FIELD REPORT:

The Face of ENERGY DEVELOPMENT in the Powder River Basin

By Jim Mosher and Rollin Sparrowe
Photos by Jim Mosher

NOTE: *It is clear that oil and gas development has real, and in some places serious, impacts on wildlife. Companies have been asked to "do it right." When they do, we think it is useful to acknowledge their efforts and hold them up as examples for others to follow.*

Last April, Rollie Sparrowe and I toured coal bed natural gas developments in the Powder River Basin of northeastern Wyoming and southeastern Montana. The facilities tour was provided by Michael Caskey, executive vice president of Fidelity Exploration and Production Company, who participated in the Energy and Wildlife Summit held in Cody, Wyoming, in 2002. Since the summit, energy developers and conservationists have continued a dialogue focused on one fundamental question: How do we meet the nation's energy needs while protecting our equally valuable fish and wildlife resources?—Jim Mosher

With burgeoning energy development in response to increasing demand, the challenges related to protecting fish and wildlife resources escalate. Habitats of sage grouse and other associated species are affected by development in a number of direct ways. Roads are extended into new regions with new or increased levels of traffic. Power lines follow. The construction and operation of drilling rigs and compressor stations take up more habitat, often producing high levels of noise. Pipelines run cross-country and, with methane production comes large quantities of water of varying quality. Collectively, these surface disturbances fragment the habitat and may produce behavioral responses that reduce productivity or affect traditional habitat use by wildlife species.

Energy developers are not new to this landscape, and are certainly not the only land users that may diminish the extent and quality of wildlife habitat. Many other forms of human disturbance from overstocked grazing to off-highway recreation create challenges for wildlife managers. In addition, long-lasting effects of drought and climatic changes, when combined with intense land use development, can push a species over its threshold limits. What is unique with the current circumstance is the scale of development on top of the other historical uses. When advised about the decline of sage grouse numbers in another area of Wyoming, one energy official asked "Where did they go?" The answer seems to be that, increasingly, they have no where else to go. The result is lost numbers, reduced opportunities for hunting and recreational viewing, and an increased chance a whole population segment may disappear.

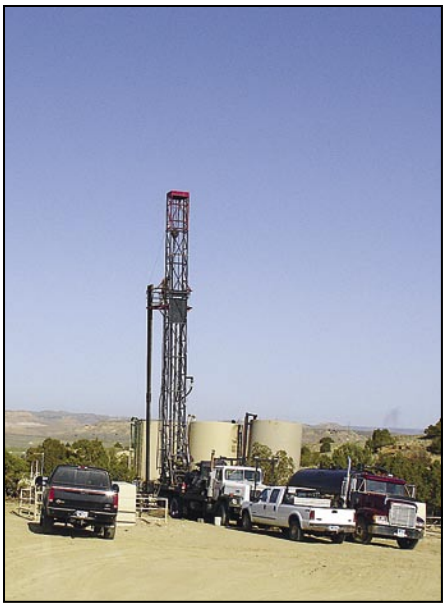
The more progressive energy companies recognize the impacts their operations can cause and, for reasons of good stewardship and good busi-

Energy development on the Great Plains is an ongoing concern for conservationists and wildlife managers who are working with energy developers to protect habitat for sage grouse and other native species.

ness, want to operate in ways that are sensitive to, and protective of, the wildlife resources with which they share the landscape. Fidelity is one of those companies. Moreover, Mike Caskey was one of the first from the industry to come to the table with the conservation community and one who has stayed the course with us ever since. The relationship that grew out of the Summit process has enabled regular and candid discussions of often contentious issues, and opportunities for better understanding on both sides. Such dialogue seems to be the only sensible way to achieve the shared goal of energy production and wildlife stewardship.

Fidelity is one of a few major operators in the Powder River Basin producing coal bed natural gas (CBM in the common parlance). Unlike the multi-story rigs often pictured from southwest Wyoming and elsewhere, drilling for CBM is more similar to drilling backyard water wells. The gas from the wells is collected through a system of pipes, run through

The Tongue River receives some outflow from production facilities. Water management is a significant challenge in this arid ecosystem.



Small well pads minimize habitat disturbance at drilling sites.

Production structures have sound-proofing insulation to reduce noise that may disturb some wildlife species.

the compressor station, and fed into high volume distribution pipelines. A significant amount of water is a byproduct of the production process. Water is pumped out of the coal seams to relieve pressure and allow the methane gas to be released. Large volumes of water produced in an arid ecosystem are a significant challenge, and multiple ways of managing that water have been approved—from irrigation use to evaporation ponds to direct and indirect discharge into natural waterways and re-injection into ground water. The management option is controlled in part by state water laws, BLM regulation, and quality of the produced water.

What we saw during our tour were consistent examples of what we've asked of the industry in placement and in operation. To the extent possible, electrical lines were buried (up to ¼ mile), gas and water lines were buried mostly along road right-of-ways, well pads were small and quickly reclaimed to minimize the area disturbed, the surface infrastructure was colored and placed to minimize visual disturbance, and compressor stations were insulated to minimize sound. Well density was one per 160 acres and, excepting for main roads required for heavy equipment travel, all access roads to well heads were two-track. Wherever feasible, telemetry of operational information was used to minimize vehicle travel. In addition, operations were also subject to imposed set-backs from important wildlife use areas, including grouse leks and raptor nest sites. Seasonal restriction on operations limited access during key times in life cycles of several wildlife species.

In an ideal world for grouse and other wildlife species, all forms of habitat alteration would be minimized and held below the cumulative threshold that causes population declines. Realistically, the conservation community simply asks for and deserves management decisions that assure that sustainable populations are maintained throughout the coming period of development, and thorough post development restoration. Disagreements between government, industry, and environmental groups largely result from our poor understanding of management practices necessary to safeguard sage grouse populations in the face of development. The crux of the issue lies in understanding how sage grouse populations are impacted by land use change associated with coal-bed natural gas development. Specific is the need to know whether birds are avoiding development, and if not, whether sage grouse productivity in developed areas is similar to that in undeveloped landscapes.

The public has placed the onus on government because federal agencies such as the Bureau of Land Management own and manage more than 60 percent of remaining sagebrush habitats. Such lands are held in trust for the American public and it is incumbent upon federal agencies to administer these lands in a manner that will preserve their natural resources for future generations. Federal agencies have called on the scientific community to evaluate under what conditions energy development impacts sage grouse populations and to develop conservation planning tools that empower willing partners to facilitate energy development while providing sound environmental protections. Only then will we be able to ensure that future landscapes will be capable of supporting healthy sage grouse populations. Until then, the stewardship model that was apparent on Fidelity's operations during our tour should be no less than what is required of all companies as a minimum standard.