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Wyo. wind power boom could drive sage grouse to endangered list

By SCOTT STREATER, SPECIAL TO E&E, [Greenwire](#)

Development of wind energy and sage grouse protection are on a collision course in Wyoming, where state officials are worried that a future Endangered Species Act listing for the chicken-like bird could ruin the golden egg laid by the Obama administration's renewable energy mandates.

Should the Fish and Wildlife Service determine that the greater sage grouse is imperiled and warrants federal protection, Wyoming leaders say, the state will be forced to adopt broad conservation efforts that could not only end its wind power boom, but also sharply curtail oil and gas development and even ranching across the state.

Wind power companies are already developing projects inside "core sage grouse areas" that a Wyoming governor's task force last year marked as critical to the survival of the bird. One wind farm has been completed inside the core area, two others are under state review, and dozens more are in the development phase, officials say.

Meanwhile, the Bureau of Land Management's application pipeline for wind farms on federal lands is growing fuller by the week. Among the recent arrivals at BLM's Wyoming office is a 1,000-turbine wind-farm proposal, part of which would occupy a core sage grouse area.

"The bird does well in the existing conditions that are out here. It's the new threat from wind energy that has got us so worried," said Aaron Clark, special adviser on energy infrastructure to Wyoming Gov. Dave Freudenthal (D). "I don't think you could justify a [federal endangered species] listing for that bird in Wyoming without the threat from wind development."

The issue has placed the state in an awkward position.

Studies show Wyoming has great potential for wind energy, and President Obama has made development of clean, renewable energy sources a centerpiece of the emerging "green economy." But if development continues at its present feverish pace, a glut of turbines and transmission lines could ultimately subject the state to environmental penalties.

Clark said the state is trying to direct wind developers to the eastern part of the state, away from the 14 million acres that make up the core sage grouse areas of south-central Wyoming.

"It's a matter of siting," said Tom Christiansen, sage grouse program coordinator for the Wyoming Game and Fish Department. "If the wind companies insist on going into the core areas, then we're going to have problems."

Limited oversight

But the state has limited authority on where wind farms are sited.

While the Wyoming Infrastructure Authority must approve large projects and can dictate where such projects are located, medium-sized and small wind farms do not fall under its purview. Instead, they are subject only to modest mitigation and setback requirements that regulators concede might not be effective at protecting the birds.

With hopes of steering the development away from fragile habitat areas, Freudenthal last August signed an [executive order](#) ([pdf](#)) instructing agencies to work to maintain and enhance greater habitat for the sage grouse.

Among other things, the governor ordered that "new development or land uses within Core Population Areas should be authorized or conducted only when it can be demonstrated by the state agency that the activity will not cause declines in Greater Sage-Grouse populations."

The wind power industry -- spurred by the \$787 billion American Recovery and Reinvestment Act, which includes a lucrative production tax credit for wind projects - - has remained focused on the state's south-central region because it lies closer to growing population centers like Las Vegas that need the energy, thus lowering transmission costs, said Craig Cox, executive director of Interwest Energy Alliance, an industry trade association.

Another attraction to the state's south-central region is its geography. The section of the state is flanked by the southern and central Rocky Mountains, "and you've got this opening where all the wind comes funneling through," said Roger Alexander, a spokesman in BLM's Wyoming state office.

Disappearing habitat

Were it not for the sage grouse, which uses Wyoming's native sagebrush-steppe habitat for breeding and shelter, state officials might be happy to cede the central part of the state to wind developers. But as the grouse's numbers decline, it has become increasingly clear that difficult tradeoffs will need to be made.

Scientists say Western sage grouse populations have plummeted from as many as 16 million birds in the early 1800s -- when they were first described by members of the Lewis and Clark expedition -- to as few as 100,000 today. The bird's No. 1 threat is habitat destruction, as hundreds of thousands of acres of sagebrush habitat has been destroyed by residential growth, energy development, wildfires, invasive species and livestock grazing.

Wyoming's "core areas" were devised mainly to help stave off a federal endangered listing for the sage grouse. With 54 percent of the world's sage grouse residing in Wyoming, and 82 percent of those in the designated "core areas," any further loss of habitat is viewed as another step toward a federal listing.

The Fish and Wildlife Service last year told Wyoming officials that sage grouse could probably avoid an endangered listing if the state identified the core habitat areas and kept energy development out. Now, according to Pat Deibert, FWS's lead sage grouse biologist and a member of the governor's core areas task force, all bets are off.

"These core areas were set aside to conserve ... the bird," Deibert said. "But development in these areas compromises long-term development of the sage grouse."

Dearth of information

The hand-wringing over wind power development in Wyoming comes despite the fact that almost no information exists on the effects of wind farms, and especially turbines, on the sage grouse, a point wind power developers are quick to note.

Scientists have said grouse typically avoid areas with tall structures, an instinctual trait attributed to their desire to avoid raptors that perch atop transmission towers and other tall structures on the otherwise open landscape.

But unlike lattice-like transmission towers whose line-carrying "arms" stretch horizontally, wind turbines provide no place for predators to perch, wind energy officials note.

Another concern is that noise from spinning turbines could disrupt mating calls and interfere with the grouse's breeding rituals. Additionally, questions persist about the grouse's response to moving shadows cast by the turbine blades.

"If you were a bird that avoids predation by raptors, it would seem you'd be on the lookout for something in the air, and moving shadows on the ground could stress them," said Greg Johnson, project manager for Western EcoSystems Technology Inc., a Cheyenne-based environmental consulting firm.

Johnson's firm is leading a seven-year study, co-sponsored by the Department of Energy and several wind energy companies, that seeks to determine the effects of wind turbines on the sage grouse.

The study, which began in April, involves placing radio-controlled collars on 75 birds in an area that includes a large wind farm constructed last year, as well as in prime sage grouse habitat about 7 miles west of Medicine Bow, Wyo., where two other projects have been proposed. The goal is to track the movements of sage grouse in the respective areas, with special attention paid to the before-and-after effects of the newer wind farms.

"Hopefully, it will provide some answers on how best to site wind projects without impacting the sage grouse," Johnson said.

Conclusions slow in coming

But even if the study suggests negative effects on sage grouse, it may take several years for firm evidence of harm to emerge. Sage grouse are known to choose one breeding site for their entire lives, Deibert said, and they will often persist in one habitat area, even if it has been degraded by development. Their offspring, however, will flee if the turbines pose a problem, she said, furthering the need for a long-range, seven-year study.

But by then, the landscape could be dotted with wind turbines, said Todd Heward, conservation district manager for the Agriculture Department's Medicine Bow Conservation District. "In six or seven years, how many wind projects are we going to have up and going?" Heward asked. "I think it's a great project, and I think it will provide us with some much-needed answers, but I think it's going to be a case of too little, too late."

Meanwhile, the state struggles to keep up with its onslaught of wind energy proposals, worrying advocacy groups.

"Sage grouse can't seem to catch a break," said Walt Gasson, executive director of the Wyoming Wildlife Federation in Cheyenne.

"We've had a decade of gold-rush mentality when it came to gas development in Wyoming, and now we seem to be faced with another gold-rush mentality over wind energy development," Gasson added. "We don't want to see another gold rush. We want to see a measured, scientific approach that protects the legacy that we want to pass on to future generations."

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