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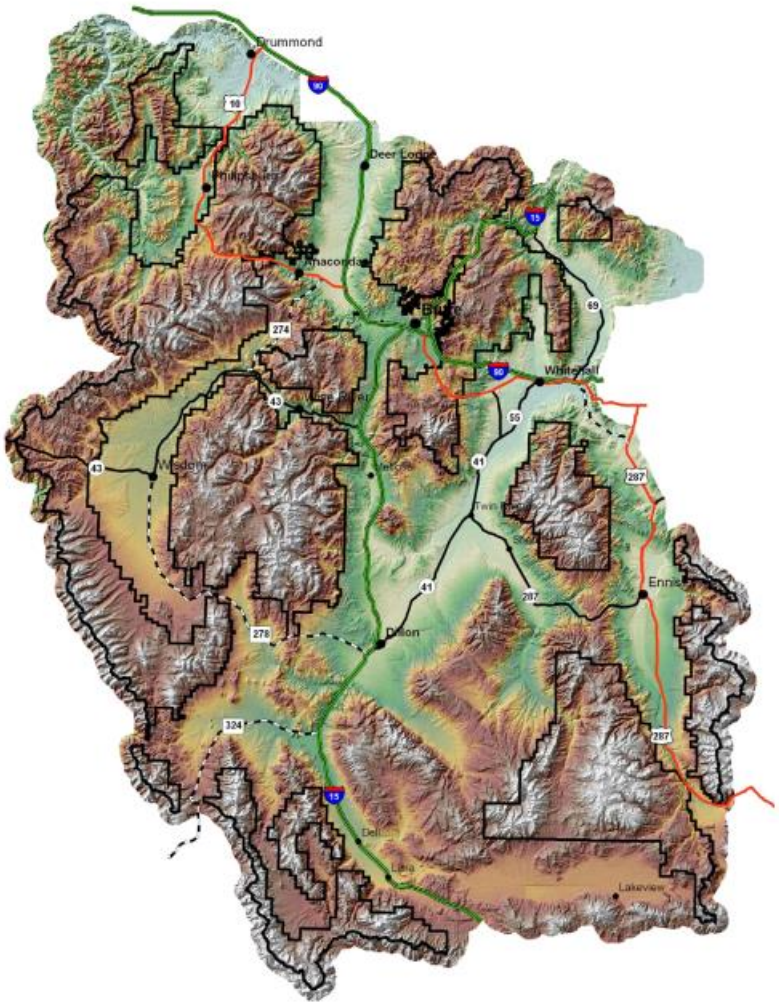
Beaverhead-Deerlodge National Forest Land and Resource Management Plan

Final Supplemental Environmental Impact Statement to Comply with a District of Montana Court Order (Temporary Roads)



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Final Supplemental Environmental Impact Statement for the Beaverhead-Deerlodge National Forest Land and Resource Management Plan to Comply With a District of Montana Court Order (Temporary Roads)

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Abstract: In a May 24, 2013 Order, the U.S. District Court for the District of Montana directed the Forest Service to supplement the 2009 Corrected FEIS for the Beaverhead-Deerlodge National Forest Plan to explain or support its decision to exclude temporary roads from Forest Plan road density objectives. This Final Supplemental EIS evaluates the effect of not including temporary roads in Open Motorized Road and Trail Density goals on Forest Plan EIS issues.

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Changes Draft to Final

The following changes were made to the Supplemental Environmental Impact Statement (SEIS) since the Draft SEIS became available for public review and comment. Minor spelling, grammar and punctuation edits are not included in the following list.

- Appendix A - Responses to Comments on Draft SEIS – was added.
- In response to comments 5-9 and 5-12, Appendix B – Review of Scientific Literature Addressing Elk Security and Population Monitoring Published Since 2009 – was added.
- A paragraph describing how comments on the Draft SEIS were used to develop this Final SEIS was added to the public involvement section.
- In response to comment 10-7, a column identifying landscapes was added to Table 1.
- In response to comment 4-8, a description of future travel planning efforts was included in the SEIS analysis for recreation and travel management.
- In response to comment 10-3, a description of temporal constraints on the length of time a temporary road often remains on the landscape was included in the SEIS analysis for wildlife habitat.
- In response to comment 5-17, confusing wording indicating effects of temporary roads to wildlife occur only in secure areas was removed in the SEIS analysis for wildlife habitat. Additional information describing temporary roads and potential effects was added or modified.
- In response to comment 10-2a the word "closed" was deleted from the proposed OMRTD definition.
- Scientific literature cited in comments on the Draft SEIS and agency responses were added to the list of references for this document.
- Table 1 was reviewed and updated with proposed projects under analysis as of September, 2014

Purpose of the Supplemental Analysis

In a May 24, 2013 Order, the U.S. District Court for the District of Montana directed the Forest Service to supplement the 2009 Corrected Final Environmental Impact Statement (Corrected FEIS) for the Beaverhead-Deerlodge National Forest (BDNF) Plan. This Supplemental Environmental Impact Statement (SEIS) evaluates the effects of temporary roads in order to comply with the Court Order specifically directing the Forest Service to "…supplement its EIS for the Forest Plan to explain or support, if possible, its decision to exclude temporary roads from the road density objectives…." (Court Order, pg. 4).

Specifically, this SEIS addresses the issue: What is the effect of not including temporary roads in Open Motorized Road and Trail Density goals[1] on Forest Plan EIS issues?

The Forest Plan (pg. 304) defines a temporary road or trail as a "road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas (36 CFR 212.1)."

Background

In 2009, Regional Forester Thomas Tidwell signed a Record of Decision (ROD)[2] for the BDNF Plan FEIS[3] and approved the 2009 Forest Plan[4]. The Forest Plan provides management direction for activities

[1] The objectives referenced in the Court Order are actually Forest Plan Goals identified as Desired Open Motorized Road and Trail Density (see Forest Plan Tables 13 and 14, pgs. 45-46).
[2] http://www.fs.usda.gov/detail/bdnf/landmanagement/planning/?cid=stelprdb5427140

on the BDNF for the next 10 to 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 replaced 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[5] and prescribes forest-wide management goals, objectives and standards for 17 specific resources and additional direction specific to 86 management areas. Since Forest Plan direction applies to all projects with decisions made on or after the effective date of the ROD (pg. 38), the BDNF began applying Forest Plan direction to site-specific project proposals in 2009. Subsequent site specific project analysis of wildlife-related goals, objectives and standards (Forest Plan, pgs. 45-48) called into question the method for calculating Forest Plan open motorized road and trail densities (OMRTD) related to the construction and use of temporary roads. Should temporary roads primarily associated with vegetation management and mineral exploration proposals and closed and/or obliterated at project completion be included in Forest Plan landscape and hunting unit OMRTDs?

In 2012, Native Ecosystems Council and Alliance for the Wild Rockies filed a complaint in U.S. District Court for the District of Montana (case 9:121-CV-00027-DLC) alleging, in part, the Forest Plan failed to ensure elk viability because the Forest Service did not disclose and consider the best available science in its analysis of road density. In a May 24, 2013 Order, the U.S. District Court for the District of Montana found the Forest Service "…complied with the general requirements of the 1982 viability regulation for elk and adequately disclosed the science upon which it relied to determine appropriate road density levels for areas with different management goals…. However, the Forest Service did not explain or support its decision to exclude temporary roads from the road density objectives."

The Court also ordered the Forest Service to "…correct the record to show that permitted and administrative roads are included in the objectives." On August 23, 2013, the BDNF complied with this part of the Court Order[6]. The Forest Plan available on the BDNF web page (see footnote 4) includes these corrections within the context of the entire document. The Forest Plan "Correction Package" is also available on the web or by request. Description of Forest Plan direction in this SEIS includes the August 23, 2013 corrections.

Decision Framework

To comply with the May 24, 2013 Order by the U.S. District Court for the District of Montana (case 9:121-CV-00027-DLC), the BDNF will supplement the Forest Plan Corrected FEIS to "…explain or support, if possible, its decision to exclude temporary roads from road density objectives...."

The Forest Supervisor will determine whether or not changes to management direction in the Forest Plan are needed, based on this court-ordered analysis.

Public Involvement

The Notice of Intent (NOI) for the preparation of this SEIS was published in the Federal Register on September 9, 2013. No public comment was solicited at that time (pursuant to 40 CFR 1502.9(c)(4)).

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[3] http://www.fs.usda.gov/detail/bdnf/landmanagement/planning/?cid=stelprdb5427140
[4] http://www.fs.usda.gov/goto/bdnf/forest-plan
[5] BDNF lands in the Elkhorn Mountains are managed in cooperation with the Helena National Forest. Revision of management direction for the Elkhorn Moutnains will take place during revision of the Helena National Forest Plan (ROD, pg. 32 and Corrected FEIS, pg. 1).
[6] To address the Court's finding that it was not evident Forest Plan OMRTDs included administrative and permitted roads, the Forest Plan "Correction Package" clarified that administrative and permitted roads are included in OMRTDs, consistent with Christensen, et al (1993) (Court Order, pgs. 54-55).

The Draft SEIS was available to interested members of the public and comments were accepted for 90 days following the March 14, 2014 publication of a Notice of Availability in the Federal Register, pursuant to 36 CFR 219.16(a)(2). A legal notice for the Draft SEIS comment period was also published in the Montana Standard on March 14, 2014.

Comments on the Draft SEIS were used to make changes to this Final SEIS. Agency responses to each comment are attached to the Final SEIS as Appendix A.

Forest Plan Implementation 2009-Present

The Forest Plan wildlife security goal[7] established OMRTDs for 11 separate landscapes varying from 0.0 to 2.0 miles/square mile (Table 2). The wildlife security goal is associated with an objective[8] to reduce OMRTDs in the Boulder River and Jefferson River Landscapes. In addition, the Forest Plan elk security goal established fall (October 15-December 1) OMRTDs for 29 hunting units varying from 0.0 to 1.8 miles/square mile (Table 3). This goal is associated with an objective to reduce OMRTDs from October 15 to December 1 in hunting units 215, 300, 302, 318, 333, 341 and 350. Forest Plan Wildlife Habitat Standards[9] 1 and 2 prohibit a net increase in designated open motorized road and trail mileage in landscapes and hunting units exceeding OMRTD objectives (Forest Plan, pgs. 45-48).

Table 1 displays temporary roads constructed for timber harvest and mineral exploration since the 2009 Forest Plan decision. As of September, 2014, (about 5 years after the Forest Plan decision) only 5.38 miles of temporary road have actually been constructed. All 5.38 miles are already obliterated and no longer present on the landscape. Figure 1through Figure 4 photographically display temporary roads constructed for resource extraction on the BDNF and obliterated at project completion.

Table 1 also displays reasonably foreseeable temporary roads associated with current proposals on the BDNF. These proposals are currently under analysis. The eventual project decision may alter the amount of temporary roads. The proposed temporary roads are disclosed in Table 1 to give reviewers a sense of the amount of temporary roads that may be constructed in the future. As proposed, these temporary roads would not be open to public motorized use and obliterated upon completion of timber harvest or mineral exploration activities.

[7] A Forest Plan Goal is a concise statement that describes a desired condition to be achieved sometime in the future, normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed (Forest Plan, pg. 290).

[8] A Forest Plan Objective is a concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define precise steps to be taken and the resources to be used in achieving identified goals (Forest Plan, pg. 295).

[9] A Forest Plan Standard is a particular action, level of performance or threshold specified by the Forest Plan for resource protection or accomplishment of managmeent objectives. Unlike “guidelines” which are optional, standards are mandatory. Standards are applied to management actions as mitigation; they do not initiate management actions (Forest Plan, pg. 304).

Table 1- Miles of Temporary Roads Associated with Timber Harvest and Mineral Exploration since 2009

Project	Landscape	PAST	PRESENT	REASONABLY FORESEEABLE	TOTAL
		Constructed & Obliterated	Constructed & Currently Available for Use	New Temporary Road to be obliterated at project completion	
Rat Creek Timber Sale	Big Hole	4.8 miles	-	-	4.8 miles
Birch/Willow/Lost	Pioneer	-	-	0.5	0.5
East Deerlodge Valley Restoration	Clark Fork-Flints	-	-	9.0	9.0
Fleecer Mountain	Big Hole	-	-	5.9	5.9
Flint Foothills	Upper Clark Fork	-	-	1.9	1.9
Collins Access Road	Clark Fork-Flints	-	-	0.21	0.21
Smart Creek Exploration	Clark Fork-Flints	0.02	-	-	0.02
Pineau Mine Exploration	Clark Fork-Flints	0.06	-	-	0.06
Pride Placer Exploration	Boulder River	0.5	-	-	0.5
Pride #4 and #6 Exploration	Boulder River	-	-	0.5	0.5
TOTAL		**5.38 miles**	**0.0 miles**	**18.01 miles**	**23.39 miles**

Examples of Obliterated Temporary Roads on Wisdom District – Rat Creek Sale

Figure 1 - Temporary Road constructed in 2009 and obliterated in 2010. Shovel is in the former temporary road bed.

Figure 2 - Temporary Road constructed in 2009 and obliterated in 2010. Shovel is in the former temporary road bed.

Example of Obliterated Mineral Exploration Road on Jefferson District

Figure 3 - Temporary Road Obliterated August 17, 2006.

Figure 4- The same road almost 2 years later (June 17, 2008).

2009 Forest Plan Corrected FEIS Key Issues

The 2009 Forest Plan replaced management direction in the 1986 Beaverhead Forest Plan and 1987 Deerlodge Forest Plan[10]. The Corrected FEIS (pgs. 3 - 4) identified a need to revise management direction for eight primary topics which were developed into eight key issues (Corrected FEIS, pg. 14-18). The 2009 ROD approved the Forest Plan (a modified version of Corrected FEIS Alternative 6) and disclosed decision rationale for the eight revision topics (ROD, pgs. 8-22).

To comply with the Court Order directing the Forest Service to "…explain or support, if possible, its decision to exclude temporary roads from the road density objectives", this SEIS discloses the effect of not including temporary roads in OMRTD goals on the eight Forest Plan Corrected FEIS key issues (aquatic resource management, fire management, recreation and travel management, suitable rangeland, suitable timberland, vegetation management, wilderness recommendations and wildlife management). Each key issue follows in alphabetical order and includes a description of the key issue from the Forest Plan Corrected FEIS and references pages disclosing the effects of temporary roads and Forest Plan direction.

Aquatics Resource Management

Key Issue Description (Corrected FEIS, pg. 15)

"Aquatic Restoration: Forest Service data and public concern support the need for watershed improvement. Restoration of all watersheds identified as needing restoration is not feasible over the next 15 years, given projected budgets; therefore we need to prioritize watersheds for treatment.

The issue: How much and where should we focus watershed restoration?

Decision criteria: Number of restoration emphasis key watersheds.

Bull Trout and Westslope Cutthroat Trout Conservation: Public concerns, Forest Service direction, and fisheries data support the need to conserve native species to ensure that the strongholds of westslope cutthroat trout and bull trout populations are secure on the BDNF.

The issue: How and where should we focus conservation of bull trout and westslope cutthroat trout?

Decision criteria: Number of fish conservation key watersheds.

Aquatic Strategies: Administrative consolidation of the Beaverhead and Deerlodge National Forests in 1996 resulted in 3 separate sets of aquatic habitat direction. The Inland Native Fish Strategy (INFISH), an amendment to the Deerlodge Forest Plan in 1995, applies west of the Continental Divide because of the range of bull trout. The Deerlodge Forest Plan standards apply east of the Divide and the Beaverhead Forest Plan applies on the entire Beaverhead portion. We seek to consolidate all three sets of direction into a comprehensive strategy for the entire Forest.

The issue: What aquatic strategy or strategies are best for managing aquatic species and water quality across the Forest?

Decision criteria: Type(s) of aquatic strategies" (Corrected FEIS, pg. 15).

The effects of roads to aquatic resources are disclosed on Corrected FEIS pages 120, 137, 138 and 161. Specific to the construction of temporary roads, the Corrected FEIS explains "Compliance with forest plan standards including watershed conservation practices and improved road designs should minimize problems with new or reconstructed roads…. Relative to the existing road network, the effects of

[10] The Beaverhead and Deerlodge National Forests were administratively combined in 1996.

proposed road construction under the various alternatives are minimal, because impacts are dominated by the existing BDNF transportation system and are expected to influence aquatic resources more than road construction over the planning period" (Corrected FEIS, pg. 138).

Forest Plan Direction for Aquatic Resources

The Forest Plan incorporates INFISH direction for all watersheds on the BDNF and identifies 15 restoration watersheds and 56 fish conservation key watersheds (ROD, pg. 12-13 and Forest Plan, pg. 58).

Forest Plan Aquatics Resource Management Direction applicable to temporary road construction and use follows.

Aquatic Resource Goals (Forest Plan, pg. 15-16)

Mining Facilities: Structures, support facilities and roads are located outside RCAs.[11]

Roads: Roads are designed, constructed, and maintained to meet desired stream function and avoid adverse effects to native fish and sensitive aquatic species.

Stream Crossings: Culverts, bridges, and other stream crossings can accommodate a 100-year flood, including associated bedload and debris.

Aquatic Resource Objectives (Forest Plan, pg. 17)

Roads: Close and stabilize or obliterate and stabilize roads not needed for future management activities.

Aquatic Resource Standards (Forest Plan, pg. 20)

Standard 18: "…Where no alternative to road construction exists, roads are kept to the minimum necessary for the approved mineral activity. Roads no longer required for mineral or land management activities are closed, revegetated, or obliterated."

Standard 21: Provide and maintain fish passage at new, replacement, and reconstructed road crossings of existing and potential fish bearing streams, unless barriers are determined beneficial for native fish and/or sensitive aquatic species conservation.

Standard 22: Complete watershed analysis prior to constructing roads or landings in RCAs within fish or restoration key watershed.

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for aquatic resource management described above?

OMRTD goals do not influence the number of restoration and fish conservation key watersheds prioritized for watershed restoration in the Forest Plan (pg. 58).

Temporary roads constructed since 2009 have complied with the Forest Plan Aquatic Resource Management goals, objectives and standards identified above. Monitoring of completed timber sales indicates compliance with standards minimized effects from new roads to the aquatic resource (2008 Forest Plan Monitoring Report, pg. 47, 2006 Forest Plan Monitoring Report, pg. 39 and 2005 Forest Plan

[11] RCA = Riparian Conservation Area, as established by the Inland Native Fish Strategy, are portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines (Forest Plan, pg. 300).

Monitoring Report, pg. 96). Since 2009, temporary roads no longer needed for land management activities have been obliterated. Site-specific project level analysis has included road design, location and soil and water conservation practices appropriate for the specific project and land attributes of the project location. Site-specific analysis and design of individual projects is the appropriate planning level to avoid or mitigate the effects of temporary road construction and use.

Fire Management

Key Issue Description (Corrected FEIS, pg. 17)

"The 2001 Federal Wildland Management Policy directs federal agencies to first and foremost protect firefighters, as well as directing the full range of fire management activities to achieve ecosystem sustainability. Response to wildland fires is based on ecological, social and legal consequences of the fire. The circumstances under which a fire occurs and the likely consequences in terms of firefighter and public safety and welfare, natural and cultural resources, and values to be protected, dictates the appropriate response to the fire.

> **The issue:** Where and on how much of the BDNF should wildland fire use be allowed as part of AMR[12]?
>
> **Decision criteria:** Acres available for wildland fire use as part of AMR" (Corrected FEIS, pg. 17).

The effects of roads to fire management are disclosed in the Forest Plan Corrected FEIS pages 248, 250, and 252.

Forest Plan Direction for Fire Management

The Forest Plan allows for the full range of suppression responses to unplanned fire to protect values at risk and restore natural processes where appropriate. Prescribed fire is allowed forestwide and may play a number of roles, including fuels reduction and the restoration of early seral stage vegetation such as aspen and shrublands/grasslands (ROD, pg. 16).

To address the Corrected FEIS key issue for fire management, Forest Plan Fire Standard 2 determines wildland fire use is an available tool for all unplanned ignitions. Forest Plan Fire Management Direction does not specifically apply to temporary road construction and use (Forest Plan, pg. 22).

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for fire management described above?

OMRTD goals do not influence the acres of the BDNF available for wildland fire use as part of the Appropriate Management Response.

Since 2009, no temporary roads have been constructed to support wildland fire use activities, and none are expected in the future. In addition, no temporary roads have been constructed since 2009 for fire suppression activities. In some instances, repetitive wheeled cross-country travel by fire suppression vehicles have created a visible motor vehicle route (track), however, all such routes have been physically blocked from motorized use and appropriately rehabilitated following fire suppression.

[12] AMR = Appropriate Management Response is any specific action taken in response to a wildland fire suitable to meet protection or resource objectives described in fire or land management plans (Forest Plan, pg. 282).

Recreation and Travel Management

Key Issue Description (Corrected FEIS, pg. 16)

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

Recreation activities are important to local lifestyles and economies. ATV and snowmobile use grew rapidly since completion of the 1986 and 1987 Plans. Other types of recreation have also increased. We receive more than 1.1 million visits each year, and expect continued growth of at least 10 to 15% percent [sic] over the life of the plan.

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

Decision criteria: Percent of the Forest and location of areas allocated as non-motorized and miles of roads and trails currently open to motorized use closed.

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.

Until the 2001 Off-Highway Vehicle Record of Decision and Plan Amendment for Montana, North Dakota and Portions of South Dakota (Tri-State OHV Decision), National Forest System lands were not closed to off road or trail use, and cross country travel was allowed. Prior to the OHV amendment the public had been allowed to drive wherever they wanted to go for the most part; limited by terrain, technology, and limited site-specific closures. This resulted in user conflict and resource damage.

Both forest staff and members of the public identified a concern with the existing forest plan, as amended by the Tri-State OHV Decision, which restricted cross-country travel by motorized wheeled vehicles. Under this decision a visual determination made by the user determines the open or closed status of a route rather than an inventory designating existing roads and trails. Monitoring and public comments indicate visual determinations contribute to the creation of new roads or trails (user created routes). This situation is created when someone travels cross-country illegally, the first time. The next person sees the track and may be unaware the origin of the road or trail was created illegally. In these cases, the track is visible on the ground and meets the current definition of a road or trail. Repeated use results in a defined track on the ground. The problem is further compounded as Forest Service budgets for site-specific travel planning required by the OHV amendment dwindle. Until routes are inventoried, analyzed and designated, new routes will continue to appear. A map, inventory, or other instrument that identifies road and trail locations as of 2001 is the most cost efficient way to achieve the OHV amendment objective. This would also bring the BDNF into compliance with the National OHV Policy currently published in the Federal Register for public comment.

The issue*:* In order to better to [sic] define unauthorized cross-country travel, where and how many miles of roads and trails are located on the forest?

Decision criteria: Location and miles of roads on the forest.
Location and miles of trails on the forest.
Method used to determine what is a road or trail" (Corrected FEIS, pg. 16).

Forest Plan Direction for Recreation and Travel Management

The Forest Plan provides a mix of recreation access opportunities. During the summer, 55% of the BDNF is available to motorized recreation activities. During the winter, 60% of the BDNF is available to motorized recreation activities (ROD, pg. 15). Forest Plan Recreation and Travel Management Standard 3 (Forest Plan, pg. 33) restricts year-round, wheeled motorized travel to designated routes or areas. Where routes have not been designated through site-specific travel planning, motorized vehicles are restricted to open motorized routes identified on the Forest Plan Interim Roads and Trails Inventory GIS Layer (Forest Plan, pg. 53).

Forest Plan Recreation and Travel Management Direction applicable to temporary road construction and use follow.

Recreation and Travel Management Standards (Forest Plan, pg. 32)

Standard 12: Road construction is not permitted in recommended Wilderness.

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for recreation and travel management described above?

OMRTD goals do not influence the location and amount of acres allocated for summer and winter motorized and non-motorized recreation opportunities on the BDNF.

In addition to approving the Forest Plan, the 2009 ROD (pg. 23) describes future travel planning decisions for the BDNF. In 2010, the Forest Supervisor issued a second ROD closing previously motorized roads and trails in areas allocated to summer non-motorized recreation opportunities and limiting motorized travel to routes identified in the Forest Plan (pg. 53). The next stage of travel planning includes further analysis to designate routes for motorized travel under 36 CFR 212, resulting in publication of Motor Vehicle Use Maps (MVUMs). MVUMs for the Madison Ranger District were published in 2012. Analysis of a proposal to designate routes and publish MVUMs for the Dillon, Wisdom and Wise River Ranger Districts is currently on hold.

Since 2009, 338 miles of previously open motorized roads and trails on the BDNF have been closed to that use. Temporary roads constructed for resource extraction (see Table 1) since 2009 were not open to public motorized use and have been obliterated.

Suitable Rangeland

Key Issue Description (Corrected FEIS, pg. 17)

“Regulations require (CFR 219.20) the identification of suitable rangeland in forest plan revision. The BDNF contains 938,000 acres of land capable for livestock grazing. The 1986 and 1987 plans allocated 846,000 acres suitable for livestock.

The issue*:* How much capable rangeland will be allocated as suitable for livestock grazing?

Decision criteria: Acres of suitable rangeland” (Corrected FEIS, pg. 17).

The Corrected FEIS (pg. 310) discloses that existing roads and trails open to motorized travel are generally adequate for livestock management needs.

Forest Plan Direction for Livestock Grazing

The Forest Plan identifies approximately 802,000 acres of the BDNF as suitable for livestock grazing (ROD, pg. 17). Forest Plan Livestock Grazing Direction does not specifically apply to temporary road construction and use (Forest Plan, pgs. 25-27).

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for suitable rangeland described above?

OMRTD goals do not influence the acres of the BDNF suitable for livestock grazing. Since 2009, no temporary roads have been constructed to support livestock grazing activities, and none are expected in the future.

Suitable Timberland

Key Issue Description (Corrected FEIS, pg. 17)

"Regulations require (36 CFR 219.14) the identification of lands suitable for timber production in forest plan revision. Public comments asked for various levels of more and less timber harvest. The BDNF contains 1,513,000 acres of lands tentatively suitable for timber production. The 1986 and 1987 plans allocated 676,000 suitable acres.

This issue includes those lands suitable for timber production as well as lands where timber harvest is allowed to achieve other resource objectives.

> **The issue***:* How much of the land tentatively suitable for timber production should be allocated for timber production?
>
> **Decision criteria:** Acres of lands suitable for timber production.

Timber harvest can be a useful tool outside of suitable timberlands to protect resource values and to meet resource objectives such as reduction of fire risk through fuel treatments, vegetation objectives, aspen restoration, conifer encroachment, wildlife habitat and salvage objectives established by a forest plan. The volume produced from these lands would be incidental to other management objectives and not included in the ASQ[13]. However, this volume would contribute to the forest timber sale program.

> **The issue:** How much of the forested lands allow timber harvest to accomplish resource objectives?
>
> **Decision criteria:** Acres of land where timber harvest is allowed" (Corrected FEIS, pg. 17).

The Corrected FEIS (pg. 448) discloses that open road density objectives for wildlife habitat management "…do not affect temporary vehicle access for logging or permanent roads if they remain closed to motorized recreation."

Forest Plan Direction for Suitable Timberland

The Forest Plan identifies 284,000 acres as suitable for timber production and establishes an ASQ of 140 million board feet per decade. The Forest Plan also identifies an additional 1.6 million acres as available for timber harvest for other resource objectives. Not all areas available for timber harvest may be

[13] ASQ = Allowable Sale Quantity on a National Forest is the maximum quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a specified time period specified by the plan (Forest Plan, pg. 281).

accessible by roads. Road access is dependent upon the terrain and other management direction such as aquatic protections and motorized or non-motorized allocations. Of the 1.6 million acres, approximately 900,000 acres are inventoried as roadless (ROD, pg. 19).

The Timber Harvest Classification Protocol described in Forest Plan Timber Management Standard 6 establishes where timber harvest is not allowed and where timber harvest is permitted to meet other resource objectives (Forest Plan, pgs. 39-42 & 60). For lands suitable for timber production, Forest Plan Timber Management Objectives are:

- Bring 10% of lands suitable for timber production into a managed condition
- Manage those stands already in a managed condition to maintain long term sustained yield.

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for suitable timberland described above?

OMRTD goals do not influence the acres of the BDNF suitable for timber production or the acres of forested lands where timber harvest to accomplish resource objectives is allowed.

As previously described in the ROD, not all areas available for timber harvest are accessible by existing roads. Vehicle access to general areas for regeneration and/or salvage timber harvest is primarily provided by the existing, permanent road system. However, vehicle access to individual units during actual harvest and removal of timber may be provided by temporary roads branching off the existing permanent road system. As a result, temporary roads are necessary to achieve Forest Plan Objectives for suitable timber lands on the BDNF.

While consulting with the US Fish and Wildlife Service in 2013, existing levels of access management and Forest Plan desired OMRTDs served as the first surrogate measure of incidental take for access management. The Forest estimated approximately 70 miles of temporary roads may be constructed across the 3.38 million acre action area during the life of the revised forest plan (see “Endangered Species Act Consultation”, below).

The only temporary roads constructed for timber harvest on the BDNF since the 2009 Forest Plan decision are associated with the Rat Creek Timber Sale (see Table 1 and Figure 1 through Figure 2). These roads were not open to public motorized use. They were constructed by the timber sale operator during sale activity in 2009 and obliterated in 2010.

Table 1 also discloses reasonably foreseeable temporary roads that may be constructed for timber harvest.

Vegetation Management

Key Issue Description (Corrected FEIS, pg. 14)

“Forest Stand Structure: Historic models of forest types in southwest Montana show more small trees in younger stands than are found today… Maintenance of size class diversity is a coarse filter approach to providing the habitat composition, distribution and structure that meets the needs of animal and plant species populations that have historically been present in these forests.

> **The issue:** How much vegetation management is needed in the next 10 to 15 years to achieve a balance of size classes closer to historic trends?
>
> **Decision criteria:** Percentage of forested types in early, mid, and later seral stages

Aspen: Analysis indicates aspen stands are declining. Although this is attributed to a variety of causes, conifer encroachment and cropping of regenerating aspen sprouts by herbivores are two of the larger concerns. Modeled historic aspen populations compared to the existing condition, indicate aspen have dwindled to less than 20% of the minimum Historic Range of Variability[14] (HRV).

> **The issue:** How much vegetation management is needed in the next 10 to 15 years to establish an upward trend for aspen?
>
> **Decision criteria:** Acres of restored aspen.

Grassland/Shrubland: Analysis indicates conifer encroachment is reducing grassland/shrubland habitat. Public scoping also identified encroachment as a concern for a variety of reasons such as habitat loss and water production.

> **The issue:** How much vegetation management in grassland/shrublands is needed in the next 10 to 15 years to reduce conifer encroachment?
>
> **Decision criteria:** Acres of grassland/shrubland restored by reducing conifer encroachment.

Old-Growth: Old-growth[15] is a unique component of a diverse vegetative community. It provides important habitat in addition to social and aesthetic values as identified by a variety of people during scoping.

> **The issue:** What minimum amounts of old-growth should be maintained, by forested type?
>
> **Decision criteria:** Percentage of forest type maintained in old-growth condition" (Corrected FEIS, pg. 14).

The effects of roads to vegetation include road corridors that lead to incursion of invasive plant species and are disclosed on page 479 of the Corrected FEIS.

Forest Plan Direction for Vegetation Management

Forest Plan goals, objectives and standards for vegetation are designed to maintain or restore the integrity, resiliency and sustainability of ecosystems. Forest Plan objectives include increasing smaller size classes and earlier seral stage ecosystem components for Douglas-fir and lodgepole pine by regenerating and/or salvaging forest that are dead or dying, where needed to reduce the risk of wildfire or where needed to meet the objective on suitable timber lands, favoring the aspen component in areas where lodgepole pine is regenerated and regenerating whitebark pine, largely through the use of fire. This restoration of vegetation composition, structure and function is expected to enhance the resiliency and sustainability of ecosystems and thereby expand options for managing the BDNF in response to environmental stressors including climate change (ROD, pg. 9-10).

To address the Corrected FEIS key issue for vegetation, Forest Plan Vegetation Objectives prescribe:

- increasing the number of acres in the 0 to 5 inch DBH[16] class on approximately 20,000 acres for Douglas-fir and 74,000 acres for lodgepole pine
- increasing the aspen component within lodgepole pine and other vegetation types on 67,000 acres
- promoting regeneration of whitebark pine on approximately 45,000 acres and,

[14] Historic Range of Variability is the natural fluctuation of components of healthy ecosystems over time. In this EIS, refers to the range of conditions and processes that are likely to have occurred prior to settlement of the project area by people of European descent (approximately the md-1800's), which would have varied within certain limits over time (Forest Plan, pg 291**).**

[15] The definition of Old Growth as found in Green, et al., Old-Growth Forest Types of the Northern Region, R-1 SES 4/92: USDA Forest Service, Northern Region, Missoula, MT 59807.

[16] DBH = Diameter at Breast Height

- reducing conifer encroachment on 74,000 acres of riparian areas, shrublands and grasslands (Forest Plan pgs. 43-44).

The Forest Plan did not establish a minimum amount of old-growth; rather Vegetation Standard 1 requires mechanical vegetation treatments and prescribed fire in old growth stands not reduce the age and number of large trees and basal area below the 'minimum criteria' required for Eastern Montana old growth in Green et al. (Forest Plan, pg. 44).

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for vegetation management described above?

Mechanical vegetation treatment, in the form of commercial timber harvest, is frequently used to increase the number of acres in the 0 to 5 inch DBH class for Douglas-fir and lodgepole pine. Vehicle access to general areas for regeneration and/or salvage harvest is primarily provided by the existing, permanent road system. However, vehicle access to individual units during actual harvest and removal of timber may be provided by temporary roads branching off the existing permanent road system. The use of temporary roads to access individual units with mechanical equipment is a necessary tool to achieve the vegetation objective for smaller size class and early seral stage Douglas-fir and lodgepole pine. As a result, temporary roads are necessary to achieve Forest Plan Objectives for these vegetation types on the BDNF.

The only temporary roads constructed for vegetation management on the BDNF since the 2009 Forest Plan decision are associated with the Rat Creek Timber Sale (see Table 1 and Figure 1 through Figure 2). These roads were not open to public motorized use and branched off the existing permanent road system. They were constructed by the timber sale operator during sale activity in 2009 and obliterated in 2010.

Table 1 also discloses reasonably foreseeable temporary roads that may be constructed for vegetation management.

A review of scientific literature published since 2009 addressing potential effects of climate change further validates the Corrected FEIS analysis of the need to maintain or restore the integrity, resiliency and sustainability of ecosystems.

Wilderness Recommendations

Key Issue Description (Corrected FEIS, pg. 18)

"Planning regulations (36 CFR 219.17(a)) require all roadless areas be identified, inventoried, evaluated and considered as potential wilderness if appropriate. Public comments included requests for both more and less recommended wilderness.

The issue: Where and how much land should be recommended for wilderness?

Decision criteria: Location and acres recommended for wilderness" (Corrected FEIS, pg. 18).

Corrected FEIS Appendix C evaluates and updates the inventory of areas with wilderness potential on the BDNF.

Forest Plan Direction for Recommended Wilderness Areas

The Forest Plan recommends 322,000 acres of roadless areas for addition to the National Wilderness Preservation System (ROD, pg. 20). Recommended wilderness areas are mapped on Forest Plan page 56. Forest Plan Recreation and Travel Management Standard 12 prohibits road construction in recommended wilderness (Forest Plan, pg. 32).

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for wilderness recommendations described above?

OMRTD goals do not influence the acres of the BDNF recommended for wilderness. Roads will not be constructed in recommended wilderness areas.

Wildlife Management

Key Issue Description (Corrected FEIS, pg. 15)

"Wildlife Security: Public comment on the proposed action, indicated concern about the effects of open motorized roads and trails on wildlife habitat and connectivity.

> **The issue:** What open motorized road/trail densities are appropriate for wildlife security during the summer season?
>
> **Decision criteria:** Miles per square mile of open motorized roads/trails during the summer season.

Elk Habitat Effectiveness: Members of the public expressed concern about elk security, particularly during big game hunting season. Montana Fish Wildlife and Park expressed concern regarding their ability to maintain big game hunting season objectives.

> **The issue:** What open motorized road/trails densities are appropriate to provide security and escapement for elk during the general rifle season while allowing for a variety of hunting experiences across forest?
>
> **Decision criteria:** Miles per square mile of open motorized road/trail during the general rifle hunting season" (Corrected FEIS, pg. 15).

Analysis of impacts from implementing the Forest Plan to wildlife habitat is disclosed in the Corrected FEIS at pages 485-536, 1054-1061 and Appendix B.

Forest Plan Direction for Wildlife Habitat

The Forest Plan addresses the issue of habitat security, connectivity and linkage with a variety of year-round and seasonal area allocations for motorized and non-motorized use. 2009 Forest Plan goals generally provide more habitat security than the 1986 and 1987 Forest Plans because they apply to both motorized roads and trails. During the hunting season, the goals are applied at the hunting unit scale and allow coordination with Montana Fish, Wildlife and Parks (MFWP) big game harvest objectives and maintenance of secure habitat. The Forest Plan allows for more proactive management based on new information by updating the definition of secure habitat and employing best available science to assess the response of elk and other big game to the threat of motorized disturbance (ROD, pg. 11).

Cover and forage for animals is provided by a mosaic of species and age classes of native trees, shrubs, grasses and forbs. Vegetation goals, objectives and standards provide the basis for maintaining or restoring ecological communities of sufficient resiliency to provide for the viability of wildlife species that occur on or make use of forested types on the BDNF. Forest Plan goals, objectives and standards provide for greater habitat diversity and a more sustainable ecosystem as we look toward the future (ROD, pg. 11-12).

Forest Plan Wildlife Habitat Direction applicable to temporary road construction and use follows.

Wildlife Habitat Goals (Forest Plan, pgs. 45-47)

Wildlife Secure Areas and Connectivity: Secure areas[17] and connectivity for ungulates and large carnivores are provided, while recognizing the variety of recreational opportunities.

Wildlife Security: Manage density of open motorized roads and trails by landscape year-round, except fall rifle big game season, to achieve levels at or below the following (Scale – Landscapes):

Table 2 – Desired OMRTD by Landscape

Landscape	Desired Open Motorized Road and Trail Density
	Miles per Sq. Mile*
Big Hole	1.2
Boulder River	1.9
Clark Fork – Flints	1.9
Gravelly	0.7
Jefferson River	1.6
Lima Tendoy	1.0
Madison	0.0
Pioneer	1.5
Tobacco Roots	1.3
Upper Clark Fork	2.0
Upper Rock Creek	0.9

** This includes roads available for permitted or administrative use.*

Elk Security: Elk security is managed to provide quality elk habitat, provide a variety of recreational hunting opportunities, and provide support for Montana's fair chase emphasis.

Manage open motorized road and trail density by MFWP hunting units as of 2006 – on National Forest lands during the fall rifle big game season, to achieve levels at or below the following (Scale – Hunting Unit):

Table 3 – Desired OMRTD by Hunting Unit

Hunting Unit	Desired Fall Open Motorized Road and Trail Density
	Miles per Sq. Mile*
210	0.9
211	0.5
212	1.4
213	1.4
214	1.6
215	1.5
216	0.8
300	0.6
302	1.0
311	0.0
318	1.8
319	0.6
320	0.8
321	1.1

[17] Secure areas are areas larger than 10 acres that are 1/3 of a mile from a route open to motorized vehicles (Forest Plan, pg. 302).

Hunting Unit	Desired Fall Open Motorized Road and Trail Density Miles per Sq. Mile*
323	0.5
324	0.4
327	0.8
328	0.8
329	1.1
330	0.7
331	1.5
332	0.8
333	0.9
340	1.4
341	0.5
350	1.3
360	0.0
362	0.0
370	1.0

** This includes roads available for permitted or administrative use.*

Wildlife Habitat Objectives (Forest Plan, pg. 47)

Road and Trail Densities by Hunting Unit: From October 15 to December 1, reduce the open motorized road and trail densities in hunting units 215 to 1.5, 300 to 0.6; 302 to 1.0; 318 to 1.8; 333 to 0.9; 341 to 0.5; and 350 to 1.3 miles per square mile or less.

Road and Trail Densities by Landscape: Reduce the open motorized road and trail densities from May 16 to December 1 in the Boulder River Landscape to 1.9 and Jefferson River Landscape to 1.6 miles per square mile or less.

Wildlife Habitat Standards (Forest Plan, pg. 48)

Standard 1: From October 15 to December 1 Hunting Units that exceed the open motorized road and trail density objective will have no net increase in designated open motorized road and trail mileage (Scale – Hunting Units on National Forest Lands).

Standard 2: Landscapes that exceed the open motorized road and trail objective will have no net increase in designated open motorized road and trail mileage (Scale – Landscapes on National Forest System Lands).

Endangered Species Act Consultation

The Yellowstone Distinct Population Segment (DPS) of grizzly bears was de-listed as a threatened species in 2007 and, at the time of the January 2009 ROD, re-classified to the Northern region sensitive species list (Corrected FEIS, Revised-BE-44 through 51).

Following the re-listing of the Yellowstone DPS, the BDNF initiated consultation for the Forest Plan with U.S. Fish and Wildlife Service (USFWS) in August 2010, focusing on the Yellowstone Grizzly Bear Ecosystem (YGBE)[18]. In an October 4, 2010 Biological Opinion (BO), USFWS "…determined that the Revised Forest Plan, with its incorporated objectives, goals and standards, adequately reduces the potential for and minimizes the effect of any incidental take that may result. Therefore, reasonable and

[18] The YGBE includes BDNF lands south of Interstate-90 and east of Interstate-15.

prudent measures, with their implementing terms and conditions, were not provided" (10/4/10 BO, pg. 55).

In July 2012, the BDNF reinitiated consultation with USFWS on the remainder of the BDNF (outside the YGBE) after new information demonstrated grizzly bears from the Northern Continental Divide Ecosystem (NCDE) and other grizzly bear ecosystems were advancing onto the northern tier of the BDNF. In a May 28, 2013 BO, USFWS again "…determined that the Revised Forest Plan, with its incorporated objectives, goals and standards, adequately reduces the potential for and minimizes the effect of any incidental take that may result. Therefore, no reasonable and prudent measures are necessary" (5/28/13 BO, pg. 89).

In the 2013 BO, existing levels of access management and Forest Plan desired OMRTDs served as the first surrogate measure of incidental take for access management. In reaching their determination, USFWS considered the OMRTD goals listed on Forest Plan pages 45-47 as addressing permanent motorized roads and trails (BO, pg. 75-80).

For temporary roads, USFWS determined:

> "Temporary roads built for resource extraction such as timber harvest or mining may remain on the landscape for several years and receive a substantive amount of use. The Forest has estimated that approximately 70 miles of temporary roads may be constructed across the 3.3 million acre action area (the entire Forest), over the life of the Revised Forest Plan (15 years). Depending on the site specific information regarding the temporary roads (i.e. length and duration), the Service anticipates that some level of adverse effects to female grizzly bears with home ranges impacted by temporary roads may occur in some situations. We do not expect that all temporary roads would have adverse impacts on female grizzly bears, or that all female grizzly bears would be adversely affected by temporary roads. The level of effects would depend on such things as location of the temporary road (habitat type), length of the temporary road, the frequency and intensity of temporary use, and the duration the temporary road would be on the landscape, in relation to those factors listed above for permanent roads. Not all 70 miles are likely to be constructed at once. Some of the temporary roads would be consolidated in project areas and be constructed and used at the same time, which would concentrate effects on bears into a smaller area. Other temporary roads would be separated by space and time across the Forest, which may affect more individual grizzly bears, but have less intense effects. Temporary roads would not be open to public use and would be obliterated when implementation of a project is completed, which would moderate the impacts on bears. However, if under-use of key feeding and sheltering habitat by female grizzly bears is significant, they may fail to obtain the necessary resources to breed and successfully reproduce. In summary, the existing roads and any new roads constructed in the future…may affect grizzly bears. These affects may be insignificant in some situations or adverse in others" (BO, pg. 45).
>
> "Temporary roads may result in temporary increases in linear road densities within a landscape or hunting unit. The temporary changes do not affect our first surrogate measure of take as temporary roads would not result in a net change to the overall linear road densities post-project. Further, in many cases, temporary roads have different effects on grizzly bears than those associated with permanent roads. Temporary roads are obliterated post-project and linear road densities would return to the pre-project levels, lessening the effects on grizzly bears over time. The Forest has estimated that 70 miles of temporary roads may be constructed across the Forest over the life of the Revised Forest Plan. This level of temporary roading represents our second surrogate measure of incidental take that we anticipate in regards to future temporary road construction. If the Forest constructs more than 70 miles of temporary motorized routes over the life of the Revised Forest Plan, then the level of incidental take we anticipated in our second surrogate measure of take would be exceeded and the level of take exempted would be exceeded" (BO, pg. 80).

After considering permanent and temporary roads on the BDNF, USFWS does not anticipate:

> "…that motorized access management in all landscapes or hunting units would result in incidental take. For example, hunting units 311, 360, and 362 have an open motorized road and trail density of zero. Some additional units have relatively low open motorized road and trail densities. The Boulder River, Jefferson River, Clark Fork-Flints, and Upper Clark Fork Landscapes and corresponding hunting districts exhibit the highest open motorized road and trail densities. Grizzly bears appear to be reoccupying these areas on the Forest, likely moving south from the NCDE population (U.S. Forest Service 2012). We anticipate that the likelihood of incidental take of females would be highest in these areas over the life of the plan. We also do not anticipate that all temporary roads constructed in the action area would result in incidental take. This would depend on such things as location and length of the temporary road and the duration it would be on the landscape…If miles of temporary roading exceed the amount we describe above as the second surrogate measure of incidental take, then the level of incidental take would be exceeded and therefore the level of take exempted would be exceeded. Under CFR 402.06(1)…reinitiation of consultation would be required" (BO, pgs. 80-81).

SEIS Analysis

What is the effect of not including temporary roads in OMRTD goals and objectives on the Forest Plan EIS issue for wildlife management described above?

Potential impacts from open motorized roads and trails come from fragmentation of habitat and displacement of wildlife. The amount of displacement is a function of use on the road or trail, open road density, timing of use and species of wildlife (Corrected FEIS, pg. 508). The Forest Plan addresses wildlife security, connectivity and linkage with a variety of year-round and seasonal management areas for motorized and non-motorized use applied to both motorized roads and trails (ROD, pg. 11). Motorized route density (OMRTD) goals by landscape range from 0 to 2.0 miles per square mile with a median of 1.3 miles per square mile. During the fall big-game rifle season (October 15 through December 1), the Forest Plan provides additional wildlife security, connectivity and linkage by applying additional OMRTDs goals at the hunting unit scale. These OMRTDs range from 0 to 1.8 miles per square mile with a median of 0.8 miles per square mile.

The Forest Plan (pg. 302) defines secure areas as "Areas larger than 10 acres that are 1/3 of a mile from a route open to motorized vehicles." This definition incorporates the 500 meter road buffer identified in the 2006 Yellowstone Grizzly Bear Amendment. The 1/3 mile modification was developed with recreation managers to accommodate mapping for quiet recreation (Corrected FEIS, pg. 508-509). Consequently, the wider buffer[19] identifies less secure habitat than the 500 meters described in the grizzly bear amendment. These secure areas also provide undisturbed habitat for large ungulates and carnivores (Corrected FEIS, pg. 488).

While habitat needs and susceptibility to conflicts with humans varies among wildlife species, grizzly bears are generally viewed as more susceptible (compared to other wildlife species on the BDNF) due to naturally low populations and large home ranges. As a result, a basic tenet of the Corrected FEIS wildlife analysis posits secure areas for grizzly bears (a documented disturbance adverse species) provides secure areas for wildlife in general and connectivity across the BDNF landscape for large carnivores and ungulates, including elk, deer, and antelope. This tenet is supported by recent documents, including the 2013 MFWP Final Programmatic EIS for the Grizzly Bear Management Plan for Southwestern Montana (pg. 72) which finds successful implementation of MFWP's plan for grizzly bear has secondary impacts

[19] 1/3 mile is approximately 120 feet wider than 500 meters.

on other wildlife "…road density standards as recommended have been in place for years and have allowed for expansion of the bear population while maintaining secure elk habitat."

Forest-wide summer secure habitat is 52% at the landscape scale (Corrected FEIS, pg. 509). Secure areas are distributed across all BDNF landscapes (Corrected FEIS, pg. 524) and range from 10 to 220,848 acre contiguous blocks with an average size of 3,022 acres. The Forest Plan maintains and manages these secure areas through the previously described wildlife-related goals, objectives and standards for OMRTDs at the landscape level.

General hunting season in the fall poses the greatest potential human disturbance adversely affecting connectivity and secure areas forest-wide. There is a pulse of dispersed recreation activity related to deer/elk hunting unmatched at any other time of the year. Southwestern Montana receives approximately 45% of the elk hunting pressure in the State, with the bulk of it focused on hunting districts on the BDNF (Corrected FEIS, pg. 516-517). The Forest Plan contains additional OMRTD goals, based on hunting units, during the general big-game hunting season. Forest-wide, secure habitat increases to 59% of the BDNF during the fall big-game hunting season. From October 15 to December 2, secure areas range from 10 to 308,267 acre contiguous blocks with an average size of 4,083 acres. The Forest Plan maintains and manages these fall secure areas through OMRTDs at the hunting unit scale.

In addition, another 1,400 miles (23%) of motorized forest roads and trails are closed to motorized use during the big game hunting season (October 15 – December 1). Because temporary roads constructed for resource extraction branch off the existing permanent road system, seasonal use restrictions on permanent roads, by default, also apply to temporary roads.

A review of scientific literature and MFWP elk population objectives and data published since 2009 further validates the value of managing wildlife security by managing public motorized use of roads and trails (see Appendix B, Table B- 1).

Permitted and administrative use roads closed to public motorized use but expected to remain on the landscape and in motorized use status for a specific permitted purpose in the reasonably foreseeable future are included in OMRTD calculations. Examples of these include roads closed to public motorized use but open to permit holders for specific reasons such as maintaining electronic communication sites, facilities at developed ski hills, access to private property, etc. Because these roads and trails are expected to remain on the landscape and in use for the reasonably foreseeable future, they are included in OMRTD calculations (see asterisk for Table 2 and Table 3)

Conversely, some temporary roads and trails are not expected to remain on the landscape for the reasonably foreseeable future. Temporary roads constructed for resource extraction (primarily timber harvest and mineral exploration) are closed to public use during project implementation and obliterated after project completion. Because temporary roads constructed for resource extraction usually remain on the ground for only one season (during unit harvest or other activity) and are obliterated immediately following use, they are not included in OMRTD calculations.

Wildlife may be displaced during the construction and use of such temporary roads during the period of time the temporary road is being used for motorized access. The BDNF estimates approximately 70 miles of temporary road for resource extraction may be constructed across the 3.38 million acre BDNF over a 15-year period. Temporary roads constructed for resource extraction would not be open to public use during project implementation and would be obliterated upon project completion (often within 1 season). The BDNF expects impacts from these roads to be similar for all wildlife species, especially large carnivores and ungulates, to those previously described for grizzly bears in the Endangered Species Act Consultation section of this document.

Wildlife displacement from the use and construction of temporary roads is influenced by a number of factors, including the length of road, proximity of the road to a secure area, time of year the road is being

used, length of time the road is in use, terrain and vegetation. Site-specific analysis and design of individual projects is the appropriate planning level to avoid or mitigate the effects of temporary road construction and use.

To reduce the confusion about temporary roads and OMRTD calculations that currently exists, the BDNF proposes adding the following definition to the Forest Plan glossary:

> **OMRTD** is a measurement of motorized routes open to use, measured at the completion of project implementation in miles per square mile. It consists of motorized roads and trails that fall within the external forest boundary and are (1) open to public motorized use, (2) open for permitted and/or administrative use and remain on the landscape, (3) temporary unless obliterated at project completion, and (4) motorized routes on private inholdings.

Application of the above definition means temporary roads open to public motorized use would be included in OMRTDs and apply to Forest Plan wildlife security objectives. Public motorized roads are of concern to carnivores and ungulates (see Appendix B).

The Forest Plan Corrected FEIS analyzes alternatives for managing all resources on the 3.38 million acre BDNF for at least 15 years. The selected alternative provides wildlife secure areas by describing long term, desired future OMRTDs. The above definition for OMRTD is expected to maintain and manage existing wildlife secure areas through the previously described wildlife-related goals, objectives and standards, applied to motorized roads and trails, at the landscape and hunting unit level for the life of the Forest Plan. This definition would eliminate confusion associated with application of the definition of temporary roads from Forest Service Manual 7700. At the same time, it would allow a conservative approach to wildlife habitat management because it would include any motorized roads or trails located on private inholdings within the external Forest boundary.

Temporary roads (as displayed in Table 1 and Figure 1 through Figure 4) that are in motorized use only during project implementation and then obliterated, are likely to displace wildlife from secure areas when located in, or near, a secure area and have differing effects on wildlife based on site-specific terrain and other features. For example, the 0.02 miles of temporary road for the Smart Creek Exploration proposal (see Table 1), is not of sufficient length to influence a secure area. Conversely, the 4.8 miles of temporary road for the Rat Creek Timber Sale influenced secure areas while the temporary roads were in motorized use. The short term effects of temporary roads are appropriately analyzed at the project-specific planning level rather than the much larger area and time scale of the Forest Plan.

When considering temporary roads at the Forest level, it is appropriate to consider OMRTDs calculated post-project because wildlife security is maintained, the amount of temporary roads constructed is limited (no more than 70 miles in the next 10-15 years across more than 3 million acres) and secure areas where animals can be displaced by the construction and use of temporary roads are plentiful. Project level analysis will include use of the best available science and site specific attributes of the proposed temporary roads. In addition, potential seasonal restrictions could be used, depending upon site-specific needs.

Summary

In summary, what is the effect of not including temporary roads in Open Motorized Road and Trail Density (OMRTD) goals and objectives on Forest Plan EIS Issues?

> **Aquatics Resource Management:** OMRTD goals and objectives do not influence the number of restoration and fish conservation key watersheds prioritized for watershed restoration in the Forest Plan. Site-specific analysis and design of individual projects is the appropriate planning level to avoid or mitigate the effects of temporary road construction and use on aquatic resources.

Fire Management: OMRTD goals and objectives do not influence the acres of the BDNF available for wildland fire use as part of the Appropriate Management Response.

Recreation and Travel Management: OMRTD goals and objectives do not influence the location and amount of acres allocated for summer and winter motorized and non-motorized recreation opportunities on the BDNF.

Suitable Rangeland: OMRTD goals and objectives do not influence the acres of the BDNF suitable for livestock grazing.

Suitable Timberland: OMRTD goals and objectives do not influence the acres of the BDNF suitable for timber production or the acres of forested lands where timber harvest to accomplish resource objectives is allowed. However, temporary roads are necessary to achieve Forest Plan Objectives for managing suitable timber lands on the BDNF.

Vegetation Management: OMRTD goals and objectives do not influence goals, objectives and standards for vegetation designed to maintain or restore the integrity, resiliency and sustainability of ecosystems. However, temporary roads are necessary to achieve Forest Plan Objectives for smaller size class and early seral stage Douglas-fir and lodgepole pine on the BDNF. These objectives provide the basis for maintaining or restoring ecological communities of sufficient resiliency to provide for the viability of wildlife species that occur or make use of forested types on the BDNF.

Wilderness Recommendations: OMRTD goals and objectives do not influence the acres of the BDNF recommended for wilderness. Roads will not be constructed in recommended wilderness areas.

Wildlife Management: OMRTD goals and objectives, applied to both motorized roads and trails, address the issue of habitat security, connectivity and linkage. Goals applied at the hunting unit scale allow coordination with MFWP big game harvest objectives and maintenance of secure areas. These goals address the long term desired condition of secure areas across the entire 3.38 million acre BDNF for at least 15 years. The proposed addition of a definition for OMRTD to the Forest Plan glossary clarifies that temporary roads are not included in OMRTD calculations if they are closed to public motorized use and obliterated at project completion. Potential, short-term wildlife displacement from the use and construction of this type of temporary road is influenced by a number of factors appropriately analyzed at the project- specific planning level rather than the much larger area and time scale of the Forest Plan.

Elk populations across southwest Montana are well distributed and robust as disclosed by MFWP population monitoring data (Appendix B, Table B- 1). The Montana Heritage ranking for elk is S5 – common, widespread and abundant. The species is not vulnerable in most of its range. The MFWP Conservation Tier Classification is Tier III (lower conservation need). The species is abundant and widespread. There are no viability concerns for elk in southwest Montana or the BDNF.

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APPENDIX A

Responses to Comments on Draft Supplemental EIS

Table A- 1 – Letters Providing Comments on DEIS

Letter No.	Commenter
1	Ravalli County Off Road User Association
2	Beaverhead County Commissioners
3	Beaverhead Outdoors Association
4	Dan Pence
5	Native Ecosystems Council (NEC)/Alliance for the Wild Rockies (AWR)
6	NEC/AWR – additional comments
7	Capital Trail Vehicle Association (CTVA) dated 5/7/14
8	CTVA dated 5/10/14
9	Richard Goacher
10	Defenders of Wildlife (Defenders), Greater Yellowstone Coalition (GYC) & Montana Wilderness Association (MWA)
11	EPA

Table A- 2 - Letter No. 1 – Ravalli County Off Road User Association

Comment No.	Comment and Response
1.1	**Comment:** *Since temporary roads are never "open" to public travel, they do not satisfy the criteria to be included in OMRTD calculations. Temporary roads are not open to the public so they do not contribute to hunter access, which is the point of calculating OMRTD in the first place. In fact, it doesn't make any difference to elk security. Only 5.38 miles of temporary roads have been constructed over the past five years, all of which have been "obliterated". There are currently no temporary roads to be included or excluded in the calculation of OMRTD.* **Response:** Thank you for your comment supporting not including temporary roads closed to motorized public use in fall OMRTDs.

Table A- 3 - Letter No. 2 – Beaverhead County Commissioners

Comment No.	Comment and Response
2.1	**Comment:** *The Commissioners agree that not including temporary roads in the OMRTD goals does not affect the eight key issues listed in the analysis. In particular for Beaverhead County, the Birch/Willow/Lost project would only foresee one-half mile of a temporary road, which would be obliterated at project completion. This is an important project for Beaverhead County and the B-D.* **Response:** Thank you for your comment supporting not including temporary roads in OMRTD calculations.

Table A- 4 - Letter No. 3 – Beaverhead Outdoors Association

Comment No.	Comment and Response
3-1	**Comment:** *The BOA is in agreement with the decision put forth in the Draft Supplemental EIS that temporary roads shall not be included in the Open Motorized Roads & Trail Density goals. No data presented in the DSEIS indicates that temporary roads will have any impact on any of the eight issues presented.* **Response:** Thank you for your comment supporting not including temporary roads in OMRTD calculations.

Table A- 5 - Letter No. 4 – Dan Pence

Comment No.	Comment and Response
4-1	**Comment:** *The forest has more permanent roads in place than taxpayers can afford to maintain. A large share of the Forest's watershed problems relate to lack of adequate funds to maintain permanent roads. Many of the OMRTDs are so deteriorated from lack of maintenance they are becoming impassible. Build no more permanent roads unless one is needed to replace a problem section that is being obliterated.* **Response:** Analysis of the permanent road system will continue in compliance with 36 CFR 212, Subpart A and B.
4-2	**Comment:** *Temporary roads are badly needed to meet forest plan objectives.* **Response:** Thank you for your comment supporting use of temporary roads to meet Forest Plan objectives.
4-3	**Comment:** *Serious problems relating to maintaining healthy forest objectives in the Forest Plan relate to inability to properly manage unroaded areas. Unroaded*

Comment No.	Comment and Response
	areas are great, however mechanical access is necessary to achieve healthy forests over time-simply get in, meet objective, get out and obliterate the temporary routes. **Response:** Thank you for your comment supporting use of temporary roads to meet Forest Plan objectives.
4-4	**Comment:** *Wildlife habitat is declining in value. Wildlife depend on specific habitat types, be they early serial [sic], climax or some serial [sic] stage between. Maintenance of vegetative diversity is critical to maintenance of healthy, diverse wildlife populations.* **Response:** We agree.
4-5	**Comment:** *Fuel loading currently represents a major and not natural situation. Fuel loads exceeding 100 tons/acre were common before the current insect epidemic. Fires will burn through these fuels with an intensity exceeding natural severity, impacting soils, watershed values and management needs. Severe fires followed by high intensity storms seem to be a norm, resulting to significant watershed problems. Management problems with related fires represent a serious threat to resource values, property values and human life on and off the forest.* **Response:** Mortality from the recent insect epidemic is highly variable. Most individual lodgepole pine stands have been impacted by mountain pine bark beetle and are dead. These dead trees will fall over in 5-15 years (Mitchell & Preisler, 1998) and increase surface fuel accumulation. Fuel accumulations are estimated to be 40-80 tons/acre of 5 inch and larger material, with some areas exceeding 100 tons/acre. Although the current epidemic is at a scale not seen in recent history, beetle impacts to lodgepole forests have occurred for a long time (Brunelle, et al, 2008). Impacts to watershed and other resource values will be associated with large-scale, intense fires. However, these fires will not likely exceed natural severity. The BDNF has, and will continue to, analyze priority landscapes and propose appropriate management actions that may reduce fuel accumulation. Some management proposals may consider temporary road construction and use.
4-6	**Comment:** *Big Game animals need access, feed and security. Elk, deer and other big game species avoid "jackstraw" down timber areas simply because they cannot get through them with speed and ease. Maintain timber density sufficient to provide security, especially when permanent roads are excluded from currently unroaded areas. Most hunters are too lazy to venture more than a few hundred yards from vehicles; hence obliterating mechanical access after meeting management needs will maintain security objectives.* **Response:** Thank you for supporting OMRTD objectives prescribed in the Forest Plan. As proposed, temporary roads would be obliterated after management activities are completed.

Comment No.	Comment and Response
4-7	**Comment:** *Economics need to be a consideration, especially under current economic conditions. We cannot afford to construct permanent roads that we cannot maintain, yet need access to meet forest plan objectives. Significant values are currently being lost when we cannot harvest needed fiber and lumber values, especially since failure to do so leads to expensive fires, produces significant environmental problems and threatens life and property values.* **Response:** Thank you for your comment supporting use of temporary roads to meet Forest Plan objectives.
4-8	**Comment:** P*age 2: Recommend pointing out that Forest Travel Management on system roads and trails is being addressed in other analysis.* **Response:** This recommended change will be made to the Final SEIS.
4-9	**Comment:** P*age 6: Quality water is the most valuable resource produced on the Forest. Any action that may have adverse impact on maintenance of quality water needs careful analysis. Granted, temporary roads can have a short term impact, but not nearly as significant as major fires burning in fuel accumulations that exceed historic conditions.* **Response:** Because water is a valuable resource on the BDNF, the Forest Plan (pg. 13-21) emphasizes management and protection of aquatic resources with goals, objectives and standards. Compliance with these standards should minimize problems with new roads (Draft SEIS, pg. 6-7) Site-specific analysis and design of individual projects is the appropriate planning level to avoid or mitigate the effects of temporary road construction and use (Draft SEIS, pg. 8).
4-10	**Comment:** *Page 8: Fuel loading far exceeds what has occurred under historic conditions due primarily to fire control efforts in the last hundred years. Fires burning in such fuel concentrations are difficult and expensive to manage and cause serious impacts on resources such as water quality and wildlife values.* **Response:** Refer to the response to comment 4-5, above. Fuel loadings, fire costs and resource concerns are risks associated with wildland fires and are always considered when developing suppression strategies. While these concerns do not directly address the FEIS key issue of "Where and on how much of the BDNF should wildland fire use be allowed as part of AMR?", the Forest Plan (pg. 22) provides the following direction addressing fuel loading: **Goals** Safety: Firefighter and public safety is always recognized as the first priority for fire suppression. Fuels Management: A full range of fuels management activities is available to achieve ecosystem sustainability, including economic and social components. Wildfire Hazard Reduction: Effects of unplanned and unwanted wildfire are reduced by moving areas of condition class 2 and 3 to a condition class 1 for all fire regimes and by maintaining areas in condition class 1.

Comment No.	Comment and Response
	Objectives Wildland Urban Interface: Reduce the risk from wildfire to communities and resources in the following order of priority: 1) Areas where a community wildfire protection plan has been developed. 2) High risk areas adjacent to communities, for example: condition classes 2 and 3 in fire regimes 1, 2 & 3. 3) Areas in condition class 2 and 3 in fire regimes 4 & 5. 4) Areas to be maintained in condition class 1. Since 2009, the BDNF has not decided, or proposed, to construct and use temporary roads for a fuels management project. However, such an activity *may* be proposed in the future and effects would be similar to those disclosed in the Draft SEIS for Suitable Timberland and Vegetation Management.
4-11	**Comment:** P*age 8-10: Travel management will be necessary while temporary roads are in place. Close these routes during periods when resource problems can occur such as spring soil saturation, hunting season, nesting/calving periods, etc. to meet resource objectives. Most hunters are too lazy to venture far from permanent roads and trails so wildlife security objectives can be met by judicial temporary road management. Include firewood harvest as an objective while routes are open.* **Response:** While temporary roads are in place, restrictions on public use must be managed, as well as applicable seasonal restrictions to mitigate impacts to specific resources. Because methods to restrict public use of a temporary road and need for seasonal restrictions are dependent on site-specific characteristics (terrain, popularity for recreation use, vegetation type, soil type, species present, etc.), proposals for restrictions are appropriately analyzed at the project-specific planning level. As proposed in the Draft SEIS (pg. 20), temporary roads open to firewood harvest for personal use would be included in OMRTD calculations.
4-12	**Comment:** *Page 11-13: Basing timber harvest objectives on "areas of [sic] suitable for timber harvest" continues to cause personable heartburn. Far too many opportunities to improve fuel loading, wildlife habitat, aspen/shrub communities and general stand diversity using judicial timber harvest exist outside of "suitable" designations. You have included an excellent description of diversity needs.* **Response:** The Forest continues to propose actions, including timber harvest, where it is the appropriate management tool. Although most acres proposed for and treated since 2009 with timber harvest have been within areas designated by the Forest Plan as 'suitable' for timber harvest, there are two proposals currently under environmental analysis that include timber harvest on acres designated by the Forest Plan as 'unsuitable' for timber harvest, but allowed where benefits to other resources has been determined.

Comment No.	Comment and Response
4-13	**Comment:** *Page 14: Wildlife has an amazing ability to adapt to temporary motorized use as long as someone isn't shooting at them or harassing them by recreational pursuit.* **Response:** We agree. Hunting pressure influences wildlife behavior.

Table A- 6 - Letter No.5 – NEC/AWR

Comment No.	Comment and Response
5-1	**Comment:** T*he SEIS does not comply with the Court order to "explain or support, if possible," why temporary roads are excluded from the road density objectives in the Forest Plan. The SEIS instead evaluated the effect of not including temporary roads in Open Motorized Road and Trail Density (OMRTD) goals on the Forest Plan EIS issues. The issue here is what is the basis for the BDNF to determine that there are no disturbance/displacement effects of temporary roads even when they contain motorized access. The SEIS did not cite a single, published, peer-reviewed article that supports the agency's contention in the Forest Plan that motorized activity on roads does not disturb/displace wildlife if the road is in use for only several years and the public excluded.* **Response:** After reviewing the Draft SEIS, we found no mention that the BDNF determined temporary roads, when providing motorized access, have no disturbance/displacement effects to wildlife. Rather, the Draft SEIS (pg. 18-21) repeatedly recognizes roads potentially disturb/displace wildlife. Site-specific analysis and design of individual projects is the appropriate planning level to mitigate the effects of temporary road construction and use (Draft SEIS, pg. 20).
5-2	**Comment:** *the agency did acknowledge that motorized activity on temporary roads does have to be evaluated as per the National Environmental Policy Act (NEPA). Page 20 of the DSEIS notes that "the short term effects of temporary roads are appropriately analyzed at the project-specific planning level rather than the much larger area and time scale of the Forest Plan." We agree.* **Response:** Thank you for your comment supporting project-specific analysis of the effects of temporary roads.
5-3	**Comment:** *the Forest Plan does not require this analysis or provide a single standard to address short-term, localized wildlife impacts.* **Response:** Please refer to Forest Plan pages 1-2 describing the purpose of the revised plan and background information (Draft SEIS pg. 1-2). Specifically note that environmental analysis will be conducted, when required, for all projects as they are proposed. In addition to Forest Plan direction, projects are also guided by Forest Service manuals, handbooks and other directives. The SEIS is not intended to address short-term localized impacts to wildlife that are appropriately analyzed

Comment No.	Comment and Response
	during project-specific planning. Rather, the supplemental analysis addresses the issue: What is the effect of not including temporary roads in OMRTD goals on Forest Plan EIS issues? Additional discussion about requiring a standard addressing short-term, localized wildlife impacts is provided in the response to comment 5-4.
5-4	**Comment:** *The Forest Plan needs to provide a standard for short-term, temporary impacts to the management indicator species (MIS) elk for both "habitat effectiveness" and "security." Neither standard currently exists, at the project or landscape level. These standards would correct a considerable number of deficiencies regarding the Forest Plan and standards to promote long-term viability and diversity of wildlife as indicated by the MIS elk.* **Response:** Forestwide, elk security is managed through OMRTDs by hunting units to provide quality elk habitat, a variety of recreational hunting opportunities, and support Montana's fair chase emphasis. Changes in abundance of elk reflect maintenance of habitat conditions for elk security (Forest Plan, pg. 46-47). Providing for elk security as a goal by prescribing OMRTDs and using vehicle access management as a tool for elk were reviewed in 2009 as part of the Forest Plan administrative appeal process. This review determined the Forest Plan provides for wildlife viability (refer to pgs. 71-73, Attachment 2 of the 10/30/09 BDNF Plan Appeal Decision). Following judicial review, the U.S. District Court for Montana found the Forest Plan complied with general requirements of the 1982 viability rule (see pgs. 43-65 of the 5/24/13 Order for Case 9:12-CV-00027-DLC). Recent peer reviewed research conducted on the Madison Ranger District and adjacent Gallatin National Forest by Proffitt et al (2010 and 2013) indicates that road density is a stronger predictor of elk distributions during the hunting period than security habitat (as recommended by Hillis et, al. 1991 and others). The Forest Plan takes this one step further by including motorized trails in OMRTDs. We agree with the last phrase of this comment. Forest Plan goals, objectives and standards should promote long-term viability and wildlife diversity and the BDNF uses elk populations as an indicator. Short-term, temporary impacts to elk habitat are likely to temporarily alter habitat use and temporarily make some elk more vulnerable to hunting pressure. Elk population monitoring (Table 169, FEIS, pg. 491-492 and Final SEIS, Appendix B, Table B- 1) identifies an abundant elk population in the region of the State receiving the greatest hunting pressure for elk (FEIS, pg. 492) further indicating the availability and use of quality elk habitat, availability of recreational hunting opportunities and support of Montana's fair chase emphasis as desired by Forest Plan goals. Currently, elk population monitoring does not indicate a need for a Forest Plan standard guiding short-term, temporary impacts to elk using "habitat effectiveness" (as recommended by Christensen, et al, 1993) or "elk security areas" (as suggested by Hillis, et al, 1991).

Comment No.	Comment and Response
	Comment: *The scale of the landscape area included in the Forest Plan direction is invalid; unroaded habitats should also be separated out from roaded habitats.* **Response:** Following judicial review, the U.S. District Court for Montana found "The decision to use the landscape and hunting unit scales is reasonable" (5/24/13 Order for Case 9:12-CV-00027-DLC, pg. 53). We disagree with the reviewer's view that the landscape scale is invalid because unroaded habitats should be separated from roaded habitats during analysis. First, 43% (1,517,000 acres) of the BDNF is congressionally designated wilderness, recommended wilderness, non-motorized portions of Wilderness Study Areas or summer non-motorized allocations. Road construction is not permitted in congressionally designated wilderness or recommended wilderness areas (Forest Plan, pg. 32) and permanent road construction is not allowed in summer non-motorized allocations (Forest Plan, pg. 31). Conservatively[20], more the 2,370 square miles of the BDNF is devoid of motorized roads[21]. Analysis of wildlife habitat, especially for species adverse to human disturbance, without considering areas lacking human disturbance associated with motorized use would simply be inaccurate.
5-5	Second, we are unaware of any species completely intolerant of roads. Even large carnivores cross interstate highway systems with substantially higher motorized use and human presence than Forest roads and trails. While certain species avoid habitat near motorized roads and trails, or are more vulnerable at certain times (for example, elk are more vulnerable to hunting pressure when they exist near open motorized routes during the general big game rifle season), they will continue using this habitat, albeit to a lesser extent. The larger management question is: Do animals have secure areas available when they feel threatened? The Forest Plan (pg. 302) defines secure areas as areas larger than 10 acres more then 1/3 mile from a route open to motorized vehicles. Separating analysis of roaded habitat from unroaded habitat would be insufficient because it cannot answer this important question. Next, we are unaware of a wildlife-related definition of "roaded" habitat. Is habitat roaded if a road exists? How much road? How much of an area becomes "roaded" when a road is present (10 acres, 100 acres, 1,000 acres, etc.)? The Forest Plan provides wildlife security for the entire 3 million acre BDNF by managing OMRTD by landscape and hunting unit. When analyzing wildlife security, OMRTD allows simultaneous consideration of (1) areas that are secure because motorized routes are absent and (2) consideration of the continued

[20] Summer motorized allocations and motorized portions of Wilderness Study Areas are not entirely "roaded". Because the Forest Plan (pg. 32) restricts wheeled, motorized vehicles to routes identified on Forest Plan page 53, secure areas (areas larger than 10 acres and more than 1/3 mile from a route open to motorized use) occur within summer motorized allocations and motorized portions of Wilderness Study Areas.

[21] Congressionally designated wilderness areas, recommended wilderness areas, non-motorized portions of Wilderness Study Areas and summer, non-motorized allocations are also devoid of motorized trails.

Comment No.	Comment and Response
	existence of motorized routes.
5-7	**Comment:** *The size of the landscape used to identify OMRTD is inappropriate and in effect "washes out" any site-specific impacts of short-term temporary activities by measuring roads, even if temporary roads were included as a disturbance to elk. There would never be a logging project that would violate the Forest Plan goal for the Big Hole Landscape, or cause a "net increase" in OMRTD. This landscape, or area that includes the Fleecer Project that is under challenge, is roughly 540,450 acres, or almost 16% of the BDNF. In order to exceed the Forest Plan standard of 1.2 open miles per section or increase it to 1.3 miles per section, there would have to be 84 miles of new roads constructed. Currently, the BDNF only projects 70 miles of new road construction during the life of the Forest Plan, for the entire Forest, not just one landscape. The standard is impossible to violate, and is therefore meaningless to protect wildlife.* **Response:** Please refer to the response to comment 5-5, above. OMRTDs, as currently calculated using the definition proposed in the Draft SEIS (pg. 20), change as the motorized status of routes (through new management decisions) and route inventories are updated. Since the 2011 Fleecer Mountains Project Decision Notice was signed, route inventories have been updated as part of the Travel Analysis Process for the Dillon, Wise River and Wisdom Ranger Districts. As a result of this updated information, the known, *actual* inventoried motorized route mileage in the Big Hole Landscape increased. As of July 2014, there are 1,161.6 miles of motorized roads and trails in the 848.1 square mile Big Hole Landscape. Using the proposed OMRTD definition, the current OMRTD is 1.4 miles/square mile. The desired OMRTD for the Big Hole Landscape (Forest Plan, pg. 45) is 1.2 miles/square mile. To achieve this goal, 101.5 miles of roads and trails currently open to motorized use sometime during the year need closed. We understand the reviewer's concern; however, the FEIS (Table 175, pg. 509) considered different open road density objectives for wildlife. In general, open road densities are low on the BDNF, elk populations met or exceeded State objectives with higher road densities prior to approval of the 2009 Forest Plan (FEIS, Table 169, pg. 491-492 & 508) and elk populations continue to thrive (Final SEIS, Appendix B, Table 1). We believe the landscape scale is appropriate to meet long-term population viability needs of, not only, elk but large carnivores and other ungulates as well.
5-8	**Comment:** *Another factor that makes the Forest Plan direction for OMRTD impossible to exceed per landscape is that landscape include both roaded and unroaded habitat. This allows the OMRTD in roaded habitats to be "subsidized" by the lack of roads within roadless lands, such as Wilderness and Wilderness Study Areas. This further conceals the impact of roads on MIS elk by Forest Plan direction. Within th3 [sic] Big Hole Landscape, where the Fleecer Project is located, approximately 44% of it is roadless due to wilderness or wilderness study areas, etc. This means that OMRTD can be almost twice as high in roaded areas than is actually reflected in the Forest Plan direction. So the OMRTD does not actually provide a realistic description to the public of how road densities will be*

Comment No.	Comment and Response
	managed within local landscape. **Response:** Refer to the response to comment 5-5, above. Please note, the Big Hole Landscape does not include any Wilderness Study Areas.
5-9	**Comment:** *The agency provided no scientific basis for why the analysis area for OMRTD is so massive as Forest Plan direction. We are not aware of any current best science that supports this approach. A Forest Service publication providing direction for Forest planning efforts by Christenesen et al. (1993) notes that early guidelines identified project specific analysis at a scale of 3,000 to 10,000 acres. This would be consistent with the area utilized by an individual elk. The MIS elk has an average home range of 9500 acres; this includes an average of 3500 acres in the summer, 1300 acres in the fall hunting season, 778 acres during the calving season, and 4225 acres in the rut (Lyon et al. 1982).* **Response:** Please refer to responses to comments 5-4, 5-5 and 5-10. The scientific document referenced in this comment (Christensen, et al. 1993) is titled "Elk Management in the Northern Region: Considerations in Forest Plan Updates or Revisions". The recommendations in Christensen, et al (1993) are based on a synthesis of literature published between 1979 and 1992. The Forest Plan FEIS (p. 24-29) considered several different alternatives for managing wildlife (including elk) security including several of the considerations recommended in Christensen, et al (1993). However, FEIS alternatives were not limited to only the recommendations in Christensen, et al. Coordination with MFWP and consistency with the 2005 State Elk Management Plan also played an important role in alternative development. Management of elk herds by MFWP is promulgated at a much larger scale than the elk home range referenced in this comment. Statewide, MFWP regulations (including hunting seasons, method of take, antlered/antlerless take, and population objectives) are prescribed at the hunting unit scale. Hunting units partially or fully located on the BDNF vary from 88,000 to 310,000 acres in size and are much larger than an individual elk home range. In Montana, elk populations are managed at the hunting unit scale, not at the scale of an individual elk home range. The FEIS (p. 488, 492, 497, 501 and 534) discloses the effects of the FEIS alternatives to elk based on Christensen et al (1993) and the 2005 State Elk Management Plan. A review of scientific literature published since the 2009 Forest Plan ROD and monitoring identifying continued abundant elk populations that generally meet or exceed MFWP objectives is attached to the Final SEIS as Appendix B. This review concludes that managing motorized access (through OMRTD) remains a valid metric for maintaining viable elk populations on the BDNF.
5-10	**Comment:** *Christensen et al. (1993) separated project-specific and cumulative effects analysis. They noted that for cumulative effects, the area evaluated should be considerably larger than required for site-specific analysis. This larger scale*

Comment No.	Comment and Response
	will be based on the particular situation associated with a project and could range from 30,000 to 150,000. The Big Hole landscape exceeds this maximum cumulative effects analysis area by almost 4 times. The Big Hole landscape area exceeds the average size of an elk home range by 57 times (540,450 acres divided by 9500 acres of an average elk home range size in Montana). Since the BDNF acknowledges that site-specific evaluations for MIS elk are required at the project level, it is not clear why standards for OMRTD are not controlled at the scale of the landscape than [sic] an elk actually uses. **Response:** Please refer to responses to comments 5-4, 5-5 and 5-9, above. OMRTDs are Forest Plan Goals for managing *wildlife* (including elk) security on the entire BDNF during the life of the plan. The Draft SEIS (pg. 20) recognizes wildlife displacement from the use and construction of temporary roads is influenced by a number of factors appropriately analyzed at the project-specific planning level, in compliance with the NEPA. Project-level compliance with Forest Plan Standards associated with OMRTD goals are necessary to comply with the NFMA. Upon review of Christensen et al. (1993), we found no separation of project-specific and cumulative effects analysis as described in this comment. Specifically, Christensen et al (pg. 3), state "Early guidelines tended to be project specific in scale; often 3,000 to 10,000 acres was recommended. However, while road locations, special features, and the location of cover or cutting units still need project-level analysis, such analysis also needs to recognize the project in a broader context of herd units (where known), habitat analysis units, or other meaningful, larger scale perspectives." The project-specific planning level referenced in the Draft SEIS requires analysis of direct and indirect effects and cumulative impacts as defined at 40 CFR 1508.7 & 1508.8. Please do not confuse OMRTD goals measured at the landscape level (for wildlife security) with OMRTD goals measured at the hunting unit scale (for elk security). To help coordinate BDNF management activities with MFWP elk population management objectives, the Forest Plan provides for elk security by prescribing OMRTD goals at the hunting unit scale. In Montana, elk *populations* are managed at the hunting unit scale, not at the scale of an *individual* elk home range.
5-11	**Comment:** *The Forest Plan and ESEIS [sic] incorrectly defines elk security as at least 250 acres of contiguous forest cover at least 0.5 miles from an open motorized route (Hillis et al. 1991). This is the "minimum" definition, and when cover is more limited, the acreage of a cover block will need to increase. Id. In addition, when total road densities are higher, the distance from an open motorized route will need to increase. Id. The Forest Plan and the DSEIS did not provide the scientific reference for elk security. The 10 acres of 0.3 miles from an open road was developed for grizzly bears. The DSEIS at 18 claims that a basic tenet of the Corrected FEIS wildlife analysis posits secure areas for grizzly bears (a documented disturbance adverse species) provides secures areas for wildlife in general and connectivity across the BDNF landscap0e [sic] for large carnivores*

Comment No.	Comment and Response
	and ungulates, including elk, deer and antelope. No peer-reviewed, published science was provided as documentation. The use of the grizzly bear definition for security as a measure of elk security in the Forest Plan is invalid. **Response:** The Forest Plan Corrected FEIS Glossary (p. 6) defines an "elk security *area*" as a contiguous block of cover, over 250 acres in size at least ½ mile from an open road. For the most part, this definition is derived from "Defining Elk Security: The Hillis Paradigm" (Hillis, et al 1991) and designed to address the effects of timber harvest to elk vulnerability and agreed upon elk management objectives for the Bitterroot, Lolo and Deerlodge National Forests in 1991. Managing elk using this concept was considered in Alternative 1 of the FEIS. The Forest Plan does not include a definition for elk security areas because the term is not associated with the selected alternative (FEIS Alternative 6 Modified). The Forest Plan (pg. 45) provides wildlife security by managing the density of open motorized roads and trails. Other research (Proffitt, et al, 2013, Unsworth, et al, 1993, Hayes, et al, 2002, etc.) indicates vegetation density is not a significant factor for assessing elk security (please see response to comment 8-2, below)**.** In addition, MFWP support for the use of OMRTDs as an approach for wildlife management is disclosed in the FEIS (pg. 901) "Open road density will provide an effective way to evaluate habitat security for big game. Road density is one of the few variables on the landscape that our respective agencies can effectively manage to produce desired outcomes for wildlife…" The FEIS Glossary (pg.21) and Forest Plan (pg. 302) provide this definition for secure areas: "Areas larger than 10 acres that are 1/3 of a mile from a route open to motorized vehicles". The definition is, in part, derived from the 2006 Yellowstone Grizzly Bear Amendment which prescribes a 500 meter buffer. The Forest Plan increases this buffer by 120 feet to accommodate mapping for quiet recreation (FEIS, pg. 488 and Draft SEIS, pg. 18). Following judicial review, the U.S. District Court for Montana found the BDNF did not "…act arbitrarily and capriciously in applying the EIS definition of secure areas to elk" (5/24/13 Order for Case 9:12-CV-00027-DLC, pg. 65). The reviewer providing this comment is correct; no peer reviewed, published science documenting the tenet that "…secure areas for grizzly bears (a documented disturbance adverse species) provides secure areas for wildlife in general and connectivity across the BDNF landscape for large carnivores and ungulates, including elk, deer and antelope" (Draft SEIS, pg. 18). However, the lack of peer-reviewed, published literature does not invalidate this logical assumption and is supported by other documents and rationale described in the entire paragraph.
5-12	**Comment:** *The SDEIS at 14 "suggests" that the agency has used updated information on security habitat. This updated science was never identified.* **Response:** This review will be attached as Appendix B to the Final SEIS. This review concludes that managing motorized access (through OMRTD) remains a valid metric for maintaining viable elk populations on the BDNF. In addition, the scientific literature reviewed is included in the reference section of the Final SEIS.

Comment No.	Comment and Response
5-13	**Comment:** *The grizzly bear definition of security excludes any motorized use, including temporary roads, so the Forest Plan is not correctly applying even this definition. The Interagency Grizzly Bear Committee Taskforce Report (1998) defines grizzly bear core habitat, which is needed for security, as having no motorized use of roads and trails during the core period. Simply keeping the public off of a temporary road would not avoid adverse impacts to grizzly bears. In addition, nonmotorized use would eliminate core habitat if it is at a high intensity, which may occur during the hunting season. So the impacts of roads, even if temporary, are required to be included if the Forest Plan is going to have realistic management direction for this threatened species.* **Response:** Definitions and applicability of grizzly bear terms vary between documents. The definition of secure areas in the Forest Plan (pg. 302) is partially derived from the 2006 Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests Record of Decision (Forest Plan, Appendix G-17) and the 2003 Final Conservation Strategy for the Grizzly Bear in the Yellowstone Ecosystem (Figure 10, pg. 41); specifically Secure Habitat – More than 500 meters from an open or gated motorized access route or reoccurring helicopter flight line. Must be greater than or equal to 10 acres in size. Large lakes not included in calculations. The 1988 Interagency Grizzly Bear Committee Taskforce Report (IGBC, pg. 1) was developed to "evaluate state and federal procedures for evaluating the effects of motorized access on grizzly bears within grizzly bear recovery zones". The only grizzly bear recovery zone on the BDNF is located in the Lee Metcalf Wilderness. There are no open motorized routes (permanent or temporary) in this designated wilderness area. Forest Plan direction and impacts to grizzly bear for the entire BDNF was further analyzed in a July 2, 2012 Biological Assessment. Please refer to this document and the May 28, 2013 USFWS Biological Opinion. Note that these documents assess impacts of all motorized vehicle access plus other actions potentially influencing grizzly bears.
5-14	**Comment:** *The agency claims that the Biological Opinion for Grizzly Bears supports their claim that temporary roads do not affect wildlife, because this BiOp allows 70 miles of new temporary roads on the BDNF during the next 10-15 years. While the 2013 BiOp for grizzly bears on the BDNF claims that 70 miles of additional temporary roads on the Forest in the next 10-15 years will not result in "incidental take" of grizzly bears, there was no biological rationale as to how this was determined, especially as the USFWS acknowledges …that temporary roads "may" adversely impact grizzly bears.* **Response:** Please refer to the response to comment 5-1, above. No claim has been made that "temporary roads do not affect wildlife…" The 5/23/13 Biological Opinion (pg. 89) finds "…the Revised Forest Plan, with its

Comment No.	Comment and Response
	incorporated objectives, goals and standards, adequately reduces the potential for and minimizes the effect of any incidental take that may result. Therefore, no reasonable and prudent measures are necessary. As explained above, the Revised Forest Plan will reduce the potential for or minimize the effect [sic] incidental take. No additional reasonable and prudent measures are necessary, therefore no terms and conditions are needed with the exception of the reporting requirements."
5-15	**Comment:** *FWS claims that all of these 70 miles of new temporary road will be obliterated following project completion. This same claim is made by the Forest Service in the DSEIS. However, it is not clear that any, let alone all, of these new temporary roads will actually be obliterated, which is required for them to no longer count in the total route density measurements. It seems much more likely that many or most these roads will not be obliterated, but instead put in "cold storage," where they still have a roadbed and still count as a road. Unless this is included specifically as Forest Plan direct, that all new temporary roads will be completely obliterated, including removal of the road bed, this claim should not be made.* **Response:** All temporary roads associated with timber harvest and mineral exploration since 2009 have been, or are planned to be, obliterated at project completion (Draft SEIS, Table 1 and Figures 1-4). Please refer to the proposed definition for OMRTD (Draft SEIS, pg. 20) as modified in response to comment 10-2a. If a temporary road is not obliterated at project completion, it is included in OMRTD calculations.
5-16	**Comment:** *Open motorized road/trail densities are not an appropriate measure of elk security. The DSEIS at 14 notes that open motorized road and trail densities are an appropriate measure of wildlife security. However, open motorized routes are a measure of elk "habitat effectiveness," not elk security (Christensen et al. 1993, Hillis et al. 1991). The Forest Plan is not actually measuring elk security. Instead, they are measuring elk habitat effectiveness or habitat availability in the summer season. Id. The agency is providing false analysis procedures and results to the public as a result. The SDEIS notes that the public expressed concerns about elk security in the public involvement process on the plan revision. This issue has not actually been addressed.* **Response:** Refer to responses to comments 5-4, 5-9, 5-11 and 5-12, above. Please note, the reference to wildlife security on page 14 of the Draft SEIS is included within the context of the FEIS key issue description for wildlife management. Unfortunately, the interchangeable nature of terms for wildlife security, elk security, secure areas and elk habitat effectiveness, coupled with typographical errors made in the Forest Plan, is confusing. The U.S. District Court for Montana found "Though the inclusion of the inapplicable definition is confusing, the public was not misled. The FEIS clearly lays out the standard the Forest Service chose to apply" (5/21/13 Order for Case 9:12-CV-00027-DLC, pg. 60). Hopefully, recent corrections to the Forest Plan (August 23, 2013 Forest Plan Errata, pg. 1-2) reduce some of this confusion.

Comment No.	Comment and Response
	We have carefully reviewed, Christensen et al (1993), Hillis et al (1991), other scientific literature identified in the response to comment 5-11 and Appendix B of the Final SEIS, documents coordinating the Forest Plan with MFWP, analysis in the FEIS and Forest Plan goals, objectives and standards for wildlife habitat and do not agree with this comment's claims that "Open motorized road/trail densities are not an appropriate measure of elk security" and "The agency is providing false analysis procedures and results…" for the following reasons. Christensen et al (1993) does not provide a definition for elk security. Rather, it uses the term "elk vulnerability" to describe security for elk during the hunting season (pg. 2). The Forest Plan (pg. 45-46) clearly identifies a goal for wildlife security by managing OMRTDs by landscape and elk security during the hunting season by hunting unit. Comparing *some* of the terms in Christensen et al (1993) with terms in the Forest Plan inappropriately leads to confusing and inaccurate conclusions. Recommendations in Christensen et al (1993) were considered while revising the Forest Plan. The tool selected for achieving wildlife and elk security goals described in the Forest Plan is OMRTD. The use of every tool suggested in every scientific reference available to manage all wildlife on the BDNF for more than a decade is simply impractical and unnecessary for maintaining a viable elk population, especially since population monitoring indicates elk, as a species, are thriving on the BDNF (see Final SEIS, Appendix B, Table B- 1).
5-17	**Comment:** *The DSEIS at 20 falsely claims that motorized activity only impacts wildlife when it occurs within security areas. The DSEIS clam that motorized use only affects wildlife when it occurs within a security area is quite amazing! The scientific references for this claim were never provided. This means that the current concept of elk habitat effectiveness, or summer open road densities, is invalid. It also means that the current best science for grizzly bears is invalid as well, where open road densities outside of security areas is noted to be as important as security areas themselves (Schwartz et al. 2009[22]). This interpretation means that any and all new road construction on the BDNF, including for timber harvest, will have no impact on any wildlife as long as security areas for grizzly bears are not affected.* **Response:** Thank you for pointing out the confusing wording in the 5th paragraph of Draft SEIS page 20. We willclarify this wording in the Final SEIS.

[22] The BDNF is unaware of any literature published by Schwartz et al. in 2009. We assumed this was a typographical error and the reviewer is referencing Schwartz, et al. (2010) – Hazards Affecting Grizzly Bear Survival in the Greater Yellowstone Ecosystem.

Table A- 7 - Letter No.6 – NEC/AWR

Comment No.	Comment and Response
6-1	**Comment:** *It is not clear in the DSEIS if temporary and permanent roads that do not have public use can occur within security areas. Please clarify how these roads will affect security areas. Will such areas still be considered "security" if roads closed to public traffic are present?* **Response:** The Forest Plan (pg. 302) defines "secure areas" as: Areas larger than 10 acres and more than 1/3 mile from a route open to motorized vehicles. Therefore, non-motorized routes can occur within secure areas. This definition does not distinguish between public and other motorized use. The Forest Plan (pg. 304) defines a "temporary road" (pursuant to 36 CFR 212.1) as: A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation plan. Permitted and administrative use roads may be considered temporary if they are closed to public motorized use but are expected to remain on the landscape and in motorized use status for a specific permitted purpose in the reasonably foreseeable future. An area is not considered "secure if this type of permitted/administrative road is present (Draft SEIS, pg. 19; specifically Footnote 17).
6-2	**Comment:** *Please also clarify specifically how the open road density direction in the Forest Plan can measure wildlife security, or areas without motorized use. It is not clear how open road density provides a measure of security.* **Response:** Secure area, security and OMRTDs do not have one, equal measure. As part of managing wildlife habitat, the Forest Plan (pg. 45-46) establishes a goal to provide wildlife security by managing the density of open motorized roads and trails by landscape year-round, except fall rifle big game season. Since we are *providing* security by *managing* route density, we measure OMRTD (miles per square mile), not security. Refer to the response to comment 6-1, above for the Forest Plan definition of secure areas. The Forest Plan (pg. 45) goal for wildlife secure areas and connectivity is: Secure areas and connectivity for ungulates and large carnivores are provided, while recognizing the variety of recreational opportunities. Individual secure areas are measured by size (acres) and vary across the Forest (Draft SEIS, pg. 19). Future travel management decisions designed to achieve the Forest Plan goal for wildlife security may increase the number of secure areas and/or increase the size of existing secure areas.
6-3	**Comment:** *Please provide the level of security that will be provided by the various open road density standards for landscapes in the Forest Plan.* **Response:** Refer to the response to comment 6-2, above. The Forest Plan does not measure security. In responding to this comment, we assumed the reviewer

Comment No.	Comment and Response
	wants to know how much of each landscape will be made up of secure areas when the desired OMRTD is met. Clark Fork-Flints 38.6% Elkhorn 33.7% Gravelly 61,3% Jefferson River 42.5% Lima Tendoy 57.3% Madison 100% Pioneer 53.2% Tobacco Roots 45.5% Upper Clark Fork 34.6% Upper Rock Creek 62.1%
6-4	**Comment:** *Also, please define the science upon which the 10 acre patch of forest at least one-third mile from an open road qualifies as security for the grizzly bear. Where is the 10 acres size provided in the current best science? The Protocol papers (2002 and 2006) for grizzly bear management in the Northern Continental Divide Ecosystem (NCDE) identify a minimum of 2500 acres of unroaded habitat for grizzly bears, based on grizzly bear habitat use. In addition, the Biological Opinion, for the Helena Forest Plan regarding grizzly bears, completed in 2014, notes that security areas in the Yellowstone Ecosystem [sic], cites research that recommends a minimum of 6400 acres for grizzly bear security. It is not clear what science recommends only 10 acres, so this needs to be identified.* **Response:** Refer to the response to comment 5-13, above. Please note, the Forest Plan (pg. 302) defines secure areas as "Areas larger than 10 acres…" - not 10 acre patches of forest. The 2002 and 2006 protocol papers for the NCDE were not used during development of the Forest Plan because none of the BDNF is included in the NCDE. The 2014 Biological Opinion for the Helena National Forest Plan was not available when the 2009 BDNF Plan was approved.
6-5	**Comment:** *The Biological Opinion for the Helena Forest Plan in 2006, and again for the Helena Forest Plan in 2014, both note that temporary roads displace grizzly bears and create adverse impacts, and that some bears avoid roaded habitats even when these roads are closed to the public. The draft SEIS did not identify the science that shows that roads closed to public travel do not displace grizzly bears.* **Response:** This comment is puzzling because both the 2013 Biological Opinion (BO) for the BDNF Plan (pg. 29-35, 39-45 & 75-81) and the Draft SEIS (p. 17-18) acknowledge that temporary roads can displace grizzly bears. Published scientific literature determining roads can displace grizzly bears is cited in the 2013 BO.
6-6	**Comment:** *The DSEIS suggests that temporary and permanent roads closed to public travel do not impact grizzly bears. However, there is no actual classification for this type of roads as per the current best science for grizzly bear*

Comment No.	Comment and Response
	management as per the Interagency Grizzly Bear Taskforce Committee (1998). The correct terminology for a road closed to public travel would be a "restricted road." Id. Restricted roads cannot have any motorized use if they are located in security areas (Id., Yellowstone Grizzly Bear Investigations 2012). There are actually definitions for what constitutes a "restricted road" outside of grizzly bear security areas. This includes low levels of administrative use and other use in the summer season (7/1-8/31) and fall season (9/1-11/30) of a total vehicle trip count of 61 and 90 for the total seasons (Protocol Paper 2002). The DSEIS would have to fit within these criteria in order to qualify as a restricted road. There is clearly a "threshold level" of motorized traffic use that converts a restricted road into an open road. This distinction fits with research on grizzly bears that indicates that bear use avoidance of habitat adjacent to roads increases as the level of traffic increases (2014 BiOp for the Helena Forest Plan on grizzly bears, page 37). The DSEIS needs to define why temporary and permanent roads closed to public travel will still constitute "low levels" of use and thus qualify as a restricted versus an open road as per the current best sciences. **Response:** Refer to responses to comments 5-1, 5-14, 6-1 and 6-5, above. As proposed in the OMRTD definition (Draft SEIS, pg. 20), if motorized use is present and expected to continue in the reasonably foreseeable future, regardless of the expected "level" of use, the area is *not* considered secure and the route is included in OMRTD calculations.
6-7	**Comment:** *The DSEIS notes that the open road density objective in the corrected FEIS (448) does not include temporary or permanent roads if they are closed to the public. Since these roads will displace wildlife, including grizzly bears and elk, this analysis does not provide a reasonable measure of roading impacts to wildlife in the Forest Plan. All roads need to be included in any measurement of motorized use on wildlife.* **Response:** The Draft SEIS (pg. 1) addresses the issue: "What is effect of not including temporary roads in Open Motorized Road and Trail Density goals on Forest Plan EIS issues?" As part of disclosing the Forest Plan EIS issue for suitable timberland, the Draft SEIS (pg. 11) states, "The Corrected FEIS (pg. 448) discloses that open road density objectives for wildlife habitat management '…do not affect temporary vehicle access for logging or permanent roads if they remain closed to motorized recreation.'" Page 448 of the Corrected FEIS discloses effects *on* timber production *from* wildlife habitat management; not the effects *on* wildlife *from* temporary or permanent roads closed to the public.
6-8	**Comment:** *The 2013 BiOp for the BDNF Forest Plan effects on grizzly bears is invalid, and cannot provide any scientific measure of incidental take on grizzly bears. This BiOp simply determined that 70 miles of additional new roads will not affect grizzly bears because they will be temporary. There is no science available that demonstrates that active motorized routes will not impact grizzly bear security. Since the BiOp does not address the effect of 70 miles of new roads on grizzly bear security, this analysis, as well as surrogate for incidental take, in*

Comment No.	Comment and Response
	meaningless. At a minimum, the current best science requires that the impact of all new roads on grizzly bear security be measured and defined if this will be used as a surrogate for incidental take of grizzly bears. The BDNF has been mapped for Bear Analysis Units (BAUS) below Interstate Highway 90 (13 BAUs), for the most part (Yellowstone Grizzly Bear Investigations 2012, see Figure 3 at page 73). In these BAU, grizzly bear security is being monitored every 2 years (Id., Table 7 at 88-89). On the Gallatin National Forest incidental take of grizzly bears has been measured by security habitat for a last 3 BAUS (Biological Opinion for Gallatin National Forest Travel Plan Amendment, Table 7 at page 43, 58). This same methodology is applied to grizzly bear habitat in the Recovery Zone, with additional criteria/standards for incidental take identified for open and total motorized access routes (Id., BiOp for the Helena National Forest on grizzly bears, Table 4 at page 22, also page 18). The 2013 BiOp for grizzly bears on the BDNF has no scientific basis since the surrogate measure for incidental take does not measure the density/percentage of identified important habitat measures for bears (percentage of security, open and total roads). **Response:** The 2013 Biological Opinion (BO) speaks for itself. Tables 16 and 17 (BO, pg. 79) disclose the percent secure areas by landscape and existing road densities in the Yellowstone action area and the Western-Northern Action Area. The BO documents an extensive analysis of the potential effect of 70 miles of temporary road construction and use. Literature supporting the BO is listed on pages 92-102.

Table A- 8 - Letter No.7 – CTVA 5/7/14

Note: This 30-page letter describes CTVA's concerns about limiting public motorized access and recreation opportunities. The interdisciplinary team and responsible official recognize the desire of CTVA members, and others, to maintain or increase motorized recreation opportunities on the BDNF. CTVA's basic concerns and conclusion (as identified on pages 2, 3 and 26 of the 5/7/14 letter) are provided in the following table with interdisciplinary team responses. However, subsequent, detailed comments concerning the need for public motorized recreation opportunities are *not* included below because the Draft SEIS addresses the effect of not including temporary roads in OMRTD goals in the Forest Plan and does *not* propose reducing, or expanding existing public motorized recreation opportunities on the BDNF.

To provide full public disclosure, the entire May 7, 2014 letter from CTVA is posted on the BDNF webpage.

The 5/7/14 CTVA letter is similar to comments submitted in 2008 on the Forest Plan FEIS. Prior to signature of the 2009 ROD approving the Forest Plan, the interdisciplinary team responded to each comment. Comments submitted in 2008 and interdisciplinary team responses are available upon request.

Comment No.	Comment and Response
7-1	**Comment:** *Basically in order to address our concerns the project evaluation must address:* *1. Most of visitors to the project area visit the forest to enjoy multiple-use opportunities including motorized access and motorized recreation opportunities.* *2. Why are motorized recreationists the only ones to lose ground in every action?* *3. Where does the public go to replace the motorized access and motorized recreation that will be closed?* *4. What is the cumulative effect on the public of this motorized access and motorized recreational closure combined with all other motorized access and motorized recreation closures in the state?* *5. The development of a plan to mitigate the significant impacts on the public from the loss of motorized access and motorized recreational opportunities from the combined cumulative effect of all other actions in the state.* *6. There are no compelling reasons to close as many motorized access and motorized recreational opportunities as proposed. It is simply contrary to the public need in the area and the way that the public uses the forest.* *7. There are compelling reasons to maintain and enhance the existing level of motorized access and motorized recreation in the project area.* *8. Overall, we are extremely concerned about the unequal allocation of trail resources and we do not see anything in the document that justifies the current imbalance of 33% motorized trails. The current alternative preferred by the Forest Service worsens this imbalance by creating more non-motorized trails. The facts presented in our comments clearly supports a motorized trail allocation of 50% or greater.* *The following facts are documented in the information and comments that we are providing:* *1. The public has a great need for motorized trails.* *2. The quality of the human environment deserves significant consideration in the analysis and decision.* *3. Under existing conditions there are considerably more non-motorized trail opportunities than motorized trail opportunities.* *4. The public needs more motorized trail opportunities and not less.* *5. The Forest Service has historically proposed and enacted less motorized trail opportunities including the Clancy-Unionville Travel Plan, North Belts Travel Plan and South Belts Travel Plan.* *6. Motorized recreationists were the only ones to lose in each and every travel plan.* *7. Motorized recreationists are the only one to lose in every travel plan action.* *8. The National OHV policy was not intended to be a massive motorized closure process but that is how it is being used.* *9. We are concerned about the significant cost of the project versus the use of those funds for maintenance of motorized routes. A better return on the funding in both environmental enhancement and recreational opportunities would be realized by investing the same funding in maintenance of motorized routes. Questions that need to be adequately addressed include:*

Comment No.	Comment and Response
	a. For how many years can motorized routes be maintained for public use and benefit versus the cost of new non-motorized trails? *b. How much more environmental enhancement could be realized by using the same funding for maintenance of motorized routes including water bars. The Stream Systems Technology Center found that installing water bars at a reasonable spacing was a very effective way to reduce the sediment discharge from trails and roads (July 2007 Stream Notes at http://www.stream.fs.fed.us). Many other best management practices are available to control sediment production as demonstrated by the bibliography at http://www.fs.fed.us/t-d/programs/wsa/pdfPubs/road_bmp.pfd.* *10. Lack of funding was used as a reason to close motorized routes. Now the agency is able to readily find funding to create new non-motorized routes. This inconsistency greatly concerns motorized recreationists and we encourage the agency to give the pursuit of maintenance funding a higher priority than the pursuit of new non-motorized trail funding. Environmental justice and socio-economic issues associated with this inconsistency must be adequately addressed.* **Response:** The Draft SEIS (pg. 1) addresses the issue: What is the effect of not including temporary roads in Open Motorized Road and Trail Density goals on Forest Plan EIS issues? The Forest Plan (pg. 304) defines a temporary road or trail as: A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas. Clearly, this comment addresses the reviewer's need and desire for public, motorized recreation opportunities on the BDNF. The SEIS does not consider changing existing public motorized recreation opportunities.
7-2	**Comment:** *In conclusion, as discussed in our comments it is very important that any proposed CDNST alternatives not close any existing motorized routes. Additionally, there is a gross imbalance of trail opportunities in the Beaverhead Deerlodge National Forest with many more non-motorized trails than motorized trails. The proposed Draft SEIS for the BDNF Forest Plan would add further to the imbalance.* **Response:** The Draft SEIS does *not* propose closing existing motorized routes along any segment of the Continental Divide National Scenic Trail (CDNST). Also, the Draft SEIS (pg. 1) addresses temporary *roads*. Changes to motorized, or non-motorized, *trails* are not proposed.

Table A- 9 - Letter No.8 – CTVA 5/10/14

Note: This 50-page letter describes CTVA's issues and information supporting a pro motorized recreation alternative. The interdisciplinary team and responsible official recognize the desire of CTVA members, and others, to maintain or increase motorized recreation opportunities on the BDNF. A description of CTVA's recommendation for a pro motorized recreation alternative (as identified on page 3 of the 5/10/14 letter) is

provided in the following table with an interdisciplinary team response. Most of the subsequent, detailed comments concerning the need for public motorized recreation opportunities are *not* included below because the Draft SEIS addresses the effect of not including temporary roads in OMRTD goals in the Forest Plan and does *not* propose reducing or expanding existing public motorized recreation opportunities on the BDNF.

Upon review of the entire letter, the interdisciplinary team identified three additional comments that may be pertinent to the stated purpose of the SEIS (pages14 and 24 of the 5/10/14 letter). These concerns and interdisciplinary team responses are provided in the following table.

To provide full public disclosure, the entire May 10, 2014 letter from CTVA is posted on the BDNF webpage.

The 5/10/14 CTVA letter is similar to comments submitted in 2008 on the Forest Plan FEIS. Prior to signature of the 2009 ROD approving the Forest Plan, the interdisciplinary team responded to each comment. Comments submitted in 2008 and interdisciplinary team responses are available upon request.

Comment No.	Comment and Response
8-1	**Comment:** *As shown in the attached comments, there is a great shortage of ATV and motorcycle trails in the Beaverhead-Deerlodge National Forest. The NVUM and Southern Research Station reports cited later in our comments prove that there are 400,707 OHV visitors to the Beaverhead-Deerlodge National Forest and 15,000 wilderness visitors. The ration of trail users is 26.71 motorized to 1 non-motorized yet the balance of existing trails is 33% motorized to 67% non-motorized. Clearly there is an imbalance of opportunity that justifies more (not less) motorized recreational opportunities. For this reason, we strongly recommend and support the development of a Pro-Recreation Alternative. The proposal by the Beaverhead-Deerlodge National Forest does not meet this definition of a Pro-Recreation Alternative.* **Response:** Refer to the response to comment 7-1, above. A pro-recreation alternative is not analyzed in detail because the SEIS does not consider changing existing public motorized recreation opportunities.
8-2	**Comment:** *Elk Cover Requirements. Elk do well in places like Nevada without tress. Additionally, elk were originally a plains animal and survived just fine without trees. Effective elk hiding is provided by mountains, hills, ravines, ridges, rocks, brush. These land factors must be incorporated in the elk hiding cover equation. Recent analysis by the Helena National Forest for the Elkhorn Wildlife Management Area has demonstrated that a reasonable consideration of the topography in the area would meet the requirements for elk security. This reasonable and realistic approach to elk cover and wildlife security requirements must be part of the Beaverhead Deerlodge Forest Plan SEIS analysis.* **Response:** Refer to the response to comment 5-11, above.

Comment No.	Comment and Response
	We agree. Relatively recent research has emphasized the importance of physical features such as topography and road density instead of vegetative cover. For example, Proffitt et al. (2013) and Hayes et al. (2002) found vegetation density was not a significant factor for assessing elk security. Proffitt et al, in their study of the East Madison and Western Paradise Valley elk herds, found female elk selection for areas restricting public hunting access was stronger than selection for security habitat and the density of roads open to motorized use was the strongest predictor of elk distribution. Hayes et al (2002) determined vegetative cover was not statistically significant for bull elk rifle season mortality. Hayes noted only four factors having statistical significance in their study: hunting season structure, total road density, percent moist shrubfield, and contagion of aspect. The latter is the extent to which landscape elements are clumped. Hayes also cited Unsworth et al (1993) modeling "increasing elk mortality with increases in open road and hunter density, and decreases in elk mortality as topography becomes more dissected. Vegetation variables such as hiding cover were not significant in the model developed by Unsworth et al (1993)."
8-3	**Comment:** *Additionally, wolves have radically changed elk behavior and use of tree canopy. Elk now avoid tree cover because the cover allows wolves to prey upon them easier. Elk now prefer open areas where they can "keep an eye" on the wolves and defend themselves. Therefore, tree cover is not a significant benefit to elk at this time and this changed condition must be recognized.* **Response:** Research into elk response to wolf presence is an emerging topic. While changes in riparian communities in Lamar Valley (Yellowstone National Park) has produced research on trophic cascades (Ripple et al 2010, Beschta 2003), Creel et al 2005 suggested the opposite in Gallatin Canyon. However, the SEIS (pg. 1) responds to a Court Order directing the BDNF to "…supplement its EIS for the Forest Plan to explain or support, if possible, its decision to exclude temporary roads from the road density objectives…" Purported elk behavioral changes in response to wolf predation and use of tree canopy does not influence this review and analysis of temporary roads and Forest Plan OMRTD goals.
8-4	**Comment:** *Because of the shortage of OHV routes necessary to reasonably meet the needs of the public, every existing motorized route is extremely important.* **Response:** Refer to responses to comments 7-1 and 8-1, above. The SEIS does not consider changing existing public motorized recreation opportunities.

Table A- 10 - Letter No.9 – Richard Goacher

Comment No.	Comment and Response

Comment No.	Comment and Response
9-1	**Comment:** *No more road or trail closures to motorized recreation. Please. We have lost way too many miles of roads and trails for our chosen form of recreation. So, NO MORE!!!* **Response:** Refer to responses to comments 7-1 and 8-1, above. The SEIS addresses the effect of not including temporary roads in OMRTD goals. Closing existing motorized routes on the BDNF is not being considered in this document.

Table A- 11 - Letter No.10 – Defenders/GYC/MWA

Comment No.	Comment and Response
10-1	**Comment:** *We strongly support the BDNF Forest Plan Wildlife Habitat Goals for wildlife security and connectivity, as well as the Wildlife Habitat Objectives and Standards within landscapes and hunting units, and fully expect those forest plan components to be met and exceeded where necessary for the effective conservation of wildlife.* **Response:** Thank you for your comment supporting Forest Plan Wildlife Habitat Goals.
10-2a	**Comment:** *The proposed definition of OMRTD requires further clarification because it is not consistent with the 2013 Biological Opinion on grizzly bears. As the DSEIS makes clear, USFWS assumed in their determination that: "Temporary roads are obliterated post-project and linear road densities would return to the pre-project levels, lessening the effects on grizzly bears over time" (Biological Opinion, p.80, emphasis added). USFWS makes no mention of closure of temporary roads as satisfying their criteria for treatment of temporary roads. However, the proposed definition of OMRTD is clear: closed temporary roads would not be factored into OMRTD calculations. This definition is clearly inconsistent with the 2013 Biological Opinion provided that closed roads do not offer habitat security to grizzly bears.* **Response:** Thanks for bringing this inconsistency to our attention. Upon consideration of this comment, we determined the word "closed" is not needed in the proposed OMRTD definition. Item 2 in the proposed definition (open for permitted and/or administrative use) appropriately includes routes closed to motorized public use (often using a gate) but receiving occasional motorized use by agency employees or permit holders in OMRTD calculations. Permanent roads closed to public motorized use but temporarily used for site-specific project activities like log hauling or mineral exploration and closed (rather than obliterated) at project completion are appropriately included in OMRTD calculations while the road is in use.

Comment No.	Comment and Response
	In response to this comment, we will delete the word "closed" from the proposed OMRTD definition in the Final SEIS.
10-2b	**Comment:** *The use of gates and barriers has been demonstrated to be less effective methods of road closure than obliteration or decommissioning. It is widely known that roads and motorized traffic negatively impacts grizzly bears. This includes increased human-bear conflicts, area avoidance and habitat fragmentation as well as an increase in direct mortalities (Schwartz, et. al. 2010; Proctor, et. al. 2012). Additionally, road closure methods have shown to be drivers of bear presence with higher bear us [sic] of roads that are recontoured rather than closed by gates or barriers (Switalski and Nelson, 2011). The definition should be revised to reflect this fact.* **Response:** We agree. Road obliteration more effectively prevents illegal, motorized use than gates or barriers and motorized traffic can increase human-bear conflicts that result in direct bear mortality. Worthy of note, specifically in reference to Switalski and Nelson (2011), is many of the gated routes included in their study were being maintained free of vegetation, indicating some motorized use – either permitted or administratively. In the proposed OMRTD definition, such routes, although gated and not designated for public, motorized use, would be included in OMRTD calculations (see response to comment 10-2a).
10-3	**Comment:** *The proposed definition should be clarified with regard to "project completion." The BDNF should consider a definition of a temporary road similar to the Lolo National Forest: A temporary road is one that is constructed and decommissioned in the same season.* **Response:** The Lolo National Forest uses the same definition for a temporary road (36 CFR 212.1) included in the BDNF Plan glossary (pg. 304). While completing project-level NEPA analysis, the Lolo National Forest frequently further describe temporary roads as "…often remain on the ground for only one season (during unit harvest or other activity) and are decommissioned immediately following use.." while recognizing that, in some cases, temporary roads may remain on the landscape longer than one season. This general direction applies well for this analysis explaining why the BDNF does not include temporary roads in OMRTD calculations. In response to this comment, we will modify the Final SEIS to indicate temporary roads often remain on the ground for only one season.
10-4	**Comment:** *We are concerned that the BDNF is seeking the discretion to temporarily degrade habitat conditions in key landscapes, and sidestep habitat protection standards, rather than addressing legitimate concerns over the impacts of roads and motorized trails, both permanent and temporary, on wildlife and their habitat, and in particular, in contributing to grizzly bear occupancy and connectivity on BDNF landscapes.* *The DSEIS leaves the impression that this decision will allow project-driven*

Comment No.	Comment and Response
	temporary road building to proceed unconstrained in key habitats, without any commensurate and necessary plan to meet the desired OMRTDs identified in the Forest Plan for these landscapes. While technically it may be permissible under the DSEIS proposal for the BDNF to claim that motorized road and trail densities are not increasing (if they are in fact obliterated in a timely fashion), in net terms in landscapes that exceed OMRTD objectives the reality is that under the proposed DSEIS decision, those densities will in fact be increasing with real impacts to grizzly bears. In other words, while changing the definition of OMRTD may alleviate a technical hurdle to temporary road building in degraded landscapes, it does nothing to improve conservation of grizzly bear habitat as envisioned under the Forest Plan. Our concern is exacerbated by the fact that critical grizzly bear landscapes are the very same landscapes suffering from an abundance of motorized road and trail impacts when in fact and according to the Forest Plan, these landscapes ought to be realizing improvements in ecological conditions for grizzly bears, not a recurring set of temporary degradations. **Response:** Please refer to the responses to comments 5-3 and 10-6. Forest Plan goals, objectives and standards are measured at the forestwide scale unless specifically stated otherwise (such as the landscape or hunting unit scale for OMRTD goals) with the intent of achieving objectives in 10-15 years (Forest Plan, pg. 12). To comply with NFMA, projects on the BDNF must be consistent with Forest Plan direction. However, complying with Forest Plan direction does not give the BDNF discretion to implement projects in violation of NEPA, ESA and other applicable acts or policy. The OMRTD goals are intended to provide secure areas for wildlife, by landscape and hunting unit, for the life of the Forest Plan. If temporary road construction and use is of sufficient quantity, duration or located in important habitat, potential effects must be analyzed and disclosed pursuant to NEPA and comply with ESA. The reasons temporary routes are *not* included in OMRTD calculations is "Site specific analysis and design of individual projects is the appropriate planning level to avoid or mitigate the effects of temporary road construction and use…" (Draft SEIS, pg. 19-20). We agree; Forest Plan OMRTDs are intended to improve ecological conditions for grizzly bears and other wildlife species over time. Achieving desired OMRTDs through management of the permanent motorized road and trail system that will remain on the landscape subsequently improves ecological conditions for wildlife. It is not appropriate to consider temporary roads in Forest Plan OMRTDs because the ecological effects are temporary (short duration). The concern expressed in this comment about recurring temporary degradations could be valid for some projects. However, that analysis is best addressed during project-level analysis when the length of road, proximity to secure areas, terrain and vegetation features and species of concern to the specific area are known.
10-5	**Comment:** *As the DSEIS mentions, the Boulder River and Jefferson River*

Comment No.	Comment and Response
	Landscapes currently exceed OMRTD desired conditions, and therefore are subject to objectives to reduce OMRTD. The Boulder River and Jefferson River Landscapes are of utmost importance to the conservation and recovery of Northern Continental Divide Ecosystem (NCDE) grizzly bears, having been identified as Zone 2 management areas under the Draft Interagency Conservation Strategy for that population. It is within these landscapes, in addition to the Clark Fork-Flints and Upper Clark Fork, where grizzly bears are now being detected (Biological Opinion 2013, p. 43). The 2013 Biological Opinion is clear that the expectation is for OMRTD to improve in the Boulder River and Jefferson River Landscapes, and associated hunting units: "…we expect the (OMRTD) amount will decrease to levels as measured by the desired condition when met" (Biological Opinion, p.78). In the Biological Opinion the USFWS assumes that "implementation of the Revised Forest Plan would likely reduce open motorized routes across the action area…" (Biological Opinion, p.112). While the DSEIS is not directly applicable to this question, it indicates that temporary road building is likely to continue within grizzly bear landscapes during implementation of the plan (with perhaps a preponderance in grizzly bear landscapes), while the achievement of Forest Plan OMRTD objectives is very much in doubt under plan implementation, perhaps dependent on yet to be determined site specific travel planning. While it may be beyond the scope of this DSEIS, this is the question that must be addressed concerning motorized roads, trails and grizzly bears. **Response:** We agree with this comment except for the following two statements. First, the Draft Interagency Conservation Strategy does *not* identify the Boulder River and Jefferson River Landscapes as of the utmost importance to the conservation and recovery of the NCDE Distinct Population Segment (DPS). The Boulder River Landscape and part of the Jefferson River Landscape are included within the 4,658,932-acre NCDE Management Zone 2 (MZ2). . While the Boulder River and Jefferson River Landscapes are likely to play a role in conservation and recovery of the NCDE grizzly bear DPS, the value of this role is not defined in the Draft NCDE Conservation Strategy. As progress towards finalizing the NCDE Conservation Strategy is made and site-specific activities proposing changes to motorized route status are developed, the role of OMRTDs in the Boulder River and Jefferson River Landscapes in recovery and conservation of the NCDE DPS can be better addressed. Second, achievement of Forest Plan OMRTD objectives are not in doubt. Rather, completion of travel planning decisions on the BDNF has been slower than we would like (see response to comment 10-6). Since 2009, 12.01 miles of previously motorized routes in the Jefferson River landscape and 8.61 miles in the Boulder River landscape have been closed to that use. As of July 2014, the OMRTD for the Boulder River Landscape is 2.2 miles/square mile and 1.7 miles/square mile for the Jefferson River Landscape. Determinations in the 2013 Biological Opinion are partially based on achievement of OMRTD

Comment No.	Comment and Response
	objectives in 10-15 years.
10-6	**Comment:** *We strongly encourage the BDNF, outside of this DSEIS process if necessary, to articulate a process and timeline for achieving OMRTD objectives, either via travel planning or through project implementation. Given the lack of budgets for travel planning, we are concerned that OMRTD objectives may not be met over the life of the plan through that process, in which case other processes, including project level decisions, must be considered.* **Response:** OMRTD is not a static measure. OMRTDs change as route inventories are updated and motorized status changes through new management decisions (see responses to comments 5-7 and 10-8). Since 2009, 338 miles of previously motorized roads and trails on the BDNF have been closed to that use (Draft SEIS, pg. 10). These route closures influence every landscape (except the Madison Landscape) and most hunting districts on the BDNF; moving each landscape or hunting district further below or closer to desired OMRTDs. We prefer achieving OMRTD objectives through project level travel management planning. Unfortunately, as indicated in this comment, reduced funding and staffing has slowed analysis and completion of travel planning projects. Analysis of the Dillon, Wisdom and Wise River Ranger Districts Travel Management Project is currently on hold. The eventual decision based upon this analysis will help achieve Forest Plan objectives. Upon completion of this project, the BDNF plans to initiate travel management projects on other BDNF Ranger Districts. Occasionally, route closures are proposed as a component of a project where travel planning is not the focus of the project. For example, some alternatives in the East Deer Lodge Valley Landscape Restoration project propose obliterating existing motorized routes. While these routes are proposed for closure due to their location in and potential impacts to Forest Plan key watersheds, closure will further reduce OMRTDs in the Clark Fork-Flints Landscape and Hunting Unit 215 (where OMRTD goals have been achieved) providing more flexibility for future decisions influencing travel management. To date, projects where route closures may be an appropriate consideration have *not* been initiated in the landscapes referenced in comment 10-5 but this may occur in the future. Prioritization of project planning is revisited annually and influenced by Forest Plan objectives and available funding. It remains our intent to achieve OMRTD objectives (Forest Plan, pg. 47) in 10-15 years (Forest Plan, pg. 12).
10-7	**Comment:** *We also request that the FSEIS provide the following information:* *1. Projections of temporary road construction, by landscape. It is important to reveal if certain landscapes are bearing more temporary road risk than others.*

Comment No.	Comment and Response
	Response: This information has been added to SEIS Table 1**.**
10-8	**Comment:** *We also request that the FSEIS provide the following information:* *2. Clarification of whether existing OMRTD calculations need to be adjusted provided the determination to include motorized routes on private inholdings.* **Response:** Since 2009, the BDNF has calculated OMRTD as defined in the Draft SEIS (pg. 20). Because the calculation process was not explicitly defined in the Forest Plan, confusion over exactly what was included came up during project-level analysis and court review. The proposed definition in the Draft SEIS (pg. 20) includes motorized routes on private inholdings as part of OMRTD calculations The process for calculating OMRTD has not changed to include those routes; rather the SEIS proposes a definition to clarify that these routes are included. Existing OMRTD is not a static measure and changes for many reasons (travel management decisions, new construction of routes on inholdings, more accurate information, etc.). As a result, it is re-calculated on a continual basis to reflect and monitor the most up to date measure of OMRTD. Please see the response to comment 5-7 for an example. Also, please note OMRTD goals in the Forest Plan use a conservative approach by including both motorized roads *and* trails.

Table A- 12 - Letter No.11 – EPA

Comment No.	Comment and Response
11-1	**Comment:** *The EPA notes in the Draft SEIS the number of temporary roads constructed and/or closed for timber harvest, mineral exploration, recreation and travel management since the 2009 BDNF LRMP was completed. The EPA appreciates that the USFS documented a current trend toward fewer miles of construction of new temporary roads, reclamation of unused roads and decommissioning and/or obliteration of unused roads in the draft SEIS. A trend toward less temporary road development, more road decommissioning and reclamation of unused roads can generally be expected to improve aquatic resources, water quality and critical habitat protection.* **Response:** Thank you for your comment supporting BNDF decisions closing some permanent and obliterating temporary roads constructed for resource extraction purposes, since 2009 as described in the Draft SEIS (pg. 3-5 and 10). In addition, compliance with Forest Plan direction for aquatic resources minimizes effects from newly constructed temporary roads (Draft SEIS, pg. 7-8).

Comment No.	Comment and Response
11-2	**Comment:** *The Draft SEIS does not currently include information on how many streams have improved since the 2009 BDNF LRMP was completed. We recommend the Final SEIS includes an updated characterization of these resources, including: a list of key watersheds that have been improved and are no longer in "poor" condition with low geomorphic, hydrologic, & biotic integrity since 2009; a list of the number of water bodies in the BDNF whose status has been removed from the MDEQ 303(d) list of impaired waters since 2009; and a summary and strategic approach of how, and which, additional key watershed restoration efforts have and will be initiated and/or completed in the BDNF.* **Response:** The Draft SEIS (pg. 1) evaluates the effects of temporary roads to comply with a May 24, 2013, U.S. District Court Order. The District Court did not direct the BDNF to update and document changes in stream condition in the SEIS. The requested information is currently unavailable because an exhaustive re-assessment of all watershed conditions forest-wide has not been completed. We are currently monitoring watershed condition with an integrated monitoring program (Forest Plan, pg. 274, monitoring question 4). As assessments are finalized, they are incorporated into annual forest monitoring reports available on the BDNF Forest Plan webpage http://www.fs.usda.gov/main/bdnf/landmanagement/planning Forest Plan (pg. 58) key watersheds assist in prioritizing restoration projects and protecting aquatic resources. While some future management activities will improve stream conditions, forest-wide re-assessments have not been completed since 2009. Restoration projects have been proposed (for example, East Deerlodge Valley, Fleecer Mountains and Birch-Willow-Lost projects) but a project-level decision has yet to be made and implemented. Key watersheds will continue influencing project development and analysis. Since 2009, Montana Department of Environmental Quality (DEQ) has not removed any 303(d) listed streams located on the BDNF. DEQ is re-assessing individual streams and completing TMDL documents to determine if removal from the list is warranted.
11-3	**Comment:** *Based on our review, the EPA is rating the Draft SEIS Preferred Alternative as "Environmental Concerns – Insufficient Information: (EC-2). The "EC" rating means that the EPA's review has identified potential impacts that can be avoided in order to fully protect the environment. The "2" rating means that the Draft SEIS does not contain sufficient information for the EPA to fully assess environmental impacts. We recommend that additional information, data, analyses, or discussion be included in the Final SEIS.* **Response:** Please refer to the response to comment 11-2. Site-specific analysis and design of individual projects; instead of Forest Plan level analysis, is the appropriate planning level to avoid or mitigate the effects

Comment No.	Comment and Response
	of temporary road construction and use on specific aquatic resources (Draft SEIS, pg. 7-8). For example, EPA's 3/2/12 and 11/19/12 comments on the East Deer Lodge Valley Landscape Restoration and Flint Foothills Vegetation Management Project DEIS' provide detailed, specific comments based on identified stream reaches, condition and impairments of those reaches and attributes of the proposed management activity (for example, miles, location and distance from impaired streams of proposed temporary roads). While the Forest Plan provides goals and objectives for aquatic resources forest-wide and prescriptive standards to protect those resources, achievement of those goals will gradually occur over time and with incremental implementation of site-specific projects. At this point, enough time and actual project implementation has not occurred to reach desired conditions for entire key watersheds.

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APPENDIX B

Review of Scientific Literature Addressing Elk Security and Population Monitoring Published Since 2009

Purpose of this document

This paper documents a review by the BDNF of scientific literature concerning elk habitat and security needs and elk population monitoring published since the Record of Decision approving the Forest Plan was signed in January, 2009. The Forest Plan (pg. 45-48) provides for wildlife security by managing desired open motorized road and trail density (OMRTD) year-round at the landscape scale and elk security at the hunting unit scale during the fall rifle big game season. The Forest Plan (pg. 47 & 276-277) monitors changes in OMRTD to indicate secure habitat and changes in abundance of elk to indicate habitat conditions for elk security.

Some public comments on project-level NEPA analysis and some contentions raised during administrative review and litigation question the scientific basis for long-term management of a viable elk population on the BDNF using OMRTDs in the absence of prescriptive standards for forested (conifer) cover. The BDNF completed this review to determine if there is an apparent need, based on scientific information published since the 2009 Forest Plan decision and population monitoring of elk herds inhabiting the BDNF, to consider supplementing Forest Plan wildlife habitat goals, objectives and standards.

Scientific Literature Published since 2009

This is not a comprehensive review of all scientific literature published since the 2009 Forest Plan decision about elk. Rather, we reviewed scientific literature that appears applicable to elk habitat and security in southwest Montana. A summary of each reference follows in alphabetical order by author's last name.

Beck, et al. 2013. Seasonal habitat selection by elk in North Central Utah. Western North American Naturalist. 73(4) 442-456.

In this study in Utah, elk avoided roads in fall and winter but not in spring and summer. The authors speculate that higher road usage in the fall (associated with hunting) and winter (associated with recreation) explain why elk avoided roads during these seasons. Beck et al. (2013) found that topography and vegetation cover also influenced elk habitat selection within and across seasons. The authors also state "We found strong selection for aspen, mountain brush, and sagebrush-meadow cover. We found no support for selection of coniferous habitats in any season."

Coe, et al. 2011. Validation of elk resource selection models with spatially independent data. Journal of Wildlife Management 75:159-170.

In the Blue Mountains ecoregion in Northeast Oregon, Coe et al. (2011) compared elk model predicted versus actual resource use for seasonal periods across 3 years. They found that "management based covariates that influenced elk use independently of other

variables…included roads of different traffic rates, canopy cover, distance to cover-forage edge, and distance to cover." Elk avoided roads of medium traffic during mid-spring and roads of low and high traffic during late summer-early fall.

McCorquodale, et al. 2010. Elk survival and mortality patterns in the Blue Mountains of Washington, 2003-2006. Washington Department of Fish and Wildlife. Olympia, WA.

McCorquodale et al's (2010) research focused on elk survival/mortality rates and causes of elk deaths in the Blue Mountains for three years. The study also presented an opportunity to explore the effects of specific landscape features on elk mortality risks. The authors concluded "Our results add to the substantial body of literature that affirms that the probability of elk surviving hunting seasons is related to the density of open roads and the availability of security areas distant from roads. This strongly suggests that managing open road densities remains one of the best management tools for limiting vulnerability of elk to human-caused mortality, especially during fall, but our data did not allow us to identify optimal values or critical thresholds for open road densities."

McCorquodale, Scott. 2013. A brief review of the scientific literature on elk, roads, and traffic. Washington Department of Fish and Wildlife. Olympia, WA.

This report, while not peer reviewed, is pertinent due to its summarization of research specific to roads and elk plus an attempt to provide practical inferences for applying this science. The author states "…extensive research over decades has demonstrated that high road densities and traffic negatively affect elk use, and – in hunted populations – elk vulnerability to excessive mortality…the research simply suggests that managing roads strategically to achieve specific management goals relative to densities, location of roads, and seasonal traffic are likely to be powerful tools to support elk management objectives."

The author references a collaborative effort of federal and state scientists revisiting the issue of integrating elk habitat management objectives into land management planning with the development and testing of two "next generation" elk habitat models and concludes "Both models include key variables reflecting road effects – not because of the collective body of literature on the topic – but because the meta-analysis of the most recent data again demonstrated empirically that elk distribution and habitat use are strongly influenced by road effects; high road densities and traffic levels predictably reduce elk use."

Montgomery, et al. 2012 Importance of visibility when evaluating animal response to roads. Wildlife Biology. 18 (4):393-405

In Custer State Park, South Dakota, Montgomery et al. (2013) evaluated the influence of Euclidean distance (minimum straight-line distance between two points), visibility from road, and forage quality on summer space use for male and female elk. Roads were classified into three categories. Primary roads are maintained and paved and had 5,242 user groups per week on each segment. Secondary roads are maintained and dirt and had 422 user groups on each segment per week. Tertiary roads are unmaintained and primitive, closed to vehicle use in the summer

but open to vehicles for game retrieval during the hunting season, and had 7 user groups on each segment per week.

Male and female elk avoided habitat near secondary roads and selected habitat near tertiary roads, regardless of visibility. The authors note that visibility from roads is important to consider, as male elk selected habitat away from roads with the greatest vehicle use, an effect that was greater if habitat was visible from those roads.

Montgomery, et al. 2013. Variation in elk response to roads by season, sex, and road type. Journal of Wildlife management 77:313-325.

Using the same research format as described for the previous article, the authors found "In general, elk established seasonal home ranges away from primary and secondary roads…and near to tertiary roads" and recognize "…these results can be used to support road management activities in areas where elk inhabit road dense environments. Road management activities can be positively associated with elk survivability." While the authors "…expected that elk would use habitat closer to security cover", they actually "…detected an influence of security cover only for male elk and only in one season (summer). Furthermore, the regression trend indicated that male elk increased their use of habitat farther from security cover, which was an unexpected outcome."

Naylor, et al. 2009. Behavioral responses of North American elk to recreational activity. Journal of Wildlife Management 73(3):328-338.

Naylor et al. (2009) found that recreational activities on trails and primitive roads affected feeding, resting, and travel time for elk in a study conducted in the Starkey Experimental Forest and Range in Northeast Oregon. Elk travel time was highest during ATV exposure, followed by exposure to mountain biking, hiking, and horseback riding. After ATV exposure, elk rested. The authors state that "ATV exposure…may have forced elk to forgo foraging in favor of hiding until the disturbance ended. In contrast to this any disturbance during the mountain biking and hiking treatments resulted in feeding activity increasing. It is possible that, being quieter than the ATVs, mountain biking and hiking did not disturb elk once they moved away from the routes; elk were, therefore, able to make up any energy lost by resuming foraging activity." The authors recommend "A comprehensive approach for managing human activities to meet elk objectives should include careful management of off-road recreational activities, particularly ATV riding and mountain biking, which caused the largest reductions in feeding time and increases in travel time."

Proffitt, et al. 2013. Effects of hunter access and habitat security on elk habitat selection in landscapes with a public and private land matrix. The Journal of Wildlife Management 77(3) 514-524.

Proffitt et al. (2013) studied two Greater Yellowstone Ecosystem (GYE) elk herds—the West Paradise Valley herd and the East Madison Valley herd. The latter is located on the BDNF. The authors studied the effects of hunter access and habitat security on elk habitat selection in landscapes with both public and private land ownership. In part, the authors state "Traditionally,

elk habitat management has been structured around a model that focuses on cover, forage, and road management as determining parameters of habitat quality…Management objectives typically have aimed to reduce disturbances associated with roads and preserve timbered habitat to create habitat security for bull elk during the fall hunting seasons…the challenges facing elk management have changed in some parts of the western United States…In many parts of Montana, for example, elk population sizes have doubled since the 1980s when the analysis underpinning traditional elk security concepts was completed...Thus, traditional concepts of elk security habitat which consisted of large tracts of heavily timbered and low road density public lands may need refined to include private lands that prohibit or restrict hunter access."

The study found "Results of this study indicate that road density was a stronger predictor of elk distributions during the hunting period than was security habitat. This suggests that standards based solely on road densities may be adequate for managing female elk distributions on public lands during the hunting periods in some areas." Elk in both study areas selected for areas of lesser open road density throughout the fall study period. The authors state, "These findings suggest that motorized road access management may be successful at maintaining elk distribution on publically owned lands."

Elk Population Monitoring

State elk management during the hunting season focuses on maintaining population numbers, protecting certain sex and age classes from over-harvest, providing public hunting opportunity, and attempting to balance elk distribution across public and private lands. While these functions are a responsibility of MFWP, the BDNF strives to complement their efforts by managing for elk on the National Forest.

Population data to address this monitoring item is provided by MFWP. This information is collected annually by MFWP area biologists through winter range counts via aerial surveys. MFWP reports these numbers by hunting district. This information source is the best available data.

The current (2004) Elk Plan established *hunting unit* population objectives. These objectives, along with population estimates from 2010-2013 are displayed in Table B- 1.

While population numbers fluctuate in the individual hunting districts from year to year, it is clear that southwest Montana elk populations meet the State elk plan objectives at the forest scale (see "total" row at the bottom of Table B- 1) and at most of the hunting districts for project analysis. With widespread distribution, elk constitute a robust presence on the BDNF.

Table B- 1- BDNF Landscapes with OMRTD, corresponding MFWP Hunting Districts, 2004 State Elk Objectives and Population Estimates, 2008-2013[23]

Landscape & Desired Year Round OMRTD	Hunting Districts within Landscapes	2004 MFWP Elk Plan Objective + 20%	Range (+ 20%) of Elk Population Objective	FWP 2008 Estimates	FWP 2010 Estimates	FWP 2011 Estimates	FWP 2012 Estimates	FWP 2013 Estimates
Clark Fork-Flints 1.9 mi/sq. mi	210	2500	2000-3000	1391	1644	2683	1703	1827
	212	850		1825	2504	2693	2790 (subobjective = 500	132 2385
	213	650	520-780	660	1325	1243	718	962
	214	200	160-240	331	400	193	488	279
	215	1000	800-1200	1502	2145	2569	2758	2493
Upper Rock Creek 0.9 mi/sq. mi	211	600	480-720	135	1125	334	Combined with 210	Combined with 210
	216	325	260-390	140	314	279	416	213
Lima-Tendoy 1.0 mi/sq. mi	300	700-900	-	1883	1120	2129	2129	1070
	302	550-700	-	1195	783	1239	1239	398
	328	550-700	-	620	643	1008	1260	991
Boulder River 1.9 mi/sq. mi	318	500	400-600	656	519	519	735	793
Big Hole	319	1100 Max	N/A	911	854	1023	1051	879

[23] No estimates for 2009 are available from MTFWP.

Landscape & Desired Year Round OMRTD	Hunting Districts within Landscapes	2004 MFWP Elk Plan Objective + 20%	Range (+ 20%) of Elk Population Objective	FWP 2008 Estimates	FWP 2010 Estimates	FWP 2011 Estimates	FWP 2012 Estimates	FWP 2013 Estimates
1.2 mi/sq. mi	321	None	N/A	No estimate. No wintering elk	No estimate. No wintering elk	No estimate. No wintering elk	No estimate. No wintering elk	No estimate. No wintering elk
Tobacco Roots 1.3 mi/sq. mi	320 333	1000 for both	800-1200	954 859	1433	1573 for both	1573 for both	1052 for both
Gravelly 0.7 mi/sq. mi	322			588			12066	9531
Gravelly 0.7 mi/sq. mi	323 324 327 330 Total	Gravelly EMU Total = 7000	5600-8400	2268 2608 No wintering elk 1328 6204	No separate estimates. Gravelly at 9046	No separate estimates. Gravelly at 12066	All Gravelly (322, 323, 324, 325, 326, 327) New Subdivisions See 322	See 322
Lima Tendoy (1.0 mi/sq. mi) Big Hole (1.2 mi/sq. mi)	329	900 Max	N/A	766	273 (partial survey)	1190	1019	1210
Pioneer	331	1400 Max	N/A	773	869	930	1485	953

Landscape & Desired Year Round OMRTD	Hunting Districts within Landscapes	2004 MFWP Elk Plan Objective + 20%	Range (+ 20%) of Elk Population Objective	FWP 2008 Estimates	FWP 2010 Estimates	FWP 2011 Estimates	FWP 2012 Estimates	FWP 2013 Estimates
1.5 mi/sq.mi	332	900 Max	N/A	588	568	494	495	582
Jefferson River (1.6 mi/sq. mi)[24]	340 350 370	1600 combined for all	1280-1920	423 529 529 (1481)	1915 combined for all	340=1164 350=713 370=see 340	See 340 for all 340=2100	See 340 for all 2159
Upper Clark Fork (2.0 mi/ sq. mi)	341	600 Max	N/A	166	416	370	556	444
Madison (0.0 mi/sq.mi)	311	2700	2160-3240	2620	2620	2620	2620	2096
	360	2200	1760-2640	2494	1090	1396	1580	1264
	362	2500	2000-3000	3524	4203	4029	2714	2171
--	**TOTAL**	**30,575**	**24,460-36,690**	**31,925** **104% of 2004 State Elk Plan Objective**	**31,305** **102% of 2004 State Elk Plan Objective**	**42,457** **139% of 2004 State Elk Plan Objective**	**41,495** **137% + of 2011 State Point Estimate Objective**	**33,884** **112% of 2011 State Point Estimate Objective**

[24] Most of these hunting units are included in the Jefferson River Landscape. There are small portions of the units in the Upper Clark Fork (2.0 mi/sq. mi) and Boulder River (1.9 mi/sq. mi) Landscapes

Conclusion

Scientific literature published since the Forest Plan was signed in 2009 recognizes numerous factors influencing elk use of available habitat but all emphasize the importance of managing motorized roads. The Forest Plan takes this emphasis one step further by managing motorized trails. This review of recently published scientific literature concludes that managing motorized access (through OMRTDs) remains a valid metric for maintaining viable elk populations on the BDNF.

Elk populations have exceeded the 2004 State Elk Plan Objectives every year since 2009 at the Forest level and met or exceeded objectives in most hunting units (Table B- 1). Recent scientific literature and monitoring of an abundant elk population on the BDNF meeting or exceeding MFWP objectives indicate further prescriptive Forest Plan standards are not warranted at this time.