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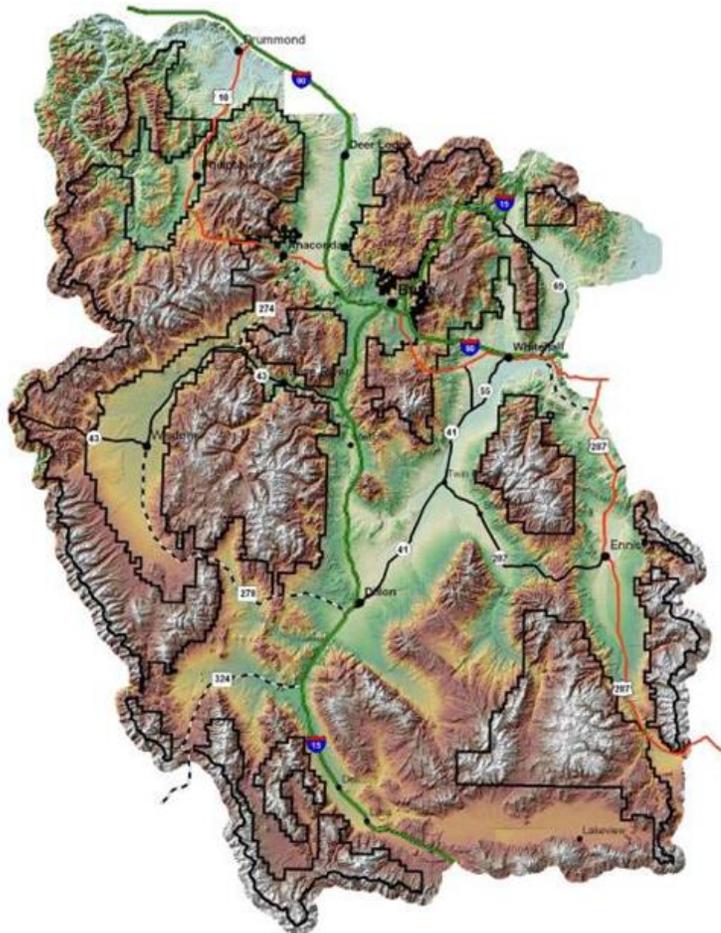


Draft Supplemental Environmental Impact Statement

For the

Beaverhead-Deerlodge National Forest Land and Resource Management Plan to Comply with the District Court Order (Winter Motorized Use)

Beaverhead, Deer Lodge, Granite, Jefferson, Madison,
Powell, Silver Bow, and Gallatin counties, Montana



**Draft Supplemental Environmental Impact Statement
for the
Beaverhead-Deerlodge National Forest Land and Resource
Management Plan
To Comply with the District of Montana
Court Order**

**Beaverhead, Deer Lodge, Gallatin, Granite, Jefferson, Madison,
Powell and Silver Bow Counties, Montana**

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Abstract: In an August 27, 2015 Order, the US District Court for the District of Montana directed the Forest Service to disclose information underlying its analysis of snowmobile impacts on big game wildlife and apply the minimization criteria in the 2005 Travel Management Rule to areas open to winter motorized use. This Draft Supplemental Environmental Impact Statement (SEIS) to the January 2009 Beaverhead-Deerlodge National Forest Land and Resource Management Plan Corrected Final Environmental Impact Statement (FEIS) analyzes and discloses potential impacts by landscape of over snow vehicle use on big game wildlife. It also considers, with the objective of minimizing impacts on resources cited in the minimization criteria found at 36 CFR 212.55(b), for areas open to winter motorized use in six alternatives analyzed in the 2009 FEIS. The alternatives consider changes in areas open for over the snow vehicle use by landscape, that minimize impacts on the criteria.

If you have evidence of particular areas within the landscapes where there is a noticeable impact on resources resulting in damage to soil, watershed, vegetation or other resources; harassment or substantial disruption to wildlife; or conflict among uses we would like to hear from you during this comment period regarding that evidence. Site specific comments are the most useful so we can meet our objective of minimizing adverse effects of off road vehicle use in a manner that is feasible, prudent, and reasonable in light of the multiple use mandates governing the Beaverhead Deerlodge National Forest.

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This Draft Supplemental Environmental Impact Statement (SEIS) to the January 2009 Beaverhead-Deerlodge National Forest Land and Resource Management Plan Corrected Final Environmental Impact Statement (FEIS¹) analyzes and discloses potential impacts of over snow vehicle use on big game wildlife and considers, with the objective of minimizing, impacts on resources cited in the minimization criteria found at 36 CFR 212.55(b) for areas open to winter motorized use in six alternatives analyzed in the 2009 FEIS.²

Background

2009 Forest Plan

In a Record of Decision (ROD) dated January 14, 2009 (2009 ROD), Regional Forester Thomas Tidwell selected Modified Alternative 6 and approved the 2009 Forest Plan³ for the Beaverhead-Deerlodge National Forest (BDNF). The Forest Plan provides broad programmatic management direction for activities on the 3.38 million acre BDNF for the next 10-15 years, including direction on eight revision topics (vegetation, wildlife, aquatic resources, recreation and travel management, fire management, livestock grazing, timber and recommended wilderness). This direction revised previous management direction from the 1986 Beaverhead National Forest Plan and the 1987 Deerlodge National Forest Plan.

The 504-page Forest Plan provides management direction for activities on the 3.38 million acre BDNF and established forestwide management goals, objectives and standards for 17 specific resources and additional direction specific to 86 management areas. While the 2009 ROD approved the Forest Plan, it did not make site-specific project level decisions; rather direction in the Forest Plan applies to subsequent projects and decisions.

The 2009 Forest Plan, through 86 different management area prescriptions, identified where over snow vehicle (OSV)⁴ use is allowable and where it is not allowed. The 2009 ROD describes the rationale for these allocations under Revision Topic #4: Recreation and Travel Management (2009 ROD pgs. 13 – 15). These allocations guide future decisions. Future site-specific decisions

¹ As part of the BDNF Plan revision process, an FEIS was published in February, 2008 followed by a 90-day public comment period. In response to public comments, the 2008 FEIS was modified and published as the Corrected FEIS in January, 2009. In this SEIS, quotations from and page numbers for the FEIS refer to the 2009 Corrected FEIS for the BDNF Land and Resource Management Plan – not the 2008 FEIS.

² The FEIS, 2009 ROD and 2010 ROD are electronically available at: <http://fs.usda.gov/goto/bdnf/forest-plan>. Please scroll to the bottom of the page and click on “Link to Environmental Impact Statement and subsequent supplemental analysis”.

³ The Court frequently references the Forest Plan as the “Revised Forest Plan” to distinguish between the 2009 Forest Plan and the 1986 Beaverhead and 1987 Deerlodge Forest Plans. In this SEIS, the 2009 BDNF Land and Resource Management Plan is referenced as the “Forest Plan”. It is electronically available at: <http://fs.usda.gov/goto/bdnf/forest-plan>.

⁴ Among other types of vehicle use, 36 CFR §212 specifically speaks to the use of over-snow-vehicles or OSVs. An OSV is a motor vehicle designed for use over snow that runs on a track or tracks and/or a ski or skis, while in use over snow (36 CFR §212.1). For consistency in applying minimization criteria identified in the same regulations, this SEIS uses the term OSV instead of snowmobile.

may not allow OSV use where the Forest Plan does not allow it. In contrast, while the Forest Plan allows for OSV use in some management areas, it does not require it. Subsequent site-specific decisions may prohibit this activity where needed to protect or promote local resource values within the broader multiple-use prescriptions.

As part of addressing the recreation and travel management revision topic, the Forest Plan prescribed motorized and non-motorized allocations for large blocks of land. Pages 14-15 of the 2009 ROD explain the decision rationale to allocate 40% of the BDNF to winter non-motorized recreation. In addition to areas previously closed (before 2009) to winter motorized use (16% of the BDNF), this decision allocated another 24% of the BDNF to winter non-motorized recreation. No routes or areas closed to over snow vehicles (OSV) under the prior plans were allocated to winter motorized recreation. Winter recreation allocations resulting from the 2009 ROD are displayed on page 55 of the Forest Plan which is included on the next page as Figure 1.

2010 Forest Plan-Related Motorized Closures

As explained in the 2009 ROD (pg. 23), the Forest Plan established desired conditions, standards and allowable uses but did not make site-specific decisions such as closing individual motorized routes in areas recommended for wilderness. In the 2009 ROD, the Regional Forester directed the Forest Supervisor to issue a second ROD, based on the analysis in the 2009 FEIS, making site-specific decisions closing areas and routes to motorized use based on Forest Plan direction and signing and enforcing those closures.

On February 12, 2010, Forest Supervisor David Myers signed the ROD Enacting Forest Plan Travel Management Direction for Certain Areas of the BDNF (2010 ROD). This 2010 ROD closed those areas to winter motorized travel that the 2009 Forest Plan had allocated to winter non-motorized prescriptions (December 2 through May 15). Special Order 2010-BD-032, signed by Forest Supervisor David Myers July 6, 2010, implemented the decision; thus initiated signing and enforcement of these motorized closures. Prior to signature of this Special Order, 2,830,538 acres of the BDNF were open to winter motorized use (FEIS, pg. 366). After signature, 2,043,372 acres of the BDNF remained open to winter motorized use (2010 ROD, pg. 3).

US District and Appellate Courts

On September 7, 2010, Wildlands CPR, Inc.⁵, Friends of the Bitterroot, Inc., and Montanans for Quiet Recreation filed a complaint in US District Court for the District of Montana (Case 98:10-cv-00104-DWM) alleging inadequate analysis of the impacts of winter motorized travel when developing the Forest Plan and failure to analyze criteria intended to minimize off-road vehicle impacts.

⁵ Wildlands CPR later merged with WildEarth Guardians.

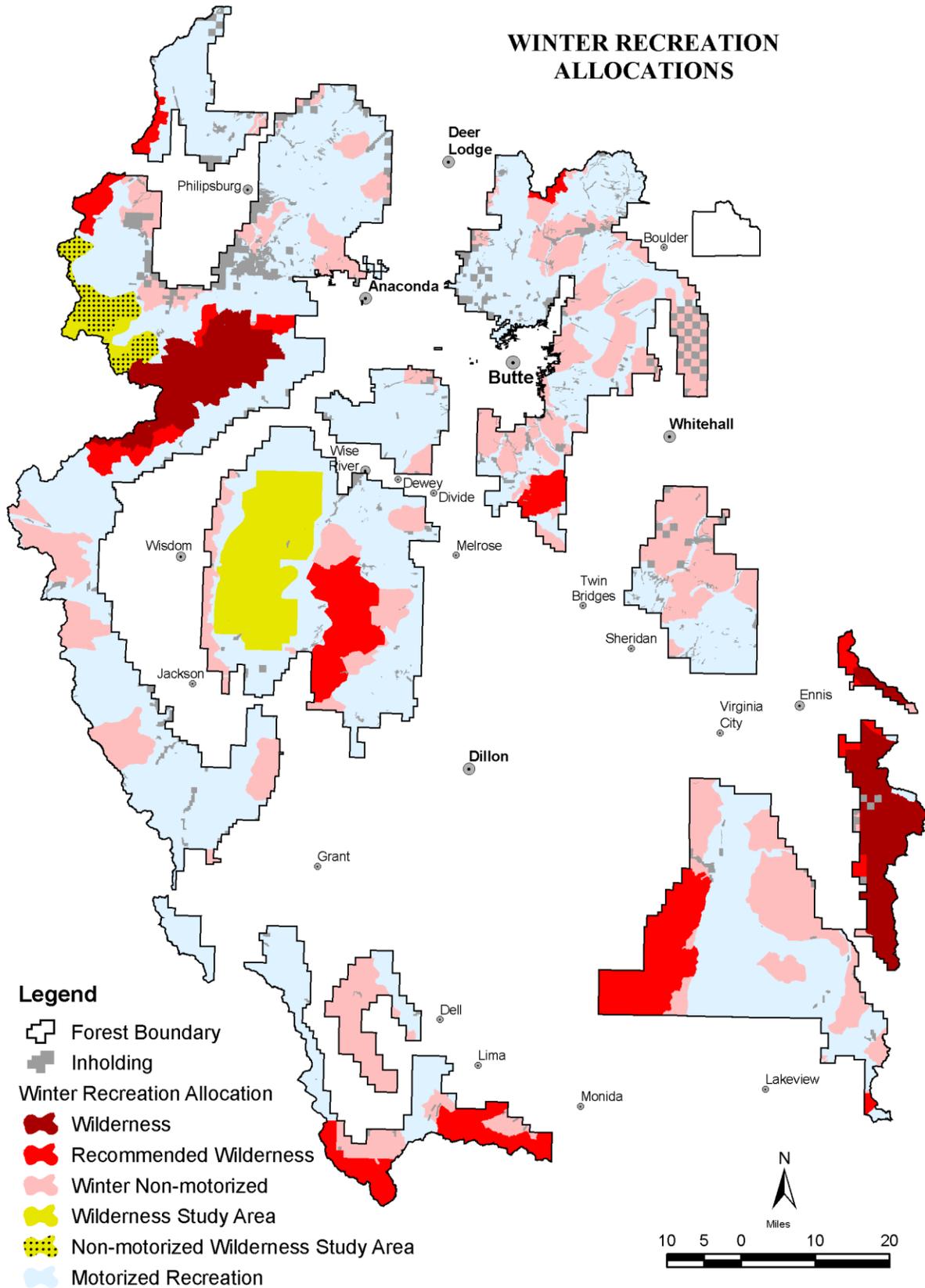


Figure 1. BDNF Forest Plan Winter Recreation Allocation Map

District Court April 2, 2012 Order

In an Order dated April 2, 2012, the US District Court for the District of Montana found the Forest Service adequately applied the minimization criteria of Executive Order (EO) 11644 for areas open to snowmobile use and adequately analyzed snowmobile impacts to big game. However, the court found “to the extent that specific routes have been designated for snowmobile use”, the Forest Service failed to show it adequately applied the minimization criteria at the route-specific level. The court ordered as follows: “that this case is remanded to the Forest Service for the limited purpose of applying the minimization criteria mandated by EO 11644 at the route specific level where specific snowmobile routes are designated. The Forest Service shall perform this analysis and update the Revised Forest Plan by September 30, 2012⁶”.

Agency Response to April 2, 2012 District Court Remand

In response to the District Court’s remand, the BDNF prepared a Draft and Final Supplemental EIS (FSEIS) evaluating potential effects relevant to applying the minimization criteria established in EO 11644 at the route-specific level where snowmobiles routes were delineated in the 2009 Forest Plan. The November 2012 FSEIS provides additional environmental analysis for three routes identified in the Forest Plan as exceptions within winter, non-motorized areas, specifically:

- Snowmobile use through the Electric Peak area near Thunderbolt Creek and Cottonwood Lake (Jefferson County, Montana),
- Snowmobile use through the non-motorized area on the Road #056 corridor in the vicinity of Antelope Basin (Beaverhead County, Montana), and
- Snowmobile use on the road to Antone Cabin in the southwest portion of the Snowcrest Mountains (Beaverhead County, Montana) (2012 FSEIS, pg. 3)

On November 14, 2012, the Regional Forester signed a Determination and Affirmation of Prior Decision⁷ in response to the District Court Order. Based on analysis in the 2012 FSEIS, public comment, and applying the minimization criteria to the three routes designated for snowmobile use in the Forest Plan, the Regional Forester determined a new decision for the Forest Plan was not needed and the routes are appropriately managed as limited exceptions to winter non-motorized allocations (Determination, pg. 3).

Appeal to Ninth Circuit and Ninth Circuit Opinion

Wildlands CPR, Inc., Friends of the Bitterroot, Inc., and Montanans for Quiet Recreation appealed the April 2, 2012, US District Court decision on a number of issues including the District Court’s finding that the Forest Service complied with the minimization criteria of EO 11644 for areas open to snowmobile use and adequately disclosed impacts of snowmobile use

⁶ On October 15, 2012, the U.S. District Court for the District of Montana extended the deadline to November 16, 2012.

⁷ The 2012 FSEIS and 11/14/12 Determination and Affirmation of Prior Decision are electronically available at: <http://fs.usda.gov/goto/bdnf/forest-plan>. Please scroll to the bottom of the page and click on “Link to Environmental Impact Statement and subsequent supplemental analysis”.

on big game. In a June 22, 2015 Opinion, the US Court of Appeals affirmed “...the district court’s ruling that the EIS sufficiently analyzed the conflicts between snowmobiles and other recreational uses in the Revised Forest Plan. Further, we agree that WildEarth’s challenge to the Subpart C exemption in the TMR is not ripe for review”.

However, in the same opinion the US Court of Appeals reversed “...the district court’s NEPA ruling, in part, because the Forest Service did not properly disclose the information underlying its analysis of snowmobile impacts on big game wildlife in the EIS” and reversed “...the district court’s ruling that the Forest Service adequately applied the minimization criteria in the TMR”. The Ninth Circuit remanded the case to District Court.

District Court August 27, 2015 Order

Pursuant to the Ninth Circuit’s June 22, 2015 Opinion, in an August 27, 2015 Order, the US District Court for the District of Montana ordered the Forest Service to “...’properly disclose the information underlying its analysis of snowmobile impacts on big game wildlife’ and ‘adequately appl[y] the minimization criteria in the [2005 Travel Management Rule]’”. The District Court further ordered the Forest Service to “...make the proper disclosures, perform the proper analysis, and update the Revised Forest Plan by February 29, 2016. A failure to do so will result in the suspension of the winter travel management portion of the Revised Forest Plan as of March 1, 2016.”

Minimization Criteria

Among other requirements, the final rule for *Travel Management; Designated Routes and Areas for Motor Vehicle Use*⁸ (commonly referred to as the 2005 Travel Management Rule or TMR) implements provisions of EO 11644 and 11989 regarding off-road use of motor vehicles on Federal lands. Regulations implementing this rule are found at 36 CFR §212. The “minimization criteria” referenced in the 2015 Circuit Court Opinion and District Court Order are found at 36 CFR §212.55(b) *Specific criteria for designation of trails and areas*, and specify :

“...in designating National Forest System trails and areas on National Forest System lands, the responsible official shall consider effects on the following with the objective of minimizing:

- 1) Damage to soil, watershed, vegetation, and other forest resources;
- 2) Harassment of wildlife and significant disruption of wildlife habitats;
- 3) Conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System lands or neighboring Federal lands; and
- 4) Conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands.

In addition, the responsible official shall consider:

⁸ The final rule was published in the Federal Register, Vol. 70, No. 216, November 9, 2005.

- 5) Compatibility of motor vehicle use with existing conditions in populated areas, taking into account sound, emissions, and other factors.”

Purpose of this SEIS

The purpose of this supplement is to comply with the August 27, 2015, US District Court for the District of Montana Order by disclosing potential snowmobile impacts on big game wildlife and applying the minimization criteria in the 2005 Travel Management Rule.

This SEIS evaluates information underlying the analysis of snowmobile impacts on big game wildlife and resources cited in the minimization criteria (described in the previous section) for areas on the BDNF considered open for OSV use during the winter recreation season (December 2 through May 15) in six alternatives analyzed in detail in the 2009 BDNF Land and Resource Management Plan FEIS.

After evaluating potential impacts from OSV use on big game wildlife and the resources cited in the minimization criteria disclosed in this SEIS, the responsible official, BDNF Supervisor Melany Glossa, will consider the analysis in the SEIS, public comment, apply the minimization criteria to areas remaining open to OSV use and determine whether an amendment to Forest Plan direction is needed or whether site specific changes would be necessary.

Public Involvement

Public involvement for revision of the 2009 Forest Plan is described in the 2009 FEIS (pg. 10), 2009 ROD (pg. 30) and 2010 ROD (pg. 12-13) and summarized here. Revision formally began with publication in the Federal Register of a Notice of Intent (NOI) to prepare an EIS on May 3, 2002. Four public comment opportunities were provided. The DEIS was available for public comment for 120 days ending October 31, 2005 and generated more than 11,000 letters and emails. An FEIS was published in February, 2008. While a comment period was not required for the 2008 FEIS, an additional 90-day comment period was offered due to high public interest and the length of time since release of the DEIS. The FEIS comment period in 2008 generated more than 32,536 letters, phone calls and email. The interdisciplinary team responded to all comments which are publically available on the BDNF web page.

In response to the August 27, 2015 Order from the US District Court for the District of Montana, an NOI to prepare a Supplemental EIS was published in the Federal Register (Vol. 80. No. 176) on September 11, 2015. Pursuant to 40 CFR §1502.9(c)(4), a formal scoping period for this Draft SEIS was not offered. The NOI explained a Draft SEIS was expected to be available for public review and comment in November 2015, and the Draft SEIS comment period would be 90 days from the date the Notice of Availability is published in the Federal Register in accordance with 36 CFR §219.16(a)(2).

Summary – 2009 Forest Plan FEIS

This SEIS supplements analysis in the 1,454-page Forest Plan FEIS, specific to potential effects of winter motorized use on big game and resources cited in the minimization criteria. This section

of the SEIS summarizes the overall context of the Forest Plan Revision effort and places the winter motorized allocations from the Forest Plan within the context of the FEIS analysis.

Reviewers are reminded, when placing this SEIS in context with the 2009 FEIS, that Forest Plan level winter motorized allocations were proposed as a subset within the far larger context of allocations for all resources across the entire Forest. This section of the SEIS attempts to assist reviewers in placing winter motorized allocations within the broader context of the Forest Plan and then point reviewers towards the 2009 FEIS discussions concerning allocating additional areas to winter non-motorized use.

The intent of revision is to provide a Forest Plan that:

- Guides all natural resource management activities on the BDNF for the next 15 years,
- Addresses changed conditions and directions that have occurred since the original plans were approved,
- Meets federal laws, regulations, and policies, and
- Provides consistent direction for the BDNF (FEIS, pg. 2).

The 2009 FEIS identified and analyzed the following eight key issues (FEIS, pg. 14-18):

- 6) Vegetation management
 - a. Forest stand structure
 - b. Aspen
 - c. Grassland/Shrubland
 - d. Old-growth
- 7) Wildlife management
 - e. Wildlife security
 - f. Elk habitat effectiveness
- 8) Aquatic resource management
 - g. Aquatic restoration
 - h. Bull trout and westslope cutthroat trout conservation
 - i. Aquatic strategies
- 9) Recreation and travel management
 - j. Summer issue
 - k. Winter issue
- 10) Fire management
- 11) Suitable rangeland
- 12) Suitable timberland
- 13) Wilderness recommendations

FEIS Winter Issue for Recreation and Travel Management

The key issue description for winter recreation and travel management is:

“Some public comments indicated a desire to maintain existing motorized recreation opportunities in summer and winter while others wanted to expand quiet areas free of motorized use with easy vehicle access and parking. Yet others wanted increased motorized opportunities...”

Winter issue: Where and how many acres are allocated and managed for winter motorized and non-motorized opportunities?

Decision criteria: Percent of the Forest and location of areas allocated as non-motorized...” (FEIS pg. 16)

The “action” (changed condition) proposed in the 2009 FEIS alternatives was to **close** areas, hence, analysis in the 2009 FEIS disclosed the effects of closing additional areas to OSV use, not opening areas. No routes or areas closed to over snow vehicles (OSV) under the prior plan were “opened” with this revision.

Forest Plan Landscapes

FEIS analysis of the recreation and travel management and wildlife habitat key issues was disclosed at the forest scale and landscape scale (Figure 2)⁹. This SEIS analyzes effects at the same scales.

2009 Forest Plan Direction for Winter Motorized Recreation

Forest Plan direction applicable to winter motorized recreation is:

Aquatic Resources Goal – Recreation Sites: “Developed sites, dispersed sites, and trails are designed, constructed, and maintained in a manner which achieves desired stream function” (Forest Plan, pg. 16)

Aquatic Resources Objective – Recreations Sites: “Existing, new, dispersed, or developed recreation sites and trails in RCAs¹⁰ are adjusted if they retard or prevent attainment of desired stream function, or adversely affect threatened or endangered species or adversely impact sensitive species. Adjustments may include education, use limitations, traffic control devices, increased maintenance, and relocation of facilities” (Forest Plan, pg. 18)

Aquatic Resources Standard 23: “Where adjustments of recreation use impacts on desired stream function are not successful, terminate activity or occupancy” (Forest Plan, pg. 20).

Economics and Social Values Goal – Economy Contribution: “Contribute to the social and economic well-being of local communities by promoting use of renewable natural resources. Provide...recreation settings consistent with other resource goals” (Forest Plan, pg. 21).

⁹ BDNF lands in the Elkhorn Mountains are managed in cooperation with the Helena National Forest. Revision of management direction for the Elkhorn Mountains will take place during revision of the Helena National Forest Plan (ROD, pg. 32 and FEIS, pg. 1). While the Elkhorn Mountains are part of the BDNF, this landscape is not analyzed in the 2009 FEIS or this SEIS.

¹⁰ RCA = Riparian Conservation Area



Figure 2 Forest Plan Landscape Map

Recreation and Travel Management Goals – Recreation Settings: “Offer a choice of recreation settings ranging from remote backcountry to more developed front country areas...” (Forest Plan, pg. 29).

Recreation and Travel Management Goal – Winter Motorized Allocations: “Provide roaded and semi-primitive motorized recreation settings in these areas, and offer opportunities for a variety of motorized and non-motorized travel and activities. The majority of these allocations provide opportunities for travel by snowmobile” (Forest Plan, pg. 30).

Recreation and Travel Management Goal – Recreation Opportunities: “High quality diverse outdoor recreation opportunities are provided, including but not limited to:

- Day use activities within a 30 minute drive of communities for motorized and non-motorized trails...
- Winter use areas near communities for ski touring, snowshoeing and snowmobiling” (Forest plan, pg. 30)

Recreation and Travel Management Standard 2: Motorized vehicles are not allowed in...winter non-motorized allocations except for permitted or administrative use (Forest Plan, pg. 32).

FEIS Alternatives Analyzed in Detail

The FEIS analyzed six alternatives in detail (FEIS, pg. 23-30). In the 2009 ROD, the Regional Forester selected a modified version of Alternative 6.

In addition to alternative-specific action (summarized below), the FEIS considered fourteen elements common to all alternatives (FEIS, pg. 18-21). Specific to this SEIS, all alternatives include the following element for Winter Non-Motorized allocations:

“These allocations are designed to protect low elevation winter range for deer, elk, and moose; protect high elevation secure habitat for mountain goat and wolverine. They also provide quiet winter recreation opportunities in locations people can drive to. Primitive and semi-primitive non-motorized recreation settings are provided in these areas, and offer opportunities for ski touring, snowshoeing, and hiking, and other non-motorized activities. Motorized use will not be allowed in this allocation” (FEIS, pg. 20).

The action alternatives (Alternatives 2 through 6 Modified) restrict motorized travel in recommended wilderness (FEIS, pg. 22) and continue current (prior to the 2009 ROD) travel restrictions on seasons and type of use in all areas outside of recommended wilderness or non-motorized allocations (FEIS, pg. 23).

The following sections describe the six alternatives considered relative to winter recreation allocations. Readers are referred to the FEIS (pg. 23-30) for complete descriptions of the alternatives.

The 2009 FEIS also considered and eliminated from detailed study an additional seventeen alternatives (FEIS, pg. 30-37); including an alternative with no snowmobile restrictions and an alternative proposing site-specific travel management.

The 2009 FEIS discloses “Consideration of an alternative with no restrictions on snowmobiles would adversely impact resources by not protecting big game winter range and sensitive

wildlife habitats. This alternative would not provide wildlife security and could adversely impact TES species. It would also not provide any quiet recreation opportunities. Therefore it is not considered reasonable and was not analyzed in detail” (FEIS, pg. 33).

For the site-specific travel management alternative, the FEIS discloses “A forest plan is strategic, making decisions concerning desired conditions, objectives, standards, and allocation of suitable uses. We identified key issues (see key issues above) related to vehicle access and travel management and will make decisions concerning these key issues. The alternative to consider road by road or trail by trail travel planning was considered but not fully developed because this sort of decision is more appropriate to make at a site-specific level. This will be accomplished through site-specific travel management planning after the revised plan has been completed. This is not to say decisions resulting from this analysis will not close some roads or trails to motorized vehicles” (FEIS, pg. 34).

Alternative 1

Alternative 1 is the No Action Alternative which provides a baseline for comparison of the other alternatives as required by the NEPA. “No Action” means management allocations, activities, and management direction described in the 1986 and 1987 forest plans continues. Approximately 16% of the BDNF would remain allocated as a non-motorized winter setting as depicted in Figure 3. This includes motorized use in recommended wilderness and wilderness study areas (FEIS, pg. 23-24 and 69).

Alternative 2

Alternative 2 is the Proposed Action released for public review in 2003. Approximately 22% of the BDNF would be allocated as a non-motorized winter setting as depicted In Figure 4. Recommended wilderness would be closed to motorized travel (FEIS, pg. 25 and 70).

Alternative 3

Alternative 3 addresses public comments asking the agency to allow natural processes to maintain ecosystems, minimize mechanical vegetation treatment and conserve or restore aquatic health. Approximately 45% of the BDNF would be allocated as a non-motorized winter setting as depicted in Figure 5. Recommended wilderness would be closed to motorized travel (FEIS, pg. 25-26 and 71).

Alternative 4

Alternative 4 responds to public comments that forest management should directly benefit local economies and utilitarian traditions of families and communities through management emphasis on predictable sustained commodity outputs while allowing a variety of other uses. Approximately 15% of the BDNF would be allocated as a non-motorized winter setting as depicted in Figure 6. No acres are identified as recommended wilderness (FEIS, pg. 27 and 72).

Alternative 5

Alternative 5 was developed to balance the demand for diverse recreation opportunities, resource protection and commodity outputs. Approximately 37% of the BDNF would be

allocated as a non-motorized winter setting as depicted in Figure 7. Recommended wilderness would be closed to motorized travel (FEIS, pg. 27-29 and 73).

Alternative 6 Modified

Alternative 6 was developed after review of almost 11,000 comments and over 160 meetings with 90 interested groups and individuals. It reflects an attempt to balance the demand for diverse recreation opportunities, resource protection and commodity outputs and to positively respond to many comments and corrections to the 2005 DEIS (FEIS, pg. 29).

In the 2009 ROD, the Regional Forester selected a modified version of Alternative 6. This SEIS does not analyze Alternative 6 as described in the 2009 FEIS. Rather, it analyzes Alternative 6 Modified as described in the 2009 ROD because the Forest Plan is based on this alternative and, following signature of the 2010 ROD, winter recreation allocations have been managed as described in Alternative 6 Modified.

Alternative 6 Modified allocates approximately 40% of the BDNF as a non-motorized winter setting as depicted in Figure 1. Motorized use is excluded from recommended wilderness (2010 ROD, pg. 6).

Figure 3 Winter Recreation Alternative 1

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Figure 4 Winter Recreation Alternative 2

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Figure 5 Winter Recreation Alternative 3

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Figure 6 Winter Recreation Alternative 4

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Figure 7 Winter Recreation Alternative 5

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FEIS Alternative Descriptions by Landscape

This section provides quantitative data, by landscape and alternative, for winter recreation allocations analyzed in the 2009 FEIS.

Table 1: Winter Recreation Allocations – Big Hole Landscape

Alternative	Winter Motorized Status Acres (% of Big Hole Landscape)	
	Motorized	Non-motorized
Alternative 1	449,715 (85%)	81,644 (15%)
Alternative 2	363,680 (68%)	167,679 (32%)
Alternative 3	294,070 (55%)	237,289 (45%)
Alternative 4	451,433 (85%)	79,926 (15%)
Alternative 5	352,465 (66%)	178,894 (34%)
Alternative 6 Modified	353,772 (67%)	177,587 (33%)

Table 2: Winter Recreation Allocations – Boulder River Landscape

Alternative	Winter Motorized Status Acres (% of Boulder River Landscape)	
	Motorized	Non-motorized
Alternative 1	189,131 (93%)	14,160 (7%)
Alternative 2	189,132 (93%)	14,159 (7%)
Alternative 3	143,581 (71%)	59,710 (29%)
Alternative 4	189,132(93%)	14,159 (7%)
Alternative 5	145,079 (71%)	58,213 (29%)
Alternative 6 Modified	132,448 (65%)	70,844 (35%)

Table 3: Winter Recreation Allocations – Clark Fork-Flints Landscape

Alternative	Winter Motorized Status Acres (% of Clark Fork-Flints Landscape)	
	Motorized	Non-motorized
Alternative 1	341,280 (92%)	27,982 (8%)
Alternative 2	337,582 (91%)	31,680 (9%)
Alternative 3	265,423 (72%)	103,839 (28%)
Alternative 4	341,516 (92%)	27,746 (8%)

Alternative	Winter Motorized Status Acres (% of Clark Fork-Flints Landscape)	
	Motorized	Non-motorized
Alternative 5	289,242 (78%)	80,020 (22%)
Alternative 6 Modified	306,554 (83%)	62,708 (17%)

Table 4: Winter Recreation Allocations – Gravelly Landscape

Alternative	Winter Motorized Status Acres (% of Gravelly Landscape)	
	Motorized	Non-motorized
Alternative 1	377,946 (81%)	91,441 (19%)
Alternative 2	364,884 (78%)	104,502 (22%)
Alternative 3	141,192 (30%)	328,194 (70%)
Alternative 4	377,946 (81%)	91,441 (19%)
Alternative 5	234,821 (50%)	234,566 (50%)
Alternative 6 Modified	236,963 (50%)	232,423 (50%)

Table 5: Winter Recreation Allocations – Jefferson River Landscape

Alternative	Winter Motorized Status Acres (% of Jefferson River Landscape)	
	Motorized	Non-motorized
Alternative 1	190,574 (100%)	39 (0%)
Alternative 2	162,063 (85%)	28,551 (15%)
Alternative 3	98,329 (52%)	92,285 (48%)
Alternative 4	190,611 (100%)	3 (0%)
Alternative 5	99,525 (52%)	91,088 (48%)
Alternative 6 Modified	90,190 (47%)	100,423 (53%)

Table 6: Winter Recreation Allocations – Lima Tendoy Landscape

Alternative	Winter Motorized Status Acres (% of Lima Tendoy Landscape)	
	Motorized	Non-motorized
Alternative 1	291,963 (79%)	75,561 (21%)
Alternative 2	291,963 (79%)	75,561 (21%)
Alternative 3	174,001 (47%)	193,523 (53%)

Alternative	Winter Motorized Status Acres (% of Lima Tendoy Landscape)	
	Motorized	Non-motorized
Alternative 4	291,963 (79%)	75,561 (21%)
Alternative 5	234,320 (64%)	133,204 (36%)
Alternative 6 Modified	202,401 (55%)	165,123 (45%)

Table 7: Winter Recreation Allocations – Madison Landscape

Alternative	Winter Motorized Status Acres (% of Madison Landscape)	
	Motorized	Non-motorized
Alternative 1	13,191 (11%)	109,803 (89%)
Alternative 2	3,685 (3%)	119,309 (97%)
Alternative 3	676 (1%)	122,318 (99%)
Alternative 4	13,198 (11%)	109,796 (89%)
Alternative 5	834 (1%)	122,161 (99%)
Alternative 6 Modified	2,730 (2%)	120,264 (98%)

Table 8: Winter Recreation Allocations – Pioneer Landscape

Alternative	Winter Motorized Status Acres (% of Pioneer Landscape)	
	Motorized	Non-motorized
Alternative 1	531,932 (93%)	42,193 (7%)
Alternative 2	455,341 (79%)	118,784 (21%)
Alternative 3	392,952 (68%)	181,173 (32%)
Alternative 4	531,932 (93%)	42,193 (7%)
Alternative 5	424,093 (74%)	150,032 (26%)
Alternative 6 Modified	424,492 (74%)	149,633 (26%)

Table 9: Winter Recreation Allocations – Tobacco Root Landscape

Alternative	Winter Motorized Status Acres (% of Tobacco Root Landscape)	
	Motorized	Non-motorized
Alternative 1	164,641 (95%)	9,334 (5%)
Alternative 2	164,647 (95%)	9,328 (5%)

Alternative	Winter Motorized Status Acres (% of Tobacco Root Landscape)	
	Motorized	Non-motorized
Alternative 3	56,872 (33%)	117,104 (67%)
Alternative 4	164,647 (95%)	9,328 (5%)
Alternative 5	74,381 (43%)	99,595 (57%)
Alternative 6 Modified	83,851 (48%)	90,125 (52%)

Table 10: Winter Recreation Allocations – Upper Clark Fork Landscape

Alternative	Winter Motorized Status Acres (% of Upper Clark Fork Landscape)	
	Motorized	Non-motorized
Alternative 1	74,277 (89%)	9,041 (11%)
Alternative 2	72,033 (86%)	11,285 (14%)
Alternative 3	59,616 (72%)	23,701 (28%)
Alternative 4	74,328 (89%)	8,989 (11%)
Alternative 5	54,735 (66%)	28,582 (34%)
Alternative 6 Modified	55,542 (67%)	27,776 (33%)

Table 11: Winter Recreation Allocations – Upper Rock Creek Landscape

Alternative	Winter Motorized Status Acres (% of Upper Rock Creek Landscape)	
	Motorized	Non-motorized
Alternative 1	207,880 (76%)	65,339 (24%)
Alternative 2	208,056 (76%)	65,162 (24%)
Alternative 3	191,825 (70%)	81,393 (30%)
Alternative 4	208,056 (76%)	65,162 (24%)
Alternative 5	189,381 (69%)	83,837 (31%)
Alternative 6 Modified	133,571 (49%)	139,647 (51%)

Existing Condition of Winter Recreation

The 2009 FEIS describes winter recreation opportunities on the BDNF (pgs. 342-346): Deep snow, particularly in the upper elevations, with over 100 usable days per year, moderate terrain, cool temperatures and relatively undeveloped settings make the Forest an attractive

area for winter activities. Winter uses of all kinds have become more popular. Motorized recreation has grown in users, with a 200% increase in snowmobile registration since 2000 in Montana (SCORP, 2014). Although the majority of the forest is open to motorized use in the winter, approximately half of the motorized settings are generally not used by snowmobiles due to natural features such as dense timber, large rocks, cliffs, steep terrain or inadequate snow depths. Technologic advances in snowmobile design have led to snowmobiles penetrating farther into backcountry areas. Changes to snowmobile opportunities in Yellowstone Park may result in increased snowmobile use on adjacent NFS lands (FEIS pg. 510).

There are five areas managed for cross-country skiing, and many more parts of the forest are available to and used by skiers. The number of visits by cross-country skiers is increasing in some areas, particularly the Big Hole, where snow conditions are often excellent and a ski trail system at Chief Joseph Pass has been developed. Since most skiers are limited to about 10 miles per day, much of the forest's winter backcountry is also not visited by skiers. Cross-country skiing, for the most part, occurs within 10 miles of roads and parking areas. A few skiers take multiple day trips and winter camp.

Two Winter Sports Areas (ski resorts) are also located on the forest.

During the over-snow season, most Forest seasonal roads are closed due to snow and are available for use by snowmobiles unless other restrictions apply. Snowmobiling, snow-shoeing and dog sledding, as well as back-country and cross-country skiing are popular winter activities. Winter parking areas, snowmobile grooming and groomed cross-country ski areas are located on the Forest. Hiking and off-highway vehicle use is also a popular winter activity on lower elevations where snow accumulations are sporadic.

It's estimated that visitation will increase over the life of the plan (USDA 2001). Recreation activities, with growth projected to be substantially greater than projected population growth by 2020, include sightseeing, viewing historic places, wildlife viewing, wildlife photography, motor-boating, and cross-country skiing. Of these, sightseeing, viewing, and photography are very common, with well over half the population participating in one or of these pursuits. Cross-country skiing has considerably less participation, including about 4.5% of the population. Recreation activities with growth projected to be about the same as projected population growths by 2020 include canoeing, walking, fishing, and developed and dispersed camping. Recreation activities with substantially less growth than projected population increases by 2020 include downhill skiing, rafting/floating, snowmobiling, horseback riding, backpacking, off-road driving, hiking, primitive camping, hunting and rock climbing.

Winter Use Information

The National Visitor Use Monitoring (NVUM) survey process was designed to better understand recreation use occurring on NFS lands. Starting in 2000, the BDNF has conducted these surveys to assess recreation use on the Forest. NVUM results are used in determining the amount of visitation, what types of activities visitors engaged in and their level of satisfaction. Examples of information provided in the BDNF reports include: 1) total number of visits; 2) participation rates; and 3) user satisfaction.

The NVUM surveys provide the best data we have for the activities surveyed. The most common activities visitors come to the BDNF for are hunting, fishing, hiking, and walking. A large percentage of visitors prefer to relax, view the scenery and wildlife and natural features during their hiking, walking, and hunting excursions. Many also drive for pleasure while they are here for other reasons. Snowmobiling use remains relatively low, as does other winter activities. A majority of Forest visitors are local and recreate within two hours of their home. This pattern is typical when compared to other forests.

The first NVUM Project on the BDNF was conducted from January 1 through December 31, 2000. The top recreation activities were viewing wildlife/nature, hunting, fishing, general relaxation and driving for pleasure. Snowmobile travel accounted for 3% participation, while cross-country skiing and snow shoeing accounted for 4%. Satisfaction from all visitors for condition of the natural environment, feeling of safety and attractiveness of the forest landscape was rated either good or very good.

Caution should be used when trying to compare the first round of NVUM data with future years as significant improvements were made in the sampling survey to 1) improve accuracy and consistency of the definitions, and 2) the scope and range of locations and times selected for data collection were modified to ensure that all types of recreation visitation across the Forest and throughout the sample year were represented. Differences cannot be interpreted as trend.

The BDNF next participated in the NVUM program from October 2004 through September 2005. Visitors rated viewing natural features, hiking or walking, driving for pleasure, relaxing and hunting as the top activities. And 1.6% of the respondents participated in snowmobiling, while 5.4% participated in cross-country skiing. Overall satisfaction remained relatively high for items such as condition of the environment, feeling of safety and scenery. This round of NVUM gathered information on visitor's perception of how crowded the area felt to them; only 0.3% of undeveloped areas were rated as overcrowded.

NVUM surveys occurred again during fiscal year 2010. Hunting, fishing, hiking/walking, viewing natural features, viewing wildlife and relaxing were the primary activities identified. Snowmobiling participation was 1.7% while cross country skiing was 12.2%. Over 70% of the visits were very satisfied with their recreation experience. Visitors rated overcrowding at less than 5% of the undeveloped areas.

Round 4 of NVUM for the Forest began October 2014 and ran through September 2015. Results of those surveys are not yet available.

Winter Motorized Use Patterns

Snowmobile use patterns on the BDNF were identified by Forest recreation specialists, representing their repeated observations of on-the-ground use for numerous years. These specialist field observations are mapped in Figure 8 and Figure 9 on the next pages. While some level of recreation activity occurs almost everywhere on the forest, the majority of winter use is concentrated around developed sites and along roads, where many roads are managed as snowmobile or ski routes.

There is a difference between the acres open to OSVs and the acres useable by OSVs. The acres

not useable are those with physical constraints such as rivers, streams, steep rocky cliffs or dense forested areas that are so heavily timbered that a snowmobile cannot maneuver through them. It also includes elevation areas where insufficient snow accumulates for use by OSVs. Other areas might not be suitable for OSV use due to the downfall or snags in areas burned in wildfires.

Areas of regular OSV use are found in the Big Hole, Pioneer and Gravelly landscapes and certain areas near roaded access in the Tobacco Root, Boulder River, Clark Fork Flint and Upper Rock Creek landscapes.

Estimates of regular, intermittent and seldom to none levels of use for both pre and post 2010 Forest Plan implementation are shown in Tables 12 and 13 on page 27

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Figure 8. OSV use patterns on the BDNF prior to implementation of the 2010 ROD

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Figure 9. OSV use patterns on the BDNF following signature of the 2010 ROD which closed Forest Plan non-motorized winter allocations to OSV use.

Table 12: Percent OSV Use by Landscape Pre-2010 ROD

Landscape	Regular Use	Intermittent Use	Seldom to None	Closed to OSV
Big Hole	43 %	30 %	11 %	15 %
Boulder River	8%	3%	82 %	7 %
Clark Fork - Flints	6 %	20 %	66 %	8 %
Gravelly	12 %	2 %	66 %	19 %
Jefferson	0 %	13 %	87 %	0 %
Lima Tendoy	8 %	2 %	70 %	21 %
Madison	0 %	0 %	11 %	89 %
Pioneer	49 %	21 %	22 %	7 %
Tobacco Root	2 %	20 %	73 %	5 %
Upper Clark Fork	2 %	1 %	87 %	11 %
Upper Rock Creek	7 %	9 %	60 %	24 %
Forest Total	20 %	14 %	51 %	16 %

Table 13: Percent OSV Use by Landscape Post-2010 ROD Implementation

Landscape	Regular Use	Intermittent Use	Seldom to None	Closed to OSV
Big Hole	34 %	26 %	6 %	33 %
Boulder River	9 %	2 %	55 %	35 %
Clark Fork - Flints	6 %	18 %	59 %	17 %
Gravelly	10 %	2 %	39 %	50 %
Jefferson	0 %	8 %	39 %	50 %
Lima Tendoy	8 %	2 %	45 %	45 %
Madison	0 %	0 %	2 %	98 %
Pioneer	48 %	14 %	12 %	26 %
Tobacco Root	2 %	19 %	27 %	52 %
Upper Clark Fork	2 %	1 %	64 %	33 %

Landscape	Regular Use	Intermittent Use	Seldom to None	Closed to OSV
Upper Rock Creek	8 %	8 %	33 %	51 %
Forest Total	18 %	11 %	31 %	40%

When snow depth is sufficient, usually January through April, OSV activities are concentrated on weekends, with very little activity seen Monday through Friday. Winter activities vary each season with the snow depth and condition of the snow. OSV activities during December and May are sparse due to lack of snow and warm temperatures, which can lead to serious mechanical problems for OSVs and safety concerns for riders. The exposed road surfaces and hazards (boulders, stumps and vegetation) keep any type of OSV activity to a minimum during these early winter and spring times. OSV use in low snow conditions is rare. OSVs occasionally cross a bare area to reach a snow covered area; the distance is less than 100 yards and frequently on a road surface. Grooming of snowmobile routes usually does not occur until after there is ample snow.

Big Hole Landscape

The 2009 Forest Plan (pg. 65) describes the Big Hole Landscape as providing a scenic backdrop of rugged mountains above the Big Hole Valley, where traditional ranching contributes a pastoral element to the overall character of the Landscape. The consistently high snowfall, terrain and winter climate make this a good place for outdoor winter recreation. Plowed parking lots provide access to popular snowmobiling, backcountry skiing and other winter uses. Chief Joseph cross-country ski area provides groomed ski trails. Trail Creek is a popular OSV destination.

Boulder River Landscape

The Landscape includes the upper Boulder River watershed from the Continental Divide to the town of Boulder (Forest Plan pg. 89). The majority of this Landscape is heavily roaded. The citizens of Butte, Boulder, Deer Lodge and Helena consider this area as a part of their backyard. The area receives heavy recreation use in winter, but the majority of this use is associated with off-highway vehicles (OHVs), not snowmobiles. There is some OSV access/use that occurs from the Helena National Forest and some groomed snowmobile routes nearer to Deer Lodge.

Clark Fork Flint Landscape

The rocky peaks of the Flint Creek and Anaconda Mountain Ranges are the dominant features of this Landscape, towering above the broad Deer Lodge and Flint Creek Valleys (Forest Plan pg. 109). Recreation use varies from the developed use around Georgetown Lake and Discovery Basin Ski Area to the challenging backcountry uses of the Anaconda-Pintler Wilderness. The Flint Range offers a mix of motorized and non-motorized winter use. It is the backyard of the communities of Anaconda, Deer Lodge, Drummond, Fairmont, Galen, Gold Creek, Hall, Maxville, Opportunity, Philipsburg, Warm Springs and West Valley. There is a system of groomed snowmobile routes in the Flints and some OSV play areas in adjacent meadow areas.

Gravelly Landscape

The Gravelly Landscape includes the Gravelly, Snowcrest and Greenhorn mountains, the Ruby River and a small portion of the Centennial Mountains. The Gravelly Range plays an important role in the Greater Yellowstone Area providing semi-primitive backcountry experiences for a range of users (Forest Plan pg. 127). The south end of the Gravelly Range, closest to Yellowstone Park, provides an extension to the OSV opportunities found in the West Yellowstone and Island Park areas. The south end has more predictable snow and the terrain is more inviting for off-route experiences.

In the southeast corner of the Gravelly Landscape and surrounding area, winter recreation use is primarily associated with the communities of West Yellowstone, Montana and Island Park, Idaho. As a result, OSV use of Reynolds Pass, Red Rock Pass, Centennial Valley and Antelope Basin area is frequently associated with the West Yellowstone and Island Park areas. On the west side of the Gravelly Mountains, winter motorized use is found from Axolotl south to the Centennial Mountains. The core use areas are the road corridors, and the groomed routes on the Gravelly Range, east of Red Rocks Pass and the headwaters of Hell Roaring.

Jefferson River Landscape

This Landscape includes parts of three mountain ranges which drain from the Continental Divide into the head of the Jefferson River (Forest Plan pg. 165). It is drier than others on the Forest because of the granitic soils and rain shadow effect of the Continental Divide. Motorized routes near Butte are heavily used in winter by OHVs. There is some OSV use in the Whitetail Reservoir area. While the area is popular with motorized uses, terrain and snow levels limit OSV use.

Lima Tendoy Landscape

The Lima Tendoy Landscape is located in the southwest corner of Montana and BLM lands are a large component of the overall Landscape. Along the southern edge grasslands transition directly to rocky peaks, without the usual band of conifers between these two cover types (Forest Plan pg. 181). Recreation use is usually most concentrated during hunting season. Little cross-country skiing and snowshoeing occurs on this Landscape. Winter motorized use is generally limited to winter trapping access.

Madison Landscape

The Madison Landscape includes two parcels of land along the west-facing slope of the Madison Range from Bear Trap Canyon on the north to Quake Lake on the south (Forest Plan pg. 181). The Madison Range is part of the Greater Yellowstone Ecosystem. Nearly all the land in this Landscape comprises the Lee Metcalf Wilderness and is managed to provide challenging primitive recreation opportunities. Recreation use is less influenced by proximity to Yellowstone Park than its own wilderness character and accessibility. Winter use is light because roads to trailheads are closed by snow. Bear Creek is one of the more accessible areas where cross-country skiing is popular. Historically, motorized access on National Forest is confined to a few road corridors where there is little to no OSV use.

Pioneer Landscape

The Pioneer Landscape contains an island mountain range dominated by rocky peaks. The communities of Dillon, Wisdom, Wise River, Dewey, Argenta, Glen, Jackson, Polaris, Melrose and Divide are located along the highways which surround the landscape. Communities are tied to traditional activities as well as recreational opportunities provided by the landscape. In winter the Pioneer Mountain Scenic Byway becomes the Wise River National Recreation Trail popular with snowmobiling. Maverick Mountain Ski resort and Elkhorn Hot Springs with nearby cross country and snowmobiling routes offer winter recreation opportunities.

Tobacco Root Landscape

The Tobacco Root Mountains are an island of high peaks, snowy basins, alpine lakes, accessible forested slopes and open rolling foothills (Forest Plan pg. 221). The south half of the Tobacco Root Landscape lies within the Greater Yellowstone Ecosystem, but is far enough from Yellowstone Park to be outside its sphere of influence. The Tobacco Root Landscape serves as the back yard for communities like Bozeman, Sheridan, Ennis, McAllister, Pony and Mammoth. Local use is common. In winter, snow depths and plowed road access to snow often limit OSV and cross-country ski opportunities. Motorized winter recreation use is localized traffic associated with open routes out of Potosi, Pony, Willow Creek, Mill Creek and Mill Gulch.

Upper Clark Fork Landscape

The Upper Clark Fork Landscape is the smallest yet the level of development and recreation use is high (Forest Plan pg. 241). Most use is motorized, with exceptions such as Molten Reservoir Cross-Country Ski Trails, Thompson Park, and the Continental Divide National Scenic Trail.

Upper Rock Creek Landscape

The Upper Rock Creek Landscape is characterized by high rocky peaks in the south and more rounded and forested yet steep mountain summits along its western edge (Forest Plan pg. 251). It provides large areas of backcountry, including the Sapphire Wilderness Study Area and a portion of the Anaconda-Pintler Wilderness. Many people place recreation and aesthetics as the highest value of this Landscape.

Forestwide Existing Condition – Social/Economic

The University of Montana Bureau of Business and Economic Research (BBER) conducted ongoing studies on the social and economic impacts of snowmobiling in Montana. Their most recent reports (Sylvester, 2014) concluded that snowmobiling is a significant sport in the state, with significant economic impacts. BBER's most recent surveys suggest that about 8% of the state's households include snowmobile recreationists. Nearly 57,000 snowmobiles are registered in Montana. Residents used these snowmobiles about 1.2 million days during the 2013-2014 season. Nonresidents added another 97,000 days.

BBER's estimates suggest that nonresident snowmobilers spend about \$147 per activity day, including food, lodging, and often, snowmobile rental costs. Nonresidents accounted for spending an aggregate of nearly \$14.3 million in Montana. That spending supports about 200

winter jobs. On average, residents spend much less per activity day than non-residents (\$56); most of their out-of-pocket costs are for gasoline. Resident yearly spending is about \$96.3 million, with over half spent on gasoline for snowmobiles and transportation. Resident and nonresident snowmobilers buy about 4.3 million gallons of gasoline per season. With a base tax of \$0.27 per gallon, snowmobilers in Montana generate over \$1.2 million in revenue for the state highway trust fund.

Nonresident snowmobilers are important contributors to the Montana economy. For instance, many winter visitors to West Yellowstone use snowmobiles. West Yellowstone has successfully promoted itself as “The Snowmobile Capitol of the World”. Since Yellowstone National Park instituted limits to snowmobiling inside the Park, nonresident snowmobilers have diversified their snowmobiling areas outside the Park.

The 2009 FEIS included analysis of economic and social values (FEIS pg. 187). The survey results and subsequent reports indicate economic impacts were influenced most by an overnight stay and the distance between residences and recreation sites than by type of activity. The survey also found visitors, whose primary activity requires a vehicle, whether it is a car, snowmobile or OHV, spend greater amounts on gas and oil (FEIS pg. 199).

Existing Condition of Big Game Winter Range

The analysis for big game will be discussed in three sections: general big game, bighorn sheep, and mountain goat. General big game is a consolidation of effects to elk, mule deer, white-tailed deer, moose, and antelope. These are species that are common across the forest and this grouping is consistent with how the state grouped their big game species when defining winter range crucial areas across the state (MFWP 2015). Bighorn sheep and mountain goats are discussed individually, as there are discrete populations widely scattered across the BDNF and effects to these species can be evaluated more specifically on a species by species basis.

Definition of Big Game Winter Range

According to MFWP, big game winter range represents the area where deer, elk, antelope, bighorn sheep, moose, and mountain goat spend the snowy, cold months of the winter. This habitat exists when elevation, slope, aspect, and vegetation combine to produce an area that provides animals with food, protection from harsh weather conditions, and security. Consequently, winter range is limited in size. This limited habitat area is generally found at lower elevations such as mountain foothills and valley floors. Big game use of winter range can shift locations in different years, depending on the weather and other factors. This shifting helps ensure that during the most severe winters, winter range areas have not been degraded by concentrated use year after year (MFWP 2012).

Spatial Context

The spatial context for the analysis is the BDNF Forest boundary. The BDNF is divided into and managed by landscape. Table 14 below discloses acres of National Forest System land by landscape and Figure 2 displays landscape and Forest boundaries.

Big Game Winter Range Analysis

It is illegal in the state of Montana to harass wildlife from snowmobiles. Based on the MFWP (2013) statutes, “A person while operating a snowmobile may not: (1) use the snowmobile for the purpose of driving, rallying, or harassing game animals, game birds, or fur-bearing animals of the state or livestock, including ostriches, rheas, and emus...(2) discharge a firearm from or upon a snowmobile...” Locally MFWP game wardens were queried to assess how much illegal harassment exists. They reported back that there have been no tickets written nor do they have any cases open for wildlife harassment by snowmobile. Statewide, there have been five tickets written for wildlife harassment from a snowmobile between 1980 and 2015 (personal communications MFWP 2015). It is possible that harassment may be happening locally as well, but if it is, it is on such a small scale that although it might affect a few individuals it is not affecting any big game populations.

Winter motorized travel usually occurs on the BDNF January through April. Snowmobile activities during December and May are sparse due to lack of snow and warm temperatures. Use is concentrated on weekends, with very little activity seen Monday through Friday. Winter motorized travel varies each season with the snow depth and condition of the snow (2015 SEIS recreation report).

Although the majority of the forest is open to motorized use in the winter, approximately half of the motorized settings are not accessible to snowmobiles due to natural features such as dense timber, large rocks, cliffs, steep terrain, or inadequate snow depths. It is acknowledged however that technologic advances in snowmobile design have led to snowmobiles penetrating farther into backcountry areas (2015 SEIS recreation report on file). For the analysis, these areas are considered in the open area calculations.

The Draft 2014 Montana State Wildlife Action Plan was reviewed for state guidelines for OSV use. Although resource damage from off-road vehicles was mentioned as a threat, there was no guiding direction nor were there any identified threats specifically mentioned for OSVs in this document (MFWP 2014).

The Fish and Wildlife Recommendations for Subdivision Development in Montana: A Working Document was reviewed for state guidelines for over the snow vehicle (OSV) use. In reference to subdivision development this document states winter ranges are the most threatened by human encroachment because of their proximity to valley floors, foothills, rivers, and streams. There are no management recommendations for OSVs (MFWP 2012).

Montana’s Comprehensive Fish and Wildlife Conservation Strategy (CFWCS) was reviewed for state guidelines for over the snow vehicle (OSV) use. Consistently across all areas covered by this strategy was the need to, “Work with the public and other agencies to establish sustainable recreation management practices, including designations of lands open, limited, or closed to off-road vehicle use” (MFWP 2005). There was a reference for MFWP law enforcement officers to, “Focus attention on violations associated with snowmobiles, ATVs, and water-based recreation that directly affect fish and wildlife and their habitats during certain times of the year” (MFWP 2005). There were no specific management recommendations focused on OSVs.

Montana’s Crucial Areas Assessment and Planning (CAPS) tool created as a refinement to the

CFWCS was reviewed. The Assessment built upon the CFWCS approach by analyzing and ranking the landscape for its value to “species and habitats of greatest conservation need” and socioeconomic valued species, habitat integrity. MFWP identified, ranked, and prioritized for Montana’s landscape for crucial habitats and connectivity for their biological importance. “The Western Governors’ Wildlife Council defines “crucial habitat” as places containing the resources (including food, water, cover, shelter and important wildlife corridors) that are necessary for the survival and reproduction of aquatic and terrestrial wildlife and to prevent unacceptable declines, or facilitate future recovery of, wildlife populations; or are important ecological systems with high biological diversity value” (MFWP, 2015). Big game winter range was identified as a crucial area across the state of Montana. MFWP broke the winter range into two sections: big game (pronghorn antelope, elk, moose, mule deer, and white-tailed deer) and bighorn sheep and mountain goat. For big game, the crucial area (winter range) is further categorized as high (highly valued winter range habitat) or moderate (important winter range habitat). Bighorn sheep and mountain goat habitat is also further categorized as high (winter range) and moderate (general range) (MFWP, 2015). These big game winter range maps created by MFWP used in this analysis.

Management areas in the Elkhorn Landscape are jointly administered by the Helena National Forest. Management direction is based on the Helena National Forest Plan.

Reviews of species data were conducted to determine which species are known to occur in the area or have suitable habitat present and could potentially occur. Sources reviewed include Montana Natural Heritage Program (MTNHP), Forest wildlife sighting database information, Forest Plan FEIS Appendix B (Biological Evaluation) and species distribution information from MFWP.

For each affected species, available population status and distribution information; occurrence records from inventory and monitoring efforts; hunting and trapping data; informal observation data; and the scientific literature for information on the biological and habitat (including home range size) requirements for species as well as species’ response to disturbance was examined.

Geographic Information System (GIS) contributed to the analysis of wildlife habitat for this document. The BDNF GIS Specialist and Wildlife Biologist used ArcGIS (ESRI software) to create various data layers which were the basis for the habitat and vegetation figures displayed in this document.

An over the snow vehicle use map was created by the Forest recreation specialists on the forest and was used in the effects analysis for all species. See the Recreation report on file for additional information.

Indicators and Measures (species specific):

Indicators are components of a species habitat, life cycle, or other variable that can be evaluated to determine potential for effect to that species. Listed below are the indicators used for the effects analysis.

Acres/location of winter range open and closed to motorized winter recreation

- general big game

- bighorn sheep,
- mountain goat

Potential for disturbance from motorized winter recreation (OSVs)

- general big game species
- bighorn sheep,
- mountain goat

Existing Condition – Big Game Winter Range

Table 14 displays acres of general big game, bighorn sheep, and mountain goat winter ranges by landscape. Acres and percentages, in the following tables and text, represent only National Forest System (NFS) lands. These figures do not include other federal, state, and private lands within the specified landscape.

Maps displaying areas open and closed to winter motorized travel in general big game, bighorn sheep, and mountain goat winter ranges by alternative are available in Appendix A, B, and C beginning on page 170.

When MFWP identified winter range areas, they further divided the winter range into High and Moderate categories for the species listed above (MFWP 2015). See the big game winter range map in Appendix A.

Table 14: Existing BDNF Landscape and Big Game Winter Range Acres* and Percentages

Landscape	Acres of NFS	Acres General Big Game Winter Range	General Big Game Winter Range	Acres Winter Range – Bighorn Sheep	Winter Range – Bighorn Sheep	Acres Winter Range – Mountain Goat	Winter Range – Mountain Goat
Big Hole	531,359	188,482	35%	927	0.2%	140,399	26%
Boulder River	203,291	134,422	66%	0	0%	0	0%
Clark Fork Flint	369,262	243,090	66%	18,560	5%	119,886	32%
Gravelly	469,386	345,475	74%	13,965	3%	35,228	8%
Jefferson River	190,613	112,077	59%	2,767	1%	0	0%
Lima Tendoy	367,524	253,887	69%	25,007	7%	0	0%
Madison	122,994	91,391	74%	20,686	17%	78,729	64%
Pioneer	574,125	297,937	52%	48,414	8%	43,680	8%
Tobacco Root	173,976	101,293	58%	0	0%	0	0%

Landscape	Acres of NFS	Acres General Big Game Winter Range	General Big Game Winter Range	Acres Winter Range – Bighorn Sheep	Winter Range – Bighorn Sheep	Acres Winter Range – Mountain Goat	Winter Range – Mountain Goat
Upper Clark Fork	83,317	66,659	80%	0	0%	0	0%
Upper Rock Creek	273,218	111,807	41%	8,168	3%	68,296	25%
Totals	3,359,065	1,946,522	58%	138,494	4%	486,219	14%

* Acres in this table represent acres of National Forest System (NFS) lands within the landscape – not total acres

Available Population Data

Each species population data is handled differently by MFWP. Some species have very specific objectives and population counts while others do not. MFWP population data was retrieved from the MFWP website and from local biologists as available.

Rocky Mountain Elk

According to MFWP, elk are widely distributed across the national forests of Montana, including on the BDNF. MFWP's 2015 statewide estimates show a population of approximately 167,158 animals. The state management objective is 90,910 with a range of 74,675 to 107,800. Compared to estimates from 2007, the elk population has almost doubled. Table 15 displays estimated elk numbers with population objectives by hunt district. It also displays which landscapes these districts are within. It is important to note that hunt district boundaries do not align with BDNF landscape boundaries. The Forest refers to the hunt districts as hunt units in the Forest Plan; these terms may be used interchangeably.

Table 15: MFWP Elk Population Estimates by Hunt Unit on the BDNF and Associated Landscapes.

Hunt Districts within the BDNF	MFWP State Elk Plan Objective	Lower Range	Upper Range	MFWP 2007 Estimates	MFWP 2015 Estimates	At / Over / Under	Landscape
210, 211	1,450	1,160	1,740	1,020	2,851	Over	Clark Fork Flints Upper Rock Creek
212	1,000	800	1,200	1,494	3,845	Over	Clark Fork Flints
213	750	600	900	484	645	At (under objective but within the range)	Clark Fork Flints

Hunt Districts within the BDNF	MFWP State Elk Plan Objective	Lower Range	Upper Range	MFWP 2007 Estimates	MFWP 2015 Estimates	At / Over / Under	Landscape
214	450	360	540	284	474	At	Clark Fork Flints Upper Rock Creek
215	1,400	1,120	1,680	1,234	3,456	Over	Clark Fork Flints Upper Clark Fork
216	325	260	390	473	324	At (Under objective but within range)	Upper Rock Creek
300	800	700	900	1,450	1,148	Over	Lima Tendoy
302	625	550	700	956	1,776	Over	Lima Tendoy
311	2,500	2,000	3,000	3,000	2,586	At	Madison
318	500	400	600	535	684	Over	Boulder River
319	955	812	1,100	819	1,621	Over	Big Hole
320, 333	1,000	800	1,200	1,222	1,621	Over	Tobacco Root
321	0	0	0	0	0	No winter elk	Big Hole
322, 323, 324, 325, 326, 327, & 330	8,000	6,400	9,600	5,309	13,304	Over	Gravelly
328	625	550	700	635	1,146	Over	Lima Tendoy
329	830	760	900	727	1,388	Over	Big Hole Lima Tendoy Pioneer
331	1,290	1,180	1,400	1,085	1,339	At	Pioneer
332	830	760	900	376	1,103	At	Pioneer
340, 350 & 370	1,600	1,280	1,920	1,339	3,221	Over	Jefferson River Upper Clark Fork Boulder River
341	525	438	600	272	594	At	Upper Clark Fork Clark Fork Flints Big Hole

Hunt Districts within the BDNF	MFWP State Elk Plan Objective	Lower Range	Upper Range	MFWP 2007 Estimates	MFWP 2015 Estimates	At / Over / Under	Landscape
360	2,200	1,760	2,640	1,661	2,047	At	Madison Gravelly
362	2,500	2,000	3,000	3,845	3,690	Over	Madison Gravelly
Totals	30,155	24,690	35,610	28,220	48,863	All units are "at" or "over" MFWP population objective ranges	

Moose

The portion of southwest Montana containing the BDNF is home to some of Montana's highest density moose populations. The public and private lands within 26 hunt districts spanning this area were estimated to house approximately 1,415 moose in 2006, according to an expert opinion survey of MFWP area biologists. While population survey data for moose in Montana are limited, statewide moose populations may have declined somewhat since the 1990's as evidenced primarily by hunter harvest statistics (DeCesare et al. 2014). Aerial counts conducted in southwest Montana suggest the potential for local declines in some areas but also show stable to increasing numbers in other areas (pers. com. N. DeCesare 2015).

Mule Deer

According to MFWP, mule deer and white-tailed deer are the most widely distributed and abundant big game mammals in Montana. The 2014 estimates show the statewide mule deer population to be approximately 264,546 deer. The ten year average population estimate is 265,399. Although there may be differences regionally, the statewide population seems to be fairly stable.

MFWP reports mule deer numbers by MFWP region, not by hunt district. The BDNF is within parts of MFWP Regions 2 and 3. Table 16 displays estimated mule deer population numbers by Regions that the BDNF is within.

Table 16: Mule Deer Population Estimates & 10-year Average for MFWP Regions 2 & 3.

MFWP Region	10 Year Average	2014 Estimates
2	18,131	12,640
3	40,345	41,420
Totals	58,476	54,060

White-tailed Deer

As mentioned above, mule deer and white-tailed deer are the most widely distributed and abundant big game mammals in Montana. The 2014 estimates show the statewide white-tailed deer population to be approximately 181,086 deer.

MFWP reports white-tailed deer numbers by MFWP region, not by hunt district. The BDNF is within parts of MFWP Regions 2 and 3. The table below displays estimated mule deer population numbers by Regions that the BDNF is within. There are several hunt districts with liberal hunting seasons on white-tail deer specifically to reduce the population.

Table 17: White-tailed Deer Population Estimates & 10 year Average for MFWP Regions 2 & 3.

MFWP Region	10 Year Average	2014 Estimates
2	37,219	29,897
3	23,668	20,997
Totals	60,887	50,894

Antelope

Today, pronghorn number over 1 million across North America. In Montana specifically, the 2014 estimates show the statewide antelope population to be approximately 121,696 bucks, does, and fawns. Table 18 displays the estimated antelope (pronghorn) populations by hunt unit and associated landscape.

Table 18: MFWP Estimated Antelope Population Numbers by Hunt Unit and Associated Landscape

Hunt Districts within the BDNF	2011 Estimates	2014 Estimates	Landscape
215	191	202	Clark Fork Flint Upper Clark Fork
300	1,416	1,299	Lima Tendoy
301	150*	213	Lima Tendoy
310	800*	785	Pioneer
311**	1,285	269	Tobacco Root Madison
318	2,094	1,466	Pioneer
319	127	168	Upper Clark Fork Big Hole Clark Fork Flint

320	528	482	Tobacco Root
321	3,364	2,112	Gravelly
341	598*	976	Jefferson River Upper Clark Fork
350	187*	231	Jefferson River Boulder River
360	2,356	1,610	Madison Tobacco Root Gravelly
370	241*	279	Jefferson River Boulder River
Totals	13,337	10,092	

*2012 Estimates due to no survey in 2011

**Although this hunt district overlaps slightly with the Forest, there is no antelope use on the Forest.

Bighorn Sheep

Although there have been severe pneumonia die-offs in the recent past, the 2014 estimates show the statewide bighorn sheep population to be approximately 6,650 rams, ewes, and lambs.

Based on hunt district information from MFWP, as of 2014 there are an estimated 985 bighorn sheep using the BDNF during the year. Table 19 displays the estimated bighorn sheep populations by hunt district and associated landscape. Unlike the general big game discussion above, bighorns are not found across the entire forest. Populations are scattered across the forest.

Table 19: MFWP Estimated Bighorn Sheep Populations by Hunt District and Associated Landscapes

Hunt Districts within the BDNF	Date Surveys Started	Original Survey Estimates	2014 Estimates	Landscape
210	1986	44	140	Clark Fork Flints
212	2001	55	40*	Clark Fork Flints
213	1978	138	100	Clark Fork Flint Upper Clark Fork Big Hole
216	1981	128	210	Upper Rock Creek
301	1980	78	165	Madison

Hunt Districts within the BDNF	Date Surveys Started	Original Survey Estimates	2014 Estimates	Landscape
302	1980	78	280	Madison
315	1991	108	50**	Lima Tendoy
340	1972	54	75	Jefferson River Pioneer
Greenhorns	2003	69	50	Gravelly
Totals		752	1,110	

*This herd is known to be hard to survey aerially; this is likely a low estimate.

**Due to excessive disease, this population is currently in the process of being removed (MFWP, 2015).

Mountain Goat

At the time of publication, statewide population data from MFWP was not available. Table 20 displays the estimated mountain goat populations by hunt unit and associated landscape. Population data for hunt districts 212, 222, 223, 231 and 340 were not available at the time of publication but will be updated in the final. MFWP biologists warn that these are minimum population numbers and they could be much higher. Mountain goats are difficult to monitor and weather conditions are the primary factor in how successful surveys are.

Table 20: MFWP Estimated Mountain Goat Populations by Hunt Unit and Associated Landscapes

Hunt Districts within the BDNF	Survey Range	Survey Average	Population Estimates	Landscape
312	Not available		100 - 150	Pioneer
320	1955-2015	55	27	Tobacco Root
322	Not available	Downward Trend	18 Montana 53 Idaho	Big Hole Lima Tendoy
324	2010	66	71	Madison
325	2003 - 2014	33	41	Madison Gravelly
326	2003 - 2014	20	22	Madison
331	1972 - 2015	46	48	Gravelly

Literature review summary regarding big game

Maps displaying areas open and closed to winter motorized travel in general big game, bighorn sheep, and mountain goat winter ranges by landscape and by alternative can be found in the project file. Figure 8 is a map of over the snow vehicle OSV use created by forest recreation

specialists that was used in analyzing effects.

There have been many studies done on ungulates and winter recreation; not all specific to winter motorized travel. In Yellowstone researchers found that, “Wildlife may become conditioned to human activity when the activity is controlled, predictable, and not harmful to the animals” (Borkowski et al. 2006). Canfield et al. found that the greatest negative responses were measured for unpredictable or erratic occurrences. Many management recommendations prefer use to be limited to trails so animals can predict use. It has been noted that tendencies to habituation vary by species, but habituated ungulates are almost always undesirable, especially in a hunted population (Canfield et al. 1999). The other thing to remember is that even though seemingly habituated, “Animals may never show any level of response to stimuli. But even when an animal lacks an observable behavioral response, a non-observable physiological stress-response may occur” (Hardy, 2001). Colescott and Gillingham did a study specific to moose and snowmobile traffic. They found that, “Moose appeared to move away from the active snowmobile trail as the day progressed. Consequently, snowmobile traffic, although it did not appear to alter moose activity significantly, did influence the behavior of moose positioned within 300 meters of a trail and did displace moose to less favorable habitats.” However they found that snowmobile traffic did not cause moose to permanently leave large riparian areas but that they did move further into the willow habitat (Colescott and Gillingham, 1998).

Bighorn Sheep: Both the Montana Bighorn Sheep Conservation Strategy and the Effects of winter recreation on wildlife of the Greater Yellowstone Area: a literature review and assessment (Olliff et al. 1999) show that recreationists may cause increased stress for bighorn sheep during critical winter months, which may influence their survivability. Snowmobiles may force sheep from forage and cause increased energy expenditure. Snowmobile tracks may also provide a pathway for predators to access sheep normally protected by deep snow. Over time, excessive harassment of bighorns by snowmobilers could lead to abandonment of portions of their winter range. Not specific to snowmobiles, but human use on the winter range during the breeding season could interfere with breeding by adding more stress to the rams and ewes. This may decrease the overall productivity of the population and increase the probability of predation and death. However, Olliff et al. also state that, “Skiing, snowmobiling, mountaineering, and snowshoeing will most likely only affect bighorn sheep wintering at higher elevations. The encounters between these recreationists and the bighorns may be infrequent enough that there would be little or no impact to the animals.”

While MFWP identified snowmobiles and recreation on the winter range as a potential negative impact for bighorn sheep herds, however they did not identify any herds on the BDNF that this management challenge applied to (MFWP 2010).

Mountain Goats: The impacts of human disturbance on goat populations have been clearly demonstrated in numerous cases; however, these cases conspicuously lack a clear case demonstrating the effects of recreation on goats during winter. Some human disturbances have been shown to alter goat behavior, and disturbance can affect physiology, distribution, habitat use, fecundity, and, ultimately, population health. However, as stated above, there is little known about winter recreation disturbances and their effects on mountain goats (Olliff et al.

1999). Olliff et al. 1999 also states that, “Goats are adaptable and can habituate to potentially adverse stimuli if they are gradually acclimatized and negative associations are avoided. This possibility is best achieved when stimuli sources are localized and highly predictable.”

That said, currently there are no known cases of conflict with mountain goats as a result of winter recreational activities on the BDNF (per. com. MFWP). Olliff et al. 1999 suggest the reasons could be that, “because mountain goat winter range is inaccessible and precipitous, goats and recreationists are not often coming into conflict. For recreation, humans tend not to seek the combination of rocky, rugged terrain, and low-snow conditions required by mountain goats. Rather, snowmobilers and skiers prefer deep snow conditions, which are typically avoided by goats. The discrepancy in site preferences appears to be a factor in mutual avoidance by goats and humans during winter.”

Please refer to the Wildlife Report available in the project file for additional effects to big game from literature reviews. The table below displays the percentages of general big game winter range open to winter motorized travel.

Table 21: General Big Game: Percent of Winter Range Open to Winter Motorized Travel

Landscape	BDNF Winter Range Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Big Hole	188,482	96%	81%	85%	96%	91%	91%
Boulder River	134,422	90%	90%	75%	90%	76%	66%
Clark Fork Flint	243,090	90%	91%	79%	91%	81%	83%
Gravelly	345,475	79%	77%	32%	79%	50%	50%
Jefferson River	112,077	99.98%	86%	58%	100%	58%	46%
Lima Tendoy	253,887	81%	81%	42%	81%	62%	53%
Madison	91,391	9%	0%	0%	9%	0%	0%
Pioneer	297,937	86%	82%	68%	86%	77%	77%
Tobacco Root	101,293	98%	98%	40%	98%	49%	55%
Upper Clark Fork	66,659	90%	88%	74%	90%	74%	66%
Upper Rock Creek	111,807	76%	76%	68%	76%	65%	59%
Forestwide	1,946,522	83%	81%	57%	83%	65%	63%

Table 22 below, displays the percentages of bighorn sheep winter range open to winter motorized travel.

Table 22: Bighorn Sheep: Percent of Winter Range Open to Winter Motorized Travel

Landscape	BDNF Winter Range Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Big Hole	927	N/A	N/A	N/A	N/A	N/A	N/A
Boulder River	0	N/A	N/A	N/A	N/A	N/A	N/A
Clark Fork Flint	18,560	78%	78%	39%	78%	43%	43%
Gravelly	13,965	28%	15%	12%	28%	14%	14%
Jefferson River	2,767	100%	100%	100%	100%	0%	0%
Lima Tendoy	25,007	75%	75%	23%	75%	63%	63%
Madison	20,686	0%	0%	0%	0%	0%	0%
Pioneer	48,414	81%	79%	77%	81%	77%	76%
Tobacco Root	0	N/A	N/A	N/A	N/A	N/A	N/A
Upper Clark Fork	0	N/A	N/A	N/A	N/A	N/A	N/A
Upper Rock Creek	8,168	69%	69%	23%	69%	6%	19%
Forestwide	138,494	61%	60%	41%	61%	42%	49%

The table below displays the percentages of mountain goat winter range open to winter motorized travel.

Table 23: Mountain Goat: Percent of Winter Range Open to Winter Motorized Travel

Landscape	BDNF Winter Range Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Big Hole	140,399	49%	48%	39%	49%	43%	44%
Boulder River	0	N/A	N/A	N/A	N/A	N/A	N/A
Clark Fork Flint	119,886	97%	93%	57%	97%	74%	77%
Gravelly	35,228	49%	49%	0%	49%	0%	0%
Jefferson River	0	N/A	N/A	N/A	N/A	N/A	N/A
Lima Tendoy	0	N/A	N/A	N/A	N/A	N/A	N/A

Landscape	BDNF Winter Range Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Madison	78,729	9%	2%	0%	9%	0.1%	1%
Pioneer	43,680	64%	63%	38%	64%	64%	64%
Tobacco Root	0	N/A	N/A	N/A	N/A	N/A	N/A
Upper Clark Fork	0	N/A	N/A	N/A	N/A	N/A	N/A
Upper Rock Creek	68,296	40%	40%	31%	40%	40%	22%
Totals	486,219	54%	52%	33%	54%	42%	41%

Effects of OSV Use on Big Game Specific by Alternative

Forestwide

General Big Game

Forestwide, Alternative 1 proposes keeping approximately 1,620,338 acres or 83% of general big game winter range open to winter motorized travel. This leaves approximately 326,184 acres or 17% of general big game winter range in a non-motorized classification across the forest. This Alternative, along with Alternative 4 leave the most big game winter range open to winter motorized travel. There are many landscapes where elk, mule deer and moose could potentially be disturbed by OSVs. However, across the Forest, Hunt Districts are either at or above population objectives for elk. The population objective for all the Hunt Districts across the Forest is 30,155 and the 2015 estimates of the elk population is 48,863. For reference, the 2007 estimate of the elk population was 28,220. As you can see, the elk population has grown even with current management. It would not seem that forestwide, winter motorized travel is affecting elk populations. Although there are not specific population numbers for mule deer or moose, and there is disturbance in some winter range areas, OSV use has not been identified as an issue for the mule deer or moose populations across the Forest. In general there were no areas of white-tailed deer or antelope winter ranges that were affected by winter motorized travel.

Forestwide, Alternative 2 proposes to decrease acres of general big game winter range open to winter motorized travel to approximately 1,567,227 acres or 81% of the winter range. Conversely this increases the acres of general big game winter range in a non-motorized classification across the forest to approximately 379,295 acres or 19% of the winter range. Approximately 53,100 additional acres of the winter range would be closed to winter motorized use under this Alternative. The effects from this Alternative are not that much different from Alternative 1 except in the Madison Landscape. The entire big game winter range area would be closed to winter motorized use. Across the Forest there would still be the potential for

effects to big game from this Alternative. As stated above however, the elk population is over objectives and although there are not specific population numbers for mule deer or moose, and there is disturbance in some winter range areas, OSV use has not been identified as an issue for the mule deer or moose populations across the Forest. In general there were no areas of white-tailed deer or antelope winter ranges that were affected by winter motorized travel.

Forestwide, Alternative 3 also proposes to decrease acres of general big game winter range open to winter motorized travel to approximately 1,102,623 acres or 57% of the winter range. Conversely this increases the acres of general big game winter range in a non-motorized classification across the forest to approximately 843,899 acres or 43% of the winter range. Approximately 517,700 additional acres of the winter range would be closed to winter motorized use under this Alternative. In eight of the eleven landscapes this Alternative provided the most protection for big game on the winter range. Some of the closures were in regularly and intermittently used areas by OSVs. These closures would help elk, mule deer and moose, the most. However, most of the closures were in areas that receive seldom to no use by OSVs. These closures would be most effective during high snow years when use may expand from what has existed. Even so, there is still the potential for disturbance/displacement to elk, mule deer and elk on across the Forest. As stated above however, the elk population is over objectives and although there are not specific population numbers for mule deer or moose, and there is disturbance in some winter range areas, OSV use has not been identified as an issue for the mule deer or moose populations across the Forest. In general there were no areas of white-tailed deer or antelope winter ranges that were affected by winter motorized travel.

Although under Alternative 4 Forestwide, there would be an increase in areas available for motorized travel, the number of acres of general big game winter range open to winter motorized travel increased very slightly to 1,622,389 acres, but the percentage stayed the same at 83%. This leaves approximately 324,133 acres or 17% of general big game winter range still in a non-motorized classification across the forest. The effects of this Alternative are identical to Alternative 1.

Forestwide, Alternative 5 also proposes to decrease acres of general big game winter range open to winter motorized travel to approximately 1,263,981 acres or 65% of the winter range. Conversely this increases the acres of general big game winter range in a non-motorized classification across the forest to approximately 682,541 acres or 35% of the winter range. Approximately 356,300 additional acres of the winter range would be closed to winter motorized use under this Alternative. Although some of the closures were in regularly and intermittently used areas by OSVs most of the closures proposed in this Alternative were in areas that receive seldom to no use by OSVs. These closures would be most effective during high snow years when use may expand from what has existed. Even so, there is still the potential for disturbance/displacement to elk, mule deer and elk on across the Forest. As stated above however, the elk population is over objectives and although there are not specific population numbers for mule deer or moose, and there is disturbance in some winter range areas, OSV use has not been identified as an issue for the mule deer or moose populations across the Forest. In general there were no areas of white-tailed deer or antelope winter ranges that were affected by winter motorized travel.

Forestwide, Alternative 6 Modified also proposes to decrease acres of general big game winter range open to winter motorized travel to approximately 1,218,142 acres or 63% of the winter range. Conversely this increases the acres of general big winter range in a non-motorized classification across the forest to approximately 728,380 acres or 37% of the winter range. Approximately 402,200 additional acres of the winter range would be closed to winter motorized use under this Alternative. This Alternative provides the second best protections for big game on the winter range. In five of the eleven landscapes this Alternative provided the most protection for big game on the winter range. Some of the closures were in regularly and intermittently used areas by OSVs. These closures would help elk, mule deer and moose, the most. However, most of the closures were in areas that receive seldom to no use by OSVs. These closures would be most effective during high snow years when use may expand from what has existed. Even so, there is still the potential for disturbance/displacement to elk, mule deer and elk on across the Forest. As stated above however, the elk population is over objectives and although there are not specific population numbers for mule deer or moose, and there is disturbance in some winter range areas, OSV use has not been identified as an issue for the mule deer or moose populations across the Forest. In general there were no areas of white-tailed deer or antelope winter ranges that were affected by winter motorized travel.

Bighorn Sheep

Forestwide, Alternative 1 proposes to keep approximately 85,040, acres or 61% of bighorn sheep winter range open to winter motorized travel. This leaves approximately 53,454 acres or 39% of bighorn sheep winter range in a non-motorized classification across the forest. Although this Alternative, along with Alternative 4 leave the most bighorn sheep winter range open to winter motorized travel, there are really only two landscapes where effects are possible; Upper Rock Creek and Pioneer. Both have sections of intermittent winter motorized travel where if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on parts of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Forestwide, Alternative 2 proposes to decrease acres of bighorn sheep winter range open to winter motorized travel to approximately 82,722 acres or 60% of the winter range. Conversely this increases the acres of bighorn sheep winter range in a non-motorized classification across the forest to approximately 55,772 acres or 40% of the winter range. Although this Alternative provides more protections, this Alternative is very similar to Alternative 1 and Alternative 4 in that over half the bighorn sheep winter range remains open to winter motorized travel, but there are really only two landscapes where effects are possible; Upper Rock Creek and Pioneer. Both have sections of intermittent winter motorized travel where if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on parts of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Forestwide, Alternative 3 also proposes to decrease acres of bighorn sheep winter range open

to winter motorized travel to approximately 57,424 acres or 41% of the winter range. Conversely this increases the acres of bighorn sheep winter range in a non-motorized classification across the forest to approximately 81,070 acres or 59% of the winter range. Forestwide, this Alternative provides the most protection for bighorn sheep winter range from winter motorized travel. There is still one landscape where effects are possible; Pioneer. This Landscape still has large sections of intermittent winter motorized travel on the winter range. If bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on parts of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Although under Alternative 4 Forestwide, there would be an increase in areas available for motorized travel, the number of acres of bighorn sheep winter range open to winter motorized travel increased very slightly to 85,131 acres, but the percentage stayed the same at 61%. This leaves approximately 53,364 acres or 39% of bighorn sheep winter range still in a non-motorized classification across the forest. Although this Alternative, along with Alternative 1 leave the most bighorn sheep winter range open to winter motorized travel, there are really only two landscapes where effects are possible; Upper Rock Creek and Pioneer. Both have sections of intermittent winter motorized travel where if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on parts of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Forestwide, Alternative 5 also proposes to decrease acres of bighorn sheep winter range open to winter motorized travel to approximately 66,850 acres or 42% of the winter range. Conversely this increases the acres of bighorn sheep winter range in a non-motorized classification across the forest to approximately 71,644 acres or 52% of the winter range. Forestwide, this Alternative provides the second best protection for bighorn sheep winter range from winter motorized travel. There is still one landscape where effects are possible; Pioneer. This Landscape still has large sections of intermittent winter motorized travel on the winter range. If bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on parts of the winter range. Although these effects are possible, MFWP (2010) has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF.

Alternative 6 Modified also proposes to decrease acres of bighorn sheep winter range open to winter motorized travel to approximately 67,360 acres or 49% of the winter range. Conversely this increases the acres of bighorn sheep winter range in a non-motorized classification across the forest to approximately 71,134 acres or 51% of the winter range. This Alternative provides protection for just over half the bighorn sheep winter range. Even so, there are really only two landscapes where effects are possible; Upper Rock Creek and Pioneer. Both have sections of intermittent winter motorized travel where if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these

animals or displacement from preferred habitats on parts of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Forestwide, Alternative 1 proposes to keep approximately 264,738 acres or 54% of mountain goat winter range open to winter motorized travel. This leaves approximately 221,481 acres or 46% of mountain goat winter range in a non-motorized classification across the forest. This is the highest amount of mountain goat winter range left open with the most chance for conflict between motorized recreation and mountain goats. Overall, this Alternative, along with Alternative 4 provides the least protection for mountain goats on the winter range. In most of the areas of conflict across the forest the use is intermittent; there is still a chance that mountain goats could be disturbed/displaced while on the winter range areas. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Forestwide, Alternative 2 also proposes to decrease acres of mountain goat winter range open to winter motorized travel to approximately 253,853 acres or 52% of the winter range. Conversely this increases the acres of mountain goat winter range in a non-motorized classification across the forest to approximately 232,365 acres or 48% of the winter range. This Alternative is very similar to Alternative 1; the only noticeable differences are increased protections in the Clark Fork Flint and the Madison landscapes. In most of the areas of conflict across the forest, the use is intermittent; there is still a chance that mountain goats could be disturbed/displaced while on the winter range areas. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Forestwide, Alternative 3 also proposes to decrease acres of mountain goat winter range open to winter motorized travel to approximately 161,282 acres or 33% of the winter range. Conversely this increases the acres of mountain goat winter range in a non-motorized classification across the forest to approximately 324,936 acres or 67% of the winter range. This Alternative provides the best protections for mountain goats on the winter ranges with an additional 103,456 acres closed to winter motorized use. The Forest Service sections of the winter ranges in the Gravelly, Madison landscapes and the western portion of the Pioneer Landscape would be specifically closed to motorized use. Although there are increased protections across the rest of the Forest and the use is primarily intermittent, there is still a slight chance that mountain goats could be disturbed/displaced while on these other winter range areas. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Forestwide, Alternative 4 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 264,738 acres or 54%. This conversely retains acres of mountain goat winter range in a non-motorized classification at 221,481 acres or 46%. The

effects from this Alternative are identical to Alternative 1. In most of the areas of conflict across the forest, the use is intermittent; there is still a chance that mountain goats could be disturbed/displaced while on the winter range areas. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Forestwide, Alternative 5 also proposes to decrease acres of mountain goat winter range open to winter motorized travel to approximately 204,020 acres or 42% of the winter range. Conversely this increases the acres of mountain goat winter range in a non-motorized classification across the forest to approximately 282,199 acres or 58% of the winter range. This Alternative increases protections for mountain goats on the winter ranges with an approximate 60,700 acres additionally closed to winter motorized use. The Forest Service sections of the winter ranges in the Gravelly and Madison, landscapes specifically would be closed to motorized use. Although there are increased protections additionally in the Big Hole and Clark Fork Flint landscapes, and the use is primarily intermittent, there is still a chance that mountain goats could be disturbed/displaced while on other winter range areas across the Forest. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 6 Modified also proposes to decrease acres of mountain goat winter range open to winter motorized travel to approximately 197,856 acres or 41% of the winter range. Conversely this increases the acres of mountain goat winter range in a non-motorized classification across the forest to approximately 288,363 acres or 59% of the winter range. This Alternative provides the second best protections for mountain goats on the winter ranges with approximately 66,800 acres additionally closed to winter motorized use. The Forest Service sections of the winter ranges in the Gravelly and Madison landscapes specifically would be closed to motorized use. In most of the areas of conflict across the forest, the use is intermittent; there is still a slight chance that mountain goats could be disturbed/displaced while on the winter range areas. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Big Hole Landscape

The Big Hole Landscape has winter range for general big game (188,482 acres), bighorn sheep (927 acres), and mountain goat (140,339 acres). There are no population objectives for elk in the south half of this Landscape as no elk winter in Hunt District 321. The population objective for elk for Hunt District 319, the north half of the Landscape, is 955 and as of 2015, there were an estimated 1,621 animals (exceeding objective). Neither white-tailed deer nor antelope winter in the Big Hole Landscape. The Big Hole Landscape is within bighorn sheep hunt district 213 with an estimated 100 animals. Although there is some winter range within the Landscape, it is mostly on private land and none of the Alternatives would affect it. Mule deer and moose also have winter range in this Landscape. There are mountain goats that winter in the Big Hole, but population numbers were not available at publication. This will be updated in the final

document.

General Big Game

Alternative 1 proposes keeping approximately 180,577 acres or 96% of general big game winter range open to winter motorized travel in the Big Hole Landscape. This leaves approximately 7,905 acres or 4% of general big game winter range in a non-motorized classification in this Landscape. Although this discussion centers on a combined group of species, there are very few elk that winter in the Big Hole valley. The elk in the northwestern part of this Landscape winter on the Bitterroot National Forest and the elk in the southwestern part of the Landscape winter in Idaho. There are elk, however, in the northeastern part of the Landscape. This is also where the mule deer and moose winter in this Landscape. According to MFWP, this northeastern area is high value winter range. This area gets intermittent/seldom to no winter motorized travel. There is a slight chance that in this area, elk, moose, or mule deer on the winter range could be disturbed/displaced by winter motorized travel. There is moose winter range on the eastern fringe of this Landscape as well as to the north. As this area receives regular use, there is a chance that if moose are on the winter range they could be displaced to less favorable habitats. The elk in this Landscape currently exceed objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 2 proposes to decrease areas open to winter motorized travel on general big game winter range to 92% (172,726 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to eight% (15,756 acres). Approximately 7,800 additional acres of the winter range would be closed to winter motorized use under this Alternative. This closure area would mostly benefit moose that may be on the winter range in this Landscape. A good portion of the eastern fringe would still remain open to winter motorized travel. If moose were in here at the same time, they could be displaced to less favorable habitat or pushed on to the willow bottoms in the valley. This Alternative does not improve protections in the northeastern side of the Landscape so due to the intermittent winter motorized use in that area, elk, moose, or mule deer on the winter range could be disturbed/displaced. Elk in this Landscape currently exceed objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 85% (159,918 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 15% (28,565 acres). This Alternative would provide the most protection for big game on the winter range. Approximately 20,600 additional acres of the winter range would be closed to winter motorized use under this Alternative. This closure area would mostly benefit moose that may be on the winter range in this Landscape. This Alternative does not improve protections in the northeastern side of the Landscape so due to the intermittent winter motorized use in that area, elk, moose, or mule deer on the winter range could be disturbed/displaced. Elk in this Landscape currently exceed objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk

population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 4 proposes to increase areas open to winter motorized travel on general big game winter range to 182,132 acres; it is still at 96%. Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 6,350 acres but is still four% of the winter range. The effects from this Alternative are identical to Alternative 1. There is a slight chance that in the northeast part of the Landscape, moose, or mule deer on the winter range could be disturbed/displaced by winter motorized travel. There is a chance that if moose are on the winter range on the eastern fringe they could be displaced to less favorable habitats. Elk in this Landscape currently exceed objectives. Although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 91% (171,926 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 9% (16,557 acres). Approximately 8,600 additional acres of the winter range would be closed to winter motorized use under this Alternative. This closure area would mostly benefit moose that may be on the winter range in this Landscape. A good portion of the eastern fringe would still remain open to winter motorized travel. If moose were in here at the same time, they could be displaced to less favorable habitat or pushed on to the willow bottoms in the valley. This Alternative does not improve protections in the northeastern side of the Landscape so due to the intermittent winter motorized use in that area, elk, moose, or mule deer on the winter range could be disturbed/displaced. Elk in this Landscape currently exceed objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 91% (172,106 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 9% (16,376 acres). Approximately 8,500 additional acres of winter range would be closed to winter motorized use under this Alternative. This closure would mostly benefit moose that may be on the winter range in this Landscape. A good portion of the eastern fringe would remain open to winter motorized travel. If moose were in here at the same time, they could be displaced to less favorable habitat or pushed to the willow bottoms in the valley. This Alternative does not improve protections in the northeastern side of the Landscape. Due to intermittent winter motorized use in that area, elk, moose, or mule deer on the winter range could be disturbed/displaced. Elk in this Landscape currently exceed objectives. Although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Bighorn Sheep

Although the Big Hole Landscape has a small amount of bighorn sheep winter range, the winter

range is located on private land. Since none of the Alternatives propose changing management on private land, bighorn sheep are not further discussed for the Big Hole Landscape.

Mountain Goat

Alternative 1 proposes to keep approximately 69,435 acres or 49% of mountain goat winter range open to winter motorized travel in the Big Hole Landscape. This leaves approximately 70,964 acres or 51% of mountain goat winter range in a non-motorized classification in this Landscape. According to the winter use maps, the part of the mountain goat range that is open to winter motorized travel is only used intermittently. This is an area that generally does not have sufficient snow depth for snowmobiles or other over the snow vehicles. However, there is still a possibility that the intermittent over the snow use could affect mountain goats, if the activities were in the same area and especially if the recreationists were traveling close to the herds. Research has shown though that mountain goats can habituate to adverse stimuli if they are gradually acclimatized and negative associations are avoided (Olliff et al. 1999). As mentioned earlier, mountain goats prefer areas that are rocky, have rugged terrain, and low-snow conditions, none of which are conducive to motorized over the snow activities. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 2 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 48% (67,576 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 52% (72,823 acres). Approximately 2,000 acres more would be closed to motorized use under this Alternative. According to the winter use maps, the part of the mountain goat range that is open to winter motorized travel is only used intermittently. This is an area that generally does not have sufficient snow depth for snowmobiles or other over the snow vehicles. However, there is still a possibility that the intermittent over the snow use could affect mountain goats, if the activities were in the same area and especially if the recreationists were traveling close to the herds. Research has shown though that mountain goats can habituate to adverse stimuli if they are gradually acclimatized and negative associations are avoided (Olliff et al. 1999). As mentioned earlier, mountain goats prefer areas that are rocky, have rugged terrain, and low-snow conditions, none of which are conducive to motorized over the snow activities. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 3 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 39% (54,583 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 61% (85,815 acres). Almost 1,500 more acres would be closed to motorized use under this Alternative. This would be the best Alternative for mountain goats. This Alternative protects more of the south end of the winter range. According to the winter use maps, the part of the mountain goat range that is open to winter motorized travel is only used intermittently.

This is an area that generally does not have sufficient snow depth for snowmobiles or other

over the snow vehicles. However, there is still a possibility that the intermittent over the snow use could affect mountain goats, if the activities were in the same area and especially if the recreationists were traveling close to the herds. Research has shown though that mountain goats can habituate to adverse stimuli if they are gradually acclimatized and negative associations are avoided (Olliff et al. 1999). As mentioned earlier, mountain goats prefer areas that are rocky, have rugged terrain, and low-snow conditions, none of which are conducive to motorized over the snow activities. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 49% (69,435 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 51% (70,964 acres). This Alternative has the same effects as Alternative 1. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 5 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 43% (60,087 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 57% (80,312 acres). This would provide the second best protection for mountain goats on the winter range. More than 9,000 acres would be added to the non-motorized designations. Like Alternative 3, this Alternative protects more of the south end of the winter range. According to the winter use maps, the part of the mountain goat range that is open to winter motorized travel is only used intermittently. This is an area that generally does not have sufficient snow depth for snowmobiles or other over the snow vehicles. However, there is still a possibility that the intermittent over the snow use could affect mountain goats, if the activities were in the same area and especially if the recreationists were traveling close to the herds. Research has shown though that mountain goats can habituate to adverse stimuli if they are gradually acclimatized and negative associations are avoided (Olliff et al. 1999). As mentioned earlier, mountain goats prefer areas that are rocky, have rugged terrain, and low-snow conditions, none of which are conducive to motorized over the snow activities. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on mountain goat winter range to 44% (61,779 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 56% (78,619 acres). This Alternative would have a little over 7,500 acres added to the non-motorized designation. Like Alternative 3, this Alternative protects more of the south end of the winter range. According to the winter use maps, the part of the mountain goat range that is open to winter motorized travel is only used intermittently. This is an area that generally does not have sufficient snow depth for snowmobiles or other over the snow vehicles. However, there is still a possibility that the intermittent over the snow use could affect mountain goats, if the activities were in the same area and especially if the recreationists were traveling close to the herds. Research has shown though that mountain goats can habituate to adverse stimuli if they are gradually

acclimatized and negative associations are avoided (Olliff et al. 1999). As mentioned earlier, mountain goats prefer areas that are rocky, have rugged terrain, and low-snow conditions, none of which are conducive to motorized over the snow activities. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Boulder River Landscape

The Boulder Landscape only has winter range for general big game (134,422 acres). There is no winter range in this Landscape for white-tailed deer, bighorn sheep, or mountain goat. There are two hunt districts within this Landscape, 318 and 350. The population objective for elk for Hunt District 318 is 500 and as of 2015, there were an estimated 684 animals (exceeding objective). The population objective for 350, combined with HDs 340 and 370, is 1,600 animals. As of 2015, there were an estimated 3,221 (exceeding objective) in the three hunt districts combined. Mule deer and moose also have winter range in this Landscape. There is no antelope, bighorn sheep or mountain goat winter range in the Boulder River Landscape.

General Big Game

Alternative 1 proposes to keep approximately 120,432 acres or 90% of general big game winter range open to winter motorized travel in the Boulder River Landscape. Almost all of this winter range is considered high value. This leaves approximately 13,991 acres or 10% of general big game winter range in a non-motorized classification in this Landscape. According to the use map, approximately 8% of the Landscape is regularly used for winter motorized travel and approximately 3% is used intermittently, 82% is used seldom to none and 7% is closed. Most of the regular use is on the north east side of the Landscape and includes some cross country use. There is also a series of regularly utilized routes in the western part of the Landscape. Although there is mule deer winter range in this Landscape, it is used by OSVs seldom to none, so it would only be on the deepest snow years that there could be a disturbance/displacement effect to mule deer. However, if the snow is deep enough to snowmobile on, it is very likely that mule deer would have moved to lower elevations where forage is not snow covered. Elk and moose would be the species most likely to be disturbed/displaced by winter motorized travel in this Landscape.

Research shows that although snowmobile traffic did not appear to alter moose activity significantly, it did influence the behavior of moose positioned within 300 meters of a trail and did displace moose to less favorable habitats, although not completely out of riparian habitats (Colescott and Gillingham, 1998). In this Landscape, if they aren't already there, moose could be pushed down into the private land willow areas along the Boulder River or into the private land north of the town of Boulder. Although in the past there has been a concern that OSVs are moving individual moose around, no declines in the moose population due to OSV use in this area has been identified. It is possible that elk in this Landscape may have shifted their use patterns away from the high and even intermittent use areas but this is only on 11% of the Landscape. Since 66% of this Landscape is winter range, elk could move to areas without regular or sporadic OSV disruption. Additionally, in this area (HDs 318 and 350) elk objectives are currently exceeded, leading to a conclusion that although there may be some

displacement/disruption to individual animals, current winter motorized travel is not negatively affecting the elk populations in the Boulder Landscape.

Alternative 2 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 90% (120,432 acres). This conversely retains acres of general big game winter range in a non-motorized classification at 10% (13,990 acres). The effects from this Alternative are identical to Alternative 1 above. Although there may be effects to individual elk or moose, no declines in the moose or elk populations due to OSV use in this area have been identified.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 75% (100,649 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 25% (33,773 acres). Approximately 19,800 additional acres would be closed to winter motorized travel in this Alternative. Although more areas of the winter range were closed to winter motorized travel they are areas that are used seldom to none by OSVs. In this case, the effects to this Alternative are the same as for Alternatives 1 and 2. Although there may be effects to individual elk or moose, no declines in the moose or elk populations due to OSV use in this area have been identified.

Alternative 4 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 90% (120,432 acres). This conversely retains acres of general big game winter range in a non-motorized classification at 10% (13,990 acres). The effects from this Alternative are identical to Alternatives 1, 2, and 3 above. Although there may be effects to individual elk or moose, no declines in the moose or elk populations due to OSV use in this area have been identified.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 76% (102,637 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 24% (31,786 acres). Approximately 17,800 additional acres would be closed to winter motorized travel in this Alternative. Although more areas of the winter range were closed to winter motorized travel they are areas that are used seldom to none by OSVs. In this case, the effects to this Alternative are the same as for Alternatives 1, 2, 3 and 4. Although there may be effects to individual elk or moose, no declines in the moose or elk populations due to OSV use in this area have been identified.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 66% (88,352 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 34% (46,071 acres). Approximately 32,000 additional acres would be closed to winter motorized travel in this Alternative. Although this Alternative closed one intermittently used route, none of the high use OSV areas in winter range were closed. As one intermittently used route would be closed, this Alternative would provide the most protection for big game on the winter range. This change would be most noticeable on heavy snow years when the areas that currently get seldom to no use might get more use. During these years, this Alternative would provide additional protection for elk and moose on the winter range. As there would still be winter motorized travel on the winter range, there may still be effects to individual elk or moose. Elk populations are over objectives in this Landscape and no declines in the moose or elk populations due to OSV use in this area have

been identified.

Bighorn Sheep

There is no bighorn sheep range in the Boulder River Landscape; therefore they will not be further discussed.

Mountain Goat

There is no mountain goat range in the Boulder River Landscape; therefore they will not be further discussed.

Clark Fork Flint Landscape

The Clark Fork Landscape has winter range for general big game (243,090 acres), bighorn sheep (18,560 acres), and mountain goat (119,886 acres). There are parts of seven hunt districts within this Landscape; 210, 211, 212, 213, 214, 215, and 341. The elk population objectives are either at or over in all these hunt districts. Refer to for the exact numbers. Mule deer and moose also have winter range in this Landscape however neither antelope nor white-tailed deer winter here. The Clark Fork Flint Landscape is within bighorn sheep hunt districts 210, 212, 213 with an estimated 280 animals across the three. There are mountain goats that winter in this Landscape, but population numbers were not available at publication. This will be updated in the final document.

General Big Game

Alternative 1 proposes to keep approximately 219,981 acres or 90% of general big game winter range open to winter motorized travel in the Clark Fork Flint Landscape. This leaves approximately 23,109 acres or 10% of general big game winter range in a non-motorized classification in this Landscape. There are areas of both high and moderate value winter range within this Landscape. According to the recreation report, only 6% of the Landscape receives regular use, 20% receives intermittent use and 66% is seldom to never, used for winter motorized travel. Areas of regular use that are also within winter range are a few routes southeast of Deer Lodge and south of Georgetown Lake. There is a chance that if elk, moose, or mule deer south of Deer Lodge are near the regularly used routes they could be disturbed or displaced by winter motorized traffic. In this case there are non-motorized areas near these high use routes that animals could move in to before they were displaced to private land. Elk and moose are the species potentially displaced by winter motorized use south of Georgetown Lake. Moose in this area also spend time along Montana State Highway 1 and are subjected to not only OSVs, but to vehicles on the highway. Moose in this area are for the most part habituated to traffic. Across the rest of the Landscape, there is a slight chance that elk and moose could be disturbed or displaced by the intermittent activity scattered across the winter range. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Although the percentage of winter motorized travel didn't change for the Clark Fork Flint

Landscape, Alternative 2 proposes to increase slightly areas open to winter motorized travel on general big game winter range to 91% (220,216 acres). Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 9% (22,874 acres). Although there are approximately 200 acres less protected in the winter range, they are in an area that receives no use by over the snow vehicles. Effects from this Alternative are identical to Alternative 1. There is a chance that if elk, moose, or mule deer south of Deer Lodge are near the regularly used routes they could be disturbed or displaced by winter motorized traffic. Elk and moose are the species potentially displaced by winter motorized use south of Georgetown Lake although moose in this area are habituated to vehicle traffic year round. Across the rest of the Landscape, there is a slight chance that elk and moose could be disturbed or displaced by the intermittent activity scattered across the winter range. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 79% (191,486 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 21% (51,604 acres). This would provide the best protection for big game winter range, both high and intermediate value, in this Landscape. Approximately 28,500 additional acres would be closed to winter motorized travel. Although this is positive for big game, there are only a few areas of intermittent use that would be closed. None of the high use areas would be closed. Basically the effects of this Alternative are still the same as for Alternatives 1 and 2. There is a chance that if elk, moose, or mule deer south of Deer Lodge are near the regularly used routes they could be disturbed or displaced by winter motorized traffic. Elk and moose are the species potentially displaced by winter motorized use south of Georgetown Lake although moose in this area are habituated to vehicle traffic year round. Across the rest of the Landscape, there is a slight chance that elk and moose could be disturbed or displaced by the intermittent activity scattered across the winter range. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Although the percentage of winter motorized travel didn't change for the Clark Fork Flint Landscape Alternative 4 proposes to increase slightly areas open to winter motorized travel on general big game winter range to 91% (220,216 acres). Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 9% (22,874 acres). Effects from this Alternative are identical to Alternatives 1 and 2. There is a chance that if elk, moose, or mule deer south of Deer Lodge are near the regularly used routes they could be disturbed or displaced by winter motorized traffic. Elk and moose are the species potentially displaced by winter motorized use south of Georgetown Lake although moose in this area are habituated to vehicle traffic year round. Across the rest of the Landscape, there is a slight chance that elk and moose could be disturbed or displaced by the intermittent activity scattered across the winter range. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in

this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 81% (197,564 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 19% (45,526 acres). Approximately 22,400 additional acres would be closed to winter motorized travel. Although this is positive for big game, there are only a few areas of intermittent use that would be closed. None of the high use areas would be closed. Basically the effects of this Alternative are still the same as for Alternatives 1 and 2. There is a chance that if elk, moose, or mule deer south of Deer Lodge are near the regularly used routes they could be disturbed or displaced by winter motorized traffic. Elk and moose are the species potentially displaced by winter motorized use south of Georgetown Lake although moose in this area are habituated to vehicle traffic year round. Across the rest of the Landscape, there is a slight chance that elk and moose could be disturbed or displaced by the intermittent activity scattered across the winter range. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 83% (202,547 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 17% (40,542 acres). Approximately 17,400 additional acres would be closed to winter motorized travel. Although this is positive for big game on both high and moderate value winter range, there are only a few areas of intermittent use that would be closed. None of the high use areas would be closed. Basically the effects of this Alternative are still the same as for Alternatives 1 and 2. There is a chance that if elk, moose, or mule deer south of Deer Lodge are near the regularly used routes they could be disturbed or displaced by winter motorized traffic. Elk and moose are the species potentially displaced by winter motorized use south of Georgetown Lake although moose in this area are habituated to vehicle traffic year round. Across the rest of the Landscape, there is a slight chance that elk and moose could be disturbed or displaced by the intermittent activity scattered across the winter range. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Bighorn Sheep

Alternative 1 proposes to keep approximately 14,454 acres or 78% of bighorn sheep winter range open to winter motorized travel in the Clark Fork Flint Landscape. This leaves approximately 4,106 acres or 22% of bighorn sheep winter range in a non-motorized classification in this Landscape. There are two herds within this Landscape, one in the Bearmouth area to the very northwest, and the Anaconda herd to the southeast. Although there is a high percentage of bighorn sheep winter range open to winter motorized travel, little OSV travel takes place in these areas as there is not usually enough snow. Additionally, the Anaconda herd is quite habituated to traffic as they can be seen regularly along Montana State

Highway 1 during the winter. It is unlikely that there would be negative effects to either of these herds from winter motorized travel in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Although the percentage of winter motorized travel didn't change for the Clark Fork Flint Landscape Alternative 2 proposes to increase slightly areas open to winter motorized travel on bighorn sheep winter range to 78% (14,544 acres). Conversely, this decreases the acres of bighorn sheep winter range in a non-motorized classification to 22% (4,016 acres). This alternative is identical to Alternative 1. The effects to bighorn sheep would be the same; unlikely that there would be negative effects to either of these herds from winter motorized travel in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 3 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 39% (7,196 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 61% (11,363 acres). This alternative provides the most protection from OSVs to bighorn sheep in that it closes an additional 7,200 acres of the winter range acres to winter motorized travel. The Bearmouth area on Forest Service would be completely closed and almost half of the Forest Service Anaconda area would also be closed. However, as mentioned before, there is little to no winter motorized activity that takes place in these areas as there is not usually enough snow for these types of activities. Additionally, the Anaconda herd is quite habituated to traffic as they can be seen regularly along Montana State Highway 1 during the winter. It is unlikely that there would be negative effects to either of these herds from winter motorized travel in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Although the percentage of winter motorized travel didn't change for the Clark Fork Flint Landscape, Alternative 4 proposes to increase slightly areas open to winter motorized travel on bighorn sheep winter range to 78% (14,544 acres). Conversely, this decreases the acres of bighorn sheep winter range in a non-motorized classification to 22% (4,016 acres). This alternative is identical to Alternative 1. The effects to bighorn sheep would be the same; unlikely that there would be negative effects to either of these herds from winter motorized travel in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 5 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 43% (7,991 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 57% (10,568 acres). This alternative along with Alternative 6 Modified would be the second best for bighorn sheep in that it closes an additional 6,500 acres of the winter range acres to winter motorized travel. The Bearmouth area on Forest Service would still stay open but almost half of the Forest Service in the Anaconda area would be closed. However, as mentioned before, there is little to no winter

motorized activity that takes place in these areas as there is not usually enough snow for these types of activities. Additionally, the Anaconda herd is quite habituated to traffic as they can be seen regularly along Montana State Highway 1 during the winter. It is unlikely that there would be negative effects to either of these herds from winter motorized travel in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 43% (7,991 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 57% (10,568 acres). This alternative along with Alternative 5 would be the second best for bighorn sheep in that it closes an additional 6,500 acres of the winter range acres to winter motorized travel. The Bearmouth area on Forest Service would still stay open but almost half of the Forest Service in the Anaconda area would be closed. However, as mentioned before, there is little to no winter motorized activity that takes place in these areas as there is not usually enough snow for these types of activities. Additionally, the Anaconda herd is quite habituated to traffic as they can be seen regularly along Montana State Highway 1 during the winter. It is unlikely that there would be negative effects to either of these herds from winter motorized travel in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Alternative 1 proposes to keep approximately 115,897 acres or 97% of mountain goat winter range open to winter motorized travel in the Clark Fork Flint Landscape. This leaves approximately 3,989 acres or 3% of mountain goat winter range in a non-motorized classification in this Landscape. This alternative and Alternative 4 provide the least protection for mountain goats on the winter range. There are two main mountain goat areas within this Landscape, one on the south end of the Landscape and one to the north. The winter range to the south is part of a larger mountain goat range, mostly concentrated in the Anaconda-Pintler Wilderness. This winter range area has good non-motorized protections within the wilderness. Although most of the northern area seldom sees winter motorized activity, there are some routes and undesignated play areas that receive intermittent use. There is only a very small portion of this area protected. There is generally good snow for motorized activities but much of this area is steep, rocky, and complex. Snowmobiles are going to be limited in their distribution based on the topography. Mountain goats in this Landscape could be disturbed and have their distribution and habitat use restricted by winter motorized travel under this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

In the Clark Fork Flint Landscape, Alternative 2 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 93% (111,963 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 7% (7,923 acres). Although this Alternative provides slightly more non-motorized area (approximately 4,000 acres) this Alternative still does not provide much protection for

mountain goats on the winter range. There are two main mountain goat areas within this Landscape, one on the south end of the Landscape and one to the north. The winter range to the south is part of a larger mountain goat range, mostly concentrated in the Anaconda-Pintler Wilderness. This winter range area has good non-motorized protections within the wilderness. While most of the northern area seldom has winter motorized activity, there are some routes and undesignated play areas that receive intermittent use. There is only a very small portion of this area protected. There is generally good snow for motorized activities but much of this area is steep, rocky, and complex. Snowmobiles are going to be limited in their distribution based on the topography. Mountain goats in this Landscape could be disturbed and have their distribution and habitat use restricted by winter motorized travel under this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 3 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 57% (68,679 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 43% (51,007 acres). This alternative provides the most protections for mountain goat winter range in this Landscape. It does close over 47,000 more acres of the winter range to winter motorized use. There are two main mountain goat areas within this Landscape, one on the south end of the Landscape and one to the north. The winter range to the south is part of a larger mountain goat range, mostly concentrated in the Anaconda-Pintler Wilderness. This winter range area has good non-motorized protections within the wilderness. Although most of the northern area has seldom to no winter motorized activity, there are some routes and undesignated play areas that receive intermittent use as well. This is where the bulk of the additional protections are proposed. As mentioned before, there is generally good snow for motorized activities but much of this area is steep, rocky, and complex. Snowmobiles are going to be limited in their distribution based on the topography. Although the best habitat for wintering mountain goats would be closed under this Alternative, there is still a chance that there could be some disturbance and their distribution and habitat use could be restricted by winter motorized travel. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 97% (115,897 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 3% (3,989 acres). This alternative and Alternative 1 provide the least protection for mountain goats on the winter range. The effects are the same as Alternative 1. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 5 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 74% (88,669 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 26% (31,217 acres). This alternative provides the second best protection for mountain goat winter range in this Landscape. It does close over 27,000 more acres of the winter range to winter motorized use. There are two main mountain

goat areas within this Landscape, one on the south end of the Landscape and one to the north. The winter range to the south is part of a larger mountain goat range, mostly concentrated in the Anaconda-Pintler Wilderness. This winter range area has good non-motorized protections within the wilderness. Although most of the northern area has seldom, to no, winter motorized activity there are some routes and undesignated play areas that receive intermittent use as well. This is where the bulk of the additional protections are proposed, including four wilderness study areas. As mentioned before, there is generally good snow for motorized activities but much of this area is steep, rocky, and complex. Snowmobiles are going to be limited in their distribution based on the topography. As 74% of the winter range is still open to motorized travel, there is still a chance that mountain goats could be disturbed and that their distribution and habitat use could be restricted by those activities. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on mountain goat winter range to 77% (92,272 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 23% (27,614 acres). This alternative provides the third best protection for mountain goat winter range in this Landscape. It does close over 23,500 more acres of the winter range to winter motorized use. There are two main mountain goat areas within this Landscape, one on the south end of the Landscape and one to the north. The winter range to the south is part of a larger mountain goat range, mostly concentrated in the Anaconda-Pintler Wilderness. This winter range area has good non-motorized protections within the wilderness. Although most of the northern area has seldom to no, winter motorized activity, there are some routes and undesignated play areas that receive intermittent use as well. This is where the bulk of the additional protections are proposed, including four wilderness study areas. As mentioned before, there is generally good snow for motorized activities but much of this area is steep, rocky, and complex. Snowmobiles are going to be limited in their distribution based on the topography. As 77% of the winter range is still open to motorized travel, there is still a chance that mountain goats could be disturbed and that their distribution and habitat use could be restricted by those activities. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Gravelly Landscape

The Gravelly Landscape has winter range for general big game (345,475 acres), bighorn sheep (13,965 acres), and mountain goat (35,228 acres). There are three hunt districts, 323, 324, 330 in this Landscape. The population objectives for this Landscape are combined with hunt districts 322, 325, 326, and 327. The objective for this combined area is 8,000 elk and as of 2015, there were an estimated 13,304 animals (exceeding objective). Mule deer and moose also have winter range in this Landscape. There is neither white-tailed deer nor antelope winter range in the Gravelly Landscape. There is a bighorn sheep herd in the Gravelly Landscape with an estimated 50 animals. This population is not hunted. There are two mountain goat hunt districts in the Gravelly Landscape, 325 and 331. Based on the survey average in Table 20, the

population seems stable at 41 and 48 animals respectively.

General Big Game

Alternative 1 proposes to keep approximately 273,991 acres or 79% of general big game winter range open to winter motorized travel in the Gravelly Landscape. This leaves approximately 71,484 acres or 21% of general big game winter range in a non-motorized classification in this Landscape. Currently approximately 12% of the Landscape acreage receives regular use, 2% receives intermittent use, and 66% of the acreage is seldom to never, used by over the snow vehicles. The southern part of the Landscape has fairly regular cross county use but the majority of the Landscape is accessed by a series of routes with cross country use where they join in the center. The winter motorized travel is both within high and moderate value winter range. Moose are the main big game species that could be affected by over the snow vehicle use in this Landscape. Research shows that although snowmobile traffic did not appear to alter moose activity significantly, did influence the behavior of moose positioned within 300 meters of a trail and did displace moose to less favorable habitats, although not completely out of riparian habitats (Colescott and Gillingham, 1998). Displacement would be more likely in the southern end of the Landscape in the cross county travel area than on the trail system further north. Although OSVs may move individual moose around, no declines in the moose population due to OSV use in this area has been identified.

Alternative 2 proposes to decrease areas open to winter motorized travel on general big game winter range to 77% (267,121 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 23% (78,354 acres). Approximately 6,900 additional acres would be closed to winter motorized travel in the winter range in this Landscape. This would mainly be noticed in the southern end of the Landscape in an area of regular use. Although this would decrease the amount of regular cross county travel moose could still be affected by winter motorized travel in this Landscape and displacement would still be more likely in the southern end of the Landscape in the cross county travel area than on the trail system further north. Although OSVs may move individual moose around, no declines in the moose population due to OSV use in this area has been identified.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 32% (110,938 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 68% (234,537 acres). This would be the best alternative for big game in this Landscape as it would close over 163,000 additional acres of the winter range in this Landscape to winter motorized travel. Some of the regular and intermittent use trails and cross country travel areas would be closed in this Alternative. Although this would decrease use greatly, moose could still be affected by winter motorized travel in this Landscape and displacement would still be more likely in the southern end of the Landscape in the cross county travel area than on the trail system further north. Although OSVs may move individual moose around, no declines in the moose population due to OSV use in this area has been identified.

Alternative 4 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 79% (273,991 acres). This conversely retains acres of general big game

winter range in a non-motorized classification at 21% (71,484 acres). The effects of this Alternative are identical to Alternative 1. Moose are the main big game species that could be affected by over the snow vehicle use in this Landscape. As mentioned in the effects common to all alternatives, although snowmobile traffic did not appear to alter moose activity significantly, did influence the behavior of moose positioned within 300 meters of a trail and did displace moose to less favorable habitats, although not completely out of riparian habitats. Displacement would be more likely in the southern end of the Landscape in the cross county travel area than on the trail system further north. Although OSVs may move individual moose around, no declines in the moose population due to OSV use in this area has been identified.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 50% (172,181 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 50% (173,294 acres). This alternative would close half, approximately 101,800 additional acres, of the winter range in this Landscape to winter motorized travel. Most of the area to be closed is in country that does not receive over the snow vehicle use. However, there is a section in the southern end of the Landscape in an area of regular use that would be closed. Although this would decrease the amount of regular cross county travel moose could still be affected by winter motorized travel in this Landscape and displacement would still be more likely in the southern end of the Landscape in the cross county travel area than on the trail system further north. Although OSVs may move individual moose around, no declines in the moose population due to OSV use in this area has been identified.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 50% (172,157 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 50% (173,318 acres). Effects of this Alternative would be identical to Alternative 5. Although this Alternative would close half the winter range in this Landscape to winter motorized travel, most of the area to be closed is in country that does not receive over the snow vehicle use. Although this would decrease the amount of regular cross county travel moose could still be affected by winter motorized travel in this Landscape and displacement would still be more likely in the southern end of the Landscape in the cross county travel area than on the trail system further north. Although OSVs may move individual moose around, no declines in the moose population due to OSV use in this area has been identified.

Bighorn Sheep

Alternative 1 would keep approximately 3,920 acres or 28% of bighorn sheep winter range open to winter motorized travel in the Gravelly Landscape. This leaves approximately 10,045 acres or 72% of bighorn sheep winter range in a non-motorized classification in this Landscape. Although this Alternative leaves open 28% of the winter range to winter motorized travel, this area does not receive that use. There are a series of regularly utilized routes in the Gravelly Landscape but they are, at the closest, 1.5 miles to the east of this winter range area. Effects to bighorn sheep from winter motorized travel is not expected in this area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 2 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 15% (2,072 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 85% (11,894 acres). This alternative closes approximately 1,800 more acres of winter range to winter motorized travel however, this area does not receive that use. There is a series of regularly utilized routes in the Gravelly Landscape but they are, at the closest, 1.5 miles to the east of this winter range area. Effects to bighorn sheep from winter motorized travel is not expected in this area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 3 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 12% (1,680 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 88% (12,285 acres). This alternative is the best for bighorn sheep in that it closes approximately 2,200 more acres of winter range to winter motorized travel however, this area does not receive that use. There is a series of regularly utilized routes in the Gravelly Landscape but they are, at the closest, 1.5 miles to the east of this winter range area. Effects to bighorn sheep from winter motorized travel is not expected in this area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on bighorn sheep winter range at 28% (3,920 acres). This conversely retains acres of bighorn sheep winter range in a non-motorized classification at 72% (10,045 acres). Effects from this Alternative are exactly like Alternative 1; not expected in this area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 5 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 14% (1,918 acres). Conversely, this increases the acres of big bighorn sheep winter range in a non-motorized classification to 86% (12,047 acres). This alternative closes approximately 2,000 more acres of winter range to winter motorized travel however, this area does not receive that use. There is a series of regularly utilized routes in the Gravelly Landscape but they are, at the closest, 1.5 miles to the east of this winter range area. Effects to bighorn sheep from winter motorized travel is not expected in this area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 14% (1,917 acres). Conversely, this increases the acres of big bighorn sheep winter range in a non-motorized classification to 86% (12,048 acres). Effects from this Alternative are exactly like Alternative 5; not expected in this area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Alternative 1 proposes to keep approximately 17,337 acres or 49% of mountain goat winter

range open to winter motorized travel in the Gravelly Landscape. This leaves approximately 17,891 acres or 51% of mountain goat winter range in a non-motorized classification in this Landscape. Although almost half of this winter range is open to motorized use, there is basically no use in this area. There is a system of routes that are regularly used approximately one mile (at the closest point) to the east of the winter range. Winter motorized use one mile away should not affect mountain goats in this winter range area. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 2 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 49% (17,337 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 51% (17,891 acres). This alternative is identical to Alternative 1. No effects are anticipated to mountain goats in this winter range area. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 3 proposes to keep none of the mountain goat winter range (35,228 acres) open to winter motorized travel in the Gravelly Landscape. All of the mountain goat winter range in this Landscape would remain in a non-motorized classification. There would be no anticipated effects to mountain goats from winter motorized travel in this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 49% (17,337 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 51% (17,891 acres). This alternative is identical to Alternative 1. No effects are anticipated to mountain goats in this winter range area. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 5 proposes to keep none of the mountain goat winter range (35,228 acres) open to winter motorized travel in the Gravelly Landscape. All of the mountain goat winter range in this Landscape would remain in a non-motorized classification. There would be no anticipated effects to mountain goats from winter motorized travel in this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 6 Modified proposes to keep none of the mountain goat winter range (35,228 acres) open to winter motorized travel in the Gravelly Landscape. All of the mountain goat winter range in this Landscape would remain in a non-motorized classification. There would be no anticipated effects to mountain goats from winter motorized travel in this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com.

MFWP 2015).

Jefferson River Landscape

The Jefferson River Landscape has winter range for general big game (112,077 acres) and bighorn sheep (2,767 acres). There are three hunt districts within this Landscape, 340, 350, 370. The combined population objective is 1,600 animals. As of 2015, there were an estimated 3,221 (exceeding objective) in the three hunt districts combined. Mule deer and moose have winter range spread across this Landscape while there is antelope winter range only in the very southern tip. The bighorn sheep hunt district 340 is within the Jefferson River Landscape with an estimated 75 animals. This is up from an estimated 54 animals in 1972. There is no white-tailed deer or mountain goat winter range in the Boulder River Landscape.

General Big Game

Alternative 1 proposes to keep approximately 112,050 acres or 99.98% of general big game winter range open to winter motorized travel in the Jefferson River Landscape. This leaves approximately 27 acres or 0.02% of general big game winter range in a non-motorized classification in this Landscape. According to the use map, there are no areas in this Landscape regularly used for winter motorized travel. Only approximately 13% is used intermittently and 87% is used by OSVs seldom to none. None of this Landscape is closed to winter motorized travel. This Landscape is basically split by interstate 90, south is the Highlands area and north is the Whitetail/Pipestone area and the Bull Mountains. The areas of intermediate use in this Landscape on the north side are the Delmoe Lake and Whitetail Reservoir areas, both outside of big game winter range. There are no anticipated effects to big game on the north half of the Jefferson River Landscape. On the south half of this Landscape (Highlands), the intermittent use occurs east and of Burton Park along the continental divide and south of Table Mountain. Elk and moose would be the species most likely to be possibly disturbed/displaced by intermittent winter motorized travel in this Landscape. The elk population in this Landscape currently is almost twice the desired objective so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area. There is no winter range for mule deer, white-tailed deer or antelope in the southern half of the Landscape so no effects from OSV use are expected for these species.

Alternative 2 proposes to decrease areas open to winter motorized travel on general big game winter range to 86% (96,439 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 14% (15,638 acres). Approximately 15,600 additional acres of the winter range would be closed to winter motorized use under this Alternative. This closure area would benefit the elk and moose that may be on the winter range in this Landscape as the large area east of Burton Park and a large portion of the area south of Table Mountain would be closed to winter motorized travel. Although this Alternative closes intermittent use in large areas, there is still a chance, although greatly lessened, that elk or moose on the winter range in the Highlands could be disturbed/displaced. Elk in this Landscape currently exceed objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue

for the mule deer or moose populations in this area.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 58% (65,440 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 42% (46,637 acres). Approximately 46,600 additional acres of the winter range would be closed to winter motorized use under this Alternative. A large portion of the winter range north of I90 would be closed to OSVs but the winter range in that area is currently not being used by snowmobiles. These closures would only be on the best snow years when use may spread out and there could be a disturbance/displacement effect to elk and moose in that area. Although the amount of winter range closed in this Alternative is much greater than in Alternative 2, the effects to the Highlands are virtually identical as the same OSV use areas are closed. Elk in this Landscape currently exceed objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 4 proposes to open all but 2 acres of the general big game winter range open to winter motorized travel in the Jefferson River Landscape. This leaves 2 acres of general big game winter range in a non-motorized classification in this Landscape. This alternative provides the least protection for big game on the winter range. The effects from this Alternative are identical to Alternative 1. Elk and moose would be the species most likely to be possibly disturbed/displaced by intermittent winter motorized travel in this Landscape. The elk population in this Landscape currently is almost twice the desired objective so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 58% (65,448 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 42% (46,629 acres). Approximately 46,600 additional acres of the winter range would be closed to winter motorized use under this Alternative. The effects of this Alternative would be identical to Alternative 3. Although there is still a slight chance for elk and moose to be disturbed/displaced in this Alternative, elk in this Landscape, currently exceed objectives. There may be effects to individuals but OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 47% (52,441 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 53% (59,636 acres). Approximately 59,600 additional acres of the winter range would be closed to winter motorized use under this Alternative. This alternative provides the best protection for big game on the winter range. Effects from this Alternative are basically identical to Alternatives 2, 3, and 5. The biggest difference would be additional protections in heavy snow years from OSVs expanding into the winter range from existing use. Although there is still a slight chance for elk and moose to be disturbed/displaced in this Alternative, the elk in this Landscape currently exceed objectives.

There may be effects to individuals but OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Bighorn Sheep

Alternative 1 proposes to keep all the bighorn sheep winter range (2,767 acres) open to winter motorized travel in the Jefferson River Landscape. None of the bighorn sheep winter range would be in a non-motorized classification in this Landscape. Although all of the bighorn sheep winter range in this Landscape is open to winter motorized travel, it is in an area that receives little to no use. It would be very unlikely for bighorn sheep to be displaced by over the snow vehicles in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 2 proposes to keep all the bighorn sheep winter range (2,767 acres) open to winter motorized travel in the Jefferson River Landscape. None of the bighorn sheep winter range would be in a non-motorized classification in this Landscape. Although all of the bighorn sheep winter range in this Landscape is open to winter motorized travel, it is in an area that receives little to no use. It would be very unlikely for bighorn sheep to be displaced by over the snow vehicles in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 3 proposes to keep all the bighorn sheep winter range (2,767 acres) open to winter motorized travel in the Jefferson River Landscape. None of the bighorn sheep winter range would be in a non-motorized classification in this Landscape. Although all of the bighorn sheep winter range in this Landscape is open to winter motorized travel, it is in an area that receives little to no use. It would be very unlikely for bighorn sheep to be displaced by over the snow vehicles in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 4 proposes to keep all the bighorn sheep winter range (2,767 acres) open to winter motorized travel in the Jefferson River Landscape. None of the bighorn sheep winter range would be in a non-motorized classification in this Landscape. Although all of the bighorn sheep winter range in this Landscape is open to winter motorized travel, it is in an area that receives little to no use. It would be very unlikely for bighorn sheep to be displaced by over the snow vehicles in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 5 proposes to keep all the bighorn sheep winter range (2,767 acres) open to winter motorized travel in the Jefferson River Landscape. None of the bighorn sheep winter range would be in a non-motorized classification in this Landscape. Although all of the bighorn sheep winter range in this Landscape is open to winter motorized travel, it is in an area that receives little to no use. It would be very unlikely for bighorn sheep to be displaced by over the snow

vehicles in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 6 Modified proposes to keep all the bighorn sheep winter range (2,767 acres) open to winter motorized travel in the Jefferson River Landscape. None of the bighorn sheep winter range would be in a non-motorized classification in this Landscape. Although all of the bighorn sheep winter range in this Landscape is open to winter motorized travel, it is in an area that receives little to no use. It would be very unlikely for bighorn sheep to be displaced by over the snow vehicles in this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Although there is general range for mountain goats within the Lima Tendoy Landscape, it is not used as winter range and will not be further discussed.

Lima Tendoy Landscape

The Lima Tendoy Landscape has winter range for general big game (253,887 acres) and bighorn sheep (25,007 acres). There are two hunt districts, 300, 302 in this Landscape. The population objective for 300 is 800 elk and as of 2015, there were an estimated 1,148 animals (exceeding objective). The population objective for 302 is 625 elk and as of 2015, there were an estimated 1,776 animals (exceeding objective). Mule deer, moose, and antelope also have winter range in this Landscape. There is neither white-tailed deer nor mountain goat winter range in the Gravelly Landscape. The bighorn sheep herd in the Lima Tendoy Landscape has an estimated 50 animals at this time. The bighorn sheep herd in the Lima Tendoy Landscape however is currently diseased and is being removed. MFWP thinks it will take likely until 2017 before the entire herd is removed (pers. com. MFWP 2015). There are plans to reintroduce a new herd, but it is unknown when that might start and how long that will take. Additionally, there is rarely enough snow for winter motorized activities in this Landscape. For these reasons, there no negative effects are expected to this bighorn sheep herd from winter motorized travel in any alternative.

General Big Game

Alternative 1 proposes to keep approximately 204,777 acres or 81% of general big game winter range open to winter motorized travel in the Lima Tendoy Landscape. This leaves approximately 49,111 acres or 19% of general big game winter range in a non-motorized classification in this Landscape. Much of this Landscape is within big game winter range for elk, moose, mule deer and antelope. Although a large percentage of this Landscape is open to winter motorized travel, the area around Goldstone Pass is the only area that receives regular use. The rest of the Landscape receives little to no winter motorized use. There is winter range for moose and elk in the area with regular use by OSVs therefore there could be disturbance/displacement if big game are on the winter range at the same time as the winter motorized use. Due to little to no winter motorized use, it is extremely unlikely that big game would be affected in the rest of the

Landscape. In this area elk objectives are currently exceeded, leading to a conclusion that although there may be some displacement/disruption to individual animals, current winter motorized travel is not negatively affecting the elk populations in the Lima Tendoy Landscape and no declines in the moose population due to OSV use in this area has been identified.

Alternative 2 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 81% (204,777 acres). This conversely retains acres of general big game winter range in a non-motorized classification at 19% (49,111 acres). The effects from this Alternative are identical to Alternative 1; potential displacement of elk and moose in the Goldstone Pass area and unlikely that big game would be affected in the rest of the Landscape. In this area elk objectives are currently exceeded, leading to a conclusion that although there may be some displacement/disruption to individual animals, current winter motorized travel is not negatively affecting the elk populations in the Lima Tendoy Landscape and no declines in the moose population due to OSV use in this area has been identified.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 42% (107,320 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 58% (146,568 acres). This alternative provides the best protection for big game on the winter range in this Landscape. Over half, an additional 97,500 acres of winter range would be closed to winter motorized use. Most of the additional protections would be in the southern half of the Landscape. The area around Goldstone Pass, the only area that receives regular use, would still be open to winter motorized travel. If there are moose and elk in the area at times of winter motorized travel there could be disturbance/displacement. Due to little to no winter motorized use, it is extremely unlikely that big game would be affected in the rest of the Landscape. In this area elk objectives are currently exceeded, leading to a conclusion that although there may be some displacement/disruption to individual animals, current winter motorized travel is not negatively affecting the elk populations in the Lima Tendoy Landscape and no declines in the moose population due to OSV use in this area has been identified.

Alternative 4 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 81% (204,777 acres). This conversely retains acres of general big game winter range in a non-motorized classification at 19% (49,111 acres). The effects from this Alternative are identical to Alternatives 1 and 2; potential displacement of elk and moose in the Goldstone Pass area and unlikely that big game would be affected in the rest of the Landscape. In this area elk objectives are currently exceeded, leading to a conclusion that although there may be some displacement/disruption to individual animals, current winter motorized travel is not negatively affecting the elk populations in the Lima Tendoy Landscape and no declines in the moose population due to OSV use in this area has been identified.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 62% (156,266 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 38% (97,621 acres). In this Alternative an additional 48,500 acres of winter range would be closed to winter motorized use. Most of the additional protections would be in the southern half of the Landscape. The area around Goldstone Pass, the only area that receives regular use, would still be open to winter motorized

travel. If there are moose and elk in the area at times of winter motorized travel there could be disturbance/displacement. Due to little to no winter motorized use, it is extremely unlikely that big game would be affected in the rest of the Landscape. In this area elk objectives are currently exceeded, leading to a conclusion that although there may be some displacement/disruption to individual animals, current winter motorized travel is not negatively affecting the elk populations in the Lima Tendoy Landscape and no declines in the moose population due to OSV use in this area has been identified.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 53% (134,754 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 47% (119,134 acres). In this Alternative an additional 70,000 acres of winter range would be closed to winter motorized use. Most of the additional protections would be in the southern half of the Landscape. The area around Goldstone Pass, the only area that receives regular use, would still be open to winter motorized travel. If there are moose and elk in the area at times of winter motorized travel there could be disturbance/displacement. Due to little to no winter motorized use, it is extremely unlikely that big game would be affected in the rest of the Landscape. In this area elk objectives are currently exceeded, leading to a conclusion that although there may be some displacement/disruption to individual animals, current winter motorized travel is not negatively affecting the elk populations in the Lima Tendoy Landscape and no declines in the moose population due to OSV use in this area has been identified.

Bighorn Sheep

The alternative analysis must take into account that the bighorn sheep herd in the Lima Tendoy Landscape however is currently diseased and is being removed. There is not expected to be a replacement herd in the near future (MFWP 2015).

Alternative 1 proposes to keep approximately 18,718 acres or 75% of bighorn sheep winter range open to winter motorized travel in the Lima Tendoy Landscape. This leaves approximately 6,289 acres or 25% of bighorn sheep winter range in a non-motorized classification in this Landscape. This Landscape has seldom to no winter motorized travel as there is not enough snow to use OSVs. Bighorn sheep are not expected to be negatively affected by winter motorized travel in this Landscape. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 2 proposes to retain the existing areas open to winter motorized travel on bighorn sheep winter range at 75% (18,718 acres). This conversely retains acres of bighorn sheep winter range in a non-motorized classification at 25% (6,289 acres). This Landscape has seldom to no winter motorized travel as there is not enough snow to use OSVs. Bighorn sheep are not expected to be negatively affected by winter motorized travel in this Landscape. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 3 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 23% (5,848 acres). Conversely, this increases the acres of bighorn sheep winter

range in a non-motorized classification to 77% (19,159 acres). This alternative would provide the best protection for bighorn sheep on the Landscape. However, this Landscape has seldom to no winter motorized travel as there is not enough snow to use OSVs. Bighorn sheep are not expected to be negatively affected by winter motorized travel in this Landscape. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on bighorn sheep winter range at 75% (18,718 acres). This conversely retains acres of bighorn sheep winter range in a non-motorized classification at 25% (6,289 acres). This Landscape has seldom to no winter motorized travel as there is not enough snow to use OSVs. Bighorn sheep are not expected to be negatively affected by winter motorized travel in this Landscape. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 5 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 63% (15,643 acres). Conversely, this increases the acres bighorn sheep winter range in a non-motorized classification to 37% (9,364 acres). This Landscape has seldom to no winter motorized travel as there is not enough snow to use OSVs. Bighorn sheep are not expected to be negatively affected by winter motorized travel in this Landscape. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 63% (15,643 acres). Conversely, this increases the acres bighorn sheep winter range in a non-motorized classification to 37% (9,364 acres). This Landscape has seldom to no winter motorized travel as there is not enough snow to use OSVs. Bighorn sheep are not expected to be negatively affected by winter motorized travel in this Landscape. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Although there is general range for mountain goats within the Lima Tendoy Landscape, it is not utilized as winter range and will not be discussed in this section.

Madison Landscape

The Madison Landscape has winter range for general big game (91,391 acres), bighorn sheep (20,686 acres), and mountain goat (78,729 acres). There are three hunt districts, 311, 360, 362 in this Landscape. The combined population objective for this Landscape is 7,200 elk and as of 2015, there were an estimated 8,323 animals (exceeding objective). Individually, hunt districts 311 and 360 are at objective whereas hunt district 362 is over objective. Mule deer and moose also have winter range in this Landscape. There is neither white-tailed deer nor antelope winter range in the Madison Landscape. The bighorn sheep hunt districts 301 and 302 are within the Madison Landscape with an estimated 165 and 280 animals respectively. The original estimates from 1980 were 78 animals in each unit. Parts of three mountain goat hunt districts are in this

Landscape, 324, 325, and 326. Based on the survey averages of 66, 33, and 20, the population seems fairly stable at 71, 41, and 22 animals respectively. It is important to note that most of the Madison Landscape is within the Lee Metcalf Wilderness.

General Big Game

Alternative 1 proposes to keep approximately 8,529 acres or 9% of general big game winter range open to winter motorized travel in the Madison Landscape. This leaves approximately 82,862 acres or 91% of general big game winter range in a non-motorized classification in this Landscape. Most of this Landscape is within the Lee Metcalf Wilderness and is already closed to motorized use. There is only a small portion of the northern area open to winter motorized use that is not private land. According to both recreation specialists on the Forests and MFWP biologists, there is no over the snow motorized travel in this area and therefore no effects to big game populations in this Landscape.

Alternative 2 proposes to keep none of the general big game winter range areas open to winter motorized travel in the Madison Landscape. Conversely, this increases the acres of general big game winter range in a non-motorized classification to 100% (91,391 acres). There would be no effects to big game winter range from winter motorized travel in this Alternative.

Alternative 3 proposes to keep none of the general big game winter range areas open to winter motorized travel in the Madison Landscape. Conversely, this increases the acres of general big game winter range in a non-motorized classification to 100% (91,391 acres). As in Alternative 2, there would be no effects to big game winter range from winter motorized travel in this Alternative.

Although the percentage of winter motorized travel didn't change for the Madison Landscape Alternative 4 proposes to increase slightly the areas open to winter motorized travel on general big game winter range to 8,536 acres, but it is still only 9% of the winter range. Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 82,855 acres but it is still 91% of the winter range. The effects of this Alternative are exactly the same as Alternative 1. Most of this Landscape is within the Lee Metcalf Wilderness and is already closed to motorized use. There is only a small portion of the northern area open to winter motorized use that is not private land. According to both recreation specialists on the Forests and MFWP biologists there is no over the snow motorized travel in this area and therefore no effects to big game populations in this Landscape.

Alternative 5 proposes to keep none of the general big game winter range areas open to winter motorized travel in the Madison Landscape. Conversely, this increases the acres of general big game winter range in a non-motorized classification to 100% (91,391 acres). As in Alternatives 2 and 3, there would be no effects to big game winter range from winter motorized travel in this Alternative.

Alternative 6 Modified proposes to keep none of the general big game winter range areas open to winter motorized travel in the Madison Landscape. Conversely, this increases the acres of general big game winter range in a non-motorized classification to 100% (91,391 acres). As in Alternatives 2, 3, and 5, there would be no effects to big game winter range from winter motorized travel in this Alternative.

Bighorn Sheep

Alternative 1 proposes to keep none of the bighorn sheep winter range (20,686 acres) open to winter motorized travel in the Madison Landscape. All of the bighorn sheep winter range in this Landscape would remain in a non-motorized classification. There would be no effects to bighorn sheep from winter Motorized travel from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 2 proposes to keep none of the bighorn sheep winter range (20,868 acres) open to winter motorized travel in the Madison Landscape. All of the bighorn sheep winter range in this Landscape would remain in a non-motorized classification. There would be no effects to bighorn sheep from winter motorized travel from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 3 proposes to keep none of the bighorn sheep winter range (20,868 acres) open to winter motorized travel in the Madison Landscape. All of the bighorn sheep winter range in this Landscape would remain in a non-motorized classification. There would be no effects to bighorn sheep from winter motorized travel from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 4 proposes to keep none of the bighorn sheep winter range (20,868 acres) open to winter motorized travel in the Madison Landscape. All of the bighorn sheep winter range in this Landscape would remain in a non-motorized classification. There would be no effects to bighorn sheep from winter motorized travel from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 5 proposes to keep none of the bighorn sheep winter range (20,868 acres) open to winter motorized travel in the Madison Landscape. All of the bighorn sheep winter range in this Landscape would remain in a non-motorized classification. There would be no effects to bighorn sheep from winter motorized travel from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 6 Modified proposes to keep none of the bighorn sheep winter range (20,868 acres) open to winter motorized travel in the Madison Landscape. All of the bighorn sheep winter range in this Landscape would remain in a non-motorized classification. There would be no effects to bighorn sheep from winter motorized travel from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Alternative 1 proposes to keep approximately 6,895 acres or 9% of mountain goat winter range open to winter motorized travel in the Madison Landscape. This leaves approximately 71,834

acres or 91% of mountain goat winter range in a non-motorized classification in this Landscape. There are two winter range areas within the Madison Landscape, north, and south. The southern area is within the Lee Metcalf Wilderness and is already closed to motorized use. There is only a small portion of the northern area open to winter motorized use that is not private land. According to MFWP biologists, there is no over the snow motorized travel and no effects to either mountain goat population from winter motorized travel in this Landscape. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 2 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 2% (1,918 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 98% (76,812 acres). There are two winter range areas within the Madison Landscape, north and south. The southern area is within the Lee Metcalf Wilderness and is already closed to motorized use. There is only a small portion of the northern area open to winter motorized use that is not private land. Alternative 2 would close this small section to winter motorized travel. However, as stated before according to MFWP biologists there is no over the snow motorized travel and no effects to either mountain goat population from winter motorized travel in this Landscape. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 3 proposes to keep none of the mountain goat winter range (78,729 acres) open to winter motorized travel in the Madison Landscape. All of the mountain goat winter range in this Landscape would remain in a non-motorized classification. There would be no anticipated effects to mountain goats from winter motorized travel in this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 9% (6,895 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 91% (71,834 acres). This alternative is the same as Alternative 1. According to MFWP biologists there is no over the snow motorized travel and no effects to either mountain goat population from winter motorized travel in this Landscape. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 5 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 0.1% (90 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 99.9% (78,639 acres). As almost all of the mountain goat winter range in this Landscape would remain in a non-motorized classification, there would be no anticipated effects from this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on mountain goat winter range to 1% (964 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 99% (77,765 acres). The only acres of winter range available to winter motorized in this Landscape are on private land. According to MFWP biologists there is no over the snow motorized travel and no effects to either mountain goat population from winter motorized travel in this Landscape. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Pioneer Landscape

The Pioneer Landscape has winter range for general big game (297,937 acres), bighorn sheep (48,414 acres), and mountain goat (43,680 acres). There are three elk hunt districts, 329, 331, 332 in this Landscape. The combined population objective for this Landscape is 2,950 elk and as of 2015, there were an estimated 3,830 animals (exceeding objective). Individually, hunt districts 331, and 332 are at objective whereas hunt district 329 is over objective. Mule deer and moose also have winter range in this Landscape. There is a small amount of antelope winter range on the very eastern edge of this Landscape. There no white-tailed deer winter range in the Pioneer Landscape. The bighorn sheep hunt district 340 is within the Pioneer Landscape with an estimated 75 animals. The original estimate from 1972 was 54 animals in each unit. The population is seemingly doing well. Mountain goat hunt district 312 is in this Landscape. According to the MFWP biologist, the population seems fairly stable at 100-150 animals.

General Big Game

Alternative 1 proposes to keep approximately 256,381 acres or 86% of general big game winter range open to winter motorized travel in the Pioneer Landscape. This leaves approximately 41,556 acres or 14% of general big game winter range in a non-motorized classification in this Landscape. Elk and secondarily moose are the big game species that could potentially be affected by winter motorized travel in this Landscape. Over the snow use mainly occurs in the north half of the Landscape and in the West Pioneers. Approximately 49% of the Landscape (West Pioneers) receives regular use and 21% (north half of the East Pioneers) receives intermittent use. Twenty two percent of the acreage is seldom, to never used, for winter motorized travel. Much of the moose winter range in the West Pioneers is closed to winter motorized use but there are some areas that remain open. Most of the elk winter range remains open in this Alternative. Due to the regular use in the West Pioneers, there is a chance that if big game are on the winter range at the same time as motorized use is occurring they could be disturbed/displaced. There is regular use scattered throughout the West Pioneers; it is not consistent nor is it predictable. This is when there is the potential for the greatest negative responses in elk. The north half of the East Pioneers is utilized by over the snow vehicles on an intermittent basis while on the south half there is seldom to no use. As there is winter motorized use on the winter range in this area, there is a still a chance of elk and moose being disturbed/displaced by use. The elk population in this Landscape is currently at, or exceeds objectives. Although there may be effects to individuals, OSV use does not seem to be affecting

the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 2 proposes to decrease areas open to winter motorized travel on general big game range to 82% (243,031 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 18% (54,906 acres). This alternative would close approximately 13,300 more acres of the winter range to winter motorized travel. The closure area is mostly in the East Pioneers, in an area that receives seldom to no use but there are areas of intermittent and regular use that would be closed as well. Although reduced, due to the regular use in the West Pioneers, there is a chance that if big game are on the winter range at the same time as the motorized use is occurring they would be disturbed/displaced. There is regular use scattered throughout the West Pioneers; it is not consistent nor is it predictable. This is when there is the potential for the greatest negative responses in elk. The north half of the East Pioneers is utilized by over the snow vehicles on an intermittent basis while on the south half use is seldom to none. As there is winter motorized use on the winter range in this area, there is still a chance of elk and moose being disturbed/displaced by use. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 68% (201,591 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 32% (96,346 acres). This is the best alternative for big game in this Landscape. It would close approximately 54,800 more acres of the winter range to winter motorized travel. The closure area is mostly in the East Pioneers in an area that receives seldom to no use but there are areas of intermittent and regular use that would be closed as well. A larger section on the West Pioneers would also be closed to regular cross country travel. Although reduced, due to the regular use in the West Pioneers, there is still a chance that if big game are on the winter range at the same time as motorized use is occurring they would be disturbed/displaced. There are still large areas of regular use scattered throughout the West Pioneers; it is not consistent nor is it predictable. This is when there is the potential for the greatest negative responses in elk. The north half of the East Pioneers is utilized by over the snow vehicles on an intermittent basis while on the south half there is seldom to no use. As there is winter motorized use on the winter range in this area, there is still a chance of elk and moose being disturbed/displaced by use. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 4 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 86% (256,381 acres). This conversely retains acres of general big game winter range in a non-motorized classification at 14% (41,556 acres). The effects of this Alternative are identical to Alternative 1. Due to the regular use in the West Pioneers, there is a chance that if big game are on the winter range at the same time as motorized use is occurring they would be disturbed/displaced. There is regular use scattered throughout the West

Pioneers; it is not consistent nor is it predictable. This is when there is the potential for the greatest negative responses in elk. The north half of the East Pioneers is utilized by over the snow vehicles on an intermittent basis; while on the south half there is seldom to no use. As there is winter motorized use on the winter range in this area, there is a still a chance of elk and moose being disturbed/displaced by use. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 77% (229,661 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 23% (68,276 acres). This alternative would close approximately 26,700 more acres of the winter range to winter motorized travel. The closure area is mostly in the East Pioneers in an area that receives seldom to no use; but there are areas of intermittent and regular use that would be closed as well. Although reduced, due to the regular use in the West Pioneers, there is a chance that if big game are on the winter range at the same time as motorized use is occurring they would be disturbed/displaced. There is regular use scattered throughout the West Pioneers; it is not consistent nor is it predictable. This is when there is the potential for the greatest negative responses in elk. The north half of the East Pioneers is utilized by over the snow vehicles on an intermittent basis while on the south half there is seldom to no use. As there is winter motorized use on the winter range in this area, there is a still a chance of elk and moose being disturbed/displaced by use. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 77% (229,745 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 23% (68,192 acres). The effects of this Alternative are identical to Alternative 5. This alternative would close approximately 26,600 more acres of the winter range to winter motorized travel. Although reduced, due to the regular use in the West Pioneers, there is a chance that if big game are on the winter range at the same time as motorized use is occurring they would be disturbed/displaced. There is regular use scattered throughout the West Pioneers; it is not consistent nor is it predictable. This is when there is the potential for the greatest negative responses in elk. The north half of the East Pioneers is utilized by over the snow vehicles on an intermittent basis while on the south half, there is seldom to no use. As there is winter motorized use on the winter range in this area, there is a still a chance of elk and moose being disturbed/displaced by use. The elk population in this Landscape is currently at or exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Bighorn Sheep

Alternative 1 proposes to keep approximately 39,017 acres or 81% of bighorn sheep winter range open to winter motorized travel in the Pioneer Landscape. This leaves approximately 9,398 acres or 19% of bighorn sheep winter range in a non-motorized classification in this Landscape. The bighorn sheep winter range in this Landscape is in the East Pioneers, in the northern section. It is in an area that receives intermittent winter motorized travel, mainly due to the low snow depth many years. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 2 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 79% (38,457 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 21% (9,957 acres). In this Alternative, the area closed to winter motorized travel in this bighorn sheep winter range is increased by approximately 560 more acres. The area that remains open receives intermittent winter motorized travel, mainly due to the low snow depth many years. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 3 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 77% (37,516 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 23% (10,898 acres). In this Alternative, the area closed to winter motorized travel in this bighorn sheep winter range is increased by approximately 1,500 more acres. The area that remains open receives intermittent winter motorized travel, mainly due to the low snow depth many years. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on bighorn sheep winter range at 81% (39,017 acres). This conversely retains acres of bighorn sheep winter range in a non-motorized classification at 19% (9,398 acres). The effects of this Alternative is identical to Alternative 1, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 5 proposes to decrease areas open to winter motorized travel on bighorn sheep

winter range to 77% (37,516 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 23% (10,898 acres). The effects from this Alternative are identical to Alternative 3. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 76% (37,010 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 24% (11,405 acres). This is the best alternative for bighorn sheep in that the area closed to winter motorized travel in this bighorn sheep winter range is increased by approximately 2,000 more acres. The area that remains open receives intermittent winter motorized travel, mainly due to the low snow depth many years. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Alternative 1 proposes to keep approximately 27,774 acres or 64% of mountain goat winter range open to winter motorized travel in the Pioneer Landscape. This leaves approximately 15,906 acres or 36% of mountain goat winter range in a non-motorized classification in this Landscape. This Landscape has two separate winter range areas, east and west. Most of the western winter range area is closed to winter motorized use currently.

This winter range area is different in that it does not have steep rocky terrain. These goats winter in the foothills/valley. Generally if there is sufficient snow depth for snowmobiles or other over the snow vehicles, the mountain goats are lower down in the valley (Pers. com. MFWP). However, there is still a possibility that some over the snow use could disturb mountain goats and push them lower, if the activities were in the same area and especially if the recreationists were traveling close to the herds. The herd in the East Pioneers is subject to intermittent winter motorized use with no protections in this Alternative. However there are many years this area does not received sufficient snow for motorized use. Although use is intermittent, this herd could be disturbed and displaced by winter motorized use. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 2 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 63% (27,660 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 37% (16,020 acres). The effects from this Alternative are virtually identical to Alternative 1. In this Alternative only 114 more acres would

be closed to winter motorized use and this is for the western herd. Nothing changes for the eastern herd. Potential disturbance effects for both populations exist. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 3 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 38% (16,543 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 62% (27,137 acres). This is the best possible alternative for mountain goats. The winter range for the western herd would be closed to winter motorized use therefore no effects to that population would be anticipated. The effects to the eastern herd would not change from Alternative 1. Although the use is intermittent, and there is usually not enough snow to use over the snow vehicles on, there is still a chance for disturbance and displacement. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 64% (27,774 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 36% (15,906 acres). The effects from this Alternative are identical to Alternative 1. Disturbance/displacement effects to mountain goats are possible on an intermittent basis. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 5 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 64% (27,774 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 36% (15,906 acres). The effects from this Alternative are identical to Alternative 1. Disturbance/displacement effects to mountain goats are possible on an intermittent basis. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Although the percentage of winter motorized travel didn't change for the Pioneer Alternative 6 Modified proposes to increase slightly areas open to winter motorized travel on mountain goat winter range to 27,889 acres but it is still 64% of the winter range. Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 15,791 acres but still 36%. The effects from this Alternative are identical to Alternative 1.

Disturbance/displacement effects to mountain goats are possible on an intermittent basis. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Tobacco Root Landscape

The Tobacco Root Landscape has winter range for general big game (101,293 acres). There are two hunt districts within this Landscape, 320 and 333. The combined population objective is 1,000 animals. As of 2015, there were an estimated 1,621 (exceeding objective) in the two hunt

districts combined. Mule deer and moose have winter range spread across this Landscape while there is a small portion of antelope winter range on the very eastern edge. There is no white-tailed deer, bighorn sheep, or mountain goat winter range mapped in the Tobacco Root Landscape.

General Big game

Alternative 1 proposes to keep approximately 98,885 acres or 98% of general big game range open to winter motorized travel in the Tobacco Root Landscape. This leaves approximately 2,408 acres or 2% of general big game winter range in a non-motorized classification in this Landscape. There is winter range around the entire fringe of the Tobacco Root Landscape. According to the recreation report, only 2% of this Landscape receives regular use, 20% receives intermittent use and 73% of the acreage is seldom, to never used by winter motorized travelers. Elk and moose are the two big game species that could be disturbed/displaced by the motorized use in the winter range but only on approximately 22% which leaves 88% of the winter range undisturbed. The elk population in this Landscape currently exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the elk or moose populations in this area.

Alternative 2 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 98% (98,885 acres). This conversely retains acres of general big game winter range in a non-motorized classification at 2% (2,408 acres). The effects of this Alternative are exactly the same as in Alternative 1. Elk and moose are the two big game species that could be disturbed/displaced by the motorized use in this Landscape but only on approximately 22% of this Landscape. The elk population in this Landscape currently exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the elk or moose populations in this area.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 40% (40,655 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 60% (60,638 acres). This would be the best alternative for big game in this Landscape. Approximately 58,200 additional acres would be closed in this Alternative. In this Alternative, the 2% of this Landscape that receives regular use and some that is intermittent use would be closed. As there is still intermittent use in the south part of the Landscape, elk, and moose are the two big game species that could still possibly be disturbed/displaced by the motorized use. The elk population in this Landscape currently exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the elk or moose populations in this area.

Alternative 4 proposes to retain the existing areas open to winter motorized travel on general big game winter range at 98% (98,885 acres). This conversely retains acres of general big game winter range in a non-motorized classification at 2% (2,408 acres). The effects of this Alternative are exactly the same as in Alternative 1 and 2. Elk and moose are the two big game

species that could be disturbed/displaced by the motorized use in this Landscape but only on approximately 22% of this Landscape. The elk population in this Landscape currently exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the elk or moose populations in this area.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 49% (50,060 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 51% (51,233 acres). This would be the second best alternative for big game. Although approximately 48,800 additional acres would be closed in this Alternative these sections are in the area that is seldom to never used by winter motorized travel. Elk and moose are the two big game species that could be disturbed/displaced by the motorized use in this Landscape but only on approximately 22% which leaves 88% of the winter range undisturbed. The elk population in this Landscape currently exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the elk or moose populations in this area.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 55% (55,442 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 45% (45,851 acres). Although approximately 43,400 additional acres would be closed in this Alternative these sections are in the area that is seldom to never used by winter motorized travel. Elk and moose are the two big game species that could be disturbed/displaced by the motorized use in this Landscape but only on approximately 22% which leaves 88% of the winter range undisturbed. The elk population in this Landscape currently exceeds objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population in this area. OSV use has not been identified as an issue for the elk or moose populations in this area.

Bighorn Sheep

There is no bighorn sheep range in the Tobacco Root Landscape; therefore they will not be further discussed.

Mountain Goat

Although there is general range for mountain goats within the Tobacco Root Landscape, it is not mapped as winter range and will not be further.

Upper Clark Fork Landscape

The Upper Clark Fork Landscape has winter range for general big game (66,659 acres). There are four hunt districts within this Landscape, 215, 340, 341, and 350. Population objectives for 340 and 350 are combined with hunt district 370. The combined population objective is 3,525 animals. As of 2015, there were an estimated 7,271 (exceeding objective) in the four hunt districts combined. Individually, hunt districts 215, 340, and 350 are over objective. Hunt district 341 is at objective. Mule deer and moose have winter range spread across this

Landscape. There is no antelope, white-tailed deer, bighorn sheep, or mountain goat winter range in the Upper Clark Fork Landscape.

General Big Game

Alternative 1 proposes to keep approximately 59,816 acres or 90% of general big game winter range open to winter motorized travel in the Upper Clark Fork Landscape. This leaves approximately 6,843 acres or 10% of general big game winter range in a non-motorized classification in this Landscape. According to the use map, only 2% this Landscape is regularly used for winter motorized travel with 1% used intermittently. 87% is used by OSVs seldom to none and 11% is currently closed. The regular use is on a route from American Gulch to Olsen Gulch. This area is timbered in so there are no options for cross country use. The two small intermittent use areas are adjacent to the southeast edge of the Mount Haggin State Wildlife Management Area and in the Basin Creek area. There is a slight chance that mule deer in the American Gulch area could be disturbed/displaced by motorized winter travel, however since the use is fairly regular, they may become habituated to that use or move away from the trail in other winter range habitats. There is also a slight chance that moose could be disturbed/displaced in the Olsen Gulch area. Similar to the mule deer, they may either become habituated by the regular use or they would be able to move easily to other winter range areas. There is one intermittent route through elk winter range near Basin Creek. If elk are in the area at the same time as the OSVs they could become disturbed/displaced. There is no antelope or white-tailed deer winter range in the areas of regular or intermittent use so no effects are anticipated to these species in this Landscape. Although there may be effects to individuals, OSV use does not seem to be affecting the mule deer or moose population in this area. OSV use has also not been identified as an issue for the mule deer or moose populations in this area. The elk population in this Landscape currently is over twice the desired objective so although there may be effects to individuals, OSV use does not seem to be affecting the elk population here.

Alternative 2 proposes to decrease areas open to winter motorized travel on general big game winter range to 88% (58,504 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 12% (8,155 acres). Approximately 1,312 additional acres of the winter range would be closed to winter motorized use under this Alternative. This closure area would benefit elk that may be on the winter range in this Landscape as the intermittent route in the Basin Creek area would be closed to winter motorized travel. There would be no anticipated effects to elk in this area. Effects for moose and mule deer would be identical to Alternative 1. Although there may be effects to individuals, OSV use does not seem to be affecting the mule deer or moose population in this area. OSV use has also not been identified as an issue for the mule deer or moose populations in this area.

Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 74% (49,064 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 26% (17,595 acres). Approximately 10,700 additional acres of the winter range would be closed to winter motorized use under this Alternative. The effects of this Alternative are almost identical to Alternative 2. The only difference would be the closing of areas that in high snow years may be additionally utilized by

OSVs. There may be effects to individuals but OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Although the percentage of winter motorized travel didn't change for the Upper Clark Fork Alternative 4 proposes to increase slightly areas open to winter motorized travel on general big game winter range to 59,867 acres but it is still 90% of the winter range. Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 6,792 acres but still 10%. Effects of this Alternative are identical to Alternative 1. There may be effects to individuals; however elk populations are double population objectives and OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 74% (43,499 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 26% (23,160 acres). Approximately 16,300 additional acres of the winter range would be closed to winter motorized use under this Alternative. The effects of this Alternative would be identical to Alternative 3. No effects to elk are anticipated. There may be effects to individuals but OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 66% (44,262 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 34% (22,397 acres). Approximately 15,500 additional acres of the winter range would be closed to winter motorized use under this Alternative. This alternative would provide the most protection for big game on the winter range. The effects from this Alternative are similar to Alternatives 3 and 5, except that the intermittent trail through elk winter range would be left open. The elk population in this Landscape currently is over twice the desired objective so although there may be effects to individuals, OSV use does not seem to be affecting the elk population here. There also may be effects to individuals but OSV use has not been identified as an issue for the mule deer or moose populations in this area.

Bighorn Sheep

There is no bighorn sheep winter range in the Upper Clark Fork Landscape; therefore they will not be further discussed.

Mountain Goat

There is no mountain goat winter range in the Upper Clark Fork therefore; they will not be further discussed.

Upper Rock Creek Landscape

General Big Game

The Upper Rock Creek Landscape has winter range for general big game (111,807 acres), bighorn sheep (8,168 acres), and mountain goat (68,296 acres). There are four elk hunt districts, 210, 211, 214, and 216 in this Landscape. The objective for this combined area is 2,225 elk and

as of 2015, there were an estimated 3,649 animals (exceeding objective). Individually, hunt units 210 and 211 are over objectives while hunt districts 214 and 216 are within the objective range. Mule deer, white-tailed deer, and moose also have winter range in this Landscape. There is no antelope winter range in the Upper Rock Creek Landscape. Bighorn sheep hunt unit 216 is in the Upper Rock Creek Landscape with an estimated 210 animals. This population has increased from 1981 when there were an estimated 128 bighorn sheep. There are two mountain goat herds in the Upper Rock Creek Landscape. Population information for these herds was unavailable at the time of publication and will be updated in the final document.

Alternative 1 proposes to keep approximately 84,919 acres or 76% of general big game winter range open to winter motorized travel in the Upper Rock Creek Landscape. This leaves approximately 26,888 acres or 24% of general big game winter range in a non-motorized classification in this Landscape. According to the use map, 70% this Landscape is regularly used for winter motorized travel with 9% used intermittently. 60% is used by OSVs seldom to none and 24% is currently closed. Due to topography and timbered stands, use in this Landscape within the winter range is primarily by routes. There are areas of cross county travel in this Landscape but they are outside the big game winter range areas. There is winter range for mule deer, moose and elk within regular and intermittent use areas. This winter motorized travel can disturb/displace ungulates on the winter range. All three of these species can become habituated to regular travel or they can move away from regular routes to other areas within the winter range. Although there may be effects to individuals, OSV use does not seem to be affecting the mule deer or moose population in this area. OSV use has also not been identified as an issue for the mule deer or moose populations here. The elk Hunt Districts in this Landscape are currently either within the range or over desired objectives so although there may be effects to individuals, OSV use does not seem to be affecting the elk population here.

Although the percentage of winter motorized travel didn't change for the Upper Rock Creek, Alternative 2 proposes to increase slightly areas open to winter motorized travel on general big game winter range to 85,096 acres but it is still 76% of the winter range. Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 26,712 acres but still 24%. Effects from this Alternative are identical to Alternative 1. Although there may be effects to individuals, OSV use does not seem to be affecting the elk, mule deer or moose populations in this area.

In the Upper Rock Creek Landscape Alternative 3 proposes to decrease areas open to winter motorized travel on general big game winter range to 68% (75,564 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 32% (36,243 acres). Approximately 9,300 additional acres of the winter range would be closed to winter motorized use under this Alternative. In this Alternative some of the regularly and intermittently used routes would be closed. Although that is an improvement in the winter range, there could still be disturbance/displacement effects to elk, mule deer, and moose. Although there may be effects to individuals, OSV use does not seem to be affecting the elk, mule deer or moose populations in this area.

Although the percentage of winter motorized travel didn't change for the Upper Rock Creek Landscape, Alternative 4 proposes to increase slightly areas open to winter motorized travel on

general big game winter range to 85,096 acres but it is still 76% of the winter range. Conversely, this decreases the acres of general big game winter range in a non-motorized classification to 26,712 acres but still 24%. Effects from this Alternative are identical to Alternatives 1 and 2. Although there may be effects to individuals, OSV use does not seem to be affecting the elk, mule deer or moose population in this area.

In the Upper Rock Creek Landscape Alternative 5 proposes to decrease areas open to winter motorized travel on general big game winter range to 67% (74,739 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 33% (37,068 acres). Approximately 10,200 additional acres of the winter range would be closed to winter motorized use under this Alternative. Effects of this Alternative would be similar to Alternative 3. In this Alternative some of the regularly and intermittently used routes would be closed. Although that is an improvement in the winter range, there could still be disturbance/displacement effects to elk, mule deer, and moose. Although there may be effects to individuals, OSV use does not seem to be affecting the elk, mule deer or moose populations in this area.

In the Upper Rock Creek Landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel on general big game winter range to 59% (66,335 acres). Conversely, this increases the acres of general big game winter range in a non-motorized classification to 41% (45,472 acres). Approximately 18,600 additional acres of the winter range would be closed to winter motorized use under this Alternative. This alternative would provide the best protection for big game on the winter range. Effects of this Alternative would be similar to Alternative 3. In this Alternative some of the regularly and intermittently used routes would be closed. Although that is an improvement in the winter range, there could still be disturbance/displacement effects to elk, mule deer, and moose. Although there may be effects to individuals, OSV use does not seem to be affecting the elk, mule deer or moose populations in this area.

Bighorn Sheep

Alternative 1 proposes to keep approximately 5,667 acres or 69% of bighorn sheep winter range open to winter motorized travel in the Upper Rock Creek Landscape. This leaves approximately 2,501 acres or 31% of bighorn sheep winter range in a non-motorized classification in this Landscape. Although much of this winter range area on the Forest is open, there is very little to no winter motorized travel occurring in this area. There is one exception and it is an intermittently utilized trail in the Stony Creek area. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

In the Upper Rock Creek Landscape Alternative 2 proposes to retain the existing areas open to winter motorized travel on bighorn sheep winter range at 69% (5,667 acres). This conversely retains acres of bighorn sheep winter range in a non-motorized classification at 31% (2,501

acres). The effects from this Alternative as identical to Alternative 1; potential increased stress, increased energy expenditures on these animals or displacement from preferred habitats, specifically in the Stony Creek area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

In the Upper Rock Creek Landscape Alternative 3 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 23% (1,919 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 77% (6,249 acres). This alternative would close approximately 3,700 additional acres on the winter range. This is important because it would close the only area that receives winter motorized use, the Stony Creek area. As there is little to no use on the other section of winter range left open, due to a lack of snow, there are no anticipated effects to bighorn sheep from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

In the Upper Rock Creek Landscape, Alternative 4 proposes to retain the existing areas open to winter motorized travel on bighorn sheep winter range at 69% (5,667 acres). This conversely retains acres of bighorn sheep winter range in a non-motorized classification at 31% (2,501 acres). The effects from this Alternative as identical to Alternative 1; potential increased stress, increased energy expenditures on these animals or displacement from preferred habitats, specifically in the Stony Creek area. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 5 proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 6% (517 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 94% (7,651 acres). This is the best alternative for bighorn sheep in that it would close approximately 5,200 additional acres on the winter range. This is important because it would close the only area that receives winter motorized use, the Stony Creek area. With the Stony route closed, there is no way to access the other section of winter range left open. There are no anticipated effects to bighorn sheep from this Alternative. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on bighorn sheep winter range to 19% (1,534 acres). Conversely, this increases the acres of bighorn sheep winter range in a non-motorized classification to 81% (6,634 acres). This alternative would close approximately 4,100 additional acres on the winter range. What is important is that although it would close much of the winter range it does leave open, the only area that receives winter motorized use, the Stony Creek area. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats. Although these effects are possible, MFWP has not identified snowmobile use on the Forest as a management challenge for bighorn sheep herds on the BDNF (MFWP, 2010).

Mountain Goat

Alternative 1 proposes to keep approximately 27,399 acres or 40% of mountain goat winter range open to winter motorized travel in the Upper Rock Creek Landscape. This leaves approximately 40,897 acres or 60% of mountain goat winter range in a non-motorized classification in this Landscape. There are two different winter range areas in this Landscape as well north and south. In this Alternative there are no protections for the northern winter range area from winter motorized travel. The use map however shows that in reality there is seldom or no use in the winter range. There is a trail that is used intermittently that is adjacent to this winter range area so the noise could affect this herd if they are in the area at the same time the trail is being used. The southern winter range area is part of the Anaconda-Pintler Wilderness which is a very large winter range. That said there is a trail, used intermittently, that runs through a piece of this winter range. There is a chance that if mountain goats are utilizing this area at the same time as winter motorized trail users, they could be disturbed or displaced. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 2 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 40% (27,399 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 60% (40,897 acres). The effects from this Alternative are the same as Alternative 1. Mountain goats in each of these winter range areas could be affected by winter motorized use on an intermittent basis, if they are on the winter range at the same time as the winter motorized users. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

In the Upper Rock Creek Landscape Alternative 3 proposes to decrease areas open to winter motorized travel on mountain goat winter range to 31% (21,227 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 69% (47,020 acres). There are increased protections of over 6,000 acres that would be closed to winter motorized travel on the southern winter range. That said, the intermittent use trail would still be open to use and could have disturbance/displacement effects to this herd if they are on this part of the winter range at the same time as the winter motorized travel. The effects to the northern population would remain the same as Alternative 1. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 4 proposes to retain the existing areas open to winter motorized travel on mountain goat winter range at 40% (27,399 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 60% (40,897 acres). The effects from this Alternative are the same as Alternative 1. Mountain goats in each of these winter range areas could be affected by winter motorized use on an intermittent basis, if they are on the winter range at the same time as the winter motorized users. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

In the Upper Rock Creek Landscape Alternative 5 proposes to retain the existing areas open to

winter motorized travel on mountain goat winter range at 40% (27,399 acres). This conversely retains acres of mountain goat winter range in a non-motorized classification at 60% (40,897 acres). The effects from this Alternative are the same as Alternative 1. Mountain goats in each of these winter range areas could be affected by winter motorized use on an intermittent basis, if they are on the winter range at the same time as the winter motorized users. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Alternative 6 Modified proposes to decrease areas open to winter motorized travel on mountain goat winter range to 22% (14,951 acres). Conversely, this increases the acres of mountain goat winter range in a non-motorized classification to 78% (53,345 acres). There are increased protections of over 12,000 acres that would be closed to winter motorized travel on the southern winter range. That said, the intermittent use trail would still be open to use and could have disturbance/displacement effects to this herd if they are on this part of the winter range at the same time as the winter motorized travel. In this Alternative the entire northern winter range, including the intermittent use trail, would be close to winter motorized travel. There would be no further anticipated effect to mountain goats in this population from this Alternative. Although disturbance is possible, MFWP biologists queried, did not identify instances where winter motorized travel is affecting any of the mountain goat populations on the BDNF (pers. com. MFWP 2015).

Summary Statement

General Big Game: Across the Forest, Hunt Districts are either at or above population objectives for elk. The population objectives for all the Hunt Districts combined across the Forest is 30,155 and the 2015 estimates of the elk population is 48,863. For reference, the 2007 estimate of the elk population was 28,220. As you can see, the elk population has grown even with current management, including OSV use. It would seem that forestwide, winter motorized travel is not affecting elk populations. Although there are not specific population numbers for mule deer or moose, and there is disturbance in some winter range areas, OSV use has not been identified as an issue for the mule deer or moose populations across the Forest. In general there were no areas of white-tailed deer or antelope winter ranges that were affected by winter motorized travel.

Bighorn Sheep: Overall, most of the alternatives protect bighorn sheep winter range fairly well from winter motorized travel. The exception is in the Pioneer Landscape. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. As the use is intermittent and not regular due to low snow depth many years, it is not expected that winter motorized use would be the cause of population declines in this herd. Additionally MFWP has not identified snowmobile use in this area as a management challenge for this or any other herd on the BDNF.

Mountain Goats: Overall, Alternative 3, followed by Alternative 6 Modified, provides the best protection from winter motorized travel to mountain goats on the winter range. Even in

Alternative 3 some mountain goat winter range remains open to winter motorized travel which could cause disturbance and displacement of mountain goats. However, there are no known cases of conflict with mountain goats as a result of winter recreational activities on the BDNF (pers. com. MFWP). Olliff et al. 1999 suggested reasons could be, “because mountain goat winter range is inaccessible and precipitous, goats and recreationists are not often coming into conflict. For recreation, humans tend not to seek the combination of rocky, rugged terrain, and low-snow conditions required by mountain goats. Rather, snowmobilers and skiers prefer deep snow conditions, which are typically avoided by goats. The discrepancy in site preferences appears to be a factor in mutual avoidance by goats and humans during winter” (Olliff et al. 1999).

Effect of OSV Use on Resources Cited in Minimization Criteria

This section of the SEIS considers the effects of OSV in areas open to winter motorized use on the resources enumerated in 36 CFR 212.55(b), with the objective of minimizing those effects. The environmental analysis identifies and analyzes potential (1) damage to soil, watershed, vegetation, and other forest resources; (2) harassment of wildlife and significant disruption of wildlife habitats; (3) conflicts between motor vehicle use and existing or proposed recreational uses of NFS lands or neighboring federal lands; and (4) conflicts among different classes of motor vehicle uses of NFS lands or neighboring federal lands.

For each criterion, effects common to all alternatives is provided, followed by more specific analysis by landscape. This section compares differences between alternatives in minimizing those impacts.

For the effects of OSV routes delineated in the Forest Plan, refer to the 2012 SEIS and Determination.

Soil, Watershed, Vegetation and Other Forest Resources

Effects Common to All Alternatives in All Landscapes

Resource specialists on the BDNF were asked to locate where OSV use – especially during low snow conditions – detrimentally affects soil, watershed and vegetation resources. While specialists recognized that such impacts may rarely occur, the impacts are of such a limited extent they were unable to identify any locations where the effects are discernible on-the-ground. Forest resource specialists have been unable to identify any damage to soil, watershed, vegetation and other forest resources in any area after numerous years of observations.

There are differences between alternatives, in terms of the potential risk of OSVs damaging soil; watershed, vegetation and other forest resources, because the amount of areas open to this use varies between the alternatives (Figures 3 thru 7 and Tables 1 thru 11). However, the on-the-ground, actual effects have been negligible, regardless of the extent of open areas. We are unable to identify any discernible effects to soil, watershed, vegetation and other forest resources on any of the landscapes.

The 2009 FEIS found that impacts from OSV use to soil and vegetation are benign since these resources are buffered by snow during winter OSV use and the tracks vanish with snow melt (FEIS, pg. 289). This is validated by Forest resource specialists' observations (David Ruppert, pers. com. 2015). No specialists on the Forest have observed impacts to soil and vegetation from OSV use during low snow conditions where the impacts did not fully rehabilitate the following growing season (pers. com. 2015).

National Best Management Practices (USDA 2012) indicate a minimum snow depth to protect the underlying vegetative cover and soil or trail surface may be appropriate. However there is no indication of an existing or impending problem on the BDNF; users appear to be self-selecting the best snow.

As disclosed in the 2009 FEIS (pg. 90), overall emissions from OSV use on the BDNF are unlikely to exceed National Ambient Air Quality or Montana Air Quality Standards since these standards have not been exceeded in the West Yellowstone area where OSV use is much heavier.

Water quality has not been an issue with OSV use in the past (pers. comm., Brammer, 2015). Even where OSV use follows drainages, snow, terrain and use patterns appear to be providing adequate protection. Risk for water contamination is highest near concentrated use areas such as OSV staging areas or parking lots if they occur close to water (FEIS, pg. 137). Considering there is no real aquatic biological or water quality risk related to emissions from OSV use in Yellowstone National Park (YNP), there is minimal risk to those where OSV use occurs at vastly lower concentrations levels on the BDNF under any alternative.

Literature Review Summary Regarding Soils

There is a slight chance that OSV activities may indirectly contribute to erosion of trails and steep slopes under any alternative. If steep slopes are intensively used, snow may be removed and the ground surface exposed to extreme weather conditions and increased erosion by continued OSV traffic. As the snow is compacted the soil temperature below can be reduced; soil microbial activity and the germination of seeds can be slowed (Baker and Bithmann, 2005). The same results could occur when OSVs use exposed southern exposures. Because compacted snow generally takes longer to melt, trails are often wet and soft when the surrounding areas are dry. Consequently, these trails¹¹ are susceptible to damage by other users during the spring (Masyk 1973). Forest resource specialists have not identified any damage to soil in any landscape from OSV use.

Literature Review Summary Regarding Watershed

After OSV use increased in YNP in the mid-1990s, research was undertaken to determine if volatile organic compounds (VOCs) could accumulate in snow along snowmobile routes and impact aquatic resources during/after snowmelt. Arnold and Koel (2006) analyzed snowmelt water samples collected from snowmobile routes in YNP for nine VOCs. Benzene, ethylbenzene,

¹¹ It is important to note that on the BDNF, the most heavily used/compacted OSV routes largely follow existing roads and trails. In these cases, the effects described here would amount to a facility (road/trail) maintenance issue but not a natural resource/soil productivity concern.

m- and p-xylene, o-xylene, and toluene were the only compounds that occurred at levels that could be detected during the study. The highest concentrations for VOCs measured during the study were still substantially lower than EPA recommendations.

Half maximal effective concentration (EC50) refers to the concentration of a toxicant which induces a response halfway between the baseline and maximum after a specified exposure time. The 96 hour EC50 for trout for toluene ranges from 3,600 to 6000 µg/L (Arnold and Koel 2006). They also found the highest average concentrations of toluene over a 96 hour period occurred at Old Faithful and were 0.4662 µg/L. This is 1/7700th of the concentration of the 3,600 µg/L EC50 threshold.

The numbers of OSVs entering YNP during the study period was 47,799 (*ibid*), or an average of 278 OSVs for 120 consecutive days. Comparatively, on the Wise River and Dillon Districts of the BDNF, two of the heaviest OSV use staging areas are qualitatively estimated to have 5 to 10 OSVs use them Monday through Friday, increasing to 15 to 20 on weekend days (Nathan Gassmann, Recreation Forester, pers. comm.). This is about 1/20th of the pressure seen in YNP.

Studies of snowpack chemistry on heavily traveled OSV routes indicated no detectable levels of VOC or total petroleum hydrocarbons in surface waters located immediately down gradient. Arnold and Koel (2006) measured VOC concentrations of the snowmelt water derived from the routes used by the OSVs. Their control was located 100 meters from a route where effects from OSV emissions are negligible. This suggests snow with the potential to contaminate surface water is also a miniscule portion of the snow within a drainage or watershed, since it is limited to the trails along which OSVs travel. Any contaminants entering streams from snowmobile routes would be diluted many orders of magnitude by the vast amounts of water derived from snowmelt away from the trails. Snowpack in alpine environments has been found to contain appreciable levels of regional pollution acquired through natural processes of wet and dry deposition, as well as from immediate sources such as snowmobile engine exhaust (McDaniel 2013).

The 2009 FEIS (pg. 90) documents that emissions will not exceed air quality standards under any alternative.

Literature Review Summary Regarding Vegetation

The Greater Yellowstone Winter Wildlife Working Group of the Greater Yellowstone Coordinating Committee summarized the effects of winter recreation (Olliff, Legg and Kaeding 1999) finding that there is little information available describing the ecological effects of snowmobiling and other winter recreational activities on vegetation. While it's possible that OSVs can run over trees and shrubs tearing the bark, ripping off branches, or topping trees, this has not been observed on the BDNF. The impact of snowmobile activities on the physical environment varies with winter severity, the depth of snow accumulation, the intensity of snowmobile traffic, and the susceptibility of the organism to injury (Wanek 1973). Activities occurring on roadbeds and trails are probably having little effect on vegetation as the areas are already compacted.

A snowmobile exerts 0.5 pounds of pressure per square inch and is further reduced by an intervening blanket of snow. OSV activities can create trails as the vehicles compact the snow.

Other winter recreation activities also have the potential to increase snow compaction depending on the intensity of the activities. Compacted snow was calculated to have two to three times more density than uncompacted snow. Thermal conductivity of compacted snow was 11.7 times greater than uncompacted snow (Neumann and Merriam 1972). Soil temperature can also be affected by OSV compaction of snow. Soils in the areas where snowmobiles traveled thawed later than where snowmobiles did not travel (Wanek and Schumacher 1975).

There is the potential that OSV activities can damage vegetation on and along routes. In the Greater Yellowstone literature review and assessment (Olliff, Legg and Kaeding 1999), the most commonly observed effect from snowmobiles was the physical damage to shrubs, saplings, and other vegetation (Neumann and Merriam 1972, Wanek 1971, Wanek and Schumacher 1975). Neumann and Merriam (1972) observed that compacted snow conditions caused twigs and branches to bend sharply and break. Stems that were more pliable bent and sprang back although the snowmobile track often removed bark from the stems' upper surfaces. Neumann and Merriam (1972) found that rigid woody stems up to one inch in diameter were very susceptible to damage. Stems were snapped off in surface packed or crusted snow.

In some trembling aspen (*Populus tremuloides*) areas, populations increased after snowmobiles disturbance. Studies (Neumann and Merriam 1972; Wanek 1971, 1973) indicated that conifers differed in tolerance of snowmobile traffic, and that pine species (e.g., *Pinus contorta*) were less susceptible to damage than spruce species (e.g., *Picea glauca*). In general, depth of snow accumulation was the greatest factor contributing to conifer damage by snowmobiles. Deeper snow tended to protect some species and age classes; herbaceous and woody plants exhibited varying responses to snowmobile activities, with some species increased while others decreased in number (Olliff, Legg, and Kaeding 1999). However, on the BDNF this has not been observed.

Harassment of Wildlife and Significant Disruption of Wildlife Habitat

Spatial Context

The spatial context will be the same as for the big game discussion. See page 31 for the full discussion.

Analysis (same as big game)

It is illegal in the state of Montana to harass wildlife from snowmobiles. Based on the MFWP statutes, "A person while operating a snowmobile may not: (1) use the snowmobile for the purpose of driving, rallying, or harassing game animals, game birds, or fur-bearing animals of the state or livestock, including ostriches, rheas, and emus...(2) discharge a firearm from or Upon a snowmobile..."(MFWP 2013).

As mentioned in the big game section starting on page 32, MFWP management plans were reviewed to identify site specific concerns for wildlife. OVS use was not specifically listed as a threat nor were there any management recommendations proposed in any of the documents reviewed.

Methodology (same as big game)

Pre-field reviews were conducted to determine which species are known to occur in the area or have suitable habitat present and could potentially occur. Sources reviewed include Montana Natural Heritage Program (MTNHP), Forest wildlife sighting database information, Appendix B of the 2009 FEIS and species distribution information from MFWP.

For each affected species, available population status and distribution information; occurrence records from inventory and monitoring efforts; hunting and trapping data; informal observation data; and the scientific literature for information on the biological and habitat (including home range size) requirements for species as well as species' response to disturbance was examined.

The USFWS has official grizzly bear distribution maps. There are also unconfirmed sightings which can be found in the Montana Natural Heritage Program database. Both sources of data were used in this analysis.

Geographic Information System (GIS) contributed to the analysis of wildlife habitat for this document. The BDNF GIS Specialist and Wildlife Biologist used ArcGIS (ESRI software) to create various data layers which were the basis for the habitat and vegetation figures displayed in this document. Original models (such as for lynx habitat, and wolverine denning habitat) were also created using various data layers. Model parameters and layer metadata can be found in the project file.

A grizzly bear denning model was created for the forest based on Judd et al 1986 – Denning of Grizzly Bears in the Yellowstone National Park Area and Mace & Waller 1997 – Final Report: Grizzly Bear Ecology in the Swan Mountains, Montana.

A wolverine denning habitat model was developed for the forest based on Heinemeyer et al. 2001. This model incorporated slope, elevation, rock, ice and alpine cover types, and patch size preferred by wolverine.

An OSV use map, created by BDNF recreation specialists based on repeated observations of OSV use over numerous years, was utilized in the effects analysis for all species.

Indicators/Measures to Use (species specific):

Indicators are components of a species habitat, life cycle, or other variable that can be evaluated to determine potential for effect to that species. Refer to page 33 for the big game effects indicators and below for the indicators used for the other wildlife species analyzed.

Acres of the Forest open and closed to motorized winter recreation

- Grizzly Bear

Acres of denning habitat open and closed to motorized winter recreation

- Grizzly Bear
- Wolverine

Potential for disturbance from motorized winter recreation (OSVs)

- Grizzly Bear
- Wolverine
- Canada lynx

- Gray Wolf

Effects for Big Game

Please see Big Game section starting on page 34 for potential disruption to big game wildlife habitat and potential harassment by OSV use specific by landscape. This section also compares differences between alternatives in minimizing those impacts. The summary is provided here as well.

Summary Statement

General Big Game: Across the Forest, Hunt Districts are either at or above population objectives for elk. The population objectives for all the Hunt Districts combined across the Forest is 30,155 and the 2015 estimates of the elk population is 48,863. For reference, the 2007 estimate of the elk population was 28,220. As you can see, the elk population has grown even with current management, including OSV use. It would seem that forestwide, winter motorized travel is not affecting elk populations. Although there are not specific population numbers for mule deer or moose, and there is disturbance in some winter range areas, OSV use has not been identified as an issue for the mule deer or moose populations across the Forest. In general there were no areas of white-tailed deer or antelope winter ranges that were affected by winter motorized travel.

Bighorn Sheep: Overall, most of the alternatives protect bighorn sheep winter range fairly well from winter motorized travel. The exception is in the Pioneer Landscape. Although the use is not regular, if bighorn sheep are in the area at the same time as the motorized use, they could cause increased stress, increased energy expenditures on these animals or displacement from preferred habitats on a large part of the winter range. As the use is intermittent and not regular due to low snow depth many years, it is not expected that winter motorized use would be the cause of population declines in this herd. Additionally MFWP has not identified snowmobile use in this area as a management challenge for this or any other herd on the BDNF.

Mountain Goats: Overall, Alternative 3, followed by Alternative 6 Modified, provides the best protection from winter motorized travel to mountain goats on the winter range. Even in Alternative 3 some mountain goat winter range remains open to winter motorized travel which could cause disturbance and displacement of mountain goats. However, there are no known cases of conflict with mountain goats as a result of winter recreational activities on the BDNF (pers. com. MFWP). Olliff et al. 1999 suggested the reasons could be, "because mountain goat winter range is inaccessible and precipitous, goats and recreationists are not often coming into conflict. For recreation, humans tend not to seek the combination of rocky, rugged terrain, and low-snow conditions required by mountain goats. Rather, snowmobilers and skiers prefer deep snow conditions, which are typically avoided by goats. The discrepancy in site preferences appears to be a factor in mutual avoidance by goats and humans during winter" (Olliff et al. 1999).

Effects for Grizzly Bears

Effects to grizzly bears from winter motorized travel were analyzed in two biological assessments for the Forest Plan. Both biological opinions received from USFWS on the Forest

Plan have in-depth discussions on the general effects of snowmobiles to grizzly bears. These effects, relative to OSV use, are summarized here. The 2013 Biological Opinion is available upon request.

Effects of snowmobile use on grizzly bears are generally anecdotal and are primarily focused on grizzly bears entering or leaving dens. **Possible** effects identified were:

- Den abandonment,
- Loss of young,
- Increased energetic costs while bears were in dens or displaced away from suitable habitat if outside dens,
- Learned displacement from suitable habitat resulting from exposure to disturbance, and death.

USFWS identified impacts to emergent bears, mainly females and cubs, as a higher concern than impacts to denning bears. Females with cubs have high energetic needs, and cubs have limited mobility for several weeks after leaving the den, therefore they remain in the den site area for several weeks after emergence from dens. Disturbance levels that cause a female to prematurely leave the den in spring or move from the den area could impair the fitness of the female and safety of the cubs (USFWS 2013b). Haroldson et al. (2002) found that the mean week of den emergence among female bears was the third week of April. However, female den emergence ranged from the third week in March to the fourth week in May. It is acknowledged that this is also the time when snow conditions are least conducive to snowmobiler activity. Male grizzly bears typically start emerging late February (USFWS 2013b). Knight and Gutzweiler stated that it is likely that hibernating bears exposed to meaningless noise, with no negative consequences to the bear, habituate to this type of disturbance (Knight and Gutzweiler 1995).

These effects from winter motorized use as stated above would be common to all alternatives however the potential for these types of effects to occur, if at all, are most likely on the Madison and Gravelly landscapes. They are the only landscapes where grizzly bears are known to occur consistently on the BDNF. There are no recorded grizzly bear dens outside these landscapes at this time. We acknowledge this could change through the life of the plan.

Consistent with the existing situation and for all proposed alternatives, there is no snowmobiling allowed within the portion of the Madison Landscape within the Greater Yellowstone Ecosystem recovery zone as it is within the Lee Metcalf Wilderness. There are no anticipated effects from winter motorized use to grizzly bears denning or emerging from their dens in this area. This would also be true for all wilderness and recommended wilderness areas across the BDNF for all action alternatives.

Although there could possibly be some effects to grizzly bears outside the recovery zone emerging from their dens from winter motorized travel, it is important to understand the role of the BDNF outside the grizzly bear recovery zones. In 1993, the Grizzly Bear Recovery Plan outlined a strategy to recover grizzly bears built on the concept of recovery zones. The Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly

bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat. Thus, we expect grizzly bears will occur at lower densities outside the recovery zones than within the recovery zones as a result of suboptimal habitat conditions including higher road densities, fewer areas secure from motorized access, and more human presence and activity.” The recovery plan anticipated that “grizzly bears can and will exist outside recovery zone lines in many areas, but that the grizzly bears residing within the recovery zone were crucial to recovery goals ...” (USFWS, 1993). It is also important to note that the Northern Continental Divide Ecosystem and Greater Yellowstone Ecosystem grizzly bear populations have grown and have expanded outside of both primary conservation areas despite human presence and activity, (USFWS, 2011) including existing winter motorized travel.

Table 24 displays the percentages of the BDNF open to winter motorized travel.

Table 24: Percent of Forest Open to Winter Motorized Travel

Landscape	Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Big Hole	531,359	85%	68%	55%	85%	66%	67%
Boulder River	203,291	93%	93%	71%	93%	71%	65%
Clark Fork Flint	369,262	92%	91%	72%	92%	78%	83%
Gravelly	469,386	81%	78%	30%	81%	50%	50%
Jefferson River	190,613	100%	85%	52%	100%	52%	47%
Lima Tendoy	367,524	79%	79%	47%	79%	64%	55%
Madison	122,994	11%	3%	1%	11%	1%	2%
Pioneer	574,125	93%	79%	68%	93%	74%	74%
Tobacco Root	173,976	95%	95%	33%	95%	43%	48%
Upper Clark Fork	83,317	89%	86%	72%	89%	66%	67%
Upper Rock Creek	273,218	76%	76%	70%	76%	69%	49%
Totals	3,359,065	84%	78%	54%	84%	62%	60%

Table 25 displays the percentages of modeled grizzly bear denning habitat open and closed to winter motorized travel.

Table 25: Percent of Grizzly Bear Modeled Denning Habitat Open to Winter Motorized Travel

Landscape	Denning Habitat Acres	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Big Hole	32,008	97%	58%	37%	98%	57%	57%
Boulder River	475	91%	91%	72%	91%	73%	55%
Clark Fork Flint	14,364	95%	95%	77%	95%	77%	89%
Gravelly	15,482	66%	64%	19%	66%	32%	32%
Jefferson River	3,757	100%	96%	50%	100%	51%	35%
Lima Tendoy	25,798	79%	79%	59%	79%	69%	64%
Madison	28,677	12%	3%	0.7%	12%	0.7%	2%
Pioneer	30,407	95%	79%	66%	95%	71%	71%
Tobacco Root	20,771	97%	97%	29%	97%	42%	49%
Upper Clark Fork	111	89%	87%	72%	89%	63%	64%
Upper Rock Creek	9,126	85%	85%	80%	85%	77%	55%
Totals	180,975	83%	74%	48%	84%	56%	55%

Forestwide

Forestwide, Alternative 1 is the existing management in which approximately 2,832,530 acres or 84% of the Forest is available for winter motorized travel and 526,537 acres or 16% of the Forest in a non-motorized winter setting. Alternative also retains 407,635 acres or 83% of grizzly bear denning habitat is available for winter motorized travel and 80,602 acres or 17% of the Forest in a non-motorized winter setting. This alternative along with Alternatives 2 and 4 generally provide the least protections for modeled grizzly bear denning habitat. The only Landscape that is within a grizzly bear recovery zone is the Madison. The portion of that Landscape within the GYE boundary is also within the Lee Metcalf Wilderness which does not allow winter motorized use. Most of the Landscapes on the Forest are either within an official grizzly bear distribution area or have had an unconfirmed grizzly bear sighting. The Jefferson River Landscape is the only exception. It is acknowledged that winter motorized use, especially

in cross country OSV use areas could potentially affect grizzly bears emerging from their dens in the spring. The only landscape where this is a distinct possibility is the Gravelly Landscape. Bears live in this landscape year round and there is regular and intermittent OSV use scattered through the Landscape. Although effects are possible on the other Landscapes, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management, including winter motorized travel.

Alternative 2 proposes to decrease the amount of Forest available for winter motorized travel to 2,613,066 acres or 78% and increase the non-motorized winter designations to 746,000 acres or 22% of the Forest. Alternative 2 also proposes to decrease acres of grizzly bear denning habitat open to winter motorized travel to approximately 359,424 acres or 74% of the habitat. Conversely this increases the acres of grizzly bear denning habitat in a non-motorized allocation across the forest to approximately 128,813 acres or 26% of the habitat. Although this Alternative provides additional protections to modeled grizzly bear denning habitat on approximately 48,200 more acres, generally the effects are the same as Alternative 1. Protections are mostly in areas of seldom, to no, OSV use. Although effects are possible on the all Landscapes but the Madison, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management, including winter motorized travel.

Alternative 3 proposes to decrease the amount of Forest available for winter motorized travel to 1,818,537 acres or 55% and increase the non-motorized winter designations to 45% of the Forest. Alternative 3 also proposes to decrease acres of grizzly bear denning habitat open to winter motorized travel to approximately 233,316 acres or 48% of the habitat. Conversely this increases the acres of grizzly bear denning habitat in a non-motorized classification across the forest to approximately 254,921 acres or 52% of the habitat. Alternative 3 provides additional protections to modeled grizzly bear denning habitat on approximately 174,300 more acres. In seven out of the eleven Landscapes this provides the most protection to modeled grizzly bear denning habitat. Alternative 3 generally closed not only areas of seldom, to no use, but regularly and intermittently used OSV cross county areas and routes. The benefit to closing areas in seldom, to no use, is that in good snow years when OSV use may extend out from the typical areas there would be closures to protect additional denning habitat from unexpected OSV use. Even with the additional protections, effects are possible on the all Landscapes but the Madison. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range

outside of the GYA and NCDE with existing management, including winter motorized travel.

Alternative 4 proposes to increase the amount of Forest available for winter motorized travel to 2,834,762 acres or 85% and decrease the non-motorized winter designations to 524,304 acres or 15% of the Forest. Alternative 4 also proposes to decrease acres of grizzly bear denning habitat open to winter motorized travel to approximately 408,284 acres or 84% of the habitat. Conversely this increases the acres of grizzly bear denning habitat in a non-motorized classification across the forest to approximately 79,953 acres or 16% of the habitat. This alternative actually decreased protections by approximately 650 acres, all in the Big Hole Landscape and provides the least protection for grizzly bear denning habitat. Even with the reduced protections, the effects are the same as Alternative 1. Effects are possible on the all Landscapes but the Madison. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management, including winter motorized travel.

Alternative 5 proposes to decrease the amount of Forest available for winter motorized travel to 2,098,875 acres or 1,260,191 acres or 63% and increase the non-motorized winter designations to 37% of the Forest. Alternative 5 also proposes to decrease acres of grizzly bear denning habitat open to winter motorized travel to approximately 273,391 acres or 56% of the habitat. Conversely this increases the acres of grizzly bear denning habitat in a non-motorized classification across the forest to approximately 214,846 acres or 44% of the habitat. Alternative 5 provides additional protections to modeled grizzly bear denning habitat on approximately 134,200 more acres. In three out of the eleven Landscapes this provides the most protection to modeled grizzly bear denning habitat. The effects of this Alternative are similar to Alternative 3 which generally closed not only areas of seldom to no use but regularly and intermittently used OSV cross county areas and routes. The benefit to closing areas in seldom, to no use, is that in good snow years when OSV use may extend out from the typical areas there would be closures to protect additional denning habitat from unexpected OSV use. Even with the additional protections, effects are possible on the all Landscapes but the Madison. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management, including winter motorized travel.

Alternative 6 Modified proposes to decrease the amount of Forest available for winter motorized travel to 2,022,514 acres or 61% and increase the non-motorized winter designations to 1,336,553 acres or 39% of the Forest. Alternative 6 Modified also proposes to decrease acres of grizzly bear denning habitat open to winter motorized travel to approximately 269,569 acres or 55% of the habitat. Conversely this increases the acres of grizzly bear denning habitat in a non-motorized classification across the forest to approximately 218,668 acres or 45% of the habitat. This alternative provides additional protections to modeled grizzly bear

denning habitat on approximately 138,000 more acres. In three out of the eleven Landscapes this provides the most protection to modeled grizzly bear denning habitat. This alternative would provide the second most protections for modeled grizzly bear denning habitat. The effects of this Alternative are similar to Alternative 3 which generally closed not only areas of seldom to no use but regularly and intermittently used OSV cross county areas and routes. The benefit to closing areas in seldom, to no use, is that in good snow years when OSV use may extend out from the typical areas there would be closures to protect additional denning habitat from unexpected OSV use. Even with the additional protections, effects are possible on the all Landscapes but the Madison. The Grizzly Bear Recovery Plan however acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management, including winter motorized travel.

Big Hole Landscape

Alternative 1 is the existing management in which approximately 44,715 acres or 85% of this Landscape is available for winter motorized travel and 81,644 acres or 15% of the Big Hole Landscape in a non-motorized winter setting. Alternative 1 also proposes to keep approximately 49,901 acres or 97% of grizzly bear denning habitat open to winter motorized travel in the Big Hole Landscape. This leaves approximately 1,628 acres or 3% of grizzly bear denning habitat in a non-motorized classification in this Landscape. This alternative and Alternative 4 provide the least protection for denning grizzly bears. The western and southwestern edge of the Landscape has both regular and intermittent use and the most modeled denning habitat. It is also the area where snow is likely to still be present later in the year. This area is not within a recovery zone and not within the official distribution map, but in the early 1980s there was an unconfirmed of one grizzly in this Landscape. If there is a denning grizzly in the area, the chance for disturbance to them when emerging from their dens is highest for males starting in late February and for females with cubs the third week in March. There is a chance in the Big Hole Landscape that if there is a denning grizzly, there would be OSV use in this area when they would emerge from their dens and they could be disturbed or displaced. Although there could possibly be some effects to grizzly bears at this time, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 proposes to decrease the amount of this Landscape available for winter motorized travel to 363,680 acres or 68% and increase the non-motorized winter designations to 167,679 acres or 32% of the Big Hole Landscape. Alternative 2 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 58% (29,704 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 42% (21,825 acres). Approximately 20,200 additional acres of modeled grizzly bear denning habitat

would be closed to winter motorized use under this Alternative. This alternative does close potential denning habitat that is regularly and intermittently used by OSVs. This alternative is an improvement over Alternatives 1 and 4. Again the area most affected would be the west, southwest edge of this Landscape. Although conditions for potentially denning grizzly bears have improved, there is still denning habitat open in areas used regularly by OSVs. Effects would potentially be the same as in Alternatives 1 and 4 (see above), but on a lesser scale; potential for conflicts to emerging bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this Landscape available for winter motorized travel to 294,070 acres or 55% and increase the non-motorized winter designations to 237,289 acres or 45% of the Big Hole Landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 37% (18,872 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 63% (32,658 acres). Approximately 31,000 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative would provide the best protection of grizzly bear denning habitat. In the west and southwest portion of the Landscape, most of the modeled denning habitat that is regularly used and all, of the denning habitat that is intermittently used by OSVs, would be closed to winter motorized travel. In this Alternative there is a very slight chance that an emerging grizzly could be affected by winter motorized travel as most of the best modeled habitat in the Landscape would be closed. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 451,433 acres or 85% of this Landscape available for winter motorized travel and 79,926 acres or 15% of the Big Hole Landscape in a non-motorized winter setting. Alternative 4 also proposes to increase areas open to winter motorized travel in grizzly bear denning habitat to 50,513 acres or 98%. Conversely, this decreases the acres of grizzly bear denning habitat in a non-motorized classification to 1,016 acres or 2% of the winter range. This alternative provides the least protection for denning grizzly bears. It opens up an area that was previously closed in an area that is used intermittently by OSVs. The effects to this Alternative are identical to Alternative 1. If there are grizzly bears emerging from their dens in the west, southwest part of the Landscape, they could be disturbed by winter motorized travel here. However, grizzly bear populations in the GYA and NDCE have grown as this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this Landscape available for winter motorized travel to 352,465 acres or 66% and increase the non-motorized winter designations to 178,894 acres or 34% of the Big Hole Landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 57% (29,136 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 43%

(22,393 acres). Approximately 20,700 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. Although more modeled grizzly bear denning habitat is protected from OSV use in this Alternative, the effects are similar as in Alternative 2. If there are grizzly bears emerging from their dens in the west, southwest part of the Landscape, they could be disturbed by winter motorized travel. However, grizzly bear populations in the GYA and NDCE have grown as this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this Landscape available for winter motorized travel to 353,772 acres or 67% and increase the non-motorized winter designations to 177,587 acres of 33% of the Big Hole Landscape. Alternative 6 Modified also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 57% (29,224 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 43% (22,305 acres). Approximately 20,700 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative provides more protection of modeled grizzly bear denning than Alternative 2, but slightly less than Alternative 5. The effects of this Alternative would be similar to both those alternatives. If there are grizzly bears emerging from their dens in the west, southwest part of the Landscape, they could be disturbed by winter motorized travel. However, grizzly bear populations in the GYA and NDCE have grown as this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Boulder River Landscape

Forestwide, Alternative 1 is the existing management in which approximately 189,131 acres or 93% of this Landscape available for winter motorized travel and 14,160 acres or 7% of the Boulder River Landscape in a non-motorized winter setting. Alternative 1 also proposes to keep approximately 10,691 acres or 91% of grizzly bear denning habitat open to winter motorized travel in the Boulder River Landscape. This leaves approximately 1,111 acres or 9% of grizzly bear denning habitat in a non-motorized classification in this Landscape. This alternative along with Alternatives 2 and 4 provide the least protection of modeled grizzly bear denning habitat from OSV use. There is very little overlap however with grizzly bear denning habitat and regular or intermediate use by OSVs in this Landscape. The main OSV use is in the northeastern part of the Landscape where there is cross country travel and some route use, in American and Olsen Gulch an area. The cross country travel area north of the town of Basin is where there is the potential for effects to emerging grizzly bears. There have been several official grizzly bear sightings in the Boulder Landscape however no sows with cubs and no grizzly bear dens have been confirmed. If there is a denning grizzly in the area, the chance for disturbance/displacement to them when emerging from their dens is highest for males starting in late February and for females with cubs the third week in March in the area north of Basin. Conflicts in the rest of the Landscape are unlikely. Although there could possibly be some

effects to grizzly bears at this time, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 retains the existing management at 189,132 acres or 93% of this Landscape available for winter motorized travel and 14,159 acres or 7% of the Boulder River Landscape in a non-motorized winter setting. Alternative 2 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 91% (10,691 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 9% (1,111 acres). Effects from this Alternative are identical to Alternative 1 and 4. There are potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season north of Basin. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this Landscape available for winter motorized travel to 143,581 acres or 71% and increase the non-motorized winter designations to 59,710 acres or 29% of the Boulder River Landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 72% (8,490 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 28% (3,312 acres). Approximately 2,200 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. Although there are additional protections in modeled grizzly bear denning habitat, the closures are not within the cross country areas where the most potential for conflict exists. Effects from this Alternative are similar to Alternatives 1, 2, and 4. There are potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season north of Basin. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 189,132 acres or 93% of this Landscape available for winter motorized travel and 14,159 acres or 7% of the Boulder River Landscape in a non-motorized winter setting. Alternative 4 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 91% (10,691 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 9% (1,111 acres). Effects from this Alternative are identical to Alternative 1 and 2. There are potential conflicts to emerging bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this Landscape available for winter motorized

travel to 145,079 acres or 71% and increase the non-motorized winter designations to 58,213 acres or 29% of the Boulder River Landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 73% (8,588 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 27% (3,214 acres). Approximately 2,100 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. Although there are additional protections in modeled grizzly bear denning habitat, the closures are not within the cross country areas where the most potential for conflict exists. Effects from this Alternative are similar to Alternatives 1, 2, 3 and 4. There are potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season north of Basin. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this Landscape available for winter motorized travel to 132,448 acres or 65% and increase the non-motorized winter designations to 70,844 acres or 35% of the Boulder River Landscape. Alternative 6 Modified also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 55% (6,516 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 45% (5,286 acres). Approximately 4,200 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative would protect the largest amount of modeled denning habitat from OSV use. Although there are additional protections in modeled grizzly bear denning habitat, the closures are not within the cross country areas where the most potential for conflict exists. Effects from this Alternative are similar to Alternatives 1, 2, 3 and 4 but the difference would be in good snow years when OSV use may extend out from the typical areas. There are additional closures north of Basin that would protect additional denning habitat from OSV use. There are potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season north of Basin. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Clark Fork Flint Landscape

Forestwide, Alternative 1 is the existing management in which approximately which 341,280 acres or 92% of this Landscape available for winter motorized travel and 27,982 acres or 8% of the Clark Fork Flint Landscape in a non-motorized winter setting. Alternative 1 also proposes to keep approximately 17,937 acres or 95% of grizzly bear denning habitat open to winter motorized travel in the Clark Fork landscape. This leaves approximately 886 acres or 5% of grizzly bear denning habitat in a non-motorized classification in this landscape. This alternative along with Alternatives 2 and 4 provide the least protection of modeled grizzly bear habitat from OSV use. Although grizzly bears could be affected by use on routes, they are known to avoid regularly used routes. It is more likely that conflicts between emerging grizzly bears and winter motorized use would be in areas that receive regular or intermittent cross country use.

Although there are several areas with regular OSV use, they are not within modeled grizzly bear denning habitat. There are however areas of intermittent OSV use spread out across the Landscape that do overlap with denning habitat. There have been several official grizzly bear sightings in the Clark Fork Flint Landscape however no sows with cubs and no grizzly bear dens have been confirmed. Although the OSV use is intermittent in the modeled denning habitat, if there is a denning grizzly in the area, the chance for disturbance/displacement to them when emerging from their dens is highest for males starting in late February and for females with cubs the third week in March. Although there could possibly be some effects to grizzly bears at this time, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 proposes to decrease the amount of this Landscape available for winter motorized travel to 337,582 acres or 91% and increase the non-motorized winter designations to 31,680 acres or 9% of the Clark Fork Flint landscape. Although the percentage of winter motorized travel didn’t change for the Clark Fork Flint Landscape Alternative 2 also proposes to increase slightly areas open to winter motorized travel in grizzly bear denning habitat to 95% (17,959 acres). Conversely, this decreases the acres of grizzly bear denning habitat in a non-motorized classification to 5% (865 acres). Effects to modeled grizzly bear denning habitat would be similar to Alternatives 1 and 4. There are potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season across the Landscape. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this Landscape available for winter motorized travel to 265,423 acres or 72% and increase the non-motorized winter designations to 103,839 acres or 28% of the Clark Fork Flint landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 77% (14,509 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 23% (4,314 acres). Approximately 3,400 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative, which along with Alternative 5, provides the most protection to modeled grizzly bear denning habitat. Although there are additional protections in modeled grizzly bear denning habitat, the closures are not within the cross country areas where the most potential for conflict exists. Effects from this Alternative are similar to Alternatives 1, 2, and 4 but the difference would be in good snow years when OSV use may extend out from the typical areas. There are additional closures that would protect additional denning habitat from OSV use. There are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season across the Landscape. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing

management.

Alternative 4 retains the existing management at 341,516 acres or 92% of this Landscape available for winter motorized travel and 27,746 acres or 8% of the Clark Fork Flint Landscape in a non-motorized winter setting. Although the percentage of winter motorized travel didn't change for the Clark Fork Flint Landscape Alternative 4 also proposes to increase slightly areas open to winter motorized travel in grizzly bear denning habitat to 95% (17,959 acres). Conversely, this decreases the acres of grizzly bear denning habitat in a non-motorized classification to 5% (865 acres). This alternative provides the least protection to modeled grizzly bear denning habitat. Effects to modeled grizzly bear denning habitat would be similar to Alternatives 1 and 2. There are potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season across the Landscape. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this Landscape available for winter motorized travel to 289,242 acres or 78% and increase the non-motorized winter designations to 80,020 acres or 22% of the Clark Fork Flint landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 77% (14,404 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 23% (4,420 acres). Effects from this Alternative are identical to Alternative 3 although there are additional closures that would protect additional denning habitat from OSV use. There are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season across the Landscape. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 306,554 acres or 83% and increase the non-motorized winter designations to 62,708 acres or 17% of the Clark Fork Flint landscape. Alternative 6 Modified also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 89% (16,728 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 11% (2,095 acres). Approximately 1,200 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. Although there are additional protections in modeled grizzly bear denning habitat, the closures are not within the cross country areas where the most potential for conflict exists. Effects from this Alternative are similar to Alternatives 1, 2, and 4. There are potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season across the Landscape. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Gravelly Landscape

Forestwide, Alternative 1 is the existing management in which approximately 377,946 acres or 81% of this landscape is available for winter motorized travel and 91,441 acres or 19% of the Gravelly landscape in a non-motorized winter setting. Alternative 1 also proposes to keep approximately 50,030 acres or 66% of grizzly bear denning habitat open to winter motorized travel in the Gravelly landscape. This leaves approximately 25,243 acres or 34% of grizzly bear denning habitat in a non-motorized classification in this landscape. This alternative, along with Alternative 4, provides the least protection for modeled grizzly bear denning habitat from OSVs. This landscape, although not in the recovery zone, is with the GYA grizzly bear distribution and is known to be occupied by both male and female grizzly bears with cubs. According to the use map, approximately 12% of the Landscape is regularly used for winter motorized travel and approximately 2% is used intermittently, 66% is used seldom to none and 19% is closed. Most of the contiguous modeled grizzly bear denning habitat in the Snowcrest Mountains is currently closed to OSV use. The south part of the landscape (Mount Jefferson area) has fairly regular cross county OSV use but the majority of the landscape is accessed by a series of routes with cross country use where they join in the center (Lion and Cave Mountain areas). As with the other landscapes, the likelihood of disturbing a grizzly emerging from its den would be in the cross country areas, as bears already avoid regularly used routes. Due to the regular OSV cross country use in the modeled denning habitat, if there is a denning grizzly in the area, the chance for disturbance/displacement to them when emerging from their dens is highest for males starting in late February and for females with cubs the third week in March. As this area is used by grizzly bears consistently, this is one of the most likely areas on the Forest to have conflicts with OSV use. There have been no reports of interactions between grizzly bears and OSV users to date. Although there could be some disturbance/displacement effects to grizzly bears that frequent this landscape, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 proposes to decrease the amount of this landscape available for winter motorized travel to 364,884 acres or 78% and increase the non-motorized winter designations to 104,502 acres or 22% of the Gravelly landscape. Alternative 2 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 64% (47,926 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 36% (27,347 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 2,100 acres. These closures would increase protections in the Snowcrest Mountains and the Mount Jefferson areas. Although it would protect additional modeled denning areas, the effects to grizzly bears would still be similar to Alternative 1. Although there could be some disturbance/displacement effects to grizzly bears that frequent this landscape, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have

increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized travel to 141,192 acres or 30% and increase the non-motorized winter designations to 328,194 acres or 70% of the Gravelly landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 19% (14,166 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 81% (61,107 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 35,800 acres. This alternative provides the most protection for modeled grizzly bear denning habitat. The main difference is that the Snowcrest Mountains and the Mount Jefferson area would be completely closed. The effects from winter motorized travel would be eliminated in the Snowcrest Mountains, Lion Mountain, Cave Mountain, and in the Mount Jefferson Area. There would still be an OSV cross country area in the southern part of the landscape, north of Elk Mountain although it is reduced. The OSV cross country travel area where the routes join would also be greatly reduced. Although potential disturbance/displacement effects to emerging grizzly bears would be greatly reduced, as there are still cross country OSV areas being used regularly and there are grizzly bears that frequent this landscape there could still be conflicts between OSVs and grizzly bears. The Grizzly Bear Recovery Plan however acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 377,946 acres or 81% of this landscape available for winter motorized travel and 91,441 acres or 19% of the Gravelly landscape in a non-motorized winter setting. Alternative 4 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 66% (50,030 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 34% (25,243 acres). The effects to grizzly bear denning habitat are exactly the same as Alternative 1. As this area is used by grizzly bears consistently, this is one of the most likely areas on the Forest to have conflicts with OSV use. There have been no reports of interactions between grizzly bears and OSV users to date. Although there could be some effects to grizzly bears in this landscape, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized travel to 234,821 acres or 50% and increase the non-motorized winter designations to 234,566 acres or 50% of the Gravelly landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 32% (23,769 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 68% (51,504 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 26,300 acres. The main differences are that the Snowcrest Mountains and

the Mount Jefferson area would be completely closed. The effects from winter motorized travel would be eliminated in the Snowcrest Mountains and in the Mount Jefferson Area. Cave Mountain is another area with increased protections. The Lion Mountain area which has modeled denning habitat and also receives regular use by over the snow vehicles is one of the few places left open to winter motorized travel in this Alternative. Although potential disturbance/displacement effects to emerging grizzly bears would be greatly reduced, as there are still cross country OSV areas being used regularly and there are grizzly bears that frequent this landscape there could still be conflicts between OSVs and grizzly bears. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 236,963 acres or 50% and increase the non-motorized winter designations to 232,423 acres or 50% of the Gravelly landscape. Alternative 6 Mod also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 32% (24,043 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 68% (51,230 acres). Effects of this Alternative are identical to Alternative 5, see above.

Jefferson River Landscape

Forestwide, Alternative 1 is the existing management in which all of the Jefferson River landscape is available for winter motorized travel and none is in a non-motorized winter setting. Alternative 1 also proposes to keep all (12,049 acres) the grizzly bear denning habitat open to winter motorized travel in the Jefferson River landscape. Although all modeled denning habitat is open to OSV use, there are no areas of regular use and only 13% of the landscape is used intermittently. Of the intermittent use, there are really only two areas where OSV use and grizzly bear denning habitat are in conflict, the Delmoe Lake area, and the Hells Canyon area. There have been no grizzly bear sightings, official or unverified in this landscape. The fact that there is only intermittent use in two modeled denning areas and that no grizzly bears have been seen in this landscape, the chance of conflicts with OSVs is unlikely. Although unlikely, if there is a denning grizzly in the area, there would be a slight chance for disturbance/displacement to them when emerging from their dens. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 proposes to decrease the amount of this landscape available for winter motorized travel to 162,063 acres or 85% and increase the non-motorized winter designations to 28,551 acres or 15% of the Jefferson River landscape. Alternative 2 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 96% (11,610 acres).

Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 4% (439 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 400 acres. Although there are more acres protected, the effects from this Alternative are the same as for Alternative 1. Although unlikely, there would be a slight chance for disturbance/displacement to them when emerging from their dens. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized travel to 98,329 acres or 52% and increase the non-motorized winter designations to 92,285 acres or 48% of the Jefferson River landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 50% (6,061 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 50% (5,987 acres). Approximately 6,000 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. Although there are additional protections in modeled grizzly bear denning habitat, the closures are not within the intermittent use areas where the most potential for conflict exists. Effects from this Alternative are similar to Alternatives 1 and 2 but the difference would be in good snow years when OSV use may extend out from the typical areas. There are additional closures that would protect more denning habitat from OSV use. Although reduced, there are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management with the entire landscape available for winter motorized travel and none of the Jefferson River landscape in a non-motorized winter setting. Alternative 4 also proposes to keep all (12,049 acres) the grizzly bear denning habitat open to winter motorized travel in the Jefferson River landscape. Effects to modeled grizzly bear denning habitat would be identical to Alternative 1. Although unlikely, there would be a slight chance for disturbance/displacement to them when emerging from their dens. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized travel to 99,525 acres or 52% and increase the non-motorized winter designations to 91,088 acres or 48% of the Jefferson River landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 51% (6,168 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized

classification to 49% (5,881 acres). Approximately 5,900 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. The effects of this Alternative are very similar to Alternative 3, increased protections in good snow years when OSV use may extend out from the typical areas. There are additional closures that would protect more denning habitat from OSV use. Although reduced, there are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 90,190 acres or 47% and increase the non-motorized winter designations to 100,423 acres or 53% of the Jefferson River landscape. Alternative 6 Modified also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 35% (4,157 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 65% (7,892 acres). Approximately 7,900 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative provides the most protection for modeled grizzly bear denning habitat. Even so, the protections are not in areas utilized by OSVs. The effects of this Alternative are similar to Alternatives 3 and 5, increased protections in good snow years when OSV use may extend out from the typical areas. There are additional closures that would protect more denning habitat from OSV use. Although reduced, there are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Lima Tendoy Landscape

Alternative 1 is the existing management in which approximately 291,963 acres or 79% of this landscape is available for winter motorized travel and 75,561 or 21% of the Lima Tendoy landscape in a non-motorized winter setting. Alternative 1 also proposes to keep approximately 56,177 acres or 79% of grizzly bear denning habitat open to winter motorized travel in the Lima Tendoy landscape. This leaves approximately 15,155 acres or 21% of grizzly bear denning habitat in a non-motorized classification in this landscape. This alternative along with Alternatives 2 and 4 provide the least protection for modeled grizzly bear denning habitat. However, the northern part (10%) of the landscape along the Continental Divide in the Beaverhead Mountains and north of Selway and Eunice creeks is really the only part that is regularly or intermittently, used for winter motorized travel. The rest of the Landscape doesn't have enough snow most years to use OSVs. Even though The Lima Tendoy Landscape is not within an official grizzly distribution area, between September 1999 and September of 2001 there were four unconfirmed grizzly bear sightings here. None of these sightings were in the areas of OSV use. As there is a chance for a grizzly bear to be in this landscape and if they are denning, there would be a slight chance for disturbance/displacement to them when emerging from their dens, but only in the northern area. This effect is most likely for males starting in late

February and for females with cubs the third week in March. The Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 retains the existing management at 291,963 acres or 79% of this landscape available for winter motorized travel and 75,561 acres or 21% of the Lima Tendoy landscape in a non-motorized winter setting. Alternative 2 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 79% (56,177 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 21% (15,155 acres). The effects of this Alternative are exactly like Alternatives 1 and 4. Although there is a slight chance for disturbance/displacement of grizzly bears emerging from their dens, the Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized travel to 174,001 acres or 47% and increase the non-motorized winter designations to 193,523 acres or 53% of the Lima Tendoy landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 59% (42,427 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 41% (28,905 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 13,700 acres. Although this Alternative provides the most protection for modeled grizzly bear denning habitat, it is all in the southern part of the Landscape where there is seldom to no use. The effects of this Alternative are similar to Alternatives 1, and 2 with the exception of increased protections in good snow years when OSV use may extend out from the typical areas. There are additional closures that would protect more denning habitat from this additional OSV use. Although reduced, there are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 291,963 acres or 79% of this landscape available for winter motorized travel and 75,561 acres or 21% of the Lima Tendoy landscape in a non-motorized winter setting. Alternative 4 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 79% (56,177 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 21% (15,155 acres). The effects of this Alternative are exactly like Alternatives 1 and 2. Although there is a slight chance for disturbance/displacement of grizzly bears emerging from their dens, the Grizzly Bear Recovery Plan however acknowledged that “Grizzly bears outside the recovery

zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized travel to 234,320 acres or 64% and increase the non-motorized winter designations to 133,204 acres or 36% of the Lima Tendoy landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 69% (48,880 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 31% (22,452 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 7,300 acres. Although this Alternative provides additional protection for modeled grizzly bear denning habitat, it is all in the southern part of the Landscape where there is seldom to no use. The effects of this Alternative are similar to Alternatives 3 in that there would be increased protections in good snow years when OSV use may extend out from the typical areas. There are additional closures that would protect more denning habitat from this additional OSV use. Although reduced, there are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 202,401 acres or 55% and increase the non-motorized winter designations to 165,123 acres or 45% of the Lima Tendoy landscape. Alternative 6 Modified also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 64% (45,382 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 36% (25,950 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 10,800 acres. The effects of this Alternative are similar to Alternatives 3 in that there would be increased protections in good snow years when OSV use may extend out from the typical areas. Although reduced, there are still potential conflicts to emerging grizzly bears from late February through the end of the winter motorized season. As this area is outside a recovery zone, this area is not managed to provide or conserve grizzly bear habitat (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Madison Landscape

Alternative 1 is the existing management in which approximately 13,191 acres or 11% of this landscape is available for winter motorized travel and 109,803 acres or 89% of the Madison landscape in a non-motorized winter setting with. Alternative 1 also proposes to keep approximately 3,331 acres or 12% of grizzly bear denning habitat open to winter motorized travel in the Madison landscape. This leaves approximately 24,008 acres or 88% of grizzly bear denning habitat in a non-motorized classification in this landscape. Most of this Landscape is within the GYE Recovery Zone. There is no snowmobiling allowed within the portion of the

Madison landscape within the Greater Yellowstone Ecosystem recovery zone, as it is within the Lee Metcalf Wilderness. There are no anticipated effects from winter motorized use to grizzly bears denning or emerging from their dens in this area. Although there is still a portion of this landscape open to winter motorized travel, according to BDNF recreation staff and MFWP biologists, there is no use in that area. There are no effects/conflicts to emerging grizzly bears expected in this landscape under this Alternative.

Alternative 2 proposes to decrease the amount of this landscape available for winter motorized travel to 3,685 acres or 3% and increase the non-motorized winter designations to 119,309 acres or 97% of the Madison landscape. Alternative 2 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 3% (723 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 97% (26,616 acres). As in Alternative 1, there are no effects/conflicts to emerging grizzly bears expected in this landscape under this Alternative as there is no OSV use in this landscape, even though it is allowed.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized travel to 676 acres or 1% and increase the non-motorized winter designations to 122,318 acres or 99% of the Madison landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 0.7% (191 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 99.3% (27,147 acres). As in Alternatives 1 and 2, there are no effects/conflicts to emerging grizzly bears expected in this landscape under this Alternative as there is no OSV use in this landscape, even though it is allowed.

Alternative 4 retains the existing management at 13,198 acres or 11% of this landscape available for winter motorized travel and 109,796 acres or 89% of the Madison landscape in a non-motorized winter setting. Although the percentage of winter motorized travel didn't change for the Madison Landscape, Alternative 4 also proposes to increase slightly areas open to winter motorized travel in grizzly bear denning habitat to 3,335 acres but it is still 12% of the habitat. Conversely, this decreases the acres of grizzly bear denning habitat in a non-motorized classification to 24,004 acres but still 88%. As in Alternatives 1, 2, and 3, there are no effects/conflicts to emerging grizzly bears expected in this landscape under this Alternative as there is no OSV use in this landscape, even though it is allowed.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized travel to 834 acres or 1% and increase the non-motorized winter designations to 122,161 acres or 99% of the Madison landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 0.7% (203 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 99.3% (27,135 acres). As in Alternatives 1, 2, 3, and 4, there are no effects/conflicts to emerging grizzly bears expected in this landscape under this Alternative as there is no OSV use in this landscape, even though it is allowed.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 2,730 acres or 2% and increase the non-motorized winter designations to 120,264 acres or 98% of the Madison landscape. Alternative 6 Modified also proposes to

decrease areas open to winter motorized travel in grizzly bear denning habitat to 2% (531 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 98% (26,808 acres). As in Alternatives 1, 2, 3, 4, and 5, there are no effects/conflicts to emerging grizzly bears expected in this landscape under this Alternative as there is no OSV use in this landscape, even though it is allowed.

Pioneer Landscape

Alternative 1 is the existing management in which approximately 531,932 acres or 93% of this landscape is available for winter motorized travel and 42,193 or 7% of the Pioneer landscape in a non-motorized winter setting with. Alternative 1 also proposes to keep approximately 140,582 acres or 95% of grizzly bear denning habitat open to winter motorized travel in the Pioneer landscape. This leaves approximately 8,097 acres or 5% of grizzly bear denning habitat in a non-motorized classification in this landscape. This alternative, along with Alternative 4 provides the least protection for modeled grizzly bear denning habitat from OSVs. This landscape is not in a recovery zone or known distribution area, but there was one unconfirmed sighting of an adult grizzly bear in 1999. There is modeled grizzly bear denning habitat scattered throughout the landscape, approximately half of which is used regularly by OSVs and one quarter that is used intermittently. If there is a denning grizzly bear in the area, the chance for disturbance/displacement to them when emerging from their dens is highest for males starting in late February and for females with cubs the third week in March. This possibility of conflict is highest on the western half of the Pioneer Landscape. Although there could possibly be some effects to grizzly bears at this time, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 proposes to decrease the amount of this landscape available for winter motorized travel to 455,341 acres or 79% and increase the non-motorized winter designations to 118,784 acres or 21% of the Pioneer landscape. Alternative 2 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 79% (117,869 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 21% (30,810 acres). Approximately 22,700 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. Although this provides more protection for grizzly bear denning habitat, it is mostly in areas what are not currently used by OSVs or are used intermittently. While this would improve conditions for denning grizzly bears, the effects are still similar to Alternative 1. Although there is still a chance of disturbance/displacement on the northeastern quarter of the landscape, the possibility of conflict is highest on the western half of the Pioneer Landscape. Through this Alternative there could possibly be some effects to grizzly bears but the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS

1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized travel to 392,952 acres or 68% and increase the non-motorized winter designations to 181,173 acres or 32% of the Pioneer landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 66% (97,757 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 34% (50,922 acres). Approximately 42,800 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative would provide the most protection for modeled grizzly bear denning habitat. This alternative differs from the others in that it does close some of the regularly used OSV areas to that use. However, while this would improve conditions there is still a large amount of grizzly bear denning habitat open to winter motorized use. The effects are still similar to Alternatives 1 and 2. Although there is still a chance of disturbance/displacement on the northeastern quarter of the landscape, the possibility of conflict is highest on the western half of the Pioneer Landscape. Through this Alternative there could possibly be some effects to grizzly bears but the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 93% of this landscape available for winter motorized travel and 7% of the Pioneer landscape in a non-motorized winter setting. Alternative 4 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 95% (140,582 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 5% (8,097 acres). The effects of this Alternative are exactly like Alternative 1. This alternative, along with Alternative 4, provides the least protection for modeled grizzly bear denning habitat from OSVs. This possibility of conflict is highest on the western half of the Pioneer Landscape. Although there could possibly be some effects to grizzly bears, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized travel to 424,093 acres or 74% and increase the non-motorized winter designations to 150,032 acres or 26% of the Pioneer landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 71% (105,869 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 29% (42,809 acres). Approximately 34,700 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. Although this Alternative has more modeled grizzly bear denning habitat protected than Alternative 2, the effects would be

very similar. Although there is still a chance of disturbance/displacement on the northeastern quarter of the landscape, the possibility of conflict is highest on the western half of the Pioneer Landscape. Through this Alternative there could possibly be some effects to grizzly bears but the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Mod proposes to decrease the amount of this landscape available for winter motorized travel to 424,492 acres or 74% and increase the non-motorized winter designations to 149,633 acres or 26% of the Pioneer landscape. Alternative 6 Modified proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 71% (105,882 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 29% (42,796 acres). The effects of this Alternative are identical to Alternative 5, see above.

Tobacco Root Landscape

Alternative 1 is the existing management in which approximately 164,641 acres or 95% of this landscape is available for winter motorized travel and 9,334 acres or 5% of the Tobacco Root landscape in a non-motorized winter setting. Alternative 1 also proposes to keep approximately 48,685 acres or 97% of grizzly bear denning habitat open to winter motorized travel in the Tobacco Root landscape. This leaves approximately 1,616 acres or 3% of grizzly bear denning habitat in a non-motorized classification in this landscape. Although 95% of this landscape remains open to winter motorized travel, only two% is used regularly and 20% is used intermittently by OSVs. The use that exists is mostly intermittent cross country travel which has a higher chance of disturbing/displacing an emerging grizzly bear. There are two regularly used routes, but as grizzly bears are known to avoid routes. Although there are a few small cross county areas in the north half of the Landscape, OSV use is primarily in the south half. This Landscape is not within a recovery zone or a grizzly bear distribution are however there have been seven unconfirmed sightings scattered through the center of the Landscape, with dates ranging from January 1985 to August 1997. Although the use is intermittent, there have been grizzly sightings in the past so there is a chance that if a grizzly bear denned in the area OSV use, it could be disturbed/displaced. The chance for disturbance/displacement to them when emerging from their dens is highest for males starting in late February and for females with cubs the third week in March. Although there could possibly be some effects to grizzly bears at this time, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 retains the existing management at 164,647 acres or 95% of this landscape available for winter motorized travel and 9,328 acres or 5% of the Tobacco Root landscape in a

non-motorized winter setting. Alternative 2 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 97% (48,685 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 3% (1,616 acres). The effects from this Alternative are identical to Alternative 1 and 4. The highest risk for conflicts would be on the south half of the Landscape from late February through the end of winter use. Although there could possibly be some effects to grizzly bears at this time, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized travel to 56,872 acres or 33% and increase the non-motorized winter designations to 117,104 acres or 67% of the Tobacco Root landscape. Alternative 3 proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 29% (14,693 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 71% (35,609 acres). Approximately 34,000 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative would provide the most protection for modeled grizzly bear denning habitat. This alternative closes all of the northern part of this Landscape including intermittent cross county areas and regularly used OSV route to that use. However, while this would improve conditions there is still a large amount of grizzly bear denning habitat open to intermittent winter motorized use. Although this Alternative greatly improves conditions for modeled grizzly bear denning habitat, there could possibly be some disturbance/displacement effects to grizzly bears. However, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 531,932 acres or 95% of this landscape available for winter motorized travel and 9,328 acres or 5% of the Tobacco Root landscape in a non-motorized winter setting. Alternative 4 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 97% (48,685 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 3% (1,616 acres). The effects from this Alternative are identical to Alternative 1 and 2. The highest risk for conflicts would be on the south half of the Landscape from late February through the end of winter use. Although there could possibly be some effects to grizzly bears at this time, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized

travel to 74,381 acres or 43% and increase the non-motorized winter designations to 99,595 acres or 57% of the Tobacco Root landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 42% (21,350 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 58% (28,951 acres). Approximately 27,300 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. As with Alternative 3, this Alternative mostly closes OSV use in the northern part of this Landscape including one intermittent cross county area. It is different in that it retains the regularly used OSV route in that area. However, while this would improve conditions there is still a large amount of grizzly bear denning habitat open to intermittent winter motorized use as well as some regularly used routes. Although this Alternative greatly improves conditions for modeled grizzly bear denning habitat, there could possibly be some disturbance/displacement effects to grizzly bears. However, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 83,851 acres or 48% and increase the non-motorized winter designations to 90,125 acres or 52% of the Tobacco Root landscape. Alternative 6 Modified also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 49% (24,688 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 51% (25,614 acres). Approximately 24,000 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. As with Alternative 5, this Alternative mostly closes OSV use in the northern part of this Landscape including one intermittent cross county area. It is different in that it retains the regularly used OSV route in that area. However, while this would improve conditions there is still a large amount of grizzly bear denning habitat open to intermittent winter motorized use as well as some regularly used routes. Although this Alternative greatly improves conditions for modeled grizzly bear denning habitat, there could possibly be some disturbance/displacement effects to grizzly bears. However, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Upper Clark Fork Landscape

Alternative 1 is the existing management in which approximately 74,277 acres or 89% of this landscape is available for winter motorized travel and 9,041 acres or 11% of the Upper Clark Fork landscape in a non-motorized winter setting with. Alternative 1 also proposes to keep approximately 8,206 acres or 89% of grizzly bear denning habitat open to winter motorized

travel in the Upper Clark Fork landscape. This leaves approximately 1,062 acres or 11% of grizzly bear denning habitat in a non-motorized classification in this landscape. This Landscape is only used regularly by OSVs on 2% and 1% intermittently of the entire areas. There are no cross country areas, the OSV users stay on routes. There has only been one confirmed grizzly bear sighting in this Landscape. As use is mainly restricted to routes on only 3% of the Landscape, it is extremely unlikely that a grizzly bear would be affected by OSV use. However, if there was a conflict, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 proposes to decrease the amount of this landscape available for winter motorized travel to 72,033 acres or 86% and increase the non-motorized winter designations to 11,285 acres or 14% of the Upper Clark Fork landscape. Alternative 2 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 87% (8,035 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 13% (1,233 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing only an additional 170 acres. Effects from this Alternative would be identical to Alternative 1. Extremely unlikely that a grizzly bear would be affected by OSV use in this Landscape. However, if there was a conflict, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized travel to 59,616 acres or 72% and increase the non-motorized winter designations to 23,701 acres or 28% of the Upper Clark Fork landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 72% (6,692 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 28% (2,577 acres). Approximately 1,500 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. The additional protections in this Alternative are not in areas utilized by OSVs. The effects of this Alternative are similar to Alternatives 1 and 2. In this Alternative however there may be increased protections in good snow years when OSV use may extend out from the typical areas. However it is still extremely unlikely that a grizzly bear would be affected by OSV use in this Landscape. However, if there was a conflict, the Grizzly Bear Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 74,328 acres or 89% of this landscape available for winter motorized travel and 8,989 acres or 11% of the Upper Clark Fork landscape in a non-motorized winter setting. Although the percentage of winter motorized travel didn't change for the Upper Clark Fork Landscape, Alternative 4 also proposes to increase slightly areas open to winter motorized travel in grizzly bear denning habitat to 8,218 acres but it is still 89% of the habitat. Conversely, this decreases the acres of grizzly bear denning habitat in a non-motorized classification to 1,050 acres but still 11%. Effects from this Alternative would be identical to Alternative 1 and 2. Extremely unlikely that a grizzly bear would be affected by OSV use in this Landscape. However, if there was a conflict, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized travel to 54,735 acres or 66% and increase the non-motorized winter designations to 28,582 acres or 34% of the Upper Clark Fork landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 63% (5,882 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 37% (3,387 acres). Approximately 2,300 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative would provide the most protection for modeled grizzly bear denning habitat. However, the additional protections in this Alternative are not in areas utilized by OSVs. The effects of this Alternative are similar to Alternatives 1, 2, 3 and 4. In this Alternative however there may be increased protections in good snow years when OSV use may extend out from the typical areas. However it is still extremely unlikely that a grizzly bear would be affected by OSV use in this Landscape. However, if there was a conflict, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside." It also says that "...such areas would not be managed primarily to provide or conserve grizzly bear habitat" (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 55,542 acres or 67% and increase the non-motorized winter designations to 27,776 acres or 33% of the Upper Clark Fork landscape. Alternative 6 Modified also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 64% (5,900 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 36% (3,369 acres). Approximately 2,300 additional acres of modeled grizzly bear denning habitat would be closed to winter motorized use under this Alternative. This alternative would provide the most protection for modeled grizzly bear denning habitat. The effects of this Alternative are similar to Alternatives 1, 2, 3, 4 and 5. It is still extremely unlikely that a grizzly bear would be affected by OSV use in this Landscape. However, if there was a conflict, the Grizzly Bear Recovery Plan acknowledged that "Grizzly bears outside the recovery

zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Upper Rock Creek Landscape

Alternative 1 is the existing management in which approximately 207,880 acres or 76% of this landscape is available for winter motorized travel and 65,339 acres or 24% of the Upper Rock Creek landscape in a non-motorized winter setting. Alternative 1 also proposes to keep approximately 10,045 acres or 85% of grizzly bear denning habitat open to winter motorized travel in the Upper Rock Creek landscape. This leaves approximately 1,796 acres or 15% of grizzly bear denning habitat in a non-motorized classification in this landscape. Although not in a recovery zone, this area is within the NCDE grizzly distribution area. There have been several sightings in this Landscape. According to the use map, approximately 7% of the Landscape is regularly used for winter motorized travel and approximately 9% is used intermittently, 60% is used seldom to none and 24% is closed. The use is scattered across the Landscape but there is not much cross county OSV use, users mainly stay on routes. The one area that does receive cross country travel is the Sapphire Mountains however there is very little modeled grizzly bear denning habitat in this area. Although not much, there is modeled grizzly bear denning habitat along some of the regular and intermittently used OSV routes. As grizzly bears avoid motorized routes, it is assumed potential conflicts would be minimal. If there is a denning grizzly in the area, the chance for disturbance/displacement to them when emerging from their dens is highest for males starting in late February and for females with cubs the third week in March. The Grizzly Bear Recovery Plan acknowledged however that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 2 retains the existing management at 208,056 acres or 76% of this landscape available for winter motorized travel and 65,162 acres or 24% of the Upper Rock Creek landscape in a non-motorized winter setting. Alternative 2 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 85% (10,045 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 15% (1,796 acres). The effects from this Alternative are identical to Alternative 1. There could be disturbance/displacement effects to emerging grizzly bears. The Grizzly Bear Recovery Plan acknowledged however that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 3 proposes to decrease the amount of this landscape available for winter motorized

travel to 191,825 acres or 70% and increase the non-motorized winter designations to 81,393 acres or 30% of the Upper Rock Creek landscape. Alternative 3 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 80% (9,458 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 20% (2,383 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 560 acres. These closures include a regularly used play area and an intermittently used route. The effects however are similar to Alternatives 1 and 2. There could be disturbance/displacement effects to emerging grizzly bears. The Grizzly Bear Recovery Plan acknowledged however that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 4 retains the existing management at 208,056 acres or 76% of this landscape available for winter motorized travel and 65,162 acres or 24% of the Upper Rock Creek landscape in a non-motorized winter setting. Alternative 4 also proposes to retain the existing areas open to winter motorized travel in grizzly bear denning habitat at 85% (10,045 acres). This conversely retains acres of grizzly bear denning habitat in a non-motorized classification at 15% (1,796 acres). The effects from this Alternative are identical to Alternatives 1 and 2. There could be disturbance/displacement effects to emerging grizzly bears. The Grizzly Bear Recovery Plan acknowledged however that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 5 proposes to decrease the amount of this landscape available for winter motorized travel to 189,381 acres or 69% and increase the non-motorized winter designations to 83,837 acres or 31% of the Upper Rock Creek landscape. Alternative 5 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 77% (9,140 acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 23% (2,701 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 900 acres. The effects from this Alternative are similar to Alternative 3. Although there are additional protections, there could still be disturbance/displacement effects to emerging grizzly bears. The Grizzly Bear Recovery Plan acknowledged however that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Alternative 6 Modified proposes to decrease the amount of this landscape available for winter motorized travel to 133,571 acres or 49% and increase the non-motorized winter designations to 139,647 acres or 51% of the Upper Rock Creek landscape. Alternative 6 also proposes to decrease areas open to winter motorized travel in grizzly bear denning habitat to 55% (6,519

acres). Conversely, this increases the acres of grizzly bear denning habitat in a non-motorized classification to 45% (5,322 acres). This alternative improves protection for grizzly bear modeled denning habitat by closing an additional 3,500 acres. This alternative provides the most protection for modeled grizzly bear denning habitat. Although protections increased considerably, it was mostly in areas of seldom to no use. This alternative may be most effective in protecting grizzly bears during high snow years when use may expand outside of what is expected. Due to the regularly used and the intermediately used OSV areas, the effects from this Alternative are similar to Alternative 3. Although there are additional protections, there could still be disturbance/displacement effects to emerging grizzly bears. The Grizzly Bear Recovery Plan acknowledged however that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat” (USFWS 1993). Additionally grizzly bear populations have increased and expanded their range outside of the GYA and NCDE with existing management.

Summary Statement

Although there could possibly be some effects to grizzly bears emerging from their dens in the spring from winter motorized travel, it is important to understand the role of the BDNF outside the grizzly bear recovery zones. In 1993, the Grizzly Bear Recovery Plan outlined a strategy to recover grizzly bears built on the concept of recovery zones. The Recovery Plan acknowledged that “Grizzly bears outside the recovery zones probably experience a higher level of adverse impacts due to land management actions than do grizzly bears inside.” It also says that “...such areas would not be managed primarily to provide or conserve grizzly bear habitat. Thus, we expect grizzly bears will occur at lower densities outside the recovery zones than within the recovery zones as a result of suboptimal habitat conditions including higher road densities, fewer areas secure from motorized access, and more human presence and activity.” The recovery plan anticipated that grizzly bears can and will exist outside recovery zone lines in many areas, but that the grizzly bears residing within the recovery zone were crucial to recovery goals ...” (USDI Fish and Wildlife Service, 1993). It is also important to note that the Northern Continental Divide Ecosystem and Greater Yellowstone Ecosystem grizzly bear population have expanded outside of both primary conservation areas despite human presence and activity, (U.S. Fish and Wildlife Service, 2011) including existing winter motorized travel.

Effects for Canada Lynx

The Lynx Conservation Assessment and Strategy (LCAS) indicates there have been few studies dealing with lynx reactions to human presence. It states, “Some anecdotal information suggests that lynx are quite tolerant of humans, although given differences in individuals and contexts, a variety of behavioral responses to human presence may be expected... Preliminary information from winter recreation studies in Colorado indicates that some recreation uses are compatible, but lynx may avoid some developed ski areas” (Interagency Lynx Biology Team, 2013). This SEIS only concerns dispersed recreation, not developed ski areas.

There has been some concern about winter recreational activities compacting snow. Kolbe et al. (2007) found that although coyotes did use snowmobile trails, they did not travel closer to

these trails than randomly expected. Other studies also found that coyotes did not use compacted roads any more than uncompacted roads, suggesting that coyotes may have used roads because they provide a “cleared travel corridor” whether they are compacted or not (Interagency Lynx Biology Team, 2013).

Studies in Montana and Wyoming showed, “there was not a significant dietary overlap during winter between these species. In Wyoming, the potential for competition between lynx and coyotes would be most likely to occur during the fall when coyotes appear to increase predation on snowshoe hares” (Interagency Lynx Biology Team, 2013). Due to the timing of winter recreation it does not affect fall carnivore foraging behavior.

The management direction analyzed in the Lynx FEIS and incorporated into the forest plans focus on these types of activities that could affect lynx productivity (USDA Forest Service, 2007b). The Northern Rockies Lynx Management Direction (NRLMD) specifically considered the results of the most recent research and concluded there was “little evidence that compacted snowmobile trails increased exploitation competition between coyotes and lynx during winter on our study area” (USDA Forest Service, 2007b). Since there was little evidence of winter recreation impacts to lynx there are no standards applicable to recreation for lynx in the NRLMD.

Research has found there is little evidence that winter recreation and the resulting snow compaction negatively impact lynx. Instead, research has found that habitat modification is the key risk factor for lynx (NRLMD, FEIS). Over snow recreation does not modify habitat. The NRLMD standards that deal with habitat modification are applicable only to vegetation management.

The NRLMD has one standard that applies to all management activities (Standard ALL S1) and two guidelines applicable to winter recreation. They are listed below along with information showing how the alternatives meet the standard and the guidelines.

Standard ALL S1 –Permanent developments and vegetation management -- New or expanded permanent developments and vegetation management projects must maintain habitat connectivity in an LAU and/or linkage area.

This standard applies to new or expanded permanent developments and to vegetation treatments. This SEIS does not propose any permanent developments or any vegetation management; it only addresses winter, over snow, recreation. The SEIS maintains all existing habitat connectivity in all LAUs and linkage area across all landscapes on the BDNF.

Guideline HU G3 – Recreation Developments – Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat.

This guideline would be met under all alternatives. The 2009 existing condition for over the snow (OSV) motorized routes and open areas were included as part of the baseline analysis for the LCAS (2000) and the subsequent NRLMD. Forest Plan FEIS Alternatives 2, 3, 5 and 6 Mod close additional areas to winter motorized travel. None of the alternatives increase or change recreation developments or operations, therefore Alternatives 2, 3, 5 and 6 Mod are in

compliance with the NRLMD, and result in fewer potential impacts to lynx. Alternative 1 maintains the status quo, while Alternative 4 does increase some potential impacts to lynx.

Guideline HU G11 – Snow Compaction – Designated over-the-snow routes, or designated play areas, should not expand outside baseline areas of consistent snow compaction¹, unless designation serves to consolidate use and improve lynx habitat. This is calculated on an LAU basis, or on a combination of immediately adjacent LAUs. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by Guideline HU G12. Use the same analysis boundaries for all actions subject to this guideline.

This guideline would be met under all alternatives. The 2009 existing condition for over the snow (OSV) motorized routes and open areas was included as part of the baseline analysis for the LCAS (2000) and the subsequent NRLMD. None of the alternatives change existing designated routes or designated play areas and all alternatives result in low potential impacts to lynx.

Summary Statement

Since there have been no recent sightings of lynx on the BDNF, probability of lynx being affected on the Forest by winter motorized travel project is low. It is important to remember the role of secondary/peripheral habitat, which is the only type of lynx habitat found on the Forest. According to the revised LCAS, “The intent is to place more emphasis on protection of the core areas, which support persistent lynx populations and have evidence of recent reproduction, and less stringent protection and greater flexibility in secondary/peripheral areas, which only support lynx intermittently. Lynx habitat in secondary/peripheral areas appears to be inherently patchier and less productive than in core areas.

The LCAS also acknowledged that the contribution of secondary/peripheral areas in support of lynx “occurring outside of core areas to population dynamics and persistence within core areas is unclear. It has been suggested that secondary and peripheral areas might contribute to lynx persistence by supporting successful dispersal or exploratory movements.” Finally, “The focus of management is on providing a mosaic of forest structure to support snowshoe hare prey resources for individual lynx that infrequently may move through or reside temporarily in the area. Landscape connectivity should be maintained to allow for lynx movement and dispersal “(Interagency Lynx Biology Team, 2013).

Implementation of winter motorized travel under all of the alternatives would still provide snowshoe hare and dispersal habitats for transient Canada lynx on the Forest, would continue to allow for lynx movement and dispersal throughout and across the Forest, and Alternatives 2, 3, 5 and 6 Modified result in fewer potential impacts to lynx. There are differences between alternatives (by changing the amount of areas open to this use – see Table 1 through Table 11) in terms of the potential risk of OSVs to lynx. However, the on-the-ground, actual effects have been negligible, regardless of the extent of open areas. We are unable to identify any discernible effects to lynx on any of the landscapes.

Effects for Gray Wolf

As noted in the assumptions section, according to the MFWP statutes it is illegal in the state of Montana to harass wildlife from snowmobiles. Locally MFWP game wardens were queried to assess how much illegal harassment is going on. They reported back that there have been no tickets written nor do they have any cases open for wildlife harassment by snowmobile. Statewide, there have been five tickets written for wildlife harassment from a snowmobile between 1980 and 2015. It is possible that harassment may be happening locally as well, but if it is, it is on such a small scale that although it might affect a few individuals, it is not affecting the wolf population.

According to the 2008 Biological Opinion for effects to wolves from the BDNF Revised Forest Plan, there are three main activities that could potentially affect wolves: timber harvest, road use, and livestock grazing. Winter motorized recreation was not identified as a major issue for wolves nor were there any management recommendations proposed (USFWS, 2008).

Wolves are habitat generalists that thrive in areas with low human disturbance and abundant prey. There is no apparent significant influence from snowmobile activity as use has been occurring on the BDNF as long as the wolves have been here and their population has been increasing (SEIS). There could be temporary disturbance effects to individuals from winter motorized travel, but there is no research that shows permanent harm from these types of activities.

As the indicator for wolves is acres open and closed in big game winter range, refer to the general big game section starting on page 31 for effects to general big game by alternative and by landscape. As winter wolf prey is known to be big game, more specifically elk, it is assumed that alternatives that protect general big game winter ranges would also be good for wolves. The BA completed in 2008 for the Forest Plan identified acres of the Forest open and closed to winter motorized access as an indicator for the wolf, but also mentioned that closures would be of greatest benefit to wolves on big game winter range. For additional information on effects to wolves based on areas open and closed to winter motorized travel forestwide please refer to the 2008 BA.

Summary Statement

Wolf populations are known to rapidly recover from severe disruptions, such as very high levels of human-caused mortality or disease and after severe declines and can more than double in just two years (Mech and Boitani, 2003). Based on the resiliency of this species, its wide distribution throughout the state and its increasing population; a loss of viability of this species is not expected through implementation of any of the alternatives for winter motorized travel in the Forest Plan.

Effects for Wolverine

As noted above, according to the MFWP statutes it is illegal in the state of Montana to harass wildlife from snowmobiles. Locally MFWP game wardens were queried to assess how much illegal harassment is going on. They reported back that there have been no tickets written nor do they have any cases open for wildlife harassment by snowmobile. Statewide, there have been five tickets written for wildlife harassment from a snowmobile between 1980 and 2015. It

is possible that harassment may be happening locally as well, but if it is, it is on such a small scale that although it might affect a few individuals, it is not affecting the wolverine population.

Wolverine General Habitat

Wolverine habitat can be characterized by deep, persistent and reliable spring snow cover (April 15 to May 14) and is the best overall predictor of wolverine occurrence, combined with elevation, in the contiguous US (Copeland et al. 2010). The high elevations provide the conditions necessary for the presence and maintenance of late winter reproductive dens (Aubry et al. 2007, Copeland et al. 2010). Elevation was the key variable for distinguishing wolverine presence. It was the strongest and most consistent variable across all logistic regression models. Wolverines preferred higher elevations in almost all models in which it was present. Use of high elevation was most notable during summer when all elevations >2,400 m were used more than expected and elevations <2,200 m used less than expected. During winter, use shifted to the 2,400–2,600m elevation zone with only the lowest elevations used less than expectation (Copeland et al. 2007).

Wolverine Denning Habitat

In Montana, natal dens occur above 7,874 feet and are located on north aspects in avalanche debris, typically in alpine habitats near timberline. Dens are typically used through late April or early May and after using natal dens, wolverines use rendezvous dens through early July. These sites are characterized by natural cavities formed by large boulders, downed logs (avalanche debris) and snow (USFWS, 2010). Copeland et al (2010) overlaid known den sites on the spring snow coverage and 97.9% of the den sites occurred in pixels that were snow-covered in at least one of seven years and 69% of the dens were located in areas with persistent spring snow six to seven years out of seven years (Copeland et al. 2010). McKelvey stated at a Forest Service R1 Regional Biologists Meeting in December 2010 that wolverines are twenty times more likely to stay in the area of persistent spring snow during dispersal.

The BDNF modeled wolverine denning habitat model was developed for the forest based on Heinemeyer et al. 2001. This model incorporated slope, elevation, rock, ice and alpine cover types, and patch size preferred by wolverine. This was used in the effects analysis.

Table 26 displays the percentages of modeled wolverine denning habitat open to winter motorized travel by landscape and alternative.

Table 26: Percent of Wolverine Modeled Denning Habitat Open to Winter Motorized Travel

Landscape	Wolverine Denning	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Big Hole	32,008 ac.	62%	25%	9%	62%	33%	37%
Boulder River	475 ac.	100%	100%	51%	100%	46%	50%
Clark Fork Flint	14,364 ac.	90%	76%	37%	90%	63%	58%

Landscape	Wolverine Denning	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6 Modified
Gravelly	15,482 ac	75%	60%	5%	75%	21%	27%
Jefferson River	3,757 ac.	100%	8%	2%	100%	6%	1%
Lima Tendoy	25,798 ac.	62%	62%	31%	62%	46%	35%
Madison	28,677 ac.	4%	2%	0.8%	4%	0.8%	2%
Pioneer	30,407 ac.	98%	48%	39%	98%	40%	40%
Tobacco Root	20,771 ac.	84%	84%	23%	84%	34%	37%
Upper Clark Fork	111 ac.	100%	100%	100%	100%	92%	92%
Upper Rock Creek	9,126 ac.	21%	21%	17%	21%	21%	12%
Totals	180,975 ac.	64%	44%	20%	64%	31%	31%

Forestwide

Alternative 1 is the existing management in which 115,168 acres or 64% of wolverine denning habitat is available for winter motorized travel and 65,795 acres or 36% of the Forest in a non-motorized winter setting. This is the highest amount of wolverine modeled denning habitat left open with the most chance for conflict between motorized recreation and wolverines. Overall, this Alternative, along with Alternative 4 provides the least protections for wolverine modeled denning habitat. There are several areas with wolverine denning habitat that receive regular winter motorized travel, such as the Big Hole, West Pioneers, the Gravelly, and the Clark Fork Flint landscapes where there could be disturbance/displacement effects to wolverines. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Forestwide, Alternative 2 proposes to decrease acres of wolverine denning habitat open to winter motorized travel to approximately 79,521 acres or 44% of the habitat. Conversely this increases the acres of wolverine denning habitat in a non-motorized classification across the forest to approximately 101,455 acres or 56% of the habitat. Overall, this Alternative does not provide that many more protections for wolverine modeled denning habitat than Alternatives 1 and 4. Even though protections are improved in the Big Hole, Clark Fork Flint, Gravelly, and the Pioneer landscapes, there are still several areas with wolverine denning habitat that receive regular winter motorized travel. Therefore there could be disturbance/displacement effects to wolverines across the Forest. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Forestwide, Alternative 3 proposes to decrease acres of wolverine denning habitat open to winter motorized travel to approximately 35,666 acres or 20% of the habitat. Conversely this increases the acres of wolverine denning habitat in a non-motorized classification across the forest to approximately 145,310 acres or 80% of the habitat. Overall, this Alternative provides the most protection for wolverine modeled denning habitat than the other alternatives. Almost all of the wolverine denning habitat with regular and intermittent winter motorized travel would be closed. Denning habitat in the West Pioneers would still remain open to regular over the snow use. Although there could still be disturbance/displacement effects across the forest to wolverines, they would be greatly reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Although Forestwide the percentage of winter motorized travel on wolverine denning habitat didn't change, Alternative 4 proposes to increase slightly areas open to winter motorized travel on wolverine denning habitat to 115,180 acres but still at 64%. Conversely, this decreases the acres of wolverine denning habitat in a non-motorized classification to 65,795 acres but still 36%. Overall, this Alternative, along with Alternative 1 provides the least protections for wolverine modeled denning habitat. There are several areas with wolverine denning habitat that receive regular winter motorized travel, such as the Big Hole, West Pioneer, the Gravelly, and the Clark Fork Flint landscapes where there could be disturbance/displacement effects to wolverines. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Forestwide, Alternative 5 proposes to decrease acres of wolverine denning habitat open to winter motorized travel to approximately 56,660 acres or 31% of the habitat. Conversely this increases the acres of wolverine denning habitat in a non-motorized classification across the forest to approximately 124,315 acres or 69% of the habitat. Overall, this Alternative provides a good amount of protection for wolverine modeled denning habitat. There is an increase of approximately 351,000 acres of wolverine denning habitat that would be closed under this Alternative forestwide. This is mainly obvious in the Big Hole, Pioneer, Tobacco Root, and Clark Fork Flint landscapes; although this Alternative protects a large amount of wolverine denning habitat across the Forest. As there would still be regular and intermittent winter motorized travel in some of these areas there could still be disturbance/displacement effects across the forest to wolverines but they would be greatly reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Forestwide, Alternative 6 Modified proposes to decrease acres of wolverine denning habitat open to winter motorized travel to approximately 55,213 acres or 31% of the habitat. Conversely this increases the acres of wolverine denning habitat in a non-motorized classification across the forest to approximately 125,763 acres or 69% of the habitat. Overall, this Alternative provides a good amount of protection for wolverine modeled denning habitat. There is an increase of approximately 352,500 acres of wolverine denning habitat that would be closed under this Alternative forestwide. This is mainly obvious in the Big Hole, Pioneer, Tobacco Root, and Clark Fork Flint landscapes; although this Alternative protects a large amount of wolverine denning habitat across the Forest. As there would still be regular and

intermittent winter motorized travel in some of these areas there could still be disturbance/displacement effects across the forest to wolverines but they would be greatly reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Big Hole Landscape

Alternative 1 proposes to keep approximately 19,947 acres or 62% of wolverine denning habitat open to winter motorized travel in the Big Hole landscape. This leaves approximately 12,061 acres or 38% of wolverine denning habitat in a non-motorized classification in this landscape. This alternative, along with Alternative 4, provide the least protection for wolverine denning habitat. There are small sections of denning habitat in the northern and eastern parts of the landscape that are open to winter motorized use but they only get used intermittently. There is a large section of modeled wolverine denning habitat in the southwestern part (Idaho/Montana border) of the landscape that is also open to winter motorized use. According to the use maps, this area is used on a regular basis through the winter. There is a chance that if a wolverine is in any of these areas at the same time as winter motorized users, they could be disturbed. This is more likely in the southwestern part of the landscape along the Idaho/Montana border. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Big Hole landscape, Alternative 2 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 25% (7,922 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 75% (24,086 acres). This is the second best alternative for wolverines as there are approximately 12,000 additional acres closed to winter motorized travel. There are additional protections in place for the denning habitat in the southwestern (Idaho/Montana border) and the northern part of the landscape. Small pockets of denning habitat in the eastern part of the landscape remain open to winter motorized travel. Although there are still some modeled denning areas open to winter motorized travel where individual wolverines could be disturbed, that area has been considerably reduced. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Big Hole landscape, Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 9% (2,995 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 91% (29,013 acres). This alternative is the best choice for wolverines. It provides almost 17,000 more acres closed to winter motorized travel. The largest area of wolverine denning habitat on the Idaho/Montana border would be completely protected from motorized use as well as most of the northern part. The small patches on the eastern edge would not receive any more protection. This area only receives intermittent use, but it is possible that if a wolverine was in this area at the same time the motorized users, they could be displaced. The chance of a wolverine being displaced by winter motorized travel in the Big Hole landscape has been drastically reduced. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Although the percentage of winter motorized travel didn't change for the Big Hole landscape Alternative 4 proposes to increase slightly areas open to winter motorized travel on wolverine denning habitat to 19,959 acres but still 62%. Conversely, this decreases the acres of wolverine denning habitat in a non-motorized classification to 12,048 acres but still 38%. The effects of this Alternative are identical to Alternative 1. Regular use along the Idaho/Montana border especially, could disturb wolverines. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Big Hole landscape, Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 33% (10,674 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 67% (21,333 acres). Although this area increases non-motorized protections to wolverine denning habitat by approximately 9,000 acres, there is still a large section of denning habitat along the Idaho/Montana border that allows regular winter motorized use. The eastern part of the landscape also has pockets of unprotected denning habitat. Although reduced, there is still a chance of wolverines being disturbed by winter motorized travel, especially in the Idaho/Montana border area. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Big Hole landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 37% (11,931 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 63% (20,077 acres). Although this area increases non-motorized protections to wolverine denning habitat by approximately 8,000 acres, there is still a large section of denning habitat along the Idaho/Montana border that allows regular winter motorized use. The eastern part of the landscape also has pockets of unprotected denning habitat. Although reduced, there is still a chance of wolverines being disturbed by winter motorized travel, especially in the Idaho/Montana border area. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Boulder River Landscape

Alternative 1 proposes to keep all (475 acres) of the wolverine denning habitat open to winter motorized travel in the Boulder River landscape. This leaves approximately none of the wolverine denning habitat in a non-motorized classification in this landscape. Obviously there are no protections for wolverine denning habitat in this Alternative. That said, based on the use map, there is no winter motorized use in the wolverine denning habitat in this landscape. There are areas of high use in this landscape but they are over a mile away. Although all denning habitat is open for use, it would be extremely unlikely that there would be effects to wolverine from winter motorized travel in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Alternative 2 proposes to retain all (475 acres) of the wolverine denning habitat open to winter motorized travel in the Boulder River landscape. This leaves approximately none of the

wolverine denning habitat in a non-motorized classification in this landscape. Disturbance effects to denning wolverines from this Alternative are identical to Alternative 1; extremely unlikely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Boulder River landscape Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 51% (241 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 49% (234 acres). In this Alternative, a under over half of the denning habitat would be closed to winter motorized travel. However, as there is no winter motorized use in the wolverine denning habitat in this landscape the effects won't change from Alternative 1. It would be extremely unlikely that there would be effects to wolverine from winter motorized travel in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Alternative 4 proposes to retain all (475 acres) of the wolverine denning habitat open to winter motorized travel in the Boulder River landscape. This leaves approximately none of the wolverine denning habitat in a non-motorized classification in this landscape. Disturbance effects to denning wolverines from this Alternative are identical to Alternative 1; extremely unlikely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Boulder River landscape, Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 46% (219 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 54% (255 acres). In this Alternative, a little over half of the denning habitat would be closed to winter motorized travel. However, as there is no winter motorized use in the wolverine denning habitat in this landscape the effects won't change from Alternative 1. It would be extremely unlikely that there would be effects to wolverine from winter motorized travel in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Boulder River landscape, Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 50% (237 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 50% (237 acres). In this Alternative, a half of the denning habitat would be closed to winter motorized travel. However, as there is no winter motorized use in the wolverine denning habitat in this landscape the effects won't change from Alternative 1. It would be extremely unlikely that there would be effects to wolverine from winter motorized travel in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Clark Fork Flint Landscape

Alternative 1 proposes to keep approximately 12,970 acres or 90% of wolverine denning habitat open to winter motorized travel in the Clark Fork Flint landscape. This leaves approximately 1,395 acres or 10% of wolverine denning habitat in a non-motorized classification in this

landscape. This alternative, along with Alternative 4, provide the least protection for wolverine denning habitat. There are many sections of denning habitat in this landscape that are open to winter motorized use. A little over half of those acres open received intermittent use while the rest receive little to none. There is a chance that if a wolverine is in any of these areas at the same time as winter motorized users, they could be disturbed. This is more likely in the Fred Burr Pass Area or in the southern part of the landscape southwest of Anaconda. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Clark Fork Flint landscape, Alternative 2 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 76% (10,887 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 24% (3,478 acres). There are approximately 2,000 additional acres closed to winter motorized travel. Although there are additional protections in place for denning habitat throughout the landscape, there is still a fair amount open to intermittent winter motorized travel where individual wolverines could be disturbed by winter motorized travel. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Clark Fork Flint landscape, Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 37% (5,287 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 63% (9,078 acres). This alternative is the best choice for wolverines. It provides almost 7,600 more acres closed to winter motorized travel. Two large areas of modeled wolverine denning habitat would be protected from motorized use in the Racetrack Peak area and southwest of Anaconda. The Fred Burr Pass area would not receive any additional protection. This area only receives intermittent use, but it is possible that if a wolverine was in this area at the same time the motorized users, it could be displaced. The chance of a wolverine being displaced by winter motorized travel in the Clark Fork Flint landscape has been drastically reduced. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Clark Fork Flint landscape Alternative 4 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 90% (12,970 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 10% (1,395 acres). Effects to wolverine denning habitat from this Alternative are identical to Alternative 1. There is a chance of disturbance to individual wolverines from intermittent winter motorized travel. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Clark Fork Flint landscape, Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 63% (9,080 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 37% (5,285 acres). There are approximately 3,800 additional acres closed to winter motorized travel. Although there are additional protections in place for denning habitat throughout the landscape, there is still a fair amount open to intermittent winter motorized travel where individual wolverines

could be disturbed by winter motorized travel. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Clark Fork Flint landscape, Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 58% (8,317 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 42% (6,048 acres). This alternative is the second best choice for wolverines. It provides almost 4,600 more acres closed to winter motorized travel. Several areas of modeled wolverine denning habitat would be protected from motorized use in the Pikes Peak and Stucky Ridge areas and southwest of Anaconda. Neither the Fred Burr Pass nor the Racetrack Peak areas would receive any additional protection. These areas receive intermittent and little to no use, but it is possible that if a wolverine was in this area at the same time the motorized users, it could be displaced. The chance of a wolverine being displaced by winter motorized travel in the Clark Fork Flint landscape has been reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Gravelly Landscape

Alternative 1 proposes to keep approximately 11,669 acres or 75% of wolverine denning habitat open to winter motorized travel in the Gravelly landscape. This leaves approximately 3,813 acres or 25% of wolverine denning habitat in a non-motorized classification in this landscape. This alternative, along with Alternative 4, provide the least protection for wolverine modeled denning habitat. Although much of the Snowcrest Mountains are already closed to winter motorized travel, some still remains open. The areas left open however receive little to no motorized use during the winter so potential effects to wolverines are unlikely. There are a few other large sections in the center of the landscape that also remain open for winter motorized travel. Lion Mountain has modeled denning habitat and also receives regular use by over the snow vehicles. Wolverines could be disturbed/displaced if they were in the same area at the same time.

Cave Mountain is another area with a fair amount of wolverine denning habitat but it receives little to no use therefore the chance of disturbing wolverines is unlikely. The other area with a large amount of modeled wolverine denning habitat is in the Mount Jefferson area. Currently there are no protections and this is a high use area so there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Gravelly landscape, Alternative 2 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 60% (9,296 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 40% (6,186 acres). This alternative improves protection for wolverine modeled denning habitat by closing an additional 2,300 acres. The main differences are additional protections in the Snowcrest Mountains and the Mount Jefferson area would be completely closed. The effects from winter motorized travel

would be reduced in the Snowcrest Mountains and eliminated in the Mount Jefferson Area. There are still a few other large sections in the center of the landscape that also remain open for winter motorized travel. Lion Mountain has modeled denning habitat and also receives regular use by over the snow vehicles. Wolverines could be disturbed/displaced if they were in the same area at the same time. Cave Mountain is another area with a fair amount of wolverine denning habitat but it receives little to no use therefore the chance of disturbing wolverines is unlikely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Gravelly landscape, Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 5% (730 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 95% (14,752 acres). This is the best alternative for wolverine in that it closes almost all modeled denning habitat to winter motorized travel. It improves protection for wolverine modeled denning habitat by closing approximately 11,000 more acres. The main difference is that the Snowcrest Mountains and the Mount Jefferson area would be completely closed. The effects from winter motorized travel would be eliminated in the Snowcrest Mountains, Lion Mountain, Cave Mountain, and in the Mount Jefferson Area. There are still small sections of modeled denning habitat that remain open for winter motorized travel. As these areas are on regularly utilized routes, wolverines could be disturbed/displaced if they were in the same area at the same time. Although there is a chance of disturbance in this landscape, it has been drastically reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Gravelly landscape, Alternative 4 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 75% (11,669 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 25% (3,813 acres). This alternative, along with Alternative 1, provide the least protection for wolverine modeled denning habitat. The effects to wolverine denning habitat would be identical to Alternative 1. There are several areas in this landscape that are utilized regularly by over the snow vehicles that are also in modeled wolverine denning habitat, such as Lion Mountain, Cave Mountain, and Mount Jefferson, where there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Gravelly landscape, Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 21% (3,205 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 79% (12,276 acres). This is the second best alternative for wolverines. This alternative improves protection for wolverine modeled denning habitat by closing an additional 8,400 acres. The main differences are that the Snowcrest Mountains and the Mount Jefferson area would be completely closed. The effects from winter motorized travel would be eliminated in the Snowcrest Mountains and in the Mount Jefferson Area. Cave Mountain is another area with a fair amount of wolverine denning habitat where there are increased protections. The Lion Mountain area which has modeled denning habitat and also receives regular use by over the snow vehicles is one of the few places

left open to winter motorized travel in this Alternative. Wolverines could be disturbed/displaced if they were in the same area at the same time. Although there is still a chance for wolverines to be displaced/disturbed, the risks have been greatly reduced. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Gravelly landscape, Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 27% (4,218 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 73% (11,264 acres). This alternative improves protection for wolverine modeled denning habitat by closing an additional 7,400 acres. The main differences are that the Snowcrest Mountains and the Cave Mountain area would be completely closed. The effects from winter motorized travel would be eliminated in these two areas. In this Alternative, only the wilderness sturdy area of the Mount Jefferson area would be closed to winter motorized travel. This leaves a high use area open on the south side of Mount Jefferson. The Lion Mountain area which has modeled denning habitat and also receives regular use by over the snow vehicles, is the other place left open to winter motorized travel in this Alternative. Wolverines could be disturbed/displaced if they were in either of these area at the same time as the over the snow vehicles. Although there is still a chance for wolverines to be displaced/disturbed, in both the Lion Mountain and Mount Jefferson areas, modeled wolverine denning habitat has been greatly reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Jefferson River Landscape

Alternative 1 proposes to keep all (3,757 acres) the wolverine denning habitat open to winter motorized travel in the Jefferson River landscape. This leaves approximately none of the wolverine denning habitat in a non-motorized classification in this landscape. Although this Alternative, along with Alternative 4, provides the least protection for wolverine, there is little to no use by winter motorized travelers in the wolverine denning habitat in this landscape. Disturbance/displacement of wolverines from winter motorized travel in this landscape is unlikely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Jefferson River landscape Alternative 2 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 8% (295 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 92% (3,462 acres). In this Alternative, there are approximately 3,500 additional acres closed to winter motorized travel. A good portion of the denning habitat on Red and Table Mountains would be closed under this Alternative. Small pockets of denning habitat scattered throughout the landscape remain open, although they receive little to no use. It is unlikely that a wolverine would be disturbed/displaced by winter motorized travel in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Jefferson River landscape Alternative 3 proposes to decrease areas open to winter

motorized travel in wolverine denning habitat to 2% (83 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 98% (3,673 acres). This is the second best alternative for wolverine in that it closes almost all modeled denning habitat to winter motorized travel. It improves protection for wolverine modeled denning habitat by closing approximately 3,670 more acres. Almost all of the modeled denning habitat on Red and Table Mountains would be closed to winter motorized travel. There would still be small sections of modeled denning habitat that remain open for winter motorized travel scattered throughout the landscape. As these areas receive little to no use, it is unlikely that wolverines would be disturbed/displaced if they were in the same area at the same time. Although there is a slight chance of disturbance in this landscape, it has been drastically reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Alternative 4 proposes to keep all (3,757 acres) the wolverine denning habitat open to winter motorized travel in the Jefferson River landscape. This leaves approximately none of the wolverine denning habitat in a non-motorized classification in this landscape. Although this Alternative, along with Alternative 1, provides the least protection for wolverine, there is little to no use by winter motorized travelers in the wolverine denning habitat in this landscape. Disturbance/displacement of wolverines from winter motorized travel in this landscape is unlikely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Jefferson River landscape Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 6% (237 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 94% (3,520 acres). This alternative improves protection for wolverine modeled denning habitat by closing approximately 3,500 more acres. Much of the modeled denning habitat on Red and Table Mountains would be closed to winter motorized travel. There would still be small sections of modeled denning habitat that remain open for winter motorized travel scattered throughout the landscape. As these areas receive little to no use, it is unlikely that wolverines would be disturbed/displaced if they were in the same area at the same time. Although there is a slight chance of disturbance in this landscape, it has been drastically reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Jefferson River landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 1% (34 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 99% (3,722 acres). This alternative is the best choice for wolverines. It provides over 3,700 more acres closed to winter motorized travel. The largest area of wolverine denning habitat on Red and Table Mountains would be completely protected from motorized use. There are a few small patches of wolverine denning habitat that are not protected in this Alternative, but they receive little to no use from over the snow vehicles. There is almost no chance for a wolverine to be displaced/disturbed in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Lima Tendoy Landscape

Alternative 1 proposes to keep approximately 15,976 acres or 62% of wolverine denning habitat open to winter motorized travel in the Lima Tendoy landscape. This leaves approximately 9,821 acres or 38% of wolverine denning habitat in a non-motorized classification in this landscape. Although 62% of this landscape is open to winter motorized travel, there is seldom to no use in this area. It is extremely unlikely that a wolverine would be disturbed/displaced by winter motorized travel in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Lima Tendoy landscape Alternative 2 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 62% (15,976 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 38% (9,821 acres). Although 62% of this landscape is open to winter motorized travel, there is seldom to no use in this area. It is extremely unlikely that a wolverine would be disturbed/displaced by winter motorized travel in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Lima Tendoy landscape Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 31% (7,893 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 69% (17,904 acres). Even though this Alternative provides the best protection of modeled wolverine habitat from winter motorized travel, as mentioned in Alternative 1, there is seldom to no use in this area. It is extremely unlikely that a wolverine would be disturbed/displaced by winter motorized travel in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Lima Tendoy landscape Alternative 4 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 62% (15,976 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 38% (9,821 acres). Although 62% of this landscape is open to winter motorized travel, there is seldom to no use in this area. It is extremely unlikely that a wolverine would be disturbed/displaced by winter motorized travel in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Lima Tendoy landscape Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 46% (11,954 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 54% (13,844 acres). Even though this Alternative provides increased protection of modeled wolverine habitat from winter motorized travel, as mentioned in Alternative 1, there is seldom to no use in this area. It is extremely unlikely that a wolverine would be disturbed/displaced by winter motorized travel in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Lima Tendoy landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 35% (9,067 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 65% (16,731 acres). Even though this Alternative provides the second best protection of modeled wolverine habitat from winter motorized travel, as mentioned in Alternative 1, there is seldom to no use in this area. It is extremely unlikely that a wolverine would be disturbed/displaced by winter motorized travel in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Madison Landscape

Alternative 1 proposes to keep approximately 1,242 acres or 4% of wolverine denning habitat open to winter motorized travel in the Madison landscape. This leaves approximately 27,435 acres or 96% of wolverine denning habitat in a non-motorized classification in this landscape. Most of this landscape is within the Lee Metcalf Wilderness which is already closed to winter motorized travel. Although there are areas outside of wilderness where winter motorized travel is allowed, it rarely occurs if ever. Is it extremely unlikely that a wolverine would be disturbed/displaced by over the snow vehicles, in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Madison landscape Alternative 2 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 2% (585 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 98% (28,092 acres). Most of this landscape is within the Lee Metcalf Wilderness which is already closed to winter motorized travel. Although areas outside of wilderness where winter motorized travel is allowed has been reduced in this Alternative, it rarely occurs if ever. Is it extremely unlikely that a wolverine would be disturbed/displaced by over the snow vehicles, in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Madison landscape Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 0.8% (219 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 99% (28,458 acres). Most of this landscape is within the Lee Metcalf Wilderness which is already closed to winter motorized travel. Almost all modeled wolverine denning habitat is closed in this Alternative. There would be no effects to wolverines or wolverine denning habitat in this Alternative based that in the areas left open there is almost no use, if any at all. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Madison landscape Alternative 4 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 4% (1,242 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 96% (27,435 acres). Most of this landscape is within the Lee Metcalf Wilderness which is already closed to winter motorized

travel. Although there are areas outside of wilderness where winter motorized travel is allowed, it rarely occurs if ever. Is it extremely unlikely that a wolverine would be disturbed/displaced by over the snow vehicles, in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Madison landscape Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 0.8% (219 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 99% (28,458 acres). Most of this landscape is within the Lee Metcalf Wilderness which is already closed to winter motorized travel. Almost all modeled wolverine denning habitat is closed in this Alternative. There would be no effects to wolverines or wolverine denning habitat in this Alternative based that in the areas left open there is almost no use, if any at all. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Madison landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 2% (469 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 98% (28,209 acres). Most of this landscape is within the Lee Metcalf Wilderness which is already closed to winter motorized travel. Almost all modeled wolverine denning habitat is closed in this Alternative. There would be no effects to wolverines or wolverine denning habitat in this Alternative based that in the areas left open there is almost no use, if any at all. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Pioneer Landscape

Alternative 1 proposes to keep approximately 29,647 acres or 98% of wolverine denning habitat open to winter motorized travel in the Pioneer landscape. This leaves approximately 760 acres or 2% of wolverine denning habitat in a non-motorized classification in this landscape. This alternative, along with Alternative 4, provide the least protection for wolverine modeled denning habitat. The West Pioneers area is used regularly for winter motorized travel. Denning habitat on this side is scattered across the landscape. As there is regular use by over the snow vehicles and modeled wolverine denning habitat in the West Pioneers, there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area. The East Pioneers holds the most modeled denning habitat in this landscape. The south half of the East Pioneers received little to no use so the chances that a wolverine would be disturbed/displaced are unlikely. The north half of the east pioneers is utilized on an intermittent basis by people on over the snow vehicles. Although there is less of a chance, it is still possible that wolverines could be disturbed/displaced by winter motorized travel in this area. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Pioneer landscape Alternative 2 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 48% (14,600 acres). Conversely, this increases the acres

of wolverine denning habitat in a non-motorized classification to 52% (15,807 acres). In this Alternative, there are approximately 15,000 additional acres closed to winter motorized travel. The West Pioneers area is used regularly for winter motorized travel. Denning habitat on this side is scattered across the landscape. As there is regular use by over the snow vehicles and modeled wolverine denning habitat in the West Pioneers, there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area. The East Pioneers holds the most modeled denning habitat in this landscape. The south half of the East Pioneers received little to no use so the chances that a wolverine would be disturbed/displaced are unlikely. The north half of the east pioneers is utilized on an intermittent basis by people on over the snow vehicles. Although there is less of a chance, it is still possible that wolverines could be disturbed/displaced by winter motorized travel in this area.

This Alternative closes a good portion of the wolverine denning habitat in the southern half of the East Pioneers and into the northern area as well. Although there could still be disturbance/displacement effects to wolverines, it is greatly reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Pioneer Landscape, Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 39% (11,780 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 61% (18,627 acres). This is the best alternative for wolverines and wolverine denning habitat. In this Alternative, there are approximately 17,900 additional acres closed to winter motorized travel. The West Pioneers area is used regularly for winter motorized travel. Denning habitat on this side is scattered across the landscape. As there is regular use by over the snow vehicles and modeled wolverine denning habitat in the West Pioneers, there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area. The East Pioneers holds the most modeled denning habitat in this landscape. This alternative closes a major portion of the wolverine denning habitat in the East Pioneers. Some areas of intermittent use for winter motorized travel remains open in the East Pioneers. There is less of a chance, but it is still possible that wolverines could be disturbed/displaced by winter motorized travel in this area. Although there could still be disturbance/displacement effects to wolverines, it is greatly reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Pioneer landscape Alternative 4 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 98% (29,647 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 96% (760 acres). This alternative, along with Alternative 4, provide the least protection for wolverine modeled denning habitat. The West Pioneers area is used regularly for winter motorized travel. Denning habitat on this side is scattered across the landscape. As there is regular use by over the snow vehicles and modeled wolverine denning habitat in the West Pioneers, there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area. The East Pioneers holds the most modeled denning habitat in this landscape. The south half of the East Pioneers received little to no use so the chances that a wolverine would be disturbed/displaced are unlikely. The north half of the East Pioneers is utilized on an intermittent basis by people on

over the snow vehicles. Although there is less of a chance, it is still possible that wolverines could be disturbed/displaced by winter motorized travel in this area. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Pioneer landscape Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 40% (12,076 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 60% (18,331 acres). This, along with Alternative 6 Modified, is the second best alternative for wolverines and wolverine denning habitat. In this Alternative, there are approximately 17,600 additional acres closed to winter motorized travel. The West Pioneers area is used regularly for winter motorized travel. Denning habitat on this side is scattered across the landscape. As there is regular use by over the snow vehicles and modeled wolverine denning habitat in the West Pioneers, there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area. The East Pioneers holds the most modeled denning habitat in this landscape. This alternative closes a major portion of the wolverine denning habitat in the East Pioneers. Some areas of intermittent use for winter motorized travel remains open in the East Pioneers. There is less of a chance, but it is still possible that wolverines could be disturbed/displaced by winter motorized travel in this area. Although there could still be disturbance/displacement effects to wolverines, it is greatly reduced in this Alternative. Even though there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Pioneer landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 40% (12,087 acres). Conversely, this increases the acres of wolverine denning habitat in a non-motorized classification to 60% (18,320 acres). This along with Alternative 5 is the second best alternative for wolverines and wolverine denning habitat. In this Alternative, there are approximately 17,600 additional acres closed to winter motorized travel. The West Pioneers area is used regularly for winter motorized travel. Denning habitat on this side is scattered across the landscape. As there is regular use by over the snow vehicles and modeled wolverine denning habitat in the West Pioneers, there is a chance that wolverines could be disturbed/displaced by winter motorized travel in this area.

The East Pioneers hold the most modeled denning habitat in this landscape. This alternative closes a major portion of the wolverine denning habitat in the East Pioneers. Some areas of intermittent use for winter motorized travel remains open in the East Pioneers. There is less of a chance, but it is still possible that wolverines could be disturbed/displaced by winter motorized travel in this area. Although there could still be disturbance/displacement effects to wolverines, it is greatly reduced in this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Tobacco Root Landscape

Alternative 1 proposes to keep approximately 17,473 acres or 84% of wolverine denning habitat open to winter motorized travel in the Tobacco Root landscape. This leaves approximately

3,298 acres or 16% of wolverine denning habitat in a non-motorized classification in this landscape. Although a high percentage of wolverine denning habitat is open to winter motorized travel, it is rarely used, if ever. There are a few high use routes that stop at denning habitat. Most of the use, which is intermittent, is in the southern half of the Tobacco Roots, not in denning habitat. Although that is the case, with advances in over the snow vehicles it is possible that at some point, wolverines may be disturbed/displaced by use in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Tobacco Root landscape Alternative 2 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 84% (17,473 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 16% (3,298 acres). Although a high percentage of wolverine denning habitat is open to winter motorized travel, it is rarely used, if ever. There are a few high use routes that stop at denning habitat. Most of the use, which is intermittent, is in the southern half of the Tobacco Root Landscape, not in denning habitat. Although that is the case, with advances in over the snow vehicles it is possible that at some point, wolverines may be disturbed/displaced by use in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Tobacco Root landscape Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 23% (4,795 acres). Conversely, this increases acres of wolverine denning habitat in a non-motorized classification at 77% (15,977 acres). This is the best alternative for wolverines in this landscape. Approximately 12,700 acres more are closed to winter motorized travel in this Alternative. At this time, the modeled denning habitat that is left open gets little no use by over the snow vehicles. Most of the use surrounding the denning habitat gets intermittent use. Although that is the case, with advances in over the snow vehicles it is possible that at some point, wolverines may be disturbed/displaced by use in this landscape, but the chances of this happening are drastically reduced. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Tobacco Root landscape Alternative 4 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 84% (17,473 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 16% (3,298 acres). Although a high percentage of wolverine denning habitat is open to winter motorized travel, it is rarely used, if ever. There are a few high use routes that stop at denning habitat. Most of the use, which is intermittent, is in the southern half of the Tobacco Roots, not in denning habitat. Although that is the case, with advances in over the snow vehicles it is possible that at some point, wolverines may be disturbed/displaced by use in this landscape. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Tobacco Root landscape Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 34% (6,992 acres). Conversely, this increases acres of wolverine denning habitat in a non-motorized classification at 66% (13,779 acres). This

is the second best alternative for wolverines in this landscape. Approximately 10,500 acres more are closed to winter motorized travel in this Alternative. At this time, the modeled denning habitat that is left open gets little no use by over the snow vehicles. Most of the use surrounding the denning habitat is intermittent. Although that is the case, with advances in over the snow vehicles it is possible that at some point, wolverines may be disturbed/displaced by use in this landscape, but the chances of this happening are drastically reduced. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Tobacco Root landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 37% (7,672 acres). Conversely, this increases acres of wolverine denning habitat in a non-motorized classification at 63% (13,099 acres). Approximately 9,800 acres more are closed to winter motorized travel in this Alternative. At this time, the modeled denning habitat that is left open gets little no use by over the snow vehicles. Most of the use surrounding the denning habitat is intermittent. Although that is the case, with advances in over the snow vehicles it is possible that at some point, wolverines may be disturbed/displaced by use in this landscape, but the chances of this happening are drastically reduced. Even though there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Upper Clark Fork Landscape

Alternative 1 proposes to keep all (111 acres) the wolverine denning habitat open to winter motorized travel in the Upper Clark Fork landscape. This leaves none of the wolverine denning habitat in a non-motorized classification in this landscape. The small amount of wolverine denning habitat in this landscape is mainly adjacent to the Mount Haggin State Wildlife Management Area (WMA) on the western edge and it receives intermittent winter motorized use. There is a change for disturbance to wolverines from this use. There are only 9 other acres of modeled denning habitat on the east side of the landscape, on the continental divide approximately 1.5 miles east of Butte which receives no winter motorized use. There would be no anticipated impacts to this piece of wolverine denning habitat from this Alternative. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Alternative 2 proposes to retain all (111 acres) of the wolverine denning habitat open to winter motorized travel in the Upper Clark Fork landscape. This leaves approximately none of the wolverine denning habitat in a non-motorized classification in this landscape. Effects to wolverines from winter motorized travel would be exactly the same as for Alternative 1. There would only be a slight chance of disturbance to wolverines on the small modeled denning habitat adjacent to Mount Haggin WMA. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Alternative 3 proposes to retain all (111 acres) of the wolverine denning habitat open to winter motorized travel in the Upper Clark Fork landscape. This leaves approximately none of the

wolverine denning habitat in a non-motorized classification in this landscape. Effects to wolverines from winter motorized travel would be exactly the same as for Alternative 1. There would only be a slight chance of disturbance to wolverines on the small modeled denning habitat adjacent to Mount Haggin WMA. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Alternative 4 proposes to retain all (111 acres) of the wolverine denning habitat open to winter motorized travel in the Upper Clark Fork landscape. This leaves approximately none of the wolverine denning habitat in a non-motorized classification in this landscape. Effects to wolverines from winter motorized travel would be exactly the same as for Alternative 1. There would only be a slight chance of disturbance to wolverines on the small modeled denning habitat adjacent to Mount Haggin WMA. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Upper Clark Fork landscape Alternative 5 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 92% (102 acres). Conversely, this increases acres of wolverine denning habitat in a non-motorized classification at 8% (9 acres). Although the nine acres on the continental divide near Butte would be closed, effects to wolverines from winter motorized travel would be exactly the same as for Alternative 1. There would only be a slight chance of disturbance to wolverines on the small modeled denning habitat adjacent to Mount Haggin WMA. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Upper Clark Fork landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 92% (102 acres). Conversely, this increases acres of wolverine denning habitat in a non-motorized classification at 8% (9 acres). Although the nine acres on the continental divide near Butte would be closed, effects to wolverines from winter motorized travel would be exactly the same as for Alternative 1. There would only be a slight chance of disturbance to wolverines on the small modeled denning habitat adjacent to Mount Haggin WMA. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Upper Rock Creek Landscape

Alternative 1 proposes to keep approximately 1,902 acres or 21% of wolverine denning habitat open to winter motorized travel in the Upper Clark Fork landscape. This leaves approximately 7,224 acres or 79% of wolverine denning habitat in a non-motorized classification in this landscape. Most of the modeled wolverine denning habitat in this landscape is associated with the Anaconda-Pintler Wilderness and is therefore protected. The two larger areas that are not protected from winter motorized travel are around Mount Emerine and Rooster Comb, adjacent to the Bitterroot National Forest. As the Mount Emerine area receives regular winter motorized travel, there is a chance that if wolverines are in the area at the same time, they could be displaced/disturbed. The Rooster Comb area receives intermittent use so although

disturbance could happen, it is less likely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Upper Rock Creek landscape Alternative 2 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 21% (1,902 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 79% (7,224 acres). The effects to modeled wolverine denning habitat under this Alternative are identical to Alternative 1. As the Mount Emerine area receives regular winter motorized travel, there is a chance that if wolverines are in the area at the same time, they could be displaced/disturbed. The Rooster Comb area receives intermittent use so although disturbance could happen, it is less likely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Upper Rock Creek landscape Alternative 3 proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 17% (1,532 acres). Conversely, this increases acres of wolverine denning habitat in a non-motorized classification at 83% (7,593 acres). This is the second best alternative for wolverines in this landscape. It provides approximately 370 additional acres of protection in the modeled denning habitat along the edge of the Anaconda-Pintler Wilderness. However, the potential effects to modeled wolverine denning habitat in the Mount Emerine and the Rooster Comb area are the same as Alternative 1 as they are still open to winter motorized travel. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Upper Rock Creek landscape Alternative 4 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 21% (1,902 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 79% (7,224 acres). The effects to modeled wolverine denning habitat under this Alternative are identical to Alternative 1. As the Mount Emerine area receives regular winter motorized travel, there is a chance that if wolverines are in the area at the same time, they could be displaced/disturbed. The Rooster Comb area receives intermittent use so although disturbance could happen, it is less likely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Upper Rock Creek landscape Alternative 5 proposes to retain the existing areas open to winter motorized travel in wolverine denning habitat at 21% (1,902 acres). This conversely retains acres of wolverine denning habitat in a non-motorized classification at 79% (7,224 acres). The effects to modeled wolverine denning habitat under this Alternative are identical to Alternative 1. As the Mount Emerine area receives regular winter motorized travel, there is a chance that if wolverines are in the area at the same time, they could be displaced/disturbed. The Rooster Comb area receives intermittent use so although disturbance could happen, it is less likely. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

In the Upper Rock Creek landscape Alternative 6 Modified proposes to decrease areas open to winter motorized travel in wolverine denning habitat to 12% (1,079 acres). Conversely, this increases acres of wolverine denning habitat in a non-motorized classification at 88% (8,047

acres). This is the best alternative for wolverines as it offers the most protection, approximately 800 more acres of modeled denning habitat. Not only are there additional protections along the edge of the Anaconda-Pintler wilderness, part of the Rooster Comb area that falls within the wilderness study area would also be closed. That said there is a chance that if wolverines are in the area at the same time, they could be displaced/disturbed as the Mount Emerine area would still be open to motorized travel. Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.

Summary Statement

In all alternatives, winter motorized travel would be allowed within some of the wolverine denning habitat across the Forest and may cause disturbance effects to individual wolverines. However the proposed rule recognized that high recreational use may coincide with wolverine habitat in some areas, and that there may be some localized small-scale effects to wolverines in these areas. They continue to say that the best scientific information available does not substantiate recreational activities as a threat to wolverines (USFWS, 2013d). **Although there could be small localized effects, the proposed winter motorized travel on the BDNF would not be a threat to the wolverine population.**

Motor Vehicle Use and Existing or Proposed Recreational Uses of National Forest System Lands or Neighboring Federal Lands

Effects Common to All Alternatives and All Landscapes

Visitation is expected to grow by 10% and would likely create an increased use in existing facilities, such as Georgetown Lake, Discovery Basin, Maverick Mountain and sites along Pioneer Mountains Scenic Byway, and highway corridors.

The two developed ski areas on the BDNF, Discovery Basin and Maverick Mountain, are closed to OSV use in all alternatives, and thus there are no conflicts in any alternative. Existing cross-country ski areas and trails would be retained under all alternatives. Adjacent areas offering winter recreation opportunities include Big Hole Battlefield National Park, Mount Haggin State Wildlife Management Area, Mount Haggin Cross-Country Ski Trails, snowmobile routes with parking, Fleecer Wildlife Management Area, BLM lands and Lost Trail Winter Sports (Ski) Area. All alternatives are consistent with adjacent management. OSV use in any alternative would not substantially interfere with the nature and purposes of the Continental Divide National Scenic Trail (Forest Service Manual 2353.42)

The 2009 FEIS provides information on motorized and non-motorized recreation opportunities, as well as winter recreation settings and opportunities (FEIS pp 359-361 and 364-366). For each Landscape, the alternatives result in a mix of recreation settings to provide quiet, non-motorized settings, remote and challenging motorized settings and more developed settings.

Balance of Recreation Settings and Opportunities

Acres allocated to winter non-motorized or to winter motorized settings is used in showing the

balance of settings and opportunities provided. Alternative 1 (no action) provides the most acres for motorized uses and activities. Alternative 4 makes only slight alterations to existing settings, with the lowest reduction in motorized settings. In response to those concerned about protecting wilderness values and other qualities provided by allocations for quiet (non-motorized) recreation settings, Alternative 3 allocates the most acres for non-motorized use. Remaining action alternatives (2, 5, and 6) changes would result in a reduction of motorized recreation opportunities and an increase in non-motorized settings and recommended Wilderness.

Under all alternatives, a range of motorized and non-motorized recreation settings and opportunities will be provided. Differences between alternatives are largely in how much of the forest is allocated for the quiet, non-motorized settings and how much of the forest is allocated for the motorized uses and activities. The key issue for winter recreation is where and how many acres are allocated and managed for winter motorized and non-motorized opportunities. Table 24 displays acres allocated to motorized and non-motorized winter recreation on the entire BDNF when the Forest Plan was approved in 2009. Table 1 through Table 11 display acres allocated to winter motorized and non-motorized recreation by landscape.

Table 27: Summary of Winter Recreation Allocations by Alternative

Alternative	Motorized (acres)	Non-Motorized (acres)
1	2,863,412	526,537
2	2,643,949	746,000
3	1,849,420	1,540,529
4	2,865,644	524,304
5	2,129,757	1,260,191
6	2,053,396	1,336,553

All action alternatives also allocate additional quiet, non-motorized opportunities. This would result in a reduction to motorized settings in the winter. Winter visits to the two portions of designated Wilderness may increase, but current winter use in Wilderness is low and the increase is not expected to affect opportunities for solitude. Effects to the more developed settings (roaded natural and rural settings) would not be significant.

Motorized Recreation Settings and Opportunities

The opportunities available for recreation with over-snow vehicles are shown by the number of acres open to over-snow travel. Both groomed routes and backcountry use areas are desired by snowmobilers to accommodate varying abilities of riders. The type, amount and location of over-snow vehicle use areas influence recreation opportunities and the quality of the recreation experience.

Alternatives 1 and 4 are the most favorable for providing winter motorized opportunities

because most existing opportunities would remain available. Under Alternative 1 the vast majority of the forest remains available for snowmobile and other winter motorized use. Restrictions to motorized use only occur in designated Wilderness and small portions of winter range. Alternative 4 would result in a small increase to current motorized acres open for winter use. Changes are insignificant and would likely not result in changes to motorized winter use forestwide.

Alternative 2 decreases motorized winter allocations by approximately 220,000 acres. Although these reductions would displace some use, the area proposed for motorized use would be adequate to meet current and anticipated demand for motorized winter opportunities. By closing recommended Wilderness yearlong and Burton Park Alternative 2 could be considered the middle alternative with regard to motorized opportunities because it would result in the closure of some areas and routes, but not as many as the Alternative 3, 5, or 6 modified.

Alternative 3 would result in the largest reduction in winter motorized uses largely due the amount of recommended wilderness proposed and the closure of these areas to motorized activities. Additional restrictions would result in more concentrated use in areas open to motorized use but would likely accommodate existing and anticipated demands.

Alternative 5 would decrease existing motorized winter areas. Recommended wildernesses would be closed to motorized travel. Although these reductions would displace some use, over 2 million acres would be adequate to meet current and anticipated demand for motorized winter opportunities. Alternative 6 Modified would also provide over 2 million acres allocated for motorized use, which would meet both existing and anticipated demands.

Non-motorized Recreation Settings and Opportunities

Opportunities for non-motorized recreation in winter (such as Nordic and backcountry skiing) are shown by the number of acres closed to motorized over-snow travel. Although non-motorized recreation does occur in areas of motorized recreation, numerous studies indicate this is less than ideal for several reasons. Non-motorized recreationists consistently refer to the importance of solitude for the enjoyment of their activities, as well as the absence of noise and fumes generated from motorized vehicles. For backcountry skiers, the primary reason both uses don't mix is the availability of untracked powder. Since snow machines have fast access to untracked powder, areas become overrun with tracks by early morning; backcountry skiers cannot access and ski the areas before the snow has been tracked.

Alternatives 1 and 4 would continue to provide non-motorized settings where they exist. In Alternative 1 no additional areas for non-motorized use are allocated. Alternative 4 would result in a small reduction to current non-motorized acres for winter use.

Alternative 2 increases non-motorized winter allocations by approximately 220,000 acres. Alternative 2 would increase non-motorized areas by closing the areas recommended for Wilderness to motorized uses yearlong and by restricting motorized winter activities in some specific areas not closed in Alternative 1.

Alternative 3 would provide the largest acreage of non-motorized allocations in winter. This is largely due the amount of recommended wilderness proposed and the closure of these areas to

motorized activities.

Alternative 5 would more than double the current amount of acres allocated for non-motorized winter uses. Recommended wildernesses would be closed to motorized travel and provide additional opportunities for quiet winter recreation. Alternative 6 Modified would result in slightly more acres allocated for quiet, non-motorized winter use than alternative 5, but less than that proposed in alternative 3. Alternative 6 Modified provides non-motorized allocations near conveniently located staging areas that provide quick and easy vehicle access to winter day use. This alternative also accommodates opportunities for the hardest winter recreationists seeking longer trips and non-motorized winter camping. Alternatives 5 and 6 have fewer acres of non-motorized allocation than Alternative 3 but more than Alternatives 1 and 2. Alternatives 5 and 6 provide non-motorized areas where undeveloped qualities are present and are in addition to Wilderness and recommended wilderness.

Effects on Winter Recreation from Wilderness Recommendations

Areas being proposed as recommended wilderness would increase the protection of backcountry recreation opportunities with solitude, challenge and a natural appearing setting. In alternatives 1 and 4, current opportunities would not change. Under all action alternatives (except 4), non-motorized opportunities would increase and motorized opportunities would decrease. Alternative 3 would result in the most significant shift from motorized to non-motorized settings. Alternative 2, 5 and 6 wilderness recommendations would also result in increases to non-motorized opportunities.

Use Conflicts

Both motorized and non-motorized winter recreationists use many of the same access points. While the majority of both user groups are generally compatible, there are some conflicts of uses. Non-motorized users utilize a much smaller area and travel a shorter distance from their access points, whereas motorized users can travel more than 50 miles per visit. Motorized users may feel that non-motorized users have the entire Forest to recreate on, while they are regulated by area. Non-motorized users may feel that there are fewer areas accessible to them, and that the effects of exhaust smells, noise, loss of solitude, and safety concerns impact their experience. Both viewpoints can lead to use conflicts.

Potential conflict between recreation uses can be assessed by considering recreation demand and the balance of recreation settings and opportunities. The 2009 FEIS completed demand calculations using the process outlined in the ROS Users Guide and concluded that forest recreation settings currently meet demands for winter uses (FEIS pg. 342). This conclusion is further supported by comments from those interviewed in the three rounds of NVUM surveys (2001, 2005, and 2010); nearly all visitors indicated they either did not sense crowding or "hardly anyone was there". No conflicts were noted during the extended interviews (NVUM 2005; NVUM 2010). This would not change with each alternative.

There are differences between alternatives from changing the amount of areas open to use (Figures 3 thru 7 and Table 1 through Table 11) in terms of the potential for conflict. All alternatives provide, to a widely varying degree, opportunities for non-motorized over snow

recreation away from motorized over snow settings. All recognize the importance of existing snowmobile and cross-country ski groomed routes. None of the alternatives add to or subtract from the current groomed mileage of snowmobile or cross country ski trails, however acres of motorized and non-motorized over snow settings vary by alternative. Conflict of use and safety issues between motorized and non-motorized winter recreationists could occur under all alternatives in all landscapes if users choose to recreate in the same area. We are unable to identify any discernible potential conflicts specific to any of the landscapes.

Literature Review Summary Regarding Use Conflicts

Recreation research on the topic of use conflict is broad, with a typical finding that use conflicts are almost always one-way. For example, skiers perceive snowmobilers interfering with their activity, but snowmobilers are generally indifferent to skiers (Jackson and Wong 1982). Conflict has been variously described by social scientists, but generally is attributed to goal interference attributed to others behavior (Jacob and Schreyer 1980).

Conflicts among uses are not about physical confrontations between users in the field; it is more about personal values and perceptions of motorized versus non-motorized uses. Research (Williams 1993) shows that the following factors influence the likelihood of conflict: activity style, resource specificity, mode of experience, and tolerance for lifestyle diversity. Activity style refers to the significance the person attaches to the activity. Conflict is much more likely to occur if the activity is an integral part of the person's lifestyle rather than an occasional activity. Resource specificity refers to the significance a person attaches to using a specific resource. Conflict is more likely to occur when the person has a special relationship with a place and perceives others are disrupting the traditional uses of the place or devaluing its meaning. Mode of experience refers to the way in which the environment is perceived. Conflict is more likely to occur when the person perceives the environment as part of the experience rather than as a backdrop for the experience. The last factor is tolerance for lifestyle. Conflict is more likely to occur when the user has a higher tendency to reject lifestyles that are different than one's own. Examples include a preference for mechanized versus non-mechanized or consumptive versus non-consumptive activities.

Conflict over the use of NFS lands arise from differing opinions about appropriate uses on these lands. It is about forest users and their personal values, and the fact that personal values shape preferences for which activities are appropriate and desirable on public lands. Based on these preferences, some forest visitors may tend to feel that their experience is disrupted by activities that they do not feel are appropriate or desirable. Conversely, other forest visitors may feel offended or defensive when the activities they enjoy are identified as inappropriate or undesirable by others. The conflict related to travel management planning is most often characterized as motorized uses versus non-motorized uses.

Despite monitoring, there's no information indicating use conflicts other than the few areas noted below.

Potential OSV Use Conflicts

Untracked snow is important to both motorized and non-motorized over snow recreationists,

but this snow is much more easily consumed by motorized recreation. A primary sought-after experience in backcountry skiing is skiing untracked snow. Because of the difference between what skiers and other non-motorized users and snowmobilers' desire in their activities, conflicts can increase as OSV use increases. Shared-use philosophy can equate to a single use as the snowmobile overwhelms and displaces non-motorized use. Some of the use conflict between motorized and non-motorized OSV occurs because both groups enjoy recreating in untracked snow. The backcountry or Nordic skier enjoys the feeling of getting away from civilization. Noise and fumes created from snowmobiles disturb a skier's full enjoyment of the sport.

Safety becomes a concern when snowmobiles travel at high speeds in areas where there are skiers. In many conditions, such as deep snow, varied terrain or during snowfall, it is difficult to for a snowmobiler to see a skier until almost directly upon them. Large tracks created in the snow by snowmobiles are difficult for skiers to maneuver around and through.

Multiple use of both non-motorized and motorized use on the same acres eliminates most opportunities for solitude, including peace and quiet. Safety may be compromised when high speed snowmobiles mix with skiers and snow showers on the same route. Although all of the BDNF is available for non-motorized use, conflict of use may occur in all alternatives.

Specific Areas of Conflict

One area of historic conflict is Mount Jefferson (within the Gravelly Landscape). The boundary line between snowmobile use and closure was drawn in the Mount Jefferson area in 2001 to provide greater protection for wolverine habitat and other wilderness values in the Hellroaring Creek area. Winter use in Mount Jefferson has been monitored every year since 2001, documenting motorized intrusions into the closed areas each successive year. Montana Wilderness Association, Greater Yellowstone Coalition, and Winter Wildlands Alliance have provided annual documentation of the snowmobile incursions, and the impacts to primitive recreation, solitude and wilderness suitability. Illegal motorized use impacts the opportunities for solitude and primitive recreation. In addition, back country skiing opportunities associated with the ski hut outfitter are impacted by illegal snowmobile incursions into the closed area and Wilderness Study Area. Illegal intrusions onto the closed BLM Centennial Wilderness Study Area impact the wilderness suitability of the Wilderness Study Area. Mount Jefferson is an example where illegal use has created the use conflict.

The 2009 ROD recognizes that the success of the compromise decision relies heavily on voluntary compliance with recommended wilderness boundaries by over-snow vehicle users. The Monitoring Plan spells out monitoring protocols that address compliance with restrictions on motorized use in high elevation wildlife habitat, including Mt. Jefferson. If monitoring reveals that non-compliance is an issue, the decision to allow snowmobiling on Mt Jefferson will be re-evaluated.

Another area of potential conflict has been Chief Joseph Pass (within the Big Hole Landscape). The cross-country ski trailhead and parking area is located at Chief Joseph Pass and a snowmobile parking lot is located off of Highway 93 near Forest Service road 1260. There has been a long-standing verbal agreement between the Bitterroot Cross-Country Ski Club and the Bitterroot Ridge Runners to keep motorized use off the groomed cross-country ski trails. Chief

Joseph is an example where cooperation has resulted in precluding use conflict.

Indicator/Measure to Use

Percent of the area allocated and managed for winter motorized and non-motorized opportunities

Common to All Landscapes

Alternative 1 provides continuation of existing uses in present locations in all landscapes until they are restricted by further planning. Under all alternatives recreation visitation is expected to increase in winter season. Non-motorized winter areas include the Anaconda-Pintler Wilderness, part of the Mount Haggin Area, Cottonwood and winter non-motorized areas that provide elk winter range.

Snowmobile use is expected to meet or exceed the average increase expected forestwide in areas of accessible terrain and proximity to population areas like Butte and Bozeman. Use is expected to be most noticeable along the Pioneer Mountains Scenic Byway due to the supporting infrastructure and grooming.

Big Hole Landscape

Alternative 2 (FEIS pg. 370) allocates 363,680 acres (68%) to winter motorized and 167,679 acres (32%) to non-motorized in winter. Motorized uses would be prohibited yearlong in the alternative in the Anaconda Pinter Wilderness and its Recommended Additions, and in the West Big Hole Recommended Wilderness. Presently used drainages which would be closed to snowmobiling include Moose, Rock, Rock Island, Little Lake, Miner, Hanby, Berry, Pioneer, and Janke Creeks, totaling about 2/3 of the existing West Big Hole proposed wilderness. The portion not recommended for Wilderness which would be left open for motorized uses in winter include Big Lake, Dark Horse, and Slagamelt drainages in winter. People who use these areas in winter would be displaced to other areas for summer and winter activities. Additionally, the Anderson Mountain area would be non-motorized in winter/

Alternative 3 (FEIS pg. 371) allocates 294,070 acres (55%) to winter motorized and 237,289 acres (45%) to non-motorized in winter. The alternative would close the most area to motorized uses in winter. In winter the designated and recommended wilderness and part of the Pintler Face are non-motorized. The Alternative also provides non-motorized opportunities in the Anderson Mountain area in winter, and the area between Trail Creek and Highway 43, and Pintler face areas to snowmobiles. These closures would displace snowmobilers who use them, with the West Big Hole and Tie Johnson areas important to the largest number of users. Enforcement (manageability) would be difficult due to routes and even play areas crossing boundaries which are not apparent on the ground.

Alternative 4 (FEIS pg. 371) allocates 451,433 acres (85%) to winter motorized and 79,926 acres (15%) to non-motorized in winter. The alternative would have effects similar to Alternative 1.

Alternative 5 (FEIS pg. 372) allocates 352,465 acres (66%) to winter motorized and 178,894 acres (34%) to non-motorized in winter. The alternative would include two large areas of winter non-motorized. Non-motorized areas would be designated in the Anderson Mountain area. The

Anaconda-Pintler Wilderness would have an expanded Hellroaring Addition as well as the Storm Lake Addition, and additional non-motorized areas along the southern edge of the Wilderness. Alternative 5 balances the approach to managing the West Big Hole area.

Under Alternative 6 Modified, about half of the area proposed for wilderness in the existing plan would be closed to snowmobiles and other winter motorized use. In winter snowmobilers would likely find adequate areas for their sport; however, some high-marking and deep snow opportunities would be lost, particularly in the West Big Hole and Anderson Mountain areas. Alternative 6 Modified allocates 353,772 acres (67%) to winter motorized and 177,587 acres (33%) to non-motorized in winter. The alternative includes two large areas of winter non-motorized. These allocations would reduce winter motorized opportunities there by about half. Non-motorized areas would be designated in the Anderson Mountain area. The Anaconda-Pintler Wilderness would have an expanded Hellroaring Addition as well as the Storm Lake Addition, and additional non-motorized areas along the southern edge of the Wilderness. Alternative 6 balances the approach to managing the West Big Hole area.

Boulder River Landscape

Alternative 2 (FEIS pg. 375) allocates 189,132 acres (93%) to winter motorized and 14,159 acres (7%) to non-motorized in winter. The alternative would provide continued non-motorized opportunities and snowmobiles would only be allowed on designated routes in the Cottonwood Management Area. Present winter snowmobile play areas near Cottonwood Lake would no longer be available to visitors who use the area. Non-motorized winter range would be retained.

Effects of the alternatives analyzed in the 2009 FEIS, including an exception to a winter, non-motorized allocation for the Electric Peak Trail, are described in the 2009 FEIS on pages 374-376. Comments on the 2009 FEIS from MFWP and the Montana Wilderness Association specifically expressed support for the exception to the winter motorized travel not allowed restriction in the Electric Peak MA, retaining the snowmobile route. There have not been any reported public safety issues, conflicts, accidents or injuries associated with winter motorized use on Trail #7065.

Alternative 3 (FEIS pg. 375) allocates 143,581 acres (71%) to winter motorized and 59,710 acres (29%) to non-motorized in winter. This alternative allocates a recommended Wilderness, Electric Peak, which includes the Cottonwood area and larger non-motorized areas around it in winter. Additional non-motorized would be allocated in winter throughout the landscape.

Alternative 4 (FEIS pg. 375) allocates 189,132 acres (93%) to winter motorized and 14,159 acres (7%) to non-motorized in winter. The alternative would have effects similar to Alternative 1.

Alternative 5 (FEIS pg. 375) allocates 145,079 acres (71%) to winter motorized and 58,213 acres (29%) to non-motorized in winter. This alternative would have effects the same as Alternative 3 in winter. Though not all of these areas provide opportunities now, motorized recreationists would be displaced under Alternative 6 Modified. About half of the areas now open to snowmobiles would be closed. Opportunities for cross-country skiing and snow-shoeing would improve slightly, though vehicle access to non-motorized areas would limit their use.

Alternative 6 Modified allocates 132,448 acres (65%) to winter motorized and 70,844 acres (35%) to non-motorized in winter. The alternative would have similar effects as Alternative 5.

Clark Fork Flint Landscape

Alternative 2 (FEIS pg. 377) allocates 337,582 acres (91%) to winter motorized and 31,680 acres (9%) to non-motorized in winter. The alternative would be the same as Alternative 1 in winter.

Alternative 3 (FEIS pg. 377) allocates 265,423 acres (72%) to winter motorized and 103,839 acres (28%) to non-motorized in winter. The alternative would increase non-motorized opportunities, mostly by closing existing areas with routes to motorized use in winter. Yearlong restrictions would result from wilderness recommendations in the upper Flint Range and near the Anaconda Pintler Wilderness. Additional snowmobile closures would include the uplands of the Flints, Lost Creek, Harvey Creek, and additions to the Anaconda-Pintler Wilderness. Lost snowmobile opportunities may result in a decline in winter visitation to the Georgetown Lake area and towns around the Flint Range where snowmobiling is popular.

Alternative 4 (FEIS pg. 378) allocates 341,516 acres (92%) to winter motorized and 27,746 acres (8%) to non-motorized in winter. The alternative would have effects similar to Alternative 2, including additional non-motorized areas allocated in winter.

Under Alternative 5 (FEIS pg. 378) allocates 289,242 acres (78%) to winter motorized and 80,000 acres (22%) to non-motorized in winter. Most snowmobile opportunities east of the Deer Lodge Valley would continue, but some connecting activities in the Boulder River Landscape, particularly the Cottonwood Lake Trail and play area would be lost. A large area, presently seldom used due to steep terrain, would be designated non-motorized in the Harvey Creek area and several islands of non-motorized would be designated in the Flint uplands.

Winter recreation uses would be balanced, and no conflicts are anticipated. Snowmobile opportunities east of the Deer Lodge Valley would continue, while acreage in the Harvey Creek area and several areas in the Flint uplands islands would be designated for winter non-motorized use. Alternative 6 Modified allocates 306,554 acres (83%) to winter motorized and 62,708 acres (17%) to non-motorized in winter. The alternative would have the same effects as described in Alternative 5. Winter motorized opportunities would be lost, and some users may be displaced from their favored recreation routes and sites.

Gravelly Landscape

Alternative 2 (FEIS pg. 380) allocates 364,884 acres (78%) to winter motorized and 104,502 acres (22%) to non-motorized in winter. The alternative would have effects similar to Alternative 1. The Centennial Recommended Wilderness (Mount Jefferson) area would be non-motorized yearlong. An area of winter non-motorized would be allocated along the Chain of Lakes to provide wildlife habitat and cross-country skiing. Most settings and opportunities, however, would change little over the life of the plan.

Action alternatives allocated additional quiet, non-motorized opportunities, resulting in a reduction to motorized settings in the winter. Antelope Basin Road 056 provides a connection between areas open to winter motorized use on the adjacent Caribou-Targhee National Forest. The road corridor is associated with residents, connects the same areas open for snowmobile

use as the more popular staging areas around Henrys Lake. Winter motorized use of Road 056 was allowed prior to the Forest Plan Revision.

The 4.5 mile Antone Cabin Road 325 is open to motorized uses in the winter to provide access to the Antone Recreation Rental Cabin. Winter motorized use of the area has always been low, due to limited access and distance from a plowed parking area. Winter motorized use in the basin surrounding the Antone Cabin was allowed prior to the Forest Plan, as was use of this road. Action alternatives allocated additional quiet, non-motorized opportunities and a reduction to motorized settings in the winter.

Alternative 3 (FEIS pg. 380) allocates 141,192 acres (30%) to winter motorized and 328,194 acres (70%) to non-motorized in winter. The alternative would provide recommended wilderness over a large part of the landscape. Additional non-motorized areas would also be allocated for winter. Snowmobiling is now popular through much of the range, and the closures could lead to crowding or displacement of those visitors. Cross-country ski opportunities would be available throughout the landscape, with vast quiet opportunity areas far exceeding predictable demand. Areas would also be available for long distance winter skiing and camping for the hardier visitors. This alternative closes the Mount Jefferson area.

Alternative 4 (FEIS pg. 381) allocates 377,946 acres (81%) to winter motorized and 91,441 acres (19%) to non-motorized in winter. The alternative would be similar to Alternative 1.

Alternative 5 (FEIS pg. 381) allocates 234,821 acres (50%) to winter motorized and 234,566 acres (50%) to non-motorized in winter. The alternative would have effects similar to Alternative 2, plus some additional recommended wilderness in the Snowcrest Mountains, where motorized opportunities would be lost on some short segments of roads and routes. This alternative closes the Mount Jefferson area.

Under Alternative 6 Modified large additional blocks of the landscape would be provided for non-motorized recreation, while the majority of existing marked snowmobile routes would be retained with restrictions reducing play area opportunities, assuring no conflicts. Alternative 6 Modified allocates 236,963 acres (50%) to winter motorized and 232,423 acres (50%) to non-motorized in winter. The alternative would have similar effects to recreation as those discussed under Alternative 5.

Jefferson River Landscape

Alternative 2 (FEIS pg. 383) allocates 162,063 acres (85%) to winter motorized and 28,551 acres (15%) to non-motorized in winter. The alternative would have would result in increased non-motorized areas in the landscape.

Alternative 3 (FEIS pg. 384) allocates 98,329 acres (52%) to winter motorized and 92,285 acres (48%) to non-motorized in winter. The alternative would increase non-motorized areas in this landscape in winter. The closures would reduce snowmobile play areas available in the Whitetail area, though much of the area closed is not easily used by snowmobiles due to terrain. Cross country ski opportunities could improve slightly in some places.

Alternative 4 (FEIS pg. 384) allocates 190,611 acres to winter motorized and 3 acres to non-motorized in winter. The alternative would be similar to Alternative 1.

Alternative 5 (FEIS pg. 384) allocates 99,525 acres (52%) to winter motorized and 91,088 acres (48%) to non-motorized in winter. The alternative would have effects similar to Alternative 3 in winter.

Alternative 6 Modified would reduce snowmobile play areas in the Whitetail area, but this area is not generally used. Cross country ski opportunities would be improved slightly in some places. Because these changes are slight for both motorized and non-motorized recreation uses, no conflicts are anticipated.

Alternative 6 Modified allocates 90,190 acres (47%) to winter motorized and 100,423 acres (53%) to non-motorized in winter. The alternative would restrict motorized travel to protect recommended wilderness and roadless values. Other than the effects specific to recommended wilderness, this alternation would result in the same effects as those described in Alternative 5.

Lima Tendoy Landscape

Alternative 2 (FEIS pg. 386) allocates 291,963 acres (79%) to winter motorized and 75,561 acres (21%) to non-motorized in winter. Recreation management and opportunities would be similar to Alternative 1.

Alternative 3 (FEIS pg. 386) allocates 174,001 acres (47%) to winter motorized and 193,523 acres (53%) to non-motorized in winter. Changes would result in approximately half managed as winter non-motorized. The quantity and quality of motorized opportunities would be reduced.

Alternative 4 (FEIS pg. 386) allocates 291,963 acres (79%) to winter motorized and 75,561 acres (21%) to non-motorized in winter. The alternative would be similar to Alternative 2.

Alternative 5 (FEIS pg. 386) allocates 234,320 acres (64%) to winter motorized and 133,320 acres (36%) to non-motorized in winter. In this Alternative additional areas would be closed to snowmobiling in the Lima Peaks and Tendoy Mountains, but remaining opportunities should be adequate to meet snowmobiling demand.

Alternative 6 Modified allocates 202,401 acres (47%) to winter motorized and 165,123 acres (53%) to non-motorized in winter. Areas of Lima Peaks and Tendoy Mountains would be closed to snowmobiling, but remaining opportunities and access would be adequate to meet snowmobiling demand. The primary change in this Alternative is the addition of approximately 32,905 acres of recommended wilderness. This would result in a reduction in motorized opportunities. Other than the effects specific to recommended wilderness, this alternation would result in the same effects as those described in Alternative 5. No conflicts are anticipated.

Madison Landscape

Alternative 2 (FEIS pg. 388) allocates 3,685 acres (3%) to winter motorized and 119,309 acres (97%) to non-motorized in winter. This alternative would be similar to Alternative 1 even though some parcels adjacent to private lands, already managed as non-motorized, would be managed as recommended wilderness.

Alternative 3 (FEIS pg. 388) allocates 676 acres (1%) to winter motorized and 122,318 acres (99%) to non-motorized in winter. This would be similar to Alternative 2 except in McAtee

Basin, where wilderness is recommended. The result would be a loss of snowmobile opportunities which provide a through route for Gallatin National Forest snowmobile routes.

Alternative 4 (FEIS pg. 389) allocates 13,198 acres (11%) to winter motorized and 109,796 acres (89%) to non-motorized in winter. The alternative would be similar to Alternative 1.

Alternative 5 (FEIS pg. 389) allocates 834 acres (1%) to winter motorized and 122,994 acres (99%) to non-motorized in winter. This alternative would be similar to Alternative 3 except the snowmobile route in McAtee Basin would be not be included in the recommended wilderness, and would remain open for snowmobile use.

Alternative 6 Modified (FEIS pg. 389) allocates 2,730 acres (2%) to winter motorized and 120,264 acres (98%) to non-motorized in winter. This alternation would result in the same effects as those described in Alternative 5, with the exception of the McAtee Basin area. Instead of being proposed as recommended wilderness, it would have a non-motorized recreation setting allocation. Because the area is predominately non-motorized, no conflicts are projected.

Pioneer Landscape

Alternative 2 (FEIS pg. 390) allocates 455,341 acres (79%) to winter motorized and 118,784 acres (21%) to non-motorized in winter. Areas open to motorized use in winter within the Torrey Mountain Recommended Wilderness would be closed. This change would result in a loss of high country snowmobile opportunities.

Alternative 3 (FEIS pg. 390) allocates 392,952 acres (68%) to winter motorized and 181,173 acres (32%) to non-motorized in winter. This would be result in closures to motorized uses within the Torrey Mountain Recommended Wilderness and adjacent roadless areas. Motorized winter closures in the Torrey Mountain Recommended Wilderness and near Birch Creek may lead to increased snowmobile use the West Pioneer Wilderness Study Area. Opportunities for cross-country skiing or snow shoeing near Dillon and in quiet backcountry settings would increase.

Alternative 4 (FEIS pg. 391) allocates 531,932 acres (93%) to winter motorized and 42,193 acres (7%) to non-motorized in winter. It would be similar to Alternative 1.

Alternative 5 (FEIS pg. 391) allocates 424,093 acres (74%) to winter motorized and 150,032 acres (26%) to non-motorized in winter. This alternative would be similar to Alternative 2, with slightly less area in the Torrey Mountain Recommended Wilderness, but total non-motorized allocations over more area. Motorized opportunities would be lost, including longer snowmobile routes across the East Pioneers. Additional non-motorized winter opportunities would be provided in the East Pioneers, with vehicle access though Birch Creek and the Pioneer Mountains Scenic Byway.

Alternative 6 Modified (FEIS pg. 391) allocates 424,492 acres (74%) to winter motorized and 149,633 acres (26%) to non-motorized in winter. This alternation would have similar effects to those described under Alternative 5. Portions of the East Pioneer area, recommended for Wilderness in Alternative 5, would be allocated as non-motorized recreation settings. While

winter motorized use is expected to increase along the Byway, areas open to motorized use in winter within the Torrey Mountain Recommended Wilderness would be allocated as non-motorized recreation settings. Conflict and/or crowding are unlikely as motorized use would simply shift.

Tobacco Root Landscape

Alternative 2 (FEIS pg. 393) allocates 164,647 acres (95%) to winter motorized and 9,328 acres (5%) to non-motorized in winter. This alternative would have effects similar to Alternative 1.

Alternative 3 (FEIS pg. 394) allocates 56,872 acres (33%) to winter motorized and 117,104 acres (67%) to non-motorized in winter. Alternative 3 changes would result in areas open to snowmobiles being lost, mostly on the north end of the range. Routes connecting to the south side of the range, however, would remain open to snowmobiles.

Alternative 4 (FEIS pg. 394) allocates 164,647 acres (95%) to winter motorized and 9,328 acres (5%) to non-motorized in winter. The alternative would allocate existing winter non-motorized management and be similar to Alternative 1.

Alternative 5 (FEIS pg. 394) allocates 74,381 acres (43%) to winter motorized and 99,595 acres (57%) to non-motorized in winter. In this Alternative the change to winter opportunities from mostly open to snowmobiles to over half closed would displace some snowmobilers from the northern part of the range.

Alternative 6 Modified allocates 83,851 acres (48%) to winter motorized and 90,125 acres (52%) to non-motorized in winter. This alternation would have similar effects to those described under Alternative 5.

Upper Clark Fork Landscape

Alternative 2 (FEIS pg. 396) allocates 72,033 acres (86%) to winter motorized and 11,285 acres (14%) to non-motorized in winter. This alternative would be similar to Alternative 1. Burton Park would be closed to motorized winter use, expanding cross-country ski and other quiet recreation opportunities near Butte. This may displace snowmobilers to other areas.

Alternative 3 (FEIS pg. 396) allocates 59,616 acres (72%) to winter motorized and 23,701 acres (28%) to non-motorized in winter. In Alternative 3 some new snowmobile closures would take effect, but the landscape would remain a mix of motorized and non-motorized opportunities in winter, with heavy use from Butte and Anaconda residents.

Alternative 4 (FEIS pg. 396) allocates 74,328 acres (89%) to winter motorized and 8,989 acres (11%) to non-motorized in winter. The alternative would be similar to Alternative 1.

Alternative 5 (FEIS pg. 396) allocates 54,735 acres (66%) to winter motorized and 28,582 acres (34%) to non-motorized in winter. Alternative 5 is the highest percentage alternative for winter non-motorized areas. Several snowmobile routes would be open between non-motorized areas south of Butte, and lead to open areas beyond the closures.

Alternative 6 Modified allocates 55,542 acres (67%) to winter motorized and 27,776 acres (33%) to non-motorized in winter. This alternation would have similar effects to those described

under Alternative 5.

Upper Rock Creek Landscape

Alternative 2 (FEIS pg. 398) allocates 208,056 acres (76%) to winter motorized and 65,162 acres (24%) to non-motorized in winter. This alternative would continue existing management; Non-motorized areas would remain the same as in Alternative 1, where elk winter range and existing Wilderness are managed as non-motorized in winter. Recreation users are not expected to be affected.

Alternative 3 (FEIS pg. 398) allocates 191,825 acres (70%) to winter motorized and 81,393 acres (30%) to non-motorized in winter. In Alternative 3 snowmobile opportunities would be reduced by area closures near Stoney Campground and near the wilderness study area.

Alternative 4 (FEIS pg. 398) allocates 208,056 acres (76%) to winter motorized and 65,162 acres (24%) to non-motorized in winter. This alternative would be similar to Alternative 2 in terms of current condition for effects.

Alternative 5 (FEIS pg. 398) allocates 189,381 acres (69%) to winter motorized and 83,837 acres (31%) to non-motorized in winter. Alternative 5 would be similar to Alternative 3 in winter.

Alternative 6 Modified closures areas near Stoney Campground and near the Sapphire wilderness study area which would not create any conflicts.

Alternative 6 Modified allocates 133,571 acres (49%) to winter motorized and 139,647 acres (51%) to non-motorized in winter. This alternation would have similar effects to those described under Alternative 5, with additional Recommended Wilderness proposed adjacent to existing Wilderness, consistent with the Bitterroot National Forest. (The same areas were allocated non-motorized under Alternative 5).

Different Classes of Motor Vehicle Uses of National Forest System Lands or Neighboring Federal lands

Effects Common to All Alternatives in All Landscapes

There is very little use by any other motorized vehicles during the winter season in areas proposed for snowmobile use. Snowmobiles are the primary motor vehicles in use during winter. The only potential conflict among different classes of motor vehicle use in winter is early spring ATV use on roads designated for wheeled motor vehicle use yearlong and tracked OHVs. Tracked OHVs is an off road/off highway recreation vehicle (ATV or UTV) which has been converted to a tracked vehicle by replacing its wheels with either multiple tracks or a rear track/front ski combination.

Full size vehicles also occasionally use open routes when snow levels are low. Legal ATV and full size vehicle use can rut the snow enough to make snowmobile use difficult. However, this conflict is result of route designation for wheeled vehicles, not area OSV designation considered here. Tracked OHV use is growing in the Jefferson and Upper Clark Fork Landscapes, especially in low snow areas.

Assessments have been completed regarding conflicts between snowmobiles and tracked OHVs (Trails Working Coalition, 2014; Trails Working Coalition, 2015). The 2014 assessment compared impacts from operation of snowmobiles and tracked OHVs on groomed routes and documented depth impressions from each vehicle type during aggressive starts, aggressive stops, and high speed pass by on both straight and winding route segments. The field evaluations showed little difference between snowmobile and tracked OHV impacts. The 2015 field assessment focused on observing potential impacts from riding on groomed snowmobile routes and off-route operation of tracked OHVs in open cross-country areas. Key findings were that none of the tracked OHVs observed operating on groomed snowmobile routes created rutting of the trail or any other adverse effects to the groomed trail surface. Track impressions left in the uncompacted new snowfall by tracked OHVs, were no different than what would have been left by a snowmobile during through the same new snow.

Conflicts between classes of motor vehicle uses have not been observed.

There are no other classes of motor vehicle uses that would potentially conflict with snowmobile use.

There are no projected conflicts between different classes of motor vehicles in winter in any landscape or any alternative.

Wilderness Study Areas (WSAs)

The Montana Wilderness Study Act of 1977 (PL 95-150) (MWSA) required the study of certain lands to determine their suitability for designation as wilderness in accordance with the Wilderness Act of 1964. These lands are referred to as Wilderness Study Areas (WSAs). Two of the nine areas identified in MWSA were on the BDNF, West Pioneer WSA and Sapphire Mountains WSA. The Sapphire Mountains WSA (within the Upper Rock Creek Landscape) includes 56,415 acres of high elevation forests topped by the rugged mountain peaks. This area provides winter snowmobiling. Additional acres of this WSA are found on the Bitterroot National Forest. With the exception of Frog Pond Basin and the Myers Creek road, this area contains wilderness attributes. The West Pioneer WSA (within the Pioneer Landscape) is a 153,759 acre mostly natural area with a few roads, and with cattle grazing. Popular snowmobile routes connect the Big Hole Valley via Warm Springs to the Scenic Byway.

Language in the 1977 Act required that the areas be managed to maintain their presently existing wilderness character and potential for inclusion in the National Wilderness Preservation System. The wilderness characteristics of the West Pioneer and Sapphire Mountain WSAs were assessed and the findings published in 2003 and 2006 respectively. Both the West Pioneer and Sapphire assessments concluded that when comparing changes between 1977 and 2002 (West Pioneers) or 2005 (Sapphire Mountains), neither the wilderness character of the area nor the potential for inclusion in the National Wilderness Preservation System has diminished when looking at the WSA as a whole. Site-specific changes in resource conditions have occurred, but overall the wilderness character of the study areas, as defined by the Wilderness Act, has not diminished. Motorized use in place prior to 1977, as established by Wilderness Characteristic Assessments completed in 2003 and 2006 may continue as allowed by law (FEIS pg. 430).

Alternative 6 Modified closed a portion of the Sapphire WSA to OSV use, while leaving another portion (the Frog Pond Basin area) open. The pending decision by the Bitterroot National Forest to close their entire portion of the Sapphire WSA to OSV use may create a difference in use near the divide of the WSA.

Compatibility of Motor Vehicle Use with Existing Conditions in Populated Areas, Taking into Account Sound, Emissions, and Other Factors

Effects Common to All Alternatives in All Landscapes

The analysis area is very rural in nature. The population density of southwest Montana is 7.2 people per square mile, with local population densities ranging from 1 to 47 persons per square mile. While Montana continues to grow, with a 9.7% increase in population at the 2010 Census, the analysis area of southwest Montana grew at a much slower rate. The southwest region is projected to grow at the slowest rate in the state for both 2010 to 2020 and 2010 to 2030 time periods (SCORP, 2014).

While there may be short term localized impacts to sound and emissions under all the alternatives, these are isolated and dispersed and are considered negligible in each landscape under all alternatives.

Sound

Noise from snowmobiles was not identified as an issue during the revision process. The distance winter motorized noise can be heard is variable; it depends on the type and number of snowmobiles as well as air density. Noise is also absorbed relatively quickly by the presence of deep snow and affected by wind direction and terrain. Depending on the day, snowmobile noise may be muted within hundreds of yards or be perceptible several miles away.

In all landscapes and all alternatives, OSV use would contribute to noise which has the potential to impact some visitor's recreation experience. Alternative 1 and 4 provide the least amount of non-motorized areas (526,537 and 524,304 acres respectively), while Alternative 3 provides the largest number of non-motorized acres (1,540,529). Alternative 2 provides 746,000 acres non-motorized area. Alternative 5 (1,260,191 acres) and Alternative 6 Modified (1,336,553 acres) are similar. In any of the alternatives, the size, location, and configuration of the motorized and non-motorized allocations are displayed so users can find locations to meet their various recreational pursuits and expectations.

Snowmobiles produced since 1975 are certified to emit no more than 78 decibels from a distance of 50 feet when traveling at full throttle. Exhaust noise is considered to be the primary noise source. Changes in snowmobile design to a 4 stroke engine or a 2 stroke engine equipped with a muffler have provided a reduction in exhaust noise.

The Forest Service has the authority to enforce noise standards set by other federal agencies and by states according to 36 CFR 261.15(d). The Forest Service also has the authority to set specific limitations through Special Order 36 CFR 261.55(d). However, there are currently no

special orders in place for noise restrictions. Montana Stat Code 23 2 634 regulates snowmobile noise and sets a decibel limitation on machines that were built after 1975 of 78 dbA, measured at 50 feet.

Literature Review Summary Regarding Sound Impacts

Winter acoustic modeling in Yellowstone National Park conducted over the past 12 years found that audibility depends on the sound level of and distance from the sound source as well as the presence of other natural sounds and non-sound source variables, such as atmospheric conditions, wind speed and direction, topography, snow cover, and vegetative cover. These various factors vary spatially and temporally and can influence day to day noise from snowmobiles at any given location. Added together, they reduce the potentially close relationship between the number of snowmobiles and percent of time audible (Burson, 2014). The range of audible sound levels for humans is generally considered to be from 0 to 130 A-weighted decibels (dBA). The YNP lists the sound level of 2-stroke snowmobiles at 70 dBA; 4-stroke snowmobiles at 60 dBA; and winter non-motorized backcountry at 20 dBA.

Noise from OSVs has an impact on the quality of users' experience and can detract from the natural setting they wish to enjoy. Many people enjoy recreating on public land to escape the noise of modern civilization; the natural sound-scape and tranquility is a condition that they seek as part of their recreation experience. Effects of this noise on individual users within earshot is highly subjective and, therefore, variable. It largely depends on the expectations of the non-motorized user.

Emissions

Air quality requirements are defined by existing laws and regulations. Snowmobile emissions include carbon monoxide, oxides of nitrogen, and particulate matter. Conflicts can arise when recreation use occurs alongside non-motorized pursuits, where clean-smelling air is desirable. For all alternatives, cumulative impacts on air quality from forest management would be small, and in general, temporary and localized; all areas of the BDNF currently meet state and federal air quality standards and show no degradation to visibility or other air-quality-related values (FEIS page 92).

Compliance with local, state, and federal air quality regulations ensure any of the alternatives would continue to protect air resources on the BDNF and not contribute to air quality degradation to surrounding areas. Desired conditions, objectives, standards, and prescriptions concerning air quality are consistent with legal requirements and are common to all alternatives.

Snowmobile emissions monitoring at West Yellowstone indicated no instances where National Ambient Air Quality Standards or Montana Ambient Air Quality Standards were exceeded. OSV areas on the BDNF receive much less use than West Yellowstone, so it is reasonable to expect that there would also be no instances of exceedance on the BDNF. While some alternatives have more areas closed to snowmobiling, this is expected to displace snowmobile use rather than decrease the amount of overall use.

Socio-Economic Factors

Effects to social and economic factors were analyzed in the 2009 FEIS (Page 219). Changes to the number of snowmobile visits were calculated using potential groomed and marked route closures. Groomed and marked routes provide an opportunity that is more limited than open snowmobile play areas. The BDNF currently provides large areas open to snowmobiles which are unused due to snow levels, terrain, or conifer cover.

The percent of snowmobile closures in each alternative were directly applied to the number of visits reported by snowmobilers. Percentages closed were derived by reviewing each individual non-motorized unit or recommended wilderness area closed to motorized use by alternative. This methodology exaggerates the effect of closures on visits by snowmobilers because many visitors would simply move to another area on the forest which provides the opportunity they seek, rather than ceasing the activity.

Alternatives 1, 2, 4, 5 and 6 show small shifts in recreation based employment and labor income resulting from variations in recreation allocations. Changes in recreation-based employment are estimated to vary by 11 jobs and \$247,000 in labor income between the high (Alternatives 1, 2, and 4) and low (Alt 3) alternatives. This is for all aspects of recreation, not just winter recreation. Forest Service revenues and payments to counties won't change based on recreation or travel changes.

Customer satisfaction can serve as another measure of compatibility of motor vehicle use. To describe customer satisfaction, several different measures are used during the NVUM surveys. Visitors were asked to provide an overall rating of their visit and rate their satisfaction with recreation services. Over 70% of the visits were very satisfied with their recreation experience and less than 2% were very dissatisfied (NVUM 2010). This is not anticipated to change under any alternative in any landscape because no crowding is anticipated.

There are no populated areas affected by winter motor vehicle use and winter recreation is compatible with the existing condition in all landscapes and all alternatives.

Big Hole Landscape

The Big Hole Landscape is not densely populated and rural in nature. Population density in Beaverhead County is 1.7 persons per square mile. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Boulder River Landscape

The analysis area is rural in nature, but receives use from nearby communities of Butte, Deer Lodge and Boulder. The population density of 47 persons per square mile in Silver Bow County is considered a very low population density. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Clark Fork Flint Landscape

The analysis area is rural in nature, but receives use from nearby communities. The population density of 13 persons per square mile in Anaconda-Deer Lodge area is considered not densely populated. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Gravelly Landscape

The analysis area is rural in nature, but receives use from nearby communities. The population density of 2 persons per square mile in Madison County area is considered not densely populated. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Jefferson River Landscape

The analysis area is rural in nature, but receives use from nearby communities. The population density of 47 persons per square mile in the Butte area is considered not densely populated.

Lima Tendoy Landscape

The analysis area is rural in nature, but receives use from nearby communities. The population density is 1.7 persons per square mile in Beaverhead County. The Landscape is not densely populated. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Madison Landscape

The analysis area is rural in nature, but receives use from nearby communities. The population density is 2 persons per square mile in Madison County. The Landscape is not densely populated. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Pioneer Landscape

The analysis area is rural in nature, but receives use from nearby communities. The population density averages 2 persons per square mile in this area. The Landscape is not densely populated. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Tobacco Root Landscape

The analysis area is rural in nature, but receives use from nearby communities. The population density averages 2 persons per square mile in this area. The Landscape is not densely populated. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Upper Clark Fork Landscape

The analysis area is rural in nature, but receives use from nearby communities. The Upper Clark Fork Basin contains Butte urban area. The population density averages 14 to 47 persons per square mile in this area. Winter recreation is compatible with the existing condition.

Upper Rock Creek Landscape

The Landscape is not densely populated and is rural in nature, though it does receive use from nearby communities. The population density is 1.6 persons per square mile in Granite County. Winter motor vehicle use is compatible with the existing populated areas in all alternatives.

Appendix A General Big Game Winter Range Maps

Figure A 1. Antelope Winter Range

Figure A 2. Elk Winter Range

Figure A 3. Moose Winter Range

Figure A 4. Mule Deer Winter Range

Figure A 5. General Big Game Winter Range

Figure A 6. Alternative 1 – Winter Recreation Allocations and General Big Game Winter Range

Figure A 7. Alternative 2 – Winter Recreation Allocations and General Big Game Winter Range

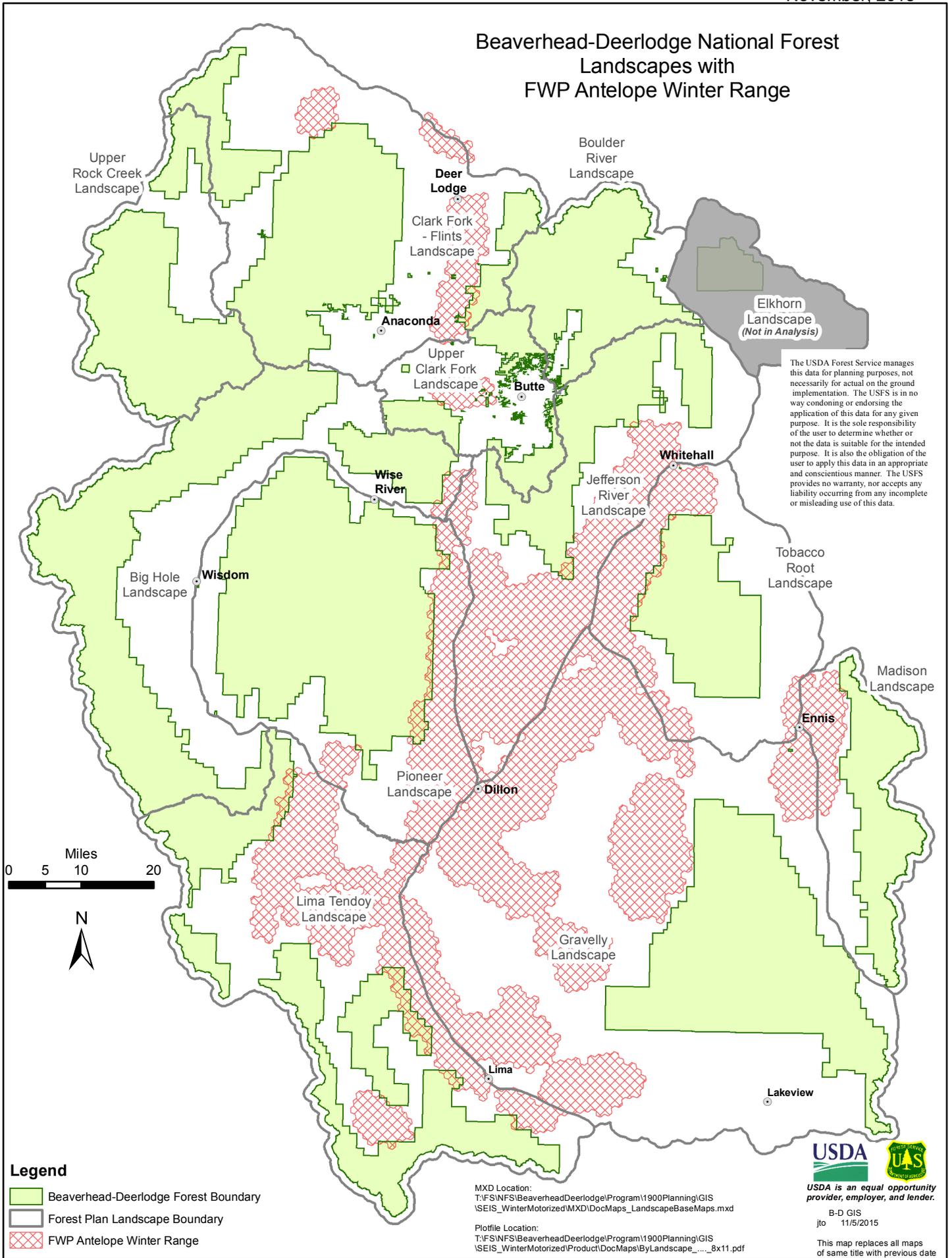
Figure A 8. Alternative 3 – Winter Recreation Allocations and General Big Game Winter Range

Figure A 9. Alternative 4 – Winter Recreation Allocations and General Big Game Winter Range

Figure A 10. Alternative 5 – Winter Recreation Allocations and General Big Game Winter Range

Figure A 11. Alternative 6 Modified – Winter Recreation Allocations and General Big Game Winter Range

Beaverhead-Deerlodge National Forest Landscapes with FWP Antelope Winter Range



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Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Antelope Winter Range

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USDA

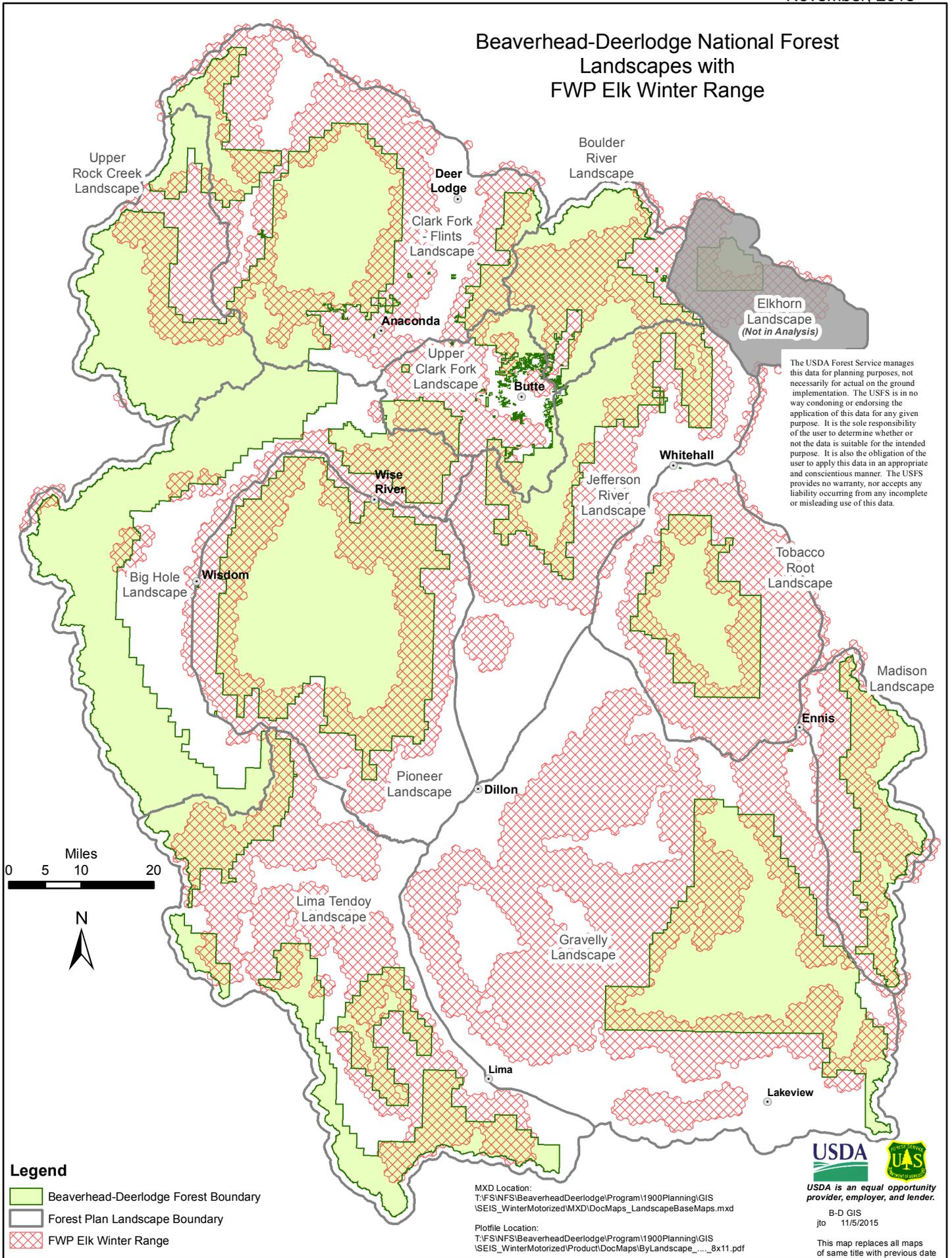
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This map replaces all maps of same title with previous date

Figure A 1. Antelope Wnter Range

Beaverhead-Deerlodge National Forest Landscapes with FWP Elk Winter Range



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Elk Winter Range

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USDA

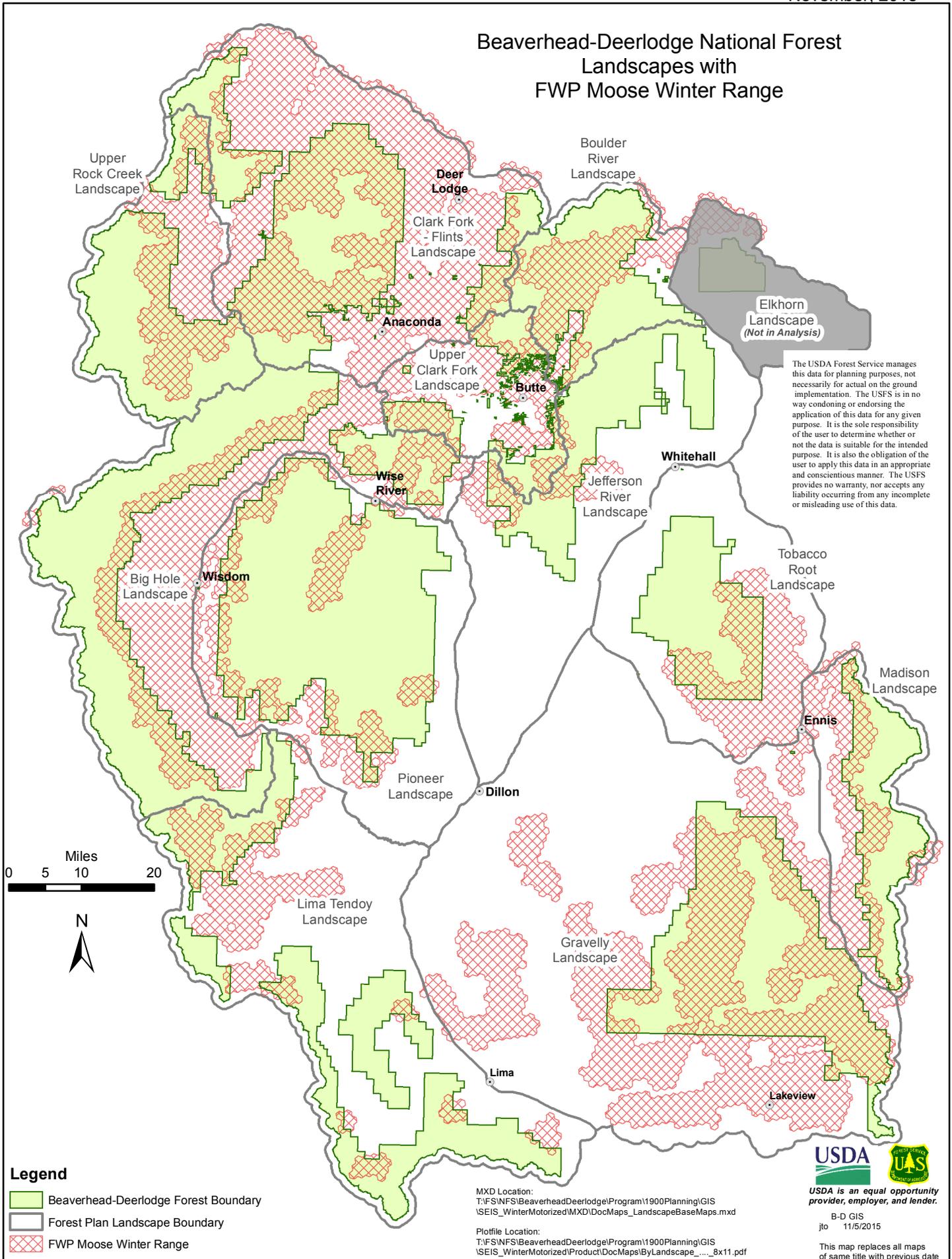
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Figure A 2. Elk Wnter Range

Beaverhead-Deerlodge National Forest Landscapes with FWP Moose Winter Range



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Moose Winter Range

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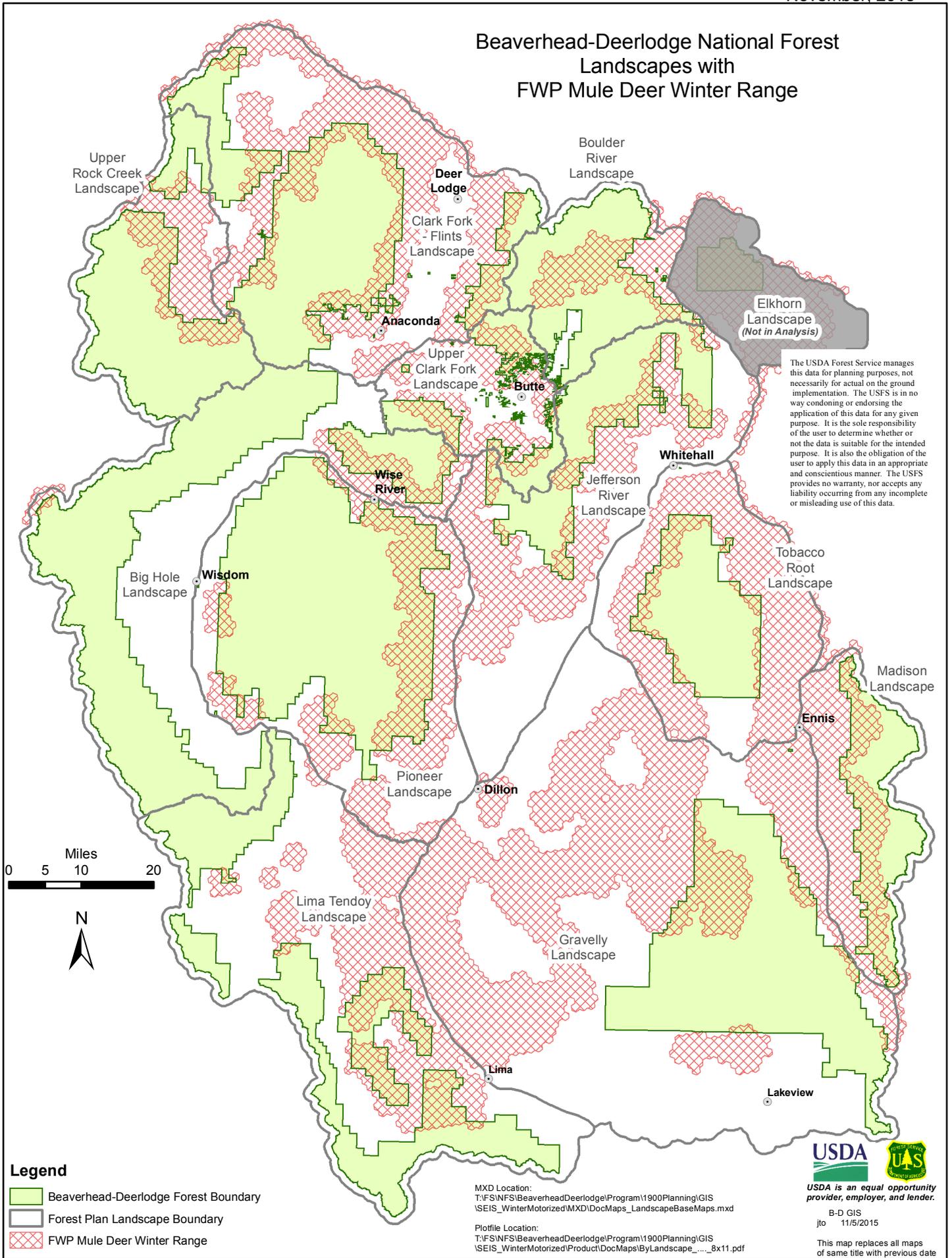
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Figure A 3. Moose Wnter Range

Beaverhead-Deerlodge National Forest Landscapes with FWP Mule Deer Winter Range



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Mule Deer Winter Range

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Figure A 4. Mule Deer Wnter Range

Beaverhead-Deerlodge National Forest Landscapes with FWP Big Game Winter Range Value

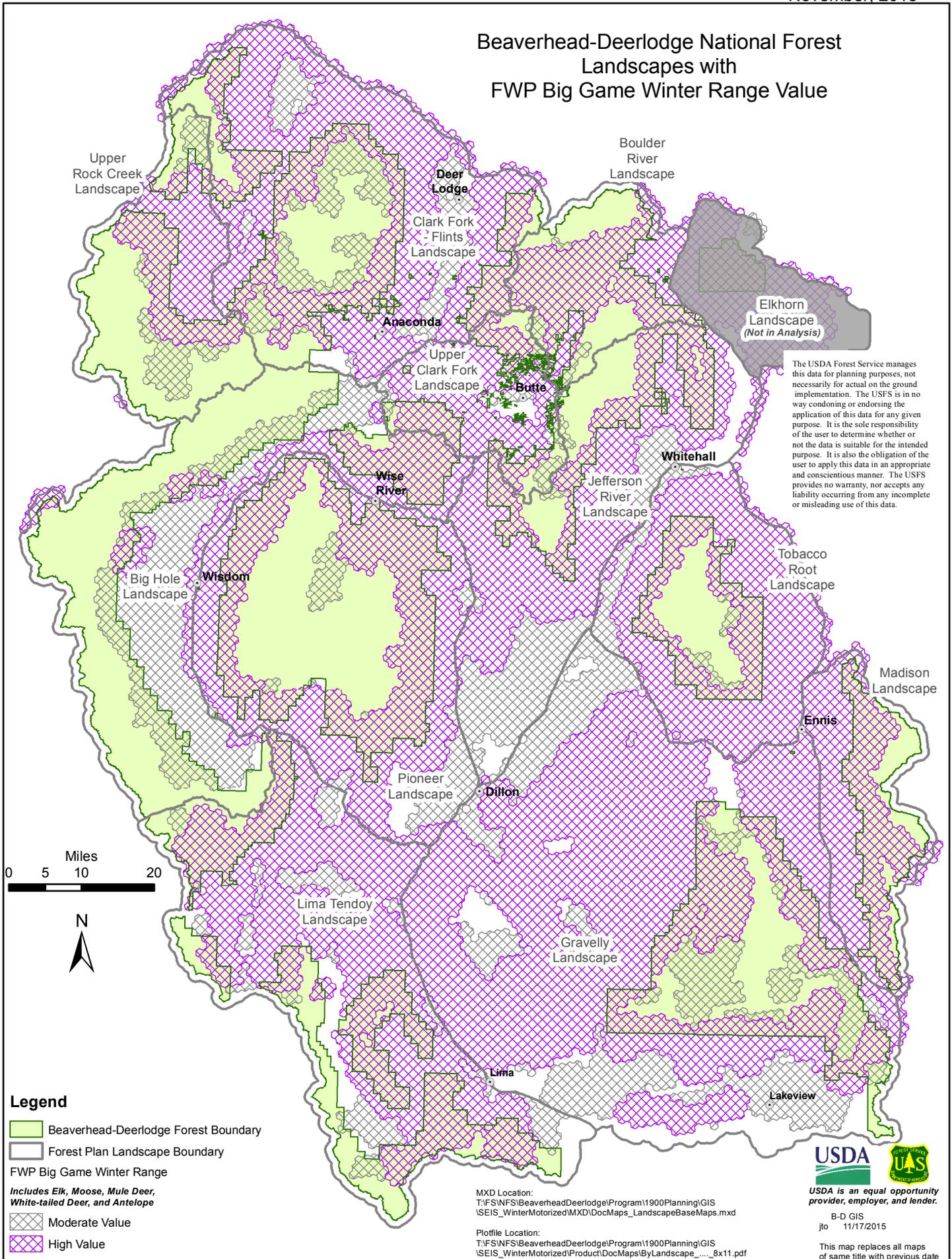


Figure A 5. General Big Game Wnter Range

Winter Recreation Allocations Motorized Status with FWP Big Game Winter Range Alternative 1

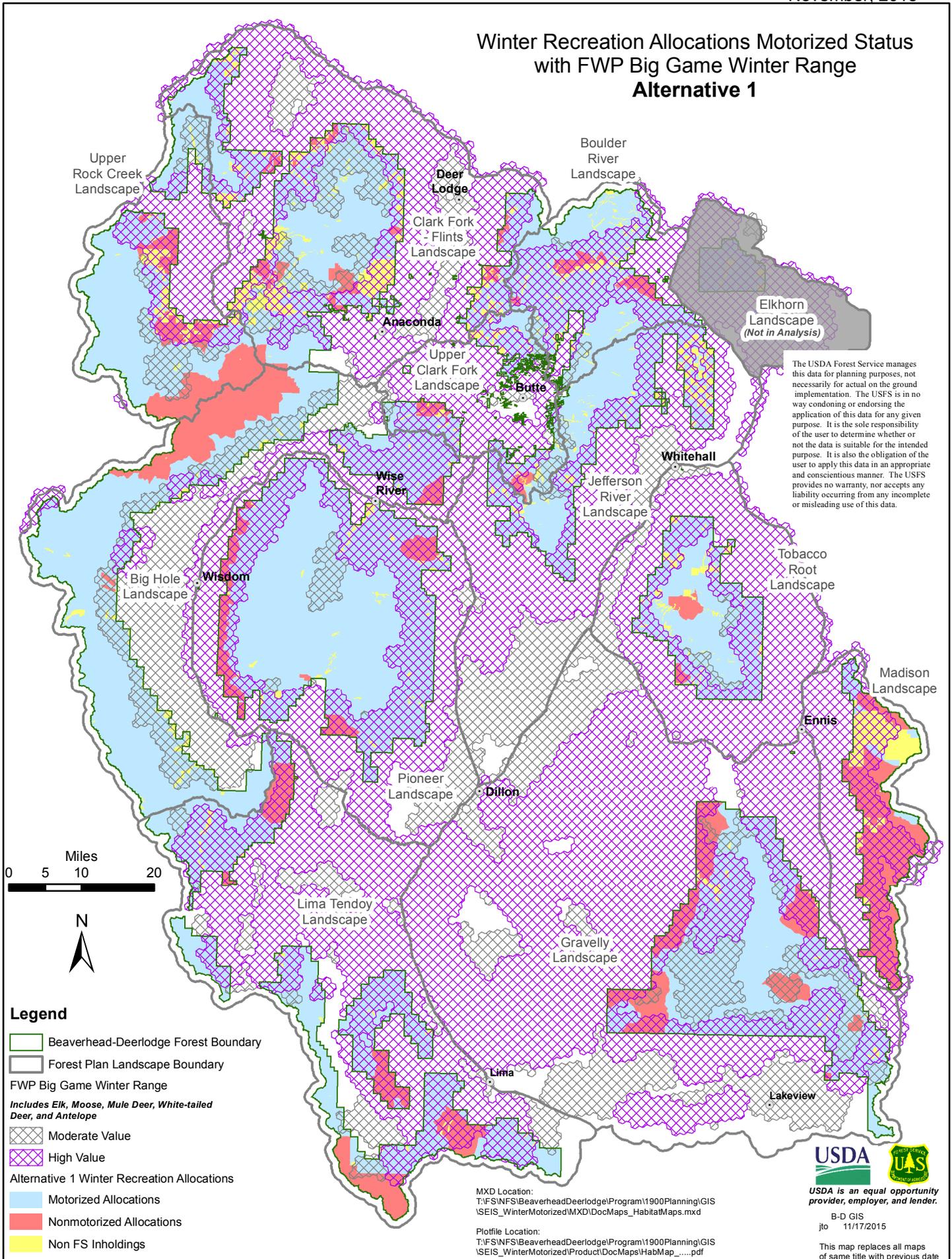


Figure A 6. Alternative 1 – Winter Recreation Allocations and General Big Game Winter Range

Winter Recreation Allocations Motorized Status with FWP Big Game Winter Range Alternative 2

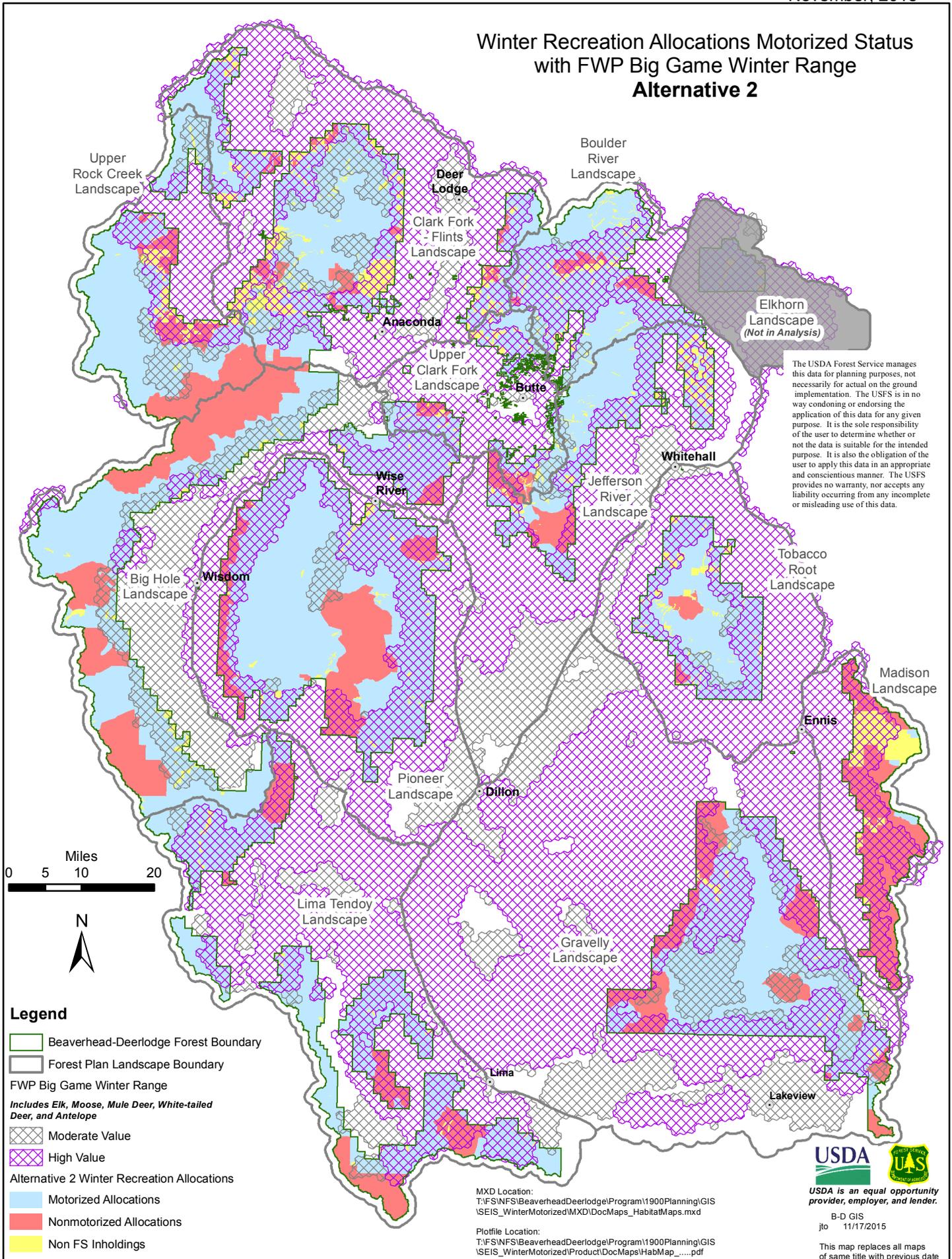
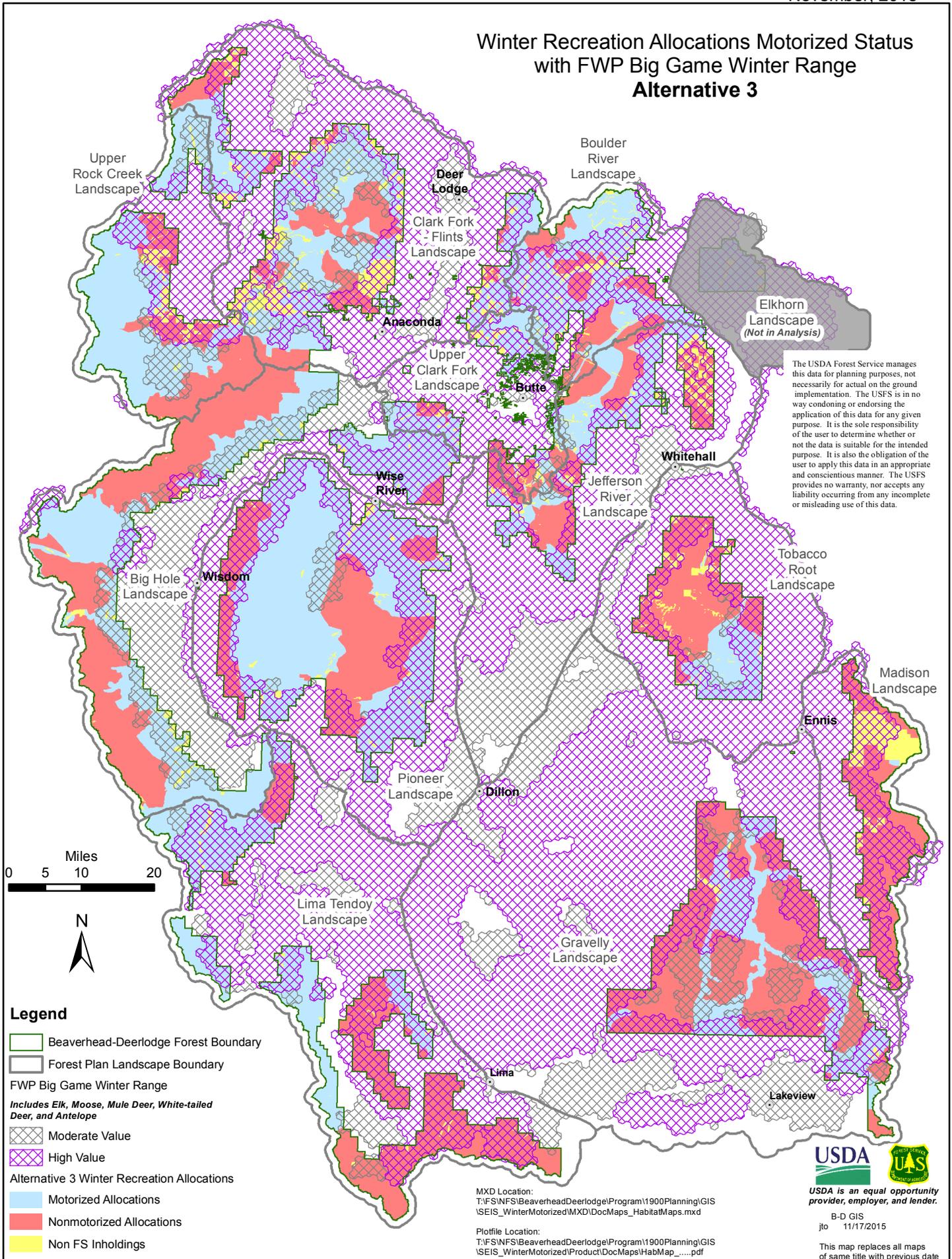


Figure A 7. Alternative 2 – Winter Recreation Allocations and General Big Game Winter Range

Winter Recreation Allocations Motorized Status with FWP Big Game Winter Range Alternative 3



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- Legend**
- Beaverhead-Deerlodge Forest Boundary
 - Forest Plan Landscape Boundary
 - FWP Big Game Winter Range**
 - Includes Elk, Moose, Mule Deer, White-tailed Deer, and Antelope*
 - Moderate Value
 - High Value
 - Alternative 3 Winter Recreation Allocations**
 - Motorized Allocations
 - Nonmotorized Allocations
 - Non FS Inholdings

MXD Location:
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\SEIS_WinterMotorized\MXD\DocMaps_HabitatMaps.mxd

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Figure A 8 – Alternative 3 – Winter Recreation Allocations and General Big Game Winter Range

Winter Recreation Allocations Motorized Status with FWP Big Game Winter Range Alternative 4

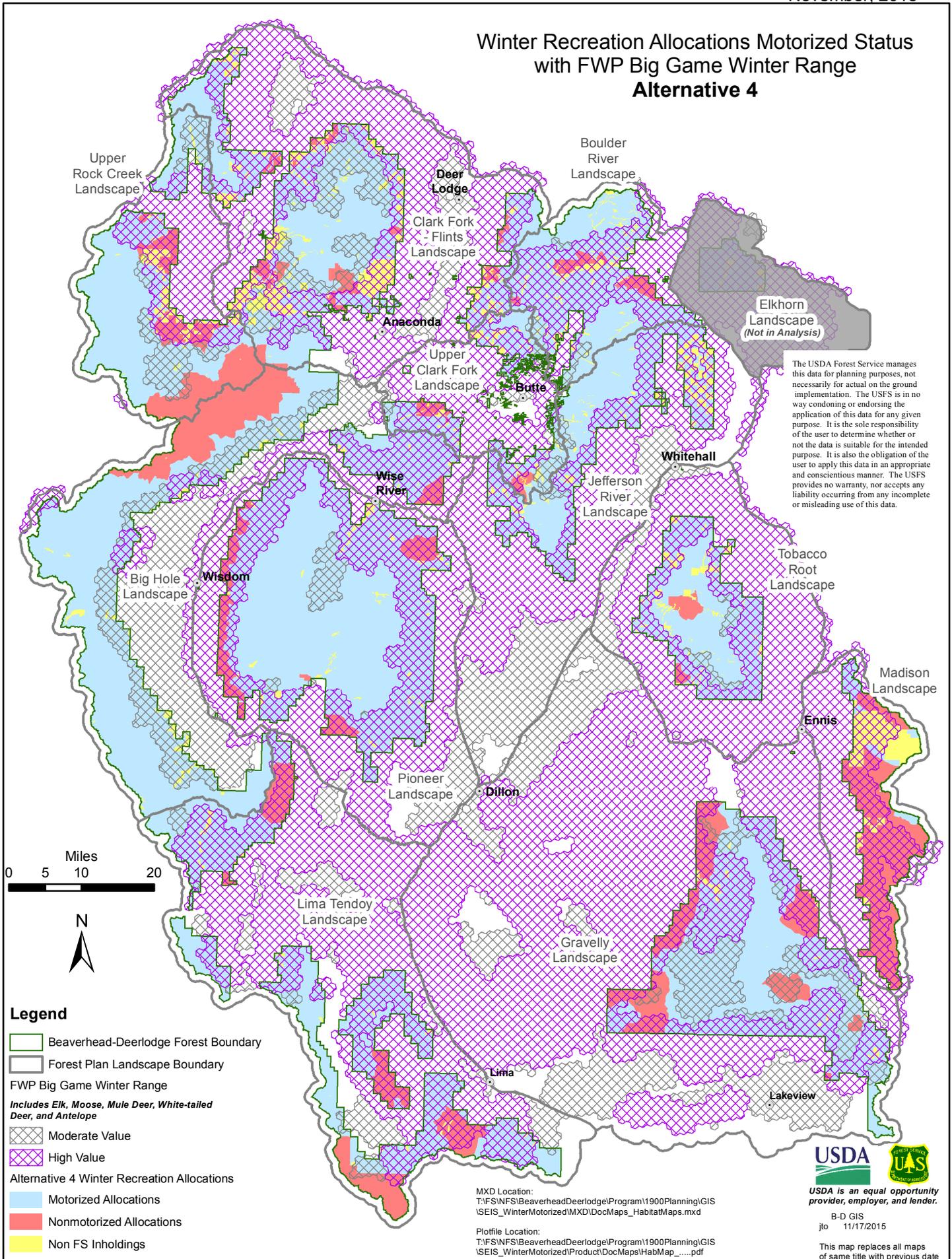


Figure A 9. Alternative 4 – Winter Recreation Allocations and General Big Game Winter Range

Winter Recreation Allocations Motorized Status with FWP Big Game Winter Range Alternative 5

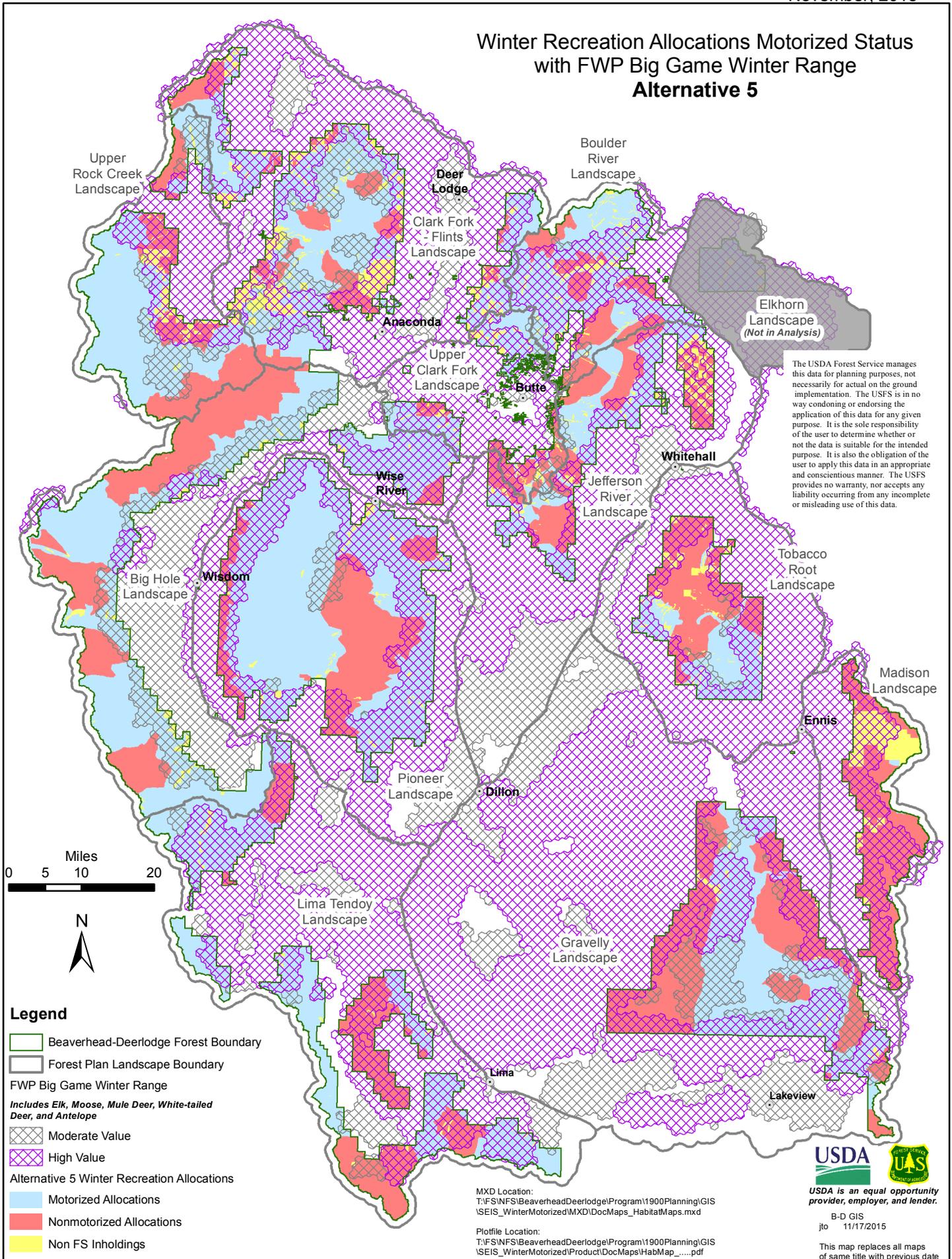


Figure A 10. Alternative 5 – Winter Recreation Allocations and General Big Game Winter Range

Winter Recreation Allocations Motorized Status with FWP Big Game Winter Range Alternative 6 Modified

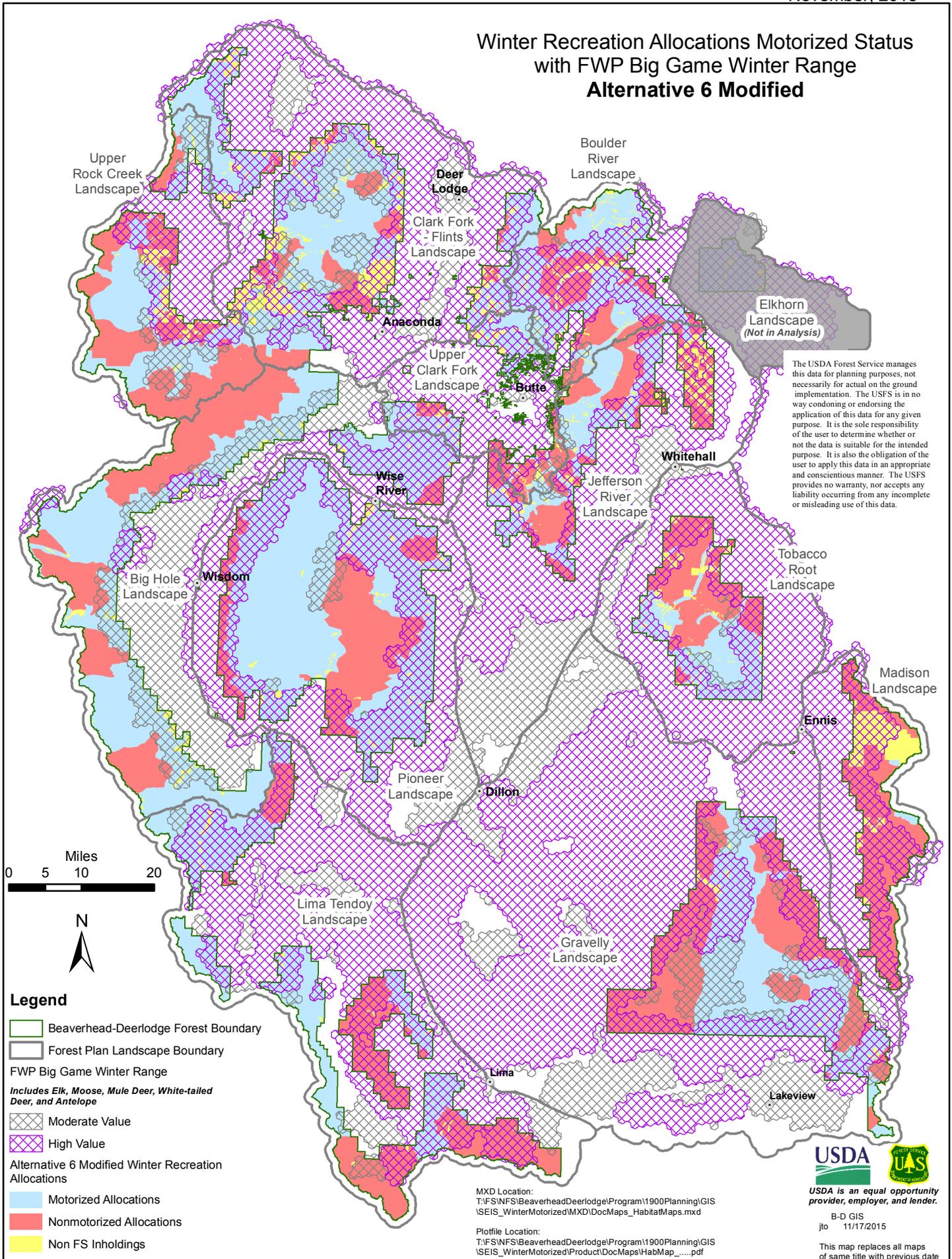


Figure A 11. Alternative 6 Modified – Winter Recreation Allocations and General Big Game Winter Range

Appendix B Bighorn Sheep Maps

Figure B-1 – Bighorn Sheep Winter Range

Figure B-2 – Alternative 1 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Figure B-3 – Alternative 2 – Winter Recreation Allocations and Bighorn Sheep Winter Range

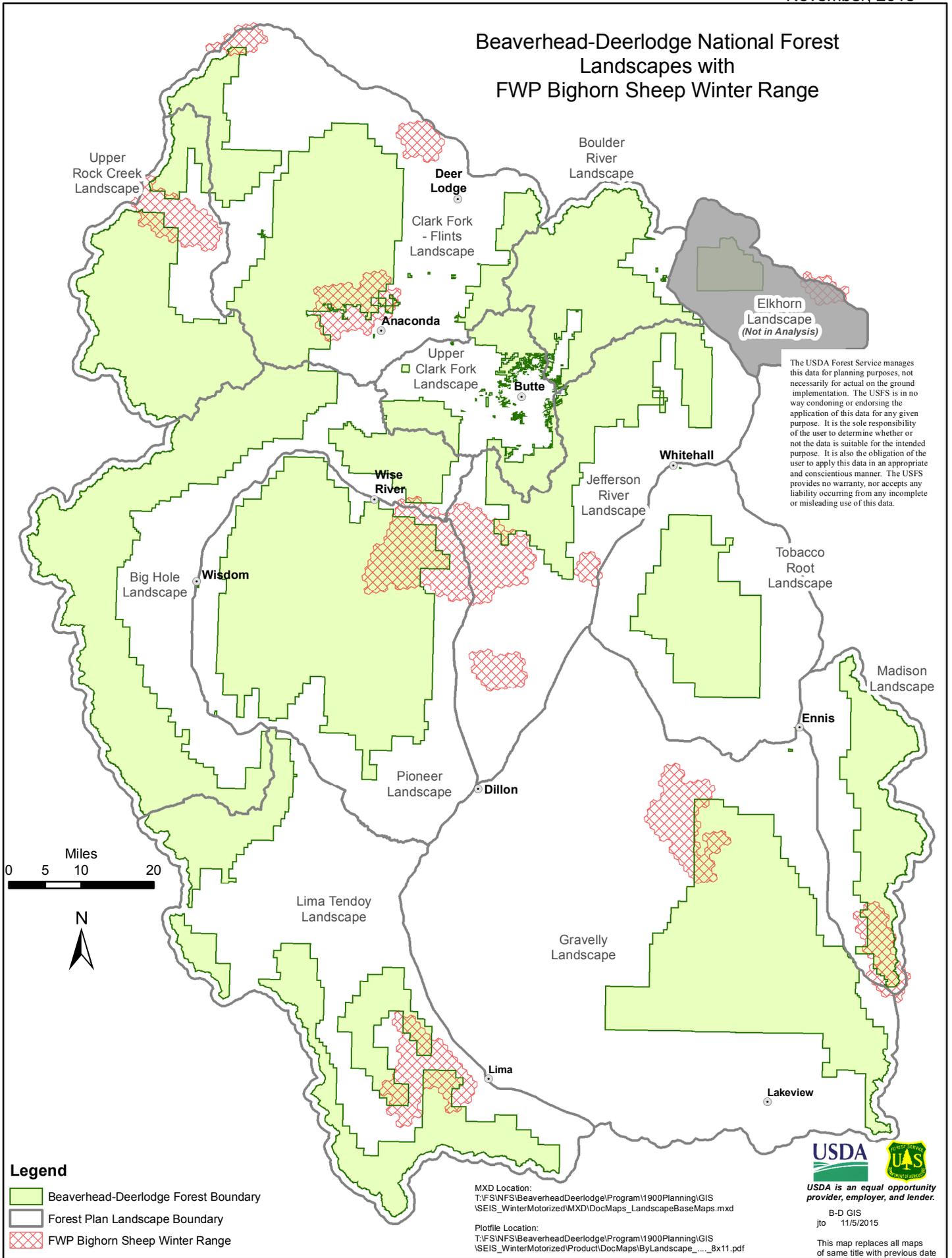
Figure B-4 – Alternative 3 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Figure B-5 – Alternative 4 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Figure B-6 – Alternative 5 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Figure B-7 – Alternative 6 Modified – Winter Recreation Allocations and Bighorn Sheep Winter Range

Beaverhead-Deerlodge National Forest Landscapes with FWP Bighorn Sheep Winter Range



The USDA Forest Service manages this data for planning purposes, not necessarily for actual on the ground implementation. The USFS is in no way condoning or endorsing the application of this data for any given purpose. It is the sole responsibility of the user to determine whether or not the data is suitable for the intended purpose. It is also the obligation of the user to apply this data in an appropriate and conscientious manner. The USFS provides no warranty, nor accepts any liability occurring from any incomplete or misleading use of this data.

Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Bighorn Sheep Winter Range

MXD Location:
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Plotfile Location:
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Figure B 1. Bighorn Sheep Winter Range

Winter Recreation Allocations Motorized Status with FWP Bighorn Sheep Winter Range **Alternative 1**

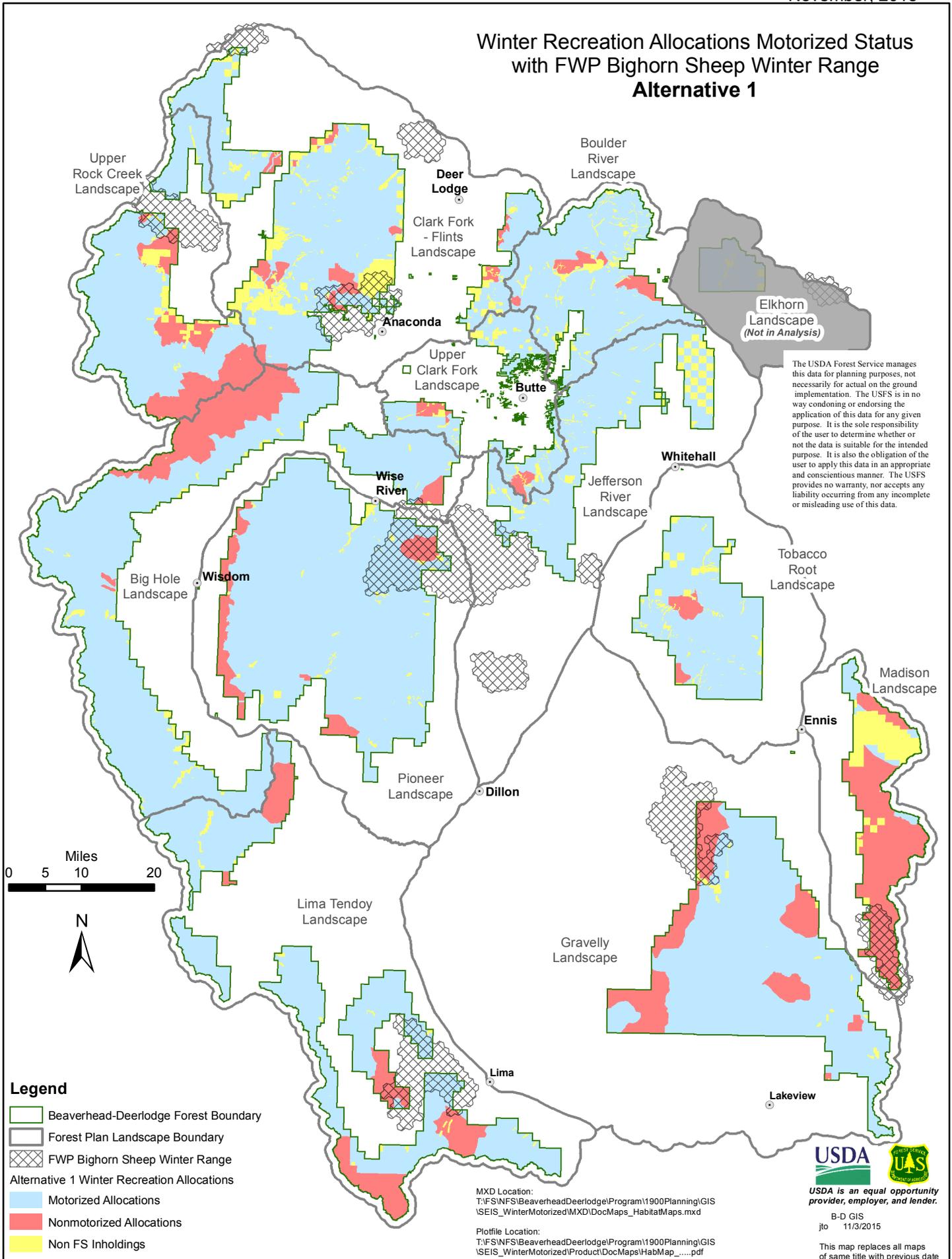


Figure B 2. Alternative 1 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Winter Recreation Allocations Motorized Status with FWP Bighorn Sheep Winter Range **Alternative 2**

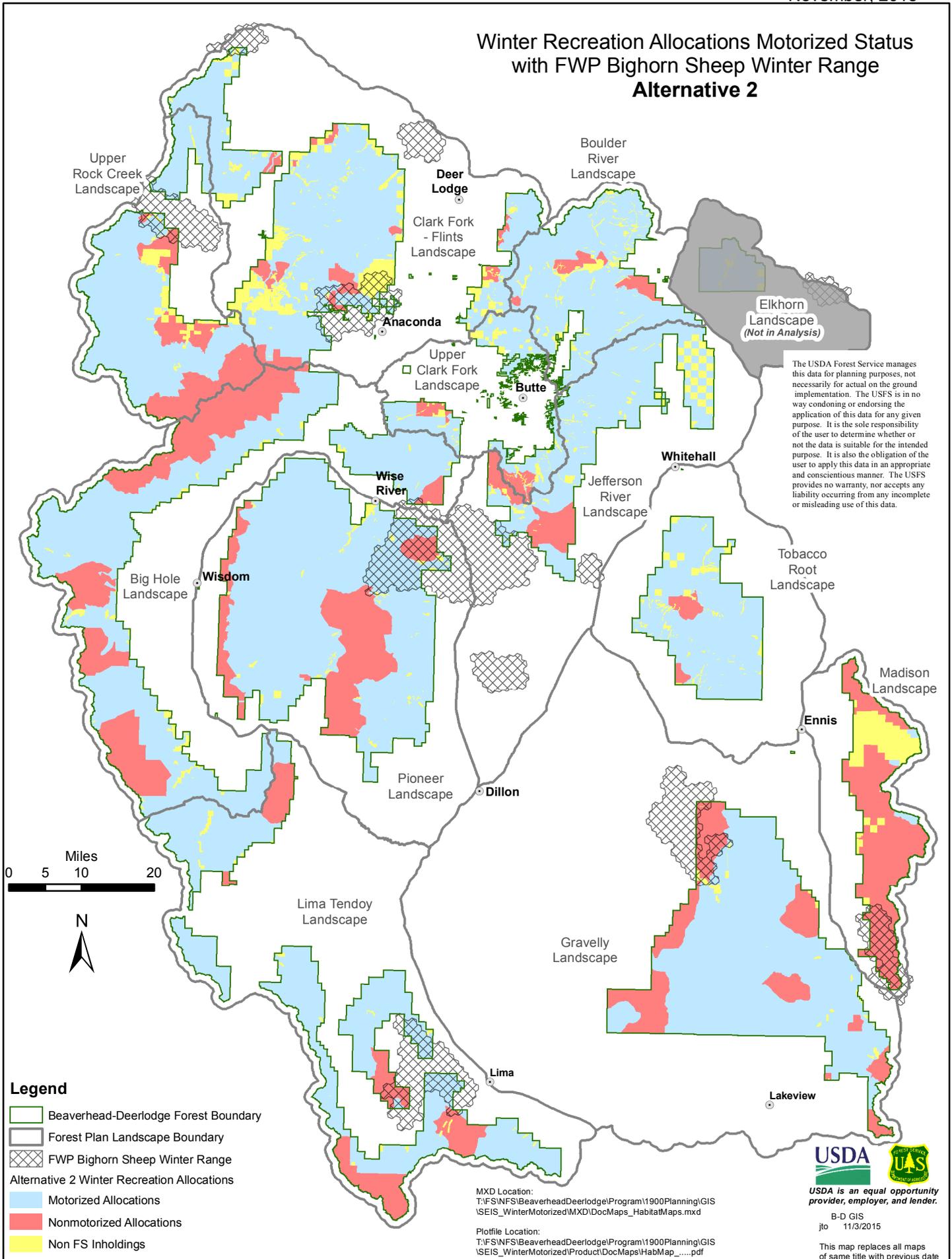


Figure B 3. Alternative 2 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Winter Recreation Allocations Motorized Status with FWP Bighorn Sheep Winter Range Alternative 3

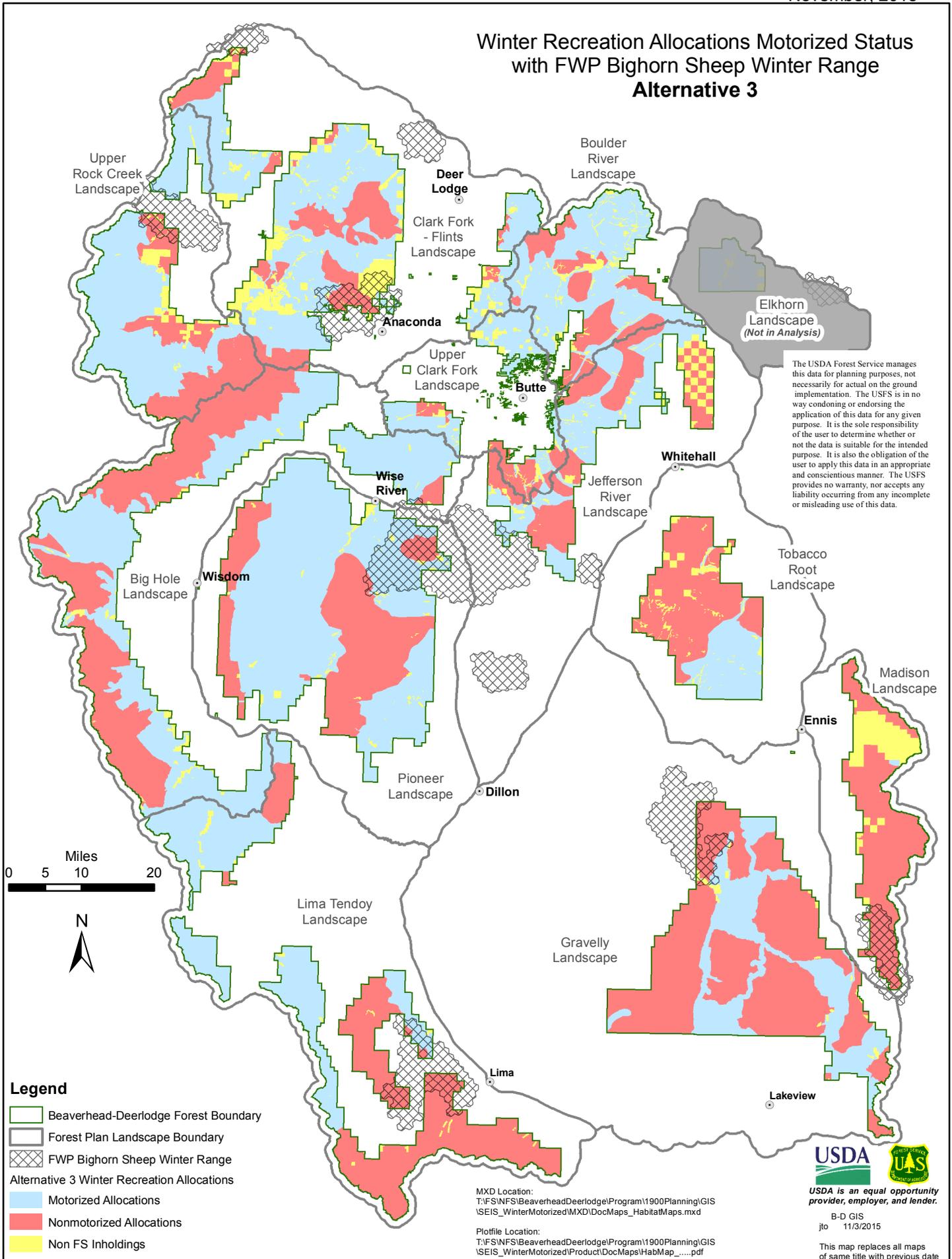


Figure B 4. Alternative 3 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Winter Recreation Allocations Motorized Status with FWP Bighorn Sheep Winter Range Alternative 4

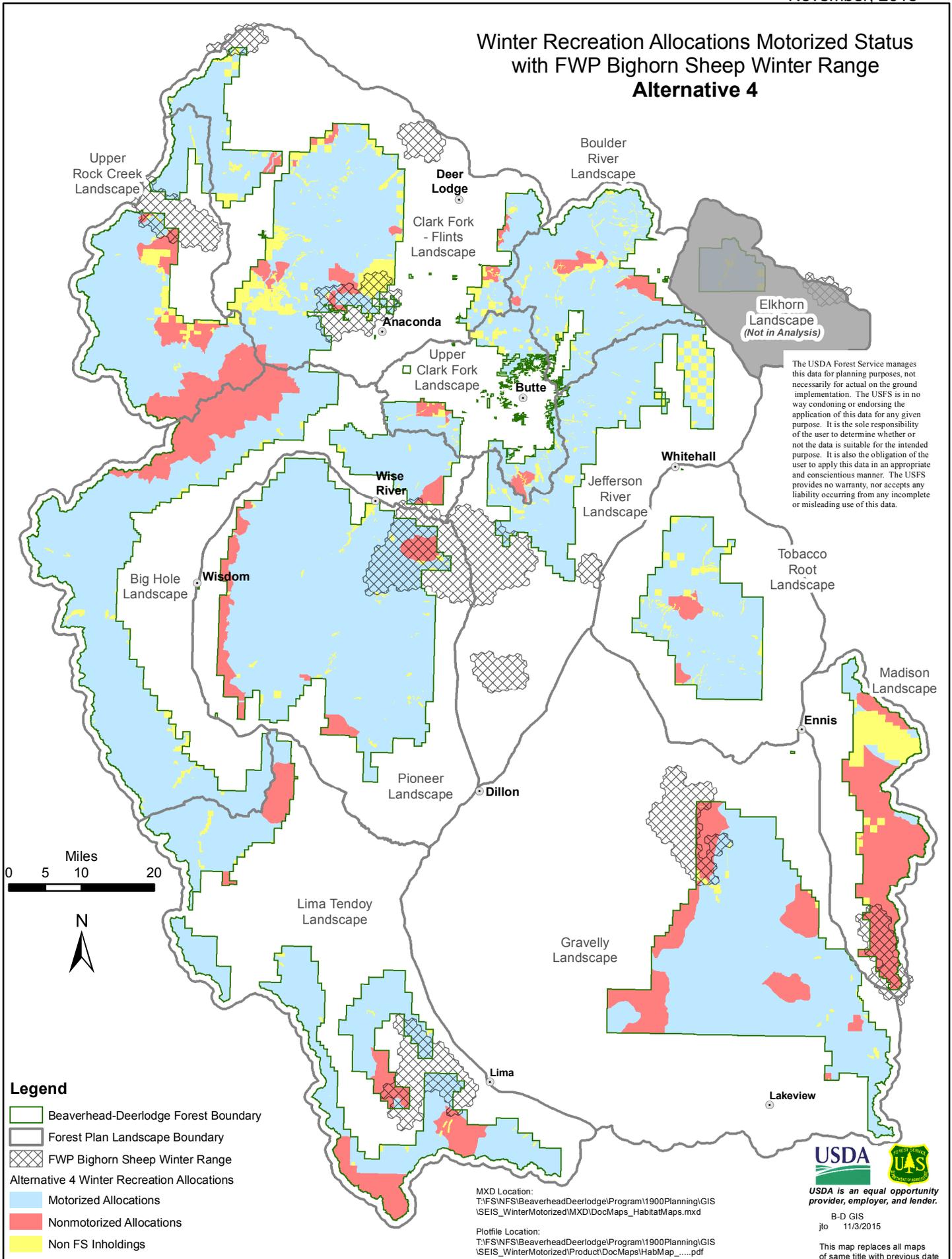


Figure B 5. Alternative 4 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Winter Recreation Allocations Motorized Status with FWP Bighorn Sheep Winter Range **Alternative 5**

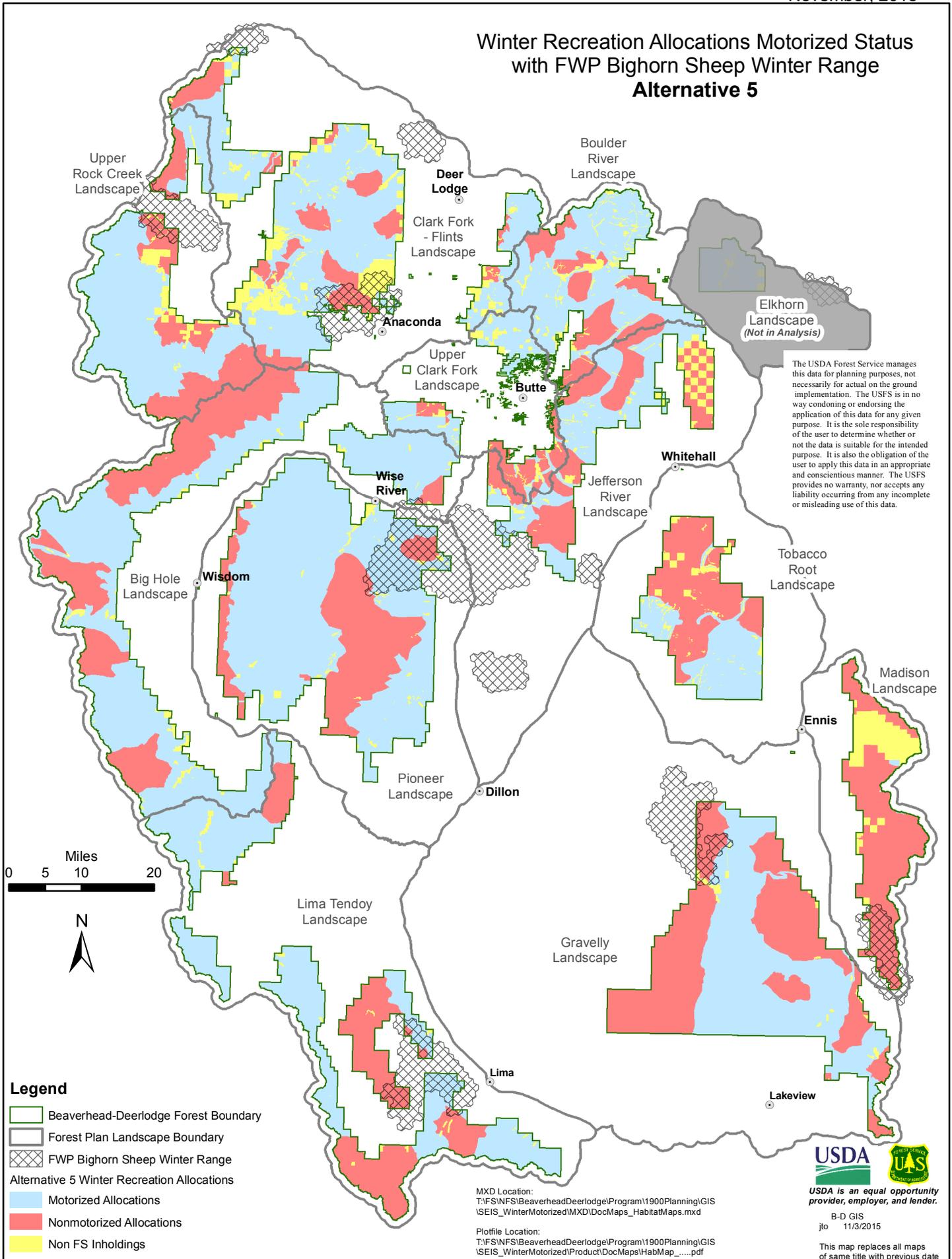
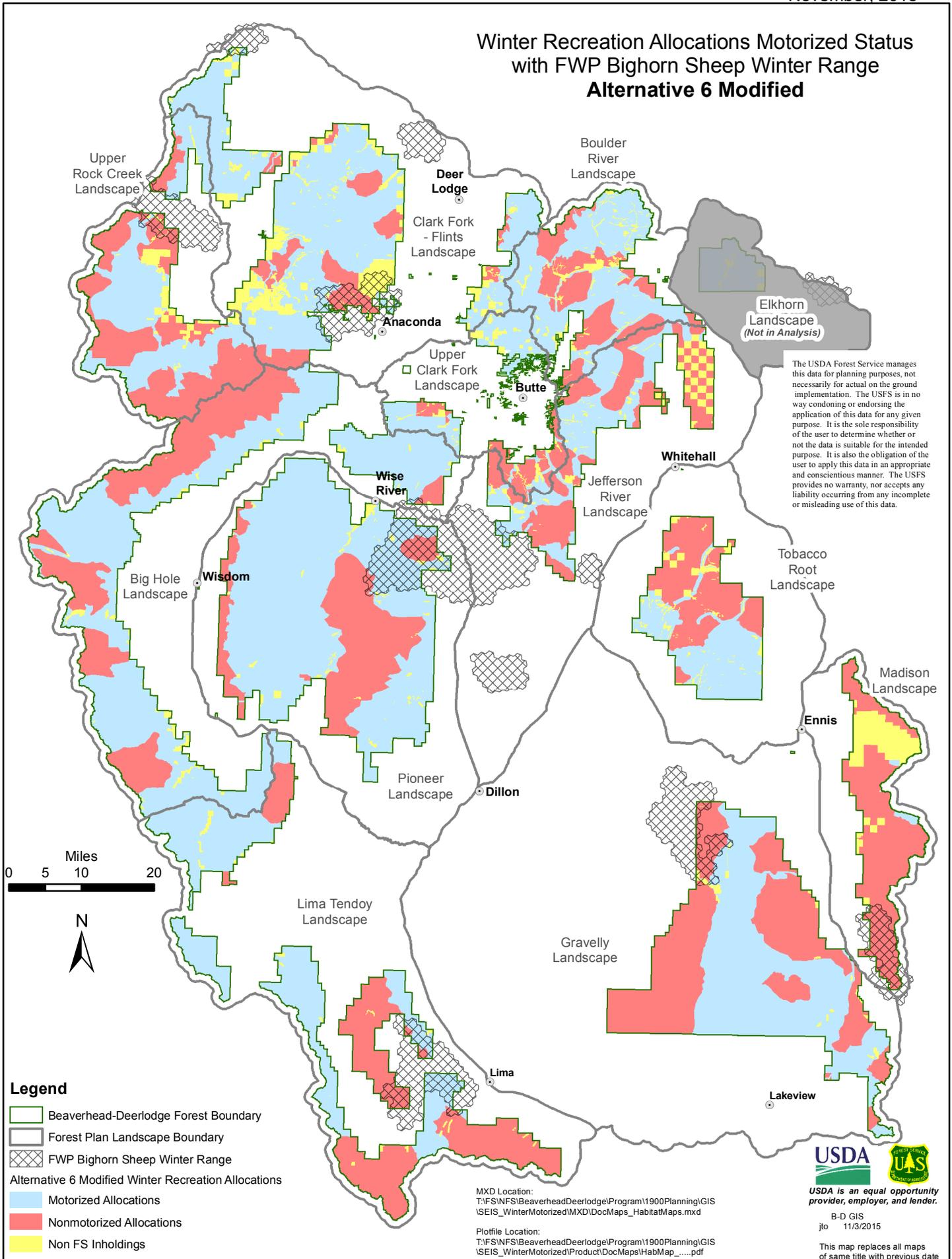


Figure B 6. Alternative 5 – Winter Recreation Allocations and Bighorn Sheep Winter Range

Winter Recreation Allocations Motorized Status with FWP Bighorn Sheep Winter Range **Alternative 6 Modified**



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Bighorn Sheep Winter Range
- Alternative 6 Modified Winter Recreation Allocations
 - Motorized Allocations
 - Nonmotorized Allocations
 - Non FS Inholdings

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Figure B 7. Alternative 6 Modified – Winter Recreation Allocations and Bighorn Sheep Winter Range

Appendix C Mountain Goat Maps

Figure C 1. Mountain Goat Winter Range

Figure C 2. Alternative 1 – Winter Recreation Allocations and Mountain Goat Winter Range

Figure C 3. Alternative 2 – Winter Recreation Allocations and Mountain Goat Winter Range

Figure C 4. Alternative 3 – Winter Recreation Allocations and Mountain Goat Winter Range

Figure C 5. Alternative 4 – Winter Recreation Allocations and Mountain Goat Winter Range

Figure C 6. Alternative 5 – Winter Recreation Allocations and Mountain Goat Winter Range

Figure C 7. Alternative 6 Modified – Winter Recreation Allocations and Mountain Goat Winter Range

Beaverhead-Deerlodge National Forest Landscapes with FWP Mountain Goat Winter Range

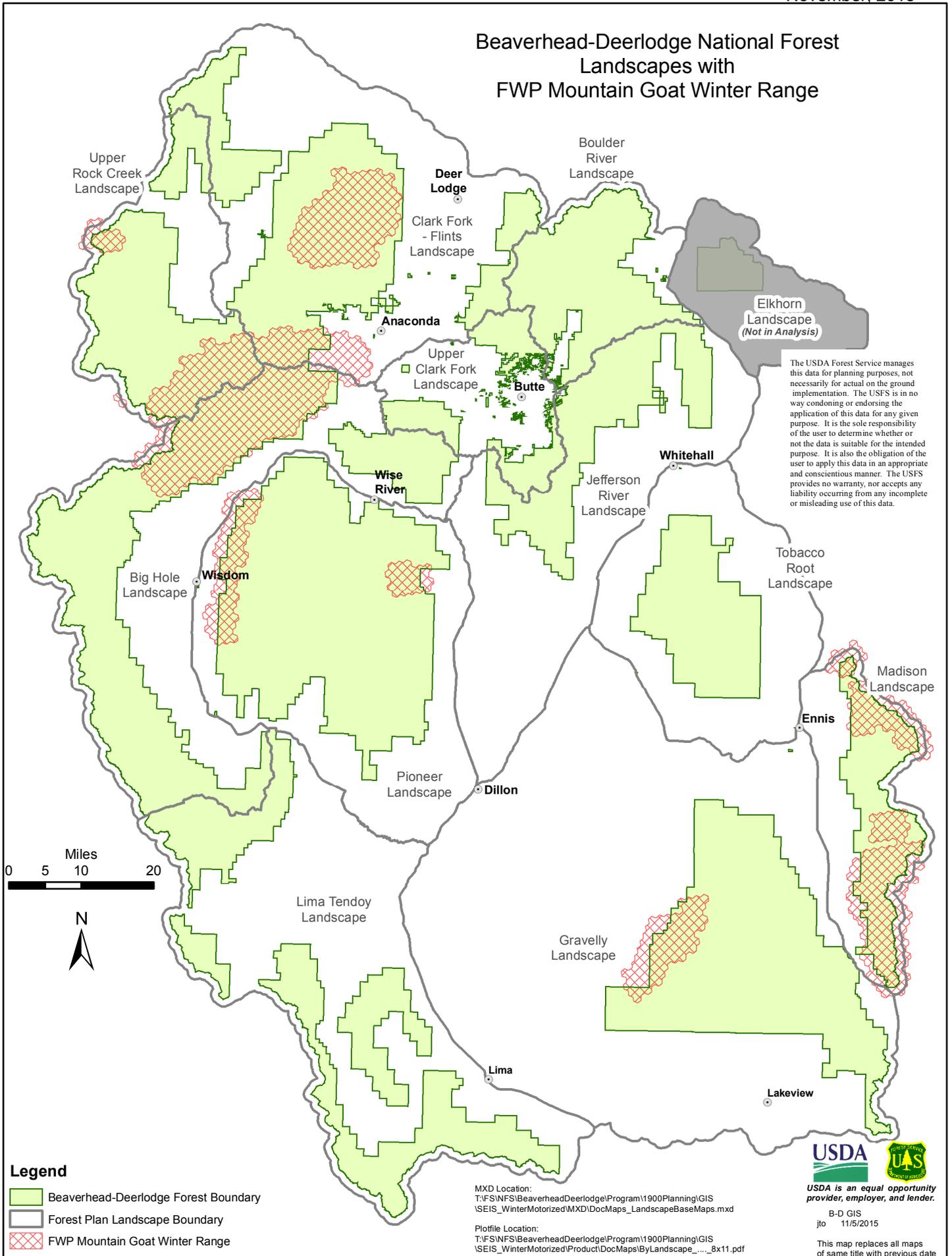


Figure C 1. Mountain Goat Winter Range

Winter Recreation Allocations Motorized Status with FWP Mountain Goat Winter Range **Alternative 1**

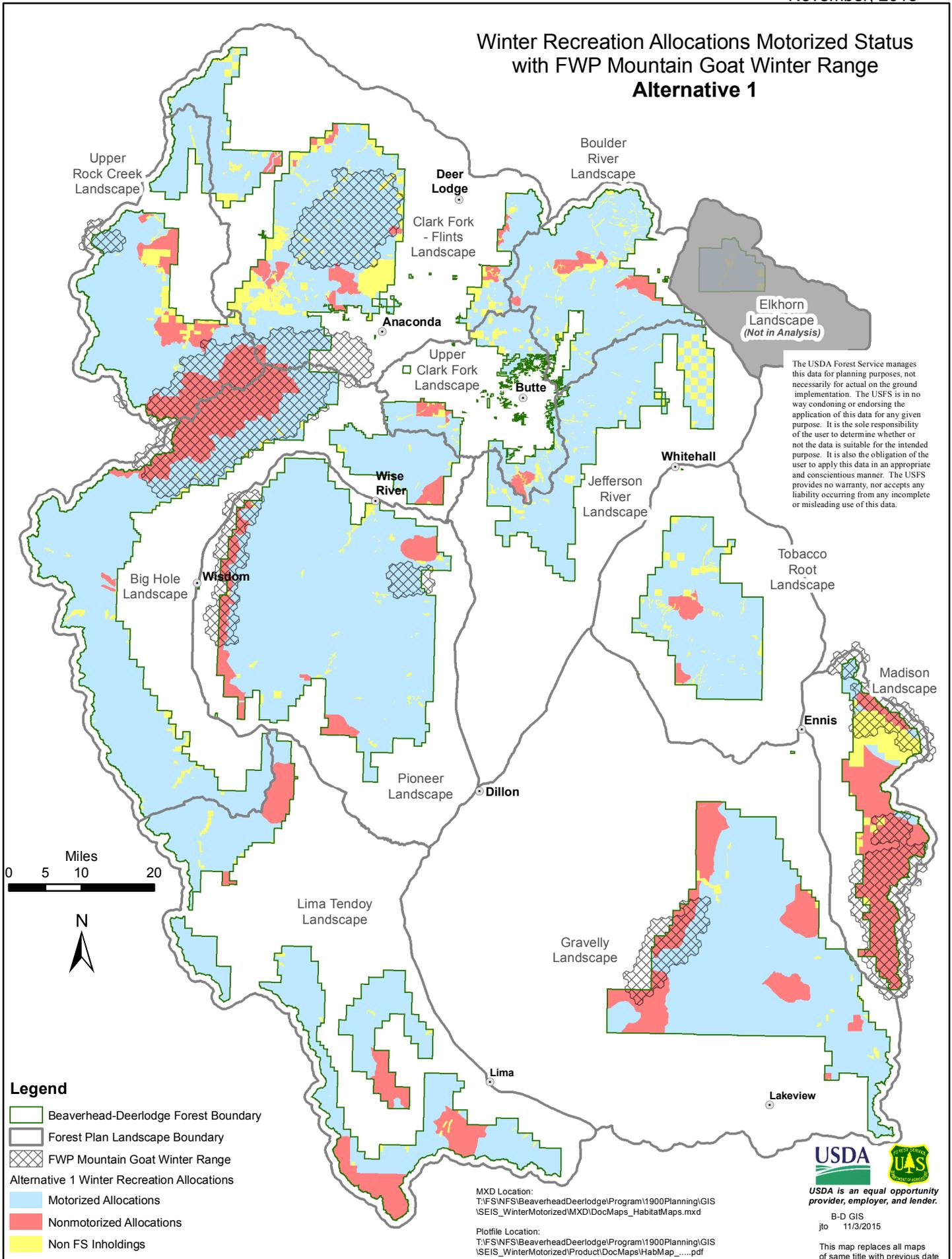
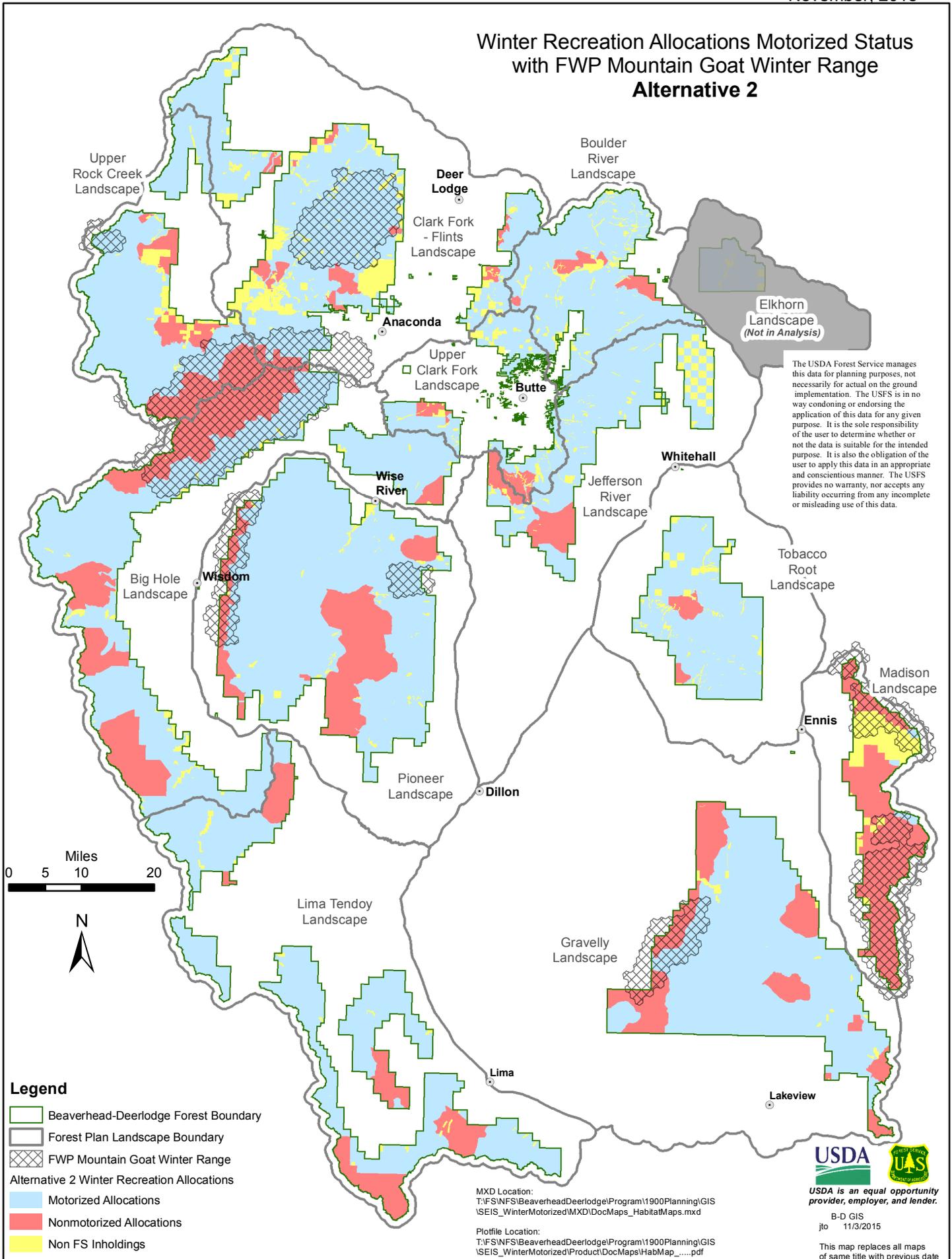


Figure C 2. Alternative 1 – Winter Recreation Allocations and Mountain Goat Winter Range

Winter Recreation Allocations Motorized Status with FWP Mountain Goat Winter Range **Alternative 2**



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Mountain Goat Winter Range
- Alternative 2 Winter Recreation Allocations**
- Motorized Allocations
- Nonmotorized Allocations
- Non FS Inholdings

MXD Location:
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Figure C 3. Alternative 2 – Winter Recreation Allocations and Mountain Goat Winter Range

Winter Recreation Allocations Motorized Status with FWP Mountain Goat Winter Range Alternative 3

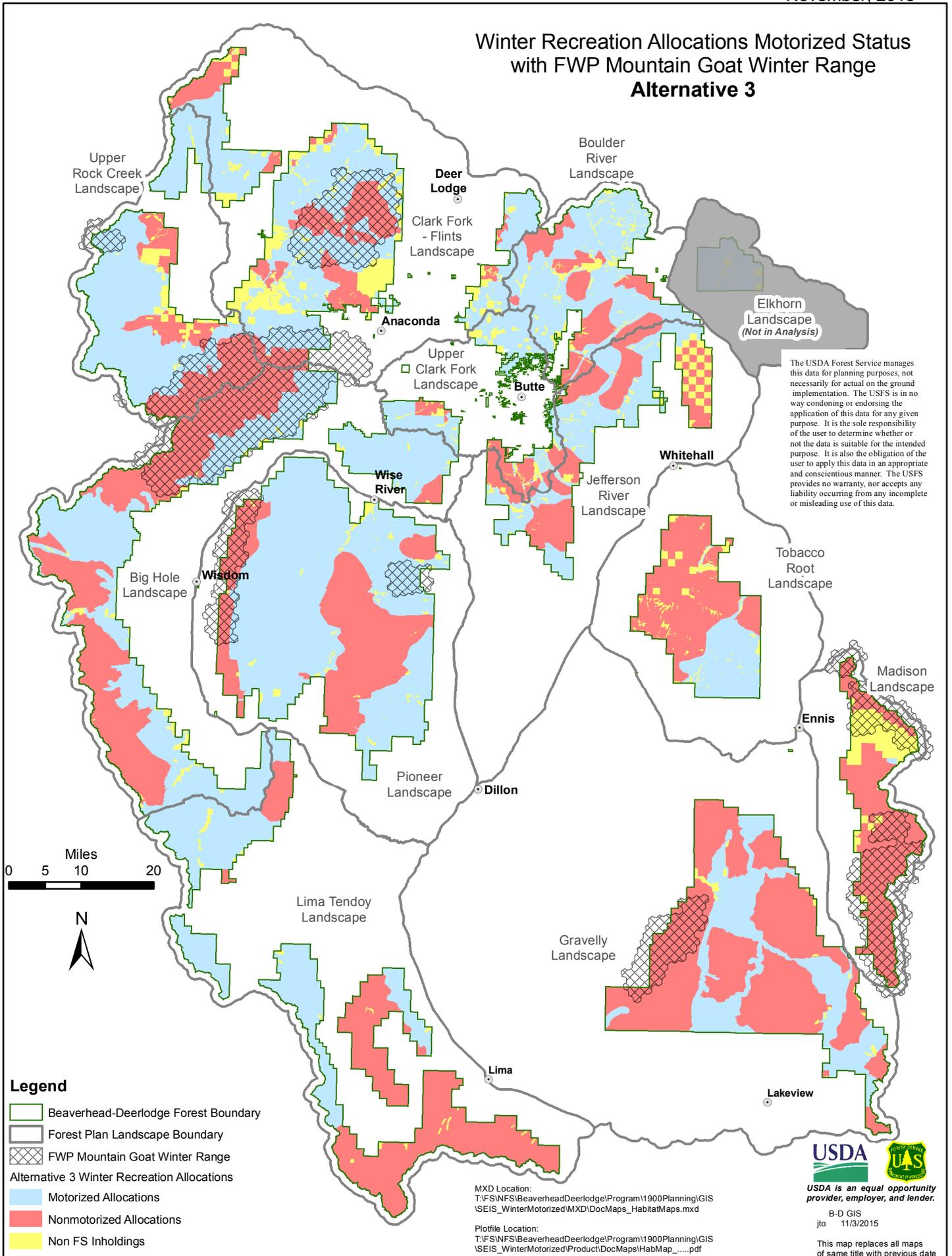
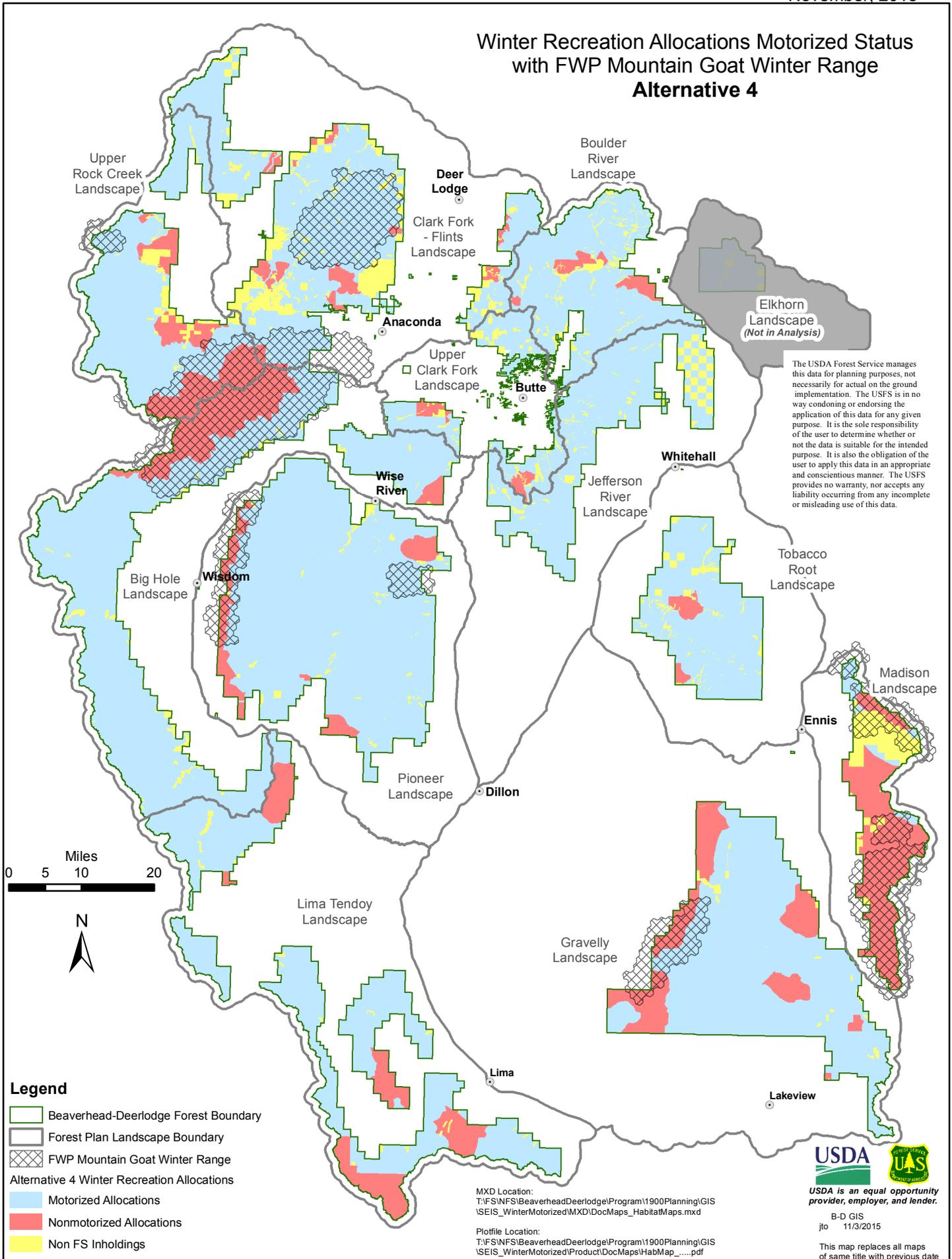


Figure C 4. Alternative 3 – Winter Recreation Allocations and Mountain Goat Winter Range

Winter Recreation Allocations Motorized Status with FWP Mountain Goat Winter Range **Alternative 4**



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Mountain Goat Winter Range
- Alternative 4 Winter Recreation Allocations**
- Motorized Allocations
- Nonmotorized Allocations
- Non FS Inholdings

MXD Location:
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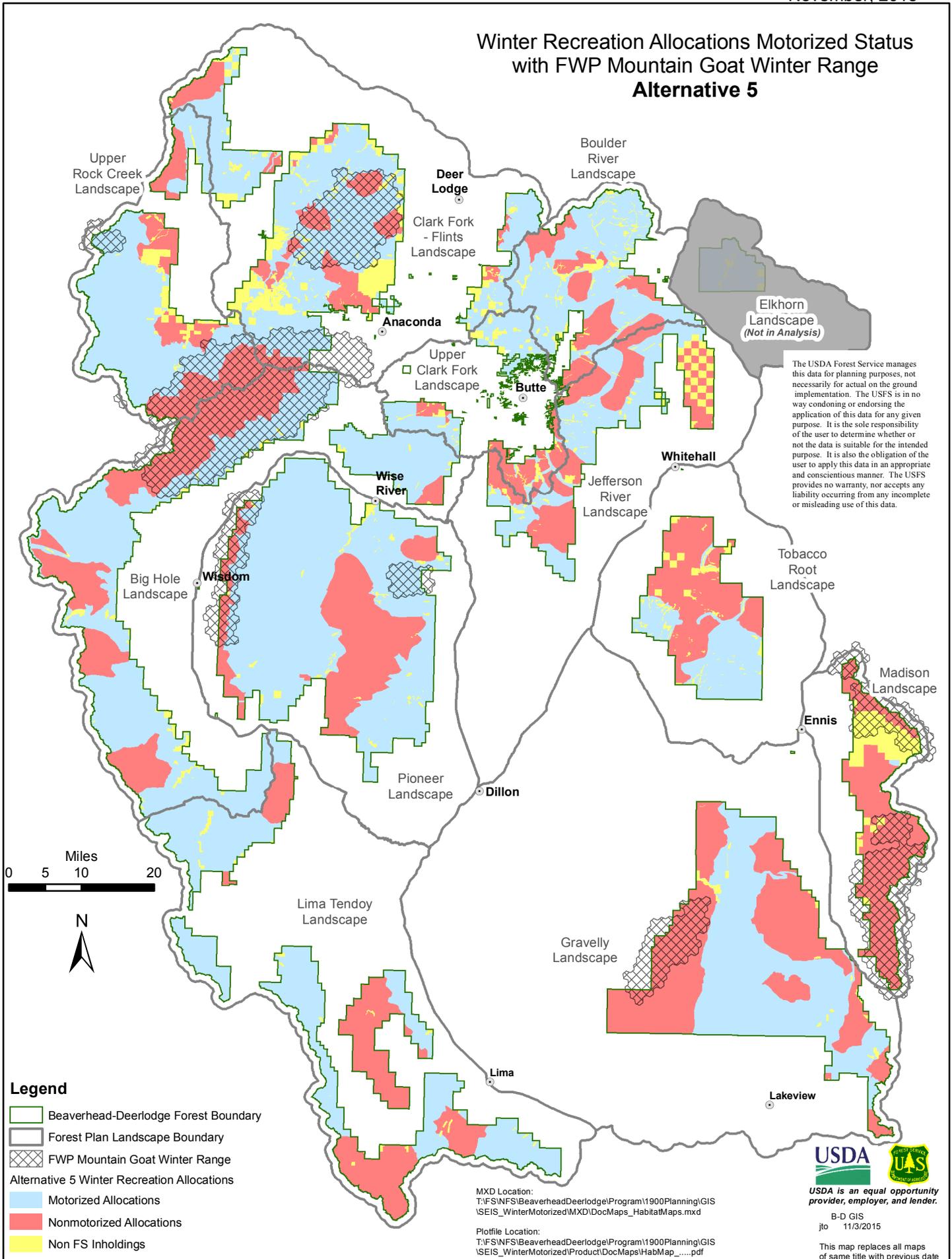
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Figure C 5. Alternative 4 – Winter Recreation Allocations and Mountain Goat Winter Range

Winter Recreation Allocations Motorized Status with FWP Mountain Goat Winter Range Alternative 5



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- FWP Mountain Goat Winter Range
- Alternative 5 Winter Recreation Allocations
- Motorized Allocations
- Nonmotorized Allocations
- Non FS Inholdings

MXD Location:
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Figure C 6. Alternative 5 – Winter Recreation Allocations and Mountain Goat Winter Range

Winter Recreation Allocations Motorized Status with FWP Mountain Goat Winter Range **Alternative 6 Modified**

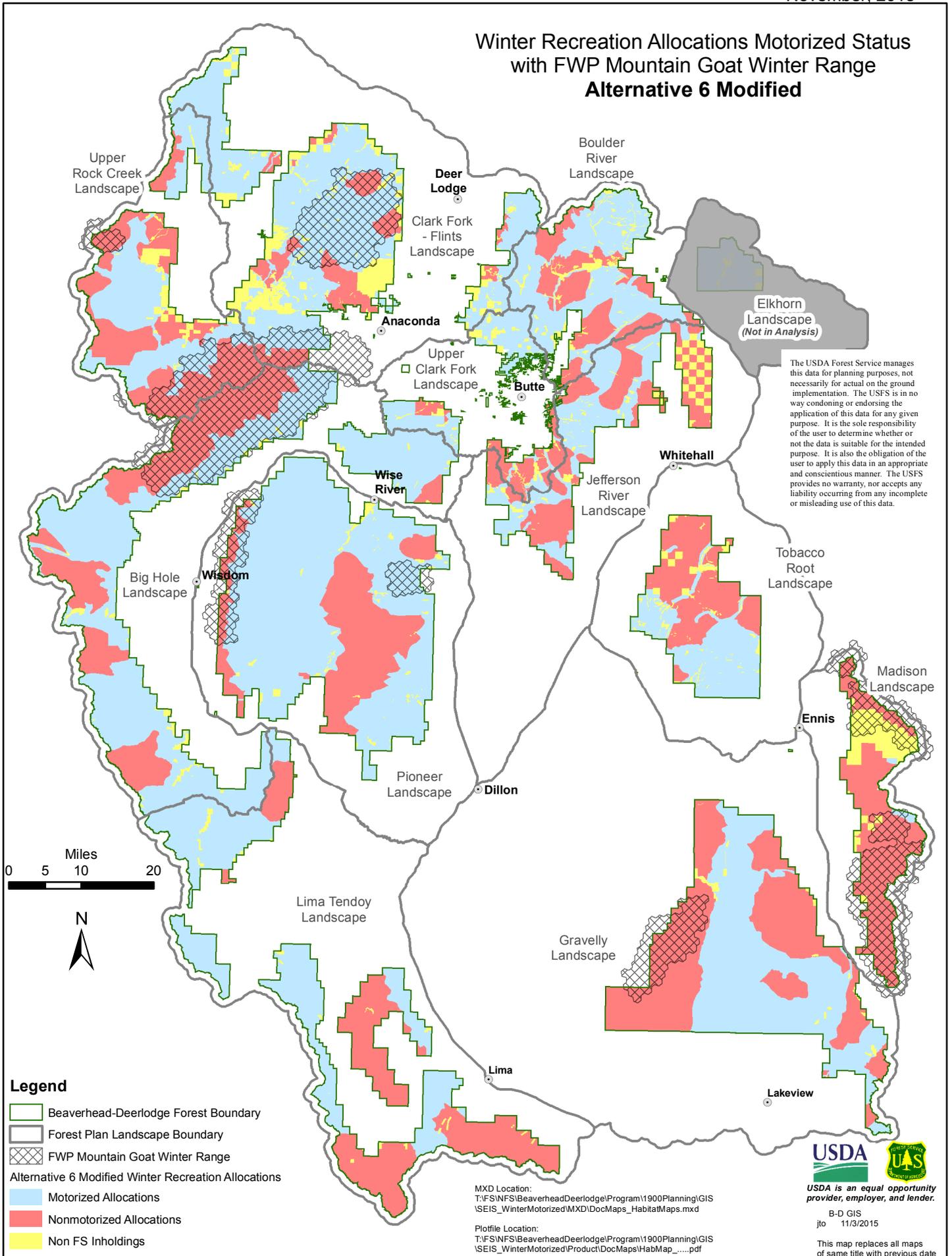


Figure C 7. Alternative 6 Modified – Winter Recreation Allocations and Mountain Goat Winter Range

Appendix D Grizzly Bear Maps

Figure D 1. Grizzly Bear Recovery Zones

Figure D 2. Grizzly Bear Modeled Denning Habitat

Figure D 3. Alternative 1 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Figure D 4. Alternative 2 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Figure D 5. Alternative 3 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Figure D 6. Alternative 4 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Figure D 7. Alternative 5 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Figure D 8. Alternative 6 Modified – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Grizzly Bear Recovery Zones and Distribution

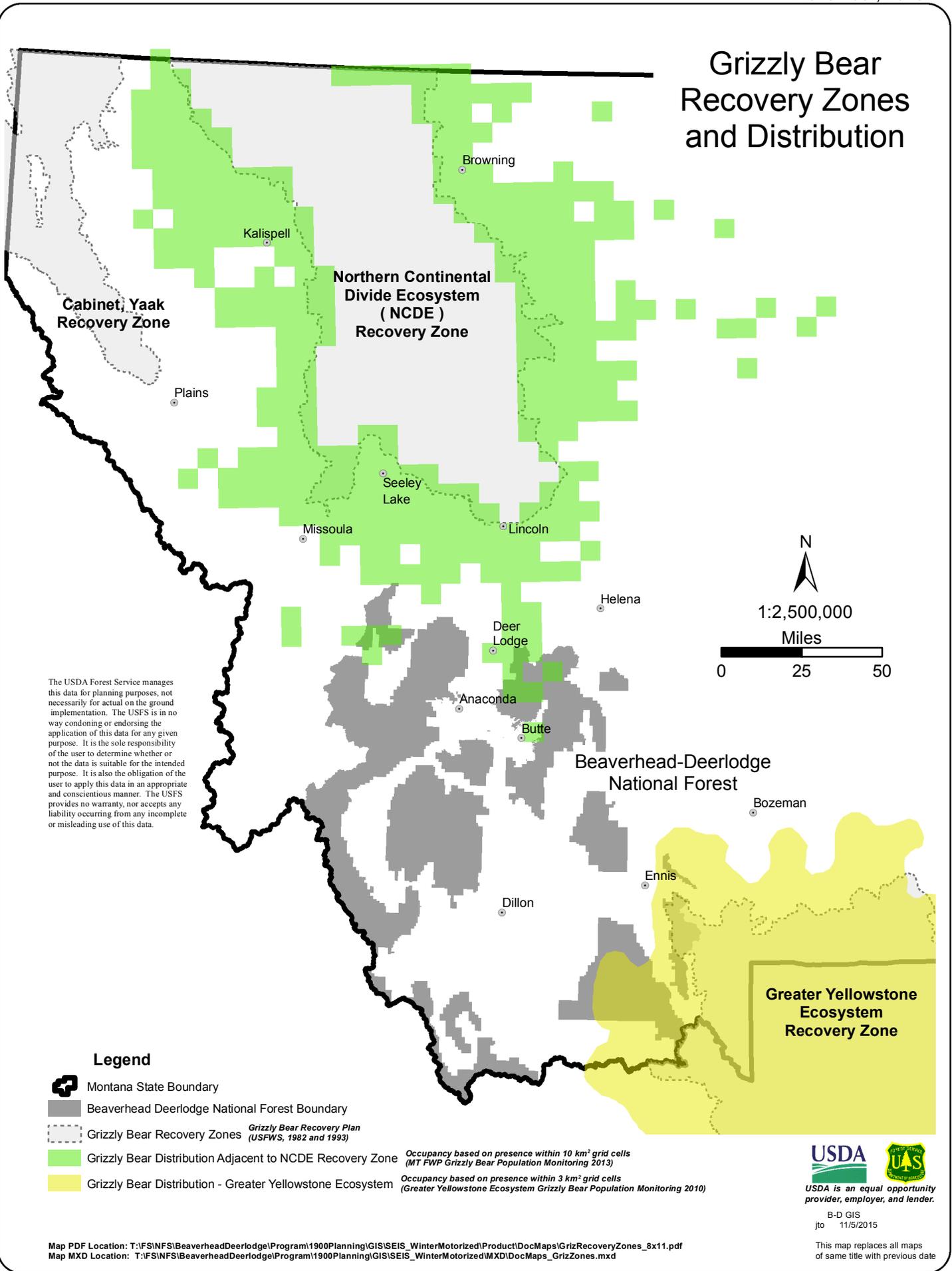


Figure D 1. Grizzly Bear Recovery Zones

Beaverhead-Deerlodge National Forest Landscapes with Modeled Grizzly Bear Denning Habitat

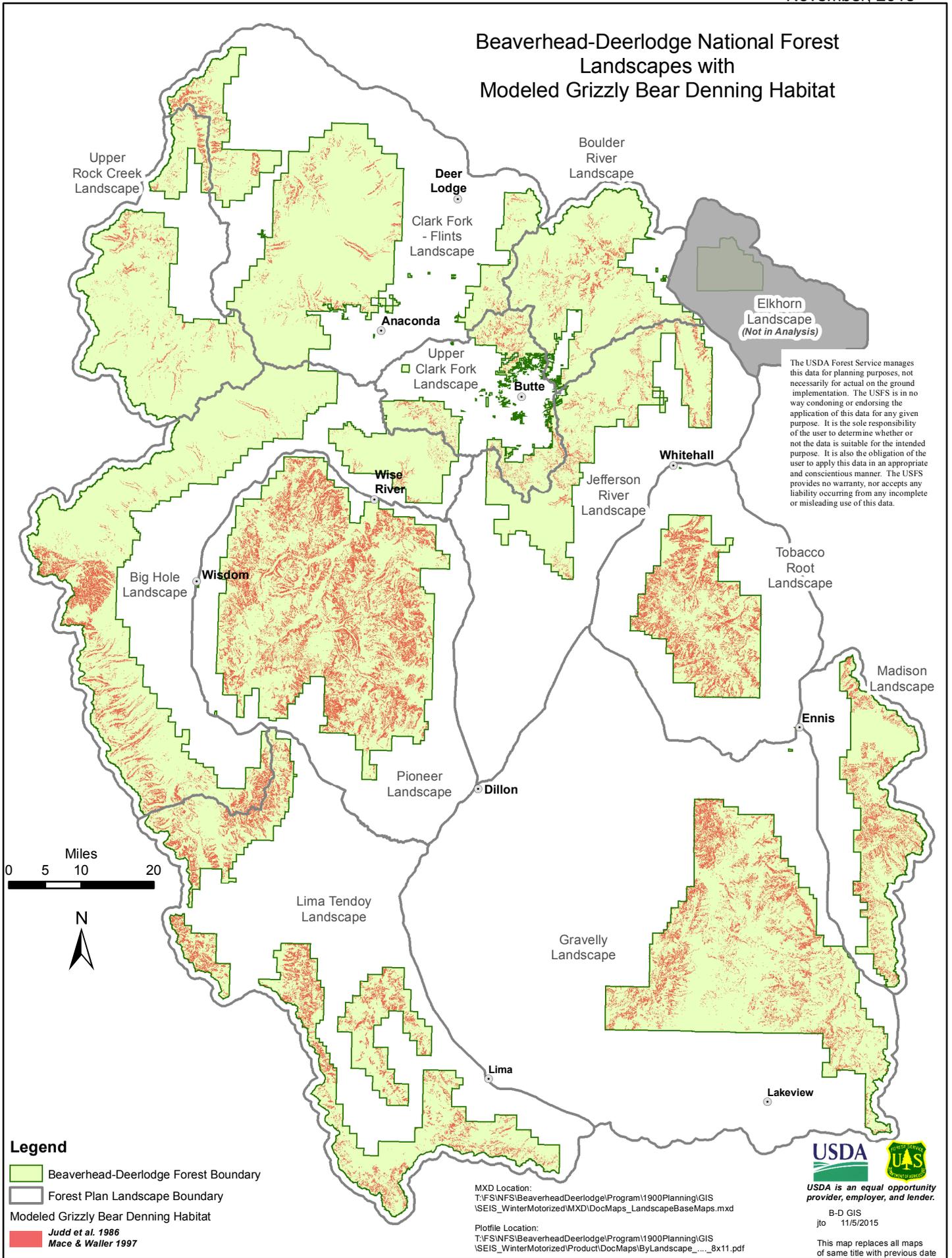
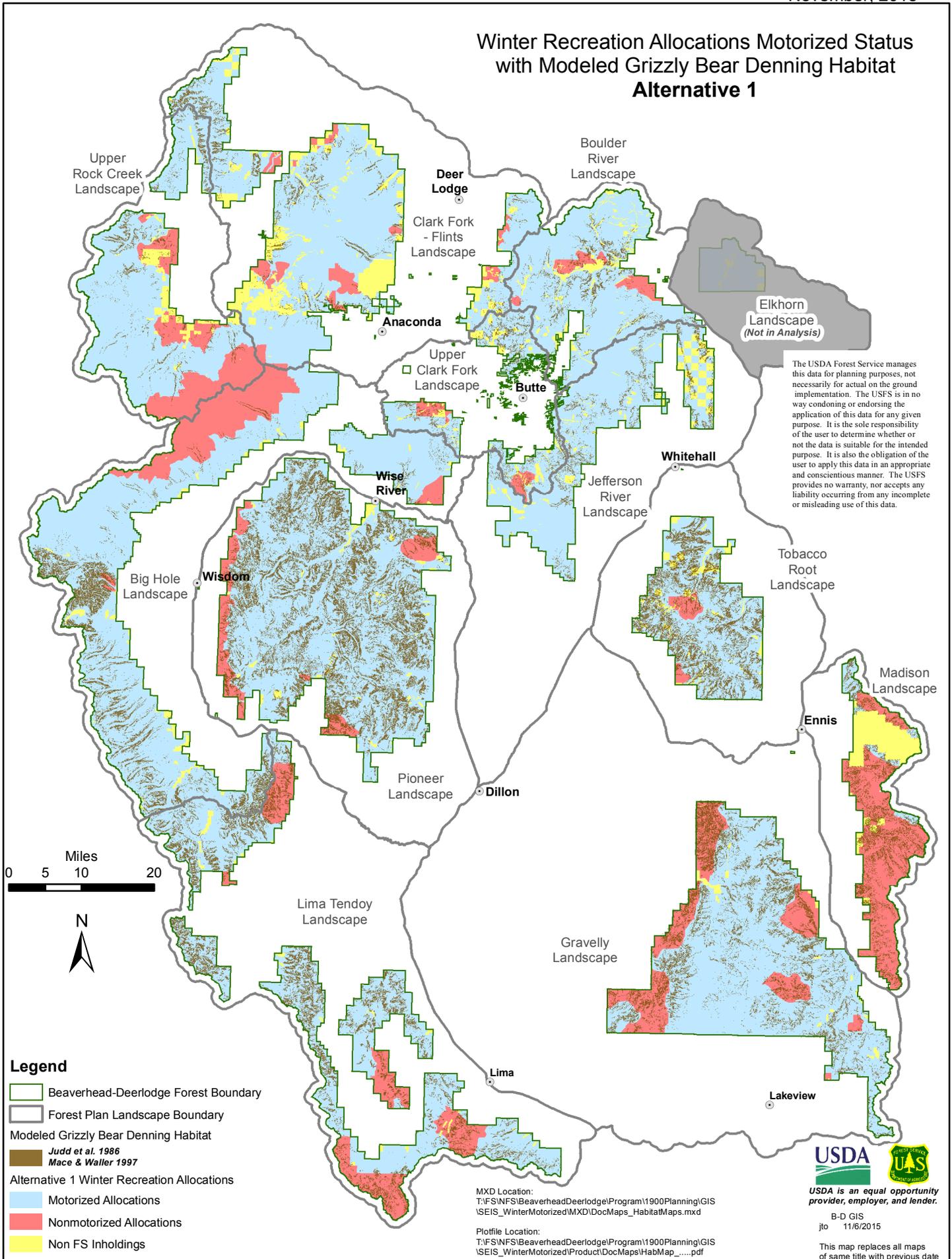


Figure D 2. Grizzly Bear Modeled Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Grizzly Bear Denning Habitat Alternative 1



- Legend**
- Beaverhead-Deerlodge Forest Boundary
 - Forest Plan Landscape Boundary
 - Modeled Grizzly Bear Denning Habitat
 - Judd et al. 1986
 - Mace & Waller 1997
 - Alternative 1 Winter Recreation Allocations
 - Motorized Allocations
 - Nonmotorized Allocations
 - Non FS Inholdings

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Figure D 3. Alternative 1 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Grizzly Bear Denning Habitat **Alternative 2**

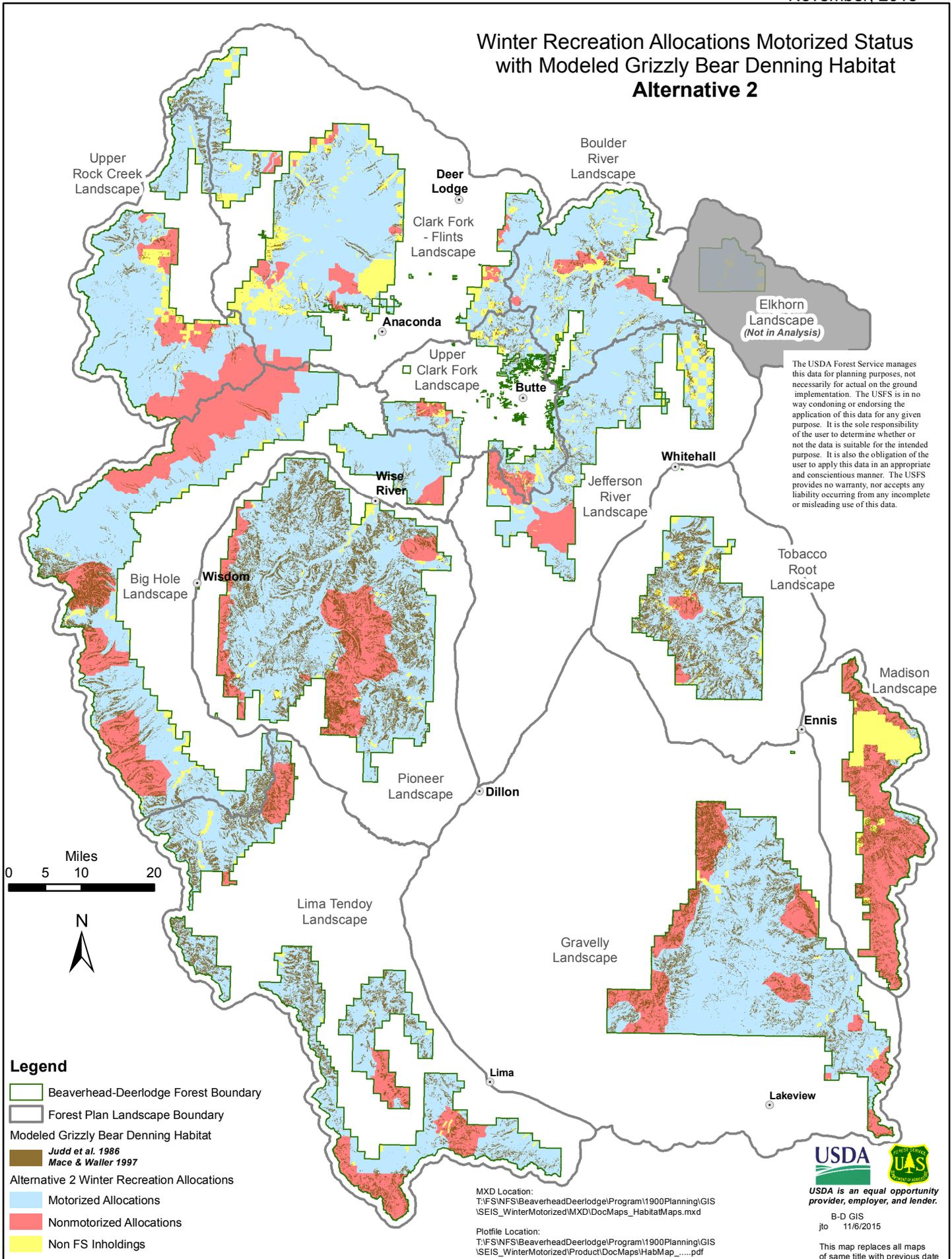


Figure D 4. Alternative 2 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Grizzly Bear Denning Habitat Alternative 3

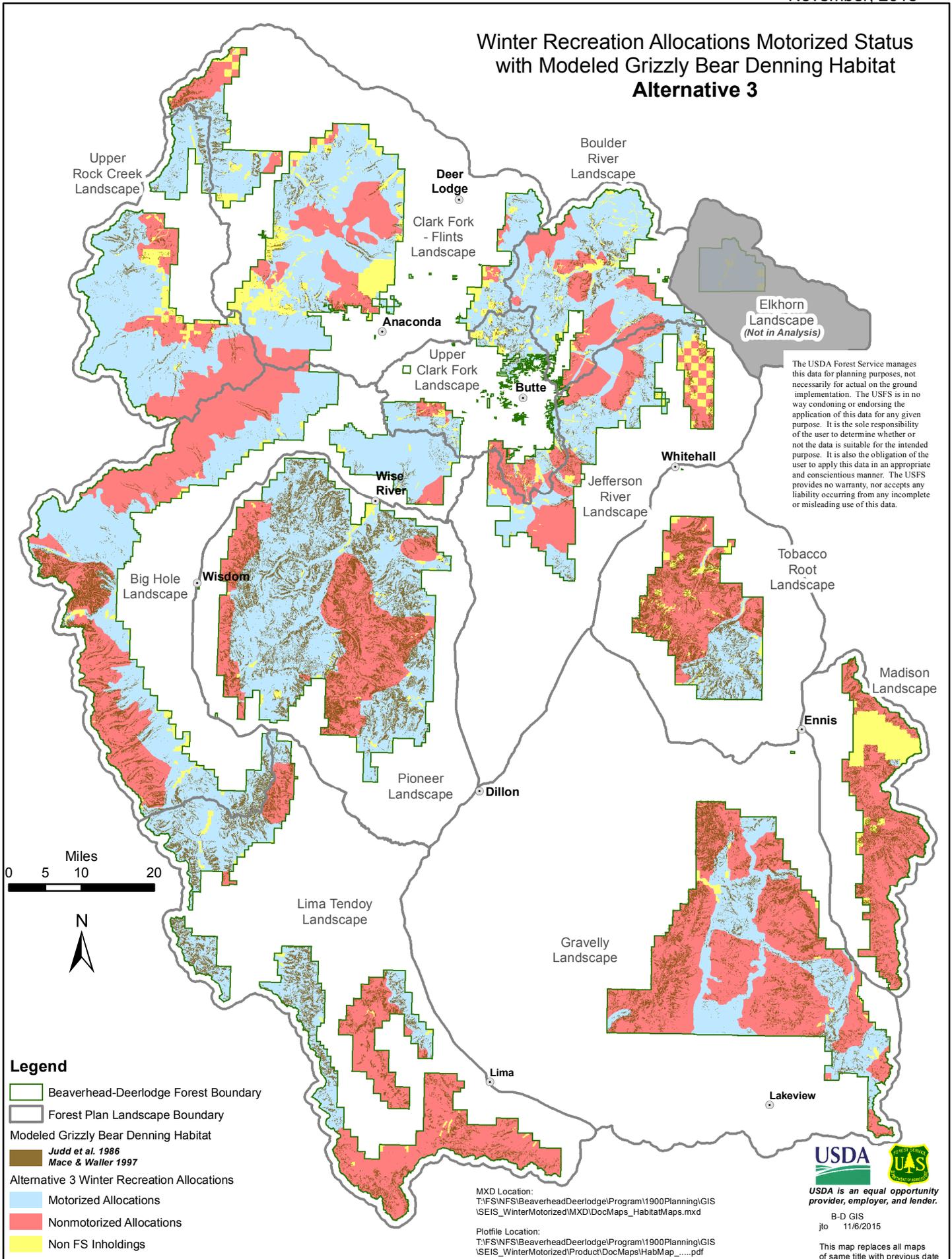


Figure D 5. Alternative 3 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Grizzly Bear Denning Habitat Alternative 4

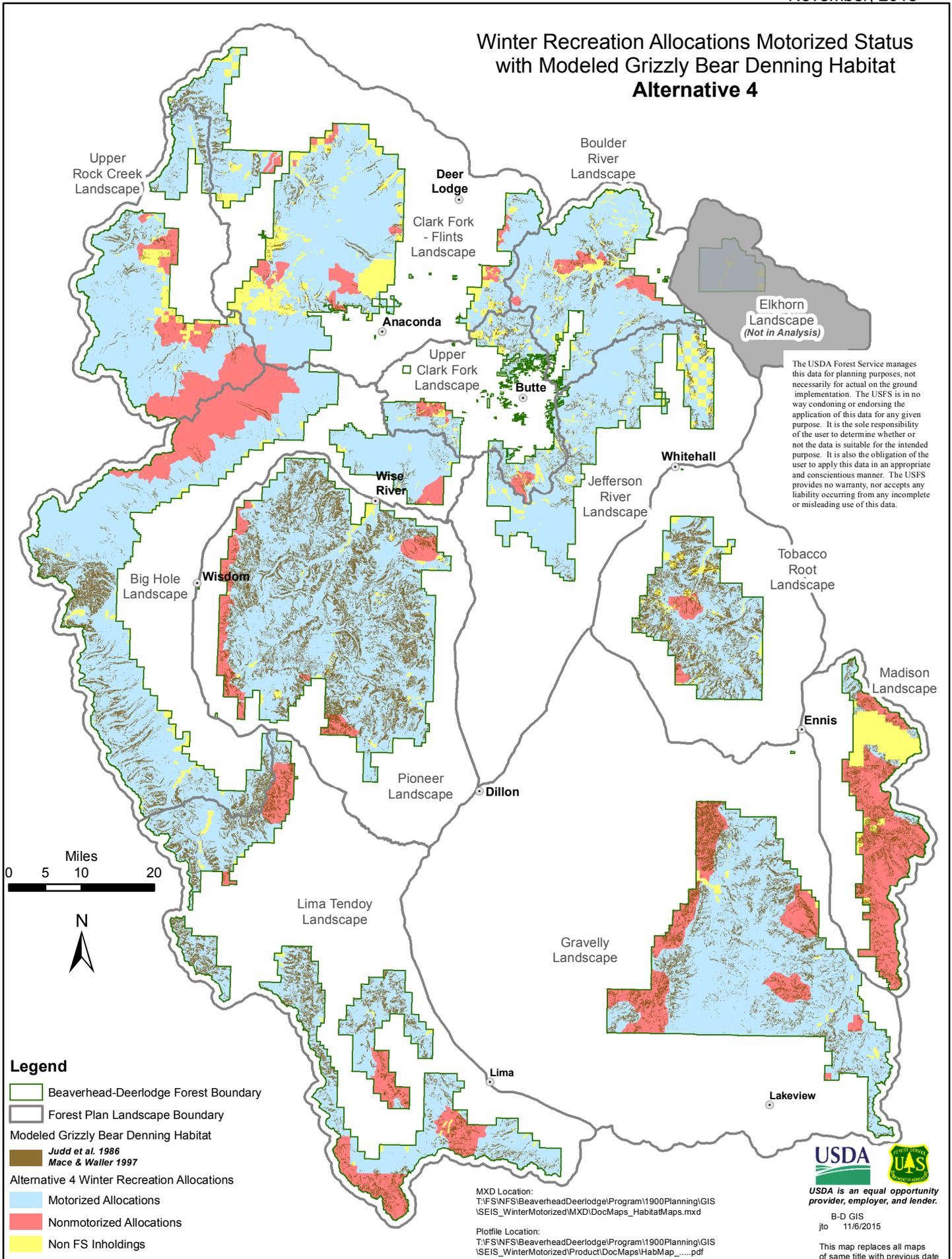


Figure D 6. Alternative 4 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Grizzly Bear Denning Habitat **Alternative 5**

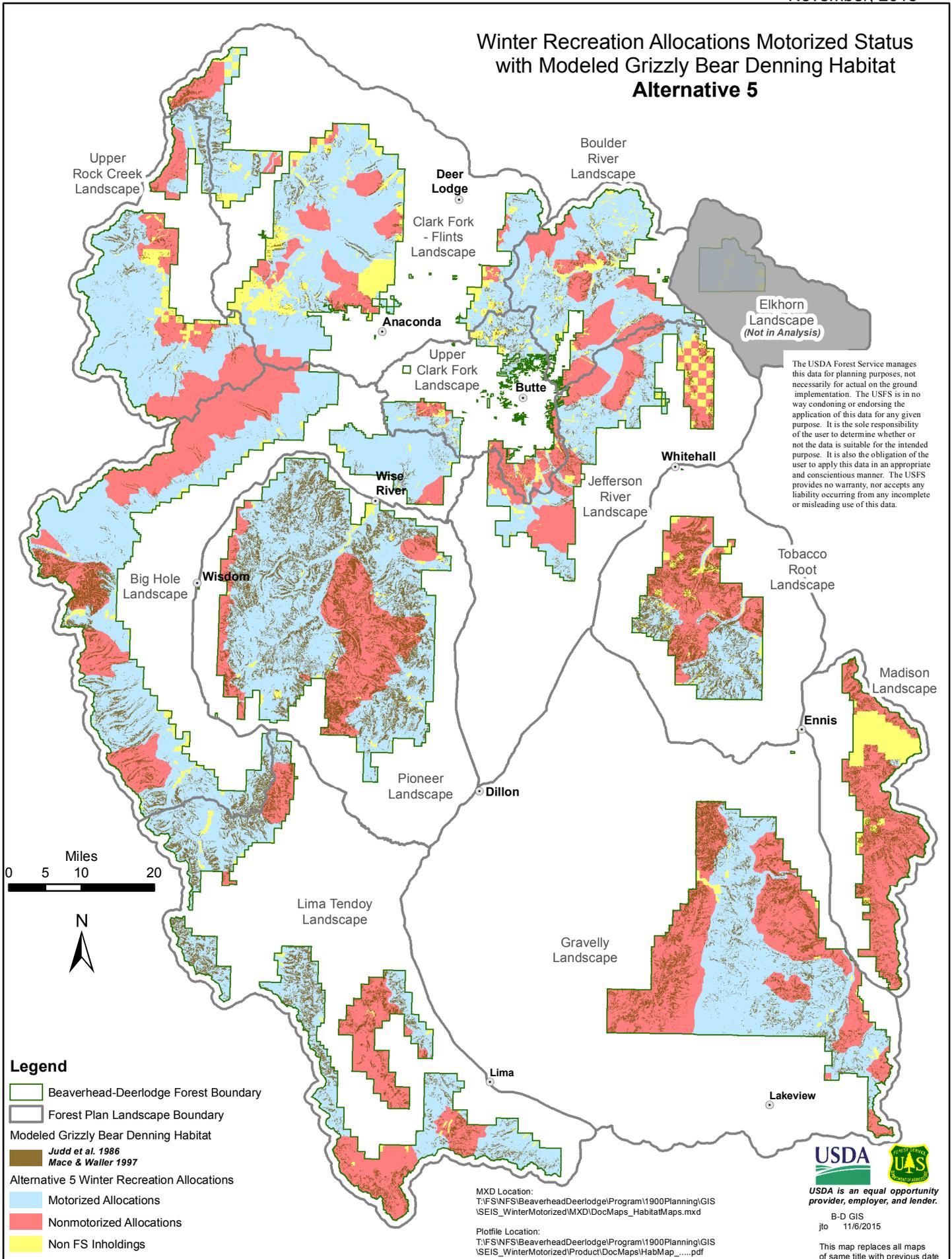


Figure D 7. Alternative 5 – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Grizzly Bear Denning Habitat **Alternative 6 Modified**

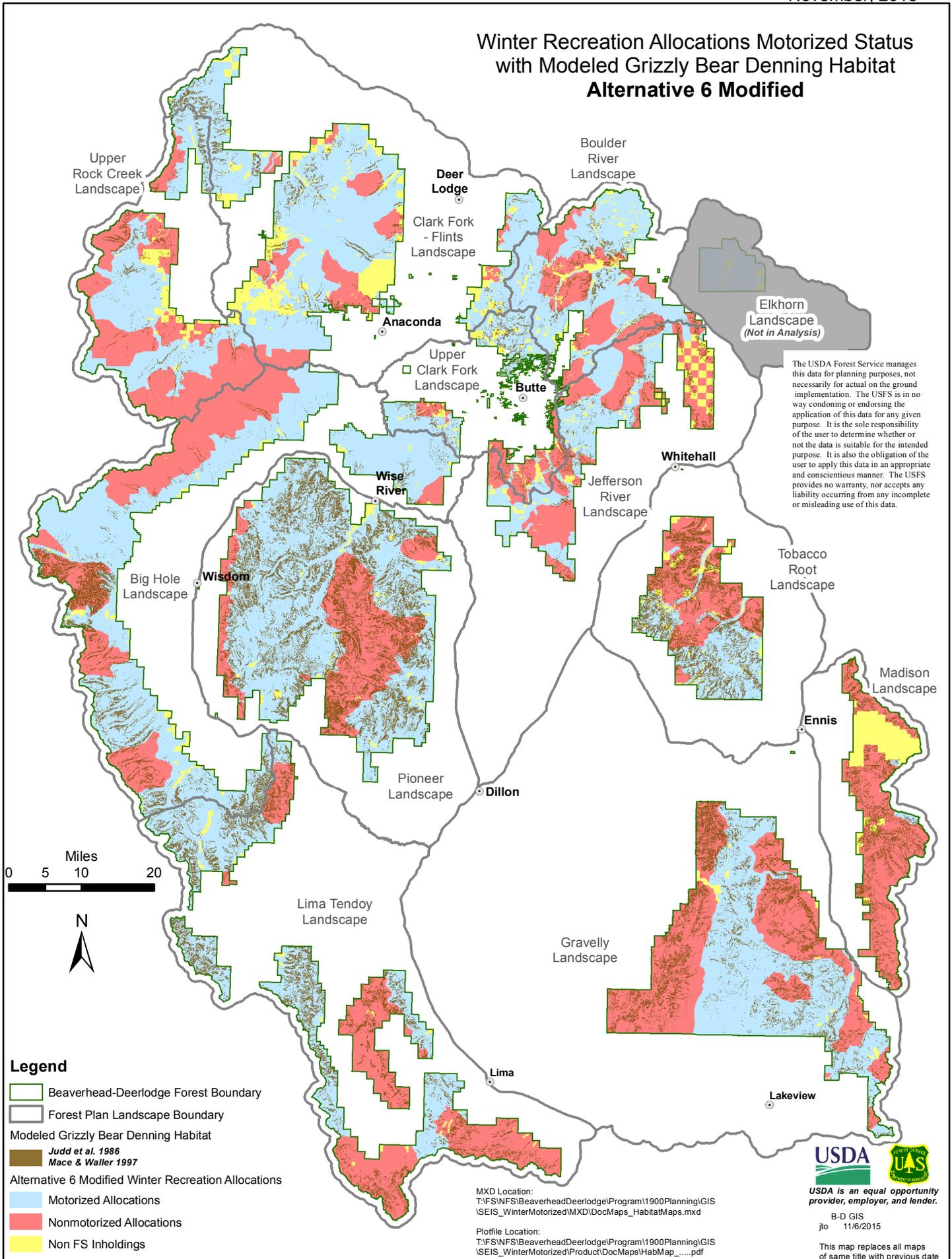


Figure D 8. Alternative 6 Modified – Winter Recreation Allocations and Grizzly Bear Denning Habitat

Appendix E Canada Lynx Occupied and Unoccupied Habitat

Figure E 1. Canada Lynx Occupied and Unoccupied Habitat in the Northern Rockies is an interactive PDF which allows you to zoom in for detail in any area of interest. It is not a static map like the rest of the maps in this section and cannot be printed as part of this document. Therefore it is posted separately on the web with this draft document as Figure E 1.

Use this URL: www.fs.usda.gov/project/?project=47722 to find both of these documents on the web.

Appendix F Wolverine Maps

Figure F 1. Wolverine Modeled Denning Habitat

Figure F 2. Alternative 1 – Winter Recreation Allocations and Wolverine Denning Habitat

Figure F 3. Alternative 2 – Winter Recreation Allocations and Wolverine Denning Habitat

Figure F 4. Alternative 3 – Winter Recreation Allocations and Wolverine Denning Habitat

Figure F 5. Alternative 4 – Winter Recreation Allocations and Wolverine Denning Habitat

Figure F 6. Alternative 5 – Winter Recreation Allocations and Wolverine Denning Habitat

Figure F 7. Alternative 6 Modified – Winter Recreation Allocations and Wolverine Denning Habitat

Beaverhead-Deerlodge National Forest Landscapes with Modeled Wolverine Denning Habitat

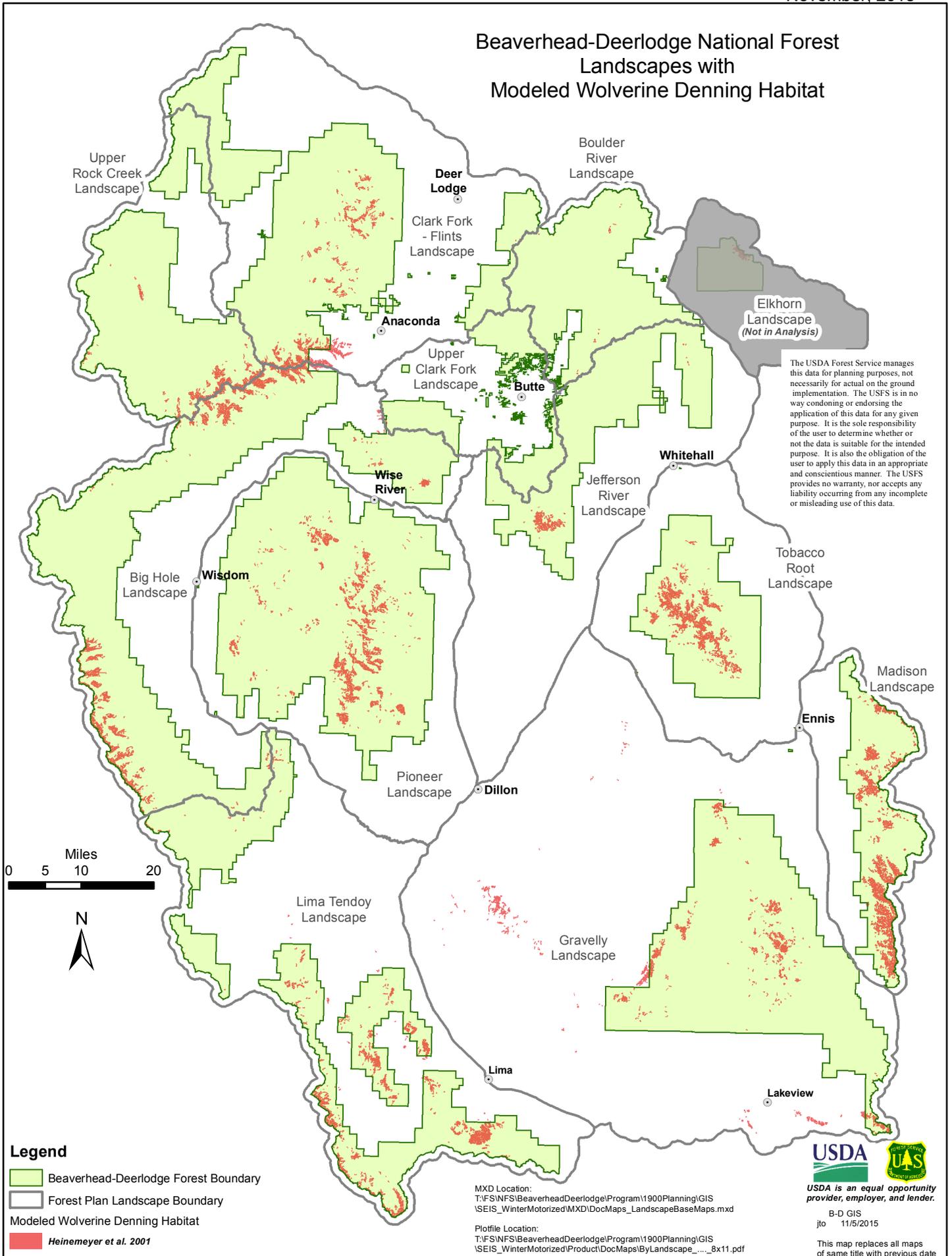
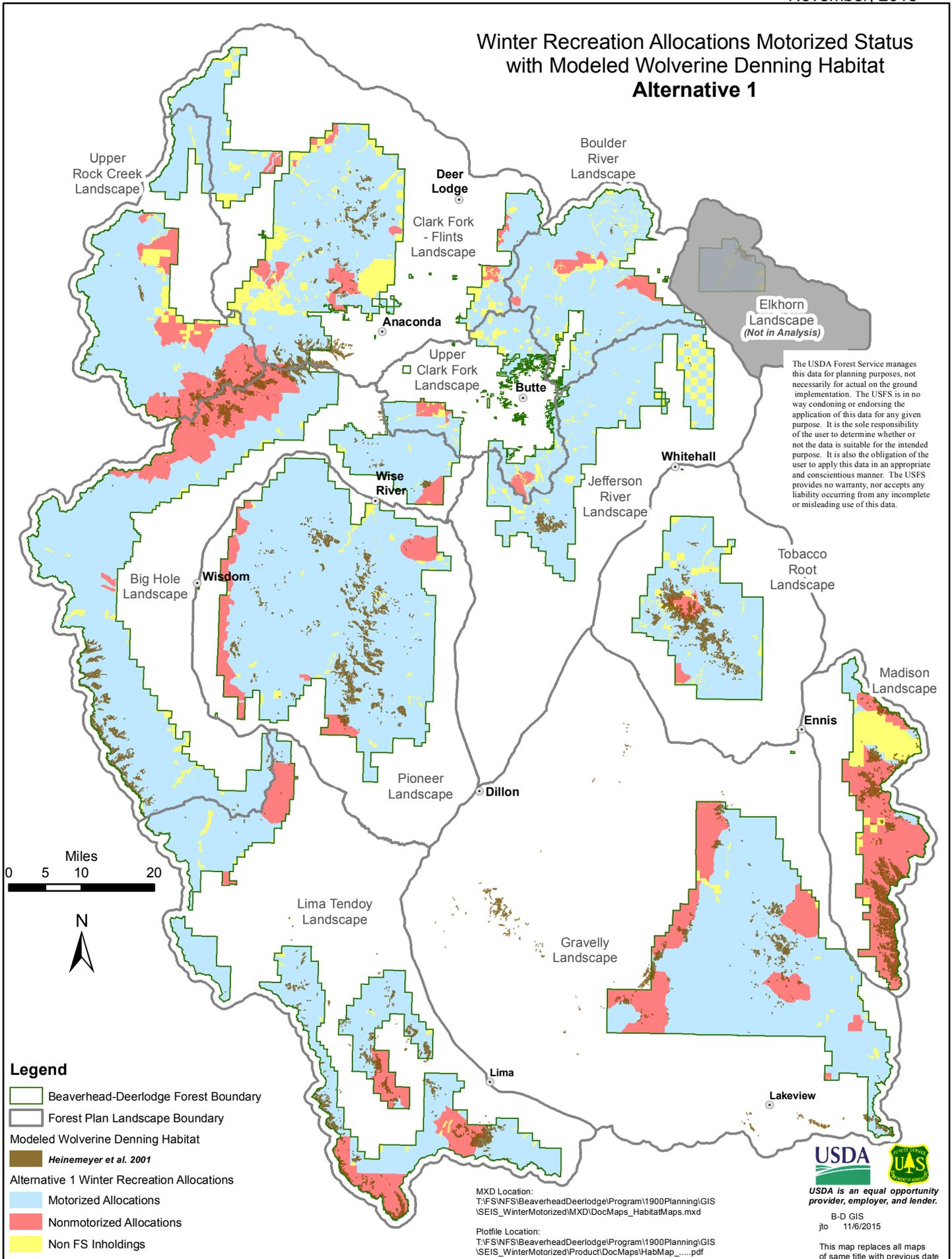


Figure F 1. Wolverine Modeled Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Wolverine Denning Habitat **Alternative 1**



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- Modeled Wolverine Denning Habitat
- Heinemeyer et al. 2001
- Alternative 1 Winter Recreation Allocations
- Motorized Allocations
- Nonmotorized Allocations
- Non FS Inholdings

MXD Location:
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Figure F 2. Alternative 1 – Winter Recreation Allocations and Wolverine Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Wolverine Denning Habitat **Alternative 2**

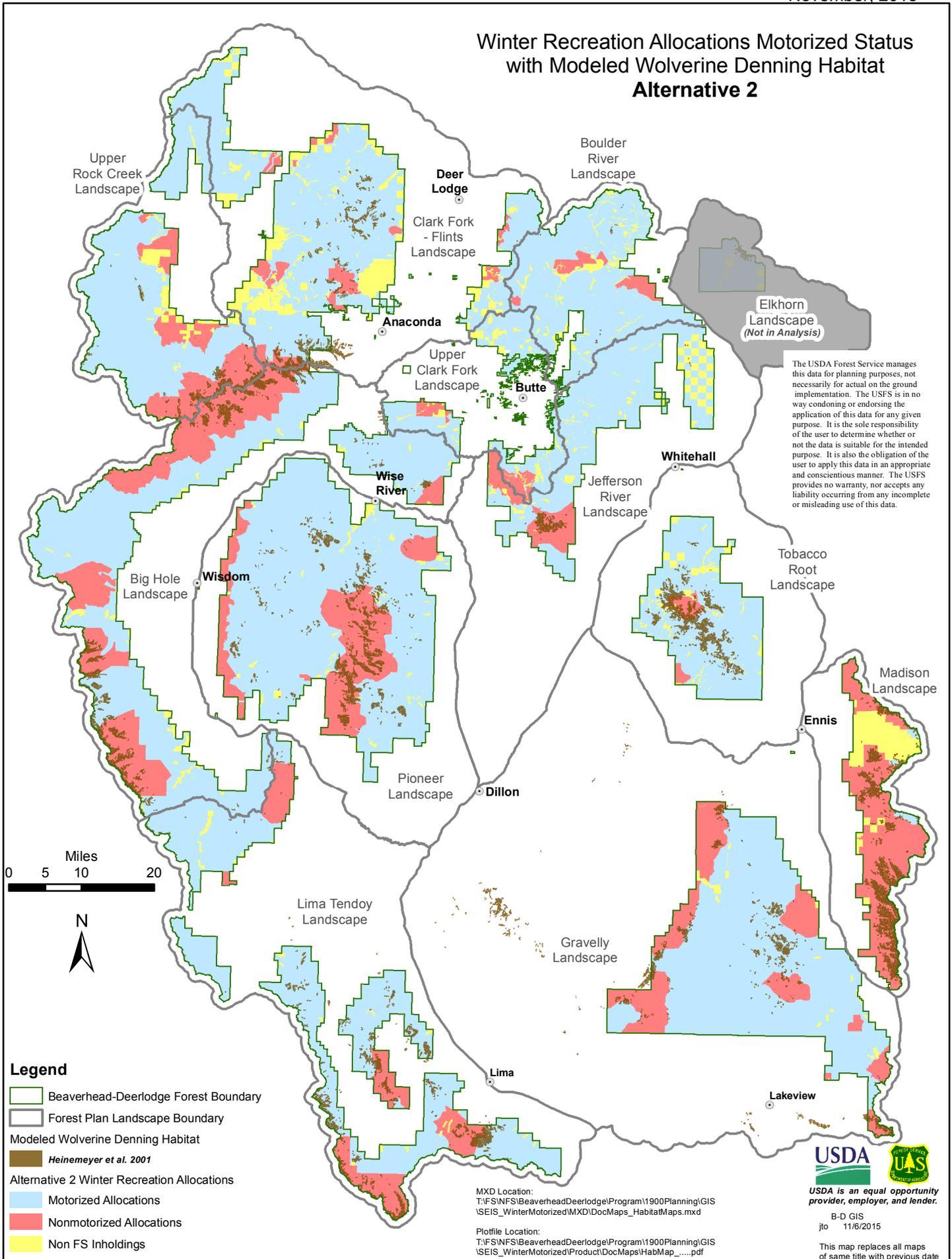


Figure F 3. Alternative 2 – Winter Recreation Allocations and Wolverine Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Wolverine Denning Habitat Alternative 3

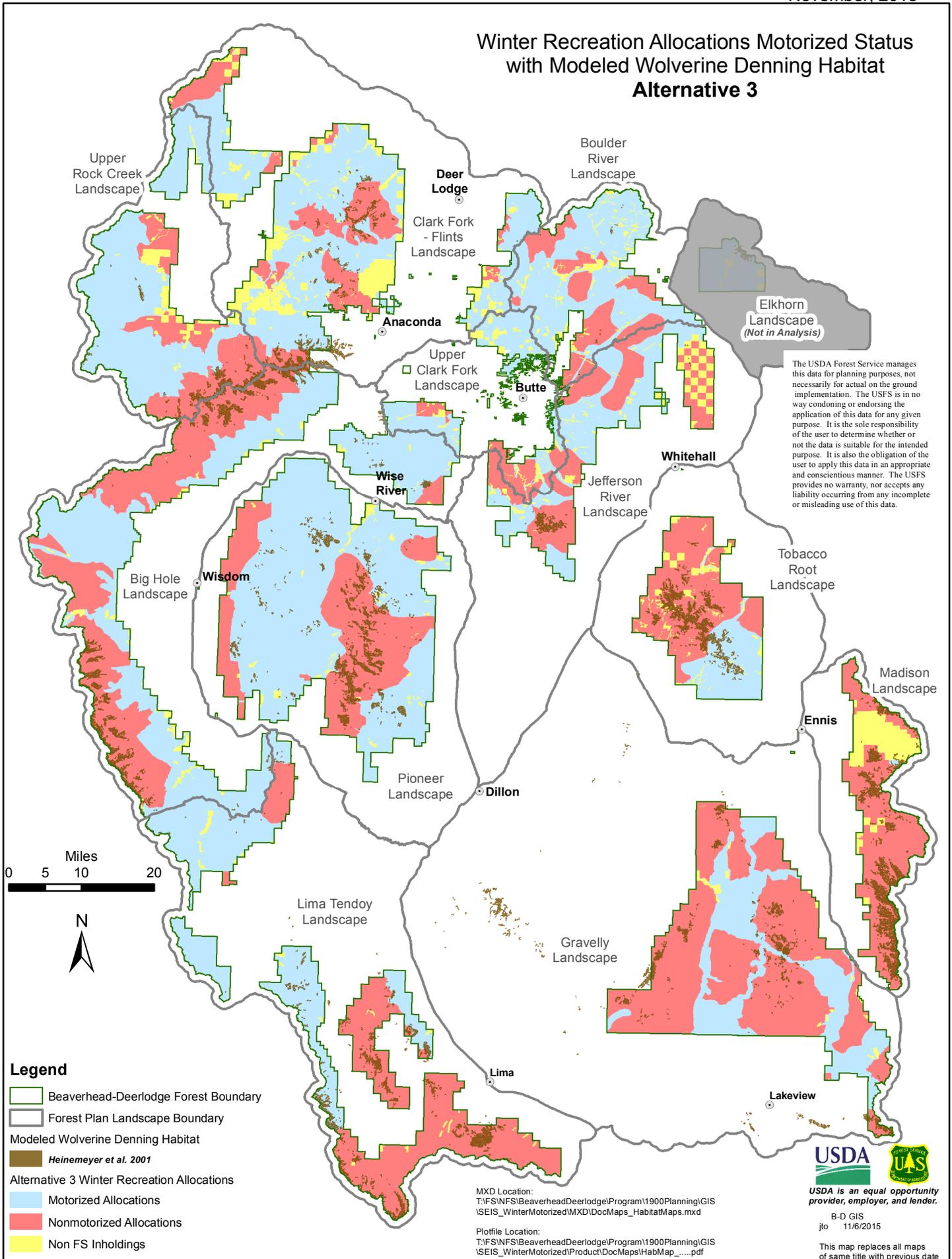


Figure F 4. Alternative 3 – Winter Recreation Allocations and Wolverine Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Wolverine Denning Habitat **Alternative 4**

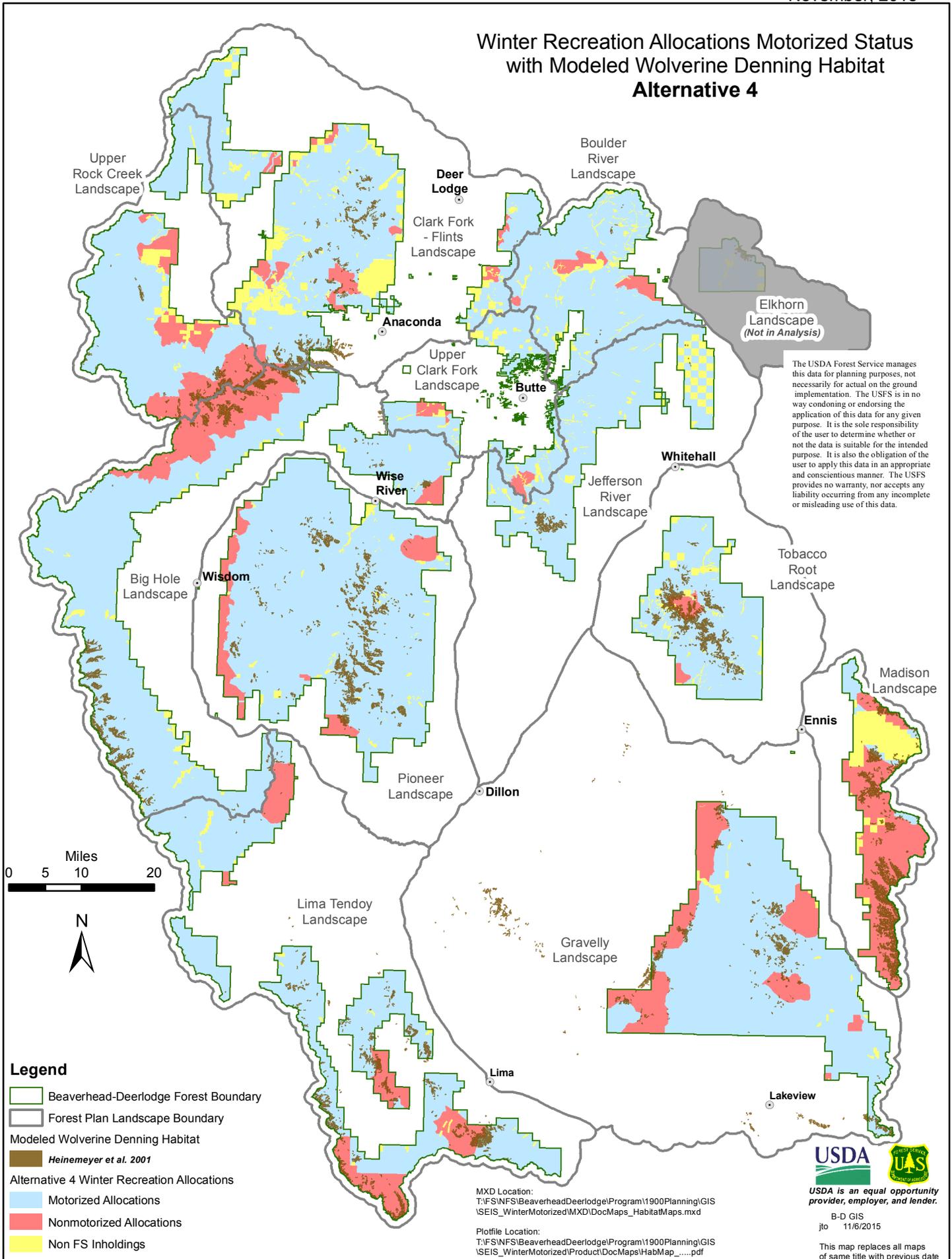
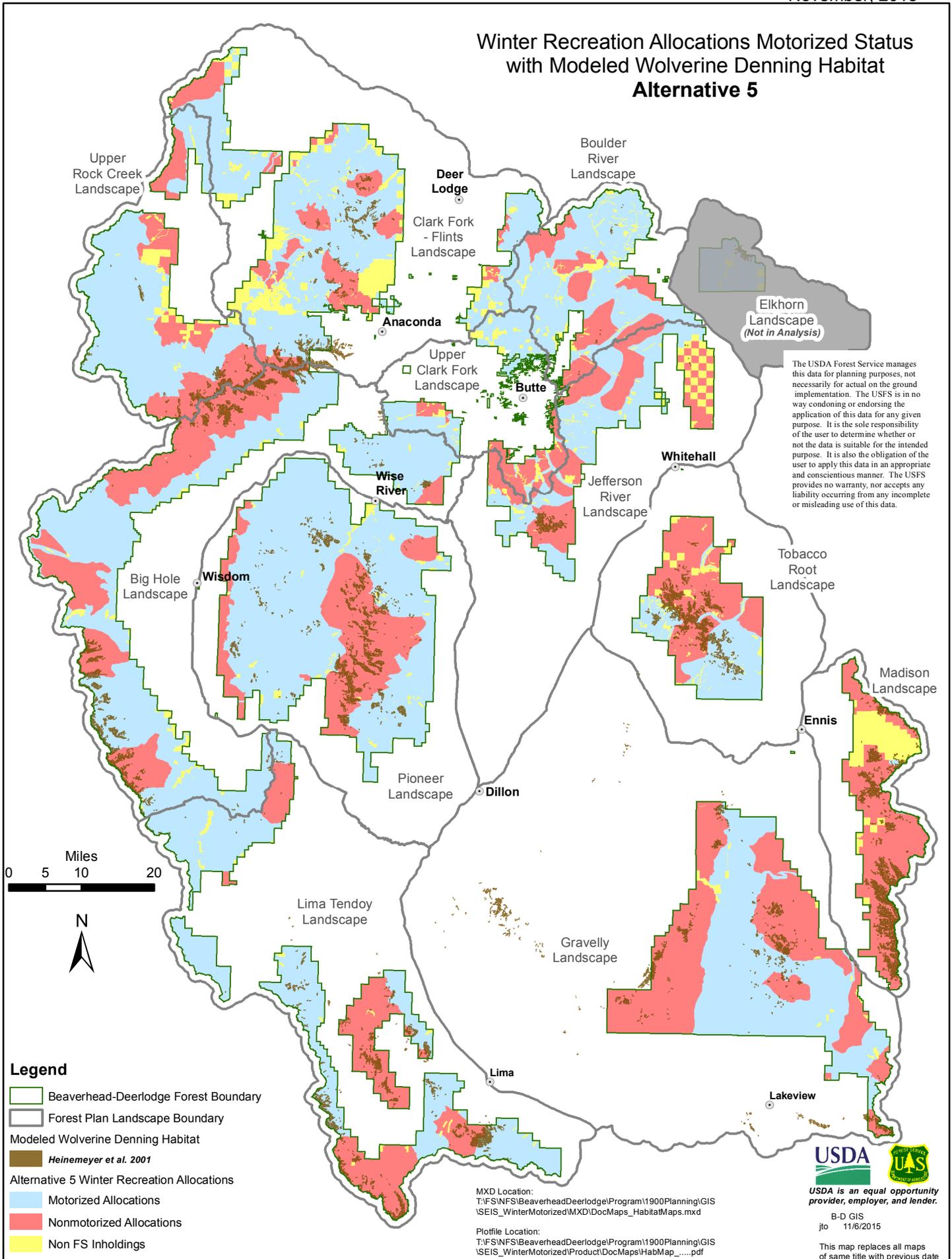


Figure F 5. Alternative 4 – Winter Recreation Allocations and Wolverine Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Wolverine Denning Habitat **Alternative 5**



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- Modeled Wolverine Denning Habitat
- Heinemeyer et al. 2001
- Alternative 5 Winter Recreation Allocations
- Motorized Allocations
- Nonmotorized Allocations
- Non FS Inholdings

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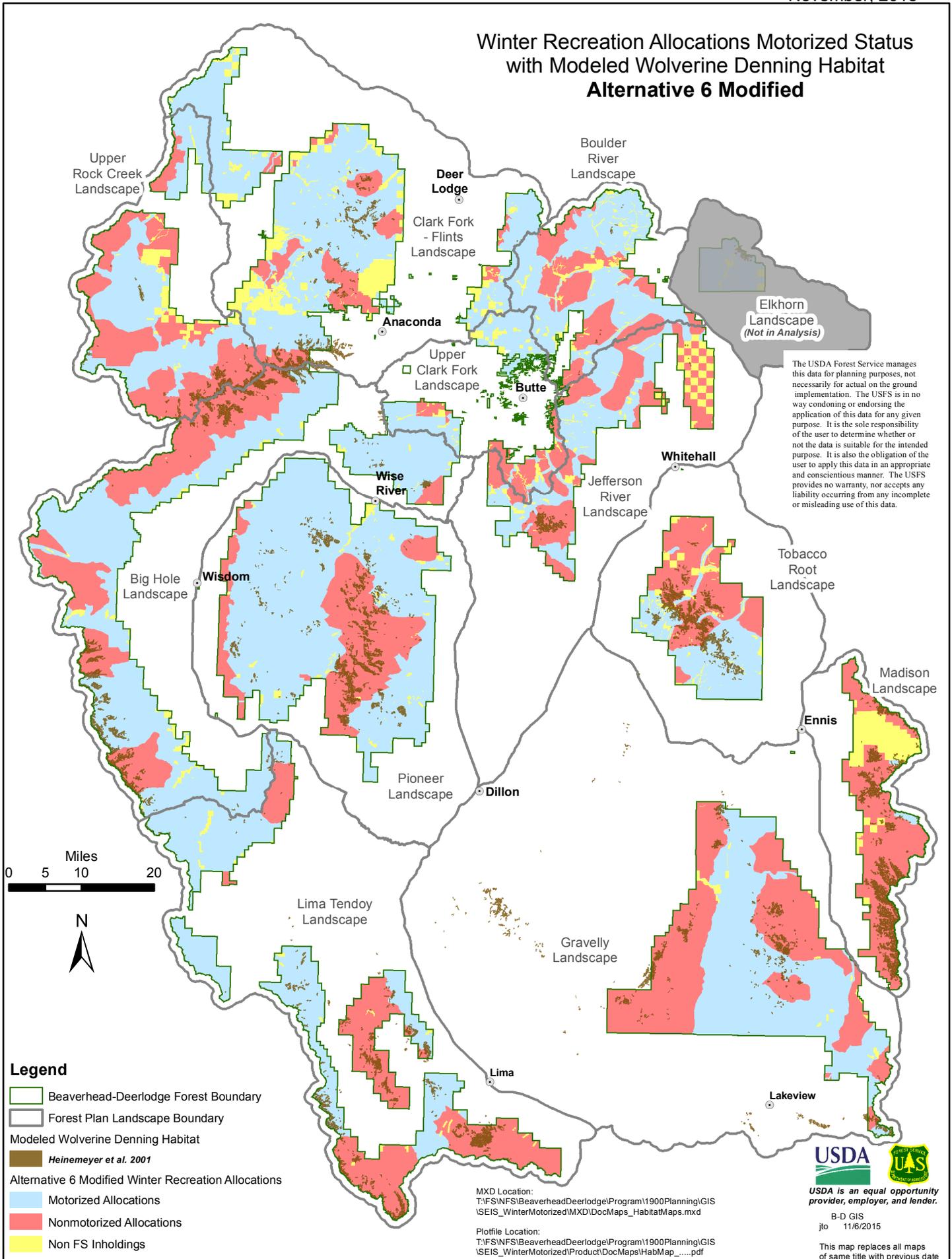
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Figure F 6. Alternative 5 – Winter Recreation Allocations and Wolverine Denning Habitat

Winter Recreation Allocations Motorized Status with Modeled Wolverine Denning Habitat **Alternative 6 Modified**



Legend

- Beaverhead-Deerlodge Forest Boundary
- Forest Plan Landscape Boundary
- Modeled Wolverine Denning Habitat
- Heinemeyer et al. 2001
- Alternative 6 Modified Winter Recreation Allocations
- Motorized Allocations
- Nonmotorized Allocations
- Non FS Inholdings

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Figure F 7. Alternative 6 Modified – Winter Recreation Allocations and Wolverine Denning Habitat

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