

# Debate intensifies on benefits and risks of wind farms

By Frank Hinchey  
Contributing Writer

Toledo, Ohio — As scientists go to new heights to test winds over Ohio and Lake Erie for the possibility of future land-based and offshore wind power projects, other researchers are assessing the potential impact on Ohio wildlife.

"It is a hot issue," said Randy Sanders, of the Ohio DNR, a member of the Ohio Wind Working Group. "There is a lot of interest in wind development across the nation for renewable energy."

The wind group has been working to identify areas of concern throughout Ohio where migrant birds and endangered species are located, Sanders said. The DNR has mapped potential "Natural Heritage Hotspots" where rare and endangered animals, plants, and rare geologic features are located.

The Ohio Wind Working Group, formed in 2003, comprises state and federal employees as well as those from industry, nonprofit organizations, and academic institutions. The advisory group meets five times a year to review the potential for wind power development, including Lake Erie.

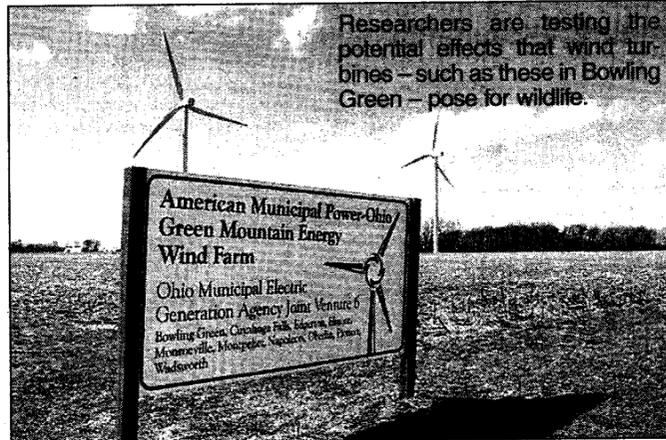
The state's only wind farm, a four-turbine facility near Bowling Green in Wood County, has had minimal impact on wildlife, officials say, but there has yet to be conducted a comprehensive scientific study of avian or bat mortality at the site.

Wind turbines kill an estimated 33,000 birds annually nationwide, while building window strikes may claim up to 976 million annual bird deaths, according to the U.S. Fish & Wildlife Service.

The Lake Erie coast is internationally recognized for high concentrations of migrating birds, especially along the lake's western basin spanning Erie, Ottawa, Sandusky, and Lucas counties.

"Over 150,000 waterfowl have been documented at one time and over 100,000 shorebirds are documented passing through the region," according to proposed DNR guidelines for siting future wind power projects on land or off shore. "Raptor counts have been in the tens of thousands, and the area is recognized as the most important breeding area for colonial waders in the U.S. Great Lakes."

The agency is proposing a three-



Researchers are testing the potential effects that wind turbines — such as these in Bowling Green — pose for wildlife.

mile buffer zone along the Lake Erie Coast to safeguard the unique coastal habitat where the DNR says "millions of birds move between their nesting and wintering grounds in spring and fall."

Additionally, the DNR, with input from the federal Fish and Wildlife Service, is suggesting a five-mile buffer from federally listed species of concern such as the bald eagle, Indiana bat, and Karner blue butterfly.

The DNR along with Audubon Ohio have identified 80 "Important Bird Areas" in Ohio and building potential wind farms in such zones is discouraged.

Proposals also call for a one-mile buffer along major Ohio rivers that serve as migratory routes for birds and support riparian habitat in areas of major bird migration.

"The Fish and Wildlife Service and the Department of Interior are supportive of wind power technology, but it has to be done responsibly in regard to fish and wildlife impacts," said USFWS biologist Megan Seymour, a member of the Ohio Wind Working Group.

"Offshore, we would be concerned with the high amount of waterfowl and raptor migration as they fly over Lake Erie," Seymour said, noting that birds fly higher at night but descend to rest in forested and wetland areas close to the shoreline.

"We are concerned with early in the morning," Seymour said, when low-flying birds could possibly collide with wind turbines. Bald eagles like to forage in the lake, she said, and waterfowl fly at lower altitudes.

Seymour was among 200 wildlife and environmental pro-

fessionals who attended a recent national conference in Toledo on Great Lakes offshore wind issues.

Danish biologist Charlotte Boesen told those in attendance that several years of studies, including radar tracking, at the huge Nysted and Horns Reef offshore wind farms off Denmark showed no major effects on bird species such as the common scoter, eider geese, long-tailed duck, and cormorant.

Boesen said birds were flying over or around the offshore rows of wind turbines, some of which are six miles offshore.

"It was interesting to note that the scoters were seeing and avoiding the turbines," said Seymour, who is based at the USFWS office in Reynoldsburg, Ohio.

At Ohio's only commercial wind farm in Bowling Green, there isn't any requirement for a scientific avian mortality study because of the facility's small size. Only 1.6 percent of Bowling Green's energy sales comes from the turbines, according to city utility Director Kevin Maynard.

Six or eight common bats have been found dead at the turbine facility near the Wood County landfill, Maynard said.

"But if we are missing something, I would like to know about it. We want to do the right thing," he said.

Maynard said he was recently approached by a student from nearby Bowling Green State University who inquired if BGSU students could get involved in a project involving the wind farm.

Green Energy Ohio, a non-profit group that advocates for alternative energy sources, including wind and solar, is helping the Ohio DNR and the Ohio

Department of Development to enhance its wind-mapping data across the state.

The U.S. Department of Energy's Ohio validated wind map shows the strongest winds in Ohio are in northwestern Ohio near Lake Erie, from Sandusky to Toledo. The winds are rated Class 3 or 14.3 to 15.7 mph at about 164 feet in altitude. Class 3 winds are suitable for utility-size wind projects.

The strongest winds are over Lake Erie. Annual average wind speed about 230 feet above the surface can exceed 19 mph about 10 miles off the coast of Lorain toward the Pennsylvania border, according to Bob Bailey, president of AWS TrueWind, an Albany, N.Y.-based firm that specializes in wind modeling and consulting. The wind speeds are found at about the heights for present day offshore turbines in Europe, he said.

Columbus-based Green Energy is in the process of measuring the state's winds with its Tall Tower Wind Initiative with the help of grants from the Department of Energy and the Ohio Department of Development. Green Energy last year positioned wind monitoring equipment on a 393-foot-tall cellular phone tower in Bryan, Ohio, which would approximate the top of a wind turbine blade.

Wind studies will be conducted in Bryan for 18 months as one of six monitoring sites statewide to determine the feasibility of harnessing area winds to create power projects.

Last year, Green Energy and the city of Cleveland installed wind testing equipment 165 feet atop the city's water intake crib, 3.5 miles offshore from Lake Erie in Cleveland harbor. It is considered the first national freshwater wind

study facility to gather accurate data for the possibility of utility-size wind turbines.

In February, Ohio Gov. Bob Taft visited a Cincinnati company that manufactures wind turbine parts and proposed a pilot incentive program to encourage wind power production.

Under Taft's plan, which would require legislative approval, \$25 million would be set aside from the Energy Loan Fund over five years and would provide a grant for up to 1.2 cents per kilowatt-hour of electricity produced by wind.

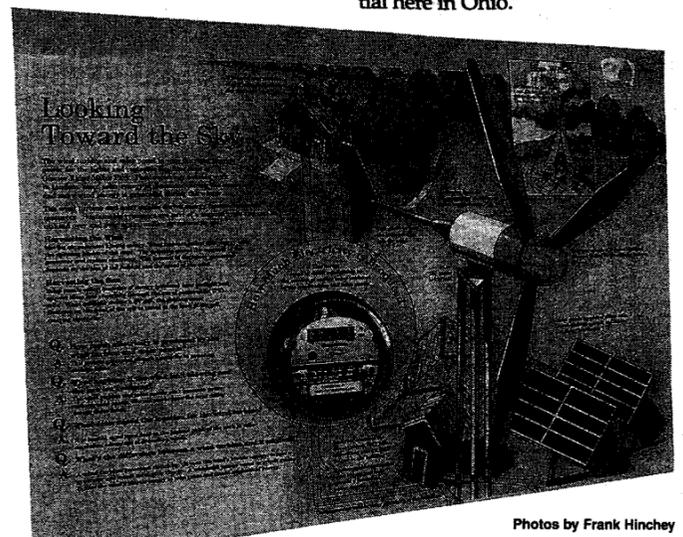
"As the use of wind power expands and provides a new source of energy for our homes and businesses, it will be a growing source of jobs and investment for Ohio's economy," Taft said.

Wind and solar power are two of the fastest growing resources, said Bill Spratley, executive director of Green Energy Ohio.

At the end of 2004, a study by the General Accounting Office showed installed capacity from wind power in the nation was 6,740 megawatts, enough electricity capacity to meet the demand of between 1.5 and 2 million American households.

The GAO found that while wind power generates less than 1 percent of the nation's electricity, its average annual growth rate of over 24 percent makes it the fastest growing source of electricity generation on a percentage basis.

"We are getting inundated for (wind) tests," Spratley said. "Before banks invest, they want to see the machines produce, and the critical data is wind tests for at least a year.... We have been approached by big industrial firms. We have a huge job potential here in Ohio."



Photos by Frank Hinchey

A wind turbine powers lighting and restroom facilities at Glacier Ridge Metro Park in Dublin, Ohio, and is explained here.