

Item #11: Elk and Mule Deer Winter Habitat

Evaluation Objectives: To evaluate relationship between forage/cover ratios on elk and mule deer winter ranges, elk and mule deer populations, and forest management practices.

Methods: Percent cover on mule deer and elk winter ranges is reviewed to determine if minimum thermal cover levels (30%) are being maintained.

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 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 elk or mule deer range. Key winter range is determined and evaluated by Forest Plan Management Areas and maps developed by FWP and Rocky Mountain Elk Foundation. The cumulative effects of road density, access management, prescribed burning, wildfire and timber harvest or fuels reduction for WUI community protection are also evaluated.

An analysis was completed in 2006 for the information for Table 11-1.

Table 11-1. Conditions of Hunting Districts within the Flathead National Forest (2006)

Hunting District Number	Total Hunting District Acres	Forest Hunting District Acres	% Hunting District on Forest	Forest Service Open Road Miles	Open Road Density (Miles/ Sq Mi)	Security Acres (1/3 mile buffer, >250 acres)	% Security (1/3 mile buffer, >250 acres)	Winter Range (RMEF) Acres	Acres of Cover (>59% canopy closure) in Winter Range	% Cover (>59% canopy closure) in Winter Range	Comments
102	397,287	209,492	53%	374.01	1.14	109,641	52%	7,725	1,537	20%	plus 101,103
110	520,108	326,401	63%	164.90	0.32	262,709	80%	14,821	1,294	9%	plus 109
120	324,090	46,404	14%	114.34	1.58	18,372	40%	597	89	15%	
130	396,975	249,168	63%	160.83	0.41	207,446	83%	37,723	17,262	46%	
132	162,822	79,638	49%	40.32	0.32	67,929	85%	18,940	7,363	39%	
140	505,725	495,958	98%	239.26	0.31	419,911	85%	75,598	31,168	41%	
141	217,828	213,073	98%	14.79	0.04	205,968	97%	17,697	5,840	33%	plus 415
150	519,484	519,436	100%	0.00	0.00	519,436	100%	61,112	35,873	59%	plus 280,285,441,442
151	229,254	229,229	100%	0.00	0.00	229,229	100%	7,224	4,245	59%	Unique, disjunct
170	101,743	474	0%	0.48	0.65	285	60%	0			
Total		2,369,273				2,040,926		241,437	104,671	43%	

There has also been a shift in management philosophy regarding the traditional cover/forage ratios used for habitat analysis. Big game experts from around 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 some big game herd survival. In some areas, big game prefer relatively mature forests (such as DBH > 10" with tree canopy >25%) at lower elevations.

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

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 Forest Service should continue to consult with FWP biologists to arrive at site specific objectives for the affected habitat. 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.