

## **Item #9: White-tailed Deer Winter Range**

**Evaluation Objectives:** To evaluate the changes in white-tailed deer winter range habitat conditions and the relationship of habitat changes to forest management practices.

**Methods:** The percent of forest canopy cover on white-tailed deer winter ranges is reviewed to determine if the winter range areas are being managed to maintain a minimum of 50% thermal cover. Cover/forage ratio analyses are conducted at the project level for effects analysis to evaluate how vegetation treatments affect forest structure and continue to provide adequate thermal cover on winter ranges. The cumulative effects of road density, access management, prescribed burning, wildfire and timber harvest or fuels reduction for wildland urban interface (WUI) community protection are also evaluated.

**Evaluation:** In coordination with Montana Fish Wildlife & Parks (FWP), technical assistance from big game biologists during project planning ensures that habitat components essential for quality big game habitat are conserved or effects to habitat are mitigated. Strong traditional use of winter habitat and segregation of populations during winter suggested that wintering populations can also become biological meaningful management units. Potential impacts to these separate winter ranges are addressed as a standard effects analysis during vegetation management project proposal development and appropriate Forest Plan standards are applied if projects affect key white-tail deer range. Key winter range is determined and evaluated by Forest Plan management areas and maps developed by FWP and Rocky Mountain Elk Foundation.

There has also been a shift in management philosophy regarding the traditional cover/forage ratios used for habitat analysis. Big game experts in Montana along with state-sponsored research have recently stressed the critical needs of mature conifer forests at lower elevations to mitigate the deleterious effects of severe winter weather caused by deep snow and cold temperatures on big game survival. Big game prefer relatively mature forests (such as diameter at breast height (DBH) > 10" with tree canopy >25%) at lower elevations. Canopy retention is important for snow intercept to maintain accessibility and food supply within the winter range.

Studies on the Flathead National Forest (FNF) from the 1970s into the 2000s demonstrated the effects of weather on big game use and distribution. There is a value from younger aged stands (recent burns and regeneration harvests) during mild or moderate winters while timbered stands with cover and a good understory browse are utilized more often during severe winter snow and temperature. In addition, factors other than browse conditions such as, disturbance at critical times, predation, aspect, early snow cover during the hunting season, habitat loss due to private land development, road density, and liberalized hunt opportunities, can also affect the population. The information regarding sustainable FWP population estimates along with harvest reports suggest that cover/forage ratios across the forest are sufficient.

**Recommended Action:** In addition to habitat quality and quantity, many factors other than Forest Service management can influence big game populations. The state has the responsibility to monitor big game and harvest success to regulate the harvest accordingly for sustainable populations. The FNF should continue to consult with FWP biologists to arrive at site specific

objectives for the affected winter range. The Forest Service should continue to evaluate cover/forage, road density and other relationships for effects analysis at the project level, while addressing the cumulative effects of prescribed burning, wildfire and timber harvest or fuels reduction for WUI community protection projects. From a Forest Service perspective, measures of FWP harvest/trend statistics, habitat security, and access management changes, and acres of habitat improvement are important features of big game management and should be used as surrogates to indirectly estimate the effects of forest management on big game.