

# Whooping cranes form larger flocks as wetlands are lost—and it may put them at risk

April 2 2020

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Over the past few decades, the critically endangered whooping crane (*Grus americana*) has experienced considerable recovery. However, in a

report appearing April 2 in the journal *Heliyon*, researchers found that habitat loss and within-species attraction have led whooping cranes to gather in unusually large groups during migration. While larger groups are a positive sign of species recovery, the authors say that these large groups mean that a disease outbreak or extreme weather event could inadvertently impact a substantial portion of this still fragile population.

"Whooping crane conservation is one of North America's great success stories," says Andrew Caven, Director of Conservation Research at Crane Trust, a non-profit organization dedicated to the protection of critical [habitat](#) for whooping cranes and other [migratory birds](#). During the 1940s the whooping crane population fell to 16 birds, largely due to overhunting. However, after concerted conservation efforts, their numbers have increased 30-fold. "We had this species at the brink of extinction, and now there are over 500 birds. As conservation biologists, we've been extremely inspired by that."

Even with this boom in whooping crane numbers, researchers are observing larger migratory flocks than they would expect from population growth alone. Historically, groups of migrating whooping cranes seldom exceeded a family unit. "Twenty years ago, a group of nine was notable; something you'd write in your natural history notes about. But now it's becoming something quite regular. In the recent years we've seen bird groups over seventy multiple times."

With a total population of only around 500 birds, groups of this size could potentially put the whole species at risk. "The largest group detected was about 150 birds near Marcelin, Saskatchewan, which represents over one-fourth of the population. In a group that size, extreme weather like hailstorms or an outbreak of avian cholera could be catastrophic for the species," says Caven.

So Caven and his research team set out to understand why traveling

groups of whooping cranes had grown so large. They collected sightings data from state, federal, and private conservation organizations as well as the public along the whooping cranes migratory path from their Texas wintering grounds to their breeding grounds in Alberta, Canada.

Results indicated that the larger flocks of whooping crane roosted most frequently in the Southern Great Plains, where wetland habitats are sparse, but a few, high-quality conserved wetlands still stand.

"Many wetland habitats in the Great Plains have disappeared due to sedimentation or have been drained for farming" says Caven. "The rate of wetland loss has actually been quite high, particularly in these basins south of the Platte River." With limited access to quality habitat in the southward part of their migration, it appears whooping crane have adjusted by gathering in proportionally larger assemblages.

As a sort of snowball effect, the authors say these gatherings can also be promoted by conspecific attraction or attraction to like individuals. The presence of birds in a location can make it more desirable for other cranes. "Conspecific attraction helps birds indicate optimal foraging resources in these patchy environments and provide vigilance in situations that could be risky. These benefits could be a major reason we are seeing the emergence of these new behaviors as the cranes recover from near extinction," he says.

Based on these findings, Caven suggests the best way to disperse these groups is to provide more wetland habitat throughout their migration path. "Supporting conservation groups that are restoring habitats south of the Platte River, particularly wetlands, can have a serious impact. Increasing the scale of wetland restoration within the migration corridor could break up these aggregations and provide foraging space for a ton of birds, not just whooping [crane](#)."

The Crane Trust research team also plans to evaluate how habitat quality affects the length of time [whooping cranes](#) stay at stopover locations before continuing on in their migration. This will help determine those sites that are most essential in providing necessary resources for the [birds](#) to complete their 3,000-mile journey.

**More information:** *Heliyon*, Caven et al.: "Trends in the occurrence of large Whooping crane groups during migrations in the Great Plains, USA" [www.cell.com/heliyon/fulltext/ ... 2405-8440\(20\)30394-7](http://www.cell.com/heliyon/fulltext/...2405-8440(20)30394-7) , DOI: [10.1016/j.heliyon.2020.e03549](https://doi.org/10.1016/j.heliyon.2020.e03549)

Provided by Cell Press

Citation: Whooping cranes form larger flocks as wetlands are lost—and it may put them at risk (2020, April 2) retrieved 18 April 2024 from <https://phys.org/news/2020-04-whooping-cranes-larger-flocks-wetlands.html>

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