



Mule Deer  
Working Group

# Fact Sheet

## FORESTRY PRACTICES AND MULE DEER HABITAT

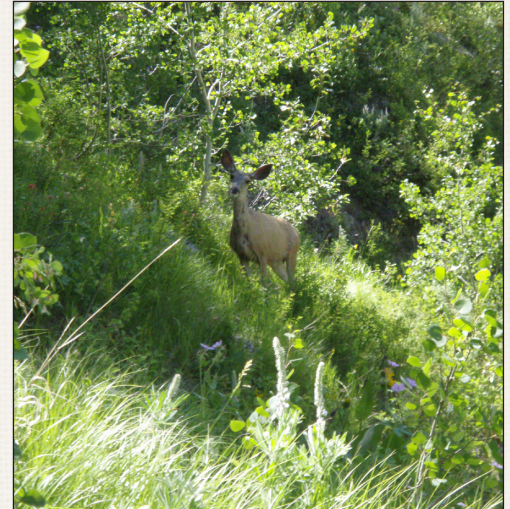
### Fact Sheet #15

#### Overview

From the Colorado Plateau to the boreal forests, mule deer live in a variety of ecosystems across the West where forested habitats play an important role in their nutrition and survival. Lack of disturbance (primarily from fire suppression and decreased logging activity) has resulted in dense forests that lack the plant diversity and understory production necessary to optimize mule deer nutrition.

#### What Does a Healthy Forest Look Like for Deer?

Mule deer require high-quality forbs and shrubs, and some grasses, to support reproduction, body maintenance, and antler growth. Disturbances (thinning, clear-cuts, prescribed fire, and other forestry practices) encourage understory that provides quality forage for mule deer. After timber removal or other treatments have been conducted, biomass of herbaceous vegetation increases in response to decreased competition for sunlight, soil minerals, and precipitation. Overall, a mosaic-type forest is most beneficial to mule deer, because a mixed landscape will have greater plant diversity, more nutritious forage, and provide areas for fawning, thermal, and hiding cover. Healthy aspen stands, in particular, provide cover and optimal forage for mule deer during the summer.



#### Beneficial Forest Practices

The USFS, BLM, and other land-managers have long recognized the importance of conifer forests as wildlife habitat. Habitat manipulations, controlled burns, natural disturbances, annual weather patterns, and changing climate influence habitats used by mule deer. In general, mule deer populations increase following favorable weather patterns and forest disturbance, primarily because of increased production of high-quality forage. When implementing habitat projects, such as controlled burns, it is best to conduct them on a large scale to create the favorable mosaic on habitats mule deer prefer and to allow for regeneration of nutritious plants that are important to mule deer (i.e., the restoration areas should be large enough that domestic livestock and big game do not completely consume the regenerating plants).

Depending on location and past management, several forest practices can improve quality of mule deer habitat:

1. **Timber harvest** (e.g. clear cuts and thinning) to open stands and encourage growth of early successional forage will typically increase vegetative diversity, as well as abundance and quality of mule deer forage for a period of 5-25 years post treatment.
2. **Burning** (both prescribed and wildfire) to remove diseased and over-stocked stands of trees and shrubs will release site nutrients for increased soil productivity which, along with more sunlight on the forest floor, will allow for increased forage vegetation to flourish. Prescribed burning can also be used to maintain forest stands that are currently in good condition.
3. Mechanical and fire disturbance and the removal of encroaching conifer in aspen stands encourages aspen regeneration and increases productivity of nutritious forage during summer.





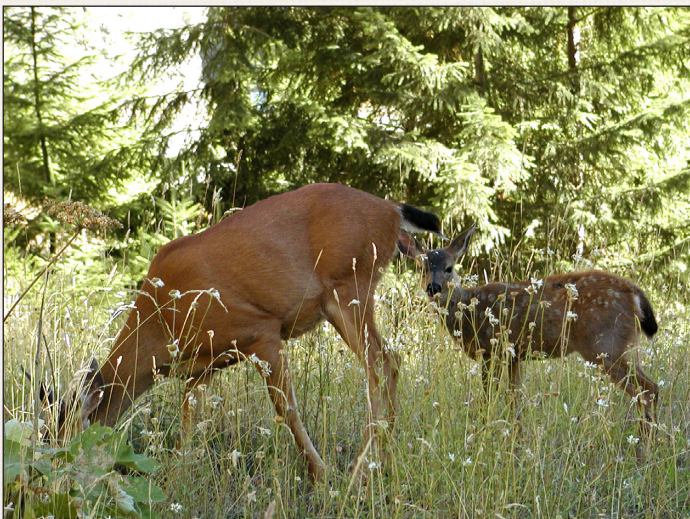
## Other Considerations

- Continued fire suppression often leads to even-aged stands, trees that are diseased and crowded, conifer encroachment in aspen, and a non-productive forest floor.
- When planning habitat projects, such as prescribed burning and timber harvest, consideration should be given to maintaining cover for travel corridors within stands, especially for large project areas.
- Weed infestation can be detrimental to wildlife habitat unless aggressive weed-management practices are followed, monitored, and maintained for several years after treatments (especially important in sagebrush, where annual grasses, such as cheatgrass are present).
- Over-use of forage can decrease food available to mule deer, especially in low to mid elevations, riparian areas, or aspen groves; however, proper livestock grazing at low densities can be beneficial to both mule deer and livestock. Grazing distribution, timing, and intensity should be managed to achieve optimal herbaceous species composition, plant vigor, and to maintain residual forage post-grazing.
- State agencies are responsible for managing wildlife, yet most forested habitat is owned and managed by federal agencies or private landowners. Partnerships and collaborative land-management efforts are essential to ensure conservation and restoration of habitats that benefit mule deer and other wildlife.



## Conclusions and Recommendations

- Forest practices should focus on managing for habitats that ensure a mosaic across the landscape, which include forests of early succession, mixed-age classes, old growth, and a healthy understory of forbs, shrubs, and grasses.
- Habitat projects are best implemented on a large scale to ensure plant regeneration can withstand grazing pressure. If disturbance occurs on a small scale, fencing is encouraged. Natural barriers (dropping conifer in a crisscross style to make a natural fence) can be useful around small aspen stands or where standard fencing is impractical.
- Aspen communities are a very important forest habitat type for mule deer during summer. Preserving and enhancing aspen should be a priority for land managers. Tools include mechanical removal of encroaching conifers, burning to remove conifer and stimulate aspen sprouting, disking to stimulate sapling sprout, and fencing if aspen regeneration is inhibited by cattle or big game.



- Timing of forest practices to avoid disturbance during peak-fawning (usually late May through June) should be considered.
- Sustainable, healthy habitats require that best management practices are followed, such as leaving old-growth forest to provide thermal cover, snow intercept, and seed sources; as well as managing motorized travel, soil stabilization, and invasive species.
- Implement monitoring programs to continue assessing forest health after natural or human-caused disturbance to insure quality habitat for mule deer and other wildlife, continued weed management, and use of adaptive management when conditions change.

**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 July 2015  
Produced with support from the Mule Deer Foundation ([www.muledeer.org](http://www.muledeer.org))*