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A MIDWEST MIGRATION WITH ENDANGERED WHOOPING CRANES

By

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Professional Paper

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A Midwest Migration with Endangered Whooping Cranes

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In 1941, the world's last migratory flock of whooping cranes was just 15 birds strong. Today, that flock has grown to over 500 birds and is increasing exponentially every year. But even as the flock continues to recover, their migratory corridor continues to shrink, due to the destruction of habitat by industrial agriculture, energy development, and other industries.

But throughout the most sparsely populated stretches of the Central Flyway, whooping cranes have some unlikely allies, too.

In Nebraska and Kansas, where wetlands and native prairie grasses have historically been drained, burned, and converted to cropland, some farmers are reversing that destruction by restoring wetlands and native grasses to their fields. The habitat projects, which are largely supported by conservation easements and incentive programs with the USDA, have been successful, showing signs of use by migrating whooping cranes and other bird species.

In rural north Texas, an anti-wind group of landowners and cattle ranchers is battling two energy developers with plans for large wind farms in the region, which lies in the middle of the critical stopover habitat for the migratory whooping cranes. The North Texas Heritage Association is using these endangered birds as a weapon in their fight, citing research that shows whooping cranes avoiding wind turbines by up to three miles when choosing where to rest.

“If You Restore It, They Will Come: Wetlands Become “Field of Dreams” for Migratory Birds and Wheat Belt Farmers Alike”

Kansas Wildlife and Parks Magazine, March-April 2021

Farmers who do business with Ehmke Seed outside Dighton, Kansas usually stick around to swap tales with Vance and Louise. They chat over a cup of coffee under the gaze of shouldermounted wild boar, deer with atypical antlers, John Brown’s wild eyes in a reprint of John Steuart Curry’s “Tragic Prelude,” a life-sized model of a carnivorous dinosaur fossil, and the countless pelts, vintage license plates, windmill blades, Civil War-era sharpshooter rifles, and taxidermized prairie dogs that adorn the walls of the Ehmke office and guest house.

Which also happens to be a two-story grain silo.

But one of the Ehmkes’ most prized possessions is a bird’s-eye photograph of their property. At first glance, the patchwork quilt of winter wheat greens and rusty browns demarcated by dirt roads and fence lines could be anywhere in the Central Plains. But any farmer – or migratory bird – would instantly notice the splotchy water stains littering the fields. These are called playa lakes, seasonal wetlands unique to the region where the Midwest and the Southwest converge on the western side of the Central Flyway migratory corridor.

Many playa lakes and other wetlands in the Central Flyway have been drained, filled, and burned over the last century, priming the land for crop production but destroying crucial habitat for birds who migrate through the region twice a year. But a growing number of farmers in Kansas and Nebraska are getting paid to restore playa lakes, shallow wetlands, and native grasses to their fields, creating much-needed stopover habitat for weary avian travelers in the process. Many farmers would spit at wasting potential crop acreage like this. But thanks to easement opportunities with conservation organizations and a specific type of Conservation Reserve Program administered by the Farm Service Agency, wetlands have officially become a hot agricultural commodity.

“We want the birds to benefit, but we also need to benefit ourselves to make it worthwhile,” said Louise Ehmke. “It is cliché, but it really is a win-win.”

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Migrations are daunting journeys, and some species need all the help they can get along the way. Just ask the world’s last wild migratory whooping cranes, 504 strong after the population dipped to just 16 birds in 1941.

Or, better yet, ask Andrew Caven, Director of Conservation Research at The Crane Trust in Wood River, Nebraska.

Last year, Caven led a study on how habitat characteristics impact the amount of time whooping cranes stay at their stopover locations. He noticed a trend of longer stopovers in the wetland heavy Prairie Pothole region of southern Saskatchewan and the Dakotas and significantly shorter

ones south of Nebraska's Platte River Valley, where wetlands become scarcer. "Stay lengths were longest at natural permanent and natural temporary wetlands," the paper reads. Understandably so – wetlands in the Midwest serve up a smorgasbord of bugs, amphibians, small fish, grains, and fresh water to power migratory birds through their journeys. "With a whooping crane, or a duck, or a large-bodied waterbird, they stay longer where the getting's good, because they have evolved to cross large tracts of inhospitable terrain," Caven said.

Large tracts, indeed. The whooping crane's migration is 2,500 miles long, from Wood Buffalo National Park in the Northwest Territories to Aransas National Wildlife Refuge on the Texas Gulf Coast. Connectivity of stopover habitat between the two is critical, something Caven likens to rungs on a ladder.

"You pull out one rung, you can still climb. You pull out three in a row, it's getting risky," said Caven. "We need some solid rungs on the ladder...rungs that birds can sit and stand on to rest and build up resources."

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A continent-wide series of regional task forces known as Migratory Bird Joint Ventures were created by the U.S. Fish and Wildlife Service's North American Waterfowl Management Plan in 1986. These collaborative conservation groups, comprised of organizations like the Crane Trust and Ducks Unlimited, are adding rungs to the ladder by creating opportunities for farmers and landowners to enter land into conservation easements.

Mel Taylor, a lifelong conservation-obsessed farmer and board member of the Rainwater Basin Joint Venture, witnessed his easement at work with his own two eyes.

Well, technically, he witnessed a cell phone picture of his easement at work. His neighbor was the one who saw the evidence, a single whooping crane eating and resting on his property in Fillmore, Nebraska in April 2019.

With something between sheepishness and quiet pride in his voice, Taylor explained that he wasn't an average farmer. His extensive background in wildlife biology has primed him to manage conservation easements and wetland restoration projects. While others continue to plant monocultures on their land, Taylor opts for seasonal standing water and native grasses on parts of his.

"Everyone is always thinking 'corn and soybeans,' and this is definitely not a 'corn and soybeans' type of farm," said Taylor of the marshy plot. "I went to the public auction and bought it, and right away I called Ducks Unlimited."

Ducks Unlimited assessed the property and put it under easement quickly. But the work had only just begun. Taylor started planting a bird-friendly, grain-heavy mix on the wetland like a dinner host laying out a four-course buffet. Ducks Unlimited and other partners built levees, buffers,

and complex diversion systems to help restore the land's natural hydrology. Just like that, the migratory ladder had a new rung.

“It requires a lot of upkeep,” said Taylor, looking out over the successful explosions of native grasses from behind the steering wheel of his shiny red pickup truck. “I don't think these kinds of programs are for the landowners who don't want to do the work.”

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The landowners aren't the only ones doing the work. Abe Lollar, a biologist for Ducks Unlimited, drives all over central and west Kansas convincing landowners to enter their playa wetlands into what is commonly known as a “CP38B.”

No, not the polite bronze robot from Star Wars.

“CP38B” is the very necessary short title for the USDA's Migratory Bird, Butterfly, and Pollinator Habitat program under the State Acres For Wildlife Enhancement initiative. Like the multitude of other Conservation Reserve Programs (CRP), the Farm Service Agency pays farmers to take environmentally sensitive land out of crop production and plant species that conserve soil health, wildlife habitat, and water quality instead. The CP38B option differs from other CRP agreements by involving more nutrient-dense, bird- and pollinator-friendly plant species.

In Dighton and elsewhere in Lane County, Lollar says the CP38B program is an easy sell.

“I fell in love with Lane County my first year out here because it's covered in water and I saw ducks everywhere. I made it a focus to get these landowners involved in these restoration projects and protection programs,” said Lollar. “We've seen a huge influx of interest. In Lane County, people are conservation-minded...it's very refreshing.”

Some also consider CP38B more farmer-friendly. While other standard CRP payouts range from \$30 to \$80 per acre annually, which can be financially unfeasible for many farmers, CP38B payouts are determined through a reverse bidding system that allows farmers more say in what their protected land is worth. This detail usually headlines Lollar's sales pitch when he talks to landowners.

“I try to hit on four main points: wildlife, water conservation, water quality, and financial gain,” said Lollar. “Most of the time, after putting these playa lakes into conservation programs, landowners will quickly find out they are gaining financially...they see the benefits, then their neighbors see the benefits, and word spreads.”

For Dighton resident and landowner Logan Campbell, the decision to enter his playas into a CP38B was a sound one, both environmentally and economically.

“You're getting the groundwater regeneration, the conservation for wildlife, but from a landowner's standpoint, it still has to be an economic decision,” said Campbell. “With the

standard CRP rate at \$35 an acre, that's not a decision a farmer or landowner can get behind. They're generating more money by farming that land, even if it's flooding out."

Playas, also known as buffalo wallows and mud holes, are notorious for taking farm implements hostage in their mucky grasp, even if they've been drained and planted with crops. But by taking 80 acres of playas plus expansive buffer zones out of production, Campbell and his tenant farmers can pull money out of the mud without sacrificing a John Deere in the process.

"My hope is that I can be a good steward of the ground while still making economic decisions for my family. If I can accomplish those two things at the same time through the playa program, that's a no brainer for me...I'm going to try to enroll every one we have."

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When whooping cranes fly through Kansas, a majority of them stop in Quivira National Wildlife Refuge and Cheyenne Bottoms Wildlife Area in the central part of the state, and few make it as far west as the playa lakes region. This means that farmers in Lane County have yet to get as lucky as Mel Taylor to knowingly host one on their restored wetland.

But what works for the 504 tall white endangered birds works for hundreds of thousands of other species too. If the whooping crane population continues to grow at its current exponential rate, some wayward whoopers will likely need to touch down in Lane County with the innumerable other ducks, geese, and sandhill cranes that already visit.

"With these restored wetlands, the old saying is true," said Lollar. "If you build it, they really will come."

When that day arrives, they will have plenty of sturdy rungs on the migratory ladder to choose from, thanks to the Wheat Belt's growing population of farming conservationists and the various programs enabling their wetland restorations.

And if the cranes find themselves resting in the Ehmkes' prized 125-acre playa, Vance and Louise might even bring them coffee and tell them a story or two.

“The Enemy of My Enemy: Landowners in North Texas try to fight rapid wind energy development. Their secret weapon? 500 critically endangered birds”

April 2021

Bryon Barton drove his Toyota Land Cruiser across a rutted cattle pasture outside Bowie, Texas, and stopped at a small stock pond. A single fencepost rose out of the ground with a game camera strapped to the top.

Barton, 74, opened the front of the camera and checked the battery.

“Can’t you just imagine a whooping crane coming down and landing right there?” he said, gesturing to the pond’s shallow, mucky bank.

Such a sighting would be a dream come true for Barton and his wife Brandee, who retired to a mountaintop home here in 2014.

Since the spring of 2020, the Bartons have rifled through hundreds of images from dozens of game cameras set up to look for endangered whooping cranes, an iconic bird species whose numbers hover around 500. The Bartons are not birdwatchers. They lead the anti-wind energy North Texas Heritage Association, which has been fighting against proposed wind turbine projects in Clay, Montague and Jack counties.

The game cameras could provide proof that two wind farms planned for the area would directly interfere with the cranes. If the Bartons can prove that whooping cranes rest on their land on the migration between northern Canada and the Texas Gulf coast, they believe they can keep wind turbines out of their backyards.

Wind energy development has become a fierce battle in north Texas, pitting rancher against rancher, neighbor against neighbor, those who can afford to say “not in my backyard” against those who can’t. But in a case of strange bedfellows, the NTHA is using the world’s last 506 wild-born, migratory whooping cranes to fight wind farm development. It’s a unique choice of weapon compared to the cease-and-desist letters, giant signs, bumper stickers, and other tactics employed by the group. And they hope it will be more effective.

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Barton’s group has been battling against two proposed wind projects in North Texas. One, by the Virginia-based company Apex Clean Energy, proposes upwards of 100 wind turbines over more than 6,500 acres in Clay and Montague counties. Details of the other, by EDF Renewables, a subsidiary of international electric utility company Électricité de France, have not been released.

After the companies began leasing land in 2017, anti-wind groups in Clay and Montague counties pooled their resources and Barton took the helm. Barton hired an environmental lawyer and a wildlife biologist to assess the legality and environmental impact of wind farms on the land.

The consultants found that the proposed projects were to be built on prime whooping crane stopover habitat.

“The construction of the wind turbines, access roads, and distribution and transmission lines, if built, would further reduce the already limited stopover habitats in this area or the migration corridor,” wrote wildlife biologist Jenny Blair in the habitat assessment she performed for the group.

Whooping cranes are the tallest birds in North America, and they are some of the most resilient. An ancient species, they have survived ice ages and mass extinctions. In 1941, their population fell to just 15 birds, due to overhunting and habitat loss. But the flock has grown since getting listed as an endangered species in 1973. They have maintained a steady 4% rate of growth in recent decades, and today’s population is 506.

Whooping cranes migrate 2,500 miles from their nesting habitat in Wood Buffalo National Park on the northern Alberta border to their wintering habitat in Aransas National Wildlife Refuge on the Texas Gulf Coast. Their migratory corridor averages 180 miles wide, crossing through some of the most sparsely populated areas of the Midwest. They are a huge boon to the wildlife tourism economy in these states: the crane migration delivers an estimated 42,000 visitors and \$14 million to central Nebraska annually.

But the whooping crane’s migratory habitat is shrinking. Biologists have recorded cranes spending long periods of time in stock ponds and municipal reservoirs throughout the Flyway. Photos of the birds with dark stains on their white bellies led some researchers to believe they have spent time in oil waste pits.

Whooping cranes tend to avoid human activity. And they tend to avoid wind turbines, and the land than surrounds them. That puts wind energy, a key tool in suppressing fossil fuel emissions, in direct conflict with the birds.

In a study published in the journal *Ecological Applications* in 2021, United States Geological Survey biologist Dr. Aaron Pearse and his team found that whooping cranes tend to stay an average of three miles away from wind turbines when choosing where to rest. That means they also avoid any beneficial stopover habitat that lies within that three-mile zone, Pearse said.

That wouldn’t be a problem if grassy wetlands with ample food and water were more readily available between North Dakota and the Texas Gulf Coast. According to Pearse’s research, from 2010 to 2016, the number of wind turbines in the center of the migration corridor quadrupled. When compounded with the fact that agriculture and demand for irrigation water has decimated wetlands, wind development has the potential to cause further fracturing of the Central Flyway. This is especially true in the South.

“It’s kind of like swiss cheese,” Pearse said. “There’s probably more holes in the cheese down in Texas.”

Balancing the demand for renewable energy with a concern for endangered bird habitat is tricky. But Joel Merriman, the director of the American Bird Conservancy's Bird-Smart Wind Energy Campaign, said few places are wind turbines more dangerous to birds than the middle half of the narrowest portion of the whooping crane migratory corridor.

“When you're talking about one of the rarest bird species in the country, and you find out that wind energy development and its placement of facilities has effectively been random with regards to the highest-quality whooping crane habitat...that's a real problem,” Merriman said.

Merriman is quick to say he's not an opponent of wind power. Climate change, after all, is a great threat to birds, he said. But he says birds need to be taken into account when deciding when and where to place wind farms.

“We are very definitely pro-wind energy development,” he said. “We just want to see it done right. There can be an assumption that these projects are positive, but at the end of the day, they have to be sited correctly to be green.”

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Since 2006, Texas has led the nation in wind energy production. In 2020, Texas beat runner-up Colorado for most new wind installments by 250% and boasts more than 13,000 active wind turbines.

The rapid development, and the opposition to it, has led some landowners to take on the plight of whooping cranes to slow wind farm development. Members of the North Texas Heritage Association say the farms are ruining the rural ranching landscapes they love and harming their property value. Renewable energy also directly competes with the fossil fuel industry that some members have profited from.

In April 2019, the NTHA wrote demand letters to EDF Renewables and APEX, presenting the findings of their whooping crane habitat assessment and asking to start a dialogue about halting the projects. In response, APEX suspended progress on its Black Angus Wind Farm. It's unclear if the NTHA letter alone stalled the project, but APEX said wildlife is one consideration in its decision making.

“The process of developing a wind project is complex, and many factors can combine to influence whether and how quickly a project advances,” said Dahvi Wilson, vice president of public affairs for APEX, in an email statement. “Wildlife considerations...have been at play for our Texas projects, including Black Angus.”

EDF Renewables, which has not halted plans for its wind farm, did not reply to requests for comment.

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Critics of wind energy in the Central Flyway often raise the question of whether or not wind energy companies are violating the Endangered Species Act by building in critical habitat areas. The short answer is often yes. But wind companies can take out Incidental Take Permits, which proactively allow them to violate the ESA to the benefit of the public, protecting them from liability and consequences. But the companies must decide for themselves if they are at high enough risk of harming endangered species to go through the permitting process, and the U.S. Fish and Wildlife Service lacks the enforcement power to require they do so.

“The non-federal entities are responsible for making their own risk assessments,” said USFWS biologist Wade Harrell, who heads the whooping crane recovery effort. “[The permit] is voluntary on the applicant’s part. They have to come to us and say, ‘Hey we think there’s enough risk here, we’d like to seek an Incidental Take Permits for this project that covers this species.’”

Harrell likens these permits to optional life insurance policies that can immunize companies against the five-figure fine that arises from violating the ESA. But for a company like EDF Renewables, with sales totaling \$1.8 billion in 2019, a permit is mostly an unnecessary admittance to potentially harming whooping cranes.

In Texas, the state government takes a hands-off approach to regulating energy development, making bad publicity from something like harming a whooping crane the ultimate deterrent from violating the ESA.

Jeff Danielson, a former Iowa state senator and the Central Region Director of the American Clean Power Association, says the benefits of clean energy development – wind energy specifically – to both the environment and rural America can’t be ignored.

“All infrastructure impacts people and wildlife that live around it. But we take great care to minimize those impacts,” he said. “I think the record shows that we have the least amount of impact of any form of energy, including the long-term impact of emissions and things that affect wildlife more than just physical presence.”

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Few understand the contentiousness of the wind energy debate in rural ranching communities – and the usefulness of endangered species advocacy in such a battle – better than North Dakota cattle rancher Jerry Doan. In 2019, the fourth-generation owner of the Black Leg Ranch in McKenzie, North Dakota, teamed up with the Audubon Society to fight plans for the Burleigh County Wind farm outside of Bismarck. The bird advocacy group wanted to save critical whooping crane habitat in the Missouri River corridor, and Doan wanted to save his rural ranching landscape. Doan had only ever worked with Audubon through a bird-friendly beef program for cattle producers, but he never thought he would do advocacy work for them until this opportunity reared its head.

“My philosophy on working with Audubon is that, while there are times when I won’t agree with them...we’re stronger together,” Doan said.

Doan recalls taking a group of people – including the governor, members of the Public Service Commission, legislative leadership, and members of wildlife and agricultural groups – on a tour of his property, near where wind turbines were slated to pop up.

“I gave them a speech. ‘You see those hills? Rich in history, rich in habitat, part of the whooping crane flyway, the beauty of the Missouri River...would you put a wind farm right there?’” said Doan. “And they all went ‘Oh...that’s a bad idea.’”

The Burleigh County Commission eventually denied PNE USA the special use permits for the project. NextEra, a different renewable energy company, purchased the project interest from PNE and moved the 100-turbine farm south to Emmons and Logan Counties. Both counties are within the migratory corridor, but further away from the Missouri River and its prime whooping crane habitat.

Doan said that, while advocating for these endangered birds was certainly a means to an end, he also witnessed ranchers and landowners develop a true affinity for them. He also felt his own affinity for wildlife and habitat protection grow throughout the process.

“Maybe I wouldn’t have cared 20 years ago. But as I get older, I get more philosophical,” said Doan. “In life, and agriculture, we don’t stop and smell the roses. We tend to not care about something until it’s gone. But I guess that’s human nature.”

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Whether the Bartons can keep wind turbines out of this sliver of Texas and away from critical whooping crane habitat is unclear. The group’s dozens of game cameras will stay active for the foreseeable future, in hopes of catching damning footage of whooping cranes touching down in the area for a rest. The next migration is nearing, and so is the expectation that EDF will break ground and start building turbines on its leases.

APEX hasn’t announced plans for beginning production on the Black Angus Wind Farm, although the potential for the project’s continuation still looms over the Bartons’ heads. And they know there will be others as the national transition to renewable energy continues forward in the battle against climate change, a reality that doesn’t seem to dampen their efforts.

“It’s like a game of Whack-A-Mole,” said Barton. “You get one down, and another one pops right up.”