EASTERN CRANE BULLETIN

September 2022

The Eastern Crane E-bulletin covers news about the Eastern Populations of Sandhill and Whooping Cranes, as well as general information about cranes and the continuing work for the protection of these birds and their habitats.

Captured on a LDWF nest cam. There were strong wind gusts ahead of an approaching storm and L3-11 was not yet positioned aerodynamically, facing into the wind! Photo courtesy of Louisiana Department of Wildlife and Fisheries – Whooping Cranes

Resilient Cranes Weather Tropical Storms, Hurricanes, Tornados, and Floods

Editor: *As with any natural disaster – first response should be given to people and communities impacted by the disaster. Wildlife survives, or doesn't, as has been the case for millennia. As the climate warms and weather patterns change, we are seeing an increasing number of storms – with an escalation in severity of hurricanes, tornadic activity, and widespread flooding. The "100-year" storm event –one so severe it has only a 1% chance of hitting in any given* year *– is now happening with alarming frequency. So, how does a crane survive winds over 100+mph, widespread flooding, and highly altered habitat?*

Following are several accounts that show the resiliency of cranes in the face of these weather-related disasters.

Louisiana – *Historic, remnant population of wild Whooping Cranes; 13 cranes reduced to one by 1950.*
On August 7, 1940, an "August hurricane"– tropical storms and hurricanes were given names beginning in 1950 – dropped 37.5-inches of rain on Louisiana. Property, livestock, and crops – especially cotton, corn, and pecan crops were heavily damaged by the slow-moving hurricane. Entire ecosystems were also altered by the rainfall. Overall, the storm caused $10.75 million in damages and seven fatalities.

Even before making landfall, the hurricane caused extensive damage in Louisiana, due in part to the hurricane's slow speed with winds as high as 60 mph (100 km/h) as it moved along the coast. Storm surge pushed coastal waters to near-record heights, peaking at 6.4 ft (1.95 m) above-average in western portions of Lake Pontchartrain and inundating low-lying areas. Conservation officials estimated 75,000 muskrats were killed by the storm's effects. The hurricane went on record as the wettest tropical cyclone in state history.

In the Acadiana region of southern Louisiana, the resulting floods were considered worse than the floods that resulted from the Sauvé's Crevasse in 1849 when a levee broke up river from New Orleans subsequently flooding the city. The 1940 floods inundated roughly 2,000,000 acres (800,000 hectares) of land in Louisiana. Much of the lowland areas remained underwater until October 1940.

The following are excerpts from *The Whooping Crane by Faith McNulty:*

> *"In August 1940, a cloudburst and windstorm hit White Lake. The thirteen resident whooping cranes that John Lynch had counted the year before were flushed out of their seclusion and blown inland. From this visit to the haunts of man only six returned to the marsh. Of the seven that were lost, it is presumed that six were shot and eaten and that the seventh, though wounded by gunshot survived.…*
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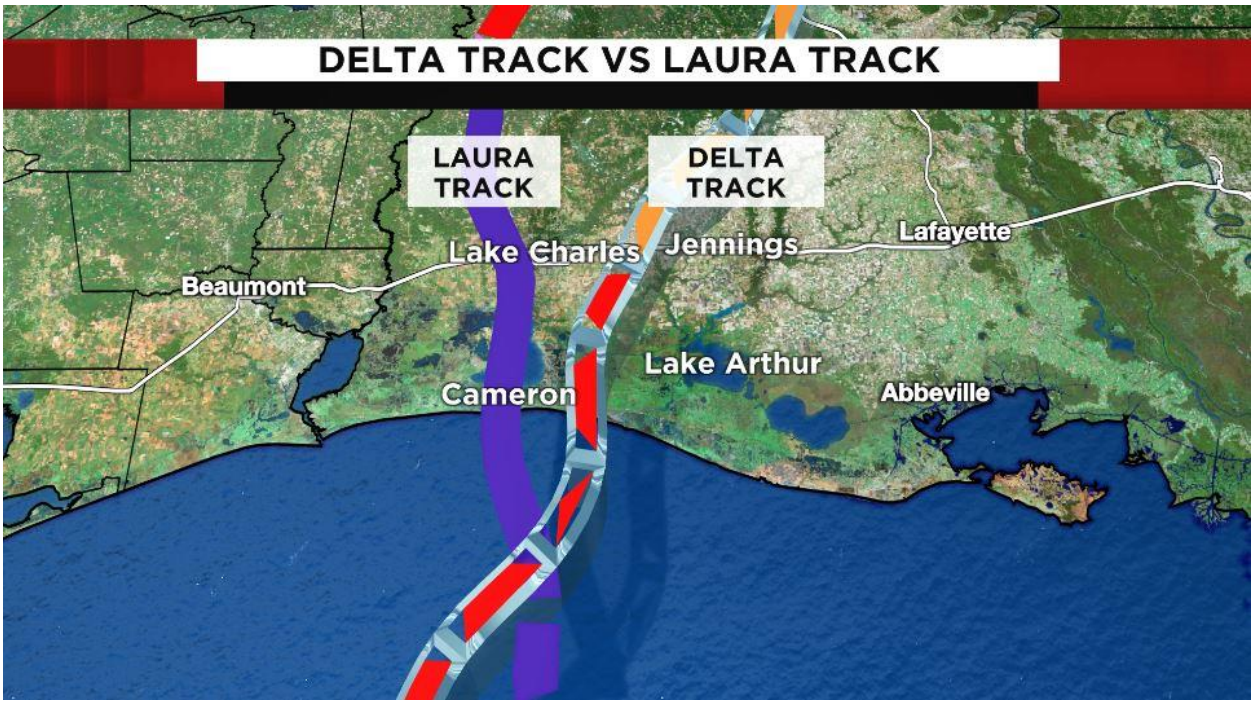
> *"A year after the disastrous storm at White Lake, a fateful sequel took place. On November 25, 1941, a whooping crane with a crippled wing was brought to the Audubon Park Zoo in New Orleans. This was undoubtedly the only survivor of the seven lost White Lake cranes. The bird had been captured by a farmer in Evangeline Parish in the fall of 1940. He gave it to Mr. La Haye of Eunice, Louisiana, who nursed it to health. La Haye assumed that his crippled pet was of no particular distinction, but a year later a Federal Game Management agent, Houston C. Gascon, happened to see the bird, and identified it as a whooping crane. The bird was brought to the zoo by Gascon and State Wildlife and Fisheries Officer John McCloskey.*
>
> *"The bird was received by George Douglass, who had recently become director of the Park Department and hence of the zoo. Its arrival at Audubon Park is noted on a tattered card in a filing cabinet in the zoo's office. The card reads, "Josephine…whooping crane…4 feet tall…wing spread approximately seven feet…adult…pure white…found in a rice field in Eunice, La., 1941…donated by L.O. La Haye of Eunice, La."* [Josephine was placed on exhibit in a small cage where she remained for the next 10 years.]
>
> Then, on Thursday *"…September 9, 1965, a hurricane of extraordinary violence, which the Weather Bureau had named Hurricane Betsy, drove directly upon the city of New Orleans. As the barometer fell, the scene at the (Audubon Park) Zoo was one of frantic battening down and shifting animals to what, the men there hoped, would be safe quarters in the brick buildings.…In birds, hollow bones and body air sacs apparently act as "aneroid barometers," sensitive to outside atmospheric pressure. As pressure begins to drop, birds are at first very nervous, but as it falls to a hurricane low they become almost numb. Thus, Leo Buras with the help of other keepers was able to capture the whooping cranes in their large pens and move them into shelter. Each bird was walked across the grounds with one man holding the bill and a man on each side of it holding it by the wing."* [2 pairs and 4 individual Whooping Cranes were moved this way.] *…By dawn Friday, after the storm…the keepers had reached the buildings in which the cranes were confined and found that all of them had come through safely."*

It took 50 men twelve days to clear away all the fallen trees and other debris left at the zoo by Hurricane Betsy. Remarkably the wire mesh Whooping Crane pens were not damaged! But, in a sad twist of fate, three days after the hurricane hit, a helicopter with flashing lights hovered over the zoo causing the Whooping cranes to panic, hurling themselves against the sides of their enclosures while frantically calling. Josephine – the Zoo's oldest breeding female and survivor of the hurricane – was found dead the following day, possibly from injuries not detected by the keepers but sustained during the attempt to escape the helicopter?

Florida – *Reintroduction efforts for an Eastern Migratory Population of Whooping Cranes.*
In 2007 a cohort of eighteen juvenile Whooping Cranes – part of the reintroduction program began in 2001 to establish a migrating population of Whooping Cranes in the eastern United States – arrived 12 January 2007 at Chassahowitzka National Wildlife Refuge just north of Tampa in Citrus County. They had followed the Operation Migration ultralights on their migratory path from Wisconsin to Florida. As a precaution against predators, and until they became acclimated to their new surroundings, the young cranes were initially housed in a covered, four-acre-large salt marsh pen. In the early morning hours of 2 February 2007 storms swept through central Florida leaving in their wake human fatalities, widespread property damage, and destroyed habitat and wildlife. Unable to escape, seventeen of the young Whoopers died in the pen, but somehow the 10-month-old juvenile named # 15-06 survived. Biologists were able to find the crane after tracking its movements by a transponder device attached to the crane. *To learn more, and listen to the 9 February 2007 story on NPR's "Morning Edition," go here:* https://www.npr.org/2007/02/09/7299404/florida-storms-batter-whooping-crane-colony



Graphic courtesy of Louisiana Department of Wildlife and Fisheries

Louisiana – *Reintroduction of a non-migratory population of Whooping Cranes began in 2011. Following information provided by Sara Zimorski, biologist, Louisiana Department of Wildlife & Fisheries (LDWF)*

Based on the 2007 Florida tragedy where the ultralight-led cohort died when trapped in the holding pen during a freak storm, it was decided that if LDWF had captive reared juvenile cranes, or really any healthy crane confined in a pen and they knew from forecasts that there was a storm approaching LDWF would go ahead and release them, even if it was earlier than planned, so that they would not be trapped. Although, this scenario is mainly avoided by not getting captive reared juveniles until after the end of hurricane season, and recently, keeping them confined in the netted portion of the release pen for shorter amounts of time before releasing them.

Although it wasn't a named storm, a prolonged rainfall during August 2016 caused catastrophic flooding in 20 parishes in southern Louisiana. The 20" rainfall and flooding from that storm did cause levee damage in the refuge impoundment at White Lake where LDWF's first, and at that time, only crane release pen was located. With the levees damaged the refuge filled up like a bathtub and the release pen was significantly damaged. That fall LDWF scrambled and built a small, temporary release pen in a different area at White Lake since repairs were not able to be made in time – but there were no impacts to

birds that were out on the landscape from all that rain and flooding! *To read more about the flood, go here:* https://en.wikipedia.org/wiki/2016_Louisiana_floods

From the list of more recent storms, really Hurricanes Laura and Delta, both in 2020, were the only ones that had significant impacts on the main areas where the cranes live and though the population is slowly growing, they're still pretty much using the same areas in southcentral and southwest LA. Laura also destroyed the LDWF release pen at the Rockefeller Wildlife Refuge and both those storms severely impacted LDWF offices and employee's homes and lives but all the cranes, the majority of whom would have felt impacts from the storm in terms of strong winds and rain, were fine, there were no injuries or mortality.

How do the cranes survive the incredible winds?
For Hurricanes Laura and Delta, a lot of the cranes would have been in areas that had tropical storm force and maybe even a bit of hurricane force winds, but they were all located inland so some of the initial strength of those storms was reduced at least a tad by the time it was up where many of the birds were. But really, we don't know, we just assume they probably hunkered down and rode it out. They likely face into the wind, and probably tuck their head on their back which is their typical resting/sleeping position and has them a bit more compact, in other words they're probably not standing up fully alert. It's possible they may also sit or lay down on a levee or some dry ground to get even lower but that's not a safe place to be at night because of predators.

Where do they go during the hurricane? Does LDWF track the crane's movement during storms?
Yes, for those that had functional GPS transmitters we were able to track them through the storm and basically none of them moved. So, wherever they had been hanging out before the storm is where they were during the storm and where they were after the storm, more or less. That's what makes us believe they just hunkered down and rode it out. That's not to say we won't see something different in the future with a different storm if birds are closer to the coast or it's a stronger storm, though Laura was a Cat 4! or a storm remains stronger for longer once it's inland, or if there's more rain and flooding. Any, or all of those things might make the birds respond differently. The few good things are that typically these storms are later in the summer and fall and at that time there are no nests, chicks should have fledged, and molting adults should be done and able to fly again so if they would want or need to move, they should be able to.

Mississippi – *Mississippi Sandhill Cranes are part of the non-migratory population.*
The Mississippi Sandhill Crane NWR was formed to protect the critically endangered subspecies, Mississippi Sandhill Cranes (Grus canadensis pulla) – along with its unique and also endangered, wet pine savanna habitat. These cranes are part of a non-migratory population of approximately 130 birds.

In late August 2005, Hurricane Katrina, a large and destructive Category 5 Atlantic hurricane, caused over 1,800 fatalities and $125 billion in damage, especially in the city of New Orleans and the surrounding areas. It made its third and final landfall near the Louisiana–Mississippi border with 120 mph sustained winds, still at Category 3 hurricane intensity.

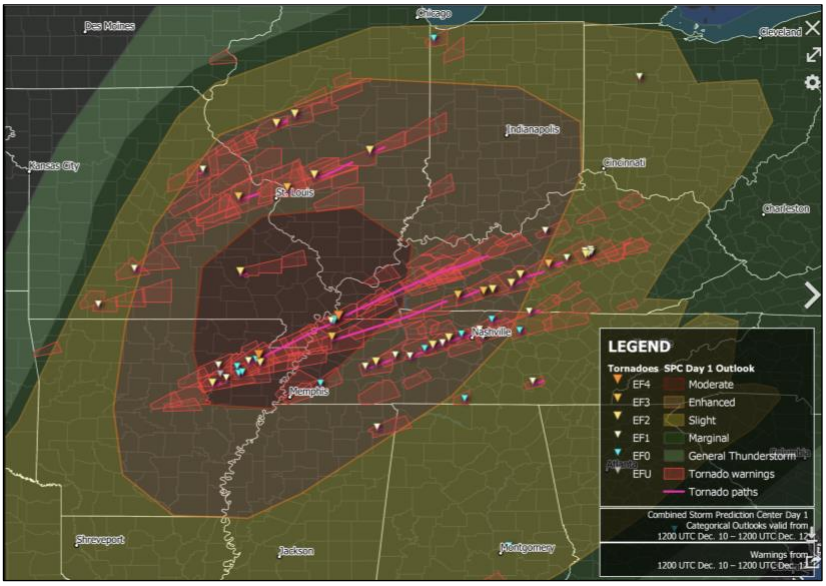
According to Scott Hereford, Supervisory Wildlife Biologist at the Mississippi Sandhill Crane NWR, "Because of the conditions and the need to respond to human needs in the wake of Katrina, it was hard to know exactly how many cranes may have been lost due to the hurricane. However, carcasses of two very important breeding females were found afterwards (accounted for 40% of the fledglings in previous 8 years). Another 3-4 that disappeared may have done so because of the storm."

Mississippi Sandhill Crane. Photo by Scott Hereford, Supervisory Wildlife Biologist, Mississippi Sandhill Crane NWR

Kentucky – *Reintroduced Eastern Migratory Population of Whooping Cranes*

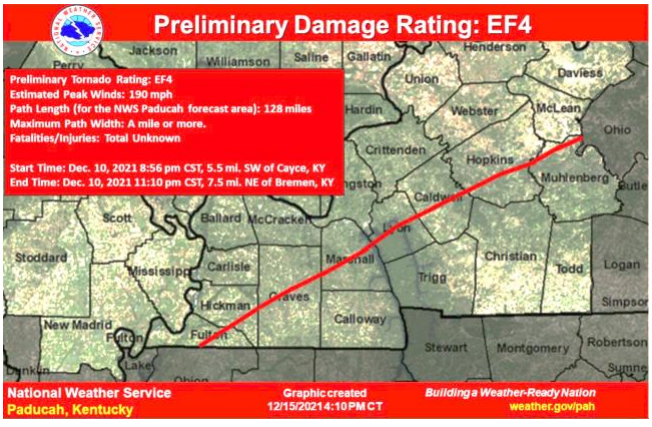
A deadly late-season tornado outbreak, the deadliest on record in December, produced catastrophic damage and numerous fatalities across portions of the Southern United States and Ohio Valley from the evening of December 10 to the early morning of December 11, 2021. Kentucky was right in its path.

The most prolific activity was caused by a long-track supercell thunderstorm that produced a family of strong tornadoes that traveled across four Mid-South states. The fifth of these nocturnal tornadoes and first notable tornado of the event, rated low-end EF4, touched down in northeastern Arkansas. After crossing the Mississippi River into northwestern West Tennessee, that tornado dissipated, and a high-end EF4 tornado formed and moved for three hours through Western Kentucky, where the towns of Cayce, Mayfield, Benton, Princeton, Dawson Springs, and Bremen suffered severe to catastrophic damage from winds reaching 190 mph.



Map of confirmed tornadoes and tornado warnings issued by the National Weather Service, December 10-11, 2021.

National Weather Service storm surveys found that the path was predominantly composed of two distinct EF4 tornadoes, with the portion of the path between them over northwestern Obion County, Tennessee being from three separate, weak tornadoes. The parent supercell that produced the two EF4 tornadoes, and eleven tornadoes in total, later became known as the "Quad-State supercell." Other tornadic thunderstorms affected portions of eastern Missouri, southern Illinois, West and Middle Tennessee, and Western and central Kentucky during the late evening of December 10 into the early morning hours of December 11, including four intense tornadoes that hit Bowling Green, Kentucky; Dresden, Tennessee; Edwardsville, Illinois; and Defiance, Missouri. This included a second supercell and tornado family, which produced an EF3 tornado tracking nearly 123 miles (198 km) in Tennessee and southern Kentucky, as well as numerous tornadoes, including three more rated EF3, throughout southern and central Kentucky. In Kentucky alone, 81 people were killed by three separate tornadoes. In addition, at least 667 people were injured. The tornado outbreak caused at least $3.9 billion (2022 USD) in damages.



Forecasts predicted the supercell track would cut through Hopkins County where for several winters Kentucky has hosted an overwintering group of Whooping Cranes from the reintroduced Eastern Migratory Population (EMP). With the use of telemetry, the International Crane Foundation knows that in Kentucky most of the cranes overwinter in Hopkins County and possibly far western Fulton County. According to the International Crane Foundation's monthly updates for the EMP of Whooping Cranes, as of 1 December 2021 – before the E4 tornados traveled through the area – there were 8 cranes in Kentucky (adults, and juveniles from both the 2020 and 2021 cohorts) – all in the immediate vicinity of the storms. Included in the Hopkins County group was W14-21 (M) and his parents 25-09 and 2-04. In the aftermath of the devastating outbreak, as of 1 January, and then February 2022, there were still Whooping Cranes in Kentucky. W14-21 (M) and his parents had remained in Hopkins County and remarkably weathered the tornadoes!

Acknowledgments:
McNulty, Faith. *The Whooping Crane: The Bird That Defies Extinction*, New York: E.P. Dutton & Co., Inc., 1966.
Zimorski, Sara, Biologist with the Louisiana Department of Wildlife & Fisheries
Hereford, Scott, Supervisory Wildlife Biologist/ Mississippi Sandhill Crane NWR

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Aransas-Wood Buffalo Whooping Cranes

Whooping Crane Fall migration starts soon – report your sightings!

Friends of the Wild Whoopers is asking the public, beginning in April, to report any Whooping Cranes they see along rivers, wetlands, and fields. If you should observe a Whooping Crane as they migrate along the Central Flyway, please report your observations to the proper wildlife agency/agencies in your state. Please include where and when the bird(s) were observed and whether they were banded and are carrying telemetry. Indicate color band combinations and which leg(s) the bands/telemetry are on. Please do not approach the cranes but use spotting scopes to ascertain the information. ***If a crane changes its behavior, you are too close!***

The yet unsolved shooting deaths of 4 Whooping Cranes in Oklahoma in November/December 2021 underscores the need for continued work towards raising public awareness of the species. With the added focus on the importance of monitoring Whoopers during their bi-annual migration, vigilance by many along the route will play a role in the cranes' safe passage to and from their breeding grounds in Woods Buffalo National Park, Alberta Northwest Territories, Canada.

Following is a list of agencies and contact information compiled by Friends of the Wild Whoopers:

Canada
For any sightings of Whooping Cranes in Canada: Whooping Crane Hotline is 306-975-5595 will get you to Wildlife Biologist John Conkin. Leave a detailed message for a callback.

Montana Reports
Allison Begley
MT Fish, Wildlife, & Parks
1420 East Sixth Avenue
Helena, MT 59620
abegley@mt.gov
(406) 444-3370

Jim Hansen
MT Fish, Wildlife, & Parks
2300 Lake Elmo Drive
Billings, MT 59105
jihansen@mt.gov
(406) 247-2957

North Dakota
U.S. Fish and Wildlife Service offices at
Lostwood, (701-848-2466)
Audubon, (701-442-5474)
National wildlife refuges
North Dakota Game and Fish Department in Bismarck, (701-328-6300)
or to local game wardens

South Dakota
Eileen Dowd Stukel
eileen.dowdstukel@state.sd.us (605-773-4229);
Casey Heimerl (605-773-4345);
Natalie Gates Natalie_Gates@fws.gov,
(605-224-8793), ext. 227;
Jay Peterson; Jay_Peterson@fws.gov;
(605-885-6320), ext. 213

Nebraska
Nebraska Game and Parks (402-471-0641)
U.S. Fish and Wildlife Service (308-379-5562)
The Crane Trust's Whooper Watch hotline
(888-399-2824)
Emails may be submitted to
joel.jorgensen@nebraska.gov

Kansas
Jason Wagner
jason.wagner@ks.gov
(620-793-3066)

Ed Miller
ed.miller@ks.gov
(620-331-6820)

***Whooping Crane sightings at or near Quivira NWR should be reported to*:**
Quivira National Wildlife Refuge
620-486-2393
They can also be reported to this email: quivira@fws.gov

Oklahoma
Sightings can be logged online here https://wildlifedepartment.com/wildlife-diversity/citizen-science-programs/report-whooping-crane-sighting?utm_medium=email&utm_source=govdelivery

Matt Fullerton
Endangered Species Biologist
(580-571-5820)

Mark Howery
Wildlife Diversity Biologist
(405-990-7259)

Texas
Texas Whooper Watch also has a project in iNaturalist that is now fully functional. You can report sightings directly in iNaturalist via your Smart Phone. This allows you to easily provide photo verification and your location. If you are not a smart phone app user, you can still report via email: whoopingcranes@tpwd.state.tx.us or phone: (512-389-999). Please note that our primary interest is in reports from outside the core wintering range.

Need More Info?
More information about the survey and Whooping Cranes can be found on the Aransas National Wildlife Refuge website or by calling the Aransas National Wildlife Refuge Visitor Contact Station at: 361-349-1181.

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Eastern Migratory Population of Whooping Cranes

Eastern Migratory Population WHCR Update – September 1, 2022

Below is the most recent update for the Eastern Migratory Population of Whooping Cranes. In the last month, cranes have mostly stayed on their territories. A huge thank-you to the staff of the Fish and Wildlife Service, the Departments of Natural Resources of flyway states, the International Crane Foundation, and all the volunteers who help us keep track of the cranes throughout the year. We appreciate your contribution to the recovery of the Whooping Crane Eastern Migratory Population. This report was produced by the International Crane Foundation. Near real-time locations of Whooping Cranes in this population is at https://whoopermap.savingcranes.org/

Population Estimate
The current estimated population size is 75 (37 F, 35 M, 3 U). 18 of these 75 individuals are wild-hatched and the rest are captive-reared. To the best of our knowledge, as of 1 September, there are at least 64 Whooping Cranes in Wisconsin, and 2 in Michigan. The remaining birds' locations have not been confirmed in the last month.

2022 Wild-hatched Cohort
Chicks listed below in bold are currently alive, as far as we know. So far at least 14 chicks have hatched and 2 are still alive. The two oldest chicks have fledged and are now included in the population totals above.

- **W1-22 (U)** has fledged and is still with parents 12-11 and 5-11 in Juneau County.
- **W4-22 (U)** has fledged and is still with parents 1-17 and W1-19 in Portage County.
- W11-22 (U) was captured at Necedah National Wildlife Refuge in Juneau County to be banded. During examination, W11-22 had a wing injury about a month prior to capture that had healed in a way that would prevent them from flying and surviving in the wild. W11-22 was brought to ICF where it is now receiving care and treatment.
- W12-22 (U) disappeared during August and is presumed dead.
- W14-22 (U) disappeared during August and is presumed dead.

2021 Cohort

- W2-21 (U) has been associating with 31-16 (M) and 77-18 (M) in Green Lake County, WI.
- W11-21 (M) is still in Juneau County, WI.
- W14-21 (M) was last seen in Juneau County, WI, but was not seen during August.
- 84-21 (F) is in Juneau County, WI.
- 85-21 (M) is still in Green Lake County, WI, associating with Sandhill Cranes.

2020 Cohort

- W3-20 (F) is still in Adams County, WI.
- W13-20 (M) is still by himself in Dodge County, WI.
- W18-20 (F) was last seen in Jackson County, WI during June.

Mortality, Long-term missing

- 25-09 (F) was last seen with her mate in May in Juneau County, WI. She has since gone missing, and her mate has been seen alone and then with another female. 25-09 is now presumed dead and is removed from the population total above.

- 19-10 (M) and W19-19 (U) were last seen during July 2021 in Juneau County, WI, and are now considered long-term missing and are removed from the population total (above).

- 10-11 (M) was last seen during January 2022 on the wintering grounds. His mate was seen without him on the wintering grounds as well as on their breeding territory in Wisconsin. Even though he has not been missing for a full year, he has not been detected again in either place, is likely dead, and has been removed from the population total (above).

To follow the reintroduced eastern population, go here: https://whoopermap.savingcranes.org/
Within map locations is a list of WHCR, click on links to individual cranes for its biographical information.
For biographies of the reintroduced eastern migratory population of Whooping Crane, go here:
https://www.savingcranes.org/whooping-crane-biographies/

***W = Wild hatched** to a wild Whooping Crane pair that then teach the migration route to the juvenile.*
To report a banded Whooping Crane sighting, go here:
https://www.savingcranes.org/report-whooping-crane/

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Whooping Cranes in the eastern population

In the 1940s, fewer than 20 Whooping Cranes remained in a population of crane species found only in North America. Today, in 2022, over 650 Whooping Cranes live in the wild across two flyways and two non-migratory populations. This population growth is credited to the dedicated efforts of many conservation partners who have sought to rebuild the fragile populations and protect the habitats on which these birds rely.

One of the migratory populations seen today is the Eastern Migratory Population, which was reintroduced to the eastern United States in 2001. This population of around 80 wild Whooping Cranes breeds in Wisconsin and winters to the south, including Jasper-Pulaski and Goose Pond Wildlife Areas in Indiana, Hiwassee Wildlife Refuge in Tennessee, and Wheeler National Wildlife Refuge in Alabama. Sandhill Cranes, commonly found throughout North America, often migrate with Whooping Cranes. While Sandhill Cranes congregate in a flock for migration, Whooping Cranes migrate as a pair or a family unit.

Stephanie Schmidt is the Whooping Crane Outreach Coordinator for the International Crane Foundation.
To read her piece Whooping Cranes in the Eastern Population – the Journey North, *go here:*
https://savingcranes.org/whooping-cranes-in-the-eastern-population-the-journey-north/

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First Whooping Crane hatches at Smithsonian Conservation Biology Institute

For the first time, a Whooping Crane – one of the most endangered species of crane in the world – hatched 26 May 2022 at the Smithsonian Conservation Biology Institute (SCBI) in Front Royal, Virginia, and is thriving. On May 18, the International Crane Foundation and Necedah National Wildlife Refuge staff in Wisconsin sent an egg abandoned in a wild nest to SCBI's bird team. There, at SCBI, a 16-year-old female named Tehya and a 25-year-old male named Goliath were selected to serve as surrogate parents to the colt once the egg hatched.

Tehya arrived at SCBI in 2018 from the Patuxent Wildlife Research Center in Laurel, Maryland. Goliath arrived three years later, in 2021, from the Audubon Zoo in New Orleans. Both had successfully raised colts with previous mates at their former facilities. This year, the pair bred and produced two eggs of their own. Unfortunately, both were infertile. As part of the Whooping Crane Reintroduction Partnership, the Association of Zoos, and Aquariums' Species Survival Plan (SSP) for Whooping Cranes selected Tehya and Goliath as the surrogate parents because the wild egg was laid around the same time as the pair's infertile eggs, so the incubation period aligned. While keepers awaited the arrival of the wild egg, they discarded the infertile eggs and provided Tehya and Goliath with a fake egg so they could continue to practice their natural parenting behaviors. SCBI is encouraged by the colt's growth and report that the adults are protective and attentive to its needs.
To read more, go here:
https://nationalzoo.si.edu/news/first-whooping-crane-hatches-smithsonian-conservation-biology-institute

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Report a Banded Sandhill Crane

Observations of banded cranes are especially critical to the understanding of cranes habits and movements throughout their lives. If you see a crane but did not see its bands or even if it didn't have any bands, you may still help by submitting your sighting via eBird. *Go to the following to submit your Sandhill Crane Finder report:* https://sandhillfinder.savingcranes.org/resighting

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General News

Alabama:

Crane Hill

According to a recorded settler's land title, the community of Crane Hill in Cullman Co., Alabama was founded in 1806, and is thought to have been named after a flock of Sandhill Cranes that once roosted on a hill near Mt. Zion Road in Cullman County.

Before the Black Warrior River was dammed in 1961 to create the nearby Lewis Smith Lake, the gradual banks and habitat along the river may have provided both North American crane species – the Sandhill Crane and the endangered Whooping Crane – with an ideal wintering habitat of swampy terrain with ample food and roosting areas safe from predators. Fast forward to today and the altered habitat and people are much more likely to see herons and egrets rather than cranes of years past.

Jessie Taylor is the Alabama Whooping Crane Outreach Program Assistant for the International Crane Foundation. The Cullman County native is a graduate of Vinemont High School who earned her degree in wildlife ecology and management from Auburn in 2019. To read more by Jessie about the area and the cranes, go here: https://www.cullmantimes.com/news/crane-hill-the-birds-moved-on-but-the-name-remains/article_ed05e820-e9cc-11ec-bce6-e74bcebf4665.html

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Canada:

UPDATE: Day of reckoning approaches for Wood Buffalo National Park

A United Nations body that monitors some of the world's most valuable ecosystems is in Canada again to assess government responses to ongoing threats to the country's largest national park, including plans to release treated oilsands tailings into its watershed. In a series of meetings beginning 18 August 2022, UNESCO investigators are to determine whether Wood Buffalo National Park should be on the list of World Heritage Sites in Danger – a move the agency has already deemed "likely."

With a footprint larger than Switzerland, Wood Buffalo is one of the world's largest freshwater deltas and is rich in biodiversity, including the breeding area of the world's most endangered crane – the Whooping Crane. Its maze of wetlands, rivers, lakes, and prairie is the largest and most intact ecosystem of its type in North America.

Wood Buffalo National Park. Photo by Mikisew Cree First Nation

But the park, which straddles Alberta and the Northwest Territories, is slowly drying up through a combination of climate change and upstream developments such as British Columbia's W.A.C. Bennett and Site C dams. Research has also found an alarming increase in evidence of seepage from oilsands tailings ponds into upstream ground and surface water.

A risk assessment for oilsands tailings ponds hasn't begun, the report says. Sites in the oilsands region used by Whooping Cranes haven't been identified.

In 2017, UNESCO found 15 of 17 ecological benchmarks in the park were deteriorating and gave Canada a list of improvements required for the park to retain its status. This week's meetings are to assess federal and provincial responses.

A report prepared for Mikisew by scientific consultant Carla Davidson credits the province for establishing buffer areas around the park and Ottawa for water management plans within it. But the document finds little else has been done. "Alberta has declined so far to implement most of [the recommendations]," the report says. "Instead, we see many examples of Alberta relying on the very policy instruments that have gotten the park to where it is today."

If UNESCO places Wood Buffalo on its "In Danger" list, it will join 52 other sites from around the world, most of which are imperiled by war or civil unrest. It has only one other site from a G7 country – Florida's Everglades.

"Having a World Heritage Site is something we're supposed to be really proud of," said Gillian Chow-Fraser of the Canadian Parks and Wilderness Society. "This international recognition that things are not as good as they seem here are not something to be proud of."

To read Bob Weber's article in The Canadian Press*, go here:*
https://www.cbc.ca/news/canada/edmonton/is-wood-buffalo-national-park-in-danger-unesco-investigators-are-in-canada-to-find-out-1.6553730?cmp=rss

UN monitors thrust into debate over what to do with 1.4 trillion litres of oilsands wastewater:
https://ca.finance.yahoo.com/news/un-monitors-thrust-debate-over-153519610.html

Oilsands tailing pond north Fort McMurray, 2011

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Florida:

Car strikes pose major threat to Florida Sandhill Cranes

Listed by the USFWS as a "threatened" species in Florida, the Florida Fish and Wildlife Commission (FWC) records show that statewide there are fewer than 5,000 Florida Sandhill Cranes in the non-migratory population. Numbers are much higher for the eastern migratory population of Sandhill Cranes that visit Florida in the fall only to return north in the spring.

At Seaside Seabird Sanctuary in Indian Shores, injured birds keep the sanctuary's rehab hospital busy. Of the 4,000 birds treated at the facility in 2021, some were Florida Sandhill Cranes. One was released by Seaside Seabird Sanctuary in October after being banded by FWC. Two others are now permanent residents at the sanctuary because their injuries make them non-releasable. It is hoped that those birds will serve as surrogate parents to Sandhill Crane colts brought to the facility, helping raise them for the first nine to 10 months of their lives until they can be released.

Cars pose one of the greatest threats to these Sandhill Cranes. Unlike other birds, adult Sandhill Cranes don't always fly away when a car is headed toward them – especially if accompanied by chicks not yet able to fly – choosing to stand their ground or slowly walk off. Impatient drivers have been documented plowing headlong into family groups killing and/or injuring the birds without stopping. This blatant disregard for the species needs to change.

- Watch for cranes on the road, SLOW DOWN!
- Don't feed Sandhills as this lessens their fear of humans, and they will approach people or cars looking for handouts.
- Watch for new construction as cranes may be pushed out of their normal habitat and in closer contact with people. Watch for cranes on the road, SLOW DOWN!

Colts are able follow their parents within days of hatching, but the feather development needed for first flight isn't attained until they reach about 65-75 days of age – making them especially vulnerable to predators. So, when feeling threatened, or confronted by a speeding car, adult birds will often stay with the colts to defend them rather than fly to safety.

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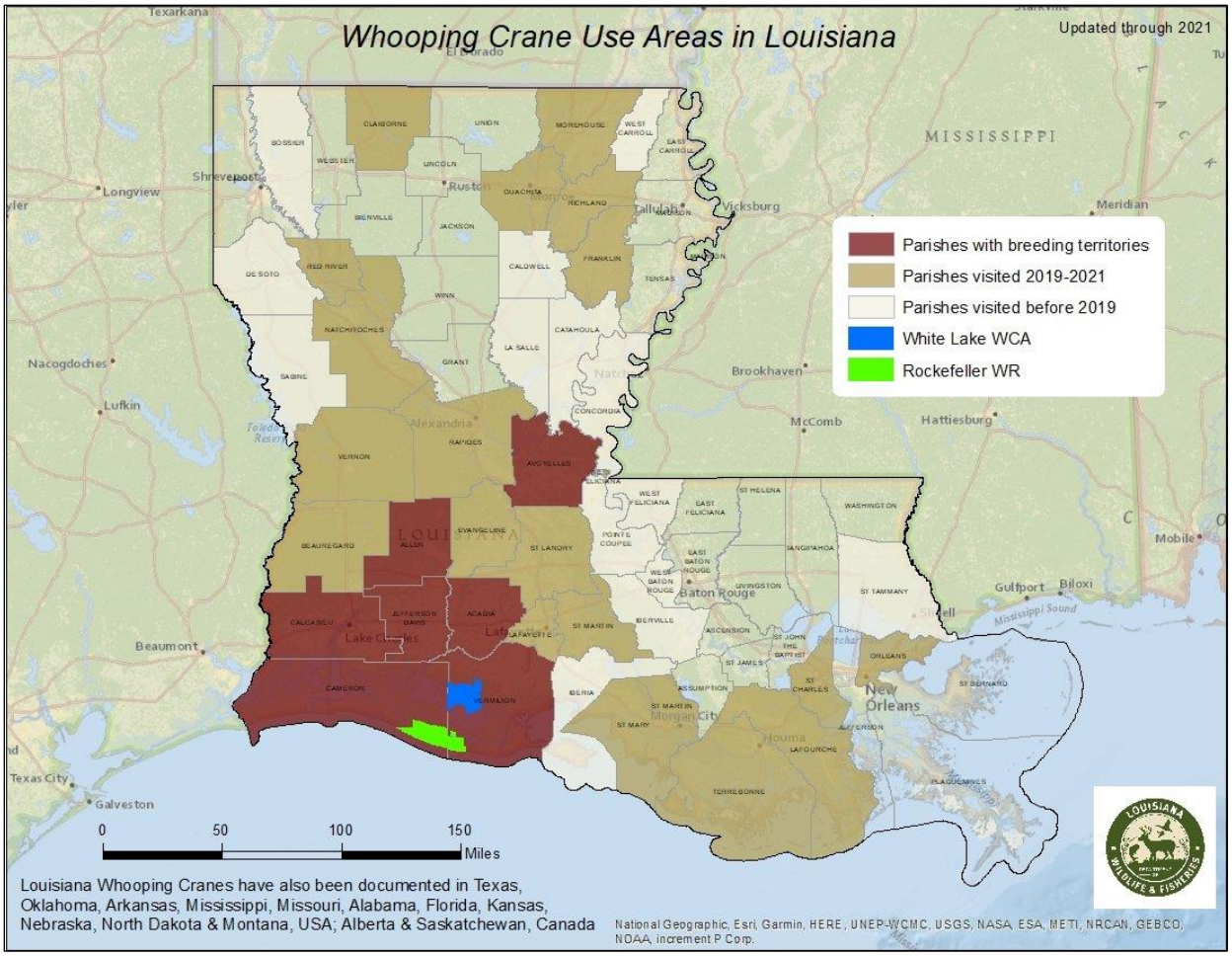
Louisiana:

Recent Facebook posts by Louisiana Department of Wildlife and Fisheries - Whooping Cranes

July 28 at 8:00 PM
LW13-22, the youngest surviving wild-hatched chick, is now capable of flight! We last spotted the family during a tracking flight on 19 July, where LW13-22 was resting in some vegetation while mom and dad (L3-11 & L1-13) kept watch. Since then, data from the male's remote transmitter has indicated that the family has been moving significant distances over their territory!
Out of the 15 chicks that hatched this spring, 8 have made it to this major milestone!

July 21 at 9:03 AM
Although we were unable to find the new location of pair L13-14 & L6-15 and their two offspring (LW1-22 & LW2-22) some of our longer-term missing cranes were finally spotted during our tracking flight earlier this week! Ten-year-old female L1-12 (last observed in February) and four-year-old female L12-18 (last observed in April) were both found with males in Vermilion and Jefferson Davis Parishes, respectively.

July 19 at 11:03 AM
Happy National Zoo Keeper Week and a huge thank you to our whooping crane captive breeding partners: International Crane Foundation, The Calgary Zoo, Audubon Nature Institute, White Oak Conservation, Dallas Zoo, Smithsonian's National Zoo and Conservation Biology Institute, and San Antonio Zoo, plus the numerous other facilities that house whooping cranes on display to educate the public about these amazing birds! We're grateful for all that they do!



Whooping Crane Use Areas in Louisiana. Cranes have been released at both the White Lake WCA and the Rockefeller Wildlife Refuge. map shows the most heavily used areas, as well as parishes that have been visited by cranes at some point since the reintroduction began in 2011. Map courtesy of the Louisiana Department of Wildlife & Fisheries

June 21
Trail Camera Tuesday! While quickly scrolling through photos from L3-11 and L1-13's recently retrieved nest camera this first image caught our eye! What in the world was going on, that's not how crane wings and feathers normally look! As we advanced through the photos we figured it out – there were strong wind gusts ahead of an approaching storm and L3-11 was not positioned aerodynamically, facing into the wind! The second image shows her continuing to sit tight as the heavy rain began.

May 25 at 6:20 PM
After a several week gap in hatches we're happy to announce the arrival of LW14-22 to LF1-98 and L10-18! We had to move a few eggs around, so LW14-22 is not the biological offspring of this pair, but they don't know that, nor do they care. In Florida, LF1-98 was a very good and experienced mom so we

hope that experience will pay off with her first chick here in LA, and maybe L10-18 will learn a few things from her.

Help LDWF by reporting all Whooping Crane sightings and violations

If you are lucky enough to see a Whooping Crane, please do not approach it, even in a vehicle, to avoid habituating the birds to human activity. If you share the sighting on social media, bird listservs, or other public sites, please do not share location information more specific than county or parish level.
https://www.wlf.louisiana.gov/page/report-a-whooping-crane-sighting-or-violation

If you see a Whooping Crane elsewhere in the eastern United States (besides Louisiana), please report it here*: https://www.savingcranes.org/report-whooping-crane/*

If you see a Whooping Crane in the western United States, please report it here*:*
https://whoopingcrane.com/report-a-sighting/
Note: Whooping Cranes in the Louisiana population have been known to travel into surrounding states.

Anyone witnessing suspicious activity involving Whooping Cranes is advised to call the LDWF's Enforcement Division at 1-800-442-2511 or use the tip411 program, which may offer a cash reward for information leading to arrests or convictions. To use the tip411 program, citizens can text LADWF and their tip to 847411 or download the "LADWF Tips" iPhone app from the Apple iTunes store free of charge. Citizen Observer, the tip411 provider, uses technology that removes all identifying information before LDWF receives the text so that LDWF cannot identify the sender.

For LDWF updates on the Louisiana non-migratory population of Whooping Cranes, go here:
https://www.facebook.com/lawhoopingcranes/

For more general information about the cranes, go here:
https://www.wlf.louisiana.gov/subhome/whooping-crane

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Oklahoma:

Statewide turnpike plans threaten Oklahoma wildlife and stopover habitat

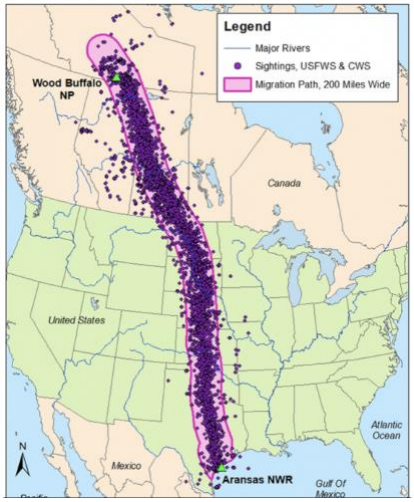
The ACCESS Oklahoma Turnpike project from the Oklahoma Turnpike Authority is a 15-year, $5 billion project to build several turnpike routes in central, southern, and northeastern Oklahoma. There's been a substantial public backlash against the project – an opposition group with over 8,000 members on its Facebook page, two lawsuits and multiple packed community meetings full of concerned residents.

Those opposed to the project are concerned not only with loss of their rural lifestyle but the short and long-term impacts of construction – light pollution, noise, and increased traffic – resulting in destruction of an entire ecosystem through widespread fragmentation of habitat, and loss of the wildlife dependent on that habitat.

Whooping Cranes, protected by the Migratory Bird Treaty Act and the Endangered Species Act, have been observed by residents in the southeast Norman area. However, according to Tulsa-based U.S. Fish and Wildlife biologist Kevin Stubbs their only protected, critical habitat in Oklahoma is at the Salt Plains National Wildlife Refuge. And, while Whooping Cranes have been observed stopping around Lake Thunderbird during migration, this doesn't prevent development from happening in the area when the birds aren't around.

Even though turnpike construction will inevitably eliminate crucial stopover habitat needed by the federally endangered Whooping Cranes during migration, Kirsten McCullough, environmental manager for the ACCESS program, offered company assurances that if Whooping Cranes are spotted within even a mile

of the construction site, construction is stopped until they leave the area so as not to harass or bother the cranes. "…that's a pretty standard note, because the Whooping Cranes are a protected species that we put in all of our construction projects." Disturbing them long-term does not seem a concern of ACCESS.



Map courtesy of USFWS

Julia Reynolds, chair of the Red Earth Group, the Norman chapter of the Sierra Club, said the organization is especially concerned about whether migrating Whooping Crane will still be able to forage around Lake Thunderbird. The fear is that disturbance from roads and people will eliminate this, and other migration stopovers cranes rely on to feed and roost along their migratory route to Texas. "This turnpike could be a really major setback as they rebound from the brink of extinction."

To read the NPR StateImpact Oklahoma article by Beth Wallis, go here: https://stateimpact.npr.org/oklahoma/2022/08/18/something-that-cant-be-replaced-what-a-turnpike-project-could-mean-for-oklahoma-wildlife/
Or, to listen to the National Public Radio story, go here: https://player.captivate.fm/episode/f5dce6fd-30b1-4deb-b456-84feaee8acbd

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Texas:

American Electric Power Texas installs "bird diverters" on lines

In an effort to protect Whooping Cranes from power line strikes, American Electric Power (AEC) Texas crews recently installed "bird diverters" on utility lines in the coastal city of Rockport, Texas – home of the annual Whooping Crane Festival. Bird diverters are coil-like (or, reflective and swivel while hanging from the line, etc.) pieces of equipment that are attached to the line. They are visible to birds in the brightest sun when a cable might disappear. Crews have found success using bird diverters on other power lines, such as lines that cross water near the Nueces Bay Causeway that connects Corpus Christi and Portland. The bird diverters are placed every 15 feet on the lines.

"We have a lot of power lines in parks, as well as a lot of natural habitat and wild animals, so we have specific needs," according to Kendal Keyes, regional natural resources coordinator for Texas Parks and Wildlife.

"AEP Texas always helps us. They know how important our wildlife is," Keyes said. "They also help us by removing fishing line on the utility power lines so birds don't get caught. This extra step will help to ensure that these endangered Whooping Cranes continue to migrate safely in Texas. This is the best place in nature to watch Whooping Cranes. There's not a place in the world that you can get closer to a Whooping Crane and see them in their natural habitat. It's very important spot."

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Habitat Matters!

California:

Where do Sandhill Cranes winter during a drought?

Until 2010, Sandhill Cranes, waterfowl, and throngs of shorebirds depended on Soda Lake as a winter stopover during their annual migration along the Pacific Flyway. Soda Lake is a shallow, ephemeral, alkali endorheic lake located in the Carrizo Plain National Monument (the largest protected habitat along the Pacific Flyway) in southeastern San Luis Obispo County, California. It is also the largest remaining natural alkali wetland in southern California.

However, after the winter of 2010, California found itself in a severe drought that lasted until February 2017. Despite wet winters experienced in 2019 and 2020, the inconsistent rain made Soda Lake unreliable as a stopover and forced migrating Sandhill Cranes to search for alternate stopover habitat.

Sandhills that wintered annually on the Carrizo Plain have started congregating at Pixley National Wildlife Refuge (NWF). Located several miles west of Highway 99 and just north of Bakersfield in a region of California transformed by decades of agriculture, Pixley NWF is 6,939 acres, a remnant of marsh and grassland biome clinging to the San Joaquin Valley. The ponds and wetlands at Pixley are fed by annual allocated waters thanks to the 1992 Central Valley Project Improvement Act. At least until this point in time, a well drilled in 1994 supplies reliable, sufficient flow for 300 acres of seasonal wetlands.

Both Greater and Lesser Sandhill Cranes are found in California. *Greater Sandhill Cranes breed in the state. The sub-species is listed as threatened under California Endangered Species Act, primarily because of the loss of suitable breeding habitat, human disturbance, predation on the local breeding population in northeastern California, and the continued loss of winter foraging habitat.*

The Lesser Sandhill Crane that breeds in southeastern Alaska, is on the California Bird Species of Special Concern Priority 3 list, primarily because its foraging and loafing habitat in the Central Valley is rapidly being converted from grain crops to orchards, vineyards, and housing developments.

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Illinois:

Sandhill colt spotted at Midewin Prairie

Midewin National Tallgrass Prairie is the first national tallgrass prairie ever designated in the U.S. and the largest conservation site in the Chicago Wilderness region. Midewin remains the only federal tallgrass prairie preserve east of the Mississippi River, where surviving areas of that habitat are extremely rare. With the adjacent Des Plaines Fish and Wildlife Area and a number of other state and county protected areas in the immediate area, Midewin forms the heart of a conservation macrosite totaling more than 40,000 acres of protected land.

In June 2022, U.S. Forest Service biologists confirmed the first sighting of a Sandhill Crane colt at the Midewin National Tallgrass Prairie since its establishment in 1996. Sandhill Cranes have regularly summered at Midewin since 2015, but this was the first confirmation of breeding success there, according to Jim Herkert, a retired ornithologist and former executive director of the Illinois Audubon Society. The tallgrass prairie covers 20,283-acres according to Mike Redmer, supervisory natural resources manager at Midewin, so while it has long been expected that cranes could be breeding there, they would have been easy to miss.

Wetland protection and restoration, as well as hunting regulation, has helped the species rebound in the upper Midwest, said Anne Lacy, senior manager of the North America Program at the International Crane Foundation. More Sandhill Cranes have started living in Illinois close to the Wisconsin border in recent years, especially in McHenry and Lake counties. The sighting is evidence that the Sandhill Crane population has been expanding from northeastern Illinois into the southern part of the state.

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Kansas:

Cheyenne Bottoms

About 45 percent of all shorebirds (approximately 320 species) in North America stop at Cheyenne Bottoms during spring migration. The fall migration has fewer birds over a longer time, so the impact isn't as significant. However, when the area experiences a drought, the wetlands dry out, and fewer birds come to Cheyenne Bottoms. As a result, the Ramsar Convention on Wetlands designated Cheyenne Bottoms as a Wetland of International Importance. In the United States, only Kansas and Florida have Ramsar-designated wetlands. Cheyenne Bottoms has the most extensive wetlands in the United States' interior, with 41,000 acres Great Bend, Kansas.

Water levels: Updated August 11, 2022, by the Kansas Department of Wildlife & Parks
1A-dry, 1B-dry, 1C-dry, 2-dry, 3A-dry, 3B-dry, 4A-dry, 4B-dry, 5-dry. No way to replenish water levels due to ongoing construction and dry weather. As soon as construction of the new pump station in the west hub is complete, water will be brought in if available. Even without construction, the creeks and river where water is diverted from have had minimal flow with little to no water available for diversion since October of 2021. With hot dry weather, the little rain we have had soaked up and there was no runoff.

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The Nature Conservancy staff is hopeful to observe nesting Sandhill Cranes in the wetlands. Photo by Glenn Seplak

Ohio:

Sandhill Crane Wetlands now part of 1,400-acre Kitty Todd Preserve

In early 2022, The Nature Conservancy (TNC) completed restoration work at Sandhill Crane Wetlands, an addition to the Kitty Todd Nature Preserve that restored 280 acres of marginal farmland to native wet prairie habitat. To date, it is the largest effort in the region to return this type of rare wetland habitat to the landscape—one characterized by relatively flat land that seasonally holds water and supports diverse sedges, grasses, and shrubs. The restoration site is situated between land protected by TNC and Metroparks Toledo, filling a critical gap and strengthening a 13,000-acre corridor of protected land throughout the Oak Openings Region.

The 1,300-square-mile Oak Openings Region is a complex of oak savanna and wet prairie that developed on sand and clay deposited by glacial Lake Warren, the ancient predecessor of present-day Lake Erie. The combination of porous sandy soils of the former beach ridges and an impervious clay layer beneath those soils creates an unforgiving environment that fluctuates from flooding in the spring to arid in midsummer. *To learn more, go here:* https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/kitty-todd-nature-preserve-sandhill-crane-wetlands/

Salamander Flats provides an opportunity to observe rare mesic to wet sand prairie habitat restored on the site of a former farm field

Part of the Kitty Todd Nature Preserve, Salamander Flats consists of rare mesic to wet prairie habitat and maturing wet flatwoods. Acquired in 2011, the original homestead was composed of 14 acres of agriculture field with a man-made ditch running east-west through the middle of the property. The Nature Conservancy collaborated with faculty members from the University of Toledo to plan a high-quality restoration of the site that would create approximately four acres of Category 3 wetland and 10 acres of high diversity prairie. The Salamander Flats trail opened to the public in 2017.

Kitty-Todd Nature Preserve, Salamander-Flats, Ohio. Photo by Pete-Blank, TNC

ENVIRONMENTAL impact issues:

Recovering America's Wildlife Act will secure a future for imperiled birds

The Recovering America's Wildlife Act (RAWA) (H.R. 2773; S. 2372), passed in the House 14 June 2022, will provide $1.39 billion in annual dedicated funding to states, tribes, territories, and community-based organizations to stabilize and recover declining species and the ecosystems that support them.
State fish and wildlife agencies derive most of their revenue from hunting and fishing licenses/tags and a companion federal match source (Pittman-Robinson & Dingell-Johnson). These funds cannot be expended on "nongame" species, such as songbirds, raptors, amphibians, reptiles, bats, or invertebrates.

The federal State & Tribal Wildlife Grants Program currently available to states to implement their State Wildlife Action Plans allocates about $50-65M per year, split among 50 states and 14 territories. This annual distribution is estimated to be less than five percent of what is needed to conserve the 12,000 species identified nationwide as Species of Greatest Conservation Need. Scant funding means states must focus on only a few species, as others become more imperiled. With the accelerating loss of biodiversity, a new, more equitable and proactive funding model is needed.

Department of the Interior proposes expanding conservation technique as climate change threatens greater species extinction

In the first Endangered Species Act (ESA) interpretive rule produced under the Biden-Harris administration, the U.S. Fish and Wildlife Service is proposing to revise section 10(j) regulations under the ESA to better facilitate recovery by allowing for the introduction of listed species to suitable habitats

outside of their historical ranges. The proposed change will help improve the conservation and recovery of imperiled ESA-listed species in the coming decades, as growing impacts from climate change and invasive species cause habitats within their historical ranges to shift and become unsuitable.

Foundational conservation policy must keep pace with corresponding science, which has shown that climate change and invasive species are pushing plants and animals into completely new geographic areas for the habitat needed for their continued survival. Improving the ESA's experimental population regulations will prevent more species from becoming stranded when conditions change in their current habitat and help establish them in more suitable habitats given these rising threats.
To read *the 6/6/2022 Department of the Interior's press release, go here:*
https://www.doi.gov/pressreleases/department-interior-proposes-expanding-conservation-technique-climate-change-threatens

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Legal Petition Aims to Phase Out Toxic Lead Ammo, Fishing Tackle on National Wildlife Refuges

The Center for Biological Diversity, Texas Physicians for Social Responsibility and the Sierra Club filed a formal legal petition 6 August 2022 calling on the U.S. Department of the Interior to phase out the use of lead ammunition and fishing tackle on national wildlife refuges. Numerous scientific studies have linked lead ammunition to poisonings of wildlife and people.

In the United States, an estimated 3,000 tons of lead are shot into the environment by hunting every year, another 80,000 tons are released at shooting ranges, and 4,000 tons are lost in ponds and streams as fishing lures and sinkers — while as many as 20 million birds and other animals die each year from subsequent lead poisoning.

"The evidence is compelling that Secretary Haaland must take the commonsense step of phasing out toxic lead ammo and fishing tackle on our national wildlife refuges," said Jonathan Evans, environmental health legal director at the Center. "Switching to lead substitutes can stop the often slow, painful poisoning deaths of wildlife on refuges that are specifically established to protect them."
https://biologicaldiversity.org/w/news/press-releases/legal-petition-aims-to-phase-out-toxic-lead-ammo-fishing-tackle-on-national-wildlife-refuges-2022-06-08/

Although lead has been removed from many sources dangerous to humans, toxic lead is still entering the food chain through widespread use of lead hunting ammunition and fishing tackle, poisoning wildlife, and even threatening human health. At least 75 wild bird species in the United States are poisoned by spent lead ammunition, including Bald Eagles, Golden Eagles, Ravens, and endangered California Condors. Thousands of cranes, ducks, swans, loons, geese and other waterfowl ingest spent lead shot or lead fishing sinkers lost in lakes and rivers each year, often with deadly consequences.

Animals that scavenge on carcasses shot and contaminated with lead bullet fragments, or wading birds that ingest spent lead-shot pellets or lost fishing weights mistaking them for food or grit, can die a painful death from lead poisoning, while others suffer for years from its debilitating effects.

Photos and videos of impact of lead poisoning
https://www.biologicaldiversity.org/campaigns/get_the_lead_out/lead_poisoning_images.html

Get The Lead Out Campaign

In March 2012 the Center for Biological Diversity's "Get the Lead Out" campaign organized more than 150 groups to petition the Environmental Protection Agency to take toxic lead out of hunting ammunition. The coalition, calling for a transition to nontoxic bullets and shot, included groups from 38 states representing conservationists, birders, hunters, scientists, veterinarians, American Indians, and public employees. In April 2012 the EPA denied the group's request – but in June 2012, the Center and six other groups filed suit against the agency for refusing to address the problem of toxic lead in hunting ammunition that frequently poisons and kills our wildlife.

The wild became less safe from lead ammo less than two months after Trump became president. On the first full day in office of Trump's Interior Secretary Ryan Zinke, Zinke issued an order revoking the phaseout of lead ammunition and fishing tackle on national wildlife refuges. The order reversed the position of the U.S. Fish and Wildlife Service under President Obama that called for a phaseout of the use of toxic lead on refuges by 2022.

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EPA confirms three widely used neonicotinoid pesticides likely harm vast majority of endangered plants, animals

The Environmental Protection Agency (EPA) released final biological evaluations today confirming that three widely used neonicotinoid insecticides likely harm roughly three-fourths of all endangered plants and animals, including all 39 species of amphibians protected under the Endangered Species Act. The EPA's assessments of *clothianidin*, *imidacloprid* and *thiamethoxam* marked the first time the agency has completed biological evaluations of any neonicotinoids' harms to the nation's most imperiled plants and animals.

The EPA found that each "neonic" is likely to adversely affect from two-thirds to over three-fourths of America's endangered species –1,225 to 1,445 species in all. This includes all amphibians, and most already endangered fish, birds, and mammals, as well as pollinators and the plants they pollinate. Species found to be harmed by all three of the neonicotinoids include the Florida panther, Indiana bat, California red-legged frog, Karner blue butterfly, Yellow larkspur, Rusty Patched bumblebees, Whooping Cranes, Chinook salmon, Northern Long-eared Bats, and Orcas, and many more.

> Neonicotinoids, which are banned in the European Union, are the most popular insecticides in the United States. Hundreds of studies have shown they play a major role in population-level declines of bees, birds, butterflies, and freshwater invertebrates. More recent studies are showing they cause significant harm to mammals as well.
>
> The biological evaluations released today [16 June 2022] found that 67% of all endangered species – 1,225 different plants and animal species – are likely to be adversely affected by *clothianidin* and that the pesticide will likely adversely modify the designated critical habitats of 446 species.
>
> For *imidacloprid*, 1,445 species, or 79% of all endangered plants and animals, are likely to be adversely affected. The pesticide will likely adversely modify the designated critical habitats of 658 endangered species.
>
> *Thiamethoxam* was found to likely adversely affect 1,396 species, or 77% of all endangered species. The pesticide will likely adversely modify the designated critical habitats of 644 species.
>
> "We're in the midst of a heartbreaking extinction crisis and neonicotinoids are playing an outsized role in driving it," said Lori Ann Burd, environmental health director at the Center for Biological Diversity. "Now that the EPA has completed its analysis, the only question is whether it will muster the courage to stand up to Big Ag and ban these chemicals or will choose to facilitate extinction."

To read the Center for Biological Diversity's 16 June 2022 press release, go here:
https://biologicaldiversity.org/w/news/press-releases/epa-confirms-three-widely-used-neonicotinoid-pesticides-likely-harm-vast-majority-of-endangered-plants-animals-2022-06-16/

Or the Center for Food Safety article, EPA Admits Grave Harm to Hundreds of Endangered Species from Neonicotinoid Insecticides, *go here:* https://www.centerforfoodsafety.org/press-releases/6656/epa-admits-grave-harm-to-hundreds-of-endangered-species-from-neonicotinoid-insecticides

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Legal victory: Court orders new review of toxic fungicide and its impact on endangered species

In a major win for conservationists and wildlife, the U.S. Court of Appeals for the 9th Circuit ordered the Environmental Protection Agency today to review the potential harm a toxic new fungicide poses to endangered species by June 2023.

In 2020 the EPA approved use of the fungicide *inpyrfluxam* on some of the most widely grown U.S. crops, including corn, soy, grains, beans, sugar beets, apples and peanuts. The approval came despite compelling research showing the pesticide to be "very highly toxic" to fish, including endangered salmon and steelhead, and showing that it poses substantial risks to large birds, including Whooping Cranes. It is also extremely persistent, remaining in the environment for years after use.

"I'm very pleased the court gave the EPA a firm deadline to fully explore the harm this toxic new pesticide poses to endangered species," said Jonathan Evans, environmental health legal director at the Center for Biological Diversity. "This decision should send a clear message that the EPA can no longer ignore its duty to make sure new pesticides don't push imperiled wildlife, like salmon, closer to extinction."

To read the 18 July 2022 full press release from the Center for Biological Diversity, *go here:* https://biologicaldiversity.org/w/news/press-releases/legal-victory-court-orders-new-endangered-species-review-for-toxic-fungicide-2022-07-18/

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Juvenile Whooping Cranes at Wheeler National Wildlife Refuge. This refuge has approved agricultural pesticides, including 2,4-D, glyphosate and dicamba, for use on commercial crops in the past five years.

Photo by William Gates, USFWS

USFWS continues use of toxic pesticides on National Wildlife Refuges

The U.S. Fish and Wildlife Service (USFWS) on 19 July 2022 denied requests by conservationists and members of Congress to phase out the use of agricultural pesticides on national wildlife refuges.

The USFWS's decision was issued in response to a legal petition filed earlier this year by the Center for Biological Diversity, and Center for Food Safety calling for the agency to end the use of the wildlife-killing poisons on the refuges, many of which were established specifically as havens for endangered species. Last week 12 members of Congress delivered a letter to the USFWS further requesting that the agency end the use of agricultural pesticides on the refuges due to the poisons' risks not only to wildlife but human health.

"I'm profoundly disappointed that the Fish and Wildlife Service is ignoring the harm these pesticides cause on refuges that were set aside to protect our most vulnerable plants and animals," said Hannah Connor, an attorney at the Center for Biological Diversity. "If the Biden administration refuses to even take this step to help stop extinctions, it really calls into question its commitment to protecting endangered species at all. It's shameful."

To read the Defender article, Biden Admin Refuses to Phase Out Toxic Pesticides on National Wildlife Refuges*, go here:* https://childrenshealthdefense.org/defender/toxic-pesticides-national-wildlife-refuges/

To read the U.S. Department of the Interior/Fish and Wildlife Services letter of rejection in response to the legal petition filed by the Center for Biological Diversity and Center for Food Safety, go here: https://www.biologicaldiversity.org/campaigns/pesticides_reduction/pdfs/Connor-and-Wu-Response-Letter-Petition-for-RuleMaking-1.pdf

Science News:

Editor: *As the climate continues to warm, and the frequency and intensity of hurricanes, tornadoes and floods escalate, the question is raised as to how, and if, changes in barometric pressure preceding large storms might affect the behavior of birds, specifically cranes, in its path? And, by modifying their behavior increase their chances of survival? The discovery of the paratympanic organ, in the early 1900's by Giovanni Vitali – who theorized that this organ located in most birds' middle ear functions as a detector of changes in air pressure – led to his nomination for the Nobel Prize in 1934. More research is needed to fully explore this theory.*

Giovanni Vitali: Discoverer of the paratympanic organ

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Annals of Anatomy - Anatomischer Anzeiger; Volume 195, Issue 1, January 2013, Pages 5-10
https://www.sciencedirect.com/science/article/abs/pii/S0940960212001070
https://doi.org/10.1016/j.aanat.2012.06.005

Abstract: One-hundred years ago, the Italian anatomist Giovanni Vitali reported the discovery of the paratympanic organ, a sense organ in the middle ear of birds, in two issues of the *Anatomischer Anzeiger* (1911, 1912). In this minireview, we summarize Vitali's biography, and examine the scientific impact of his discovery of this sense organ. We also compile – for the first time – the entire bibliography of published papers on the paratympanic organ. Vitali described the ontogenetic development of this sense organ, examined its distribution among species, recognized its evolutionary relationship with the spiracular sense organ of fishes, and he developed the theory that it functions as a detector of changes in air pressure. He was the first to postulate that the paratympanic and spiracular sense organs were homologous organs that originate from homologous placodes – currently a hotly debated topic. His morphological work indicating the sensory nature of the PTO was validated by subsequent ultrastructural studies. Vitali's discovery of the paratympanic organ prompted his nomination for the Nobel Prize in 1934. Nevertheless, the paratympanic organ and the presumed barometric sense of hundreds of billions of living birds have failed to receive the recognition they deserve. Conclusive evidence of the function of the paratympanic organ remains a formidable challenge in vertebrate sensory physiology.

Environment, behavior, and physiology: Do birds use barometric pressure to predict storms?

Article in Journal of *Experimental Biology* · June 2013 · DOI: 10.1242/jeb.081067 · Source: PubMed

https://www.researchgate.net/publication/236912744_Environment_behavior_and_physiology_Do_birds_use_barometric_pressure_to_predict_storms

Abstract: Severe storms can pose a grave challenge to the temperature and energy homeostasis of small endothermic vertebrates. Storms are accompanied by lower temperatures and wind, increasing metabolic expenditure, and can inhibit foraging, thereby limiting energy intake. To avoid these potential problems, most endotherms have mechanisms for offsetting the energetic risks posed by storms. One possibility is to use cues to predict oncoming storms and to alter physiology and behavior in ways that make survival more likely. Barometric pressure declines predictably before inclement weather, and several lines of evidence indicate that animals alter behavior based on changes in ambient pressure. Here we examined the effects of declining barometric pressure on physiology and behavior in the white-crowned sparrow, *Zonotrichia leucophrys*. Using field data from a long-term study, we first evaluated the relationship between barometric pressure, storms and stress physiology in free-living, white-crowned sparrows. We then manipulated barometric pressure experimentally in the laboratory and determined how it affects activity, food intake, metabolic rates and stress physiology. The field data showed declining barometric pressure in the 12–24 h preceding snowstorms, but we found no relationship between barometric pressure and stress physiology. The laboratory study showed that declining barometric pressure stimulated food intake but had no effect on metabolic rate or stress physiology. These data suggest that white-crowned sparrows can sense and respond to declining barometric pressure, and we propose that such an ability may be common in wild vertebrates, especially small ones for whom individual storms can be life-threatening events.

Supplementary material available online at: http://jeb.biologists.org/cgi/content/full/216/11/1982/DC1

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Tropical cyclones alter short-term activity patterns of a coastal seabird

Bradley P. **Wilkinson**, Yvan G. **Satgé**, Juliet S. **Lamb** & Patrick G. R. **Jodice**
October 2019, *Movement Ecology* 7 Article number: 30, DOI:10.1186/s40462-019-0178-0

Abstract

Background: Mobile organisms in marine environments are expected to modify their behavior in response to external stressors. Among environmental drivers of animal movement are long-term climatic indices influencing organism distribution and short-term meteorological events anticipated to alter acute movement behavior. However, few studies exist documenting the response of vagile species to meteorological anomalies in coastal and marine systems.

Methods: Here we examined the movements of Eastern brown pelicans (*Pelecanus occidentalis carolinensis*) in the South Atlantic Bight in response to the passage of three separate hurricane events in 2 years. Pelicans (n = 32) were tracked with GPS satellite transmitters from four colonies in coastal South Carolina, USA, for the entirety of at least one storm event. An Expectation Maximization binary Clustering algorithm was used to discretize pelican behavioral states, which were pooled into 'active' versus 'inactive' states. Multinomial logistic regression was used to assess behavioral state probabilities in relation to changes in barometric pressure and wind velocity.

Results: Individual pelicans were more likely to remain inactive during tropical cyclone passage compared to baseline conditions generally, although responses varied by hurricane. When inactive, pelicans tended to seek shelter using local geomorphological features along the coastline such as barrier islands and estuarine systems.

Conclusions: Our telemetry data showed that large subtropical seabirds such as pelicans may mitigate risk associated with spatially extensive meteorological events by decreasing daily movements. Sheltering may be related to changes in barometric pressure and wind velocity and represents a strategy common to several other classes of marine vertebrate predators for increasing survival probabilities.
To read the full-text article, or to download a full-text PDF, go here:
https://www.researchgate.net/publication/336853281_Tropical_cyclones_alter_short-term_activity_patterns_of_a_coastal_seabird
https://movementecologyjournal.biomedcentral.com/track/pdf/10.1186/s40462-019-0178-0.pdf

The Paratympanic Organ: A barometer and altimeter in the middle ear of Birds?

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Published online 2011 Jun 30. doi: 10.1002/jez.b.21422

Christopher S. von Bartheld[1], and Francesco Giannessi[2]

Abstract: A century has passed since the discovery of the paratympanic organ (PTO), a mechanoreceptive sense organ in the middle ear of birds and other tetrapods. This luminal organ contains a sensory epithelium with typical mechanosensory hair cells and may function as a barometer and altimeter. The organ is arguably the most neglected sense organ in living tetrapods. The PTO is believed to be homologous to a lateral line sense organ, the spiracular sense organ of non-teleostean fishes. Our review summarizes the current state of knowledge of the PTO and draws attention to the astounding lack of information about the unique and largely unexplored sensory modality of barometric perception.
To read the full text, or download a full-text PDF, go here:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3152608/

Cranes in art:

Plains, Cranes, and a Watershed

International Crane Foundation / From the Field Webinars / Jul 14, 2022 / with Conservation Photographer Michael Forsberg / This webinar was sponsored by Bette and Richard Frangesch.
To view this informative webinar, go here: https://youtu.be/AajjlCsDN7Y

"Healthy watersheds, resilient grasslands and the connectivity of migratory flyways are central to almost every conversation we have about crane conservation in the world today. And those conversations are stories and imagery that, when shared, have the power to elevate the science and transcend the politics to help each of us connect personally, care deeply and understand what is at stake."

Whooping and Sandhill Cranes, Platte River, Nebraska. Photograph by Michael Forsberg

Louis Agassiz Fuertes

Louis Agassiz Fuertes (February 7, 1874 Ithaca, New York – August 22, 1927 Unadilla, New York) was an American ornithologist, illustrator and artist who set the rigorous and current-day standards for ornithological art and naturalist depiction. He is considered one of the most prolific American bird artists of his time being influenced by the work of John James Audubon. Fuertes not only produced dozens of murals and oil paintings featuring birds, but illustrated numerous books, plates for journals and magazine articles, as well as writing articles that appeared in National Geographic. Working from observations in the field and from freshly collected specimens, Fuertes was an early proponent of studying animals in their natural habitats. In this, he broke with researchers and artists before who had studied wildlife only from stuffed museum specimens. Fuertes' work is considered some of the most accurate and natural depictions of birds.

"Whooping Cranes on their Breeding Grounds in Saskatchewan," by Louis Agassiz Fuertes, 1922. Oil on canvas. 60 x 75 inches. Purchased from the artist in 1923 by the Wildlife Conservation Society for its artwork collection.

Fuertes at work on a Whooping Crane painting in his Ithaca studio, 1923. Photo from Robert McCracken Peck's, A Celebration of Birds – The Life and Art of Louis Agassiz Fuertes*, 1982, p. 21.*

"Whooping Cranes in Flight" by Louis Agassiz Fuertes, 1917, oil on canvas, 28 x 60 in. (71.1 x 152.4 cm), Photo credit: Herbert F. Johnson Museum of Art, Cornell University

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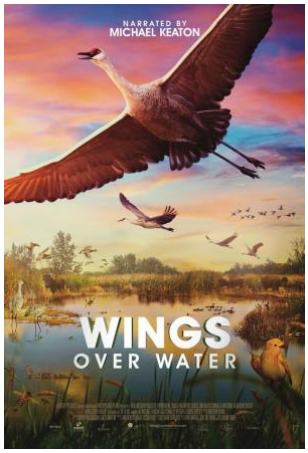

"Wings Over Water" – the importance of prairie wetlands

Now in IMAX theaters across the country. Narrated by Michael Keaton. The 300,000 square miles of prairie wetlands that stretch through five states from Iowa to Montana and include three Canadian provinces are endangered. "Wings Over Water" is a joint venture of the Max McGraw Wildlife Foundation, Ducks Unlimited and the National Audubon Society – with the goal of alerting the world that these prairie wetlands need to be protected. Aside from wildlife, some 50 million people rely on this ecosystem for clean water.

To learn more of the inspiration behind, and the making of the 3D production, go here: https://classicchicagomagazine.com/under-his-wing/

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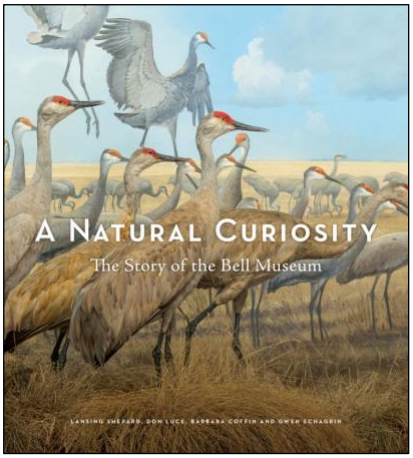
Minnesota:

A Natural Curiosity: Bell Museum celebrates 150 years of natural history



Since its humble start in 1872 as a one-room cabinet of curiosities, the University of Minnesota's Bell Museum of natural history has become one of the state's most important cultural institutions. From its conception as part of a state-mandated geological and natural history survey, to its most recent ventures into technology, environmental science, and DNA sequencing, the Bell Museum has informed, explained, and expanded our relationship to the natural world.
Interested in purchasing A Natural Curiosity: The Story of the Bell Museum*? Go here for more information:* https://www.upress.umn.edu/book-division/books/a-natural-curiosity

Upcoming Events:

Editor: *While more of the nation's population fully vaccinated and boosted against COVID-19, there may still be cancellations or postponement of scheduled events due to uncertainties from highly contagious Omicron variants of the virus. When making your plans remember to check with coordinators as festival information may change.*

Yampa Valley Crane Festival
Dates: Thursday, September 1 – Sunday, September 4, 2022
Location: Steamboat Springs and Hayden, Colorado

Greater Sandhill Cranes are an iconic species of the Yampa Valley and Northwest Colorado. In 2012, the Colorado Crane Conservation Coalition, Inc. sponsored the inaugural Yampa Valley Crane Festival. Colorado Crane Conservation Coalition is dedicated to the conservation and protection of Greater Sandhill Cranes in Colorado. The festival seeks to educate the public about cranes and to emphasize conservation of the special habitat that supports the cranes and the many other species of birds and wildlife in Northwest Colorado.

Keynote speaker is U.S Fish & Wildlife Service Rocky Mountain Crane Expert, Dr. Dan Collins
Stay tuned for more information about our 2022 festival. The full schedule will be posted by July 1st and registration begins July 15th. coloradocranes.org *For a full schedule for the Yampa Valley Crane Festival, go to:* ColoradoCranes.org/Festival-Schedule/

Whooping Crane and Nature Festival
Date: Saturday September 10, 2022
Location: Princeton Public School (corner of Hwy 23/73 and Old Green Lake Road, Princeton WI 54968)
Princeton, Wisconsin
Head out to Princeton, Wisconsin, for the Whooping Crane and Nature Festival on September 10, 2022. Enjoy a fun-packed day of family-friendly festivities, including guest speakers, craft fair, music, and delicious food! Explore White River Marsh State Wildlife Area and celebrate our ongoing efforts to save the Endangered Whooping Crane from extinction. Click here to learn more.

5th Annual Greater Yellowstone Crane Festival
Dates: September 12 – September 17, 2022
Location: Driggs, Idaho/Teton Valley
The Greater Yellowstone Crane Festival is held to celebrate the annual migration of Sandhill Cranes through Teton Valley and supports the efforts of the Greater Yellowstone Sandhill Crane Initiative which works to protect crucial habitat and resources for the largest staging population of Sandhill Cranes in the Greater Yellowstone and the myriad of iconic species that call the region home.
For more information go to: www.tetonlandtrust.org

International Crane Foundation Member Appreciation Day
Date: September 17, 2022, 9:00 a.m. – 5:00 p.m.
Location: International Crane Foundation Headquarters
E11376 Shady Lane Rd
Baraboo WI 53913
Members Matter! Learn about our work to save cranes and their habitats through talks and presentations by our talented staff, enjoy tours of the Cranes of the World exhibits, and experience special behind the scenes events.
Not a member? Join the flock today. *Updates will be posted on the ICF website:* https://www.savingcranes.org

Jasper-Pulaski Fish & Wildlife Area
Location: Jasper-Pulaski Fish & Wildlife Area, 5822 N. Fish and Wildlife Lane,
Medaryville (just off US 421, about 15 miles north of Monon) Indiana

Best viewing times: Sunrise, as the flocks rise and fly out of roosting marshes, and about one hour before sunset, as the flocks return to Goose Pasture. There is a great observation deck that enables visitors to witness the comings and goings.

Typically, the area hosts tens of thousands of Sandhill Cranes each year as the sandhills “stage” at the 8,142-acre Jasper-Pulaski Fish & Wildlife Area during Fall migration – from late September through December. The FWA presents an opportunity for them to not only forage but roost on their journey southward. In the past, there have been reports of such rarities as the Common Crane and Whooping Crane mixed in with the thousands of Sandhills.

Sandhill Crane Wetland Tour at the Woodbridge Ecological Reserve
Dates: 2022 season
Location: Woodbridge Ecological Reserve (a.k.a. Isenberg Crane Reserve)
Sacramento-San Joaquin Delta, just west of Lodi in San Joaquin County, CA

Registration for the Sandhill Crane tours for the coming season will open in September 2022. Please check back! We are busy polishing our binoculars!
Check back here for more information and to register for a tour, go here:
https://wildlife.ca.gov/Regions/3/Crane-Tour
Or, if you have questions or need more information, please email us.

You are invited on a tour, in Lodi, during the “Season of the Sandhill Crane". The season begins with the arrival of the Sandhill Cranes into the Delta and Central Valley in about late September, where they will spend the fall and winter months. Tours consist of viewing Sandhill Cranes and other unique wintering waterfowl, hearing a presentation on the cranes and their Reserve habitat, and viewing the cranes' impressive, nightly behaviors at a location that is only open to the public during these special tours.

Kiwanis Club CraneFest
Dates: October 8 - October 9, 2022
Noon until Dusk
Location: Kiwanis Youth Conservation Area
22300 15 Mile Rd, Bellevue MI
CraneFest was formed to raise awareness and appreciation of our natural heritage and to support the ongoing educational and conservation efforts of Michigan Audubon as they apply to the Bernard W. Baker Sanctuary. Witness the annual fall migration of thousands of Sandhill Cranes when these majestic birds leave their favorite feeding fields at dusk and head to Big Marsh Lake.

Since 1994 Michigan Audubon, in partnership with the Kiwanis Club of Battle Creek, organized the Sandhill Crane and art festival. The CraneFest event is now owned by the Kiwanis Club of Battle Creek. If you would like more information about the event or if you have questions, please contact the Kiwanis Club of Battle Creek through their Facebook page or by email at kiwanis.battlecreek@gmail.com.

Kankakee River Sandhill Crane Paddle
Date: Sunday, October 9, 2022
Time: Check website for times
Venue: Yellow River Public Access at English Lake to Dunn's Bridge
Address: English Lake Yellow River Access, English Lake, IN
Phone: 224-415-6554
Admission: Check website for fees
Details still to come – https://nwipa.org/events
Join Northwest Indiana Paddlers, family, and friends for this annual fall event. A relaxing 8.6 mile paddle down the Kankakee River will be followed by a trip to Jasper-Pulaski Fish and Wildlife Area where you will witness one of America's greatest wildlife spectacles: tens of thousands of Sandhill Cranes visiting the shallow marches on their annual migration. Don't forget your binoculars and cameras!

Lodi Sandhill Crane Festival 2022
Dates: November 4-6, 2022
Hutchins Street Square in Lodi, CA 95240

For the latest Crane Festival news, information about the cranes, and crane-viewing sites, go here: https://lodisandhillcrane.org If you would like to become part of the Lodi Sandhill Crane "family," check out Lodi Sandhill Crane Association (LSCA) membership opportunities. The Association is volunteer-driven, and member support is critical to continued work by LSCA that benefits the Sandhill Cranes and the Delta habitat the cranes depend on.
For more festival information as it becomes available, go here: https://lodisandhillcrane.org

2022 Celebration of Cranes
Dates: November 4-6, 2022
Location: Hudson, and Quivira National Wildlife Refuge (QNWR), Kansas
For more information closer to the date, go here: https://www.audubonofkansas.org
For highlights from 2021 Celebration of Cranes, go here: https://youtu.be/w_oGI7mYIHE

Audubon of Kansas (AOK) will host the annual Celebration of Cranes event. This event offers self-paced tours that begin in Hudson, with maps of locations most likely to have migrating Sandhill Cranes and Whooping Cranes, the two crane species native to North America. Volunteers will be along the route to help. Dawn and dusk start times maximize the opportunity to see cranes and other wetland species.

Quivira National Wildlife Refuge (QNWR) encompasses 22,135 acres and lies mostly in Stafford County, southeast of Great Bend. It is a Wetland of International Importance and provides sanctuary to a wide variety of waterfowl, shore birds and other wetland species, several of them listed as endangered or threatened under the federal Endangered Species Act.

[VIRTUAL] Crane Fiesta 2022
Dates: November 18-19, 2022
Bosque del Apache National Wildlife Refuge, New Mexico

For the third year in a row, we will once again host our **virtual** Crane Fiesta, November 18-19, and we invite our friends from near and far to join us from wherever they are in the world for a wonderful variety of virtual webinars.

Crane Fiesta will provide a sneak peek for everything coming in December, but more than that, it will give everyone, regardless of travel concerns or distance, the chance to experience the awe of the Sandhill Cranes and the beauty of Bosque del Apache National Wildlife Refuge. From the breathtaking sights and sounds of the Fly-Ins and Fly-Outs, to the exceptional photography and birding workshops, we hope that you'll plan to join us from the comfort and warmth of your own home this November!
Stay tuned for more info as we will announce our speakers for Crane Fiesta soon.

Festival of the Cranes 2022
Dates: December 1-3, 2022
Bosque del Apache National Wildlife Refuge, New Mexico
We are delighted to announce that, after a two-year hiatus, our greatly anticipated in-person Festival of the Cranes will return this year on December 1-3. Festival of the Cranes will look and feel a little different this year as we work to improve upon the visitor experience and ensure the safety of all our guests, given ongoing Covid concerns.
For more information go to the festival website: https://friendsofbosquedelapache.org/festival/

Holiday with the Cranes - Coastal Bend Audubon Society
Dates: December 10-11, 2022
Location: Galveston Island, TX

For a unique holiday nature experience, spend a wonderful, winter weekend on Galveston Island celebrating the return of the wintering Sandhill Cranes at Holiday with the Cranes. Learn all about these magnificent 3-4 ft tall birds from birding guide Glenn Olsen and then venture out on a self-guided tour of the Island's crane hotspots!
Closer to the festival date, check here for more festival information including the festival itinerary, and to register for fieldtrips please go here: https://www.galvestonnaturetourism.org/

The Eastern Crane Bulletin is issued quarterly (March, June, September, and December).
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www.southeasternavianresearch.org
The Tennessee Ornithological Society
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For archived issues of the *Eastern Crane Bulletin* click here:
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