

An Uncertain Future: Big Game and Expanding Energy Development in Wyoming's Upper Green River Valley¹

Background: World-class Wildlife Values

When it comes to diverse populations of large free-roaming mammals– pronghorn antelope, mule deer, moose, and elk– Wyoming's Upper Green River Valley is unmatched in the contiguous United States. Located south of Jackson Hole, between the Wind River Mountains, the Wyoming Range, and the Gros Ventre Mountains, it's a land of sweeping vistas where great sage plains meet snowcapped peaks.

Unlike most terrestrial mammals of the Lower 48, the big game animals of the Upper Green River Valley (UGRV) are highly migratory. Mule deer migrate between 40 and 100 miles to the north and northwest, summering in five different mountain ranges adjacent to the Valley. Ten Wyoming Game and Fish Department feedgrounds in the basin also attract elk from the surrounding mountains, and some pronghorn in the area undertake the longest antelope migration in North America– going all the way to Grand Teton National Park, well over 100 miles away.

Wintertime is a crucial time for these big game animals. Because of roads, subdivisions, and energy development, their winter habitat is becoming increasingly fragmented, potentially limiting their ability to survive this season. The interplay of these factors are magnified in the UGRV, which supports more than 10 percent of all the mule deer and pronghorn antelope in Wyoming. In total, 32,000 mule deer and 48,000 pronghorn utilize the Upper Green.

Energy Development with Unknown Consequences for Big Game

The Upper Green is also rich in natural gas, and the Bureau of Land Management (BLM) has permitted thousands of wells in the area under its 1988 Resource Management Plan (RMP). Additional energy development is planned, and conservationists are concerned that the agency has allowed oil and gas development to exceed the limits set in the current RMP. Although evidence suggests that energy development may negatively affect big game populations, no research has demonstrated direct reductions in reproduction or survival from such activity. One such study is under way, and in the meantime the BLM has started a multi-year process to revise its RMP. The revised plan will lay the ground rules for wildlife management and future energy development here over the next fifteen to twenty years.

Lessons from the Existing Resource Management Plan

In their design and implementation, the BLM's existing 1988 RMP– as well as the EIS it recently prepared for the Pinedale Anticline Project– have the following problems:

- The migratory movements of pronghorn through the UGRV aren't described, nor are migratory bottlenecks recognized. These are locales where migratory animals are squeezed into corridors as narrow as 1/2 mile wide.
- The designations of winter range do not consider the most current information and may not accurately reflect areas used by wintering mule deer and pronghorn.
- Although the BLM enforces seasonal restrictions on winter ranges, it has granted exceptions to approximately 85 percent of the applications for variances to winter-range restrictions during the 2001-2002 season.
- Shrub communities are the most important habitat for wintering big game. But data on these communities is limited. One study found 60 percent of 86,590 acres to be in only fair to poor condition. Loss of shrub habitat to energy development could result in overuse and degradation of remaining communities.
- The BLM assumes each well will create 5.5 acres of disturbance. This may be inaccurate for the following reasons: Local access roads are not defined, and no data has been given concerning successful attempts to reclaim well sites. Although indirect disturbances on wildlife are mentioned, no calculations are provided of acres lost due to wildlife's avoidance of well sites and roads. The effect of development on transition ranges— heavily utilized by wildlife as they move between winter and summer habitats— is unknown.
- Where the effects of creating gas fields are predicted, the BLM has used a method called the Bayesian Habitat Model. It has been applied with limited data and its predictions are subjective and can be questioned for their ability to provide an accurate simulation of energy development's impacts. Moreover, the 1988 RMP doesn't consider the *total cumulative impact* from ongoing loss of habitat.

How to Ensure a Better Resource Management Plan for Wildlife:

Energy development could have impacts on wildlife that occur immediately as well as over the long-term. The Pinedale RMP revision should incorporate recommendations that address both time horizons. These include:

Recommendations for Addressing Immediate Impacts:

- ✓ No surface occupancy should be allowed in areas that provide severe winter relief range for mule deer and pronghorn.
- ✓ Until ongoing studies are completed, a minimum buffer zone of 200 meters should be placed around wells and roads. In places, larger buffers should be considered.
- ✓ Where possible, directional drilling from a reduced number of pads per section should be required. Pads should be placed to minimize disturbance to big game.

- ✓ Based on their already well-documented importance to big game, four locations should be considered as Areas of Critical Environmental Concern: the Trapper's Point Migratory Bottleneck; the Cora Butte Transition Range; the Fremont Lake Bottleneck; and the LaBarge Creek Native Elk Winter Range.

Recommendations for Addressing Long-Term Impacts:

- ✓ Sufficient data should be collected so as to define the ecological and landscape conditions necessary for maintaining big game populations at Wyoming Game and Fish Department target levels.
- ✓ The WGFD Strategic Habitat Plan should be closely followed and included within the Pinedale RMP revision.
- ✓ Indirect impacts of energy development on wildlife are poorly understood. They should be more extensively studied and incorporated into a long-term cumulative effect analysis, which also takes into account the subdivision of private lands in the UGRV.
- ✓ Since the existing body of scientific knowledge is inconclusive regarding the impacts of energy development activities on big game populations, one of the most important recommendations the BLM can incorporate in its RMP revision is to adopt the principles of adaptive management. These include: 1) accurate delineation of critical habitat and corridors; 2) development of a relatively low number of wells, followed by an assessment of their effects through monitoring and research; 3) based on these assessments, modify development, and implement effective mitigation measures.

¹This fact sheet– and the selected recommendations– are adapted from detailed scoping comments on Upper Green ungulate populations and management issues prepared by Dale Strickland of WEST Inc. and submitted to the BLM in February 2003. Contact Linda Baker (307)-360-3670 to receive a copy of this 45-page report.