

Texas wind farms deploy radar so birds, not feathers, can fly

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Wind on the Texas coast is tempting for energy companies. Unlike other parts of Texas - the nation's No. 1 wind energy state - the coast has breezes that blow consistently on summer days, when energy demand peaks. But there's risk, too.

Millions of [birds](#) funnel through the Texas coast before they head north along the Central Flyway, one of the great bird migration routes between South America and the Arctic. This was the first year that wind farms were operating there during the spring migration.

One study near the coastal wind farms in Kenedy County, near the Laguna Madre, found that at the peak of fall migration in 2007, 4,000 birds an hour passed in a one-kilometer-wide band.

The two companies that run the first wind farms on the coast, Iberdrola Renewables of Spain and Babcock & Brown of Australia, recognized the risk bad weather could bring. Most migrating birds fly high above the range of turbines, many of them at night. But they don't fly through clouds and storms, and when bad weather rolls in, migrating birds fly down to wait it out.

The two companies voluntarily installed radar developed for the military and NASA to prevent collisions with birds by aircraft and the space shuttle. It's the first time this radar has been used anywhere in the world to shut down [wind turbines](#) if a large number of birds is headed toward them.

Conservationists said it's a good step, but they're still concerned that the companies haven't given permission to outside groups to check for bird fatalities during the migration period in April and May. Legal efforts to block the wind farms on the coast failed last year, and the federal government and Texas, like most states, don't regulate wind farms.

"We want to support wind energy wherever it goes, but we want to make sure it's safe for wildlife," said Andrew Kasner, the director of bird conservation for Audubon Texas.

"Most of the neotropical migrating birds that use that part of the flyway are already low numbers," he said. "So any impact that has the potential to take hundreds of birds in one instance or more can really be a problem for some species."

Some of the neotropical migrants (those that live in the tropics of the Americas and West Indies) that pass through are ones conservationists worry about protecting - species such as warblers (blue-winged, golden-winged, cerulean), grassland birds such as LeConte's Sparrow and others such as the Painted Bunting. Among the many others are threatened or endangered shorebirds such as the Least Tern and species of concern, such as the Long-billed Curlew.

Wind turbines everywhere can be trouble for birds, "but so far, passerine (the largest order of birds) mortality has not been high enough at any one particular site to be necessarily significant to the populations, although there may be cumulative effects," Kasner said. "That's why the coast is a concern, because of the potential to have a foggy, stormy day when thousands are flying through there. They'll already be limited in their ability to maneuver and detect any danger in front of them."

Tall buildings, communications towers, electric lines, pesticides and cats kill far more birds than wind turbines do. A recent U.S. government

study found that global warming already has had an impact on the abundance and distribution of birds and could lower some species' chances of survival.

Although conservation groups such as the National Audubon Society support wind power as a way to reduce emissions of heat-trapping gases in the atmosphere, they've also warned that wind farms need to be placed with care for birds and bats. Wind power could grow about tenfold by 2030, if the country is to reach a goal of getting 20 percent of its electricity from wind.

Iberdrola Renewables, the second largest wind energy provider in the U.S. after NextEra Energy Resources, has plans at all its facilities to protect birds and bats, said company spokeswoman Jan Johnson. She said it also must follow regional rules, regulations of some states and the 1918 Migratory Bird Treaty Act, which makes it a crime to kill a migratory bird.

"When you have voluntary principles and use them in a plan, you really take a step to mitigate your risk," Johnson said.

There was no need to shut down this spring because there was no bad weather, said Gary Andrews, the chairman and chief executive officer of the radar maker, DeTect of Panama City, Fla., during a visit to the wind farms in May.

Iberdrola's wind farm has 84 turbines, which produce 202 megawatts of energy, enough to power 70,000 south Texas homes, and it plans to expand on the coast. Babcock & Brown's turbines are expected to generate up to 283 megawatts per year.

The American Wind Wildlife Institute, an industry-supported group, is working on guidelines for turbine use.

"These companies really want to do the right thing," said the group's president, Kraig Butrum.

There's no good estimate of the number of bird deaths from turbine collisions nationwide _ "It really does range wildly, to be candid," Butrum said.

Michael Fry, a scientist who directs conservation advocacy at the American Bird Conservancy, said the worry about bird and bat deaths would increase as the number of wind turbines across the country increases.

Fry agreed that the Texas coast is particularly a problem because it's the most concentrated area of migration in the country. Most of the risk, however, is for resident birds, he said.

There's great uncertainty in the numbers killed at wind turbines anywhere because dead bats and birds are hard even for trained searchers to spot, Fry said. Others never get counted, because ravens, skunks and other scavengers eat them first.

Experts on bird migration plan to meet soon to try to come up with ways to predict where birds are concentrated and at risk of colliding with wind turbines in bad weather, Fry said.

Some places that see large numbers of migrating birds include the Great Lakes shores, the ridges of the Appalachian Mountains and central California.

The worst known bird kills at wind farms have been at California's Altamont Pass, where some 17,000 raptors have been killed in 25 years.

There's also concern about whooping cranes, with only about 400 left.

Many of these cranes migrate between Aransas National Wildlife Refuge in Texas through the wind corridor of the central U.S. and into their breeding grounds in Canada. Fry said they're vulnerable to collisions with power lines, but little is known about the risk from turbines.

In other places, [wind farms](#) reduce bird habitat.

The risks to bats also are still being studied. Iberdrola Renewables helped fund research at its Casselman wind farm in southwest Pennsylvania in October that showed that turning off the turbines during low wind periods reduced bat deaths by 53 percent to 87 percent, with only a marginal loss of income. The research is continuing.

ON THE WEB

State of the Birds _ report and video: www.stateofthebirds.org/

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