



## WINTER RANGE DISTURBANCE

### Fact Sheet #17

#### OVERVIEW

Mule deer attempt to minimize their energy expenditures in winter because of reduced available habitat and low quality forage. Winter disturbance by humans can require deer to expend unnecessary energy, which can affect survival and reproduction. Lower survival and reproduction can ultimately reduce the number of deer available for hunting and viewing.

#### BACKGROUND

Outdoor recreation and energy development are increasing throughout the West. These activities can disturb mule deer and prevent them from using preferred habitats. For example, activity and traffic associated with energy development have been shown to displace mule deer from higher quality range to lower quality habitat. Recreational activities such as hiking, running, mountain biking, skiing, snowshoeing, snowmobiling, and shed-antler hunting can also be a source of stress and avoidance behavior in mule deer. The predictability, consistency, and level of threat associated with a disturbance will influence the avoidance response. Research has shown that people recreating off-trail can cause greater avoidance behavior by mule deer than on-trail activities. Additionally, recreating with dogs can further increase stress on mule deer because they often react more strongly to the perceived threat from dogs.



Photo: Bruce Stillings

#### EFFECTS

Even under favorable conditions, mule deer typically eat less and lose weight during winter months. During severe winters, mule deer limit their physical activity to conserve energy which increases their chances of survival until vegetation green-up in the spring. Human disturbance forces mule deer to use more energy and can reduce their body condition to levels that influence survival or reproduction. In addition to increased energy use, reacting to human disturbance also diverts time away from important behaviors such as feeding and resting. Finally, females in

poor condition may have smaller fawns that are less likely to survive than fawns born to females in good body condition.

Land managers are encouraged to promote practices that protect mule deer and their habitats. On federal lands, this protection is often accomplished through land management planning. Minimizing disturbance to mule deer should be a high priority when balancing energy development, recreation, and other uses on mule deer winter ranges.



Photo: Andy Holland



## RECOMMENDATIONS FOR RESPONSIBLE RECREATION

- Keep your distance from mule deer and other wildlife – winter is the most crucial time for many mule deer populations.
- Recreate responsibly and legally by only using open roads and trails.
- Focus winter recreation in areas without wintering big game animals.
- Keep dogs leashed.
- If you see people harassing mule deer, report it to state or provincial wildlife officers.
- If deer are moving away from you, you are too close!



Photo: David Thompson

## ENERGY DEVELOPMENT RECOMMENDATIONS

- Critical winter ranges on federal lands should be accurately mapped so they can be considered and if possible avoided in leasing decisions.
- Develop a comprehensive energy development plan that considers the needs of wintering mule deer. Avoiding crucial habitats, consolidating facilities, and minimizing the amount of vehicular traffic needed for project maintenance and operations are strategies that can reduce the effects of energy development on wintering mule deer.
- At a minimum, land management agencies should coordinate closely with state or provincial fish and wildlife agencies regarding limiting energy development activities during critical winter mule deer survival periods (Nov 30 – April 30), including management of vehicle access that may affect important mule deer habitat.
- If avoiding and minimizing disturbances are not possible, effects should be mitigated with habitat enhancement projects.
- Limit traffic to the extent possible during periods of mule deer activity (within 3 hours of sunrise and sunset).
- Recommend energy companies train staff on how to minimize disturbance on winter range.

Photo: Andy Holland



## CONCLUSIONS

Our activities can affect the reproduction and survival of the animals we care about. Actions that disturb wintering mule deer should be avoided. Recreational travel on winter range should be managed through close coordination with the state or provincial fish and wildlife agency to reduce disturbance when deemed harmful to mule deer. The collaborative development of best management practices that reduce disturbance will benefit mule deer populations and conserve this important species for future generations.

**More information on mule deer can be found at [www.muledeerworkinggroup.com](http://www.muledeerworkinggroup.com)**

*A product of the Mule Deer Working Group - Sponsored by the Western Association of Fish & Wildlife Agencies - Approved January 2016  
Produced with support from the Mule Deer Foundation ([www.muledeer.org](http://www.muledeer.org))*