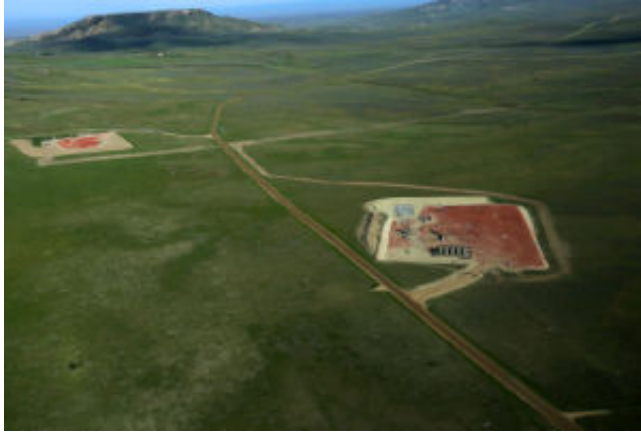


## New study shows elk avoid areas of energy development



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Energy companies often work in Wyoming's most remote areas. These places are also home to the state's mule deer, pronghorn and elk, among other big game animals, which can present a sometimes tricky challenge of balancing conservation with economic development.

But the coexistence of big game and Wyoming's growing energy industry is a juggling act becoming more familiar with every newly developed well pad, tank battery or mine site.

Studies suggest big game can coexist with tanks, trucks and drilling rigs, though it can be stressful for both animals and companies alike.

"Energy development has an impact on wildlife, and it will displace wildlife, some are much more sensitive than others, but it does displace wildlife," said Bob Lanka, Wyoming Game and Fish director of biological services.

The relationship between mule deer and energy development was previously documented in the Pinedale Anticline, where studies showed animals moving away from areas with increasing natural gas development.

Other species remained more of a mystery until recently. A new study by a team of researchers from the University of Wyoming suggests elk respond to energy development much like mule deer.

As part of the study, researchers focused on 59 cow elk in the Fortification Creek Planning Area, a 100,655-acre swath of Campbell, Johnson and Sheridan counties managed by the Bureau of Land Management.

The herd doesn't migrate from the area, which included development of more than 700 coal bed methane wells from 2008-11. The animals' permanent proximity to energy development made it a prime candidate for tracking behavioral changes among the animals of the area, said Jeffrey Beck, an associate professor of ecosystem science and management at the University of Wyoming.

The study found elk in the area lost 50 percent of their habitat, prompting the animals to move away from areas with developing infrastructure. Those conclusions had long been suspected, but were not scientifically proven until now, Beck said.

“They changed their habitat selection pattern accordingly,” he said. “They quit using their typically high use areas because they were no longer effective habitat. This is pretty common in sage grouse and pronghorn. It’s common for species to just avoid infrastructure, roads especially.”

That in turn can cause the animals stress, which can be detrimental during the winter months when elk need to conserve fat reserves to survive, Beck said.

Anadarko Petroleum is using those conclusions to adjust their operations in the area. The company, which spent more than \$500,000 on monitoring of the Fortification Creek elk herd, currently restricts traffic and the timing of maintenance and other actions at strategic times designated to decrease disturbance of the animals, Anadarko Petroleum Spokeswoman Robin Olsen said.

“We strive to protect the environment and habitats where we live and work,” Olsen said. “A vast number of our 700 Wyoming employees are outdoor enthusiasts too, and we want to protect Wyoming’s unique character and ecosystems.”

Cooperation isn’t always so smooth.

Balancing conservation with development is especially hard in areas where companies hold existing mineral rights, said Game and Fish Habitat Protection Supervisor Mary Flanderka. The state often cannot slow development in those areas, but can require operators implement conservation plans to mitigate adverse impacts on wildlife.

The southwestern part of Wyoming, home to crucial mule deer winter range, can be particularly difficult. Companies there often face seasonal work stoppages aimed at limiting disturbances during the winter months when animals need to conserve their energy.

“Some companies are great to work with and understand and have the technology and funding to do it while others don’t quite have the support mitigating those impacts,” Flanderka said.

The Wyoming Game and Fish Department does not tie big game populations to energy development. Hunting remains the biggest impact.

The state does not have a uniform process for dealing with big game and energy development, in part because animals’ migration habits vary by species and location, Flanderka said. However, cooperation between federal agencies, the state and companies is generally good, she said.

In the case of Fortification Creek, elk adapted the developing infrastructure by lying low during the day in the protection of a Wilderness Study Area, a wild 12,000 acre parcel set aside by BLM where development is prohibited. Under the cover of darkness, however, the elk moved out into the open spaces surrounding the infrastructure to gain access to quality forage.

The research found that elk need an undeveloped refuge to allow the animals a safe haven amid wells, compressors, roads and other energy infrastructure.

Beck said the coexistence of development and energy is possible. Fortification Creek is a special case because the elk had a refuge, he said. But areas with wall-to-wall development

won't work for big game, he said.

“The pace of energy development sometimes swamps everything,” Beck said. “It’s important to have that ability for an animal to have a place to go where they aren’t going to be disturbed, and then they are able to persist at least to some extent in a developed area.”