

Oil and Gas Drilling Plans Must Accommodate Grouse to Avoid ESA Listing -- Study

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

Projected oil and natural gas development in the West could significantly reduce greater sage grouse populations, according to a new study that recommends aggressive steps to shift drilling activity away from sensitive habitat areas.

The [study](#), published in the peer-reviewed journal *PLoS ONE*, is one of the few to examine drilling's effects on a specific species, and it comes as the Obama administration nears a February deadline to decide whether the sage grouse should be listed as an endangered species -- a move many believe would greatly disrupt the West's natural resource-dependent economy.

The three-year study concludes that robust oil and gas development in the Intermountain West could slash grouse populations in critical breeding grounds by as much as 19 percent.

"These declines are in addition to the estimated range-wide population decline of 45-80 percent that have already occurred," due to the effects associated with livestock grazing, commercial and residential development, and drought, according to researchers from the Nature Conservancy, Audubon Society and University of Montana.

The study relies on Bureau of Land Management projections that nearly 96,000 new oil and gas wells will be drilled over the next 20 years in six states: Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming. The researchers then mapped out the areas with the greatest oil and gas prospects, plugged those data into a computer model showing known sage-grouse habitat, and determined that the wells could fragment 11.8 million acres of sagebrush shrub and grassland habitat -- an area larger than the state of New Hampshire.

Though the study's focus is on sage grouse, the researchers noted that widespread oil and gas development would also affect other species, such as pronghorn, mule deer, Brewer's sparrow, sage sparrow and sage thrasher.

The findings were not entirely gloomy for industry, however. The researchers found, for instance, that much of the projected impacts from oil and gas development could be avoided by steering drilling away from the most sensitive sage grouse habitat. Such moves, according to the authors, could spare the bird and the region a costly and cumbersome Endangered Species Act listing.

"The answer to energy development in the West is not 'no,' but rather 'where,'" said co-author David Naugle, a wildlife landscape ecologist at the University of Montana. "I think our nation's energy independence is paramount. Thus, the way we designed this study was to be helpful."

A booming industry

Meanwhile, oil and natural gas drilling continues to expand across the West, particularly in Wyoming, which the study notes is home to "the largest segment of sage grouse experiencing oil and gas development impacts in North America." The Energy Information Administration estimates that there is 1,744 trillion cubic feet of "technically recoverable" natural gas -- enough to power the country for at least 90 years -- in the United States. Much of it is in the Intermountain West region, where oil and natural gas production doubled between 1990 and 2007, according to the study.

Meanwhile, an estimated 2,200 applications are pending for coalbed methane (CBM) projects on BLM lands in northeastern Wyoming's Powder River Basin. And according to the Wyoming State Engineer's Office, nearly half of the state's more than 55,000 groundwater well permits in the basin are for CBM development.

Renewable energy developers, especially wind-power companies, also have targeted Wyoming, citing the state's ideal topography and wind conditions, but as with oil and gas development, concerns about sage grouse have stymied some development efforts, even causing one company to suspend plans to build in the state ([Land Letter](#), Aug. 6).

Industry observers and some public officials have cautioned that an ESA listing would force states like Wyoming with substantial sage grouse populations to adopt sweeping conservation measures that could cripple not only oil and gas activity but all forms of energy development, including wind power and the transmission lines to carry that electricity to market.

Pat Deibert, the Fish and Wildlife Service's lead sage grouse biologist in Cheyenne, Wyo., called the latest study another reminder that if energy development is not properly sited, it could result in the sage grouse becoming a federally protected species.

"It's a good report, and the information in it will definitely be considered in any final decision we make on the bird's status," Deibert said.

What federal and state regulators already know is that grouse populations are declining, and fast.

An August report issued by the Wyoming Game and Fish Department found that the number of male birds in breeding areas was significantly lower near coalbed methane fields than in areas farther removed from drilling activity ([Land Letter](#), Aug. 27).

Overall, the report found male grouse declined from an average of 39 birds per lek, or breeding grounds, in 2006 to 30 birds per lek in 2008, according to the survey. And the authors, led by Tom Christiansen, the Game and Fish Department's sage grouse program coordinator, note that "early indications suggest another decline in 2009."

The population trends reflect the bird's long-standing struggle for survival, said Kevin Doherty, a senior ecologist at the Audubon Society in Laramie, Wyo., and a co-author of the *PLoS ONE* study.

Scientists say Western sage grouse numbers 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. And as with other species in decline, habitat destruction is the grouse's primary threat, as thousands of acres of sagebrush habitat are destroyed annually by residential growth, energy development, wildfires and invasive species.

"Basically, they've been a species of concern going back to the '50s, and the numbers have dropped precipitously ever since then," Doherty said. "The threats are widespread, and this issue is not going to go away until we do something proactive to address it."

Wyoming's lead

Nowhere is balancing sage grouse protections against energy development more pronounced than in Wyoming, where 54 percent of the world's remaining sage grouse reside.

Recognizing the significance of an ESA listing, the state has taken bold steps to protect sage grouse habitat, particularly leks.

Under an executive order issued by Gov. Dave Freudenthal (D), state regulators have mapped out roughly 14 million acres of the most sensitive sage grouse habitat and tried to steer development away from the "core breeding areas." FWS officials have told state regulators that successful preservation of these core areas provides the best chance for avoiding an ESA listing.

"We've been hearing for some time from the Fish and Wildlife Service that this is the kind of approach they're looking at, not just for sage grouse but for other threatened species," said Ryan Lance, Freudenthal's deputy chief of staff. "I think it makes sense. You take proactive steps to protect their habitat, and generally, good things happen."

One of the goals of the latest study is to convince other states to adopt a similar strategy of mapping out core sage grouse areas and discouraging development within them, said Holly Copeland, a spatial ecologist with the Nature Conservancy and the study's lead author.

"The governor in Wyoming has been bold to stand up and support this strategy, and we'd like this strategy to be supported," Copeland said. "Data like what we have here in this study helps to make that case."

Some industry officials have suggested, however, that Wyoming's sage grouse conservation program and similar measures being considered in neighboring states could derail the Obama administration's agenda to dramatically expand renewable energy production.

Nevertheless, Copeland recommended that Western states do more mapping of core grouse habitat areas. And in areas where oil and gas drilling is already under way, state governments and even nonprofit groups should attempt to buy back development leases or strike land-swap agreements that allow for drilling on parcels that are less desirable as sage grouse leks.

The study's authors acknowledge that strained state budgets and other recessionary forces may not allow for the wide-scale buyback of oil and gas leases. Still, they maintain that such proactive steps need to be considered.

"We put that suggestion in there to get the wheels rolling in the minds of people who are much smarter than us," said co-author Naugle, the University of Montana ecologist.

"But it's part of the broader issue of how can you develop energy but not destroy the best habitat for sage grouse," Naugle added. "If we can find those heavy human footprints on the landscape and focus development in those areas, we can reduce risks and impacts to wildlife and still secure our energy future."

[Click here](#) to read the study.

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