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## ***Scientific Study Shows Mule Deer Avoid Areas with Significant Natural Gas Development***

### **First Multi-Year Review of Mule Deer Use and Drilling in the Upper Green, Study Funded by Government, Energy Industry**

Pinedale, WY – A study funded by Questar Exploration and Production Company and the BLM was made public this month and shows that natural gas development in the Upper Green River Valley of Wyoming is affecting the distribution patterns of wintering mule deer. The study is being conducted by Hall Sawyer, a wildlife biologist with Western Ecosystems Technology, Inc.

“This report shows that energy development is forcing mule deer out of their natural winter range habitat,” said outfitter Tory Taylor of Taylor Outfitters of Dubois, Wyoming. “Forcing mule deer to expend more energy during the winter when there’s less available food could have serious consequences for our future hunting opportunities. It is unclear whether mule deer migration corridors and winter ranges will remain for deer after the current gas boom is gone. Twenty years ago, big game winter range was considered sacred ground by wildlife managers; land was left alone and undisturbed during the crucial winter months.”

The scientific study, which is to continue through 2007, utilizes GPS radio collars to collect thousands of deer locations and document the potential impacts of energy development on mule deer movements and habitat use. Sawyer has been tracking the movements of mule deer in the Anticline region of the Upper Green since 1998, three years before gas field development began.

Highlights from the 2004 report on the multi-year Sublette mule deer study include:

- Mule deer tend to avoid areas close to well pads and associated access roads.
- Changes in mule deer distribution appeared to be immediate (i.e., Year 1 of Development) and no evidence of acclimation to well pads was observed. Rather, as development progressed, mule deer selected areas farther away.
- Mule deer continue to use the Trapper’s Point Bottleneck when migrating between summer and winter ranges.

Note: Sawyer’s full analysis, *Sublette Mule Deer Study: 2004 Annual Report*, can be found at web address: [http://www.west-inc.com/reports/papa\\_2004\\_report.pdf](http://www.west-inc.com/reports/papa_2004_report.pdf) Also, Sawyer will be presenting his findings at the Wildlife Society annual meeting in Dubois, Wyoming on Dec. 2<sup>nd</sup>. Sawyer can be reached before then at: (307) 755-0401 or [hsawyer@west-inc.com](mailto:hsawyer@west-inc.com)

Sawyer’s work is groundbreaking because it represents the first multi-year study examining the effects of natural gas development on mule deer habitat use. Sawyer found that development appears to displace deer to less preferred habitat off their crucial winter range, so what were high-use areas before development became low-use areas as the Anticline gas field developed.

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“This study shows that energy development is happening too fast without understanding the full impacts,” said Ralph Faler a life-long hunter and 5<sup>th</sup> generation Sublette county resident. “The mule deer herd is very important to local residents and hunters like me. So if we are to protect Wyoming’s heritage and traditions, then energy development here must happen at the right place and right pace. When it’s gone, it’s gone for good.”

The study reports:

“Results to date suggest that winter mule deer habitat selection and distribution patterns have been affected by natural gas development, specifically road networks and well pads. During the first two years of development the mule deer in our sample selected habitats with low to moderate road densities. And, during the first three years of development, mule deer selected habitats away from well pads.... We found no evidence of acclimation behavior. Rather, during three years of study, mule deer in our sample had higher probability of use in areas farther away from well pads as development progressed.” (Page 48)

The Bureau of Land Management (BLM) is in the process of revising its Resource Management Plan for public land it manages in the region studied by Sawyer. This area, in addition to containing key habitat for Wyoming’s largest mule deer population, contains some of America’s largest free-roaming pronghorn antelope populations and one of the world’s last remaining long-distance big game migrations. It also faces increasing threats from rapid energy development.

In response, local residents and conservation groups have developed a common-sense plan to guide energy development in the Upper Green River Valley and are urging the BLM to adopt it in their upcoming Resource Management Plan revision. Titled the “Responsible Energy Development proposal,” their plan promotes best management practices and off-limit areas in order to decrease the energy industry’s ecological ‘footprint’ and lessen the potential to displace wildlife. (Go to [www.uppergreen.org](http://www.uppergreen.org) to view this proposal).

“Our *Responsible Energy Development Proposal* seeks to balance energy development with protecting local air and water quality, while preserving habitat in one of America’s finest wildlife areas,” said Linda Baker of the Pinedale based Upper Green River Valley Coalition, “The BLM has a responsibility to develop a plan that meets both the needs of industry and those of our community, so that ongoing drilling does not destroy the Wyoming we love: it’s incredible wildlife, clean air and water, and agricultural tradition.”

Bounded by the Wind River, Gros Ventre, and Wyoming Ranges, the Upper Green River Valley harbors some of the continent’s most spectacular wildlife populations and also holds vast deposits of natural gas. Oil and gas development so thoroughly dominate the region that more than 75 percent of BLM’s 1.2 million-acre Pinedale Resource Area is under lease, and the agency’s draft management plan, scheduled for release in April, is expected to allow at least 10,000 new wells in the next 10 to 15 years -- over three times the number of existing wells.

**Note:** Photos of the drilling and wildlife in the Upper Green are available, contact Peter Aengst (406-586-1600; [peter\\_aengst@tws.org](mailto:peter_aengst@tws.org)) or go to the photo gallery on the Upper Green coalition web page at: [http://www.uppergreen.org/gallery/photo\\_map.php](http://www.uppergreen.org/gallery/photo_map.php)

**Attached:** Background, biography and additional quotes from Sawyer report, *Sublette Mule Deer Study: 2004 Annual Report*, which can be downloaded at the web site: [www.west-inc.com](http://www.west-inc.com)

## **Background and Quotes from the *Sublette Mule Deer Study: 2004 Annual Report*:**

Sawyer notes that the change in deer behavior might not be a direct cause of mortality, but can easily add further stress on these animals at the most vulnerable time of year.

“This reduction in winter range size and quality of available habitat may decrease the carrying capacity of the overall winter range,” Sawyer writes. “Assuming there is some energetic cost associated with the change in distribution or habitat use and that alternate winter range is not available, the potential for negative effects on mule deer survival and reproduction exists.” (page 49)

Sawyer reports that the mule deer of the Sublette herd are the most migratory deer in the West, traveling 60 to 100 miles between the Pinedale area in winter to summer range in various mountain ranges rimming the Upper Green River Valley. (page 6)

This year’s report shows that many migrating deer stick to narrow corridors. The report finds that deer migrating along the Wind River Front travel over 50 miles using a corridor less than a mile wide. Writing of the importance of this newly documented migration route, “Because several thousand mule deer rely on this migration corridor to access seasonal ranges, maintenance of the corridor should be a priority for agencies and conservation groups alike.” In addition, the study demonstrated that mule deer continue to pass through the vulnerable migration “bottleneck” at Trappers Point and notes, “Land use decisions in and adjacent to this bottleneck should consider the migration routes and seasonal ranges of the Sublette deer herd.” (Page 46)

### **Background on Study Methods:**

Using helicopter net-gunning techniques, deer are captured every December and equipped with GPS-radio collars that record an animal’s position every 2 hours. The collars are designed to drop off on April 15. Sawyer retrieves them and plots their data on maps, which show where these deer spent their winter. His work covering the winter of 2003-04 yielded 15,000 GPS locations from 10 deer.

What makes his study so valuable is that it compares deer behavior not only before and after energy development on the Anticline, which began in 2001, but also with data collected on the nearby and *undeveloped* Pinedale Front of the Wind River Range. Like the Anticline, the Winds’ foothills serve as crucial winter range for mule deer, creatures that have shown strong fidelity to their winter homes. (Thus this area served as the study’s “control” to account for other variables like drought, severity of winter, food types, etc)

### **Background on Sawyer and report funding:**

Hall Sawyer is a wildlife biologist for Western Ecosystems Technology, Inc., which is under contract to conduct a multi-year study of potential impacts to Sublette County’s deer from energy development. This study is a joint effort involving government and industry with major funding coming from Ultra Petroleum and Questar Corporation.

Sawyer received a B.S. in wildlife biology from Colorado State University in 1994 and an M.S. in Zoology from the University of Wyoming in 1997. Following his graduate research on elk ecology, he continued to work with the Wyoming Cooperative Fish and Wildlife Research Unit as a research scientist, coordinating projects that focused on elk, mule and white tailed deer, pronghorn, bighorn sheep, and mountain lion. His research focused on a variety of questions; from basic habitat use and migration patterns, to complex predator-prey relationships. He also worked as a terrestrial biologist with the Colorado Division of Wildlife, before joining the WEST team in 2002. His specialty areas include ungulate ecology, animal capture, global positioning system technology, radio-telemetry, geographic information systems, and impact assessment.