-17, a 2-year-old female, part of the ‘parent-reared’ cohort of 2017.]

Mr. Land said that all four of the local residents saw the Whooping Crane on a regular basis, one of whom saw it in the afternoon of May 5, “and it was fine.”

However, “On that evening (May 5) there was a report between 8 pm and 8:30 pm of a shotgun blast and then later what sounded like a .22 calibre rifle,” said Mr. Land. “The person who reported this saw the bird walk a short distance to where it normally went to lay down. The next morning it was still in the same place and hadn’t moved. It had died.”

They reported it to a CO (conservation officer with the Ontario Ministry of Natural Resources and Forestry) on Monday morning (May 6) after it was determined that it was dead. Mr. Land noted the CO visited the area where the bird had been found dead. But after it had died, the carcass fell victim of a fox, raccoon or other animal as it was no longer intact. The CO recovered one of its legs.

The case remains unsolved.

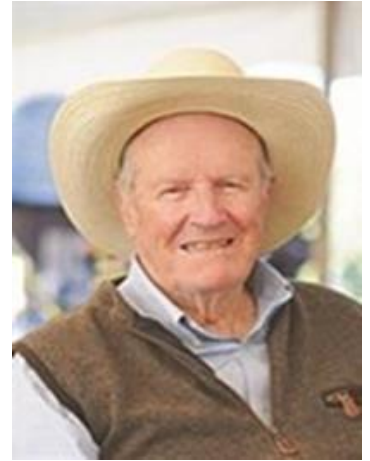
The Wildlife Enforcement Division of Environment and Climate Change Canada (the Canadian Wildlife Service) and Crime Stoppers are seeking the public’s assistance in identifying the suspect(s) in the senseless killing of Whooping Crane 39-17.

Any information leading to the identity of the person(s) or vehicle(s) involved would be appreciated. Contact Crime Stoppers at 1-800-222-8477 or visit sudburycrimestoppers.com.

Note: The WCCA has offered up to \$2000 (Canadian) from our Reward Fund for information leading to the arrest and conviction of the person(s) responsible for this crime. – ed.

Dayton Ogden Hyde 1925-2018

Mr. Dayton Hyde, long-time Trustee Emeritus of the WCCA, passed away in December, 2018 at the age of 93. What a life he led as a rancher, author, and supporter of nature conservation. His books advocated an environmentally responsible philosophy of land management. He caught a freight train to Oregon at the age of 13 and lived for many years at Yamsi, a 6,000-acre ranch in the Klamath Basin. His first book published in 1968, *Sandy: The True Story of a Sandhill Crane Who Joined Our Family*, tells how he rescued a Sandhill Crane egg and raised it on his ranch. *Yamsi: A Year in the Life of a Wilderness Ranch*, published in 1971, described a year at the ranch, with a focus on Hyde's connection to the natural world and the environment. He later spent many years in South Dakota establishing and operating an 11,000-acre sanctuary for wild horses. He was a long-time supporter of the WCCA, received the association's honor award in 1989, and served many years on the Board. Goodbye, friend! — Tom Stehn



An Opportunity for Association Members

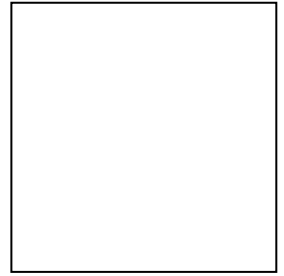
You can help us as we continue to cooperate with other conservation groups in preserving winter habitat for Whooping Cranes! Coastal properties are expensive. The cost of the 720 acres acquired in Texas in November 2016 (see *Grus Americana* vol. 54. no. 2) was slightly over one million U.S. dollars or \$1,389 per acre. We welcome any amount of money that you are able to donate toward purchase of habitat. When you donate, please indicate that you are contributing for the purchase of habitat. Funds can be donated through our website <http://whoopingcrane.com> or by sending a check to the Whooping Crane Conservation Association, 2139 Kennedy Avenue, Loveland, Colorado, 80538. WCCA is an all-volunteer, nonprofit 501(c)(3) corporation with the purpose of advancing conservation, protection, and propagation of Whooping Cranes. The Association is able to receive funds by gifts, bequests, legacies or transfers and to administer such funds for the benefit of cranes. Donations from U.S. citizens are tax deductible. Thank you for your help for these marvelous birds.

The WCCA wishes to acknowledge the following persons for their special donations received since December 2018 for the benefit of Whooping Cranes: **Dorris Applebaum, George Archibald, EBSC Industries, Mindy Finklea, Marty Folk, Michael Helsel, Helen Johnson, Judith Joy, Kathleen Kaska, Victoria Kiser, Judith LeGrand, Helen Lindsey, Operation Migration, Stephen Nesbitt, Bertram Raynes.**

A special *thank you* to Moira Theede for sharing her beautiful photos of Whooping Cranes in Saskatchewan.

**Whooping Crane Conservation Association
3150 Topping Lane
Hunting Valley, Ohio 44022**

Return Service Requested



Members—please update your address if the one shown above is incorrect. Send to the return address above.



A Whooping Crane family photographed by Moira Theede in October 2018 north of Saskatoon, SK, where they rested and foraged (and ice-danced) before continuing their fall migration to Texas.