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Turning off just half the lights at McCormick Place could reduce the mortality rate of migratory birds by 60%, study shows

By MORGAN GREENE
CHICAGO TRIBUNE | JUN 08, 2021



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FEEDBACK



When it comes to saving one of the millions of birds that fly by night through [Chicago every spring](#) and fall, going dark is still one of the best ways to increase survival odds.

The more lights shut off, the better for the birds, according to a new study in PNAS based on decades of data — and dead birds — collected at McCormick Place.

Turning off half the lights at the McCormick Place Lakeside Center, a flattened stretch of glass and steel along Lake Michigan, as opposed to having all windows lit, could lower collisions elevenfold during spring migration and sixfold during fall, researchers estimate. And with just half of lights out, spring migration mortality could be reduced nearly 60%. Conversely, with full lighting, there could be a more than 100% increase in mortality.

Benjamin Van Doren, a postdoctoral associate at the Cornell Lab of Ornithology and the paper's lead author, said it's a critical time to protect birds.

FEEDBACK



The Chicago skyline is lit up May 3, 2021. (Terrence Antonio James / Chicago Tribune)

Death by building or communication tower is among the top human-related causes of bird mortality. Hundreds of millions of birds are estimated to die in collisions annually in the United States alone, and researchers say Chicago's light pollution potentially makes it the most perilous city in the country for migrating birds. Each bird falling from the sky contributes to the larger story of the billions of birds lost in North America: A [2019 study](#) found populations declined by 29% over 50 years.

“Turning out lights — and in particular darkening windows — is what we need to do to help protect birds,” Van Doren said.

It's still unknown why, exactly, birds fly head-on into oblivion, but at night, lights are believed to attract and disorient; one [study](#) in New York found beams of light could send birds off their migratory course. During the day, glass may reflect the outdoors, offer a glimpse of inside vegetation or appear to be a clear pathway.

“Of course, another driving force is the windows,” said Doug Stotz, senior conservation ecologist at the Field Museum. “The windows are what kills them and the lights make it more likely to happen.”

Since the 1970s, sometimes before sunrise, Field Museum researchers have arrived at McCormick Place in search of those unlucky birds, just some of the thousands each year that fly and crash into the city's illuminated buildings — an avian house of mirrors and a lakefront deathtrap. The study traces back to more than 40 years of work by the Field Museum's David Willard, who along with his colleagues began picking up sparrows, warblers and thrushes below the building's windows — and noting which were lit.



Mary Hennen, assistant collections manager for birds at the Field Museum, holds a white-throated sparrow on April 1, 2019. The species is vulnerable to building strikes. (Zbigniew Bzdak/Chicago Tribune)

FEEDBACK



The sun sets behind McCormick Place on June 6, 2021. (Armando L. Sanchez / Chicago Tribune)

More than 40,000 birds from McCormick Place alone are now in the museum's collection.

The correlation between fewer carcasses and fewer lights was clear; researchers have long studied the [detrimental effects of bright city lights](#) on birds, and collisions at McCormick Place dropped significantly since the building began lighting reductions in 1999. But the PNAS study incorporates weather and migration data as well to see how the threats work together.

Shifting winds and how many birds are flying through the sky on a given night factor into death counts, but light is a main driver.

It can be difficult to separate causation and correlation in ecological studies, Van Doren said. But “the fact that light was such a main component explaining for collisions makes a really solid scientific foundation for going forward with efforts to continue to turn out lights.”

“We’re just beginning to be able to integrate all these tangled pieces of the puzzle and untangle them,” Van Doren said.

In predicting collisions at each window bay, light in that individual bay was the key variable, according to the study. Darkening a window did not make it more likely birds would just collide with the next nearest option — a finding that shows how turning off even some lights may help.

During the pandemic year, with McCormick Place effectively shut down, there was a noticeable drop in collections, Stotz said.

Although the study's data comes from Chicago, researchers hope the findings encourage more cities to go dark, and advance advisories — taking into account weather and migration patterns — can be issued before high-risk nights.

Since 1995, birding organizations and building managers have worked together to [darken tall buildings](#) during migration as part of the city's Lights Out program.

“Chicago is both a city that exposes a lot of birds to a lot of light, but also a city that has for a long time put an emphasis on trying to remedy this problem and learn about it,”

Van Doren said.

But, Stotz said, indoor lighting is still a concern.

“In terms of the amount of light, it’s less than you get from really bright outdoor lighting, but it’s still an issue that ideally we’ll solve over the next few years,” Stotz said. “Going forward we want to make sure that we’re not putting up dangerous buildings — especially right on the lakefront.”

For the birds that still end up on sidewalks below many downtown buildings, the Chicago Bird Collision Monitors are often there to offer aid.

“There’s hardly an address in downtown Chicago that doesn’t have a bird in the Field Museum’s collection, thanks to the efforts of the Chicago Bird Collision Monitors,” Willard, the Field Museum’s collections manager emeritus, said in a news release.

Annette Prince, director of the Chicago Bird Collision Monitors, said the work never stops being heartbreaking.

“It’s a hard and sometimes discouraging task to continue to find birds at the same location,” Prince said. “Lighting is critical for how much it attracts birds, but we have to fundamentally have the right kind of glass and building design. Because you can turn all the lights you want off and you’re not going to stop bird deaths.”



Before flying away, a brown creeper recovers on a sidewalk after hitting a building in Chicago's Loop on April 2, 2019. (Zbigniew Bzdak/Chicago Tribune)

A Bird Friendly Design ordinance has been in the works for years. Bird Friendly Chicago, a coalition of conservation groups, is now working with the Department of Planning and Development to integrate requirements into the review process for some new buildings.

FEEDBACK

“We obviously would have liked it to have been in place yesterday,” Prince said. “It’s only a question of how it’s going to be applied and implemented.”

Efforts elsewhere are gaining traction. Cities as far away as Dallas and Houston now have their own initiatives to turn off lights. A LEED Pilot Credit was created to encourage more bird-friendly design. Researchers would like to see conversations about down-shielding lights, light color and timers become standard — and hope light pollution ends up leading to additional benefits for other wildlife and human health.

Migration is winding down, but Prince has noticed some cuckoos in recent days. The late migrants tend to fly from South America around the time when their feast of caterpillars emerges.

“When you see a bird like that — it’s made this amazing, astounding trip of its own volition. It didn’t drive a car, it didn’t fly a plane,” Prince said. “It just flew here from the Andes mountains. And it didn’t make it to its breeding grounds because after it ran this amazing marathon, we killed it at the finish line.”

Each bird saved keeps the monitors going, Prince said, and big-picture gains in making cities safer for birds gives them hope.

“You can hope it can only get better,” Prince said. “That there will be one day when we can sleep in and we don’t have to go to downtown Chicago to find birds.”

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