

Wind farms force birds to fly the coop? ISU researcher wants to separate facts from hot air

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Stephen Dinsmore, associate professor of natural resource ecology and management, will be studying red-winged blackbirds and western meadowlarks as part of his wind turbine research. Photo credit: Leah Hansen

(PhysOrg.com) -- Wind turbines seem to be sprouting up all over the Midwestern landscape lately, providing a clean source of renewable energy. Now, Stephen Dinsmore, associate professor of natural resource ecology and management, and Molly Gillespie, a graduate student, will examine whether the turbines have an effect on bird communities and

nests and also bats living in the areas surrounding the turbines.

"The basic idea is to gauge the impact of existing wind energy projects on birds in particular and bats to a lesser extent," Dinsmore said. "Our goal is provide information that would better inform the placement of the turbines."

The study is funded by a State Wildlife Grant from the Iowa Department of Natural Resources.

The researchers will study birds and bats at hundreds of points on half a dozen wind farms in north central and northwest Iowa and record the number and diversity of birds and bats living near existing turbines.

"We will do a point count at multiple [wind farms](#) and multiple towers at each wind farm, and multiple points around each tower," said Dinsmore. "Then we will look at the composition of bird species at each location. Using that information, we will measure density of birds and diversity of species."

The counts will be taken throughout two calendar years ending in late 2012 or early 2013 when results will be available.

The second aspect of the study involves finding sample nests of certain, common species of birds.

"We will visit these nests every few days until something happens, either depredated [ruined by a predator], abandoned or the nest succeeds and produces young that leave the nest," he said.

"We will basically answer the question, 'Did nests that are closer to turbines have any difference in success than nests that are far from turbines?'" said Dinsmore.

Looking at bats, the researchers will use electronic listening devices to record the number and diversity of bats in the areas near and away from the turbines.

By comparing the findings, the research will determine if birds and bats are affected by the [wind turbines](#).

There hasn't been much research on this topic previously, according to Dinsmore, and he is eager to get the results.

"When we look at agricultural lands in Iowa, the bird communities are not terribly rich in terms of breeding birds," he said. "Most of the species are generalist species, like red-winged black birds, American robins, and mourning doves -- things that are common in lots of habitats.

"So one of the potential results might be that placement of those turbines does impact birds, but it's not having large consequences in a conservation context because it's only impacting relatively common birds. That would be a good finding."

Dinsmore says that in areas away from agricultural lands, Iowa has a greater diversity of [bird species](#) and he will also look at those birds.

"If turbines are impacting species that are threatened or endangered -- species that are a high conservation priority - if the turbine impacts those, there may be all types of consequences," he said. "That's what we're here to find out."

Dinsmore points out that his study is only targeting the number and diversity of birds and bats around the turbines. He will not examine whether the turbines physically harm the birds.

"We are not looking for fatalities. It is not lethal impact that we will be

studying. We are not looking for dead birds or dead [bats](#)," he said. "It might occur, but if it does, it's pretty rare. That's been pretty well demonstrated in other studies."

Provided by Iowa State University

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