

Landscape	Alternative 1 Per Cent of Total (existing SW MT Travel Plan)	Alternative 2 Percent of Total	Alternative 3 Per Cent of Total	Alternative 4 Per Cent of Total	Alternative 5 Per Cent of Total	Alternative 6 Per Cent of Total
Upper Clark Fork	0%	0%	0%	0%	8%	8%
Upper Rock Creek	79%	79%	83%	79%	79%	87%
Forestwide Total	36%	56%	80%	36%	69%	71%

Table 178. Percent of Fall Secure Habitat by Hunting Unit – October 15 to December 1. Secure habitat objectives for all alternatives exceed the neighboring secure habitat for the Henry’s Lake bear management unit in the Yellowstone Grizzly Bear Primary Conservation Area.

Hunting District	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
210	56%	56%	61%	56%	56%	56%
211	72%	72%	76%	71%	74%	73%
212	44%	44%	50%	44%	44%	45%
213	38%	41%	46%	38%	39%	41%
214	50%	50%	50%	50%	50%	50%
215	29%	29%	30%	29%	29%	29%
216	59%	59%	66%	59%	62%	63%
300	66%	66%	71%	66%	66%	66%
302	36%	36%	46%	36%	44%	41%
311	93%	93%	93%	93%	93%	93%
318	32%	32%	33%	32%	32%	32%
319	67%	67%	70%	67%	69%	69%
320	61%	62%	63%	61%	61%	61%
321	52%	56%	65%	53%	61%	60%
323	73%	76%	77%	73%	73%	73%
324	72%	77%	80%	72%	76%	75%
327	54%	54%	68%	54%	54%	54%
328	50%	53%	70%	53%	59%	58%
329	52%	54%	58%	54%	55%	55%
330	63%	63%	71%	63%	63%	63%
331	49%	52%	55%	49%	52%	53%
332	62%	62%	66%	62%	63%	63%
333	50%	54%	66%	51%	51%	50%
340	42%	47%	47%	42%	45%	43%
341	61%	61%	63%	61%	61%	61%

Hunting District	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
350	51%	54%	57%	53%	53%	55%
360	96%	96%	96%	96%	96%	96%
362	97%	97%	97%	97%	97%	97%
370	54%	55%	57%	55%	57%	55%
Forest-wide average	57%	59%	63%	58%	59%	59%

Lynx Conservation Assessment and Strategy

The Northern Rockies Lynx Management Direction Record of Decision (USDA 2007) classifies the Beaverhead-Deerlodge NF as unoccupied for Canada lynx.. Consequently, there is no requirement for ESA consultation on this species. The Record of Decision specifically directs that unoccupied forests are not required to follow the management direction (current Conservation Agreement) until such time as they are occupied by Canada lynx. The Record of Decision further states that the Forest Service will work with the FWS to develop and complete an acceptable protocol to survey currently unoccupied lynx habitat in secondary areas which include the Beaverhead-Deerlodge NF. This protocol is to be established within 18 months of the biological opinion of the Northern Rockies Lynx Management Direction.

Big Game Winter Range

Alternatives 1, 2 and 4 present the greatest possibility of adverse winter effects on wildlife with 74% of the forest’s winter range open to motorized use. Twenty-six per cent of big game winter range is closed to winter motorized use under these alternatives (Table 176). Assuming increased snowmobile use, animals on big game winter range would be increasingly stressed by motorized use during the time of the year they are most vulnerable to depletion of their energy reserves. The percentages can be deceiving; however, as the total area that may be open to snowmobiles is further limited by steep topography and dense timber stands. Increased use in the southeastern part of the Forest is already occurring as users are displaced from Yellowstone National Park. Increases are expected in general as snowmobile use is increasing across nationwide. Snowmobile registrations are up by 43% since the 1980s (International Snowmobile Manufacturers Association 2004)

Alternatives 3, 6, and 5 provide progressively less open area to snowmobiles. The former closes almost half (48%) of big game winter range on the BDNF to snowmobiles, while Alternative 5 would prohibit snowmobile use on 39% of winter range. Alternative 6 closes 46% of winter range to snowmobiles, second only to alternative 2. Under all alternatives there are likely to be terrain and vegetation conditions that can restrict snowmobiles. Vegetation limitations can be substantially changed, however, by massive events such as wildfire. Large fires can open terrain previously considered invehicle accessible to snowmobiles.

Wolverine Denning Habitat

Alternatives 1 and 4 provide the least seclusion from snowmobile disturbance to wolverine denning habitat with similar prohibitions on snowmobile use on 36% of wolverine denning habitat which is 2% of the total forest land base. Most of which is on typically north-facing high

basins and steep talus slopes, has been invehicle accessible to snowmobiles. Advances in snowmobile technology enable snowmobilers to ride many of these steep slopes and high basins. Wolverines use these areas during the February-April birthing and whelping period. There is increasing evidence females are negatively impacted by human disturbance near their den sites (Heinemeyer et al. 2001). This species lives at low densities under the best of circumstances; hence disturbance during this critical period can have adverse effects on survival of young wolverines.

Alternative 2 provides seclusion from motorized disturbance over 56% of National Forest denning habitat. This amounts to approximately 3.1% of the total forest land base.

Alternative 3 provides the most seclusion from snowmobile disturbance with approximately 80% of National Forest denning habitat off-limits to snowmobiles. This amounts to approximately 4.3% of all forest acres.

Alternative 5, at 69%, provides the third highest protection from snowmobile disturbance to denning habitat. This is approximately 3.7% of the total forest land base off-limits based on wolverine denning habitat.

Alternative 6 provides the second highest degree of protection at 71% of denning habitat excluded from snowmobile disturbance.

Wildlife Security and Potential Connectivity

Secure areas for elk and grizzly bears are directly impacted by motorized vehicle disturbance. Both species will avoid vehicles, thereby reducing habitat otherwise available to them. Secure areas for these species can also provide relatively secure movement areas for other ungulates and forest carnivores. Secure areas for elk and grizzly bears can also provide core areas, linkage, and connectivity across forest landscapes. Without telemetry showing precise movement patterns, we cannot identify specific crossings for large ungulates or forest carnivores. As noted in the introduction under general effects, wildlife connectivity can also have negative implications when animals are exposed to disease and face competition by invasive species.

Table179. Estimated Probabilities of Flight Response by Elk and Mule Deer (Wisdom et al. 2004)

Distance	ATV Rider Probability	Bike Rider Probability	Horse Rider Probability	Hiker Probability
100 meters (109 yards) from elk	0.62 (0.52-0.73)	0.58 (0.46-0.68)	0.50 (0.40-0.59)	0.52 (0.42-0.64)
500 meters (545 yards) from elk	0.43 (0.36-0.49)	0.31 (0.26-0.35)	0.22 (0.19-0.26)	0.15 (0.12-0.18)
1000 meters (1090 yards) from elk	0.25 (0.20-0.30)	0.13 (0.10-0.16)	0.07 (0.05-0.08)	0.06 (0.04-0.08)
All distances from elk	0.19 (0.17-0.21)	0.14 (0.12-0.16)	0.11 (0.09-0.12)	.08 (0.07-0.10)
100 meters (109 yards) from deer	0.06 (0.01-0.11)	0.08 (0.02-0.14)	0.11 (0.03-0.19)	0.10 (0.04-0.17)
500 meters (545 yards) from deer	0.05 (0.02-0.07)	0.07 (0.04-0.10)	0.05 (0.03-0.07)	0.04 (0.02-0.05)

Distance	ATV Rider Probability	Bike Rider Probability	Horse Rider Probability	Hiker Probability
1000 meters (1090 yards) from deer	0.03 (0.01-0.06)	0.06 (0.03-0.08)	0.04 (0.02-0.06)	0.04 (0.02-0.06)
All distances from deer	0.03 (0.02-0.05)	0.05 (0.04-0.07)	0.04 (0.03-0.05)	0.04 (0.03-0.06)

On average 128 deer or elk telemetry locations were obtained during a given day of each off-road activity (treatment periods). Flight response is shown as a function of distance between animals and humans by type of transportation. Probability range is shown in parentheses

Objectives for open motorized road and trail densities range from 0 to 2.5 miles per square mile, by landscape and hunting unit across the six alternatives. Road density objectives represent a ceiling. For those hunting districts that exceed objectives, open motorized roads and trails will be reduced to meet the objective. Tables 180 AND 181 show greater details based on landscapes and hunting units. Figures 29 thru 42 display secure areas by alternative.

Table 180. Total Summer Open Motorized and Trail Density Objectives by Landscape (Figures in parenthesis indicate miles of road that would need to be closed to meet the objective)

Landscape	Alt 1 No Objective	Alt 2 1.5 mi/sq.mi	Alt 3 1.0 mi/sq.mi	Alt 4* 2.5 mi/sq.mi	Alt 5 Variable Objectives	Alt 6 Variable Objectives
Big Hole	Existing 1.3 mi/sq mi	1.5	1.0	2.5	1.5	1.2
Boulder River	2.0	1.5 (153)	1.0 (306)	2.5	2.0	1.9 (34)
Clark Fork - Flints	1.8	1.5 (185)	1.0 (469)	2.5	2.0	1.9
Gravelly	0.7	1.5	1.0	2.5	1.0	0.7
Jefferson River	1.8	1.5 (65)	1.0 (231)	2.5	1.5 (66)	1.6 (33)
Lima Tendoy	1.1	1.5	1.0	2.5	1.0	1.0
Madison	0.0	0.0	0.0	0.0	0.0	0.0
Pioneer	1.3	1.5	1.0 (182)	2.5	1.5	1.5
Tobacco Roots	1.2	1.5	1.0	2.5	1.5	1.3
Upper Clark Fork	2.0	1.5 (76)	1.0 (120)	2.5	2.0	2.0
Upper Rock Creek	0.9	1.5	1.0	2.5	1.0	0.9
Total miles to close to meet objective	0	479	1308	0	66	67

**Alternative 4 does not meet national direction to reduce roads.*

Landscapes are shown in Figure 29 on the next page. Wildlife security and potential connectivity are best provided by Alternatives 3, 2, 5, and 6 in order. Alternatives 1 and 4 have no objectives for road closures.



Figure 1. Landscape Map

Table 1. Fall (10/15 through 12/1) Open Motorized Roads and Trails Density Objectives by Hunting District (Parentheses indicate number of miles to close to meet the objective)

Hunting Unit	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
210	0.9	1.5	1.0	2.5	1.0	0.9
211	0.6	1.5	1.0	2.5	1.0	0.5
212	1.3	1.5	1.0 (56)	2.5	1.5	1.4
213	1.5	1.5	1.0 (33)	2.5	2.0	1.4
214	1.6	1.5 (11)	1.0 (66)	2.5	2.0	1.6
215	1.9	1.5 (52)	1.0 (104)	2.5	1.5 (52)	1.5 (52)
216	0.9	1.5	1.0	2.5	1.0	0.8
300	0.7	1.5	1.0	2.5	0.5 (24)	0.6 (12)
302	1.2	1.5	1.0	2.5	1.0	1.0 (11)
311	0.0	0.0	0.0	0.0	0.0	0.0
318	1.9	1.5 (88)	1.0 (198)	2.5	2.0	1.8 (22)
319	0.7	1.5	1.0	2.5	1.0	0.6
320	0.7	1.5	1.0	2.5	1.0	0.8
321	1.1	1.5	1.0	2.5	1.5	1.1
323	0.5	1.5	1.0	2.5	0.5	0.5
324	0.5	1.5	1.0	2.5	0.5	0.4
327	0.8	1.5	1.0	2.5	1.0	0.8
328	1.0	1.5	1.0	2.5	1.0	0.8
329	1.0	1.5	1.0	2.5	1.0	1.1
330	0.7	1.5	1.0	2.5	1.0	0.7
331	1.4	1.5	1.0 (92)	2.5	1.5	1.5
332	0.8	1.5	1.0	2.5	1.0	0.8
333	1.0	1.5	1.0	2.5	1.0	0.9 (16)
340	1.5	1.5	1.0 (51)	2.5	1.5	1.4
341	0.6	1.5	1.0	2.5	0.5 (6)	0.5 (6)
350	1.5	1.5	1.0 (78)	2.5	1.5	1.3 (26)
360	0.0	0.0	0.0	0.0	0.0	0.0
362	0.0	0.0	0.0	0.0	0.0	0.0
370	0.9	1.5	1.0	2.5	1.0	1.0
Forestwide Miles to close	0.0	151	678	0	82	145

Hunting Districts are shown on the following page in Figure 30.

By hunting unit the most wildlife security and potential connectivity are provided by Alternatives 3, 2, 6, and 5 in order. Alternative 1 and 4 have no objectives and rank last.

While motorized winter recreation can create localized disturbance to wildlife, general hunting season in the fall poses the greatest potential human disturbance that could adversely affect