

Grizzly Bear -- Existing Condition & Effects Analysis

Taylor Hellroaring Project

Availability of Hiding Cover for Grizzly Bears

Data collected during walk-through surveys were used along with the project vegetation layer to identify areas within the affected bear management subunits that have the potential to provide hiding cover for grizzly bears.

Method (using ARCGIS 10.5.1 with XTools Pro)

1. Started with TH_Cover_Forage.shp from ungulate cover forage analysis (*Project File Exhibit Rb-03*).
2. Used identity tool to attribute this data to the affected bear management subunits to create THR_GB_Subunits_Cover_identity.shp and recalculated acres.
3. Added field 'Hiding Cover' to record results of models.
4. Performed the following query to capture all areas identified as hiding cover in the ungulate cover forage analysis:

Cover = 'Hiding Cover' OR Cover = 'Hiding Cover/Thermal Cover'

5. Entered value of 'Hiding Cover' in all fields identified by this query using field calculator.
6. Exported table to excel and summarized data using pivot tables.
7. Used identity to attribute this data to the proposed vegetation management units to create THR_PA_cover_identity.shp for effects analysis.

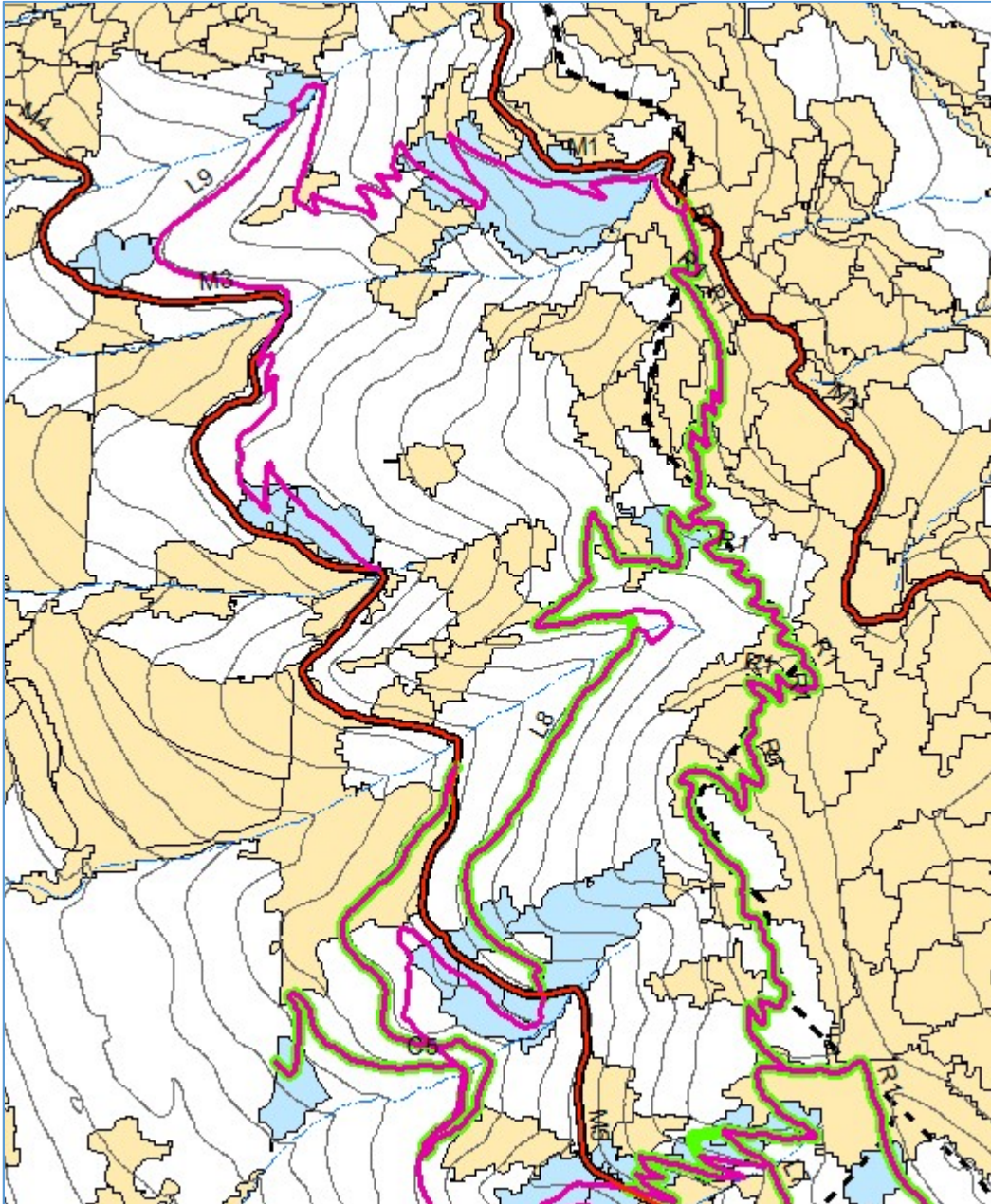
Results

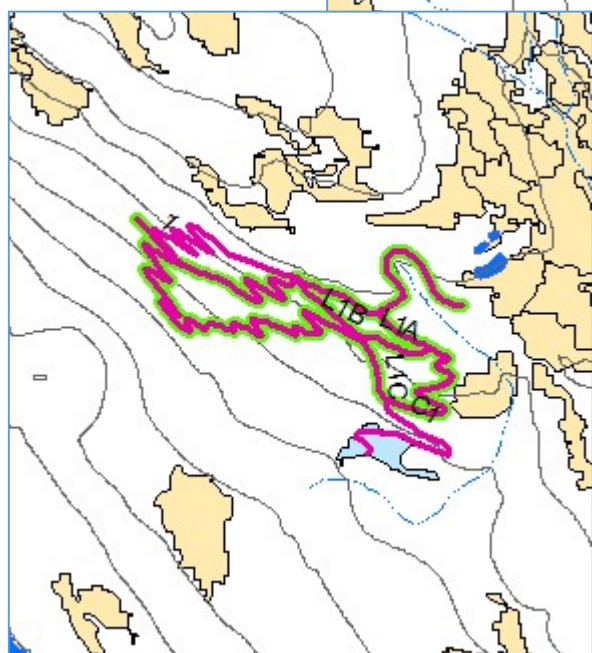
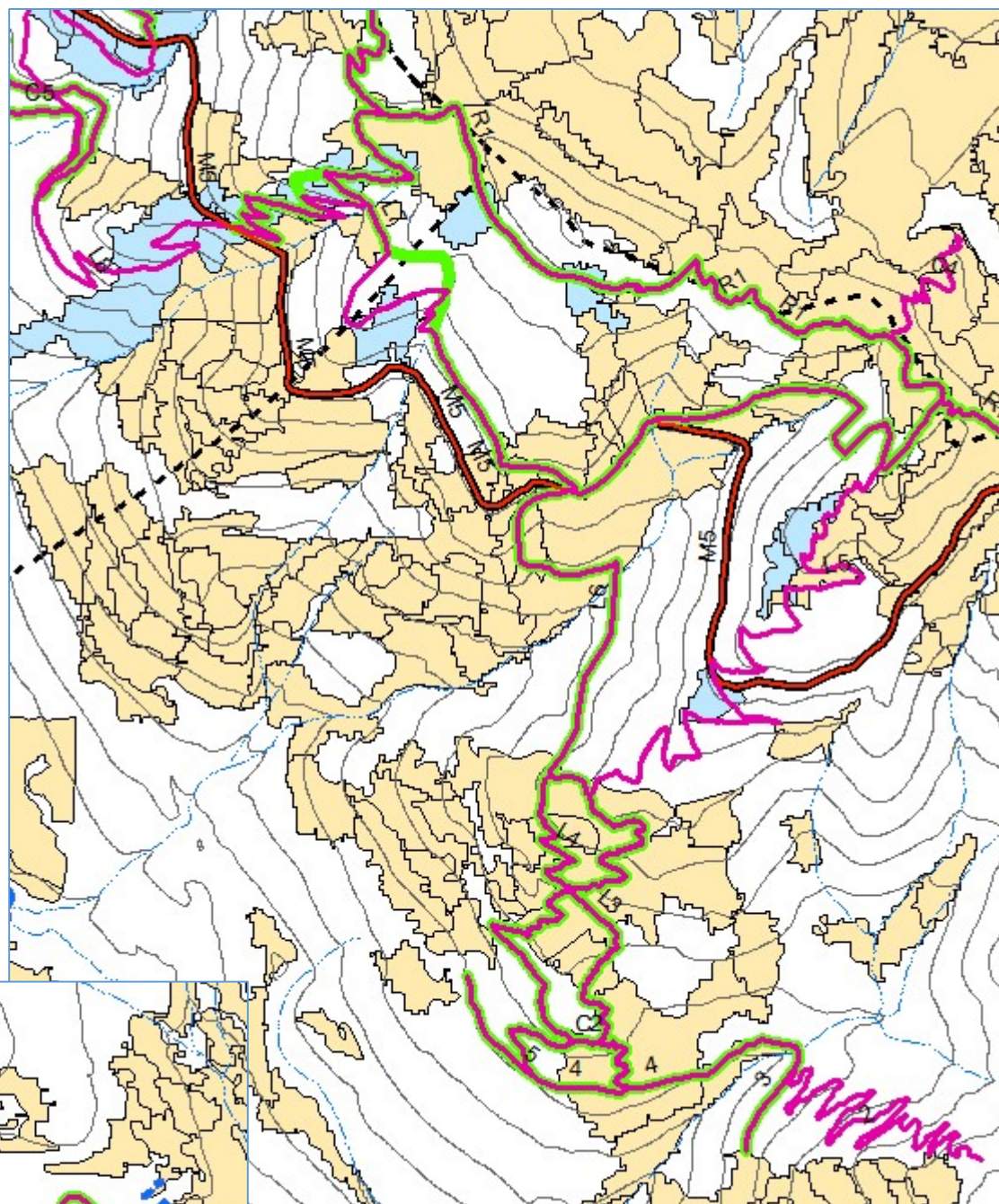
Estimated hiding cover affected by proposed vegetation management in affected bear management subunits, in acres and percent of hiding cover.

Bear Mgmt. Subunit	Total Acres	Hiding Cover Acres (% of total)	Hiding Cover Affected Acres	Percent of Hiding Cover Affected
Lazy Creek	34,606	25,626 (74.1%)	672	2.6%
Canyon McGinnis	33,239	16,481 (49.6%)	106	0.6%
Werner Creek	28,641	22,955 (80.1%)	21	0.1%

Estimation of relatively high huckleberry production areas along proposed trail construction routes

Based on personal knowledge from 25 years of picking huckleberries in the project area and information in Martin 1983, queried vegetation shapefile (Exhibit Rg-9) as [("R1_CoverTy" = 'Mixed Mesic Conifer' OR "R1_CoverTy" = 'Spruce/fir' OR "R1_CoverTy" = 'Western Larch Mixed Conifer') AND "TREECANOPY" < '60%+'] and exported to a shapefile called hucks_vege.shp. Added text field S_SW and marked all south or southwest oriented polygons bisected by proposed Alt 2 or 3 trail construction (off-road) with an "x", as shown on the following maps, so that these polygons could be excluded.





- | | |
|--|--|
| ☒ Contours200Foot | ☒ Alternative_2_Trails_THR |
| ☒ Major Watershed | USFS_type |
| ☒ hucks_vege | Existing Road |
| S_SW | Standard Trail |
| ☒ Alternative_3_Trails_THR | Existing Road |
| USFS_type | Standard Trail |
| ☒ Existing Road | |
| ☒ Standard Trail | |

For effects analysis, made a definition query of hucks_vege.shp to omit south and south-facing slope polygons, then intersected with trail shapefiles to make Hucks_Trails_Alt2.shp and Hucks_Trails_Alt3.shp. Calculated miles and feet and exported to excel files for pivot table summarizing.

Feet of new trails constructed through areas currently estimated to produce relatively high numbers of huckleberries (differences in red text)::

Trail	Alt. 2	Alt. 3
3	99	99
4	2,733	2,733
C2	278	278
C3	2,146	0
C4	2,954	0
C5	2,540	2,540
L3	6,970	7,682
L4	4,196	4,251
L5	3,557	0
L6	7,969	7,969
L7	3,100	3,100
L8	1,776	1,545
L9	1,609	0
R1	27,540	27,540
Total	67,466	57,737

Miles of new trails constructed through areas currently estimated to produce relatively high numbers of huckleberries (differences in red text)::

Trail	Alt. 2	Alt. 3
3	0.02	0.02
4	0.52	0.52
C2	0.05	0.05
C3	0.41	0.00
C4	0.56	0.00
C5	0.48	0.48
L3	1.32	1.45
L4	0.79	0.81
L5	0.67	0.00
L6	1.51	1.51
L7	0.59	0.59
L8	0.34	0.29
L9	0.30	0.00
R1	5.22	5.22
Total	12.78	10.94

Proposed vegetation management is expected to result in increased huckleberry yields, increasing the amount of trails passing through huckleberry areas. These areas were identified by a query of [("R1_CoverTy" = 'Mixed Mesic Conifer' OR "R1_CoverTy" = 'Spruce/fir' OR "R1_CoverTy" = 'Western Larch Mixed Conifer') AND "TREECANOPY" = '60%+' AND "Unit" <> ' '], meaning they had the potential vegetation type but with high canopy cover. These were exported to a shapefile called hucks_vege_units.shp. As above, the text field S_SW was added and all south or southwest oriented polygons bisected by proposed Alt 2 or 3 trail construction (off-road) were marked with an "x", so that

these polygons could be excluded. As above, this was intersected with vegetation management units to make Hucks_Trails_Units_Alt2.shp and Hucks_Trails_Units_Alt3.shp.

Miles of new trails constructed through areas expected to produce relatively high numbers of huckleberries after vegetation treatments, Alternative 2 (differences in red text):

Trail (and Unit #s)	Feet	Miles
1 (47)	1,815	0.34
C5 (23, 29, 30, 34, 50)	3,602	0.68
L5 (43, 143)	879	0.17
L6 (43, 144)	1,557	0.29
L8 (22, 30, 34, 50)	2,571	0.49
L9 (3, 4, 7, 15)	3,575	0.68
R1 (104, B1)	332	0.06
Total	14,331	2.71

Miles of new trails constructed through areas expected to produce relatively high numbers of huckleberries after vegetation treatments, Alternative 3 (differences in red text):

Trail (and Unit #s)	Feet	Miles
1 (47)	1,810	0.34
C5 (23, 29, 30, 34, 50)	3,602	0.68
L6 (43, 144)	1,557	0.29
L8 (22)	1,101	0.21
R1 (104, B1)	332	0.06
Total	8,402	1.59

Feet of new trails constructed through areas currently estimated to produce relatively high numbers of huckleberries plus areas expected to produce relatively high numbers of huckleberries after vegetation treatments:

Trail	Alt. 2		Alt. 3	
	Current Vegetation	After Vegetation Treatment	Current Vegetation	After Vegetation Treatment
1	0	+ 1,815 = 1,815	99	+ 1,815 = 1,815
3	99	99	99	99
4	2,733	2,733	2,733	2,733
C2	278	278	278	278
C3	2,146	2,146	0	0
C4	2,954	2,954	0	0
C5	2,540	+ 3,602 = 6,142	2,540	+ 3,602 = 6,142
L3	6,970	6,970	7,682	7,682
L4	4,196	4,196	4,251	4,251
L5	3,557	+ 879 = 4,436	0	0
L6	7,969	+ 1,557 = 9,526	7,969	+ 1,557 = 9,526
L7	3,100	3,100	3,100	3,100
L8	1,776	+ 2,571 = 4,347	1,545	+1,101 = 2,646
L9	1,609	+ 3,575 = 5,184	0	0
R1	27,540	+ 332 = 28,872	27,540	+ 332 = 28,872
Total	67,466	+ 14,331 = 81,797	57,737	+ 8,407 = 58,069

Miles of new trails constructed through areas currently estimated to produce relatively high numbers of huckleberries plus areas expected to produce relatively high numbers of huckleberries after vegetation treatments:

Trail	Alt. 2		Alt. 3	
	Current Vegetation	After Vegetation Treatment	Current Vegetation	After Vegetation Treatment
1	0.00	+ 0.34 = 0.34	0.00	+ 0.34 = 0.34
3	0.02	0.02	0.02	0.02
4	0.52	0.52	0.52	0.52
C2	0.05	0.05	0.05	0.05
C3	0.41	0.41	0.00	0.00
C4	0.56	0.56	0.00	0.00
C5	0.48	+ 0.68 = 1.16	0.48	+ 0.68 = 1.16
L3	1.32	1.32	1.45	1.45
L4	0.79	0.79	0.81	0.81
L5	0.67	+ 0.17 = 0.84	0.00	0.00
L6	1.51	+ 0.29 = 1.80	1.51	+ 0.29 = 1.80
L7	0.59	0.59	0.59	0.59
L8	0.34	+ 0.49 = 0.83	0.29	+ 0.21 = 0.50
L9	0.30	+ 0.68 = 0.98	0.00	0.00
R1	5.22	+ 0.06 = 5.28	5.22	+ 0.06 = 5.28
Total	12.78	+ 2.71 = 15.49	10.94	+ 1.58 = 12.52

Proposed new trails that would not pass through any current or future (post vegetation management) huckleberry areas: 2, 5, C1, L1A, L1B, and L1C.

Amy Jacobs, December 2, 2017

Martin, P. 1983. Factors Influencing Globe Huckleberry Fruit Production in Northwestern Montana. Bears: Their Biology and Management, Vol. 5, A Selection of Papers from the Fifth International Conference on Bear Research and Management, Madison, Wisconsin, USA, February 1980 (1983), pp. 159-165. Published by: International Association for Bear Research and Management. <http://www.jstor.org/stable/3872533>

Denning Habitat

Grizzly bear denning habitat as modeled by Rick Mace, as was used for analysis for the revised FNF LRMP. See map of modeled grizzly bear denning habitat across the 3 grizzly bear subunits below. Vegetation Management (Alts. 2 and 3) through modeled denning habitat (Mace 2014), in acres. See map below.

Unit	Burn	HFR	CT	ST	CC	Total
103		31.3				31.3
104		50.5				50.5
105		1.2				1.2
106		20.9				20.9
107		9.6				9.6
108		0.4				0.4
143		33.3				33.3
144		55.5				55.5
145		15.3				15.3
146		46.8				46.8
21				0.1		0.1
22				28.1		28.1
30				0.0		0.0
34				12.1		12.1
37		6.6				6.6
38		11.1				11.1
41			41.2			41.2
42				23.8		23.8
43					27.4	27.4
51			3.0			3.0
52					12.1	12.1
53					6.7	6.7
8					0.1	0.1
B1	98.4					98.4
B2	293.6					293.6
B3	77.8					77.8
Total	469.7	282.5	44.2	64.2	46.3	907.0

New standard trail construction through modeled denning habitat (Mace 2014), in miles. See map below.

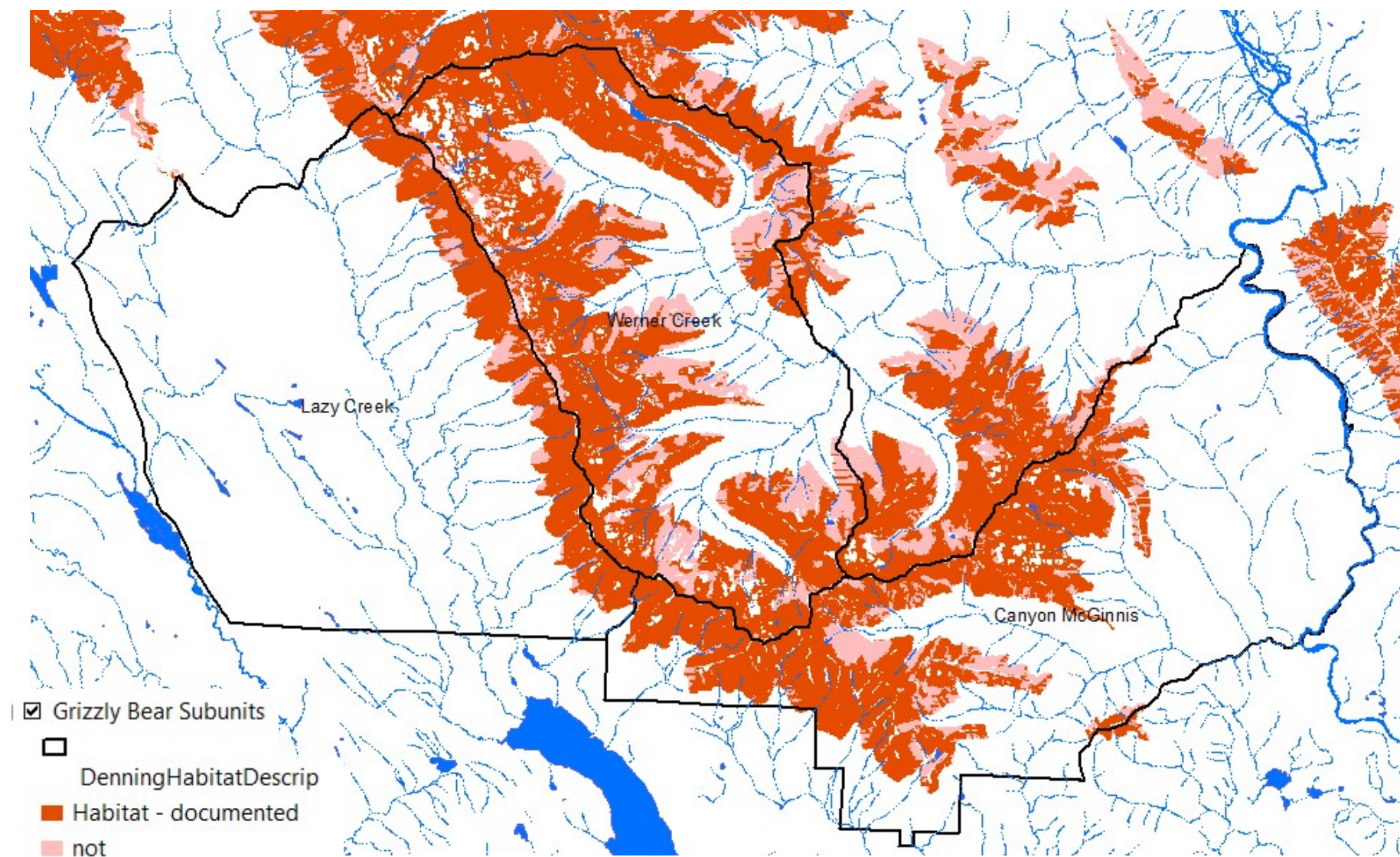
Trail	Alt. 2	Alt. 3
C3	0.62	0.00
L3	0.10	0.10
L5	1.84	0.00
L6	1.62	1.62
L7	1.90	1.56
L8	3.36	2.93
L9	1.44	0.00
R1	6.46	6.46
Total	17.34	12.67

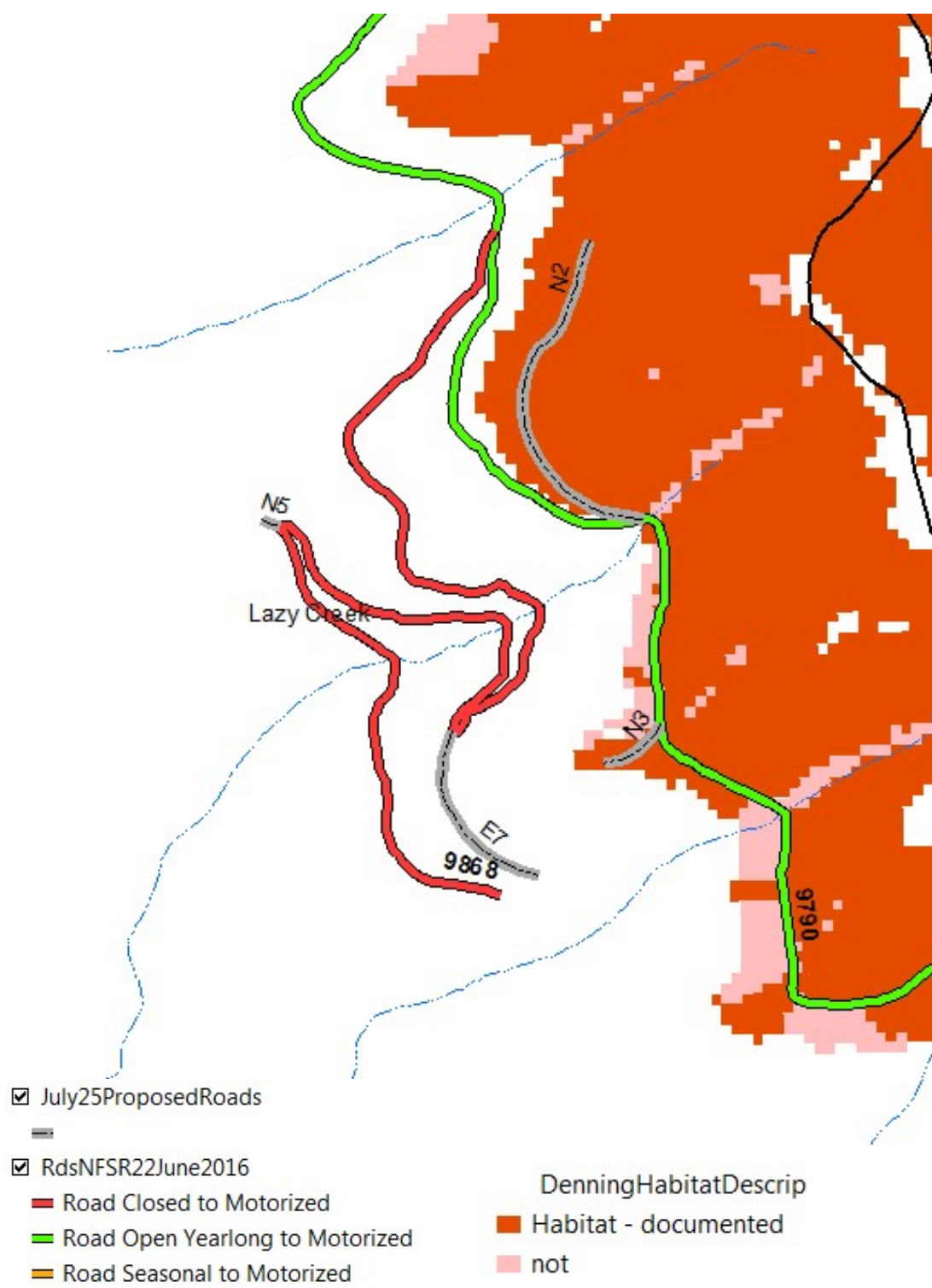
New road construction (Alts. 2 and 3) through modeled denning habitat (Mace 2014), in miles. See map below.

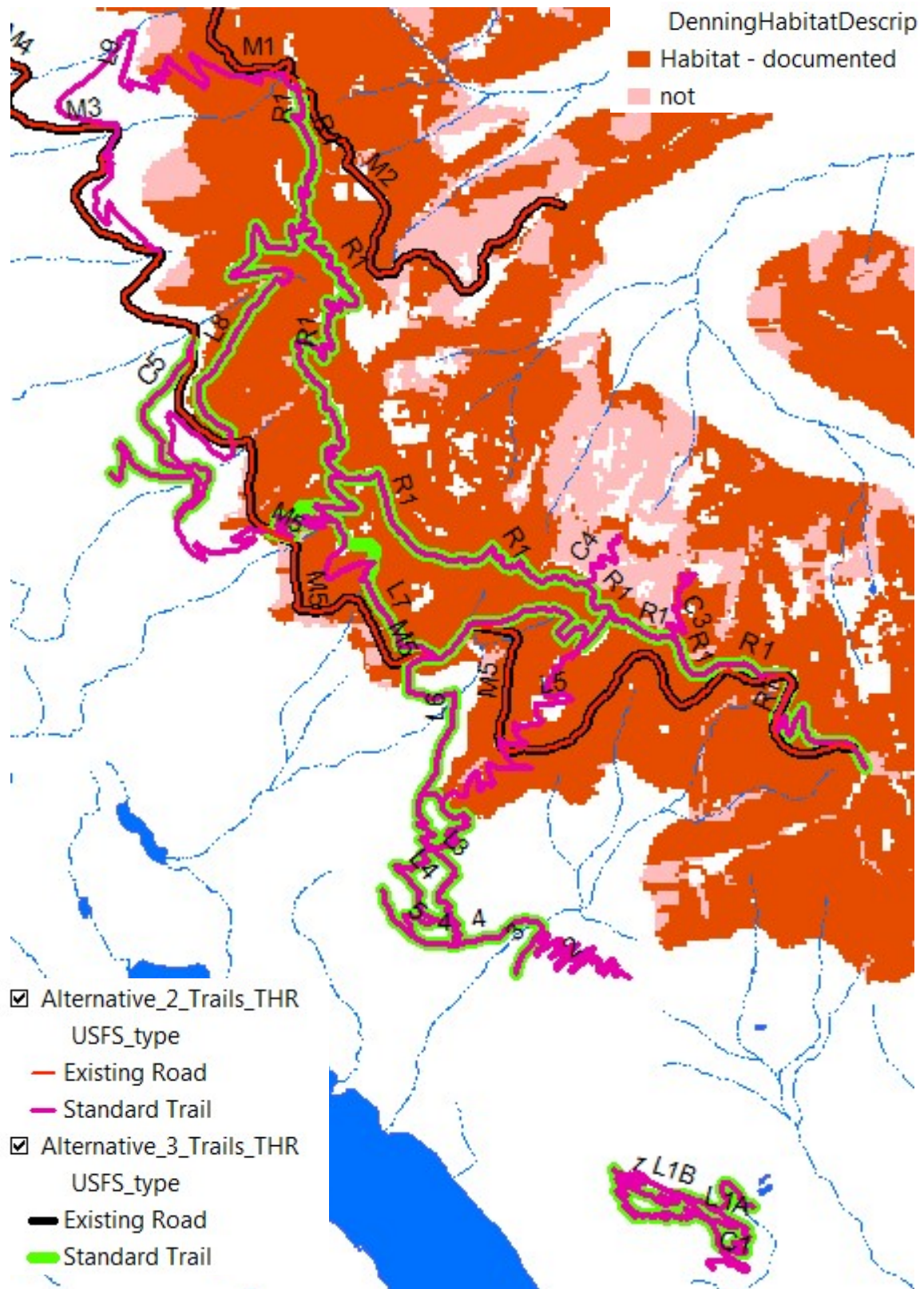
Road	Miles	Template	System vs. temp road
N2	0.66	New	System (ISS)
N3	0.13	New	Temporary Road
Total	0.79		

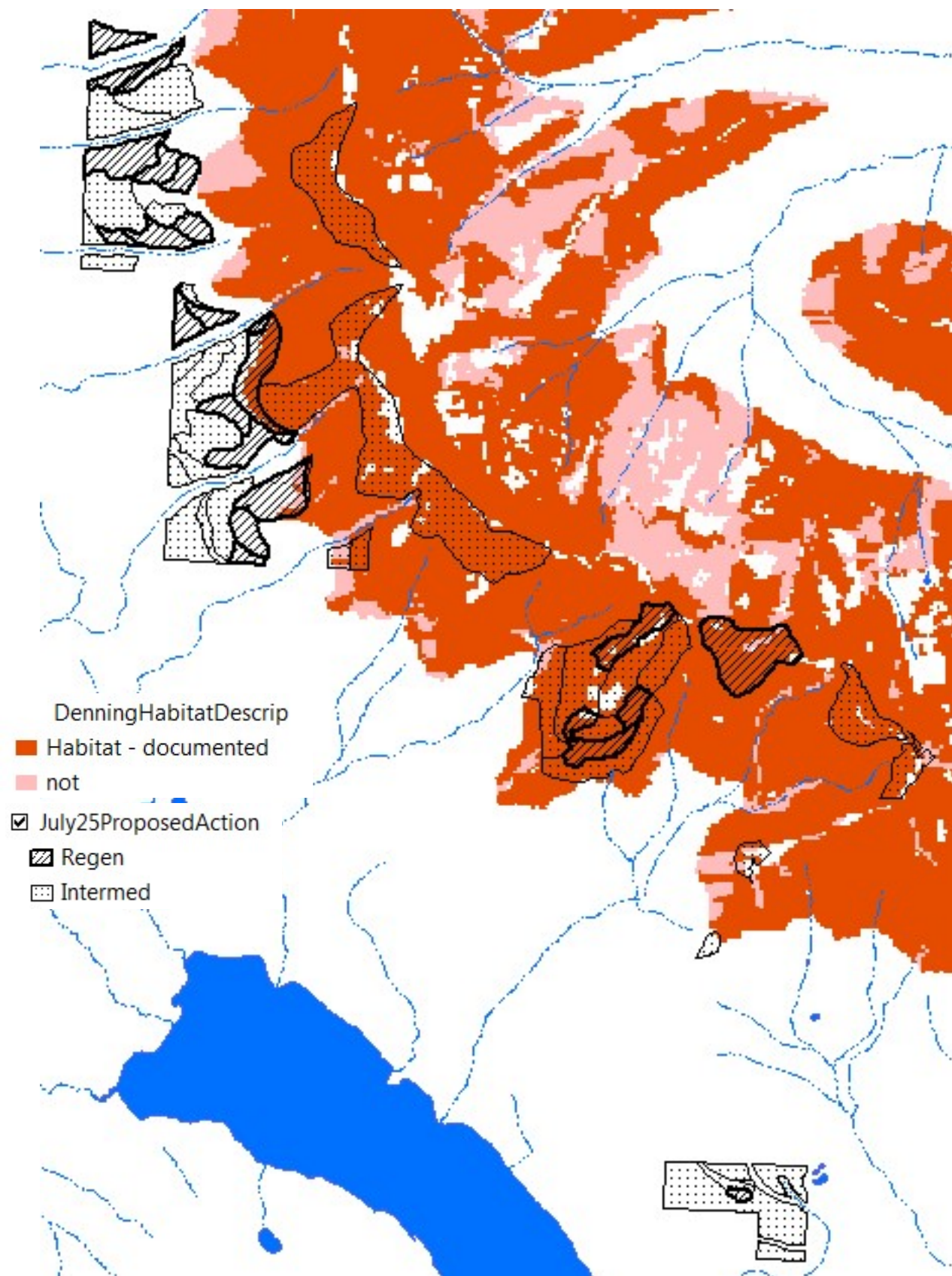
Motorized Access (OMRD, TMRD, and Secure Core)

See exhibit Rt-.29









Land Ownership in Project Grizzly Bear Subunits

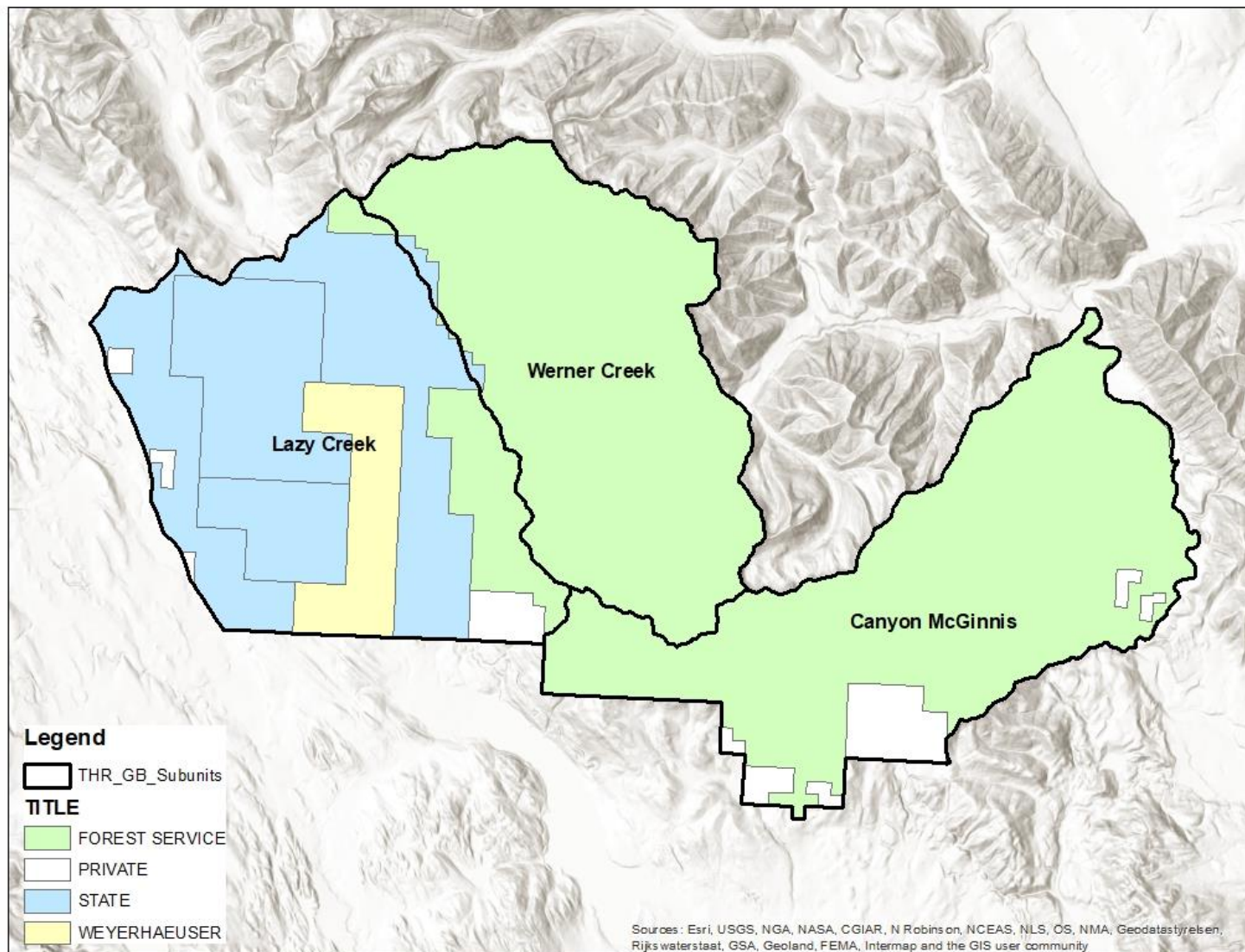
Taylor Hellroaring Project

1. Method (using ARCGIS 10.5.1 with XTools Pro)

- a. Used identity tool to attribute Lazy Creek subunit with DNRC Land Ownership data to create THR_GB_LazyCreek_DNRC_Ownership_identity.
- b. Used identity tool to attribute Werner Creek and Canyon McGinnis subunits with Land Ownership data to create THR_GB_WernerMcGinnis_Ownership_identity.
- c. Recalculated acres, exported to Excel, and summarized data using pivot tables.

2. Land Ownership in project grizzly bear management subunits

Bear Mgmt. Subunit	Total Acres	National Forest Service	Weyerhaeuser	Private	DNRC
Lazy Creek	34,606	12.0%	12.9%	3.8%	71.3%
Canyon McGinnis	33,239	91.3%	0.0%	8.2%	0.0%
Werner Creek	28,641	98.7%	0.0%	0.0%	1.3%



Grizzly Bear - Effects of Non-motorized Trails

Several studies have investigated the behavioral response of bears to nonmotorized trails (Jope, 1985; Kasworm & Manley, 1990; R. D. Mace & Waller, 1996; MacHutchon, 2014; B. N. McLellan & Shackleton, 1989; D. White, Kendall, & Picton, 1999). These studies vary considerably in study design, trail use levels, grizzly bear sample sizes, and conclusions regarding the impacts of nonmotorized trails on bears. Grizzly bear response to human disturbance may differ depending upon the distance between bears and trails or between bears and off-trail foot travel. In Glacier National Park, bears located more than 500 feet away from trails generally did not respond to hikers by fleeing (Jope, 1985, p. 34), and in 45 percent of all cases bears showed no movement in response to hikers. Hiker group size did not significantly affect bear behavior. McLellan and Shackleton (1989) reported that bears showed a stronger response to people on foot than in motor vehicles in “low human-use” areas. However, less than half of bears showed any response (walked or ran away) to stimulus greater than 250 feet away. White and others (1999) documented grizzly bear displacement from feeding sites in Glacier National Park in response to hikers. Kasworm and Manley (1990) reported that grizzly bears used habitats within 100 meters (328 feet) of trails less than expected but used habitats 100-1,000 meters (3,281 feet) from trails in proportion to their availability. On the Forest in the Swan Mountains, Mace and Waller (1996) reported there were no historic or recent records of grizzly bear-human conflict in their study area, which included the heavily used Jewel Basin Hiking Area on the Forest. The authors suggested that avoidance by bears of heavily used human trails may increase grizzly bear survival.

Grizzly bear response to human disturbance may also differ between seasons or habitats. Jope (1985) noted that grizzly bears were more likely to respond to hikers by flight or charges in spring and early summer than later in the year, possibly due to habituation once human use became more common during the summer season. Kasworm and Manley (1990) found that bears used habitat within 400 feet of trails less than expected in spring and fall. Conversely, Mace and Waller (1996) found that distance to trails and/or lakes with campsites were significant variables only in summer and autumn.

Public comment identified a specific concern about potential conflict between grizzly bears and mountain bikers using the trails proposed for addition to the NFS trail system. Human recreation in grizzly bear habitat increases the likelihood of conflict with bears. In general, available literature and reports either reviewed/summarized the circumstances and outcomes surrounding documented grizzly bear-human encounters or evaluated the effects to grizzly bear use of habitat associated with more traditional recreational activities such as hiking, hunting, and camping (Coltrane & Sinnott, 2015; Fortin et al., 2016; Herrero & Fleck, 1990; Herrero & Higgins, 1999, 2003). The reviews of human-bear encounters identified common factors or situations that tended to result in the encounters and often ended in an injury to the recreationist(s).

Fortin and others (2016) reported that most defensive attacks by grizzly bears result from surprise encounters involving humans hiking off-trail, in the backcountry, and in areas of natural food abundance for grizzly bears. McLellan and Shackleton (1989) also reported that grizzlies fled farther in response to unexpected off-trail foot travel than to motorized use (p. 274). Similarly, Mace and Waller (1996) reported that bear response to off-trail hikers was greater than that observed for other types of disturbances.

Nonmotorized trail uses (hiking, horseback riding, mountain biking) also affect the risk of grizzly bear-human conflicts (J. Herrero & Herrero, 2000; S. Herrero & Higgins, 1999). These conflicts can pose risks to human as well as grizzly bear safety. Herrero (1985) was one of the first researchers to report on the causes of bear attacks and how to avoid them. Based upon his study of bear attacks in Canadian national parks, Herrero reported that in 68 out of 135 grizzly bear incidents in which the party's activity prior to the bear attack was known, hiking was the most common activity. Herrero reported that 75 percent of

encounters he classified as “sudden” were known to involve bear mothers, with females and cubs of the year being most dangerous. Sudden encounters are the most likely situation to result in a grizzly bear-inflicted injury (S. Herrero, 1985). Attacks by bears on humans in North America are disproportionately more frequent in national parks, most being the result of sudden encounters between hikers and grizzly bears that react defensively to protect young or a food source (S. Herrero, 1985; MacHutchon, 2014). Grizzly bear expert Chris Servheen reported that there have been eight fatal grizzly bear attacks on humans in the lower 48 states since 2001 (Servheen, 2017). Of these, six occurred in the Yellowstone Ecosystem and two occurred in the Northern Continental Divide Ecosystem. Human behaviors at the time of the attacks involved hunting, camping, hiking, and mountain biking. Five of the fatalities involved lone individuals, and four of those were lone hikers. Bear spray was not carried or used by any of the people killed in these attacks.

Although a variety of methods can be used to reduce the risk of grizzly bear-human conflicts due to nonmotorized uses, Herrero and Herrero (2000) emphasized that none of them can entirely remove the risk of hiking or mountain biking in grizzly bear habitat. Strategies recommended to reduce the risk of sudden encounters between grizzly bears and people include (1) visitor education regarding safe practices in bear country (e.g., expect to meet bears, look ahead, slow down, make lots of noise), (2) managing recreation to occur more predictably in space and time, and (3) designing or locating recreation trails to increase the distance at which bears can detect people and to avoid habitats with concentrated bear food resources (Fortin et al., 2016; J. Herrero & Herrero, 2000; Quinn & Chernoff, 2010).

Some of the common factors that appear to contribute to human-grizzly bear encounters are included in recommendations provided by the Forest Service, however it is the responsibility of the recreationist to follow these recommendations in order to reduce risks when recreating in bear country. The proposed trails would have signs at the trailheads providing education to all types of recreationists on how to reduce the likelihood of surprising a bear and bear conflict.

Consideration of Special Use Permit Roads in Motorized Access Analyses for Grizzly Bears

From **Appendix 6 of the Grizzly Bear Conservation Strategy (Exhibit 12-21), “Protocol Paper for Motorized Access Analyses Application Rule”**, page 273, Application Rules in the Primary Conservation Area (PCA):

The following provides the specifics for calculating open and total motorized route density as well as secure core.

- Open Motorized Route Density (OMRD) includes: all Federal, State, and Tribal roads and motorized trails that are open to public wheeled use for any part of the non-denning season, along with motorized routes that are only closed by signage or map. Signs or maps are not considered an effective closure device by the Interagency Grizzly Bear Committee (IGBC, 1998) and therefore roads that are only signed as closed are included in OMRD calculations. While highways, county, city, or private roads are open to public wheeled use, these routes are not included in calculations of OMRD.
- Total Motorized Route Density (TMRD) includes: all Federal, State, and Tribal roads and motorized trails, whether they are open or closed to wheeled public access. Highways, county, city, or private roads are not included in calculations of TMRD.

From **Appendix 6 of the Grizzly Bear Conservation Strategy, “Protocol Paper for Motorized Access Analyses Application Rule”**, page 276, Application Rules in the Primary Conservation Area (PCA):

Table 3. Road management descriptions and attribute values used in OMRD and TMRD.

Road Management Description	Specific Value in Attribute for Script	Road Used in Analysis		
		OMRD	TMRD	CORE
Open yearlong roads, no restriction	OPEN yearlong	X	X	X
Open seasonally roads, has seasonal restriction	OPEN seasonally	X	X	X
Closed yearlong by sign closure	CLOSED yrIng sign	X	X	X
Closed yearlong by gate closure, but with high administrative use ¹	CLOSED yrIng ADH	X	X	X
Closed yearlong by gate closure	CLOSED yrIng gate		X	X
Closed yearlong by physical barrier, but should be closed by gate ²	CLOSED yrIng BNC		X	X
Closed yearlong by physical barrier ³	CLOSED yrIng barrier		X	
Closed yearlong and naturally revegetated, but should be closed by gate ⁴	CLOSED yrIng VEGNC		X	X
Primary or secondary Federal/State highways	hwys, cnty/city road			X
County or city roads	hwys, cnty/city road			X
Small-tract private roads or Federal special use permitted roads ⁵	small PVT roads			X

⁵ small PVT roads – typically the permittee of a Special Use permitted road does not have road management restrictions. As a result, the road could be open or closed according to the permittee, therefore the road is classified as “small PVT roads” for the analyses.

From the May 2017 Biological Assessment for Terrestrial Wildlife Species for the **Summit Road Realignment Project**, page 22:

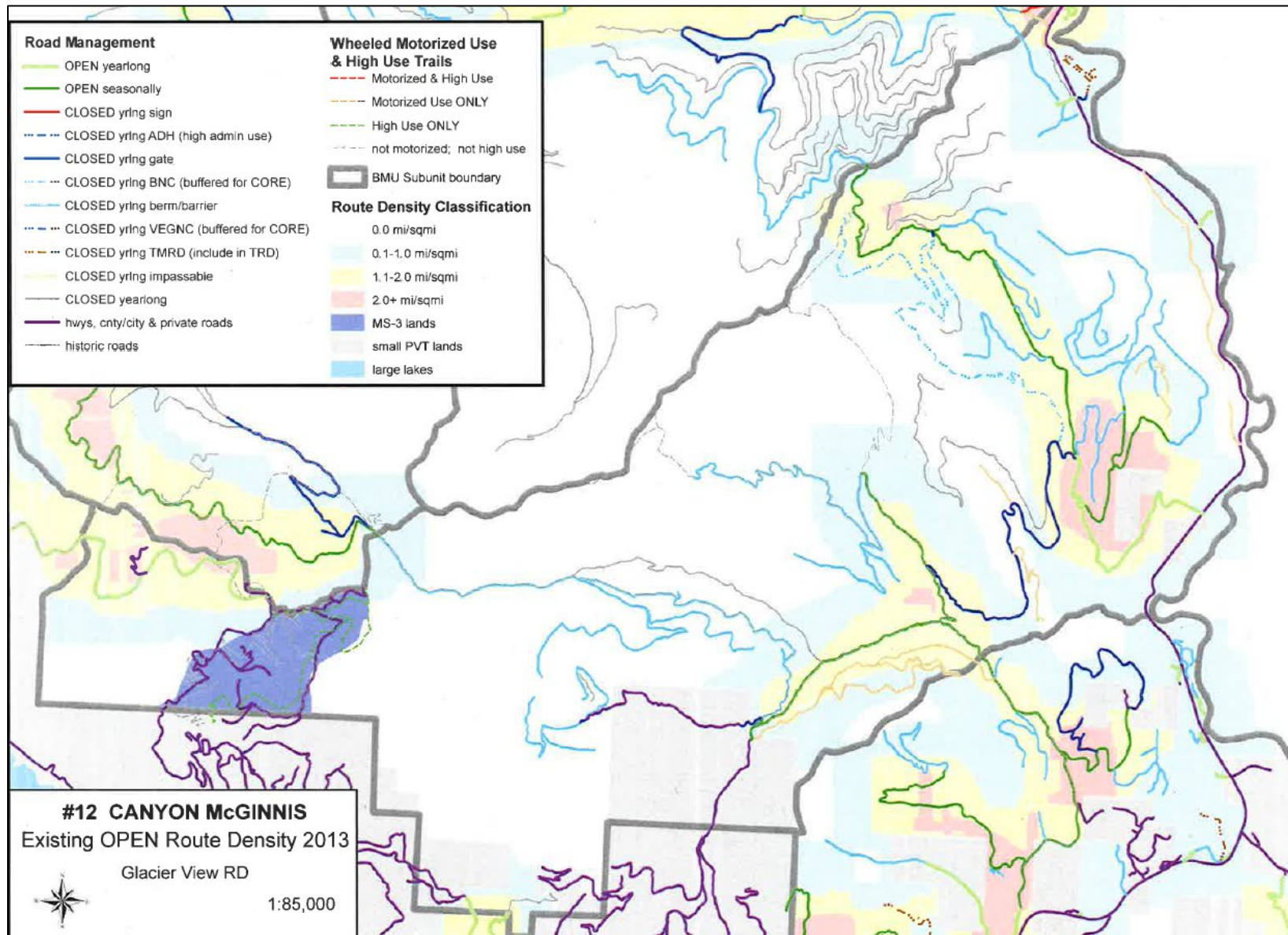
Security / Displacement / Mortality Risk: Due to the location of the proposed road construction, there would be no effect on grizzly bear Security Core in the Canyon McGinnis subunit nor in the adjacent Werner Creek subunit. **Total and Open Road Management Densities would not change because the proposed road construction and rehabilitation are both private roads that are not considered in Amendment 19 road density calculations**, even though the new road will mostly be in Management Situation 2.

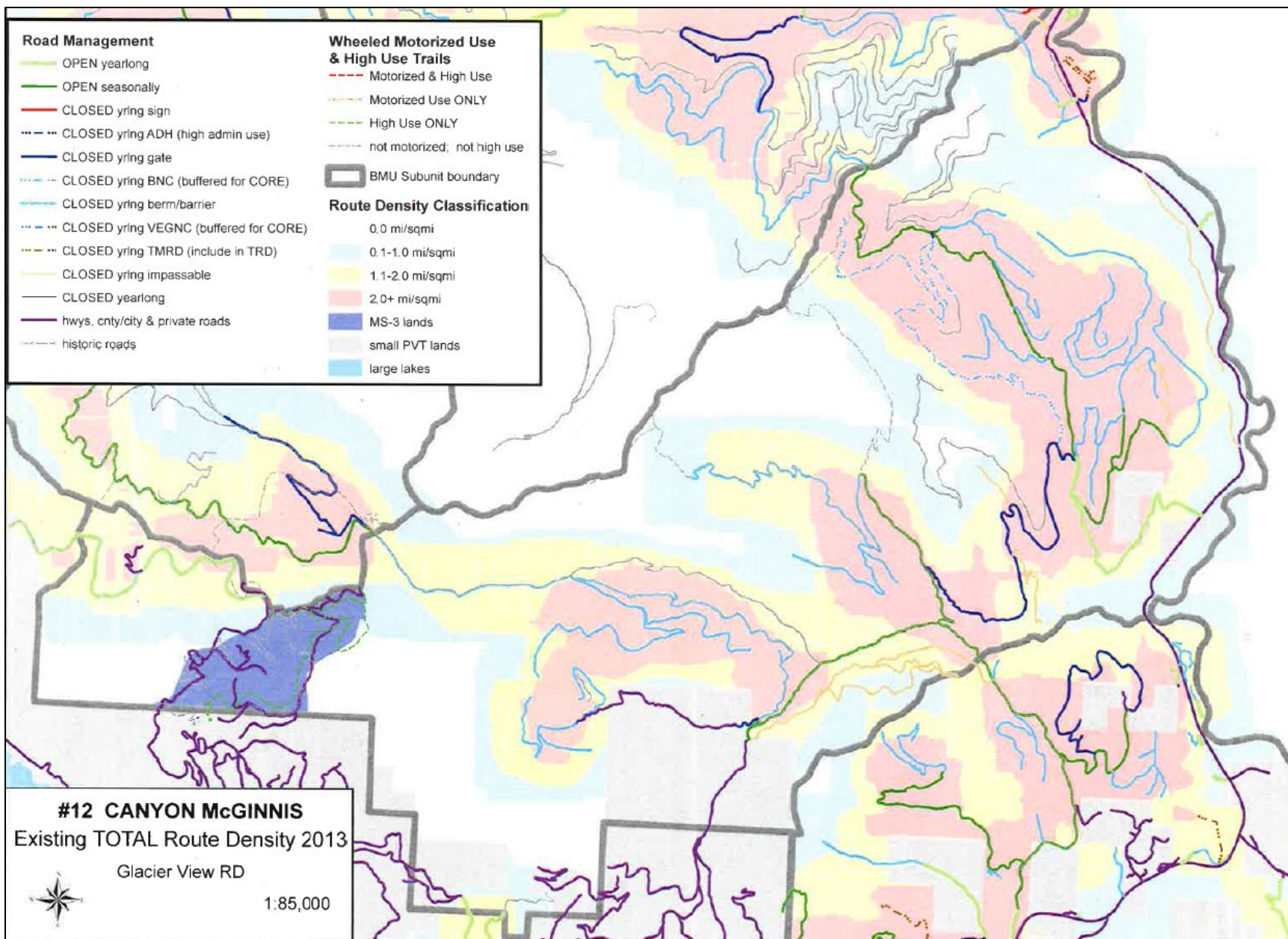
From the February 2013 Biological Assessment for Terrestrial Wildlife Species for **Whitefish Mountain Resort Chair 8 Project**, pages 26-27:

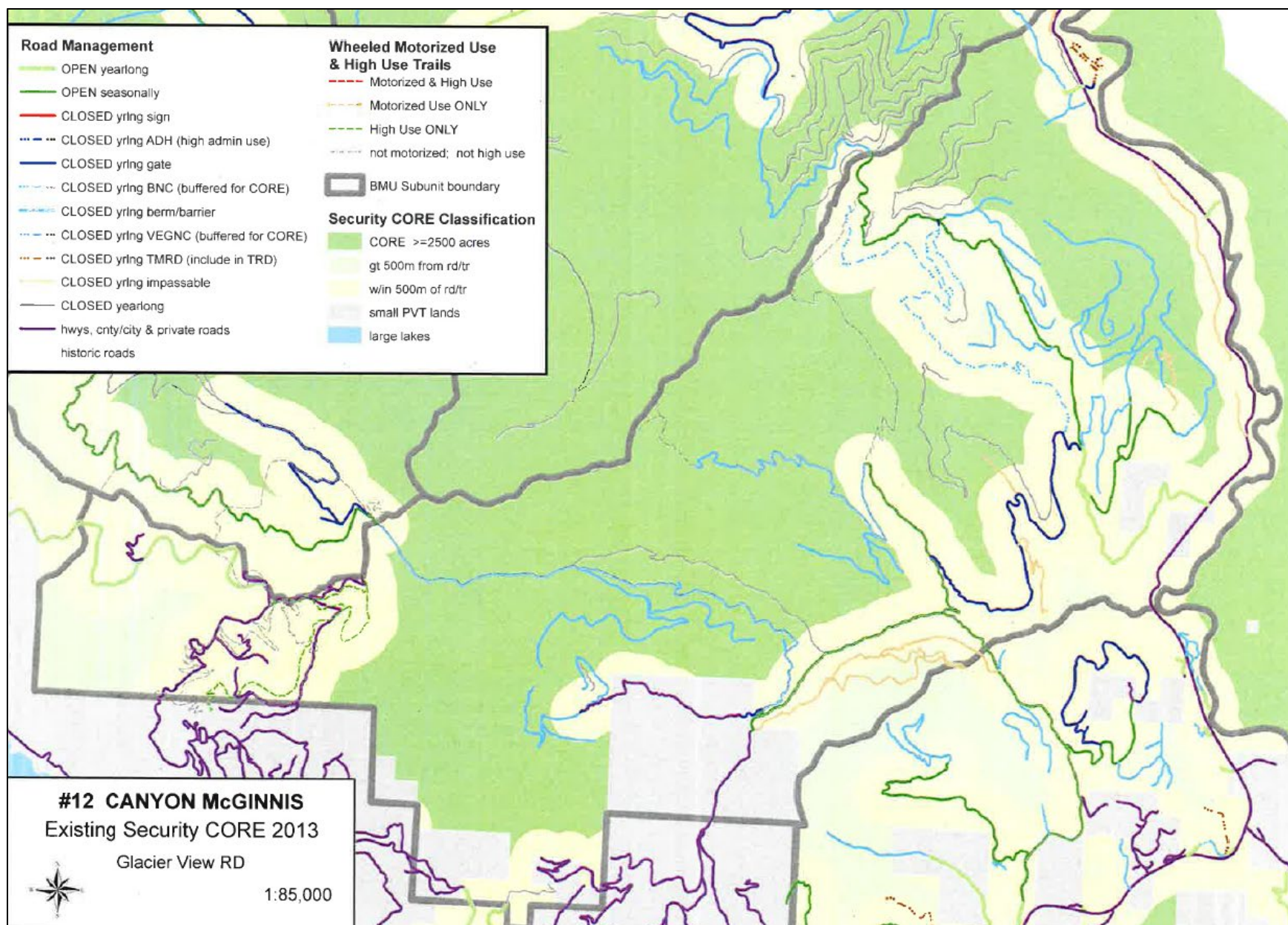
Habitat Security

There is a high level of existing human use at and near the top of Chair 8 during the non-denning season (particularly on and along the Danny On Trail), so grizzlies using habitat in this area are generally accustomed to human disturbance. There would be a potential for short-term displacement of grizzly bears during project implementation due to increased human activity in the mid-slope portions of the Chair 8 area and in areas affected by helicopters needed to carry the lift terminal and towers into position. Existing open roads and service roads would be used during construction and road building would be avoided. All existing roads currently closed to public motorized use would remain closed to the public during implementation of proposed activities. **Because the "service roads" used by Resort employees and contractors are modeled as private roads for A19 analysis, A19 parameters would not change.** Potential displacement would be in various short spurts of activity (i.e. reconnaissance, tree felling, equipment delivery, tower pad and terminal clearing/construction, and slash burning) restricted to the July 1-September 15 time period of two years. Use of existing open roads and service roads, as well as timing restrictions included in the project, favor the needs of the grizzly bear. The proposed project does not affect grizzly bear Security Core and timing measures for the Chair 8 project are adequate to maintain a high level of habitat security. There will be no net loss in OMAD or TMAD as a result of the project.

From the 2013 A19 Monitoring Report, showing that special use permit roads in the Whitefish Mountain Permit Area and elsewhere across the Canyon McGinnis Subunit are treated as private roads and not included in OMRD or TMRD, although they are buffered for Security Core.







Taylor Hellroaring Project Consistency with 2018 Flathead National Forest LMP – Grizzly Bears

Level of direction (FW = forestwide, MA = management area = MA, GA = geographic area; note that with management area or geographic area direction, the management area number and the geographic area acronym are also included).

Type of direction (where DC = desired condition, OBJ = objective, STD = standard, GDL = guideline).

Resource (WTR = watersheds; RMZ = Riparian Management Zones; TE&V = Terrestrial Ecosystems and Vegetation; WL DIV = Wildlife Habitat Diversity; WL = Threatened, Endangered, Proposed, or Candidate Wildlife Species; FIRE = Fire and Fuels Management; REC = Recreation; IFS = Infrastructure; LSU = Lands and Special Uses; OFP = Other Forest products; E&M = Energy and Mineral Resources; GR = Livestock grazing; P&C = Partnerships and Coordination)

Geographic Area (NF = North Fork, SM = Salish Mountains)

Terms and Conditions and Reasonable and Prudent Measures that came from the LRMP revision's Biological Opinion are in purple text.

Identifier	Plan Components and Terms and Conditions Specific to GRIZZLY BEARS	Project Compliance
FW-STD-WL-01	Grizzly bear habitat on NFS lands in the NCDE shall be delineated and managed as the primary conservation area, zone 1 (including the Salish demographic connectivity area) (see figure B-10 or subsequent USFWS updates, if applicable).	Grizzly bear habitat would continue to be delineated and managed as PCA and Zone 1.
FW-STD-WL-02	BO T&C for FNF's Revised LMP -- The Forest Service shall continue to implement food/attractant storage and handling programs in the action area. This includes ensuring all Forest Service employees and contractors adhere to appropriate protocols, and providing educational material to the public on measures to avoid conflicts and/or food conditioning of grizzly bears. Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area; see figure B-10), food/wildlife attractant storage special order(s) shall apply to all NFS lands.	Food/wildlife attractant storage special order(s) would be followed by all contractors and others implementing the project. See design features.
FW-STD-WL-03	In each bear management subunit within the NCDE primary conservation area, temporary changes in the open motorized route density, total motorized route density, and secure core shall be calculated for roads used for projects (as defined by "project (in grizzly bear habitat in the NCDE)" during the non-denning season (see glossary). Calculations will include estimated changes for each year of the anticipated duration of the project and shall be incorporated into the 10-year running average required by standard FW-STD-IFS-03.	OMRD, TMRD, and secure core were calculated for this project, including estimated changes per year for incorporation into the 10-year running average. Grizzly bear secure core would not be affected by this proposal due to the location of the roads relative to existing areas of secure core and nearby private lands. In the proposed Hellroaring basin Improvements Project in the same subunit, the service roads would be special-use permit roads and thus are not included in calculations of OMRD and TMRD (NCDE 2018 Appendix 6).
FW-STD-REC-01	Within the NCDE primary conservation area, the number and capacity of developed recreation sites on NFS lands that are designed and managed for overnight use by the public during the non-denning season (e.g., campgrounds, cabin rentals, huts, guest lodges, recreation residences) shall be limited to one increase above the baseline (see glossary) in number or capacity per decade per bear management unit. The following conditions are not considered an increase from the baseline: - the agency obtains better information or updated information in its database(s); - the agency acquires land that contains developed recreation sites; - the agency increases the number or capacity of a developed recreation site in order to comply with Federal laws; - the agency maintains or modifies an existing overnight developed or dispersed recreation site in such a way that does not increase the number or capacity of the site (e.g., installing a pit toilet to avoid damage to water resources or installing a bear-resistant food storage structure to reduce grizzly bear-human conflicts); - the agency modifies an existing developed recreation site to enhance human safety (e.g., enlarging a road pull-out to allow trailers to turn around safely);	This project does not include changes or additions to developed recreation sites designed for overnight use.

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	- the agency operates a developed recreation site to allow overnight use only during the denning season (see glossary); or - the agency makes a corresponding reduction in the number or capacity of overnight developed recreation sites in the same bear management unit through any of the following means: (1) equal reduction in capacity at another site; (2) closure of a developed site(s); or (3) consolidation and/or elimination of dispersed camping, when and where it can be enforced effectively and it is reasonably assured that new dispersed sites will not develop nearby. Note: If these measures are used to offset an increase in number or capacity, they must be in place before the initiation of the increase. If the agency reduces the number or capacity of developed sites below baseline levels, these reductions may be used at a future date to mitigate equivalent impacts of an increase, expansion, or change of use in developed sites within that bear management unit. Note: This standard does not apply to dispersed recreation sites or to developed recreation sites managed for day-use only (e.g., outfitter camps, roadside trail crossings or interpretive pull-outs; trailheads, picnic areas, or boat launches that are closed at night; ski areas that do not have overnight lodging).	
FW-STD-REC-02	Within the NCDE primary conservation area, new or reauthorized recreation permits shall include a clause providing for modification, cancellation, suspension, or temporary cessation of activities if needed to resolve a grizzly bear-human conflict situation.	Project design feature specifies that activities will be modified, cancelled, suspended, or temporarily ceased if needed to resolve a grizzly bear-human conflict situation.
FW-STD-REC-04	Within the NCDE primary conservation area, new or reauthorized permits for ski areas on NFS lands that operate during the non-denning season shall include measures to limit the risk of grizzly bear-human conflicts (e.g., a requirement to store garbage in a bear-resistant manner).	Not applicable.
FW-STD-REC-05	BO T&C for FNF's Revised LMP -- The Forest Service shall comply with standards FW-STD-IFS-01, FW-STD-IFS-02, FW-STD-IFS-03, FW-STD-IFS-04 and FW-STD-REC-05 in the Flathead Forest Plan. Within grizzly bear denning habitat modeled by MFWP in the NCDE primary conservation area, there shall be no net increase in percentage of area or miles of routes designated for motorized over-snow vehicle use on NFS lands during the den emergence time period (see glossary).	This project would not cause a net increase in % of area or miles of routes designated for motorized over-snow vehicle use on NFS lands during den emergence.
FW-STD-IFS-01	BO T&C for FNF's Revised LMP -- The Forest Service shall comply with standards FW-STD-IFS-01, FW-STD-IFS-02, FW-STD-IFS-03, FW-STD-IFS-04 and FW-STD-REC-05 in the Flathead Forest Plan. Within the NCDE primary conservation area, motorized use of roads with public restrictions shall be permitted for administrative use (see glossary), as long as it does not exceed either six trips (three round trips) per week or one 30-day unlimited use period during the non-denning season (see glossary). The exception to this standard is: emergency situations as defined by 36 CFR § 218.21. Note: Administrative use is not included in baseline calculations and is not included in calculations of net increases or decreases. If the level of administrative use exceeds this standard, the use is counted as a project (see "project (in grizzly bear habitat in the NCDE)" in the glossary).	Administrative use levels would not be exceeded by this project.
FW-STD-IFS-02	BO T&C for FNF's Revised LMP -- The Forest Service shall comply with standards FW-STD-IFS-01, FW-STD-IFS-02, FW-STD-IFS-03, FW-STD-IFS-04, and FW-STD-REC-05 in the Flathead revised forest plan. In each bear management subunit within the NCDE primary conservation area, there shall be no net decrease to the baseline (see glossary) for secure core and no net increase to the baseline open motorized route density or total motorized route density on National Forest System lands during the non-denning season (see glossary). The following conditions are not considered a net increase/decrease from the baseline: - administrative use (see glossary); - temporary use of a motorized route for a project (see "project in grizzly bear habitat in the NCDE" definition in the glossary and FW-STD-IFS-03);	This project would not cause a net decrease to the baseline for secure core nor a net increase to the baseline OMRD or TMRD on National Forest System lands during the non-denning season.

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	• mining activities (as authorized under the Mining Law of 1872) and oil and gas activities (as authorized under the Federal Onshore Oil and Gas Leasing Reform Act of 1987) conducted in accordance with valid existing rights and applicable standards and guidelines; • updated/improved data on a motorized route without an actual change on the ground; • changes in technology or projections that result in changed open motorized route density, total motorized route density, or secure core values without actual change on the ground (e.g., a switch from the North American Datum of 1927 to the North American Datum of 1983 geodetic reference system); • a road closure location is moved a short distance (e.g., to the nearest intersection or turnout) to a better location to allow turn-arounds providing for public safety, to reduce vandalism, or to improve enforcement of the road closure; • the agency exchanges, acquires, buys, or sells lands; • a change in a motorized route is necessary to comply with Federal laws (e.g., Federal Rehabilitation Act); • a change in a motorized route is necessary to address grizzly bear-human conflicts, human safety concerns, or resource damage/concerns (e.g., a road paralleling a stream may be decommissioned and replaced by a new upslope road to reduce water quality impacts); • a change is made by an adjacent landowner that decreases secure core or increases motorized route densities on a particular national forest; • emergency situations as defined by 36 CFR § 215.2; and • temporary roads (see glossary).	
FW-STD-IFS-03	BO T&C for FNF's Revised LMP -- The Forest Service shall comply with standards FW-STD-IFS-01, FW-STD-IFS-02, FW-STD-IFS-03, FW-STD-IFS-04, and FW-STD-REC-05 in the Flathead revised forest plan. Concurrent, temporary increases in OMRD or TMRD, or concurrent temporary decreases in secure core for new projects (as described in the glossary) on NFS lands shall not occur in more than 3 adjacent bear management subunits on the FNF. In each bear management subunit within the NCDE primary conservation area, temporary changes in the open motorized route density, total motorized route density, and secure core shall be allowed for projects (as defined by "project (in grizzly bear habitat in the NCDE)" in the glossary). The 10-year running average for open motorized route density, total motorized route density, and secure core numbers shall not exceed the following limits per bear management subunit: • 5 percent temporary increase in open motorized route density in each subunit (i.e., open motorized route density baseline plus 5 percent); • 3 percent temporary increase in total motorized route density in each subunit (i.e., total motorized route density baseline plus 3 percent); • 2 percent temporary decrease in secure core in each subunit (i.e., secure core baseline minus 2 percent). Exceptions to this standard include: • emergency situations as defined by 36 CFR 218.21 and • actions where valid existing rights preclude or constrain agency discretion (e.g., certain contracts, permits, leases, etc.). Refer to appendix C for an example of how to calculate and apply the running average and temporary increase/decrease.	Any temporary changes to OMRD, TMRD, and secure core would fall within the maximum 10-year averages proscribed. Grizzly bear secure core would not be affected by this proposal due to the location of the proposed roads relative to existing roads and areas of secure core.
FW-STD-IFS-04	BO T&C for FNF's Revised LMP -- The Forest Service shall comply with standards FW-STD-IFS-01, FW-STD-IFS-02, FW-STD-IFS-03, FW-STD-IFS-04, and FW-STD-REC-05 in the Flathead revised forest plan. Within the NCDE primary conservation area, a restricted road may be temporarily opened for public motorized use to allow authorized uses (such as firewood gathering), provided the period of use does not exceed 30 consecutive days during one	This project does not authorize public motorized access on any closed roads.

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	non-denning season and occurs outside of spring and fall bear hunting seasons. However, temporary public use of a restricted road shall not be authorized in secure core (see glossary).	
FW-STD-OPF-01	Special-use permits for apiaries (beehives) located on NFS lands shall incorporate measures including electric fencing to reduce the risk of grizzly bear–human conflicts, as specified in the food/wildlife attractant storage special order.	Not applicable to this project.
FW-STD-E&M-01	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), mining activities (as authorized under the Mining Law of 1872) and oil and gas activities (as authorized under the Federal Onshore Oil and Gas Leasing Reform Act of 1987) occurring on NFS lands, where feasible, shall avoid, minimize, and/or mitigate environmental impacts to grizzly bears or their habitat, subject to existing rights. Stipulations or mitigation measures already included in existing leases, permits, or plans of operation on NFS lands shall not be changed, nor will additional stipulations or mitigation measures be added without the agreement of the holder of the lease, permit, or plan of operation.	Not applicable to this project.
FW-STD-E&M-02	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), new or reauthorized permits, leases, and/or plans of operation shall include a clause providing for modification or temporary cessation of activities, if needed, to resolve a grizzly bear-human conflict situation.	Not applicable to this project.
FW-STD-E&M-04	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), in addition to measures included in the food/wildlife attractant special order(s), new plans of operation, permits, and/or leases for mineral activities shall include the following measures regarding grizzly bear attractants: • bear-resistant food storage and garbage containers shall be used at development sites and at any campgrounds or dispersed sites where exploration or production-related human occupancy is anticipated; • garbage shall be removed in a timely manner; • road kills shall be removed daily during active operating periods to a designated location determined in close coordination with MFWP; • feeding of wildlife shall not be allowed; and • locations of work camps shall be approved in advance of operations. Food storage requirements shall be strictly adhered to in all work camps.	Not applicable to this project.
FW-STD-E&M-05	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), if minerals activities have the potential to adversely affect grizzly bears or their habitat as determined by a site-specific analysis, new plans of operation, permits, and/or leases for mineral activities shall include the following mitigation measures, stipulations, and surface use criteria regarding grizzly bear habitat: • ground-disturbing activities in identified grizzly bear spring habitat (as identified in a site-specific biological evaluation or other environmental document) shall be avoided between April 1 and June 30. If timing restrictions are not practicable, other measures shall be taken to reasonably mitigate negative impacts of mineral activity to grizzly bears. • seismic activity in identified grizzly bear denning habitat (as identified in a site-specific biological evaluation or other environmental document) shall be avoided during the denning season (see glossary). If timing restrictions are not practicable, other measures shall be taken to reasonably mitigate negative impacts of mineral activity to grizzly bears. • cumulative impacts of multiple, concurrent seismic and/or drilling operations shall be limited by timing restrictions. If timing restrictions are not practicable, reasonable and appropriate measures shall be taken to mitigate negative impacts to the grizzly bear. • reasonable and appropriate measures regarding the maintenance, rehabilitation, restoration or mitigation of functioning aquatic systems and riparian management zones shall identify how reclamation will occur, plant species to be used in reclamation, a time frame of when reclamation will be completed, and monitoring criteria, and • reclamation and revegetation of motorized routes, drilling pads, and other areas disturbed from mineral activities shall be completed as soon as practicable by the operator.	Not applicable to this project.

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FW-STD-E&M-06	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), if mineral activities have the potential to adversely affect grizzly bears or their habitat as determined by a site-specific analysis, new plans of operation and permits shall include the following mitigation measures regarding motorized access: • public motorized use that is not associated with minerals activities shall be prohibited on motorized routes constructed for exploration and/or development; • a traffic management plan shall be developed as part of the proposed activity to identify when and how motorized routes will be used, maintained, and monitored (if required) and how motorized route standards and guidelines will be implemented after activities have ended; • helicopter use associated with seismic activity, exploration, drilling, or development must follow an approved plan or permit; and • speed limits shall be adopted on motorized routes if needed to prevent or reduce collisions with grizzly bears.	Not applicable to this project.
FW-STD-E&M-07	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), minerals contractors or lessees shall require employees to attend training related to safely living near and working in grizzly bear habitat prior to starting work and on an annual basis thereafter.	Not applicable to this project.
FW-STD-E&M-08	Within the NCDE primary conservation area, new leases for leasable minerals shall include a no surface occupancy stipulation (see glossary).	Not applicable to this project.
FW-STD-GR-01	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), new or reauthorized livestock grazing permits and annual operating plans shall incorporate requirements to reduce the risk of grizzly bear-human conflicts (e.g., food/wildlife attractant storage special order). New or reauthorized permits shall include a clause providing for modification, cancellation, suspension, or temporary cessation of activities, if needed, to resolve a grizzly bear-human conflict situation.	Not applicable to this project.
FW-STD-GR-02	Within the NCDE primary conservation area and zone 1, a sheep grazing permit in non-use status shall not be allowed to increase allowable animal unit months beyond what was previously permitted prior to being in non-use when it is returned to use. Note: The Flathead National Forest does not have any sheep allotments.	Not applicable to this project.
FW-STD-GR-03	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), permits for livestock grazing shall include a provision that requires reporting livestock carcasses within 24 hours of discovery, which shall be followed by proper disposal of the carcass. Boneyards shall not be established on NFS lands.	Not applicable to this project.
FW-STD-GR-04	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), there shall be no net increase in the number of active sheep allotments on NFS lands. Note: The Flathead National Forest does not have any sheep allotments.	Not applicable to this project.
FW-STD-GR-05	Within the NCDE primary conservation area, there shall be no increase in the number of active cattle grazing allotments above the baseline (see glossary) on NFS lands. Note: Existing allotments may be combined or divided as long as that does not result in grazing allotments in currently unallotted lands.	Not applicable to this project.
FW-STD-GR-06	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), temporary permits for grazing by small livestock for purposes such as controlling invasive exotic weeds or reducing fire risk, or for trailing of small livestock across NFS lands, shall not result in an increase in bear-small livestock conflicts.	Not applicable to this project.
GA-SM-STD-01	Within the Flathead National Forest portion of NCDE zone 1 <i>outside</i> the Salish demographic connectivity area (see figure B-10), there shall be no net increase above the baseline (see glossary) in the density of roads open to public motorized use on NFS lands. <i>Inside</i> the Salish demographic connectivity area, there shall be no net increase above the baseline (see glossary) in the density of roads and trails open to public motorized use during the non-denning season on NFS lands. Density is calculated by dividing the total miles open to public motorized use on NFS lands during the non-denning season, by the total square miles of NFS lands in that same area. This standard does not apply to the following: • motorized use by agency personnel or others authorized by the appropriate agency personnel; • the temporary opening of a road for a short period of time to allow for public firewood gathering and other authorized uses (see also standard FW-STD-IFS-04); • updated/improved road data without an actual change on the ground;	This project would not change roads open to public motorized use. This project is not in the Salish demographic connectivity area.

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	• changes in technology or projections that result in changed calculations without actual changes on the ground (e.g., a switch in geodetic systems from the North American Datum of 1927 to the North American Datum of 1983); • moving a road closure location a short distance (e.g., to the nearest intersection or turnout) to a better location to allow turn-arounds that provide for public safety, to reduce vandalism, or to improve enforcement of the road closure; • exchanging, acquiring, buying, or selling lands by the agency; • a change in an open road that is necessary to comply with Federal laws (e.g., the Architectural Barriers Act of 1968, as amended); • motorized use for mining activities (as authorized under the Mining Law of 1872) and oil and gas activities (as authorized under the Federal Onshore Oil and Gas Leasing Reform Act of 1987) because these types of permitted resource development are subject to existing rights and have a separate set of standards and guidelines; • a change in an open road that is necessary to address grizzly bear-human conflicts, human safety concerns, or resource damage or concerns (e.g., a road paralleling a stream may be decommissioned and replaced by a new upslope road to reduce water quality impacts); • motorized use for emergency situations as defined by 36 CFR § 215.2; • temporary roads (see glossary).	
FW-GDL-TE&V-01	Within the NCDE primary conservation area, measures to reduce the risk of disturbance to the grizzly bear population should be incorporated into vegetation and fuels project design criteria, which vary on a site-specific basis (e.g., some activities should be restricted in spring habitat during the spring time period; areas with low levels of human activity should be provided adjacent to areas with high levels of disturbance). Note: Management activities such as pre-commercial thinning, burning, weed spraying, and implementation of road best management practices may need to be completed during the spring time period in order to meet resource objectives (especially if needed to prevent resource damage), in which case other measures should be used to reduce the risk of disturbance (e.g., limiting the duration of the activity or limiting the use of closed roads).	Design features reduce the risk of disturbance to grizzlies, such as restricting most activities in the spring.
FW-GDL-TE&V-02	Within the NCDE primary conservation area, vegetation management activities should be designed to avoid detrimental effects on the grizzly bear population and to include one or more measures to protect, maintain, increase, and/or improve grizzly habitat quantity or quality (e.g., promoting growth of berry-producing shrubs, forbs, or grasses known to be bear foods) in areas where it would not increase the risk of grizzly bear-human conflicts.	Vegetation management will enhance berry-producing shrubs, forbs, and grasses known to be bear foods.
FW-GDL-TE&V-03	Within the NCDE primary conservation area, measures to retain cover (where present) along a portion of grass/forb/shrub openings, riparian wildlife habitat, or wetlands should be incorporated in project design criteria (this varies on a site-specific basis).	Cover would be retained along a portion of openings and visual screening would be maintained along perimeter of regeneration units located along roads open to public access where feasible.
FW-GDL-TE&V-04	Within the NCDE primary conservation area, vegetation management projects (including timber sales and other non-commercial vegetation management contracts) should include a provision providing for modification, cancellation, suspension, or temporary cessation of activities, if needed, to resolve grizzly bear-human conflict situations.	Project design feature specifies that activities will be modified, cancelled, suspended, or temporarily ceased if needed to resolve a grizzly bear-human conflict situation.
FW-GDL-TE&V-05	To reduce the risk of grizzly-bear human conflicts within the NCDE primary conservation area, vegetation management activities designed to enhance grizzly habitat (e.g., to increase huckleberry production) should not occur in or next to campgrounds, administrative facilities, or other developed recreation sites that operate during the non-denning season.	Enhancement of grizzly bear habitat would not occur in or next to these sites.
FW-GDL-WL-01	Within the NCDE primary conservation area, zone 1 (including the Salish demographic connectivity area), contractors, permittees, lessees, operators, and their employees should be informed of procedures for safely working and recreating in grizzly bear country and of food/wildlife attractant storage special order(s) prior to turn-out of livestock or beginning work and annually thereafter, in order to reduce the risk of grizzly bear-human conflicts.	This would be required as stipulated in a design feature.
FW-GDL-WL-02	Within the NCDE primary conservation area, zone 1 (including the Salish demographic connectivity area), if a contractor, permittee, lessee, operator, or their employee elects to camp on NFS lands other than in a developed recreation site, the site should be evaluated and written authorization (i.e., a campsite agreement that includes the food/attractant storage special order) should be provided before the campsite is established. The purpose is to reduce the risk of grizzly bear-human conflicts.	This would be required as stipulated in a design feature.

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FW-GDL-WL-03	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), clover should not be used in seed mixes on NFS lands. Native seed mixes or those that are less palatable to grizzly bears should be used so that seeded areas do not become an attractant.	The approved seed mix does not include bear attractants.
FW-GDL-REC-01	Within the NCDE primary conservation area, if the number or capacity of day use or overnight developed recreation sites is increased, the project should include one or more measures to reduce the risk of grizzly-bear human conflicts in that bear management unit. The measure(s) should be in place prior to completion of the project or be included as one of the project design criteria. Measures can include but are not limited to additional public information and education; providing backcountry food-hanging poles or bear-resistant food or garbage storage devices; project design criteria that would limit capacity increases to those needed for public health and safety; and increasing law enforcement and patrols.	This project would not change the number or capacity of day use or overnight developed sites.
FW-GDL-IFS-015	When designing, constructing, or reconstructing system trails, information on how to avoid and respond to bear-human encounters should be posted at trailheads. In addition, site-specific trail design should include one or more methods to limit the risk of bear-human conflicts such as, but not limited to, • locating trails outside of riparian management zones or avalanche chutes unless it is necessary to cross or to access an existing developed recreation site, and • designing and/or maintaining trails to increase sight distance and/or to address speed of travel consistent with site-specific conditions for the managed use of the trail.	Trails will be located, designed, constructed and maintained to reduce the likelihood of human/bear conflict. These may include increased vegetation clearing to increase sight distance, layout and design to reduce speed, particularly for mountain bikes, and locations outside of concentrations of known preferred food sources. In addition, information on how to avoid and respond to bear-human encounters would be posted at trailheads.
FW-GDL-LSU-01	Special use authorizations in the primary conservation area should have permit requirements to help reduce or limit the risk of grizzly bear-human conflicts.	Several design features would help reduce or limit the risk of conflicts.
FW-GDL-IFS-01	T&C: The Forest Service shall comply with guideline FW-GDL-IFS-01 and FW-GDL-IFS-02 in the Flathead Forest Plan. If projects will be unable to comply with the above guidelines, the Forest Service shall contact the Service immediately to determine further consultation needs. In each bear management subunit within the NCDE primary conservation area, each project (as defined by “project (in grizzly bear habitat in the NCDE)” in the glossary) should be designed so that on-the-ground implementation does not exceed 5 years to reduce the potential of grizzly bears being disturbed or displaced. Exceptions may be made where necessary to accommodate, for example, • actions where existing rights preclude or constrain agency discretion (e.g., certain contracts, permits, leases); • prescribed burning (including slash disposal), best management practices to protect water quality, or required reforestation activities; or • emergency situations as defined by 36 CFR § 218.21. If an extension to the five-year time limitation is required (e.g., to meet contractual obligations or to complete on-the-ground treatments), the reasons should be documented in writing prior to authorization of the extension.	To reduce the potential for disturbance or displacement of grizzly bears, on-the-ground implementation of the project would not exceed five years except as specified.
FW-GDL-IFS-02	BO T&C for FNF’s Revised LMP -- The Forest Service shall comply with guideline FW-GDL-IFS-01 and FW-GDL-IFS-02 in the Flathead Forest Plan. If projects will be unable to comply with the above guidelines, the Forest Service shall contact the Service immediately to determine further consultation needs. Within the NCDE primary conservation area, levels of secure core, open motorized route density, and total motorized route density should be restored to pre-project levels (as defined by “project (in grizzly bear habitat in the NCDE)” in the glossary) within one year after completion of the project in order to reduce the duration of grizzly bear displacement or disturbance due to project-related activities. Exceptions may be made where necessary to accommodate, for example, • actions where existing rights preclude or constrain agency discretion (e.g., certain contracts, permits, leases); • prescribed burning (including slash disposal), best management practices to protect water quality, and required reforestation activities; and • emergency situations as defined by 36 CFR § 215.2. If an extension to the one-year time limitation is made (e.g., to meet contractual obligations or to complete on-the-ground treatments), the reasons should be documented in writing prior to authorization of the extension.	OMRD, TMRD, and secure core values would be restored to pre-project levels within 1 year of project completion. Grizzly bear secure core would not be affected by this proposal.

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FW-GDL-E&M-01	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), in addition to forestwide guidelines, the following guidelines apply to new leasable minerals activities including leases, surface use plans for proposed wells or operations, or permits to conduct seismic exploration or drilling. To reduce potential grizzly bear disturbance or displacement, helicopter use plans should: • avoid establishing recurring helicopter use (see glossary), especially in spring habitats or other known important grizzly bear habitats or use areas; • avoid establishing landing zones, especially in spring habitats or other known important grizzly bear habitats or use areas. If a landing zone is deemed necessary for safe implementation of the seismic or surface use plan or permit to drill, the landing zone should be constructed only in an area that has had site-specific analysis and approval.	Not applicable to this project.
FW-GDL-E&M-02	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), leasable energy activities should use the best available noise-reduction technology on equipment and motorized vehicles to reduce potential disturbance or displacement of grizzly bears, whenever possible.	Not applicable to this project.
FW-GDL-E&M-03	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), along motorized routes, seismic corridors, and pipelines constructed for leasable energy activities, wildlife cover should be maintained at regular intervals, where available (this varies on a site-specific basis) in order to provide habitat connectivity for grizzly bears.	Not applicable to this project.
FW-GDL-E&M-04	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), for locatable and non-energy leasable minerals activities with the potential to adversely affect the grizzly bear or its habitat, the following tiered measures should be used to mitigate impacts to grizzly bear habitat. Beginning at step 1, any subsequent steps would be implemented only if the prior steps are not possible or achievable. • Step 1: The operator should reclaim the affected area back to suitable bear habitat that has similar or improved characteristics and qualities compared to the original habitat (such as the same native vegetation). • Step 2: If step 1 is not attainable, operators should either acquire a perpetual conservation easement (or easements) or purchase comparable or better replacement grizzly bear habitat within the primary conservation area. Acquisition of habitat within connectivity corridors could also be considered for mitigation, when appropriate. Habitat acquired for mitigation may require a purchase rate of > 1:1 on an acreage basis, depending on the quality of habitat degraded and the habitat available for acquisition. • Step 3: If steps 1 or 2 are not achievable, the next option is to offset negative effects to bears and grizzly bear habitat with other appropriate types of actions.	Not applicable to this project.
FW-GDL-E&M-05	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), carrying bear spray should be recommended to mineral permittees, lessees, and operators to reduce the risk of grizzly bear-human conflicts.	Not applicable to this project.
FW-GDL-E&M-06	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), available resources at existing gravel pits should be used before constructing new pits to reduce the risk of grizzly bear disturbance or displacement associated with blasting of rock or crushing of gravel.	Not applicable to this project.
FW-GDL-E&M-07	To protect water quality and inland native fish habitat, wildlife and other riparian-associated resources, mineral operations should not be authorized in riparian management zones. If the riparian management zone cannot be avoided, the authorization should include measures to maintain, protect, and rehabilitate fish and wildlife habitat that may be affected by the operations.	Not applicable to this project.
FW-GDL-GR-02	Within the NCDE primary conservation area, an allotment management plan and plan of operations should specify any needed measures to protect key grizzly bear food production areas (e.g., wet meadows, stream bottoms, aspen groves, and other riparian wildlife habitats) from conflicting and competing use by livestock (this varies on a site-specific basis).	Not applicable to this project.
GA-SM-MA7-Big Mtn GDL-01	To reduce grizzly bear-human conflicts at the Whitefish Mountain Resort during the non-denning season, existing mitigation measures for grizzly bears regarding food and garbage handling, odor control, and grizzly bear education at the Summit House should be retained.	Existing mitigation measures for grizzly bears regarding food and garbage handling, odor control, and grizzly bear education at the Summit House would continue.

Identifier	Plan Components and Terms and Conditions Specific to GRIZZLY BEARS	Project Compliance
FW-DC-TE&V-01	Within the NCDE primary conservation area, the amount, type, and distribution of vegetation provides for the ecological, social, and economic sustainability of NFS lands while also providing habitat components that contribute to sustaining the recovery of the grizzly bear population in the NCDE. See also FW-DC-WL-02.	NFS lands continue to contribute to grizzly bear recovery.
FW-DC-TE&V-02	Within the NCDE primary conservation area, there is a mosaic of successional stages to provide for grizzly bear habitat needs over the long term.	A mosaic of successional stages continues to provide for grizzly bear habitat needs.
FW-DC-WL-01	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area; see figure B-10), bear attractants on NFS lands are stored in a manner that reduces the risk of grizzly bear-human conflicts in the NCDE	Food/wildlife attractant storage special order(s) are in place and applicable to all users across the Flathead National Forest.
FW-DC-WL-02	Within the NCDE primary conservation area and zone 1 (including the Salish demographic connectivity area), grizzly bear habitat on NFS lands contributes to sustaining recovery of the grizzly bear population in the NCDE and contributes to connectivity with neighboring grizzly bear recovery zones.	Habitat on NFS lands contributes to sustaining recovery of the grizzly bear population and connectivity with neighboring recovery zones.
FW-DC-WL-03	The risk of bear-human conflicts is reduced by information, education, and design features or criteria for management activities.	The risk of bear-human conflicts is reduced through several design features.
FW-DC-IFS-01	Within the NCDE primary conservation area, motorized access provides for multiple uses (such as harvesting of timber and non-timber forest products; hunting, fishing, and recreation opportunities) on NFS lands and also provides open motorized route density, total motorized route density, and secure core levels that contribute to sustaining the recovery of the grizzly bear population in the NCDE.	Motorized road access levels continue to contribute to grizzly bear recovery.
FW-DC-OF-01	Provide a variety of public services and special forest products (such as mushrooms, huckleberries, firewood) from NFS lands while minimizing the risk of grizzly bear-human conflicts on NFS lands in the NCDE.	NFS lands provide a variety of services and products while minimizing conflicts.
FW-DC-GR-01	Within the NCDE primary conservation area, the number, capacity of, and improvements on livestock grazing allotments support ecologically sustainable grazing, and temporary grazing permits are used effectively for management of noxious weeds, while minimizing the risk of bear-human conflicts on NFS lands.	Not applicable to this project.
FW-DC-REC-01	Within the NCDE primary conservation area, the number, capacity, and improvements of developed recreation sites (NCDE definition) provide for user comfort and safety while minimizing the risk of grizzly bear-human conflicts on NFS lands.	Improvements at the developed recreation site in the Holbrook area is outside the NCDE, but would still include measures for minimizing grizzly bear-human conflicts.
FW-DC-REC-02	Within each bear management unit in the primary conservation area, increases in the number and capacity of developed recreation sites (NCDE definition) on NFS lands that are designed and managed for overnight use during the non-denning season are at levels that contribute to sustaining the recovery of the grizzly bear population in the NCDE.	This project does not include changes or additions to developed recreation sites designed for overnight use.
FW-DC-REC-06	Bear-human conflicts are minimized through proper food and garbage storage; food and garbage is unavailable to bears. Trailheads and Web-based information that reaches visitors prior to their arrival on the Forest provide education and information on recreating in bear country—especially activities that may cause sudden encounters with bears.	Several design features reduce the risk of bears getting food rewards. Information on how to avoid and respond to bear-human encounters would be posted at trailheads
FW-DC-REC-22	The amount and distribution of motorized over-snow vehicle use does not have demonstrated adverse effects to maternal denning of wolverines or female grizzly bears with cubs during the den emergence time period.	This project would not change the amount or distribution of motorized oversnow use.
GA-SM-DC-01	Within the Flathead National Forest portion of NCDE zone 1 (including the Salish demographic connectivity area) (see figure B-10), roads and trails provide for public and administrative access to NFS lands. Grizzly bear habitat in zone 1 contributes to sustaining recovery of the grizzly bear population in the NCDE. The demographic connectivity area provides habitat that can be used by female grizzly bears and allows for bear movement between grizzly bear ecosystems.	Not applicable to this project.
GA-SM-DC-02	Outside the NCDE primary conservation area and the Salish demographic connectivity area, motorized trails (single-track or off-highway vehicles) provide high-elevation loop opportunities.	Not applicable to this project.
GA-SM-DC-03	In areas between the primary conservation area and the Salish demographic connectivity area, NFS lands are consolidated and conservation easements with willing landowners are supported in a manner that provides habitat connectivity and facilitates movement of wildlife. National Forest System lands in the Swift Creek-Stillwater connectivity area (see figure B-30) provide habitat connectivity for wide-ranging wildlife species (e.g., grizzly bear, Canada lynx, elk) moving between the Whitefish and Salish Mountain Ranges.	The project is in the Swift Creek-Stillwater connectivity area, which will continue to provide habitat connectivity for wide-ranging wildlife species moving between the Whitefish and Salish Mountain Ranges.

Identifier	Plan Components and Terms and Conditions Specific to GRIZZLY BEARS	Project Compliance
GA-SM-MA7-Big Mtn-DC-04	Year-round recreational opportunities in an alpine setting exist at the Whitefish Mountain Resort on Big Mountain. Winter recreation opportunities occur in all portions of the Whitefish Mountain Resort permit area. During the grizzly bear non-denning season, developed recreation opportunities are provided on the south-facing slope in the Whitefish Mountain Resort permit area. The portion of the upper Hellroaring watershed below Taylor Creek Road (NFS Road 9790) provides higher levels of grizzly bear habitat security.	This project would not affect recreation associated with Whitefish Mountain Resort. The Hellroaring drainage would continue to provide habitat security for grizzlies during the non-denning season even though its effectiveness would be slightly reduced by the reduction of hiding cover and a possible increase in huckleberry picking and other human uses resulting indirectly from the reduction in conifer cover.
GA-SM-MA7-Big Mtn-DC-06	A connective nonmotorized trail system exists linking the Whitefish Legacy Trails to NFS lands near the summit of Big Mountain and the Whitefish Divide. New trails are designed and located to reduce the risk of grizzly bear-human conflicts.	This project proposes to add to this nonmotorized trail system. Design features would reduce risks of conflicts between trail users and bears.
FW-OBJ-REC-02	Provide bear-resistant food storage devices at developed campgrounds.	Not applicable to this project.

RELEVANT 2018 FNF LMP GLOSSARY ENTRIES

Cover The elements of the environment used by an animal for hiding. Cover varies on a site-specific basis and depends on the species or the time of year. Cover may include topography as well as a variety of vegetation types (e.g., shrubs, dead trees, and live trees). The amount and quality of cover needed depends on the animal's size, mobility, and reluctance or willingness to venture into relatively open areas.

Den emergence time period The time period in the spring when a grizzly bear emerges from its den and remains in the vicinity before moving to lower elevations. The den emergence time period occurs at the beginning of the non-denning season. Females with cubs usually emerge later and spend more time (a few days to a few weeks) near the den after emergence than do male bears. [NCDE]

Denning season The typical time period, within the Northern Continental Divide Ecosystem, during which most grizzly bears are hibernating in dens. There are no restrictions on motorized use related to grizzly bears during the denning season, which occurs

- West of the Continental Divide: from 1 December through 31 March.
- East of the Continental Divide: from 1 December through 15 April. [NCDE]

Maintain (ecological context) To keep in existence or continuance of the desired ecological condition in terms of its desired composition, structure, and processes. Depending upon the circumstances, ecological conditions may be maintained by active or passive management or both. Maintain does not mean to keep the status quo.

Non-denning season The time period when grizzly bears typically are not hibernating:

- West side of the Continental Divide: from 1 April through 30 November.
- East side of the Continental Divide: from 16 April through 30 November. [NCDE]

Primary conservation area An area identified in the Northern Continental Divide Ecosystem Grizzly Bear Conservation Strategy to be managed as a source area for the grizzly bear population where continuous occupancy by grizzly bears would be maintained. Habitat within the primary conservation area would receive the most stringent protection. The primary conservation area is the same area as the Northern Continental Divide Ecosystem's grizzly bear recovery zone identified in the draft Grizzly Bear Recovery Plan (USFWS, 1993).

Project (in grizzly bear habitat in the Northern Continental Divide Ecosystem) For purposes of the motorized access standards and guidelines in the primary conservation area of the Northern Continental Divide Ecosystem, refers to any temporary activity requiring construction of new roads, temporary roads, reconstruction or opening of restricted roads during the non-denning season, if such use exceeds administrative use levels (see administrative use). Activities involving recurring helicopter use (see recurring helicopter use) are also considered to be a project. [NCDE]

Recurring helicopter use A type of helicopter flight that involves multiple trips/passes each day consisting of low-altitude (< 500 meters above ground level) flights that continue for a duration longer than 48 consecutive hours. [NCDE]

U.S. Department of Interior, Fish and Wildlife Service

Record of Decision

**Proposed Issuance of a Permit to Montana Department of Natural Resources
Conservation, Authorizing Incidental Take of Endangered and Threatened Species
on Forested Trust Lands in Western Montana**

RESPONSIBLE OFFICIAL:

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This Record of Decision and all associated supporting documents, including the Draft and Final Environmental Impact Statement and Endangered Species Act Section 7 Biological Opinion, are available for public review on the Service's Montana Field Office website at:

http://www.fws.gov/montanafieldoffice/Endangered_Species/Habitat_Conservation_Plans.html

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APPENDIX A – Comments and Responses to the Final EIS/HCP

APPENDIX B – Findings and Recommendations on Issuance of an Incidental Take
Permit TE-60208A-0 to Montana Department of Natural Resources
Conservation for Their Habitat Conservation Plan for Forested State Trust
Lands of Western Montana

ACRONYMS AND ABBREVIATIONS

ARMs	Administrative Rules of Montana for Forest Management (36.11.401-456)
BLM	Bureau of Land Management
BMP	Best Management Practice
CO ₂	Carbon Dioxide
CYE	Cabinet-Yaak Ecosystem
DNRC	Montana Department of Natural Resources and Conservation
EIS	Environmental Impact Statement
ESA	Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)
FR	Federal Register
HCP	Habitat Conservation Plan
LMA	Lynx Management Area
LWD	Large Woody Debris
MDEQ	Montana Department of Environmental Quality
MEIC	Montana Environmental Information Center
MEP	Maximum Extent Practicable
MEPA	Montana Environmental Policy Act
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NRDC	Natural Resources Defense Council
NROH	Non-Recovery Occupied Habitat (grizzly bears)
PA	Programmatic Agreement
Permit	Incidental Take Permit
RBT	Columbia River (interior) Redband Trout
RMZ	Riparian Management Zone
ROD	Record Of Decision
Service (in text)	U.S. Fish and Wildlife Service
SMZ	Streamside Management Zone
SPTH	Site Potential Tree Height
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
USFS	U.S. Forest Service
USFWS (references)	U.S. Fish and Wildlife Service
WCT	Westslope Cutthroat Trout

I. PURPOSE AND NEED FOR ACTION

This Record of Decision (ROD) was developed by the U.S. Fish and Wildlife Service (Service/USFWS) in compliance with the agency decision-making requirements of the National Environmental Policy Act (NEPA) of 1969, as amended Department of the Interior's NEPA regulations (43 CFR Part 46). The purpose of this ROD is to document our decision, in response to an application for an incidental take permit (Permit) under the Endangered Species Act of 1973, as amended (ESA), based on the submission of the Habitat Conservation Plan (HCP), and other associated documents, by the Montana Department of Natural Resources Conservation (DNRC).

This ROD:

- 1) Presents our decision and the rationale for our decision;
- 2) Identifies the alternatives considered in the final Environmental Impact Statement (EIS) in reaching the decision, and identifies the environmentally preferred alternative; and,
- 3) States whether all means to avoid or minimize environmental harm from implementation of the selected alternative have been adopted.

Our responses to the public comments on the Final EIS/HCP are in Appendix A. Our analyses for determining if the ESA Section 10(a)(1)(B) issuance criteria for Permit issuance have been met are in the *Findings and Recommendations on Issuance of an Incidental Take Permit (TE-60208A-0) to Montana Department of Natural Resources Conservation for Their Habitat Conservation Plan for Forested State Trust Lands of Western Montana* (Findings) in Appendix B.

II. PROJECT DESCRIPTION

Service's Action

The purpose of our proposed action is to respond to DNRC's Permit application. The Permit application includes submission of an HCP which outlines the measures DNRC will implement to minimize and mitigate the potential effects of incidental take of three listed species and two unlisted species, should they be listed, as a result of implementation of its forest management program. The need for this action is to provide broader protection and conservation for listed species than currently provided under DNRC Forest Management Administrative Rules of Montana (ARMs) (existing practices) while providing for long-term management of forest resources on forested State trust lands.

In responding to DNRC's Permit application, we also must comply with NEPA. To this end, NEPA requires disclosure of the environmental effects for major Federal actions significantly affecting the quality of the human environment. Issuance of the Permit is a major Federal action that must comply with NEPA. We evaluated the effects of our action (Permit issuance) on the natural, physical, and social environment.

Specific Project Description

The DNRC submitted an application for a 50-year Permit for incidental take of listed species occurring on forested State trust lands. These lands are managed by the Trust Lands Management Division, whose mission is to manage trust land resources to produce revenues for the trust beneficiaries while considering environmental factors and protecting the future income-generating capacity of the land.

Under its forest management program, the Trust Land Management Division generates revenues for trust beneficiaries through timber harvest on forested trust lands. DNRC's forest management actions are governed by the Forest Management ARMs (36.11.401 through 456), and other applicable rules and laws. The ARMs identify DNRC's management philosophy, provide regulatory sideboards for the design of timber harvests, and present DNRC's policy for the protection of habitat for terrestrial and aquatic species. Because forested trust lands support federally listed threatened species, the ARMs also identify habitat mitigation measures to address the needs of listed species. The DNRC elected to address the needs of listed species through the HCP process authorized under Section 10 of the ESA.

The primary elements of the HCP are described in the subsections below.

HCP Species

DNRC's Permit application and HCP cover three species listed as threatened under the ESA: the grizzly bear (*Ursus arctos horribilis*), Canada lynx (*Lynx canadensis*), and bull trout (*Salvelinus confluentus*). Additionally, the HCP covers two unlisted species should these species become listed during the Permit term: westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) and Columbia River (interior) redband trout¹ (*Oncorhynchus mykiss gairdneri*). These species are herein referred to as WCT and RBT, respectively.

The occurrence and habitat availability for the HCP species on the covered lands are described below in detail as well as in the Final EIS, Chapter 4 and Final HCP, Chapter 2.

Covered Lands

The covered lands, HCP project area, include 548,500 acres of trust lands within three DNRC land offices (Final EIS/HCP, Figure ES-1), the Northwestern Land Office, Southwestern Land Office, and Central Land Office. The HCP project area occurs on both blocked and scattered parcels across the three land offices. Blocked lands refer to the two large, mostly contiguous blocks of DNRC ownership, specifically identified as the Stillwater and Coal Creek State Forests (the Stillwater Block) and the Swan River State Forest. Scattered parcels refer to all other HCP project area lands outside of blocked lands (Final EIS/HCP, Figure ES-1). Scattered parcels are typically less than or equal to one square mile in size (640 acres) and are often surrounded by a matrix of other ownerships, including private lands, private industrial forest lands, National Forest lands, Bureau of Land Management (BLM) lands, other State lands, and Tribal lands. Covered lands may change over time as described in the Transition Lands Strategy in Chapter 3 of the Final HCP.

Covered Activities

The HCP covers forest management activities on forested trust lands including:

- **Timber harvest.** Timber harvest activities include commercial timber harvest, salvage harvest, and silvicultural treatments such as thinning, as well as field surveys and timber sale layout, data collection, and monitoring.

¹ The interior redband trout also is commonly known as the Columbia River redband trout, Columbia redband trout, redband trout, and Columbia River interior redband trout.

- **Other forest management activities.** Other activities to support forest management include slash disposal, prescribed burning, site preparation, reforestation, forest inventory, and access to forested lands for weed control.
- **Roads.** Road activities include forest management road construction, reconstruction, maintenance, use, and associated gravel quarrying for forest road surface materials, as well as installation, removal, and replacement of stream crossing structures.
- **Grazing.** Grazing activities include grazing licenses on classified forested trust lands.

Overview of the HCP Commitments

The HCP includes conservation strategies for the grizzly bear, lynx, and HCP aquatic species (bull trout, WCT, and RBT) that are described in detail in the Final HCP, Chapter 2. A rigorous compliance monitoring and reporting program is part of the HCP and it is described in the Final HCP, Chapter 4. The program includes annual updates and 5-year reports on the status of HCP implementation. Chapter 4 of the HCP also addresses the adaptive management program. The chapter describes how we and DNRC will evaluate uncertainties in the HCP to ensure that the conservation commitments are being implemented adequately and how we are meeting the goals and objectives of the HCP. The program identifies monitoring and thresholds to assist in determining if and when it is necessary to adjust the HCP commitments to meet objectives or to respond to monitoring, evaluation or research results. The HCP transition lands strategy, which allows for the addition to and the removal of lands from the HCP project area, is described in the Final HCP, Chapter 3. The HCP also describes a process to address changed circumstances such as natural disturbances and changes in species status as well as climate change over the Permit term.

The primary goals of the HCP species conservation strategies and major commitments are described below for each species.

Grizzly Bear Strategy

The goal of the grizzly bear strategy is to support Federal recovery efforts on adjacent National Forest lands by providing important seasonal habitat and limitations on covered activities affecting bears within those habitats. Some of the measures for accomplishing this include applying conservation commitments across a greater geographic area within DNRC's forested trust lands than where they are applied now, and increasing the level of conservation based on the importance of that habitat for bears (e.g., more commitments in recovery zones); minimizing disturbance and displacement of grizzly bears from human activities; providing for seasonal habitat use and security; and designing timber sales and applying silvicultural prescriptions to maintain important habitat features, including den sites, avalanche chutes, lush riparian zones, and locations that produce high volumes of forage.

Lynx Strategy

The goal of the lynx conservation commitments is to support Federal lynx recovery efforts on adjacent National Forest and BLM lands by maintaining important habitat elements for lynx and their prey at both the landscape and site-specific scales, particularly in key locations for resident populations. This goal is primarily achieved through commitments to maintain specific amounts of suitable lynx habitat and foraging habitat in the HCP project area and manage for vegetation structure and habitat elements important for lynx and their prey.

Aquatic Strategy

The goal of the aquatic strategy is to protect the HCP aquatic species and contribute to habitat restoration or rehabilitation in areas affected by past DNRC forest management activities. The conservation commitments were developed to manage and maintain suitable stream temperature regimes, in-stream sedimentation levels, in-stream habitat complexity, and stream channel stability. In addition, the commitments were designed to improve connectivity among sub-populations of the HCP species where appropriate on HCP project area lands. The strategy goal is expected to be achieved by applying land management prescriptions on a project-by-project basis to maintain healthy habitats while, improving road inventory procedures, correcting problem sediment sites, and improving fish passage.

Corrections and Changes Since Publication of the Final EIS/HCP

The Final EIS was modified in light of public comment on the Draft EIS/HCP. These changes are discussed in the Preface section of the Final EIS and shown throughout the document. Additionally, since publication of the Final HCP, a few corrections have been made. None of these corrections requires changes in the Final EIS analysis. These corrections include the following:

1. Replacing the term “abandoned” road with “reclaimed” road where applicable.
2. Correction of Table 2-2 in the Final HCP, and associated text on pages 2-22 and 2-23 describing changes in road miles by road class under the Stillwater Transportation Plan.

Correction 1

In its draft HCP, DNRC indicated that the future condition of roads may include abandoned or reclaimed roads. In the final HCP, the term “abandoned” was replaced with “reclaimed” to demonstrate DNRC’s intention to reclaim roads such that all drainage structures are removed, thereby avoiding or reducing future maintenance needs. This change, made between Draft and Final HCP, better addresses potential long-term future management needs of such roads, because abandoned roads retain drainage structures that may become maintenance issues in the future. All terms in the HCP were revised accordingly except for commitment GB-ST1 Transportation management, item (3) which was missed. The commitment has since been edited and now reads:

In addition to the permanent roads identified in the transportation plan, DNRC may maintain up to 8 miles of temporary roads at any one time. These roads will be built to a minimum standard and ~~abandoned~~ or reclaimed within one operating season following completion of project-related activity.

This correction in the language associated with future conditions of roads also warranted a revision to the definition of temporary roads, which was missed in the revisions to the Final HCP. The definition of temporary road now reads as follows:

A low-standard road that is used for forest management which, following use, is treated in such a manner so as to no longer function as an open road, restricted road, or trail. Following their temporary usage, they may no longer be accessed for commercial, administrative, or public motorized use. Temporary roads will be reclaimed after use and drainage structures may or may not will be removed. Applicable best management practices would be implemented on these roads.

Correction 2

In the Final HCP, Table 2-2 indicated that some roads would be subject to both spring and fall use restrictions by DNRC. However, this was an error and has been corrected to show that DNRC use would be restricted in the spring only. The revised Table 2-2 is provided below. The associated figure depicting road status under the HCP also has been revised and is included as Figure 1. The description of these changes and the potential effects on grizzly bears is provided in the Final HCP, pages 2-22 and 2-23, and revised as shown below:

Restriction allocations to proposed and existing road miles under the HCP reflect DNRC commitments to grizzly bear security in the Stillwater Block. All permanent routes needed but not yet constructed (19.3 miles) would be closed to the public year-round. There would be a ~~15-16%~~ reduction (~~18.3~~19.5 miles) in existing road miles open year-round to all activity categories (road class 190). This ~~18.3~~19.5 miles is in addition to approximately ~~107.2~~ 102.4 miles of existing road currently closed year-round to the public yet open year-round to commercial ~~and~~ DNRC forest management activities (road classes 120, 121) that would be managed and distributed across other road classes that would restrict DNRC from conducting commercial forest management offer grizzly bears greater protection during the spring period (April 1 to June 30)~~and/or the fall period (September 16 to November 30)~~, thereby reducing risk of displacement and conflicts with bears. As a part of this redistribution of road miles, an additional 47.6 miles would become seasonally available to the public in summer to access several popular destination points (road classes 130, 131). Summer tends to be the period when there is a broad range of foods and habitats available to grizzly bears.

FINAL HCP TABLE 2-2 REVISED

Road miles by road class, activity category, and restriction type for the Stillwater Block under current management strategies and estimated under the proposed HCP.

ROAD CLASS*	ACTIVITY CATEGORY			ROAD MILES	
	Motorized Public Access	Commercial Forest Mgmt Activity	DNRC Low Intensity Forest Mgmt Activity	Current	Proposed HCP
Existing Roads	Restriction Type				
Open (Hwy/Cnty)–170	Open Year-Round	Open Year-Round	Open Year-Round	1.9	1.9
Open (Forest Road)–190	Open Year-Round	Open Year-Round	Open Year-Round	123.4	103.9
Restricted–130	Restricted Spring	Restricted Spring	Open Year-Round	6.4**	25.7**
				–	19.2
Restricted–131	Restricted Spring/Fall	Restricted Spring	Restricted Spring	–	5.1**
				–	5.0***
Restricted–120, 121	Closed Year-Round	Open Year-Round	Open Year-Round	229.3	126.9
Restricted–127, 128	Closed Year-Round	Restricted Spring	Open Year-Round	–	55.6
Restricted–125, 126	Closed Year-Round	Restricted Spring	Restricted Spring	–	17.5
			Subtotal	361.0	360.9
Proposed Roads	Restriction Type				
Proposed–021	Closed Year-Round	Open Year-Round	Open Year-Round	–	12.4
Proposed–027	Closed Year-Round	Restricted Spring	Open Year-Round	–	2.6
Proposed–025	Closed Year-Round	Restricted Spring	Restricted Spring	–	4.3
			Subtotal	0.0	19.3
			TOTAL	361.0	380.2

* Road classes are those used in the DNRC road database and are shown in this table for organizational purposes only.

** Public Spring Restrictions: April 1—June 30.

*** Public Spring/Fall Restrictions: April 1—June 30 AND September 16—November 30.

Change 1 C Riparian Timber Harvest

Subsequent to the issuance of the Final EIS/HCP, DNRC determined that some of the poorer growing riparian sites adjacent to Class 1 streams and lakes could have Site Potential Tree Heights (SPTHs) of approximately 50 feet, which is the width of the no-harvest buffer. Therefore, DNRC will impose a minimum 80-foot RMZ adjacent to Class 1 lakes and streams, no matter the SPTH. This will provide an additional 30-foot buffer adjacent to all no-harvest buffers. This change is reflected in a revision to the HCP Commitment AQ-RM1:

“AQ-RM1 (1): DNRC will establish a riparian management zone with a minimum width equal to the 100-year site index tree height (or 80 feet, whichever is greater) for timber harvests immediately adjacent to Class 1 lakes and streams. The 100-year site index tree height will be determined.....or regionally developed site index curves.”

Change 2C Swan River State Forest Landownership

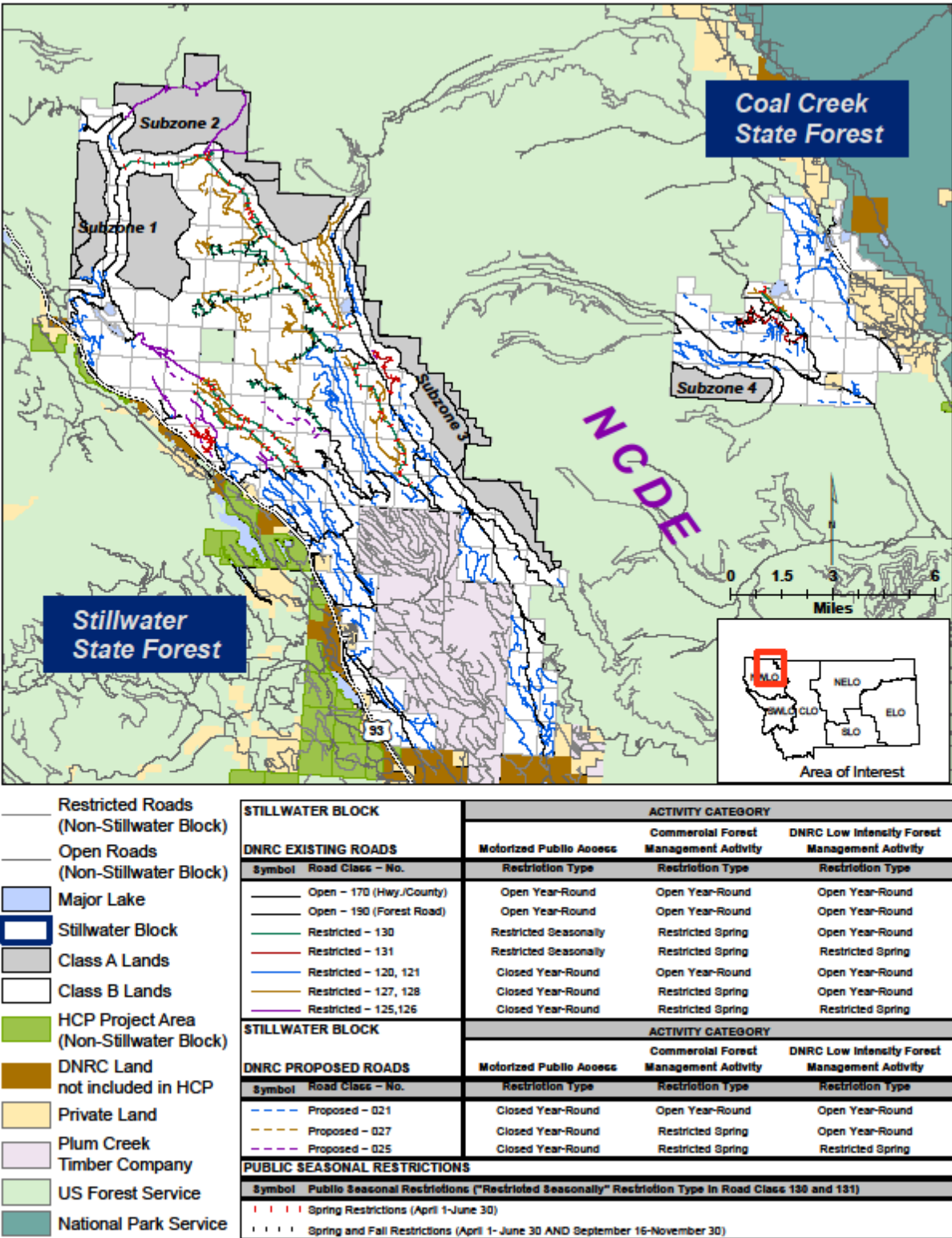
Between 2008 and 2010, within western Montana, Plum Creek Timber Company sold 310,000 acres of industrial forested lands to The Nature Conservancy (TNC) through the Montana Legacy Project. These lands have subsequently been disposed primarily to State or Federal ownership or retained by TNC. These actions occurred during the development of the Draft and Final EIS/HCP and land ownership changes, as a result of the Legacy Project, are not reflected in the depiction of land ownership in the Final EIS/HCP. These changes are described and considered in our ESA Section 7 Biological Opinion (BO) for the covered species.

Briefly, the changes in landownership affect two primary areas: the Swan River State Forest and the Seeley LMA. Within the Seeley LMA, approximately five additional sections of former Plum Creek land have been acquired by the USFS and numerous additional parcels in the surrounding area are now owned and managed by TNC. Currently, TNC continues to conduct forest management activities on their parcels in order to meet the Fiber Supply Agreement that accompanied these lands. TNC also is actively seeking conservation buyers for these lands including DNRC and other State agencies.

Within the vicinity of the Swan River State Forest, 45,000 acres of former Plum Creek lands are now owned by the USFS; 2,660 acres are owned by Montana Fish Wildlife and Parks (MFWP); 14,620 acres are owned by TNC but include a conservation easement held by MFWP; and 8,320 acres are owned by TNC. Additionally, DNRC recently acquired 1,917 acres on 4 parcels in the Swan River State Forest and has a 1-year purchase agreement for an additional 14,630, but has secured no funds to complete the transaction. The 1,917 acres are not included in the HCP project area. Until such time that they are added to the HCP, they will continue to be managed under the ARMs. The remaining 14,630 acres are under TNC ownership and are managed in accordance with the Fiber Supply Agreement that accompanied the disposal of these lands as well as in compliance with the 1995 Swan Valley Grizzly Bear Conservation Agreement.

In the EIS/HCP, DNRC assumed that if the Swan Agreement is terminated and the HCP is implemented, DNRC could be required to manage roads as open due to existing reciprocal access agreements with Plum Creek Timber Company. Now that those agreements are held by TNC, we believe this scenario is less likely to occur because TNC's objective in acquiring the lands is to seek a conservation buyer so that these lands remain a working forest providing conservation for fish and wildlife.

FIGURE 1. Existing and Proposed Roads and Road Class in the Stillwater State Forest.



III. DECISION AND RATIONALE

Our decision is to select DNRC's proposed HCP, Alternative 2, modified as described in the Final EIS and this ROD.

NEPA requires Federal agencies to carry out their programs in accordance with NEPA's policies of environmental protection. To this end, NEPA requires disclosure of the environmental effects for major Federal actions significantly affecting the quality of the human environment. Section 10(a)(2)(B) of the ESA authorizes the Service to issue permits authorizing incidental take of Federally listed species. The applicant for such a permit must submit a conservation plan to the Service for approval. Section 10(a)(2)(B) of the ESA requires that if the Service finds, after opportunity for public comment with respect to a permit application and the related conservation plan, that: 1) the taking will be incidental; 2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 3) the applicant will ensure that adequate funding for the plan will be provided; 4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and 5) any such other measures that the Service may require as being necessary or appropriate for purposes of the plan will be met, the Service shall issue the Permit. The analyses of how these criteria have been met are addressed in our Findings (Appendix B). In selecting the NEPA alternative, the Service also must consider consistency with other Federal laws and Executive Orders, as described in Section VII.

Our rationale for this decision is based on the analyses of the alternatives and their environmental consequences described in the EIS, as required under NEPA, and satisfaction of requirements under the ESA. Specifically, the Draft EIS and Final EIS (USFWS and DNRC 2009, 2010) indicate that, through a review of alternatives and environmental consequences and in consideration of public comments, the proposed action (Alternative 2) will conserve the HCP species and provide the greatest assurances that the HCP will be fully implemented and that the goals, objectives, and timelines will be achieved. This is based on assurances that: 1) the HCP will be implemented in its entirety, including protection measures to minimize, mitigate and monitor the effects of the incidental take of the HCP species for the Permit term, and 2) the HCP will result in conservation of the species and sustenance of a forest management program on State trust lands in Montana. We are assured that the HCP will be implemented because it was developed based upon the existing Forest Management ARMs, which incorporates numerous measures already implemented by DNRC. Once the HCP is approved, the measures contained in the HCP also will be adopted into the ARMs, thereby becoming part of the rules under which DNRC conducts its forest management program. Like the ARMs, the HCP is based on an understanding of DNRC's operational capabilities to achieve proposed measures such as inventories and corrective actions. The State also recently approved additional funding for HCP implementation, further ensuring that funding is available for all aspects of the HCP including monitoring (for further discussion of assured funding see Section IV.3 of the Findings in Appendix B). Alternative 2 is the alternative developed by the applicant with technical guidance from the Service; hence, it represents the best balance between species conservation and sustenance of a viable forest management program on State lands. Our BO, which is incorporated here by reference (USFWS 2011), determined that issuance of a Permit to DNRC and implementation of the proposed HCP would not jeopardize the HCP species. Our Findings (Appendix B) indicates that DNRC's application and HCP meet the Section 10 statutory criteria

for Permit issuance. In making our decision, we also considered the environmental effects of the Federal action on the human and natural environment (Sections IV and VI), as well as our Federal agency responsibilities and trust responsibilities to Native American Tribes (Section VII).

We identified Alternative 3 as the environmentally preferable alternative, because it proposes increased levels of conservation across the covered lands by: 1) requiring retention of slightly more habitat for lynx, 2) retaining grizzly bear core areas in the Stillwater Block, 3) requiring no net increase in total road densities at the administrative unit level on scattered parcels in grizzly bear recovery zones, and 4) shortening the timelines to complete corrective actions for HCP aquatic species. This alternative would still result in incidental take of the covered species. The anticipated take level for lynx is likely to be the same between Alternatives 3 and 2. The level of take of grizzly bears is anticipated to be lower in Alternative 3. The amount of take of the covered aquatic species would be reduced more quickly under Alternative 3. However, we did not select this alternative. Alternative 3 requires a more aggressive schedule for completing corrective actions at culvert barriers and sediment sites on HCP fish-bearing streams. Meeting these timelines would require additional funding that DNRC could not provide assurances to secure. The proposed HCP (Alternative 2) was selected over the environmentally preferable alternative because it meets all the Permit issuance criteria (Section VIII), including assurances that funding will be secured to fully implement the HCP. While Alternative 3 may be environmentally preferable, we conclude that the HCP commitments under Alternative 2 will minimize and mitigate the effects of incidental take of the HCP species, maintain important habitats for the terrestrial species, and complement conservation efforts on adjacent Federal lands. We also conclude that the HCP commitments will maintain properly functioning aquatic habitat conditions and improve these conditions over time.

IV. ALTERNATIVES

Four alternatives were analyzed in the EIS, including a no-action alternative (Alternative 1) and three action alternatives. The three action alternatives are all HCP options that meet the purpose and need for both the Service and the applicant, DNRC, and represent a range of reasonable alternatives. We and DNRC considered 10 other alternatives. These alternatives were identified in the EIS, but were not analyzed in detail because they did not meet the purpose and need for the project or they did not satisfy the alternatives screening process (described in Final EIS/HCP, Chapter 3, page 3-2). The following is a brief description of the four alternatives that were analyzed in detail. The differences between the alternatives are outlined in detail in the Final EIS/HCP, Appendix E, Table E3-1 through 3-3.

Alternative 1- No-action

Under the no-action alternative, DNRC would continue to conduct its forest management program in compliance with existing rules and regulations (ARMs for Forest Management 36.11.401 through 36.11.456, best management practices (BMPs) for forestry in Montana (DNRC 2004), and other applicable Federal and State laws, e.g., Montana Streamside Management Zone [SMZ] law). Under this alternative, an HCP would not be prepared, a Permit would not be issued, and conservation measures for the Alternative 2 HCP species would not be implemented beyond those required under ARMs and Federal and State laws and regulations.

Under the no-action alternative, collective actions under the varying forest management ARMs would provide long-term conservation value to grizzly bears, lynx, and native fish. Regulations and BMPs would evolve over time to address new issues.

Under the no-action alternative, DNRC would be liable if it caused incidental take of listed species while managing its lands. Additionally, we would not receive assurances that supplemental conservation measures (beyond those described in the ARMs) would be implemented to benefit the HCP species.

This alternative would conserve the HCP species through the following key measures:

- Require food storage orders for DNRC contractors.
- Retain 39,600 acres of secure grizzly bear habitat (Stillwater Core).
- Commit to no net increase in baseline open road densities on blocked lands in bear management subunits where densities exceed 1 mile/square mile.
- Retain hiding cover for bears on blocked lands.
- Manage for bears in accordance with the Swan Agreement, including rotation of operations so that areas of active management (limited to 3 years) are followed by 3 years of rest (typically extending to 6 years).
- Commit to no net increase in open road densities on scattered parcels in recovery zones that exceed 1 mile/square mile.
- Maintain 10% of lynx habitat as young or winter foraging habitat at the bear management unit scale, on blocked lands.
- Retain 5% of lynx habitat as denning habitat in patches greater than 5 acres, on blocked lands.
- Retain minimum of 5-acre patches of denning habitat, on scattered parcels.
- Delay thinning in stands of young foraging habitat for lynx.
- Application of the SMZ law during riparian timber harvest (50- to 100-foot managed buffer).
- Minimize sediment from old roads by bringing old roads up to current standards as time and projects (funding) allow, and assess and prioritize maintenance needs every 5 years on blocked lands (less frequently on scattered parcels).
- Minimize sediment from new roads by minimizing roads to the extent possible, using BMPs to design and construct new roads, and prohibiting roads in SMZ except for stream crossings.
- Implement measures to minimize sediment delivery from timber harvest including limits on operations of wheeled or tracked equipment and use of low impact harvest systems where needed.
- Replace culvert barriers as time and funding allows.
- Design grazing plans to minimize loss of riparian vegetation and reduce structural damage to stream banks.
- Inspect grazing licenses on a 5- and 10-year interval including range conditions, riparian vegetation conditions, and stream bank disturbance.
- Complete watershed coarse filters based on site variables and establish thresholds to comply with Federal and State water quality standards.

Elements Common to the Action Alternatives

The action alternatives all represent proposed HCPs to be implemented by the DNRC. Each HCP alternative has varying levels of conservation with Alternative 3 providing the greatest level of conservation followed by Alternative 2, then Alternative 4. Each alternative includes conservation strategies for the HCP species, a transition lands strategy to facilitate the addition and removal of lands within the HCP project area, a monitoring and adaptive management program, processes and tools for changed circumstances, and an implementation program.

Additional elements common to the action alternatives include the following measures:

- Require grizzly bear awareness training and food storage orders for all DNRC staff and contractors.
- Inspect primary road closure in grizzly bear recovery zones annually and make timely repairs.
- Manage for bears in accordance with the Swan Agreement.
- Upon dissolution of Swan Agreement, implement rotation of operations so that areas of active management (limited to 4 years) are followed by 8 years of rest and implement transportation plan to minimize open roads and temporary roads and restrict public and DNRC motorized access on remaining roads in key habitats during key seasons for bears.
- Prohibit any net increase in open road densities on scattered parcels in grizzly bear recovery zones at the administrative unit level.
- Prohibit commercial forest management during the grizzly bear spring period in spring habitat in non-recovery occupied habitat (NROH) and limit other motorized, low-intensity activities (more restrictions applied in the Cabinet-Yaak Ecosystem [CYE]).
- Implement management (4 years) and rest (8 years) scenario on grizzly bear recovery zone scattered parcels and in the CYE NROH.
- Review opportunities to close open roads on grizzly bear recovery zone scattered parcels, prioritizing the CYE.
- Establish and maintain a lynx habitat map for tracking and monitoring conversion of lynx habitat in the HCP project area over the Permit term.
- Where lynx or lynx habitat is known to occur, establish lynx management areas (LMAs) and apply conservation measures to sustain or support future populations.
- At the LMA scale, retain required percentage of lynx winter forage habitat and suitable habitat and limit percent conversion of lynx habitat to non-suitable habitat per decade.
- In LMA thinning units, retain a percentage of total acres of the stand in an unthinned condition.
- On scattered parcels with lynx habitat, retain a certain percentage of lynx habitat at the Land Office scale as suitable habitat.
- During riparian timber harvest along Class 1 streams, establish a riparian buffer equal to the 100-year site index tree height.

- Minimize sediment delivery from old roads by inventorying and prioritizing problem sites.
- Minimize sediment from new roads as described for the no-action alternative (implement ARMs) as well as use water resource specialist to review activities in watersheds with HCP fish species and make recommendation to minimize sediment delivery and incorporating goals of approved total maximum daily loads (TMDLs) in affected watersheds.
- Minimize sediment delivery from timber harvest as described for no-action alternative (implement ARMs) as well as water resource specialist review of large-scale timber activities and incorporating goals of approved TMDLs in affected watersheds.
- Inventory and prioritize culvert barriers.
- Implement ARMs to address grazing impacts on aquatic species as described for no-action alternative. Additionally, conduct enhanced coarse filter reviews; develop corrective actions for grazing problems and field-verify within designated timeframes; monitor and evaluate corrective actions.
- Complete watershed coarse filters as done under no-action alternative (implement ARMs) but use formal method to analyze cumulative effects and set project-level thresholds.

Alternative 2 – Proposed DNRC HCP

Alternative 2 represents DNRC’s plan to conserve listed species and their habitat and is intended to satisfy the requirements of ESA Section 10 for issuance of a Permit authorizing incidental take of the HCP species.

The DNRC HCP builds upon existing State regulations and supplements them with a range of conservation commitments that further minimize or mitigate effects of incidental take from the covered forest management activities. The goals of the commitments and monitoring under the proposed HCP are described above in Section II (Project Description) as are the other key elements of the HCP including the transition lands strategy, monitoring and adaptive management program, and plans to address changed circumstances.

This alternative would implement the measures common to all action alternatives, as well as the following commitments specific to this alternative:

- In Stillwater State Forest, rotate operations in 4 subzones so that areas of active management (limited to 4 years) are followed by 8 years of rest and implement transportation plans on blocked lands that minimize open roads and temporary roads and restrict public and DNRC motorized access on remaining roads in key habitats during key seasons for bears.
- Inspect primary road closure annually and repair within 1 year.
- At the LMA scale, retain 20% winter foraging habitat; 65% suitable habitat; and convert no more than 15% of lynx habitat to non-suitable habitat per decade.
- In LMA thinning units, retain 20% of the stand in an unthinned condition.
- On scattered parcels, retain 65% of lynx habitat as suitable habitat.
- Establish riparian buffers along Class 1 streams which include 50-foot no-harvest buffer and a managed buffer with a minimum width of 20 feet.

- Complete inventory of sediment problem sites within 10 years of HCP implementation in bull trout watersheds and 20 years for WCT and RBT watersheds. Complete corrective actions of sediment problem sites in bull trout watersheds within 15 years of HCP implementation and within 25 years for WCT and RBT watersheds.
- Inventory and prioritize culvert barriers. Replace barriers in bull trout streams within 15 years of HCP implementation and within 30 years for WCT and RBT streams.
- Conduct enhanced coarse filter review at 5-year and 10-year inspections; develop corrective actions for grazing problems and field verify within designated timeframes; monitor and evaluate corrective actions within 1 year.
- Inspect grazing licenses on a 5- and 10-year interval including range conditions, riparian vegetation conditions, and stream bank disturbance.

Alternative 3 - Environmentally Preferred Alternative

Alternative 3 is an HCP with levels of conservation for HCP species higher than the other alternatives. Under Alternative 3, the increased conservation for HCP species would be primarily achieved by modeling the HCP commitments after Federal land management standards. Greater conservation for grizzly bears would be achieved by retaining core area habitat for grizzly bears in the Stillwater Unit. The increased conservation for lynx would be achieved by requiring higher amounts of lynx habitat retention than the other alternatives. The increased conservation for aquatic species would be primarily achieved by expanding riparian harvest buffers and shortening the timeframes for DNRC to implement certain commitments. The proposed conservation measures in this alternative would not only conserve the HCP species but also would contribute to recovery of the species on State lands. However, DNRC could not provide assurances to secure the increased funds necessary to implement the commitments and meet the timelines proposed under this alternative. This alternative also could compromise DNRC's ability to provide a predictable income to trust beneficiaries as mandated. It also would entail a greater risk of noncompliance with the ESA if DNRC cannot secure the necessary funding or meet the timelines proposed.

This alternative would implement the measures common to all action alternatives as well as the following commitments specific to this alternative:

- Require grizzly bear training as described for Alternative 2, additionally implement food storage orders for all DNRC programs (not just forest management).
- Retain 39,600 acres of secure grizzly bear habitat (Stillwater Core) and baseline open road densities as for no-action alternative.
- Inspect primary road closures and repair within operating season they are discovered.
- Prohibit any net increase in baseline total road densities at the administrative unit level.
- At the LMA scale, retain winter foraging habitat and limit habitat conversion as for Alternative 2, but retain 70% as suitable habitat.
- In LMA thinning units, retain 20% of the stand in an unthinned condition.
- On scattered parcels, retain 70% of lynx habitat as suitable habitat.
- Implement no-harvest buffer for the entire width of the riparian buffer along Class 1 streams.

- Complete inventories of sediment problem sites within 5 years of HCP implementation for bull trout watersheds and within 10 years for WCT and RBT watersheds.
- Complete corrective actions of sediment problem sites in bull trout watersheds within 10 years of HCP implementation and within 20 years for WCT and RBT watersheds.
- Replace culvert barriers in bull trout streams within 10 years of HCP implementation and within 20 years for WCT and RBT streams.
- Inspect grazing licenses annually.

Alternative 4 – Additional Forest Management Flexibility

Alternative 4 represents an HCP with more forest management flexibility than Alternative 2. Under Alternative 4, increased forest management flexibility for DNRC would be achieved by retaining fewer acres of lynx habitat, opening grizzly bear secure habitat (the Stillwater Core) for increased forest management activities, and implementing a narrower riparian buffer to allow more intensive forest management in the Riparian Management Zone (RMZ), and increasing the timelines for implementing certain aquatic commitments.

This alternative would provide less assurance that the proposed conservation measures would minimize and mitigate the impacts of take of the HCP species to the maximum extent practicable. However, under this alternative, we are certain that DNRC could secure the funds necessary to implement the commitments and meet the timelines proposed. DNRC would receive long-term regulatory certainty that it could manage its lands, in accordance with the HCP, thereby minimizing the risk of noncompliance with the ESA. This alternative also would provide DNRC the greatest assurance that it could secure a predictable income to trust beneficiaries. However, DNRC recognizes that it can do more to meet the Permit issuance criteria, which is exemplified by Alternative 2.

This alternative would implement the measures common to all action alternatives as well as the following commitments specific to this alternative:

- In Stillwater State Forest, manage as described for Alternative 2.
- On blocked lands, inspect primary road closure annually and on scattered lands, inspect every 2 years. Make necessary repairs within 1 year.
- At the LMA scale, retain winter foraging habitat and limit habitat conversion as for Alternative 2, and retain 60% suitable habitat.
- In LMA thinning units, retain 10% of the stand in an unthinned condition.
- On scattered parcels, retain 65% of lynx habitat as suitable habitat.
- Prohibit harvest for the entire width of the riparian buffer along Class 1 streams.
- Complete inventories of sediment problem sites within 15 years of HCP implementation for bull trout watersheds and within 25 years for WCT and RBT watersheds.
- Complete corrective actions of sediment problem sites as project schedules and budgets allow.
- Replace culvert barriers as project schedules and budgets allow.
- Inspect grazing licenses every 10 years (at license renewal).

V. PROJECT EFFECTS AND REQUIRED MITIGATION

This section provides an overview of the project effects and required mitigation as determined through the NEPA process. Issuance of the Permit would entail ongoing implementation of the DNRC forest management program. DNRC conducts its forest management program in compliance with its Forest Management ARMs and Federal and State laws as described in detail in the Final EIS, Chapter 1, Section 1.5. The primary effects of Permit issuance that differ from existing effects of DNRC's ongoing forest management program include additional measures to conserve the HCP species as well as an increased level of timber harvest (currently 53.2 million board feet and increasing to 57.6 million board feet). The increase in timber harvest is attributed to the additional acres available for management in the Stillwater Core. No significant adverse effects are anticipated from implementing the HCP due to the combination of the conservation commitments in the HCP and the existing rules and laws that protect the natural and human environment. Therefore, no additional measures are prescribed or required in the Permit and HCP to mitigate environmental effects identified in the NEPA process.

The primary effects of the proposed HCP (Alternative 2) on the natural and human environment are summarized below.

Effects on Forest Vegetation

Under the proposed HCP, progress toward desired future forest habitat conditions would continue, with seral forest types increasing and late-successional forest types decreasing compared to current levels. Across the project area, the acreage in the seedling/sapling size class would increase compared to current conditions, and poletimber, young sawtimber, and mature sawtimber classes would decrease under each alternative. Changes in age class under each alternative would follow trends for size class: the amount of young stands would increase, and the amount of older stands would decrease. There are no discernable differences at the landscape scale in the potential effects on wildfire or insects and diseases between the no-action alternative and the proposed HCP. No additional mitigation beyond implementation of the DNRC ARMs and State Forest Land Management Plan is warranted or proposed.

Effects on Climate Change

Management of timber stands, new road construction and existing road improvement, maintenance and upgrades would contribute to atmospheric concentrations of carbon dioxide (CO₂) as well as other greenhouse gases. However, at the landscape scale, there would be no appreciable difference in net emissions due to forest management activities between the no-action alternative and the proposed HCP. By maintaining a consistent harvest rotation and forest productivity historically and throughout the Permit term, losses of carbon from harvested stands would be expected to be offset by increased carbon intake from regenerating stands harvested in previous years, resulting in little or no net change in CO₂ emissions. Therefore, no mitigation is warranted or proposed.

Effects on Air Quality

Air quality would continue to be addressed as described under existing practices in order to comply with the Federal Clean Air Act. At the landscape scale, there would be no appreciable difference in terms of effects on air quality due to changes in forest management activities between existing practices (i.e., the no-action alternative) and the proposed HCP. No mitigation is warranted or proposed.

Effects on Transportation

By the end of the Permit term, existing practices and the proposed HCP would result in similar increases in total roads and distribution of roads on trust lands in the HCP project area. In the Stillwater Block, the proposed HCP would result in a few more new road miles than the no-action alternative, reflecting an increase in roads to support forest management activities in the Stillwater Core. Public access to roads, at least on a seasonal basis, would increase under the proposed HCP. If the Swan Agreement remains in effect for the entire Permit term, there would be no differences in road miles and classifications between the no-action alternative and the proposed HCP. If the agreement is dissolved, road management would be subject to a 50-year transportation plan under the proposed HCP. Numerous measures are proposed in the HCP to address the effects of these changes in transportation on various resources such as wildlife, water quality, and fisheries as described within the commitments for the HCP species.

Effects on Geology and Soils

By implementing existing BMPs and complying with the existing regulatory framework (DNRC ARMs, Montana SMZ Law, and Montana Forestry BMPs), both the no-action alternative and the proposed HCP would minimize the risk of effects on soil productivity and provide adequate protection from erosion effects. Additional conservation commitments specified by the proposed HCP would further decrease risks associated with specific activities (e.g., harvest, grazing) and locations (e.g., riparian areas) and require some level of identifying, prioritizing, and correcting road and stream crossing problems to reduce sediment delivery to streams. No additional mitigation is warranted or proposed.

Effects on Water Resources

DNRC has achieved a high level of success with protection and mitigation efforts under its current forest management program, resulting in 97-98% application and effectiveness of BMPs to limit sediment delivery to streams (Final EIS/HCP, page 4-151). This program would continue under both the no-action alternative and the proposed HCP, so this level of success would be expected to continue during the Permit term. The proposed HCP would provide additional protection of streamside buffers, additional commitments for road and harvest area practices that protect water quality, more formal documentation of cumulative watershed effects thresholds and mitigation requirements, and enhanced coarse-filter reviews of grazing effects. Therefore, no additional measures to protect water quality are proposed or warranted under the proposed HCP.

Effects on Plant Species of Concern, Noxious Weeds and Wetlands

All alternatives would implement current practices (ARMs and Montana Code Annotated) that address identified plant species of concern, noxious weeds, and wetlands. Under the proposed HCP, some conservation commitments would potentially result in greater protection of potential plant species of concern habitat (where unknown populations may exist), reduced spread of noxious weeds, and enhanced wetland protection over the no-action alternative. Therefore, no additional mitigation measures are warranted or proposed.

Effects on Fish and Fish Habitat

Overall, existing practices and the proposed HCP are generally effective at maintaining the key habitat components (sediment delivery, stream temperature, in-stream habitat complexity, and connectivity among sub-populations of fish species) at a level that provides for healthy fish

populations, including the HCP fish species. The increased conservation of the proposed HCP would further ensure that all aquatic species benefit and no additional mitigation is warranted or proposed.

Effects on the HCP Aquatic Species

The DNRC HCP riparian timber harvest conservation strategy addresses the critical riparian functions most important to the HCP fish species. Under the HCP, DNRC would maintain a 50-foot, no-harvest buffer as well as an additional managed buffer adjacent to HCP fish bearing streams. Additionally, the grazing strategy would maintain healthy riparian vegetation. These provisions provide for appropriate rates of large woody debris (LWD) recruitment which functions to provide for and maintain habitat complexity, largely through pool formation and channel stability. Therefore, potential effects on LWD recruitment from DNRC riparian timber harvest activities under the HCP are not expected to result in adverse effects to the covered aquatic species during the Permit term.

Although the DNRC HCP is expected to improve habitat conditions affected by sediment delivery within the HCP project area, sediment delivery into a HCP fish stream could happen from new roads constructed within 300 feet of streams and/or new stream crossings. In turn, this sediment input may be enough to negatively affect spawning and rearing areas where baseline conditions for HCP fish species are already at-risk.

Under the HCP, DNRC's timber harvests, road systems, and grazing management in riparian management zones (RMZs) would have little to no effect on stream temperature regimes and therefore are not likely to adversely affect HCP fish species. Adverse effects are not likely because the size and design of RMZs would buffer existing stream temperature by maintaining adequate shade levels. In the unlikely event of a change in stream temperature, the increase is not expected to be greater than 1°F, which is due in large part to the following: 1) the HCP commitment to retain a 50-foot no-harvest buffer immediately next to the stream supporting HCP fish species; 2) the retention of 50% of merchantable trees and all sub-merchantable trees and shrubs in the remainder of Class 1 RMZs; and 3) the adequacy of Montana's current streamside management zone (SMZ) regulations to maintain stream temperature regimes (Sugden and Steiner 2003).

DNRC's forest management activities that could cause adverse impacts to HCP fish species include the installation, maintenance, and removal of stream crossing culverts. The potential effect of such fish passage barriers would be to impair access of HCP fish species to spawning, feeding, and cover areas, which could result in reductions in survival and production of HCP fish species in the affected watersheds. However, the DNRC HCP would minimize the potential for these impacts by designing new road-stream crossing installations to simulate natural streambed form and function. However, due to the technical challenges associated with designing fish passage culverts, a risk for some incidental take would remain, due to lack of fish passage of some life stage of an HCP fish species at new or existing stream crossings during the term of the Permit.

Effects on Wildlife and Wildlife Habitat

Neither the proposed HCP nor existing practices are expected to result in substantial changes in the distribution or amount of wildlife habitat in the HCP project area. The DNRC ARMs address effects of forest management on sensitive forest species and no measures beyond those outlined

in the ARMs are warranted or proposed under the HCP. Despite the dissolution of the Stillwater Core under the proposed HCP, rotation of harvest activities, seasonal restrictions on roads along with restrictions on activities in spring habitat, post-denning habitat, and near den sites, would reduce the risk of effects on grizzly bears due to the presence of roads and human activity in key habitat areas. Therefore, no mitigation additional to the HCP is warranted or proposed. Canada lynx would benefit from HCP conservation commitments to maintain suitable habitat and foraging habitat in key areas of known importance for the species in western Montana under the HCP and no additional mitigation is warranted or proposed.

Effects on Grizzly Bears

Overall, the HCP would retain habitat elements, cover, and habitat linkage and connectivity such that adverse effects on these grizzly bear habitat needs are not expected to occur. Additionally, disturbance at den sites and human-bear and livestock-bear conflicts would largely be avoided.

The HCP's conservation program to limit open roads, restrict public and State agency access on other roads during key time of year for bears, implement a timber management/rest schedule, provide cover and screening for bears, and address potential human-bear conflicts would ensure that most bears could access habitats necessary to successfully raise their young. For most bears, the risk of disturbance and displacement from covered activities would be minimized. Any adverse effects from disturbance or displacement would be temporary and would not preclude bears from accessing the habitat necessary to feed, breed, or shelter. However, although bears could continue to access such habitat, some individual bears may underutilize it due to displacement caused by the presence of roads. Hence, the number of miles of road and density of roads on DNRC lands may contribute to displacement for some bears. Additionally, bears using habitats adjacent to roads may be exposed to an increased risk of human-bear conflicts that ultimately results in bear mortality, particularly in the NCDE where most of the covered lands occur and where grizzly bear populations are increasing and expanding their range beyond the recovery zone boundaries.

While some adverse effects on grizzly bears may occur in the CYE as a result of the covered activities, we do not expect these effects to impair feeding, breeding, or sheltering needs of grizzly bears in the CYE. This is attributed to the additional HCP commitments in the CYE, the low number of bears in the CYE, and the relatively low percentage of covered lands in the CYE (5% of the total CYE).

Effects on Canada Lynx

Overall, the HCP would retain habitat structure and components required by lynx and their primary prey, the snowshoe hare. Adverse effects on these habitat elements, including coarse woody debris, den sites, and habitat linkage and connectivity are not expected to occur with implementation of the HCP.

To conserve lynx habitat, the HCP would maintain 65% of suitable lynx habitat and 35% temporary non-suitable habitat within LMAs and on scattered parcels at the land office scale. The HCP also would cap the amount of habitat that can be converted per decade in LMAs. These measures combined (suitable habitat ratio and limits on habitat conversion) ensure that a continuum of stands necessary to support lynx would be available over time.

Despite commitments to retain foraging habitat at scales to support lynx, adverse effects on lynx would occur from timber harvest in lynx winter foraging habitat and pre-commercial thinning of young, dense regenerating stands. Both of these actions are likely to reduce the availability of snowshoe hares on the landscape.

Effects on Recreation

Under both the no-action alternative and the proposed HCP, increases in the amount of roads available for non-motorized public access would result in expanded opportunities for hiking, mountain biking, berry picking, and other such activities throughout the HCP project area. The proposed HCP would result in increased opportunities for motorized public access in the Stillwater Block compared to the no-action alternative. As a result of timber harvest, opportunities for hunting, berry picking, and other activities in young, open-canopy forest would likely increase. On the other hand, the quality of the recreational experience for some users may decrease due to the increased visibility of managed stands and access roads. Site-specific effects on recreation are addressed in the timber sale design at the project level through DNRC's Montana Environmental Policy Act (MEPA) process and no additional mitigation is warranted or proposed.

Effects on Visual Resources

Due to forest management and associated road construction, increases in the amount of roaded areas and forest in the non-stocked and seedling/sapling size classes would result in decreases in the amount of natural-appearing forested landscape. Such changes would be visible from roads (including scenic drives), trails, recreation areas, and viewpoints in the surrounding area. Increased access in the Stillwater Core under the proposed HCP would result in more timber management (largely even-aged harvest), resulting in greater visual impacts than under existing practices. These types of effects are addressed in the timber sale design at the project level through DNRC's MEPA process and no additional mitigation is warranted or proposed.

Effects Archaeological, Historical, Cultural, and Tribal Resources

Within DNRC's existing forest management program, activities associated with timber harvest and road construction are the primary sources of potential adverse effects on non-renewable cultural and paleontological resources and traditional cultural properties or cultural use areas on trust lands. Potential effects on non-renewable cultural and paleontological resources and traditional cultural properties or cultural use areas are addressed at the project level through DNRC's MEPA process. The proposed HCP would result in a higher likelihood of adverse effects to cultural and paleontological resources and traditional cultural properties or cultural use areas in the Stillwater Block, because there would be increased active forest management in the Stillwater Core as well as increased public access. These increased risks and potential effects are addressed through a programmatic agreement (PA) entered into by the Service, DNRC, and State Historic Preservation Office. The PA requires a certain proportion of the Stillwater be inventoried on an annual basis, as well as coordination with Tribal signatories to the PA, including the Blackfoot Tribe. Implementation of the PA would fulfill the requirements of Section 106 of the National Historic Preservation Act.

Effects on Socioeconomics

The proposed HCP would result in more forestry sector jobs and associated wages due to the increased annual sustainable yield of timber to be harvested. Other jobs that support the forest industry or workers would be expected to follow the same pattern. Similarly, net revenues generated for trust beneficiaries would be higher than under existing practices. With additional protection and mitigation requirements for sensitive areas and wildlife species, such as wider no-harvest buffers on streams with HCP fish species, natural amenities and non-use values associated with those areas and species would be less affected by DNRC's forest management activities under the proposed HCP. Therefore, no additional measures are warranted or proposed.

VI. PUBLIC INVOLVEMENT AND COORDINATION

A Notice of Intent (NOI) to prepare an EIS for the proposed HCP and Permit issuance was published in the Federal Register on April 28, 2003 (68 FR 22412-22414). The NOI announced a 60-day public scoping period, and the locations of public scoping meetings. A public scoping report (USFWS and DNRC 2004) was produced from this effort and is available on the DNRC HCP website (<http://dnrc.mt.gov/HCP>). The website was used throughout the HCP and EIS development process to inform the public.

DNRC published the Draft Aquatic Conservation Strategies for Bull Trout, WCT, and CRT, the Draft Canada Lynx Conservation Strategy, and the Draft Grizzly Bear Conservation Strategy for a 45-day review in October 2005. Four public meetings were offered for those individuals wishing to discuss the strategies. Concurrent with the public review of the strategies, DNRC and the Service sought third-party review of the conservation strategies by MFWP.

On June 26, 2009, DNRC and we distributed the Draft EIS/HCP and announced a 90-day public comment period in the Federal Register (74 FR 30617-30619). Four public meetings were held and the comment period was extended an additional 15 days and closed on October 9, 2009. During the comment period DNRC and the Service received 523 individual comment letters and emails on the Draft HCP/EIS: 168 unique letters from Federal and State agencies and organizations and private individuals, 229 Natural Resources Defense Council (NRDC) form letters, and 126 Defenders of Wildlife form letters. The comments reflected a wide range of concerns regarding the HCP and the EIS. Primary issues raised were the width of riparian buffers, roads, EIS and HCP alternatives, and Permit issuance criteria. Some suggestions and comments were incorporated or addressed in the Final EIS/HCP. Appendix G of the Final EIS/HCP contains the comments and the Service's and DNRC's responses. The Preface to the Final EIS/HCP describes the changes made between the draft and final documents. The Final EIS, Chapter 6, describes the public involvement for this action in detail.

The Final EIS/HCP was announced in the Federal Register on September 17, 2010 (75 FR 57059-57061). The Final EIS/HCP was initially released for a 30-day public review period, ending October 17. After receiving several requests for extension of the review period, the review period was extended by 30 days, until November 16.

During the review period, 37 unique comment letters were received. Table A-1, Appendix A of this ROD provides a complete list of individuals, organizations, and agencies who commented on the Final EIS/HCP. Three of the 37 unique letters were form letters. We received 177 submissions of the Defenders of Wildlife form letter and 256 submissions of the NRDC

form letter and 4 variations of the form letter. Additionally, 67 individuals submitted letters expressing concerns over the same issues raised by Montana Environmental Information Center. Tables A-2 through A-4 identify the individuals submitting form letters associated with each organization.

A review of the comments revealed that most of the issues had already been raised in public comments on the Draft EIS/HCP. However, some comments raised new issues or warranted clarification. All comments are addressed in Appendix A, Table A-5 and were considered during the Service's decision-making process.

VII. COMPLIANCE WITH OTHER FEDERAL LAWS AND EXECUTIVE ORDERS

As a Federal agency, the Service is required to comply with numerous other Federal laws or Executive Orders in carrying out its duties. This section identifies laws and orders relevant to this action.

Executive Order 11593, Protection and Enhancement of the Cultural Environment

In furtherance of the purposes and policies of the National Historic Preservation Act, Executive Order 11593 requires Federal agencies to provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation. As described above, the Service, DNRC, and Montana State Historic Preservation Office have entered into a PA to address the cultural and paleontological resources and traditional cultural properties or cultural use areas under the proposed HCP.

Executive Order 11988, Floodplain Management

Executive Order 11988, Floodplain Management directs Federal agencies to avoid to the extent possible adverse impacts associated with floodplains and to avoid direct or indirect support of floodplain development. The proposed action would not result in adverse effects on floodplains or support floodplain development.

Executive Order 11990, Protection of Wetlands

Protection of Wetlands, Executive Order 11990, requires Federal agencies to minimize the loss or degradation of wetlands and enhance their natural value. As analyzed in the Draft and Final EIS, DNRC would implement wetland protection requirements in compliance with the Clean Water Act. Hence, the proposed action would not result in adverse effects on wetlands.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations

As analyzed in the Draft and Final EIS, the proposed action would not fall disproportionately on minority or low-income populations.

Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System

There are no national wildlife refuges affected by the proposed action.

Endangered Species Act

Section 7(a)(2) requires all Federal agencies, in consultation with the Services, to ensure that any action "authorized, funded, or carried out" by any such agency "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction

or adverse modification” of critical habitat. Because issuance of an incidental take permit is a Federal action subject to Section 7 of the ESA, the Service has completed an intra-Service Section 7 BO on the proposed action. The BO determined that the proposed action would not jeopardize the covered species or adversely modify their critical habitat.

Section 10(a)(2)(A) and (B) stipulate the requirements for issuance of an incidental take permit for activities that do not have a Federal nexus. Based on extensive coordination with DNRC on the development of the HCP, consideration of public comments, and our analyses of effects of the HCP in our Findings (Appendix B), we have determined that all these requirements have been met. Furthermore, the Service has no evidence that the Permit should be denied on the basis of the criteria and conditions set forth in the General Permit Requirements of 50 CFR 13.21(b)-(c).

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments

Executive Order 13175 was enacted to establish regular and meaningful consultation and collaboration with Tribal officials in the development of Federal policies that have Tribal implications, to strengthen the United States government-to-government relationships with Indian Tribes, and to reduce the imposition of unfunded mandates upon Indian Tribes. The extensive process undertaken to conduct government-to-government consultation with Tribes that could be affected by the HCP during development of the Draft and Final EIS is described below.

The primary focus of the Federal government trust responsibility is the protection of Indian-owned assets, natural resources on reservations, and the treaty rights and interests that Tribes reserved on off-reservation lands. In carrying out its responsibilities, a Federal agency must assess proposed actions to determine potential effects on treaty rights, treaty resources, or other Tribal interests. Where potential effects exist, Federal agencies must consult with affected Tribes and explicitly address those effects in planning documents and final decisions. Consultation with the Tribes is an essential step in carrying out this responsibility.

At the initiation of the scoping process, the Service and DNRC contacted 10 Native American Tribes in Montana to inform them of the proposed project and to invite their participation in the scoping process. The HCP Planning Team subsequently held a meeting with the Confederated Salish and Kootenai Tribes on April 4, 2004, to inform them of the project and solicit their input and concerns. The Tribes did not raise any specific concerns that required addressing in the conservation strategies or Draft EIS.

As part of the consultation process associated with issuance of the Draft EIS, approximately 21 Tribes were invited to ask questions and comment on the proposed HCP and EIS analysis. Upon request, individual meetings were held in 2009 with the Confederated Salish and Kootenai Tribes and the Blackfeet Tribe to discuss the proposed HCP and proposed PA to address cultural resources in the Stillwater Core, an area that would be subject to increased management under the HCP but receives limited management under existing practices.

In accordance with Department of the Interior Secretarial Order #3206, American Indian Tribal Rights, Federal Tribal Trust Responsibilities, and the ESA, no adverse effects on Tribal Trust Resources are anticipated. The Service, DNRC, and Montana State Historic Preservation Office have entered into a PA to address the increased likelihood of adverse effects to cultural and paleontological resources and traditional cultural properties or cultural use areas through

increased active forest management in the Stillwater Core under the proposed HCP. As stated above, all potentially affected Tribes were notified of the proposed PA and provided an opportunity to become signatories. The Blackfeet Tribe has become a signatory to the agreement. The PA (USFWS et al. 2011) is signed and available at the Service's Region 6 Office in Denver, Colorado.

RECOMMENDATION OF PERMIT ISSUANCE

Based on the foregoing ROD and the Findings in Appendix B for the proposed HCP, I recommend approval and issuance of Permit TE-60208A-0 to DNRC for incidental take of grizzly bear, Canada lynx, bull trout, westslope cutthroat trout, and Columbia River redband trout in accordance with the HCP.

Michael Thabault
Acting Regional Director, Region 6
U.S. Fish and Wildlife Service,
Denver, CO

Date

VIII. REFERENCES

- DNRC. 2004. Best management practices for forestry in Montana. Montana Department of Natural Resources Conservation, Missoula, MT.
- Sugden, B.D., and R.L. Steiner. 2003. Effects of current and historic forest practices on stream temperature. Pages 198-203 in Total Maximum Daily Load Environmental Regulations-II, Proceedings of the 8-12 November 2003 Conference, Albuquerque, NM.
- USFWS. 2011a. Biological/conference opinion for the Proposed Issuance of a Section 10(a)(1)(B) Incidental Take Permit to the Montana Department of Natural Resources and Conservation for their Forested Trust Lands Habitat Conservation Plan. U.S. Fish and Wildlife Service, Montana Field Office, Helena, MT.
- USFWS and DNRC. 2004. Montana DNRC Forested Trust Lands Habitat Conservation Plan and Environmental Impact Statement: Public Scoping Report. Prepared by Parametrix, Bellevue, WA. Prepared for the U.S. Fish and Wildlife Service, Montana Field Office, Helena, MT. and Montana Department of Natural Resources Conservation, Missoula, MT. January 2004.
- USFWS and DNRC. 2009. Draft Environmental Impact Statement and Habitat Conservation Plan. Prepared by Parametrix, Bellevue, WA. Prepared for the U.S. Fish and Wildlife Service, Montana Field Office and Montana Department of Natural Resources Conservation, Missoula, MT. June 26, 2009.
- USFWS and DNRC. 2010. Final Environmental Impact Statement and Habitat Conservation Plan. Prepared by Parametrix, Bellevue, WA. Prepared for the U.S. Fish and Wildlife Service, Montana Field Office, Helena, MT. and Montana Department of Natural Resources Conservation, Missoula, MT. September 17th, 2010.
- USFWS, Montana State Historic Preservation Office, Blackfeet Tribal Historic Preservation Office, Montana Department of Natural Resources. 2011. Final Programmatic Agreement Regarding Resolution of Adverse Effects Associated with the Montana DNRC Forested State Trust lands Habitat Conservation Plan. U.S. Fish and Wildlife Service, Region 6. Denver, CO.

APPENDIX A

Comments and Responses to the Final EIS/HCP

TABLE A-1. Commenters on Final EIS/HCP

LETTER #	NAME / ORGANIZATION
1	Stephen Braun
2	Ron Buentemeier
3	Dave Gaillard / Defenders of Wildlife
4	Julie A. DalSoglio / U.S. Environmental Protection Agency
5	Arlene Montgomery/Friends of the Wild Swan/Alliance for the Wild Rockies
6	Bob Adams / Montana Conservation Voters
7	Mineral County Board of Commissioners
8	Dave Risley / Montana Fish, Wildlife, & Parks
9	Ellen Simpson / Montana Wood Products
10	Janet Ellis / MT Audubon
11	Louisa Willcox / Natural Resources Defense Council
12	Kerry Fee / Park County Environmental Council
13	Chris Riley
14	Dan Daley / Roseburg Forest Products
15	Paul R. McKenzie / F.H. Stoltze Land and Lumber Company
16	Keith Hammer / Swan View Coalition
17	Anne Carlson / The Wilderness Society
18	Guenter Heinz
19	Kayla Weins / Montana Environmental Information Center
20	Defenders-Inspired Form Letter (177 letters)
21	MEIC-Inspired Letters (67 letters)
22	NRDC-Inspired Form Letter and Variations (256 letters)
23	Steve McEvoy
24	Joe Newman
25	Teresa Shiner
26	Stu Levit
27	Ken McLean
28	Craig Tucker
29	Chris Nelson
30	John Davis
31	Starshine
32	Barbara Lancaster
33	Monishuck
34	Jim Sennett
35	Darlene L. Grove
36	Montana Department of Environmental Quality
37	Warren Kauffman

TABLE A-2. Individuals Who Submitted MEIC Form Letter on Final EIS/HCP

Susan Barmeyer	Bruce Hunner
Eugene Beckes	Shirley Jacobs
Kim Birck	Mollie Kieran
Russell Blalack	Ellen Knight
Ed Blackler	Curtis Kruer
D.L. Blank	Richard Landini
A. Lee Boman	Patty Mayne
Arleen Boyd	Suzanna McDougal
Virginia & Catlin Caplette	Carol and Larry McEvoy
Linda Christensen	Laurenda Messer
Mike Clancey	Bob Oset
Catherine Clow	James Paulsen
Mark S. Connell	Jane Ragsdale
Linda Coolidge	Randpat
Catherine Cooper	Catherine H. Ream
Sheila Coy	Joan Rysharry
Tom and Sarah Crane	Julia M. Saylor
Charlie Donnes	Patricia Sharp
Mac Donofrio	Roger Sherman
Chris Duam	Gonnie Siebel
John Dunkhum	Pat Simmons
Holly Einess	Jeffrey J. Smith
Rayna Eyster	Eugene Souther
Mary E. Fay	Steve Swanson
Jackie Foster	Jennifer Swearingen
Brenda Frey	Jay Van Alstyne
Lydia Garvey	Jil Van Alstyne
Ronda Gagnon	Mark Van Alstyne
Laurie. S. Gilleon	Kristen Walser
Joseph Gutkoski	Jacquinst Weisenback
Deborah Hanson	Dr. O Alan Weltzien
Pam Hillery	Zack Winestine
George Holton	Kathryn Hiestand / Neal Miller
Kathleen, Ronn, and Karen Gessaman	

TABLE A-3. Individuals Who Submitted NRDC Form Letter On Final EIS/HCP

Anthony Aasen	Nancy Cook	Ralph Famularo	L. Horne
Ellie Akins	Diana Cooksey	Monica Fella	Annie Hossefros
Yvonne Allen	Keith & Barbara Cooksey	Ron Fenex	Peter Ingrassia
Janet Allison	Sheila Coy	Rene Ferretti	Melanie Ippolito
Arlene Alvarado	C. Cramer	Jim Fiddler	Parris ja Young
Sarah Bagg	Vicky Crampton	Tammy Filliater	Rob Justin
Albert Banwart	Jennifer Cripe	Connie Fisher	Jerome Kalur
Colleen Barcus	Michael Cropper	Dick Forehand	Ann Karp
Lowry Bass	Todd Cross	Brandon Francis	Deborah Kindrick
Donald Baumgartner	Stephanie Cunningham	Donna Fraser	Ann King
Marc Beaudin	Page Dabney	Ronda Gagnon	Deb Kirkwood
Al Beaver	Herb Davis	Devon Gainer	Stacy Kiser
James & Evelyn Bentley	Jaimie Davis	Julie Gandulla	Anna Klene
Troy Bertelsen	Debra De Bode	Lee Gautier	A. Kovats
Eric Bindseil	Linda de Kort	Eva Gilliam	Richard Kraman
Joan Birch	Marit de Vries	Rabdall Gloege	Jim Kraus
Robert Bloyer	Julie Debruyne	Bev Glueckert	Jeffrey Kreidler
Kris Bodean	Meichael Denchak	Miles Glynn	Lora Lachelt
Linda Borton	Gary Denny	Nancy Grabowski	Mary Lake
Misty Bowen	Sahara Devi	Rhyan Grech	Susan LaMere
Pat Bowers	Pat Dewar	Brent Greenwell	Vicka Lanier
Jan Brocci	KD Dickinson	Barbara Grimes	Tonya Lauriski
Jan Brooks	Michele Dieterich	Ivana Grmoja	Margaret Lehmann
Dona Brown	Hester Dillon	Louise Grout	Whitney Leonard
Leesa Brown	Caryn DiMarco	Po Hall	Kyle Locke
Richard Brown	Steve Dober	Marlene Harrell	Kim Lockwood
Shannon Brown	Eric Drissell	Joshua Harteis	Victoria Lockwood
Jim Bryan	Lorie Dulemba	Daniela Hartl-Heisan	Rande Mack
Kathy Burgener	Janet Dunham	Terry Helton	Peggy Macki
Brooke Buttgen	John Dunkum	Theresa Helus	Peter Manka
Robert Byron	Lee & Susan Eakins	John Heminway	Lynne Marko
Christine Carbo	Linda Eichwald	Cheryl Hensley	Frances Markovic
Heath Carey	David Elden	Rita Hickey	Lisa Anne Marshall

TABLE A-3. Individuals Who Submitted NRDC Form Letter On Final EIS/HCP

Larry Carter	Steve Elie	Brenda Hixenbaugh	Kathleen Martin
Genny Chopourian	David Ellenberger	Carol Hoffmann	David Marx
Steven Cieslawski	Elizabeth Eriksson	Suzanne Hollingsworth	Thelma Matt
Carl Clark	Renee Evanoff	Jet Holoubek	Susan Mavor
Adam Collins	Shaney Evans	Laura Holtz	Patricia Mayne
Krissy Mazur	Pamela Poulsen	John Shier	Rosanna Vallor
Molly McCabe	Joyce Pritchard	Jodie Shoupe	Joel Vignere
Shawn McGlynn	Krista Putnam	Patricia Simmons	Beverly Villinger
Leslie Millar	Gretchen Randolph	Darryl Slattengren	Robin Vogler
Sara Mintz	Penni Raymond	Leda Slattery	Mari Von Hoffmann
Debbie Moon	Deb Regele	Karen Slobod	Sean Weas
Sherry Morgan	Cathy Reich	Alex Smith	Krystal Weilage
Gregory Morse	Karen Renne	Annick Smith	Topher Weiss-Lehman
Kay Morter	Douglas Reno	Jennifer Smith	Kasey Welles
Cilla Moseley	Jena Reno	Karin Stallard	Jack Welscott
Jennifer Nitz	Gail Richardson	Lida Stanton	Tim Wenthe
Christopher Nixon	Melissa Riviere	Gery Stearns	Sara Wilcox
Kaye Norris	Frederick Robbins	Jennifer Stevens	Pat Willaman
Michael O'Connell	Pete Rorvik	Kaite Stevens	Michael Williams
Susanne O'Connor	PJ Rose	Kenley Stone	Sharon Winnett
Sierra Oja	Lorene Rowland	Laura Strong	Peggy Wood
Jane Olson	Karen Salo	Janet Tatz	Barbara Wooley
Maureen O'Mara	Scott Samuels	Joel Tatz-Morey	Mary Wulff
Karen Ososki	Lucca Scariano	Ambrose Taylor	Charles Wynn
Brenda Oviatt	Tracy Schiess	Elizabeth Taylor	Joyce Yeung
James Pahre	Laurie Schlueb	Kimberley Taylor	Grace Young
Carole Parker	Louis Schmidt	Linda Teren	Aimee Zupicich
Catherine Pawsat	Wm Schultz	Carol Thomas	Maryln Zupicich
Ann Perez	Ruth Scott	Alan Thompson	
Sandy Pidgeon	Sheldon Scrivner	Melissa Trauth	
Douglas Pinto	Robert Seibert	Frederick Turk	
John Potter	Duke Sharp	Christine Valentine	

TABLE A-4. Individuals Who Submitted the Defenders of Wildlife Form Letter on Final EIS/HCP

Ellie Akins	Jim Davis	Ken Granby	Attila Kovats	Christine Nilsson	Kathy Spritzer
Deborah Arndt	Bartley Deason	Rhyan Grech	Helena Kozlowski	Robert Obeid	Bonnie Stelzenmuller
Tara Ashmore	LeeRoy DeJohn	Yvonne Gritzner	Tess Kreofsky	Susanne O'Connor	Jennifer Stevens
Michael Bailey	Robert Dennis	Louise Grout	Daniel Kreutz	Jane Olson	Shari Sutherland
Kelly Baraby	Caryn DiMarco	Jeffrey Gutierrez	Leo Leckie	Norma Parker	Chris Tanton
Lowry Bass	Michael Ditton	Lisa Hamel	F. Cramer Lees	David Parrott	Jeanette Tasey
Sharlot Battin	Eric Drissell	James Hanson	Alvin Lindeen	Jancie Pavlock	Pete Tenney
Marc Beaudin	Charisse Duchardt	Geoffrey Harold	Pam Linn	Toddy Perryman	Carol Thomas
Deborah Berry	John Dunkum	Dee Hellings	Nicole Lopez	Gloria Phillip	Jane Timmerman
Joan Birch	Sheryl Durand	Joan Herwig	Beverly Loport	Brian Prah	Phoebe Toland
Norman Bishop	Anna Eakins	Roger Hewitt	Janet Lyon	Joyce Pritchard	Cath Turgis
Linda Blair	Steve Elie	Jennifer Hintz	Peggy Macki	Jennifer Read	Susan Turmell
Robert Blickenstaff	Mary Elsea	Brenda Hixenbaugh	Karin MacLaurin	Karen Renne	Trent Turner
Linda Borton	Erik Englebert	Suzanne Hollingsworth	Carol Marsh	Gerry Rhoades	April Unknown
Dian Bottcher	Irene Erdie	Russell Houle	Bailey Martin	Tandy Riddle	Jerri Unknown
Barbara Brandis	Karlene Faulkner	Marty Howe	Jonathan Matthews	Vivecka Rodríguez	Joan Van Velzer
Carih Branson-Braud	Mary Fay	Eve Hunter	Graeme McDougal	Cheyenne Rose	Alan Vangemert
Robert Butts	Joslin Fields	Nancy Hyde	Sandra McKey	Lynne Haley Rose	Jess Varnado
Dakota Cannavaro	Liz Fife	Jan James	Celeste McLean	Patricia Rosenleaf	Jarl von Arlyon
Heath Carey	Lisa Flynn	Joyce Johnson	Leslie Millar	Karen Salo	Jerry Voss
Kay Carlson	Randy Fuhrmann	Donna Johnston	Bill Miller	Ellen Sanford	Mj Spitzner Weber
Ursula Carpenter	Karlene Faulkner	Brian Jones	Marlene Miller	Edie Schroedel	Krystal Weilage
H. Carpozi	Julie Gandulla	Robert Kaiser	Rob Milyko	Wm Schultz	Rebecca Whithed
Iliana Maifeld-Carucci	Bruce Gerrard	Brendan Kely	Debbie Moon	Bob Seibert	Matt Widirstky
Linda Coolidge	Terry Glase	V. Kent	Nony Morgan	Jim Sennett	Diane Wills
C. Cramer	Randall Gloege	Nancy Kessler	Cilla Moseley	Sharon Shipek	Stefan Wolowina
Marta Cramer	Steve Glow	Eugene Kiedrowski	Terrence Moyer	Alison Shives	Eric Wright
Cassandra Crnich	Daniel Goehring	Kenneth Kijewski	Harlan Mumma	Lauren Simmons	
Todd Cross	Renae Goltz	Cheryl Kindschy	Cliff Murray	Debra Smith	
Amy Cuchine	Julia Gordon	Soren Kisiel	Miriam Myett	Ryan Smith	

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Adaptive Mgmt & Climate	17	The concept of “adaptive management” presented in the HCP is, unfortunately, incorrectly formulated both in concept & in planned implementation, & is in need of a significant revision. Of particular importance among these recommendations is the crucial role of adaptive monitoring (Lindenmayer & Likens 2009). Scientific publications that examine the effectiveness of a variety of approaches to multi-species conservation are also available for use in planning processes such as those being undertaken by the DNRC (e.g., Carroll et al. 2009). Hence, DNRC has already created a system & infrastructure for monitoring forest health, which allows staff to comprehensively evaluate the effects of climate change on forest health on a subset of these plots. We recommend that DNRC analyze this large, long-term dataset to provide the quality & quantity of information needed for the suggested revision of the Draft HCP.	USFWS & DNRC responded to similar concerns regarding adaptive management in the comments on the Draft EIS. Please see Final EIS, Appendix G, line 3, p. G-191 through line 25, p. G-192.
Aquatics – Grazing	3	DNRC’s proposed grazing standards allow too much forage reduction: riparian forage consumed by livestock should not exceed 40% (rather than 60% proposed in the HCP), & shrub consumption should be limited to 20% light-medium (rather than 25% medium-heavy proposed in the HCP).	The Beaverhead-Deerlodge standards, cited by the commenter, are for open range lands, as opposed to forested riparian habitat. The HCP’s riparian forage utilization rate of 50% (See Final HCP, Chapter 2, p. 2-119) & browse rate of 25% are appropriate for forested conditions & represent an enhanced commitment by DNRC compared to the State Forest Land Management Plan & ARMs requirements.
Aquatics – RMZ Harvest	2	Without regeneration of the no-harvest zones, shade, feed, & cover for the stream & for fish & wildlife habitat will not be provided.	The HCP commitments include provisions to allow management of the no-harvest portion of the RMZ under certain instances, see Final HCP, Chapter 2, pp. 2-79 C 2-83.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
All Lands Added to HCP	3, 5, 6, 13, 19, 21	Several commenters stated that DNRC should include all of its land in the HCP. One specifically noted that the HCP excludes 1,263,900 acres. Another commenter stated that the acres slated for transfer or development should be included because land development is one of the key indicators of wildlife species survival & is crucial for DNRC to consider the cumulative effects that development activities on adjacent lands may have on wildlife populations & their habitat. Finally, one commenter stated that the recent acquisition of lands by DNRC should be added to the HCP.	USFWS & DNRC addressed concerns regarding not including certain lands in the HCP Project Area in our responses to comments on the Draft EIS/HCP. See Final EIS, Appendix G, Section 2.18 HCP Project Area, pp. G-200 C G-201. As stated in our responses to comments on Draft EIS/HCP, USFWS has informed DNRC of its support for adding lands acquired under the Montana Legacy Project to the HCP project area & Permit. Ultimately, the decision to add these lands to the HCP project area is DNRC's & it is the proponent's decision regarding which lands to include in the HCP. The Final HCP was revised to explain why DNRC did not include certain lands from the HCP (see Final HCP, Section 1.4.2, HCP Project Area). Regarding the specific statement that the HCP excludes 1,263,900 acres, we presume this value was derived from Table 1-1 in Final EIS, Chapter 1. We note that the acres of DNRC Lands in western Montana presented in that table includes nonforested lands managed under other programs within the DNRC Trust Lands Management Division. This HCP only applies to the forest management program. Lastly, the potential cumulative effects of land development in the planning area is addressed in Final EIS, Chapter 5, Cumulative Effects.
Aquatic – Buffer Widths	10	The FEIS fails to provide any scientific basis to justify the adequacy of its small buffers. The only support for this significant policy is that the SMZ law, ARMs, BMPs & forest management policies are—generally effective at minimizing soil disturbance is a DNRC implementation monitoring report (see p. 4-116). Every 2 years audits are conducted under the SMZ program. These audits are done to determine compliance with all aspects of the law—and they do not determine if water quality is being protected adequately for fisheries. Therefore, although the SMZ program helps water quality, it is IMPOSSIBLE to say that this law protects water quality for fisheries considered by the HCP.	The literature supporting DNRC's establishment of RMZs measuring the 100-year SPTH with a 50-foot no-harvest buffer & the remainder partially managed is summarized in the Final HCP, Chapter 2, pp. 2-66 C 2-73. Since publication of the Final HCP, DNRC has modified its commitment AQ-RM1 to require an RMZ with a minimum width equal to the 100-year site index tree height (or 80 feet, whichever is greater). Additionally, this issue is again addressed in the USFWS' BO, which finds that the HCP provides a high degree of certainty that the buffer widths & associated RMZ prescriptions will likely avoid or minimize the effects on riparian functions that support the habitat needs of the HCP fish species.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Aquatics – ARMs & BMPs	5	The HCP relies heavily on existing ARMs & BMPs for aquatic mitigation. If these measures were adequate then why is there a need for the HCP? The HCP must institute more stringent measures & the EIS must contain an actual range of alternatives.	In many instances, implementation of ARMs & BMPs adequately reduce the risk of potential take of listed aquatic species. The HCP then, attempts to address those instances when the ARMs & BMPs are not adequate by requiring enhanced oversight & involvement by water resource specialists in high risk situations such as actions on hazardous slopes or sales removing high volumes of timber. Additionally, the HCP commits DNRC to a program to address legacy roads & culverts with ongoing effects on aquatic species, which is not addressed by the ARMs. Lastly, in exchange for implementing the HCP, DNRC will receive a Permit authorizing take of listed species--something it does not have under ARMs & BMPs. USFWS & DNRC have previously responded to comments that the EIS contain a range of reasonable alternatives. (see our response in Appendix G, Section 2.5).
Aquatics – BMPs	1	The BMP process is ineffective to truly identify effects from logging. The monitoring protocol is not scientific & there is no effectiveness monitoring.	We clarify that the BMP process is used to protect water quality during logging activities. DNRC employs BMP audits as well as timber sale administration inspections to document that BMPs are appropriately installed & achieving the water quality benefit they were designed for. We note that DNRC also will conduct quantitative sediment monitoring projects under the HCP to demonstrate the effectiveness of BMPs. These results will be reported to USFWS in the HCP the 5-year monitoring report.
Aquatics – Changes in No Harvest Buffer	9, 15	The change in the no-harvest buffer is disturbing for three reasons: 1) it perpetuates the misguided perception that riparian areas do not require active management & that a hands off approach will result in the best level of protection, 2) there is inadequate analysis of this change in the HCP, 3) it furthers the perceptions that the SMZ law/BMP process is inadequate to protect riparian resources.	Regarding concern 1), we agree that riparian areas can benefit from management, which is why a portion of DNRC's RMZ is a management zone & the HCP includes provisions to allow DNRC to manage in no-harvest buffers. Regarding 2), the increased buffer width is analyzed in the Final EIS as explained in Chapter 4, pp. 4-248 C 4-249. Additionally, the Final EIS includes a new calculation of the annual sustainable yield & present net value as well as the costs to HCP implementation resulting from the changes in HCP commitments between Draft & Final HCP. Regarding 3), increasing the no-harvest buffer does not imply that the SMZ law/BMP process does not protect riparian resources. Rather, we asked DNRC to do more to protect riparian resources in its HCP to minimize/mitigate impacts of take on covered species.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Aquatics – Climate	5	The EIS & HCP fail to account for how changes to streamside zones will result from climate change, i.e., will trees grow back at the same rate? Will trees grow back at all if they are logged in riparian areas?	Through Changed Circumstances, Final HCP, Section 6.2.4, DNRC would address changes in effects of incidental take due to climate change or the species changing its habitat use, food base, or other biological needs in response to climate change if DNRC's action are affecting these new conditions.
		The HCP moves in the opposite direction from the recommendations in Isaak et al. 2010 & Shelburg et al. 2010, which could exacerbate the effects of climate change on bull trout & other cold water fishes. It allows the construction of over 1,300 miles of roads, allows logging in riparian areas & allows grazing to continue near streams. The 50-foot streamside buffers in the HCP are riddled with exceptions that allow salvage logging & other activities in them thereby reducing the LWD available to the streams which can result in increased stream scour & loss of bull trout redds.	Shellberg et al. 2010 conclude in their management implications that “Processes that form complex habitat in association with large woody debris (LWD) (Beechie et al. 2000) may partially mitigate against unfavorable discharge regimes, water and sediment yield alterations due to land-use, or future climate change (e.g., Battin et al. 2007).” Isaak et al. 2010 concludes that “...minimizing nearstream disturbances associated with grazing, road building, and timber harvest, or facilitating rapid vegetative recovery after these disturbances, could help buffer many streams from additional warming.” The HCP is not a departure from these recommendations. In our BO, we conclude that widening the no-harvest buffer on a greater number of streams is a proactive approach to help insulate streams in harvest units against potential effects of climate change. Overall, the application of the DNRC HCP aquatic strategy commitments is expected to help buffer the effects of climate change on channel form & function in the HCP project area by maintaining healthy riparian buffers, ensuring adequate delivery of LWD, reducing sediment delivery, & addressing cumulative water effects.
Aquatics – Culverts	5	The HCP does not require that culverts be regularly monitored to ensure that they do not plug with debris & fail. It only requires that culverts be monitored for fish passage.	The proposed HCP includes several commitments to ensure that culverts are evaluated to ensure proper functioning & compliance with forestry BMPs. As described for commitment AQ-SD2, Final HCP, pp. 2-96 C 2-100, DNRC will complete inventories of all existing roads & stream crossing structures. AQ-SD2 includes specific timelines for completion of these inventories & corrective actions on problem sites. DNRC would continue to conduct these inventories throughout the duration of the Permit. In addition, DNRC completes additional road inventories & assessments during timber sale project planning. Watershed assessment & analysis completed for timber sale projects includes comprehensive evaluations of existing roads & culverts to determine existing conditions & maintenance needs with the project planning area.

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Subject	Letter #	Comment	Response
Aquatics – Effects on Nutrient Loading	5	The increased logging & narrow stream buffers in the proposed HCP will further degrade aquatic ecosystems as substantiated by the Hauer et al. 2007 study of nutrient loading in streams in the Crown of the Continent.	USFWS agrees with the premise that logging activities can have an effect on nutrient dynamics on streams within the Crown of the Continent ecosystem as inferred by Hauer et al. (2007). Studies cited in this article indicate that certain nutrients (total phosphorus & total nitrogen) in higher concentrations may lead to increased algal growth. The main point of this article is to bring attention to the information (effects of logging, mining, & exurban encroachment) about pending threats to water quality & water quantity to streams in the Crown of the Continent ecosystem. However, the authors do not specifically address stream buffer widths relative to nutrient loading associated with logging practices. We note the authors acknowledge that logging practices have greatly improved on State 7 Federal lands due to best management practices, which are integral to the DNRC HCP. The riparian timber harvest conservation strategy of the DNRC HCP is expected to provide natural rates nutrient loading during the permit period. When DNRC plans a timber harvest within a RMZ of a Class 1 stream, the distance of the riparian buffer width is established based on the 100-year site index tree height which generally ranges from approximately 80-120 feet, the first 50 feet next to the stream is a no-harvest zone. This range of distance of the RMZ falls well within the range of the riparian function for input of particulate organic matter to stream channels from adjacent forest stands found in the literature (see FEMAT discussion below for example). Consequently, the 50-foot no-harvest zone of the RMZ in combination with the remaining managed buffer out to a SPTH is unlikely to have any effect on the natural rate of nutrient input from timber harvest in the RMZ. The FEMAT report (USDA et al. 1993) established a generalized set of curves based on SPTH (distance from channel) as the basis for establishing riparian buffer widths. The set of generalized curves indicate the riparian forest effect on streams as a function of buffer width for 4 principle ecological functions, which are root strength, litter fall (nutrients), shade, & coarse woody debris (USDA et al. 1993). The curves suggest that a buffer width of 2 the height of SPTH (50 feet for 100 foot SPTH) provides for natural rates of nutrient input (litter fall & other organic particulate matter).
Aquatics – Fish Passage	5	If the HCP is to benefit multiple fish species then the hierarchy for corrective actions to facilitate fish connectivity should not be tiered. Furthermore, the timeframes for correcting fish passage problems – 15 to 30 years – is too long.	The hierarchy for corrective actions is necessary to ensure that the conservation needs of the bull trout, which is the aquatic species at greatest risk as indicated by its listing under ESA, is addressed first. Your preference for shorter timeframes for correcting fish passage problems is noted. USFWS concurs with the rationale for the proposed timeframes described in Final HCP, Chapter 2, pp. 2-111 C 2-112.

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Subject	Letter #	Comment	Response
Aquatics – Inadequate Buffers	1, 3, 4, 5, 10, 29	Several commenters expressed concerns that the proposed riparian buffers in the Final HCP are inadequate to protect aquatic resources.	Since publication of the Final HCP, DNRC has modified its commitment AQ-RM1 to require an RMZ with a minimum width equal to the 100-year site index tree height (or 80 feet, whichever is greater). USFWS addressed this issue in the responses to comments on the Draft EIS (see Final EIS, Appendix G, Section 2.1 Streamside Buffers). Further, the BO concludes that the DNRC HCP addresses the critical riparian functions described as most important to HCP fish species through its prescribed riparian buffer as substantiated by FEMAT (1993). The analysis of the effects of the riparian timber harvest on these riparian functions in the Final EIS/HCP (USFWS & DNRC 2010) provides a high degree of certainty that the buffer widths & associated RMZ prescriptions will likely avoid or minimize the effects on riparian functions that support the habitat needs of the HCP fish species.
Aquatics – LWD	5	We referenced the Hauer et al. (1999) study in our DEIS comments as a counterpoint to DNRC's conclusion that LWD recruitment would be sufficient with 25-foot buffers. This study was not used in the FEIS. It is applicable for the proposed 50-foot buffers & should be incorporated into the analysis. It is attached.	Although Hauer et al. (1999) is not specifically cited, the EIS & HCP acknowledge the conclusions of this study - that the function of LWD can be altered if harvest occurs next to a stream. This is why the HCP implements a SPTH buffer with a 50-foot no-harvest zone next to the stream. This issue is more specifically addressed in the USFWS' BO, which includes a discussion of the negotiation & evaluations of the DNRC HCP Riparian Timber Harvest Strategy.
Aquatics – Multiple Entries in RMZ	1	DNRC has a high likelihood of logging in the SMZ multiple times. The responses to my questions (<i>on the Draft EIS/HCP</i>) do not clarify what baseline will be used to maintain the SMZ. If 50% of the trees are logged multiple times, the 50% retention will not be retained.	In response to concerns raised on the Draft EIS/HCP regarding multiple harvest entries in the RMZ, DNRC added a new HCP commitment limiting multiple entries (AQ-RM1[4]). The commitment does not rely on a comparison to a baseline. Multiple entries could only occur if (1) the previous harvest retained a medium- to well-stocked stand of trees in the poletimber or sawtimber size classes, or (2) the residual stand would be a medium- to well-stocked stand in the sawtimber size class.
Aquatics – Resident Fish	5	The HCP allows localized impacts over 2 years without considering that these impacts can have dire effects to resident fish populations.	The effects of the forest management program on aquatic species (including resident fish populations) are analyzed in Final EIS, Chapter 4, pp. 4-250 C 4-300. The viability of the habitat component approach vs. a species specific approach to the analysis is explained on p. 4-250.
Aquatics – RMZ	1	What effects does heavy equipment use in the RMZ have on shrubs, trees, & other ground cover?	Operation of heavy equipment along streams is acknowledged to have adverse effects on vegetation. That is why, under the SMZ Law, ground based equipment is prohibited from operating within the SMZ, which in the case of the HCP encompasses the 50-foot no-harvest buffer. However, for slopes > or =to 35% the width of the SMZ is extended to 100 feet & the SMZ boundary (& therefore the prohibition on operation of ground based equipment) is extended to include adjacent wetlands. Under ARM 36.11.425, equipment exclusions are extended for an additional 50-100 feet on sites with high erosion risks. And, when ground based equipment operates within that portion of the RMZ located beyond the normal SMZ, DNRC is required to retain shrubs & sub-merchantable trees to the fullest extent possible. Therefore, overall equipment operation within the RMZ would be minimized to the extent possible under the HCP.

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Subject	Letter #	Comment	Response
Aquatics – RMZ Needs Flexibility	7	We favor your decision to extend the RMZ to perennial streams connected to all fish-bearing streams, but extending the no-harvest buffer to 50 feet is another example of “cookie-cutter” management that does not respect site-specific conditions.	The HCP commitments allow management of the no-harvest portion of the RMZ under certain circumstances, see Final HCP, Chapter 2, pp. 2-79 C 2-83.
Aquatics – Road Densities	4	We note that the proposed road densities under the HCP exceed USFWS road density recommendation for bull trout habitat (Bull Trout Interim Conservation Guidance, USFWS 1998).	We previously addressed this topic in the Final EIS, Appendix G, pp. G-49 C G-50, responses to Letter 9, comments 59 & 61. Additionally, this issue is further addressed in the the USFWS’ BO. In that document, we describe the unique needs of the DNRC as a public agency that preclude them from further reducing road densities under the HCP. Rather, the DNRC HCP would manage specific impacts of roads by implementing a suite of measures that would reduce the potential risk of sediment delivery to a stream. As determined in our Findings (Appendix B), these collective actions are expected to adequately minimize & mitigate effects of impacts from roads on HCP fish species & their habitats. The HCP also includes sufficient adaptive management flexibility to ensure that, in those cases where the proposed approach is not as effective as necessary in conserving HCP fish species, management can be modified as appropriate.
Aquatics – Sediment	5	The HCP must contain a standard for sediment. Further, the sediment reduction scheme for problem roads over 50 years does not include new road construction which skews the analysis.	The HCP commits DNRC to a 50% reduction in sediment delivery from problem road segments over the Permit term (Final HCP, p. 7-4). Sediment production & delivery analysis included in the Draft EIS & Final EIS includes new road construction (both temporary & permanent) as well as corrective actions on existing roads.
Aquatics – SPTH	1,5	There has been a change in setbacks from SPTH to a SPTH at 100 years. This will reduce protections for water quality & temperature.	The method used to establish the streamside buffers did not change in the FEIS. In both the Draft & Final EIS, the commitments contained in AQ-RM1 specify that RMZs will be established with a minimum width equal to the 100-year site index tree height. An editorial change was made in the Final EIS in the introductory text for the Riparian Timber Harvest Conservation Strategy (Final HCP, Chapter 2, p. 2-66, line 38) to clarify the method & to make the description of this method consistent throughout the document. Rationale for the use of 100-year site index tree height is contained in Final HCP Chapter 2, p. 2-75, lines 23-30. Since publication of Final EIS/HCP, DNRC has modified its commitment AQ-RM1 to require an RMZ with a minimum width equal to the 100-year site index tree height (or 80 feet, whichever is greater). Adequacy of the proposed RMZ width was addressed in Final EIS analysis pp. 4-250 C 4-297 & in Final EIS Appendix G, Section 2.1.1 Streamside Buffers, pp. G-12 C G-14.
Aquatics – Stream Temperatures	1	The HCP allows 1EC (<i>change in water temperature</i>), which is in violation of State law that allows for 1EF from all human caused effects.	This error was corrected in the Final EIS/HCP.

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Aquatics – Timeframes	5	The HCP allows 15 years for corrective actions on high risk sediment sites in bull trout streams to be completed & 25 years for cutthroat & redband trout streams. If DNRC cannot correct problems on its existing road system for 25 years then they should not build any more roads.	The preference that DNRC simply not build more roads until corrective actions are completed is noted. USFWS concurs with the rationale for the proposed timeframe for corrective actions as described in Final HCP, Chapter 2, p. 2-99.
Aquatics – TMDL	36	DEQ continues to support enhancement of HCP activities, particularly commitments for sufficient restoration of historic road sediment effects to achieve substantive compliance with MT water quality standards with the near future (5 to 10 years) following TMDL completion.	The HCP requires DNRC to complete corrective actions at all sites with a high risk of sediment delivery within bull trout streams within 15 years of HCP implementation & within 25 years of HCP implementation for WCT & RBT streams. The prioritization schedule for completing corrective actions considers the goals of TMDLs in affected watersheds.
Aquatics – Water Quality	36	DEQ suggests that the HCP's sediment restoration BMPs for past actions be clearly linked to meeting Montana water quality standards, & to TMDL restoration priorities & timeframes.	The HCP requires DNRC to incorporate goals, targets, & prescriptions contained within approved TMDLs applicable to covered activities where DNRC has actively participated in development of the TMDL, & the TMDL planning area is located within a watershed containing HCP project area parcels supporting HCP fish species. The commitment is limited to situations where DNRC has actively participated in development of the TMDL. The commitment further explains that due to limited land ownership in some TMDL areas, DNRC may not have the resources to participate in development of every TMDL but that DNRC will actively participate in when 25% or more of the TMDL planning area consists of HCP project area parcels in watersheds supporting HCP fish species. Existing DNRC practices & HCP sediment delivery reduction strategy are consistent with goals of the TMDL process & meeting Montana water quality standards. Therefore, the limitations to the application of this commitment are reasonable.

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Subject	Letter #	Comment	Response
Bears – Conservation & MEP	11	Some commenters questioned why the HCP failed to implement the Federal Standards for grizzly bears on State lands. One commenter stated that the HCP dismisses information on the impacts of increased roads & timber harvest on bears & undermines the State's responsibility to recover the threatened grizzly. Another commenter stated the plan does not meet a maximum extent practicable (MEP) standard for bears & ignores information, including geographically explicit data on these issues that could be applied in a practical way to improve & protect habitat in highly productive areas, & to reduce the potential for conflicts by closing roads strategically around & between remaining core habitat.	USFWS & DNRC explained why DNRC HCP did not apply USFS' standards for grizzly bears in our responses to comments on the Draft EIS. Please see Final EIS, Appendix G, p. G-82, the response to Letter 117, comment 540. Regarding the State's responsibility to recover threatened bears, please refer to our response to this issue in Final EIS, Appendix G, p. G-111. Regarding statements that we ignored information, we reiterate that the Final EIS acknowledges effects of roads & timber harvest on bears (pp. 4-321 C 4-356). We also point out that we did consider these effects in negotiating HCP strategies, which is why the commitments focus on reducing the effects of roads & potential for conflicts. This is shown through DNRC's focus on reducing open roads, closing roads & restricting activities in habitats of seasonal importance for bears, & implementing a management/rest scenario in grizzly bear habitat.
Bears – Helicopters	7,	The addition of low elevation helicopter use restrictions in grizzly bear habitat is good - litigation over this issue would otherwise be certain.	Comment noted.

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Subject	Letter #	Comment	Response
Bears – Swan	5, 16	Two commenters questioned the information presented through the Swan Valley Research & Monitoring program & stated that the responses to comments on the Draft EIS/HCP misinterpreted the data by stating that “a radio-collared survey of 10 grizzly bears in the Swan Valley demonstrated broad use of the valley and tolerance of high road densities.” The commenters noted that the responses to comments on the Draft EIS/HCP failed to mention that in a 2008 article in the Missoulian the USFWS stated the Swan Valley had a 33% mortality rate which was unsustainable. One commenter stated the HCP should include security core for bears on all DNRC blocked lands & the other commenter stated that the HCP should implement road & motorized route density limits/standards on the order of Amendment 19 standards applied to USFS lands.	Our statement that ... “10 grizzly bears in the Swan Valley demonstrated broad use of the valley and tolerance of high road densities”... was not intended to downplay potential for elevated risks to grizzly bears associated with extensive forest road systems. The many risks associated with roads are acknowledged in Final EIS, Chapter 4, pp. 4-306 C 4-307 & 4-321 C 4-335, & in Final HCP, Chapter 7, pp. 7-21 C 7-22 & 7-25 C 7-26. However, the telemetry locations for 10 bears in the Swan (presented in Hicks et al. 2010) do clearly indicate that these bears did not promptly leave this managed landscape (i.e., were not displaced to any great distance) even though many risk factors, including roads & human activities, were present. The results also indicate that individual bears use landscapes very differently. We acknowledge & concur that bears have been dying at a high rate in the Swan Valley in recent years (average of 1 to 2 per year), but most deaths have had little to do with forest road systems & more to do with development conflicts (i.e., traffic fatalities on Highway 83, management bears removed due to garbage & unnatural foods on private land, cabin break-ins, etc.). In response to these factors, cooperators in the Swan Agreement working with the Swan Ecosystem Center, voluntarily stepped up local efforts in addition to measures contained in the Swan Agreement to help reduce mortalities associated with poaching & attainment of unnatural foods on private lands. The Swan Agreement is considered by the USFWS & DNRC to be an important conservation tool for minimizing risks to grizzly bears in this area although it was never designed or intended to address the many potential mortality factors affecting grizzly bears on neighboring private ownerships in the Swan Valley. Additionally, we note that our understanding of grizzly bears in the Northern Continental Divide ecosystem has expanded greatly since the 1997 South Fork Grizzly Study took place. Currently, there are over 765 bears in the Northern Continental Divide ecosystem & the population was growing at a rate of 3% per year from 2004-2009. Information is still being obtained from several radio-marked bears in the Swan Valley for Northern Continental Divide ecosystem population trend monitoring purposes. If relevant to the HCP, that data may be used to adapt the HCP at a future date (Final HCP Chapter 4, Section 4.2).
Bears – Adverse Effects	35	The plan as proposed will have a very great negative impact on our surviving grizzly bears. The science we have read & that has been presented to you from others outside the agency, does not support this proposal. Again, our bears, wolves & watersheds are all great assets to the State of Montana & the nation. They are much more valuable to future generations & the schools of this State than the existing saw logs.	The effects of HCP implementation on grizzly bears, including adverse effects, are disclosed in Final EIS, Chapter 4, pp. 4-321 C 4-356 & analyzed in the USFWS’ BO, which determined that implementation of the HCP would not preclude survival & recovery of the species. Our Findings (Appendix B) and Biological Opinion also include an analysis of effects to grizzly bears & determined that the HCP would minimize & mitigate impacts take of grizzly bears to the maximum extent practicable, &, in fact, result in a net conservation benefit to the species based on numerous commitments to address effects of high road density and the potential for human-bear conflicts and livestock-bear conflicts. We also note that the Northern Continental Divide ecosystem currently has over 765 grizzly bears & the population has been increasing since 2004 at a rate of about 3% per year.

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Subject	Letter #	Comment	Response
Bears - Core	1, 3, 5, 11, 22	Several commenters continue to express concerns relative to the need to retain security core for bears on DNRC's blocked ownership. Specifically, one commenter stated the 4-year activity/8-year rest scheme in Stillwater State Forest should be rejected for several reasons: 1) The rest period is not a surrogate for secure core because it has many loopholes that allow salvage logging & use of closed roads by DNRC. 2) DNRC is allowed to maintain up to 8 miles of temporary roads at any one time. 3) DNRC is relying on adjacent USFS core area to provide grizzly bear security yet their own ARMs do not allow them to restrict their activities to make up for deficiencies on adjacent lands. They can't have it both ways. 4) The HCP characterizes adjacent Plum Creek lands as having "efforts to avoid or minimize take." However, Plum Creek does not have an HCP for grizzly bears so is not bound by any legal measures to minimize take. 5) This scheme has not proven to protect grizzly bears in the Swan Valley under the SVCA.	USFWS & DNRC responded to concerns about grizzly bear security core in the Final EIS, Appendix G, p. G-73 in our response to Letter 12, comment 127. However, we erroneously reported that "... the proposed Stillwater transportation plan proposes reconstruction of existing roads or use of temporary roads to access timber stands and would construct only 2 miles of permanent road in the Stillwater Core over the Permit term, further minimizing effects of roads in the core area." DNRC would actually construct 12 miles of new road in the Stillwater Core over the Permit term. This difference in mileage does not affect our conclusion because the road density analysis presented in the Draft & Final EIS included 12 miles in its calculations & description of effects. In addition to the information provided in our response to this issue in the Final EIS, we note that the Final EIS includes an analysis of secure habitat on p. 4-341, Table 4.9-15. This table shows that overall in the Stillwater Block, there would be a net reduction in secure habitat by 12% & that 3 of the 8 grizzly bear subunits would decrease in habitat availability. Additionally, because land ownership in the Swan Valley has changed from Plum Creek Timber Company to TNC, we anticipate that changes in secure habitat would be more similar to those depicted in Table 4.9-15 for the no-action alternative under the Swan Agreement. In our BO, we have determined that DNRC's program to limit open roads, restrict public & State agency access on other roads during key time of year for bears, implement a timber management/rest schedule, provide cover & screening for bears, & address potential human-bear conflicts would ensure that most bears would be provided adequate areas free from intensive disturbance associated with commercial forest management activities such that no incidental take is anticipated. In response to commenters' Reason 1, the "exceptions" in rested subzones (30 days for commercial activities per year & allowable low-intensity activities) are the same as those allowed in secure habitat on National Forest lands. Additionally, the "exceptions" for salvage harvest that extend for more than 30 days require coordination with the USFWS, which is the same practice that occurs on National Forest lands. Therefore, the HCP's approach to exceptions is not a departure from current practices & would not compromise the benefits from rested subzones. In response to reason 2, the effects of temporary roads on bears are addressed in the Final EIS, Chapter 4, Section 4.9. In response to reason 3, the HCP represents DNRC's commitments to conserve the HCP species on State trust lands & does not rely on Federal lands to compensate for impacts on State lands. In the BO's analysis to determine if the HCP would jeopardize listed species, the USFWS considered actions & conservation programs on adjacent Federal lands. In response to reason 4, the HCP does not identify or rely upon Plum Creek minimization efforts in the Stillwater State Forest to reduce potential effects on bears. However, the HCP acknowledges the DNRC/Plum Creek relationship to jointly manage closed roads in the Swan River State Forest under the Swan Agreement. These lands are now owned by TNC, who continues to cooperate with DNRC to jointly manage road closures. The management/rest scenario is successfully supporting population connectivity from the Swan Range to the Mission Range across the Swan Valley (Hicks et al. 2010). In response to reason 5, see our response to comments in Bears-Swan, letters 5 & 16, above, for information on bears in the Swan Valley.

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Subject	Letter #	Comment	Response
Bears – CYE	5, 11, 22	Three commenters stated the HCP needs stronger protections for bears in the Cabinet Yaak ecosystem & one suggested that the HCP would not improve conditions for these bears or their prospects for recovery.	We responded to similar concerns raised on the Draft EIS/HCP. See our response in Final EIS, Appendix G, p. G-121, under Letter 96, comment 391. The HCP includes enhanced commitments for the portion of the HCP project area within the CYE. In our ESA Section 7 BO, we determined that the HCP would not cause take of bears in the CYE & also would not result in jeopardy of grizzly bears. Lastly, the proposed HCP is consistent with the recovery actions by Federal land managers on lands in & adjacent to the action area.
Bears – Foods / Climate	11	Section 4.2 Climate of the Final EIS does not provide a realistic analysis of potential major changes on bear foods from climate change, so as to fully evaluate the effects of implementing the HCP. DNRC therefore could not intelligently assess the likely cumulative effects of bears from timber harvest in a changing forest arena over the next 50 years. Without such analysis, it is impossible to assess whether or not the actions taken in the HCP would meet or violate the goal of reducing impacts on endangered species to the maximum extent practicable.	The Final EIS, Chapter 4, pp. 4-318, 4-320, & 4-356 identifies potential changes attributable to climate change that may affect bears. The Final EIS, p. 4-356 states that the commitments for bears under the HCP should help reduce the effects of other stressors that may affect bears through climate changes. It also notes that through annual & 5-year reviews, the monitoring & adaptive management program, & contingencies for changed circumstances, the HCP would provide opportunities to address ongoing changes to the bears' environment & incorporate the findings of scientific research. Because grizzly bears are food generalists that exploit seasonally & locally abundant food sources when they are available, we expect that bears will respond to changing food sources readily by adjusting food habits.
Bears – Helicopters	9	There are no stated instances where the DNRC has any problem with the limited use of helicopters for timber harvesting, so why the capitulation on this use when needed? There is no explanation other than “like other motorized activities, helicopter use can affect bears.”	Recent litigation has required USFWS to more closely consider the effects of helicopter use on bears. To ensure appropriate incidental take coverage & analysis of effects, the possibility that helicopter use by DNRC could result in incidental take of bears, needs to be addressed in the HCP. The HCP commitments to address the effects of helicopters on bears are more in line with the guidance issued by USFWS on September 17, 2009.

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Subject	Letter #	Comment	Response
Bears – Monitoring & Take	11	The plan includes contradictory statements about the impacts to grizzlies from implementation of the HCP, & the need for monitoring. On 4-8, the plan says “little effectiveness monitoring is required because the HCP conservation measures are based on the best available science and are understood to be effective when implemented properly.” Yet this statement is contradicted elsewhere in the document, such as on 7-10, where the plan states “the displacement of grizzlies from habitat are difficult to quantify and in most cases, impossible to measure in terms of impacts of bears on harvest.” The plan goes on to say that “the best available and commercial data are not sufficient to determine a specific number of grizzlies that may be affected by displacement and therefore subject to incidental take.” Isn’t quantification of take the purpose of the entire document? The plan must be revised to make rational sense of this complex issue.	USFWS would like to clarify that the statements in HCP Chapter 7, are pointing out the challenges associated with quantifying take of bears whereas the statements in HCP Chapter 4 are referring to the need to monitor the HCP commitments. The statement the commenter referenced on p. 7-10, might be better stated as “although we may observe displacement of grizzlies from habitat disturbed during timber harvest, the subsequent effect of that displacement on the bear is difficult to quantify and assess.” The statement then, that “the best available and commercial data are not sufficient to determine a specific number of grizzlies that may be affected by displacement and therefore subject to incidental take” is true & is the reason we use habitat surrogates to quantify take of bears. The habitat surrogates are explained in Final HCP, Chapter 7, p. 7-12.
Bears – Pepper Spray	21	Require that DNRC field staff carry bear pepper spray, which has proven effective in deterring grizzlies in conflict situations.	DNRC employees are encouraged, & will continue to be encouraged to carry bear spray, particularly in areas where grizzly bears are likely to be present. Both USFWS & DNRC believe that it is appropriate & adequate to allow individual employees & DNRC contractors’ discretion in determining when & where they carry bear spray. The HCP commitments include training of employees working in bear country.

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Subject	Letter #	Comment	Response
Bears – Roads	22	Redouble efforts to reduce road densities in the bear management areas where overall road densities greatly exceed biologically sound thresholds.	Presumably the biologically sound thresholds referenced by the commenter are the USFS' Amendment 19 standard that bear management subunits contain no more than 19% of its area with greater than 1 mile/square mile open road density, no more than 19% of its area with greater than 2 miles/square mile total road density, & not less than 68% of its area providing secure habitat. DNRC determined these measures were not achievable given its land base, land distribution, mission, & trust mandate (See Final HCP Chapter 2 & Final EIS, Appendix G, p. G-73 response to letter 2, comment 7). Hence, DNRC is seeking an incidental take permit to authorize take associated with its forest management program. The HCP was negotiated with the understanding that the operating environment is working forests that require capital investments for roads at densities that may be compatible, but not necessarily optimal to maintain high quality habitat for some species such as grizzly bears. To greatly reduce road densities to the degree mentioned would not be compatible with DNRC's long term management needs & fiscal obligations &, therefore, is not practicable. Therefore, DNRC's HCP strategy is aimed at minimizing roads to a level that is compatible with its allowable covered activities, as well as implementation of numerous other strategies to minimize impacts of its program on bears. To that end, the HCP focuses on reducing open road densities, closing roads & restricting activities in habitats of seasonal importance for bears, & implementing a management/rest scenario in grizzly bear habitat.
Climate – Atmospheric Gases	9	There are several areas of concern relative to climate change & the changes made to the document. There is no proven scientific basis for the assumption that timber harvest & its associate roads contribute to an increase in atmospheric gas levels.	That climate changes are attributable to human activities is highly likely, & the data suggests that certain human activities are more likely than others to contribute heat-trapping gases. The role of this project in the contribution to greenhouse gases is appropriately characterized in the Final EIS as a small fraction of Statewide emissions from all sources.
Climate – Planning	17	We would like to point out that our expectations for DNRC's planning processes are no different than those for other agencies. That is, other State & Federal agencies are already well into the process of developing plans to mitigate the effects of climate change on the forests, watersheds, & imperiled species entrusted to their care, etc.	DNRC reviewed the links provided & noted some general recommendations for conserving streams. DNRC did not identify specific strategies (or plans to develop specific strategies) to mitigate the effects of climate change on Canada lynx, aquatic species, or grizzly bear habitat because we & DNRC determined that the biological objectives & conservation strategies of this HCP fit well with the recommendations in the links provided. The HCP addresses potential changes in the habitat needs of HCP species due to effects of climate change in several ways, as described in our response (below) to the range of comments we received on climate change.
Climate – References	17	Scores of peer-reviewed scientific publications about the current impacts of climate change in the Northern Rockies are readily available to the DNRC for use in the planning process, & were provided on a CD & in the reference section of our last set of comments on the draft HCP, although not included in the Final HCP.	We reviewed the literature provided in the comments on the Draft EIS & incorporated into the Final EIS analysis the findings from 7 of the publications provided. The remaining publications were either not relevant to the proposed HCP & the resources addressed by the plan or were not considered because they were not peer-reviewed literature.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Climate - Change	10, 12, 17, 20, 21, 25, 26, 29, 32	We received a range of comments regarding climate change similar to those we received during the comment period for the Draft EIS/HCP.	USFWS & DNRC responded to all of these concerns in our responses to comments on the Draft EIS/HCP. Please see Final EIS, Appendix G, Section 2.7 Climate Change, pp. G-153 C G-162. We reiterate that this HCP addresses potential changes in the habitat needs of HCP species due to climate change in several ways: 1) The HCP has a program for reviewing new relevant publications at annual & 5-year reviews. This is an opportunity to potentially change the HCP to address species needs that may be changing due to climate change. 2) The HCP identifies climate change as one of the triggers in the Changed Circumstances section, including a specific process for the two agencies to collaboratively respond if new research shows that incidental take has increased or the HCP species are changing their habitat use, food base, or other biological needs due to climate change. 3) DNRC's stream temperature monitoring is designed to detect site-specific changes in stream temperature. If the riparian strategy is not conserving stream temperatures adequately, DNRC commits to establishing RMZ prescriptions that will meet post-harvest shade levels & stream temperature requirements.
Conservation Alternative	1, 2, 3, 4, 6, 10, 11, 12, 13, 16, 19, 20, 21, 24, 25, 26, 27, 29, 30, 31, 33	Several commenters reiterated comments we received on the Draft EIS/HCP -- that DNRC must consider a true conservation alternative that minimizes timber harvest, road densities, & grazing & maintains or improves habitat for listed species. Some commenters also stated there was no scientific basis to the proposed HCP strategies. Several also reiterated another common comment on the Draft EIS -- that the EIS did not include a reasonable range of alternatives. Two commenters expressed support for Alternative 3.	USFWS & DNRC addressed these concerns in our responses to comments on the Draft EIS/HCP. See Final EIS, Appendix G, 2.5 Alternatives, pp. G-138 C G-140. Regarding concerns that the HCP must maintain or improve habitat for listed species, please see Final EIS, Appendix G, 2.3 Function of the HCP, pp. G-111 C G-113. The BO for the covered species determined that the proposed HCP adequately conserves habitat & is consistent with the recovery of the covered species. Regarding the statement that the strategies have no scientific basis, we refer the commenters to Final HCP, Chapter 1, Section 1.3.3 Development of the Conservation Strategies. As we have stated previously, the strategies are built on Federal standards & other HCPs & programs aimed at conserving the HCP species (including DNRC ARMs -which are sustaining habitat for HCP species populations on State lands). That the strategies do not apply the exact same requirements as other plans is a reflection of the Section 10 requirements, the applicant, & the anticipated effects of take resulting from DNRC's activities.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Cost	2, 15, 23	Several commenters expressed concern with the cost of the HCP. One commenter asked if DNRC prepared a breakdown of the additional staff hours required to implement the HCP. Another commenter felt the cost of removing acreage from management due to the commitments may outweigh the benefit of any additional acres that would be managed. One commenter asked what steps have been taken to ensure that the plan can be implemented? Another asked where the funds will come from given the current poor economic times? Another asked if the HCP can be changed to improve returns to the trust if it ends up resulting in significant reductions in returns to the trust. The same commenter asked if the HCP will allow restoration of an area? Lastly, one commenter stated that DNRC should make efforts to provide for economic assessment of intangible resources (hunting, outdoor recreation, etc.) through legislative definition or amending the mandate.	USFWS & DNRC addressed concerns regarding the cost of the HCP in our responses to comments on the Draft EIS/HCP. See Final EIS, Appendix G, Section 2.19 Funding & Costs, pp. G-202 C G-203. We note that DNRC did prepare a breakdown of additional staff hours required to implement the HCP & those costs are reflected in the HCP cost estimate in Final HCP, Chapter 8, Table 8-1. Additionally, Final HCP, Chapter 8, explains what steps were taken to ensure the plan would be implemented & describes the sources of funding for the HCP. We note that the HCP is an adaptable plan & can be modified over time. The reasons & processes for adapting the HCP are described in Final HCP, Chapter 4. A reduction in the return to the trust is not identified as a reason to adapt the HCP. However, USFWS would work with DNRC to address reductions to its trust beneficiaries resulting from implementation of the HCP. We note that the HCP would not restrict DNRC from restoring an area as this is a covered activity of the forest management program.
Cumulative Effects	21	Many of us who enjoy the outdoors on foot & who go there to see wildlife are finding fewer & fewer places to go. If we are driven from public lands by the presence of motorized recreation, logging operations, grazing, & even mining operations, certainly wild species experience the same pressure & need to find habitat elsewhere. A serious evaluation needs to consider developments occurring in adjacent areas & it certainly must include evaluation of all State trust land.	The Draft & Final EIS analyzed the effects of the HCP within the Planning area (encompassing all lands in western Montana) as well as all lands in the HCP project area (parcels included in the HCP). Additionally, EIS (Chapter 5) includes a cumulative effects analysis describing ongoing trends on all lands in the HCP planning area. The cumulative effects analysis also describes the disposal of Plum Creek Timber Company lands to Federal, State, & private conservation organizations & the anticipated effects on all resources in the planning area.
Economics	2	Consideration of the economic impacts is an important step required by ESA that is given very little consideration. How will you account for economic impacts?	The economic impacts of implementing the HCP were analyzed in Final EIS, Chapter 4, Section 4.13 Socioeconomics, pp. 4-481 C 4-500.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Economics	9	The document half-heartedly supports the idea of a viable timber industry with the associated jobs & benefits, but it seems clear the HCP is not in sync with the real socioeconomic issues facing Montanans. The changes in the Final HCP do not reflect the long-term goal of the stated DNRC mission.	The economic impacts of implementing the HCP were analyzed in Final EIS, Chapter 4, Section 4.13 Socioeconomics, p. 4-481 C 4-500. DNRC believes it can implement the HCP & maintain a viable forest management program on State trust lands.
Firearms	15	The response to our previous comments on this issue is indicative of the lack of basis, science or fact in the adoption of firearms restrictions. Prohibiting employees & contractors from possessing firearms is unjustified & unnecessary.	Restrictions on firearms in the HCP are expected to reduce the risk to bears associated with misidentification or malice by anyone conducting forest management activities on trust lands.
Forest Vegetation	18	The Final EIS/HCP should address in more detail how the State intends to manage these low elevation habitat types to provide for big game hiding cover, snow intercept, & browse availability. The results of MFWP's research & findings on white-tailed winter ranges in NW Montana should be included in the discussion. Also the Final EIS/HCP needs to disclose the cumulative effects of both National Forest & State timber management activities on whitetail winter range.	No terrestrial species other than grizzly bears & lynx were proposed for coverage under the HCP. DNRC will continue to address big game habitat as it does currently through ARM 36.11.443, which requires DNRC to consult with MFWP through the project level interdisciplinary planning process. Because the Final EIS concluded that overall the HCP would not contribute to major effects on big game & their habitat, this was not an issue carried forward into the cumulative effects analysis.
Forest Vegetation	18	The fuel reduction prescriptions in the lower elevation drier habitat types are also not sustaining long term timber production. The residual stand left will likely never release/grow enough to require thinning. The most likely long term treatment would be to regenerate the stand. So the prescription is perpetuating an open grown stand that will likely never produce more volume until the stand is regenerated. The Final EIS/HCP should disclose the expected timber volume production of these treated stands over time.	DNRC's HCP would not change the way DNRC manages fuel reduction goals in lower elevation stands. Because this issue is outside the scope of this HCP, it was not analyzed in the EIS.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Forest Vegetation	2	The requirements on pp. 4-371 C 4-373 will greatly decrease the growth rate on forest land. Where is the sustainable yield analysis that shows this reduction in growth & thus income to the trust beneficiaries?	The effect of the HCP on the Annual Sustainable Yield is analyzed in Final EIS, pp. 4-54 C 4-55.
Forest Vegetation	1	Old Growth - simple, no protections & the DNRC will remove this feature from the landscape ASAP.	DNRC will continue to manage for biologically diverse forests & apply forest management ARMs for old growth management until such time that the ARMs are revised.
Forest Vegetation	18	The Final EIS/HCP should disclose how it will insure the retention of snags in light of conflicts with OSHA or the timber purchaser removing the snags for chips. I have witnessed snags fell for apparent safety reasons & then hauled out for firewood. I have also witnessed snags being legally cut because they provided a product (pulp). The Final EIS/HCP should develop a monitoring plan to determine if snag numbers were maintained.	DNRC currently monitors snag retention as a components of its State Forest Land Management Plan monitoring requirements. This effort would continue & the results will be documented in each 5-year report on HCP & State Forest Land Management Plan implementation.
HCP - Independent Review	23	DNRC should have out of agency independent land managers & biologists participate in management.	DNRC initiates a public scoping process through its MEPA procedures for timber sale projects. While not the same as the suggestion made by the commenter, this process does seek input from the public as well as other State & Federal land managers in the development of DNRC projects. Under the HCP, USFWS would provide input during key times in HCP implementation, such as changed circumstances & annual & 5-year monitoring, & would monitor the progress of the HCP through DNRC reporting both annually & at 5-year intervals.
HCP - Redds Trampling	5	Redd trampling by cattle was an issue that we raised in our EIS comments. Rather than committing to excluding cattle from streams the HCP will complete a plan for a pilot study within 2 years & initiate a plan by year 3. DNRC should ensure that cattle are removed from streams rather than studying to see if there are any effects.	There is limited data to effectively evaluate if redds trampling affects HCP covered fish across the DNRC HCP project area. The study cited in the comments on the Draft EIS/HCP (Gregory & Gamett 2009) was conducted in Lost River Drainage of central Idaho. The range sites & landscapes evaluated in that study are very different then the vast majority of the affected DNRC HCP Project Area (i.e., HCP parcels with grazing license). Neither USFWS nor DNRC know the extent of cattle trampling of redds, or if it is a substantial problem across that portion of the HCP project area where grazing licenses have been issued. The study approach included in the Final EIS/HCP was deemed necessary & reasonable in order to assess the actual baseline conditions. If redds trampling is substantiated across the HCP project area, DNRC & USFWS would work collaboratively to develop an appropriate management response under the proposed HCP.
HCP - Soft Commitments	1	Page 4-229 of the Final EIS, line 2-3 states "...corrective actions may be modified..." Is another soft commitment to monitor & correct damages due to grazing negative effects. Please correct this by changing may to shall.	The referenced text was found on p. 4-299 & is not a specific commitment, but rather is an option DNRC might consider in the context of responding to climate change.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
HCP - Take by Alternative	1, 5	The FEIS & HCP are missing a description of the current conditions of the lands & how much take will occur from the actions sanctioned under any of the alternatives. The FEIS should detail how much loss each species will incur under the HCP. Then perhaps a true conservation alternative could be developed.	For each resource analyzed in the EIS, a description of its current condition, including that of the HCP species, is provided in Chapter 4 of that document, prior to the analysis of effects on that resource. Final EIS, Chapter 4 Environmental Consequences, adequately discloses the effects from take & how they differ between the alternatives. The DNRC HCP includes an analysis of anticipated take in Chapter 7. The BO also includes quantification of anticipated take & an analysis of effects to the covered species over the permit term.
HCP - Take on Noncovered Lands	1	Can DNRC be restricted from activities on non HCP lands that have listed species without applying proposed HCP protocols? Will the USFWS restrict uses because no take permit was granted? What type of analysis will be done if or when the DNRC decides to liquidate lands?	USFWS expects DNRC to comply with the provisions of Section 9 of the ESA & other Federal & State laws addressing species protection on DNRC parcels outside the HCP project area such that we will not need to restrict uses. Should DNRC engage in activities that may result in take on lands outside the HCP project area, they may request to amend the current HCP to include those activities on those lands or develop a separate HCP to be in compliance with the ESA. Regarding the disposal of lands from DNRC ownership, DNRC would follow the process described in Final HCP Chapter 3, Transition Lands.
HCP process	1	There is no real mechanism for consequences if DNRC does not (fully implement) the HCP. What would really change if the DNRC does not follow HCP commitments? If USFWS pulls the take permit, will this stop management on HCP lands? Example - will all road building & logging activities be curtailed?	Please see our response to Letter 9, comment 112 p. G-205 & Letter 90, comment 323, p. G-206 & in Appendix G of Final EIS/HCP. Additionally, we note that both the Permit & the Implementing Agreement (Final EIS, Appendix F) provide assurances that the HCP would be implemented. Should DNRC have trouble implementing the commitments, we would work with them to determine how to resolve the problem first. If it cannot be satisfactorily resolved so that DNRC is in full compliance with the HCP, we may resort to suspending and/or revoking the Permit. Should we suspend/revoke & DNRC continues with activities that result in take, they risk being in violation of the ESA.

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Subject	Letter #	Comment	Response
HCP Recovery	5	The FEIS also does not disclose how the activities sanctioned by the HCP are consistent with recovery of the listed species. There are no biological goals in the HCP only logging & roading goals. We realize that DNRC is not obligated to “recover” listed species; however, their actions should not be inconsistent with recovery.	The biological goals for the HCP species are described in Final HCP, Chapter 2. The analysis of the consistency of the HCP with recovery goals for the HCP species is provided in the ESA Section 7 BO. Briefly, that document makes the following conclusions. The best information suggests that forest management activities managed under the conservation commitments of the DNRC HCP would not appreciably reduce the likelihood of survival & recovery of grizzly bears. Our conclusion is based on, but not limited to, the fact that where DNRC ownership occurs in recovery zones, the HCP commits to limit the number of ongoing activities in an area so that localized habitats are available for use by grizzly bears even while other nearby areas are undergoing forest management. Additionally, spring habitat actively used by bears would be restricted from certain activities in the spring. Overall, the HCP promotes the conservation of grizzly bears & adequately minimizes effects of forest management on grizzly bears to levels that are conducive to the continued recovery of the grizzly bear population. In the BO’s analysis of effects on lynx, we determined that the proposed action addresses, in whole or in part, the relevant objectives for non-Federal land managers in the recovery outline for lynx. This is based in part on the fact that the HCP would apply protective provisions within areas known to be occupied by reproductive-aged female lynx. The HCP also would provide foraging habitats & connectivity for lynx within all occupied habitat on scattered parcels. This management is expected to contribute to conservation of lynx habitat & a prey base for lynx home ranges in these areas. Our analysis of effects on the aquatic species concludes that although some HCP covered activities may result in adverse effects to HCP fish species, the effects are expected to be short term & relatively minor in scope (e.g., periods of temporary increases in sediment levels followed by a long-term beneficial habitat condition), impacting very small amounts of habitat & very few individual fish. Additionally, the HCP would result in a net reduction in sediment delivery to streams & increase access to habitat through removal of barriers. Therefore, the HCP would result in a net conservation benefit to the aquatic species over the life of the permit & is conducive to recovery of the species at the core area population level.

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Subject	Letter #	Comment	Response
Insects	13	I request that your analysis recognize the implications forest insect species such as mountain pine beetle spruce budworm & how such species, & others, typically erupt over long periods of time, & as a native fauna are part of the temporal changes that occur naturally - albeit in the face of recent fire suppression - in Montana & the western U.S. Please include the attached publication (Evenson & Gibson 1940) as a reference in your EIS relative to insect outbreaks & their general impact to forest resources in the State & region. Please recognize & help educate the public that such outbreaks naturally occur, & that the most recent eruption is a natural phenomenon, except only in how fire suppression may have augmented its intensity.	We reviewed the publication referenced by the commenter. Final EIS, Chapter 4, p. 4-48 adequately characterizes insect & forest diseases as endemic events in the forested landscape. Therefore, no changes in the Final EIS are required.
Land Transactions	5	The HCP transition lands strategy states that “As soon as DNRC is aware of a proposed real estate transaction involving any HCP project area lands...notice will be provided to the USFWS...” Doesn’t DNRC initiate proposed real estate transactions?	In this case, the use of the term DNRC refers to the Forest Management Bureau, which does initiate transactions. However, transactions are initiated through other programs within DNRC as well, such as the Real Estate Management Bureau. Hence, the sentence is correct as stated.

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Subject	Letter #	Comment	Response
Lynx - Adhere to USFS Standards	NGOs	Consider the feasibility of maintaining all lynx foraging habitat, winter & summer, similar to what is required on National Forest lands across western Montana. This is necessary to evaluate if DNRC's currently proposed loss of 3,000 acres of lynx foraging habitat each year is indeed justified.	We note that managed lynx habitat does not result in a permanent loss of habitat. Both managed & unmanaged stands undergo succession, which means stands are continuously growing into, & out of, lynx habitat. Under the Northern Rockies lynx management direction (USFS 2007), USFS standard VEGS5 essentially prohibits pre-commercial thinning projects that reduce the value of snowshoe hare summer foraging habitat unless certain conditions are met. Thinning activities are allowed within the Wildland-Urban Interface but are subject to a cap. Given that DNRC thins approximately 1,500 acres per year, Statewide, potential effects on lynx were considered minor, though adverse at times depending on site conditions & juxtaposition of habitat. Therefore, pre-commercial thinning activities are not prohibited, but DNRC is required to retain 20% of the thinned area in an un-thinned condition such that it would continue to function as summer foraging habitat until it grows to the next successional stage. Furthermore, the draft BO analysis & incidental take statement, caps the acres the State could thin annually at no more than 1,200 acres per year within lynx habitat. As shown in Final EIS, Chapter 4, Table 4.9-20, within the LMAs, 80,576 acres are winter foraging habitat. This equates to approximately 19% of the 446,100 acres available for timber harvest under the proposed HCP. On the surface this may seem like a small amount of land on which to forgo timber harvest in order to maintain habitat for lynx. However, within the Stillwater State Forest, which yields 20% of the volume of the annual sustainable yield (derived from Table 4.2-6 Final EIS) of timber on forested trust lands, 58.6% of the total acreage within the State forest is winter foraging habitat for lynx. Avoiding all management of winter foraging habitat would require DNRC to defer management on more than half of its land base in the Stillwater In the Swan River State Forest, which yields 12.6% of the annual sustainable yield of timber on forested trust lands, 60% of the acreage is winter foraging habitat for lynx. Avoiding all management of winter foraging habitat in the Swan would require DNRC to defer timber harvest on more than half of its land base in the Swan. Additionally, deferring harvest in combination with implementation of the State's fire policy (MCA 76-13-115) would not result in maintenance of healthy & biologically diverse forests. USFWS notes that the purpose of ESA Section 10 is to authorize incidental take of listed species by private interests & States while conducting otherwise lawful activities. In this case, timber harvest is the lawful activity for which DNRC seeks ESA compliance & it is not reasonable to require deferment of harvest such that it cannot meet its trust mandate to generate funds for the trust beneficiaries.

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Subject	Letter #	Comment	Response
Lynx – Big Game Winter Range	9	The lynx strategy was revised because of MFWP's concern about the exclusion of big game winter range as lynx habitat. DNRC has an excellent record of addressing both helicopter use & big game winter range, so inclusion in the HCP is unnecessary & would simply be used as a litigation tool to stop human activities. The grizzly bear helicopter & lynx sections need to be reviewed so they are based on science & not personal opinion.	Regarding the change to include big game winter range as lynx habitat, after examining our initial analysis & assumptions; the issues raised by MFWP; & recent literature, we concurred that areas previously excluded from being considered lynx habitat due to presence of big game winter range should be included as lynx habitat. This change was made because use of these areas by big game does not preclude suitability as lynx habitat. The grizzly bear helicopter analysis is based on guidance prepared by USFWS & USFS (USFS & USFWS 2009) & the available science on this topic.
Lynx - Commitment not Flexible	7	Retaining 20% of thinning units unthinned is cookie cutter & seems to provide no management flexibility that might be suggested or allowable based on site specifics as size of unit, condition & attributes of surrounding area, etc.	Both USFWS & DNRC agree that (1) the wording of the commitment & (2) the interdisciplinary planning process will provide enough management flexibility to account for factors such as unit size & conditions of the surrounding area when planning thinning activities to comply with the HCP commitments.
Lynx - Comparison to other Plans	5	The final HCP proposes to retain just 65% of its overall lynx habitat in suitable condition, when comparable plans (Washington DNR, USFS) require retaining 70% suitable habitat.	This comment was addressed in our responses to comments on the Draft EIS. Please see Final EIS, Appendix G, pp. G-95 & G-96, responses to Letter 119, comments 584 & 593.
Lynx - Exceptions	5, 10	Although DNRC added a standard in the FEIS to maintain 20% of the lynx's winter foraging habitat (mature forests where lynx hunt snowshoe hares), & to protect 20% of the lynx's summer foraging habitat from pre-commercial thinning (to help maintain cover & browse for hares in young stands), it created too many exceptions to the new standard. For example, DNRC need not maintain hare habitat where it may compete with crop trees, & insists on exemptions to the 20% standard where it conflicts with its timber objectives. These inadequacies need to be addressed.	There are no exceptions to DNRC's commitment to retain 20% winter foraging habitat or 20% of pct units in an unthinned condition. Deviations may occur under a changed circumstance & a process is described to address these deviations should they occur (see Final HCP, Chapter 6). The intent & exceptions to commitments to retain foraging habitat attributes (LY-HB4) on scattered parcels are explained in Final HCP pp. 2-50 C 2-51. USFWS believes this commitment is reasonable & would benefit lynx.

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Subject	Letter #	Comment	Response
Lynx - Garnet Range	3	The State lands planned for development & in the Garnet Range important to lynx should be included in the HCP, & their transition & development should be capped at 5%. DNRC should develop a conservation alternative that contains science-based standards—such as those contained in the USFS’ Northern Rockies lynx management direction (2007)—lynx habitat without exemptions in cases where they conflict with its timber harvest objectives. (Maintain 70% suitable & no exceptions to the 20% foraging).	The concerns regarding lynx were addressed in our responses to comments on the Draft EIS. Please see Final EIS, Appendix G, p. G-100, response to Letter 169, comment 703; p. G-95, response to Letter 119, comment 584; & pp. G-110 C G-111, Letter 169, comment 699. We note that there are no exceptions to DNRC’s commitment to retain 20% winter foraging habitat or 20% of pct units in an unthinned condition. Deviations may occur under a changed circumstance & a process is described to address these deviations should they occur (see Final HCP, Chapter 6).
Lynx - Habitat	7	Big game winter range is not habitat that needs protection for lynx	Please see Final EIS, Appendix G, pp. G-99 C G-100, response to Letter 169, comment 702.
Lynx - Mapping data	5	If DNRC does not have the necessary data to map structural habitat conditions such as winter foraging habitat & summer foraging habitat in the Central Land Office, then the HCP should include a provision to collect it.	We note that the level of information identified by the commenter is only required within DNRC LMAs of which there are none in the Central Land Office. Nevertheless, through forest management projects & SLI re-inventory projects conducted by contractors, DNRC will systematically improve stand data & the ability to estimate both winter & summer lynx foraging habitat in the Central Land Office. For example, DNRC began a re-inventory process in the Central Land Office during the 2011 field season.
Lynx - Project Area	5	The geographic scope of the HCP for lynx is inadequate.	USFWS believes DNRC’s proposal to apply the HCP commitments to all HCP parcels that support lynx habitat is appropriate.
Lynx - Understory Cover	10	The HCP does not contain clear, science-based standards to maintain understory cover in lynx habitat for snowshoe hares, the lynx’s main prey. As a result, the HCP will be difficult, if not impossible to enforce. The HCP also states that DNRC will maintain small, shade-tolerant trees, but does not say how this standard will be measured. Additionally, the HCP contains a loophole, allowing DNRC to remove shade-tolerant trees wherever they compete with crop trees. And finally, the HCP proposes to retain just 65% of its lynx habitat in suitable condition, when comparable plans (Washington DNR, USFS) require retaining 70% suitable habitat.	The concerns regarding lynx were addressed in our responses to comments on the Draft EIS. Please see Final EIS, Appendix G, p. G-89, response to Letter 72, comment 234.

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Subject	Letter #	Comment	Response
Maximum Extent Practicable	3, 5, 10, 37	A few commenters stated that the HCP does not fulfill USFWS obligations under ESA & that the HCP does not fully minimize & mitigate to MEP the “taking of each of the covered species and their habitats, nor does it provide a net benefit to each of the covered species.” Another commenter stated that neither the USFWS nor the DNRC created a record showing why the mitigation measures in the preferred alternative are the “maximum that can be reasonably required” of the DNRC.	DNRC has explained its justification for the preferred alternative in its Final HCP, Chapter 1, Section 1.3 Development of the HCP as well as Chapter 5, Alternatives. In the time since we responded to this issue in comments raised on the Draft EIS (see Final EIS, Appendix G, Section 2.3.1.3, pp. G-112 C G-113). USFWS has further addressed this issue in its evaluation of the permit issuance criteria in the Findings contained in its ROD which is available on the USFWS Montana Field Office website & HCP project website at < http://www.dnrc.mt.gov/HCP/default.asp >.
Monitoring - Stream Temperatures	5	The in-stream temperature & shade monitoring is drastically reduced after 10 years if in-stream temperatures are not showing any increase. Climate change dictates that temperature monitoring should continue for the life of the HCP. In addition, the HCP’s adaptive management contains no timeframe for addressing increased temperature impacts. The HCP also hints that the quality & quantity of data that is being collected may not be adequate to develop alternative approaches. (See HCP at p. 4-50.) Similarly the monitoring for LWD is also reduced after 10 years if the LWD recruitment objective is met on 80% of the RMZ acres harvested & there is no timeframe for addressing inadequate LWD recruitment. (See HCP at p. 4-49.)	The HCP does allow DNRC to reduce in-stream monitoring after 10 years if certain criteria are met. However, we note that the HCP also includes a process to adapt the HCP in light of climate change. If the adaptive management process is triggered due to increased temperature impacts or inadequate LWD recruitment, the timeframe to address the issue would be developed in conjunction with DNRC’s proposed approach & mutually agreed upon by both parties. If the quality & quantity of data being collected is not adequate to develop one of the alternative approaches described in the HCP, DNRC could be required to collect the data or seek another approach.

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Subject	Letter #	Comment	Response
Monitoring - Sufficient Funds	18	Alternative 2 proposes more range inspections & compliance checks for related resource objectives. I strongly support these objectives, but again I do not see the State having sufficient funding or manpower to monitor & inspect range allotments. As in the previous comment, the Final EIS/HCP should develop a plan to insure that the State will have a range person that will inspect allotments & work with the permittees to protect & maintain or improve range condition & associated resources. The Final EIS/HCP should include a monitoring plan for the inspections of range allotments.	USFWS is confident that both parties developed a monitoring program that could & would be successfully implemented by DNRC. The program requires DNRC to monitor grazing licenses every 5 years at the license mid-term & renewal.
Monitoring & Adaptive Management	1, 5	One commenter stated that it appears that monitoring has been streamlined in the changes in the Final EIS. They also expressed concern that the 5-year reporting will not allow for quick adaptive management. They also stated that depending on the USFWS to monitor without secured funding is a major failure in the HCP. Another commenter noted there is no mechanism to ensure that funding will be available for the monitoring the HCP by either DNRC or USFWS. One commenter stated that without true effectiveness monitoring, it is impossible to do adaptive management. They also stated the adaptive management program lacks adequate “triggers” & decision criteria, & does not require DNRC to take any particular action at any particular time & concluded there is no assurance under the HCP that adaptive management will result in improvements to the HCP’s conservation measures.	The Preface to Final EIS, pp. vi-vii, describes that nature of the changes to the HCP Chapter 4, Monitoring & Adaptive Management in the Final EIS & explains why the changes were made. Regarding the other concerns about monitoring & adaptive management, we refer the commenters to our responses to comments on the Draft EIS/HCP. See Final EIS, Appendix G, Section 2.14 Monitoring & Adaptive Management, p. G-189 C G-193.
Monitoring Availability	1,	All monitoring results should be made available to citizens as well as the USFWS.	DNRC will continue to maintain the HCP project website, & all monitoring reports will be public documents & made available through that website or by request.

TABLE A-5. Responses to Comments on Final EIS/HCP			
Subject	Letter #	Comment	Response
Not Supporting HCP	9, 15	A few commenters expressed their concerns & inability to support the proposed HCP for a variety of reasons including that the HCP did not provide enough conservation, would not generate a significant enough return to the trust beneficiaries, provided too much speculation about climate change, & went too far in restricting DNRC's activities.	Comment noted. The issues raised by the commenters are addressed in Final EIS, Appendix G.
Other Markets	11	The section that was added since the earlier draft on climate change does make reference to significant & major projected changes; yet this plan seems locked in on the short-term approach to maximizing profit, rather than allowing for the possibility that in the long-term, these forests may be far more valuable standing & intact.	For a response to this comment, please see Final EIS, Appendix G, Section 2.4.1.1 Timber Harvest & Alternative Markets on State Trust Lands, p. G-128.
Permit Term	1, 3, 4, 5, 6, 10, 11, 13, 17, 19, 21, 22, 36, 37	We received numerous requests to shorten the Permit Term. Most commenters felt the uncertainties associated with climate change warranted a shorter timeframe. One commenter was concerned that USFWS would have the resources to monitor a permit for a 50-year term. Others still felt there was sufficient uncertainty in the conservation measures of the HCP that a shorter permit term was warranted.	Our response to this issue is the same as that captured in our response to the issue on the Draft EIS. (See Final EIS, Appendix G, Section 2.6 Permit Term). Regarding our ability to monitor the DNRC HCP, we note that as we have previously stated, we intend to monitor the HCP as annual budgets & staffing allow.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Public Access	28	I have not read the plan. Under the access portion of the plan does it contain protections for the motorized users for year round activities? It needs to protect our rights from future lawsuits closing more areas. It needs to contain opening areas to snowmobile use that have been fire burned, like the northfork, since no damage towards rehabilitation is evident from a snowmobile & protected species are not an issue during this time. And motorized single track, all areas currently available protected? Are We protected? You have been famous for losing a lot of the lands, like 70%, to closures due to these plans. Are we going to be smart about it this time & look out for nature, safety, & EVERY person with a right to access OUR lands?	Within its forest management program, through ARM 36.11.421 (10), DNRC considers closures on all roads that are nonessential to near-term future management or where unrestricted access would cause excessive resource damage. In general, DNRC closes most roads to public motorized use, & this would continue under the HCP. For the HCP, DNRC has developed transportation plans for its blocked ownership in the Stillwater, Coal Creek, & Swan River State Forests. These plans identify the type of use & season of use for each road on DNRC's ownership. Public access & recreational use was a consideration in the development of the HCP & resulted in the permanent opening of several roads in the Stillwater State Forest that are currently closed to motorized use. An additional suite of roads in the Stillwater State Forest would be open for seasonal motorized use.
Responses to Comments on Draft EIS/HCP	1, 5, 19	I incorporate by reference my comments on the draft EIS/HCP because many of them are still relevant or were not responded to.	We thoroughly considered & addressed all comments received on the Draft EIS/HCP & refer the commenters to Table 1.1 in Appendix G, Final EIS to find the locations of responses to their comments.
Revenue	1	DNRC has a mandate to maximize revenue. Does the word maximize in this situation have the same meaning as maximum as in —maximum extent practicable? If not, could this be clarified?	The definitions of the terms “maximize” or “maximum” alone are similar in both cases. However, both statements come with a set of conditions that affect how the “maximum” is determined. In the case of DNRC's revenue mandate, maximizing must be balanced against their mission to consider environmental factors & protect the future income-generating capacity of the land. In the case of Section 10 ESA, maximum extent practicable is not absolute but can be based on a number of considerations including biological, logistical, technical & economical factors. Please see our response to this issue in Final EIS/HCP, Appendix G, pp. G-112 C G-113.
Revenue Over Conservation	12, 15, 20, 23, 25, 26, 27, 29, 33, 34	Several commenters expressed concern that the HCP focused on revenues versus conservation & urged DNRC to prioritize wildlife & conservation over timber harvest. One commenter stated that the EIS/HCP should focus on what is biologically necessary & then calculate harvest & should NOT look to agency targets to guide habitat protections.	USFWS & DNRC previously address concerns over the prioritization of timber harvest & revenue over conservation as well as the applicants' need to generate income in the responses to comments on Draft EIS/HCP. See Final EIS, Appendix G, 2.4 Timber Harvest, pp. G-128 C G-130.

TABLE A-5. Responses to Comments on Final EIS/HCP

Subject	Letter #	Comment	Response
Road Closures	18	The Final EIS/HCP identifies that roads not needed for management will be closed for a variety of reasons including the need to provide habitat security reduce sediment delivery to waterways. I strongly support road closures to meet those objectives, however my past experiences both on National Forest & State lands, has identified that many closed roads have been breached by motorized vehicles (both employees & public). I don't believe, unless these roads are closed in a location that prevents the closure from being breached, that the State has sufficient funds or manpower to enforce the closures. Therefore the Final EIS/HCP needs to identify a plan to insure that roads that will be closed to motorized traffic are in fact going to prevent motorized access. And I believe the breaching of road closures is going to become more numerous before the situation gets better unless the Final EIS/HCP develops attainable management goals which include public support. The Final EIS/HCP needs to incorporate a monitoring plan to determine if road closures are effective over time.	USFWS & DNRC are aware of the issue of ineffective road closures, which is why the HCP requires more rigorous monitoring of primary road closures by DNRC as well as a commitment to repair ineffective closures within 1 year of identifying them. Hence this requires DNRC to inspect all closures on HCP lands in the grizzly bear recovery zone annually, whereas under current practices DNRC only inspects closures in the Swan & Stillwater on an annual basis. The HCP also requires DNRC to report their annual monitoring results in their 5-year HCP monitoring report.
Road Densities	5, 22, 35	We continue to receive comments about road densities, specifically, a statement that both agencies continue to ignore the scientific evidence supporting the negative effects of road, which is reflected in the HCP, a request to revisit commitments for bear management areas where densities are already high, & a request not to invade roadless areas in order to harvest old-growth trees.	USFWS & DNRC responded to all of these road-related concerns in our responses to comments on the Draft EIS/HCP. Please see Final EIS, Appendix G, Section 2.8 Proposed Road Building Under HCP, pp. G-162 C G-171 as well as our response to Letter 72, comment 233, pp. G-75 C G-76 & Letter 109, comment 495, p. G-79.
Road Density - Take	5	The HCP must address total road densities as take.	Both the Draft & Final HCP provided a quantification of take associated with roads for bull trout & bears in HCP Chapter 7. Additionally, the BO provides a quantification of anticipated take of bears attributed to high road densities & a quantification of take of the aquatic species attributed to sediment delivery from roads.

TABLE A-5. Responses to Comments on Final EIS/HCP			
Subject	Letter #	Comment	Response
Roads – Obliteration	22	Rely more heavily on road obliteration, rather than seasonal closures, which are often ineffective.	Please see our general response to comments concerning roads in Appendix G, Section 4.8.1 of Final EIS/HCP.
Roads - Tracking	5	The HCP indicates that DNRC is unsure of how many roads it even has on the landscape. If DNRC built these roads then how can they “encounter” an old road they didn’t know they had? (See HCP at p. 2-21)	Old legacy roads that have re-vegetated or that may exist in remote areas that are not visited frequently by managers are occasionally detected & must be acknowledged & included in forest road inventories. This occurs infrequently & ongoing improvements in road updating & monitoring procedures & technologies will help ensure that potential for this to occur in the future is minimized.
Support HCP	7, 8, 14, 18, 27, 36	Several commenters expressed support for the Final HCP or for specific components of the Final HCP, particularly those changes that address concerns raised in the review of the Draft HCP.	Comment noted.

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APPENDIX B

**Finding and Recommendations on Issuance
of an Incidental Take Permit (TE-602088A-0)
to Montana Department of Natural Resources and Conservation
for their Habitat Conservation Plan
for Forested State Trust Lands of Western Montana**

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ACRONYMS

ARMs	Administrative Rules of Montana for Forest Management
BMU	Bear Management Unit
CFR	Code of Federal Regulations
CWD	Coarse Woody Debris
CYE	Cabinet-Yaak Ecosystem
DNRC	Montana Department of Natural Resources and Conservation
EIS	Environmental Impact Statement
ESA	Endangered Species Act of 1973
FR	Federal Register
HCP	Habitat Conservation Plan
IA	Implementing Agreement
LAU	Lynx Analysis Unit
LMA	Lynx Management Area
LWD	Large Woody Debris
FWP	Montana Fish Wildlife and Parks
NCDE	Northern Continental Divide Ecosystem
NOI	Notice of Intent
NRLMD	Northern Rockies Lynx Management Direction
NROH	Non-Recovery Occupied Habitat
Opinion	Biological Opinion
PCE	Primary Constituent Element
Permit	Incidental Take Permit
RB	Columbia Redband Trout
RMZ	Riparian Management Zone
Service (in text)	U.S. Fish and Wildlife Service
SMZ	Streamside Management Zone
USFWS (references)	U.S. Fish and Wildlife Service
WCT	Westslope Cutthroat Trout
WMZ	Wetland Management Zone

I. PUBLIC PARTICIPATION IN HABITAT CONSERVATION PLAN DEVELOPMENT

The draft and final Habitat Conservation Plan (HCP) was made available for public review and input concurrent with the public comment periods for the National Environmental Policy Act process. See Section VI of the Record of Decision for details.

II. INCIDENTAL TAKE PERMIT ISSUANCE CRITERIA - ANALYSIS AND FINDINGS

A. The taking will be incidental.

The activities for which incidental take coverage are sought under the Incidental Take Permit (Permit) are for forest management and associated activities and grazing licenses on forested parcels as specified in the HCP. Any take of HCP species resulting from the effects of the covered activities will be incidental to and not the purpose of these otherwise lawful activities. In the case of bear-human or bear-livestock conflicts that result in the need to remove a grizzly bear from the population, the HCP covers incidental take from activities that result in behavioral changes in bears (habituation) that lead to such removals from the population. The actual removal of bears from the population is implemented by the Montana Fish Wildlife and Parks (MFWP) and is covered by a Section 4(d) rule under the ESA.

B. The Permittee will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.

In accordance with the HCP Handbook (USFWS and NMFS 1996), the Service considers two factors in finding whether the HCP will minimize and mitigate the impacts of the taking to the maximum extent practicable: 1) adequacy of the HCP's minimization and mitigation program, and 2) whether it is the maximum that can be practically implemented by the applicant. In determining the adequacy of the minimization and mitigation program, the Service first examines whether the conservation measures in the HCP are commensurate with the level of anticipated take. If the Service finds that the conservation measures do not offset the impacts of the taking, only then is it required to review information from the applicant on whether additional minimization and mitigation measures are practicable to implement. The Service may find that this permit issuance criterion is met with an HCP that does not fully offset the impacts of the taking if the applicant adequately demonstrates that he/she is constrained from implementing additional measures.

For the reasons described below, the Service finds that the Montana Department of Natural Resources and Conservation (DNRC) will minimize and mitigate the impacts of take of grizzly bears, Canada lynx, and the HCP aquatic species to the maximum extent practicable. The DNRC has developed the HCP pursuant to the Permit requirements codified at 50 CFR 17.22(b)(r) and 50 CFR 17.32(b)(1), which require measures to minimize and mitigate the effects of incidental take granted through issuance of the Permit. The measures to minimize and mitigate to the maximum extent practicable are fully described and analyzed in the HCP and Opinion, which

are herein incorporated by reference. Under the provisions of the HCP, the impacts of take will be minimized, mitigated, and monitored in accordance with the requirements of Permit TE-60208A-0 through the following measures:

1. Chapters 2 and 3 of the HCP identify measures to minimize and mitigate, to the maximum extent practicable, the impacts of incidental take of the grizzly bear, Canada lynx, bull trout, Westslope Cutthroat Trout (WCT), and Columbia Redband Trout (RBT) caused by the DNRC operations.
2. Chapter 4 of the HCP describes a monitoring and reporting plan to gauge the effectiveness of the HCP and to provide information for the adaptive management program, which includes provisions to adapt the HCP as new information becomes available or conditions change.
3. Chapter 6 of the HCP identifies and plans for changed circumstances that may occur over the Permit term, including development of contingency plans to address effects on the species.
4. The HCP describes a funding mechanism, which contains assurances that the HCP will be implemented.

The minimization and mitigation measures proposed by DNRC were developed during 8 years of analysis and negotiation between DNRC and the Service. From 2003-2010, the Service provided technical assistance to DNRC for development of the HCP. Additional review and coordination occurred with MFWP, as well as input through the public process. These processes allowed the Service to consider baseline environmental conditions, determine the types of conservation necessary to avoid and/or address impacts within the HCP project area, and assess the ability of DNRC to implement prescriptions and procedures that are practicable in the context of their forest management operations, mandate, and laws. The monitoring plan provides for monitoring of the effectiveness of the conservation program over the life of the Permit and contains provisions to adjust management activities and conservation measures to improve the effectiveness of the conservation program under the HCP.

B.1 Analysis of Grizzly Bears

We anticipate that incidental take of bears in the form of harm may occur in the Northern Continental Divide Ecosystem (NCDE) recovery zone in association with implementation of the proposed action as a result of: 1) disturbance or displacement of grizzly bears attributable to high road densities and 2) potential lethal control of grizzly bears from bear-human or bear-livestock conflicts.

Incidental Take Attributed to High Road Densities in the NCDE

The DNRC HCP includes commitments that would reduce road density, but it does not place a limit on road density. DNRC has unique needs as a State public agency with significant road access requirements such as: 1) accessing forest stands for management and hauling timber to market, 2) providing public access to various recreational resources, 3) patrolling forested areas for fire suppression, and 4) providing access to adjacent land ownerships. DNRC currently has several road access agreements with private, county, and Federal

landowners that have specific stipulations that mandating open vehicle access across some HCP lands. Due to these and other constraints, a strategy of managing impacts from roads through a road density threshold was not pursued. Instead, DNRC has committed to managing existing roads and newly constructed roads in ways that will reduce the direct and indirect impacts to grizzly bears and their habitat.

High road densities may result in take of grizzly bears in the form of harm or harassment by displacing some female bears from essential habitat. Such displacement may result in significant under-use of habitat or a female may choose not to establish a home range because habitat is undesirable. This could lead to reduced fitness of a female or her cubs, most likely manifest in failure to breed or complete gestation, or in fewer cases, an increased risk of cub mortality prior to or after parturition. Actual injury or mortality of adult or subadult grizzly bears as a result of displacement is not likely.

High road densities will be minimized and mitigated in the HCP by the following commitments:

- Minimizing the miles of open road in the HCP project area over the Permit term since open roads are a more direct risk to grizzly bears.
- Implementing a transportation plan on its blocked lands, which outlines the miles of road to be constructed over the Permit term, and identifies how those roads will be restricted from public motorized use and DNRC use during various seasons of the year.
- Maintaining the miles of existing roads (i.e., no net increase in baseline) on scattered parcels in recovery zones at the DNRC administrative unit level, although the locations of those roads may change over the Permit term.
- Restricting increase of miles of roads to only those opened seasonally for motorized public access in the Stillwater State Forest, while decreasing the miles of roads open year-round for motorized public access by 19.5 miles (16%) over the 50-year Permit term and further restricting DNRC use on 102 miles of existing roads.
- Restricting public motorized use year-round for all new roads constructed over the Permit term for forest management activities in the Swan River State Forest. (Any roads managed as “open” would be the result of response to reciprocal access agreements with adjacent landowners and not attributed to DNRC activities).
- Minimizing construction of new open roads in the Non-Recovery Occupied Habitat (NROH).
- Examining all open roads on scattered parcels on a project by project basis for opportunities to close roads or restrict public motorized use. (This action would be completed within 5 years of Permit issuance in the Cabinet-Yaak Ecosystem (CYE)).

- These measures reduce the miles of open roads in the HCP project area over the Permit term, thereby reducing the risk of displacement of grizzly bears. However, there would still be a net increase in total roads over the Permit term and some take in the form of harm or harassment may occur. Grizzly bears are individualistic and display a wide variation in their tolerance of and response to human activity and road density, so take of every bear exposed to high road densities would not occur. Thus, adverse impacts to individual bears or population numbers from displacement of grizzly bears from key habitats are difficult to quantify and measure. However, we expect that incidental take is most likely to occur in subunits of Bear Management Units (BMUs) that have high road densities or are likely to have high road densities at some point over the Permit term due to DNRC's activities. These circumstances are clearly described in the Opinion and would occur on 12 grizzly bear subunits in the HCP project area over the Permit term.
- Given that grizzly bears are increasing in numbers and distribution, we also conservatively anticipate incidental take may occur for 382,200 acres on all other lands in the HCP project area. Although the HCP commitments would minimize open roads across the DNRC landscape, there would be a net increase in total road densities in the HCP project area over the Permit term. Because female bears need to access habitat free from disturbance from humans, the appropriate mitigation of any remaining potential effects from high road densities then is to provide female bears access to the habitats they need at important times of the year to adequately raise their young. The HCP would achieve this by: 1) implementing a management/rest pattern for commercial forestry, 2) restricting commercial forestry in spring habitat in the spring season, 3) restricting road use in key habitat during important seasons for bear, and 4) providing visual screening along open roads and harvest units.
- The HCP would provide secure habitat for bears by limiting the frequency with which large-scale disturbance (e.g., commercial forestry) may occur. Implementation of the HCP would provide disturbance-free habitat through a pattern of 8 years of rest following 4 years of timber harvest. The DNRC would rotate its commercial forest management activities in grizzly bear recovery zones. Four subzones encompassing 19,400 acres in the Stillwater Block and five subzones encompassing all lands in the Swan River State Forest would be subject to the management/rest pattern, as well as all scattered parcels in recovery zones. Commercial activities in spring habitat in the spring period also would be prohibited in subzones and parcels available for active management. While rested subzones could be interrupted for salvage harvest, these interruptions are capped and addressed through development of mitigation plans to be reviewed by the Service.

- Additionally, the HCP would provide bears security on lands with high road densities through road restrictions and commercial activity prohibitions. Road restrictions would limit public and DNRC access in important habitats during key times of the year. Commercial activities would be prohibited in spring habitat in the spring period for all lands in NROH and recovery zones. Restricted roads also would be monitored more frequently to ensure closure devices are effective. Lastly, additional security on recovery zone lands with high road densities is provided by vegetative screening along open roads, minimizing distance to cover for bears in harvest units, and implementing an information and education program for DNRC staff and its contractors on working in bear habitat.

Overall, we expect that this approach would reduce the risk of displacement of bears from habitats with high road densities and sufficiently offset the effects of remaining potential adverse effects by providing bears with adequate habitat.

Incidental Take Attributed to Human-Bear or Bear-Livestock Conflicts in the NCDE

The likelihood of take of grizzly bears attributed to DNRC activities implemented under the HCP that cause habituation of bears from bear-human or bear-livestock interactions (and ultimately removal from the population) is extremely low. A case of a direct conflict with DNRC staff or contractors and grizzly bears that resulted in a bear's death has never been documented. Additionally, several measures in the HCP further minimize the risk of take in this form. These measures include:

1. Providing bear encounter avoidance training for DNRC personnel.
2. Educating DNRC staff and contractors with brochures on working in bear habitat.
3. Restricting staff and contractors from carrying firearms.
4. Requiring proper food storage and sanitation measures for all DNRC staff and contractors.
5. Requiring implementation of measures to avoid conflicts with bears when sheep or goats are used for noxious weed control in NROH or recovery zones.
6. Prohibiting authorization of any new small livestock grazing licenses in recovery zones.
7. Providing visual screening in Riparian Management Zones (RMZs), and in Wetland Management Zones (WMZs) across the project area and along open roads in NROH and recovery zones.
8. Requiring that distance to visual screening be no more than 600 feet from any point in new harvest units in recovery zones and NROH.

However, given that the NCDE population and distribution of bears is expanding, the risk of conflict is not likely to be completely eliminated. Hence, we anticipate the potential for an incidental take of 4 bears attributed to human-bear conflicts in the NCDE over the 50-year Permit term as detailed in the Opinion (USFWS 2011). Loss of four grizzly bears over 50 years may result in slightly reduced recruitment in the NCDE if the affected bears are females. However, we do not expect an overall increase in mortality levels in the NCDE because the loss of these four bears are likely to be part of average annual losses in the population that are already occurring in the NCDE while grizzly bear populations are increasing (USFWS 2011). Hence, no additional mitigation to offset incidental take is necessary beyond the commitments described above to avoid bear-human and bear-livestock conflicts.

Avoidance of Incidental Take in the CYE

Based on the population status and existing threats associated with the CYE recovery zone, we have stated that the mortality objective for this ecosystem is zero grizzly bears (USFWS 1993). Given the greater risk and sensitivity of this ecosystem, we worked with DNRC to develop HCP commitments that would avoid incidental take of grizzly bears in the CYE. In the CYE, we expect a low likelihood of adverse effects from high road densities on DNRC lands and that any such adverse effects would not result in incidental take of bears. This is because numerous measures in the HCP would ensure that bears can access habitats during key times of the year with low risk of displacement and human disturbance. For example, HCP commitments GB-CY1 through GB-CY5 require higher levels of conservation to minimize risk of any adverse effects to bears including: 1) additional restrictions on minor salvage projects on rested parcels, 2) required Service approval of mitigation plans for salvage projects, 3) additional limits on motorized low-intensity activities in spring habitat, 4) expedited reduction of open road densities, and 5) restricting helicopter flights to avoid potential effects on bears. In addition, application of the scattered parcel recovery zone commitments (examining open roads for potential closure, implementation of management/rest pattern, and limitations on salvage project and gravel operations on rested parcels) and enhanced CYE commitments (1 through 3 listed above) for the CYE NROH further minimize any risk. These commitments are in addition to others that also would minimize displacement, such as the requirements for maintaining 600 feet to cover in harvest units and retaining cover near RMZs and WMZs.

Additionally, we do not anticipate incidental take attributed to management actions from human-bear conflicts or livestock-bear conflicts in the CYE for the following reasons: 1) DNRC has only four active grazing licenses in the CYE, with no history of bear management actions, and would not authorize any new grazing licenses; and 2) no history exists of grizzly bear/livestock conflicts in the CYE.

Conclusion

In consideration of all the above factors, the Service finds that: a) the proposed minimization and mitigation under the HCP is commensurate with the impacts of the anticipated take of grizzly bear due to covered activities; and b) the HCP minimizes and mitigates the effects of take of the grizzly bear caused by covered activities to the maximum extent practicable. These findings are further supported by the fact that impacts of covered activities on grizzly bears are likely to be low or minimal, the effects of anticipated take are fully addressed by the HCP, and the HCP would result in a net benefit to the covered species over the Permit term. The net benefit would arise from measures that prohibit commercial harvest in spring habitat in the spring period, require 8 years of rest after 4 years of management, and reduce the risk of human disturbance along roads (i.e., road closure devices, vegetative screening, and minimizing distance to cover for bears in harvest units).

B.2 Analysis of Canada Lynx

DNRC's ability to mitigate potential risk factors for lynx varies with its land base. The DNRC HCP would apply greater conservation emphasis in its Lynx Management Areas (LMAs), which are primarily blocked lands where: 1) lynx are known to be present or may occur in the future and 2) it owns larger areas of land and has greater control over the actions on those lands. Conservation on these lands is also enhanced by their proximity to Federal lands where active recovery efforts are ongoing. Four of the six LMAs lie across or within portions of Federal Lynx Analysis Units (LAUs) managed under the Northern Rockies Lynx Management Direction (NRLMD).

DNRC focuses its conservation in LMAs because these areas are of primary importance for lynx on DNRC lands. Because LMAs are generally on blocked lands, DNRC actions have the greatest potential to exert adverse effects on reproducing lynx but also the greatest potential to apply measures that effectively create and maintain functional lynx habitat. Further, because DNRC owns more contiguous lands in LMAs, it has greater ability and it is more cost-effective to apply enhanced conservation and monitoring in these areas. DNRC lands outside the LMAs are comprised of widely scattered parcels surrounded by various landownerships and land uses. Lack of habitat and management information for many of the surrounding parcels makes it difficult to ascertain the effects of DNRC actions in these areas and the effects will vary based on site-specific conditions. However, DNRC's scattered parcels also have a role in meeting the HCP biological goals and objectives, particularly on scattered parcels in occupied habitat. When these scattered parcels occur in occupied habitat within a Federal LAU, they contribute suitable habitat and prey to the surrounding LAU and potential lynx home range. In unoccupied lynx habitat, the HCP also applies measures to conserve habitat. These measures would benefit lynx during dispersal and by maintaining connectivity between populations. However, determining the appropriate mitigation for actions whose effects vary based on site-specific conditions is difficult. Therefore, the

HCP focused its primary conservation in LMAs and applies other commitments on scattered parcels to retain suitable habitat and habitat connectivity in these areas. We anticipate that incidental take of lynx would occur in the form of harm by covered activities in the HCP. Such activities would modify lynx habitat, resulting in decreased production and density of snowshoe hares, their primary prey. We anticipate that some adult female lynx within home ranges affected by such projects would be less successful in finding adequate food resources and fail to reproduce, or kitten survival rates would be lowered. Covered activities likely to result in incidental take include:

- (1) Timber harvest that reduces winter foraging habitat for snowshoe hares,
- (2) Harvest of live trees (green harvest) following a fire (which was identified and planned for as a changed circumstance in the HCP) that reduces winter foraging habitat below the required 20% in an LMA, and
- (3) Pre-commercial thinning.

Incidental Take Attributed to Reduction of Winter Foraging Habitat

Timber treatments that result in reductions of lynx foraging habitat and/or high quality snowshoe hare habitat may result in adverse effects on lynx because these habitat modifications may decrease production and density of snowshoe hares. We anticipate that some adult female lynx within home ranges affected by DNRC projects may consequently fail to complete a pregnancy or be less successful in finding adequate prey resources needed to ensure maximum survival for kittens.

Based on the allocation of the annual sustainable yield, operational constraints, and the occurrence of lynx habitat, we estimate that take of lynx from harvest in winter foraging habitat in LMAs would be limited to approximately 1,850 acres annually (averaged over a 5-year period). This represents 1.4% of total potential habitat in LMAs annually.

To limit take of lynx from timber harvest in winter foraging habitat, the HCP commitments would: 1) retain 20% of total potential lynx habitat as winter foraging habitat in each LMA, and 2) retain patches of advanced shade-tolerant trees. The first commitment specifically requires DNRC to maintain mature stands meeting the cover type and structural characteristics of winter foraging habitat. These are generally characterized as mature, multi-storied stands. Thus, the mosaic of habitat in potential lynx habitat within LMAs would contain about 20%, or more, of high quality winter foraging habitat. Furthermore, the 65% suitable habitat requirement and snag recruitment and retention Administrative Rules of Montana for Forest Management (ARMs) and Coarse Woody Debris (CWD) commitments (LY-HB2) would also provide horizontal cover and structure required by snowshoe hares and lynx. The latter commitment (LY-HB4) is intended to facilitate development of multi-storied forest canopies in treated stands. For example, if a mature stand is clearcut, this commitment helps ensure that shade tolerant trees will persist on site and become a part of the developing forest. This commitment is expected to

provide localized benefits, such as limiting sight distances, providing limited horizontal hiding (security) cover for lynx and snowshoe hares, and retaining some forest structural attributes (forage, shelter and hiding cover) preferred by snowshoe hares.

DNRC indicates that it has several stands with high potential to grow into winter foraging habitat within 5-30 years of HCP implementation (Baty 2011, pers. comm.). Additionally, some stands on productive sites, treated within the first 10 years of Permit issuance, could grow into winter foraging habitat before the end of the Permit term (Baty 2011, pers. comm.). However, without knowing the acres that may grow into winter foraging habitat over the Permit term, we conservatively assume that the current abundance of winter foraging habitat in DNRC LMAs (80,576 acres - averaging 62% of total potential habitat in all LMAs) could be reduced to 25,856 acres – 20% of total potential habitat in the LMAs, over the 50-year Permit term. The acres treated will be tracked and monitored for the Permit duration. If DNRC reaches the 20% threshold for winter foraging habitat in LMAs it would seek non-lynx habitat stands for harvest.

Due to the large size of most of the LMAs and abundance of potential habitat within them, 20% of total potential habitat in LMA maintained as winter foraging habitat would adequately sustain snowshoe hare densities to support lynx recruitment. Furthermore, four of the LMAs lie within portions of LAUs and two (the Stillwater LMAs) are adjacent to Federal LAUs. Reduction in winter foraging habitat is largely prohibited in adjacent LAUs, which contributes to the adequacy of winter foraging habitat in these areas, and provides connectivity and larger expanses of suitable lynx habitat. High use by lynx in the Garnet LMA, which has 28% of total potential habitat in winter foraging habitat on HCP lands (Squires 2005a, pers. comm.), lends further support that retention of 20% as winter foraging habitat would be sufficient to sustain lynx recruitment.

For LMAs, the HCP requires that 65% of total potential habitat is retained as suitable habitat. This commitment supports a balance of stands in various structural stages, ensuring sustainability of lynx habitat within the HCP project area over time. Additionally, some existing harvested stands in the HCP Permit area would continue to grow into winter foraging habitat throughout the Permit term, thereby replacing a portion of the annual loss of winter foraging habitat in some years.

Given the constraints on annual harvest, commitments for retention of winter foraging and suitable habitat, and the expectation that a proportion of treated acres would be replaced by acres growing into winter foraging habitat over the 50-year term, we do not expect that every project would result in adverse effects to lynx. However, the current abundance of winter foraging habitat in DNRC LMAs (80,576 acres - averaging 62% of total potential habitat in all LMAs) could be reduced to 25,856 acres – 20% of total potential habitat in the LMAs, over the 50-year Permit term. Therefore, we expect individual projects that

treat substantial amounts of multi-storied winter foraging habitat in LMAs and/or the cumulative reduction in winter foraging habitat over the Permit term are likely to result in adverse effects on lynx accustomed to the abundance of winter foraging habitat in the area. This severity of the impact is dependent on site-specific conditions, including the amount of winter foraging habitat in the LMA and in the surrounding areas. We do not expect significant negative impacts on male lynx, as they have larger home ranges and thus more options to find prey. They also do not have the physiological/energetic needs of reproductive-aged females. However, the abrupt reduction in winter snowshoe hare habitat could reduce snowshoe hare numbers, such that post-harvest at various times throughout the Permit term, a female in the affected area would fail to reproduce or find adequate prey to feed kittens. Based on the allocation of the annual sustainable yield, operational constraints, and the occurrence of lynx habitat, DNRC estimated that it would harvest up to 230 acres of winter foraging habitat annually (averaged over a 5-year period) on scattered parcels in occupied habitat.

To limit adverse effects on lynx from timber harvest in winter foraging habitat within occupied and unoccupied habitat, HCP commitment (LY-HB4) would retain patches of advanced shade-tolerant trees in commercial harvest units. Several other HCP commitments also help ensure that a proportion of the treated stands remain viable for some level of snowshoe hare productivity. These include commitment LY-HB5 to maintain lynx habitat connectivity and LY-HB6 to retain 65% of total potential habitat as lynx suitable habitat on scattered parcels at the DNRC land office scale. In many cases, information regarding lynx habitat and lynx habitat condition on lands surrounding scattered parcels is not always available to DNRC. Thus, it is often difficult to ascertain the impacts of DNRC actions on lynx at the scattered parcel scale and the application of effective, meaningful conservation in these areas is more difficult (see Section D.1). Thus DNRC would focus on retaining and ensuring winter foraging habitat in LMAs, where measures are likely to provide the greatest benefit for lynx.

We expect that in many instances, removal of winter foraging habitat from scattered parcels in occupied habitat will not result in adverse effects on lynx for the following reasons: 1) scattered parcels in occupied lynx habitat support about 13% (11,600 acres) of the total winter foraging habitat in the HCP project area, 2) the anticipated 230 acres of annual harvest of winter foraging habitat would be spread across these 11,600 acres of winter foraging habitat on scattered parcels in occupied habitat, 3) the amount of occupied habitat treated would likely represent a small proportion of a lynx home range and would not be enough to measurably reduce snowshoe hare productivity in the home range, and 4) viable lynx habitat would be retained through implementation of the HCP commitments combined with the availability of habitat on adjacent LAUs where standards on Federal lands preclude treatments of winter foraging habitat in multi-storied stands.

Nevertheless, we anticipate that the reduction in winter foraging habitat on scattered parcels could on occasion adversely affect female lynx. The most likely scenario where adverse effects of this nature would occur would be if harvest units are large enough to abruptly reduce winter foraging habitat to levels that could impact a female home range. As mentioned earlier, the severity of the impact is dependent on site-specific conditions, including the amount of winter foraging habitat treated and its abundance in the surrounding areas. We do not expect adverse effects on male lynx, as they have larger home ranges and thus more options to find prey, and do require the resources needed for females to successfully reproduce and raise offspring. However, the abrupt reduction in winter snowshoe hare habitat could reduce snowshoe hare numbers, such that at times throughout the Permit term, we anticipate post-harvest adverse effects that cause a female lynx to fail to reproduce or be less successful in securing adequate prey to ensure maximum kitten survival. Because of the scattered parcel size and distribution, we expect these instances would be infrequent, but cannot entirely eliminate the possibility over the 50-year Permit term.

Incidental Take Attributed to Reduction of Winter Foraging Habitat After a Large-Scale Fire

Additional effects on lynx may occur from additional loss of winter foraging habitat following a large-scale fire or insect or disease outbreak that decreased winter foraging habitat in an LMA below the 20% retention requirement. These effects would vary based on the extent of the fire or outbreak, the number of years following the event, the location of the event, and the amount of and type of lynx habitat remaining on the affected. In many instances, depending upon the extent of the disturbance, the habitat may no longer support lynx until such time that the mosaic of required habitats has returned. The additional acres to be treated following a large-scale fire or outbreak would be distributed across the six LMAs (although DNRC would prioritize deferral of harvest in the Garnet and Seeley LMA) and limited to 2,320 acres for the 50-year Permit term. We expect that in many circumstances, the potential additional adverse effects would be at least partially offset by the development of a contingency plan using the measures identified above in Section A.1.d.

However, in other instances any further reduction of winter foraging habitat may have adverse effects on lynx if the affected area retains a mosaic of burned and unburned areas. In this case, less habitat is available to lynx for denning, foraging, and raising young. Depending on the type of habitat affected and the extent it is affected by the natural disturbance, any subsequent green timber harvesting could result in additional reduced recruitment or mortality from starvation. This scenario is more likely to if the event occurs at a time in the Permit term when DNRC is nearing its 20% limit on retention of winter foraging habitat.

The effects of reductions in foraging habitat on lynx would vary by year, location, and availability of habitat. Overall, DNRC operational constraints combined with the HCP commitments limit the acres of snowshoe hare habitat that can be affected so that the anticipated adverse effects would occur on no more than an annual average of 2,080 acres of winter foraging habitat in occupied habitat (that is 1,850 acres in LMAs and 230 acres in occupied scattered parcels).

Despite these anticipated reductions in foraging habitat, we expect that the HCP commitments that limit this loss, especially when considered along with the availability of habitat on adjacent LAUs, would maintain adequate foraging habitat and conditions for lynx in the project area.

The HCP commitments focus on the retention of winter foraging habitat in the areas of greatest importance to lynx, the LMAs. The suite of enhanced conservation measures in these areas (see Section D.3.a. and b.) would retain: 65% of total potential habitat as suitable habitat; 20% of total potential habitat as winter foraging habitat; 20% of thinned stands in an unthinned condition; and limit conversion of habitat by decade. All habitat conditions in LMAs would be monitored and tracked by DNRC. We conclude that this approach will maintain a mosaic of habitat conditions on LMAs that would support resident lynx on the landscape.

In scattered parcels in occupied habitat, we expect DNRC commitments (see Section D.3.a) would provide adequate conditions and suitable habitat levels to support lynx. The commitments would result in scattered parcels that would contribute to providing habitat for lynx and snowshoe hares across the broader landscape. DNRC commitments and Federal land management standards for lynx habitat would ensure that the landscape mosaic of habitat conditions needed for snowshoe hare production and lynx foraging (hunting) habitat.

To further minimize and mitigate the remaining effects from the loss of winter foraging habitat, the HCP would ideally undertake measures that would ultimately replace lost recruitment of lynx kittens. Such measures for avoidance of this remaining take might be achieved by deferring harvest until the foraging habitat is no longer present due to natural seral succession. Such measures to mitigate the impacts might entail protecting, in perpetuity, an appropriate amount of habitat that provides the mosaic of habitats required to support lynx on the landscape. However, these scenarios are not practicable for DNRC for two primary reasons. First, DNRC's trust mandate dictates that use of trust lands must result in income to the intended trust beneficiaries (Montana Code Annotated [MCA] 77-1-202); therefore, DNRC cannot simply forgo or defer timber harvest on forested trust lands as that would result in a direct loss of such income. Second, State law, MCA 77-5-116, prohibits DNRC from establishing set-asides of habitat.

Incidental Take Attributed to Loss of Habitat from Pre-commercial Thinning

Young, forested stands with high horizontal cover from abundant shrubs, abundant small-diameter trees, and dense spruce-fir saplings provide summer foraging habitat the snowshoe hare. Thinning dense stands of young trees would result in take of lynx by reducing the capacity of these stands to produce snowshoe hares. Pre-commercial thinning also affects regenerating stands with high stem densities and horizontal structure extending above snowpack during the winter, which is high quality snowshoe hare habitat. Lynx typically do not successfully forage in these areas given the high stem densities, but these areas are important for their contribution to overall snowshoe hare productivity on the landscape.

DNRC operational constraints would limit take from pre-commercial thinning on lynx habitat to approximately 1,500 acres in the HCP project area (including all LMAs and scattered parcels) annually (averaged over a 5-year period). This represents less than 1% of the total potential lynx habitat in the HCP project area (including all LMAs and scattered parcels).

To limit take of lynx from pre-commercial thinning, the HCP commitments will: 1) retain 20% of thinning units in LMAs in an unthinned condition, and 2) retain a component of shade tolerant tree species important for developing horizontal cover in regenerating stands and accelerating development of multi-storied stands in LMAs and on scattered parcels. The first commitment would maintain a proportion of dense young stands on the landscape for snowshoe hare reproduction. The latter commitment would ensure that features desirable to snowshoe hare and lynx winter foraging habitat are provided in these stands as they mature.

DNRC indicated that given their past management, it is likely that they have many stand types that provide summer foraging habitat or stands in temporary unsuitable condition that will soon provide summer foraging habitat. Additionally, if DNRC clearcuts 1,000 acres annually in productive lynx habitat, these stands would become summer foraging habitat after a decade. Therefore, the acres treated annually would likely be replaced by habitat growing into summer foraging habitat across the HCP project area annually (Baty 2011, pers. comm.). Overall, take of lynx from pre-commercial thinning would be limited under the HCP due to the limited number of acres affected, the retention of 20% of the affected stand as unthinned habitat in LMAs, and likely annual replacement of harvested acres by forest management practices and/or natural processes.

Overall, the level of anticipated take of lynx from pre-commercial thinning is low due to DNRC operational constraints and the HCP commitments. Nevertheless, depending upon site-specific conditions (e.g., where snowshoe hare habitat is lacking or densities are low), a reduction in the availability of snowshoe hares in an LMA could result in failure of some female lynx to reproduce or reduced success in finding adequate prey resources needed to

ensure maximum survival for kittens. To further minimize and mitigate this remaining effect is not practicable for DNRC for the reasons described above in the section on winter foraging habitat.

Conclusion

In consideration of all the above factors, the Service finds that: a) the HCP would minimize impacts of take of the lynx to the maximum extent practicable; b) providing appropriate mitigation measures to offset the remaining impacts to lynx is not practicable because State law and DNRC's trust mandate prohibit DNRC from implementing such measures; and c) remaining impacts to the lynx are relatively low.

B.3 Analysis of Fish Species

We anticipate that incidental take of bull trout, WCT, and RBT in the form of harm, harassment, and injury or death may occur due to implementation of the HCP as a result of: 1) sediment delivery from roads associated with forest management operations, 2) sediment delivery from grazing management on forested parcels, and 3) stream crossings that fully or partially obstruct fish passage.

Incidental Take From Sediment Delivery Associated with Road Management

The Service anticipates that adverse effects to HCP fish species and their habitats due to excessive sediment produced from road construction activities and associated stream crossings and delivered to a Class 1 stream is likely at some point during the term of the Permit.

Increased levels of sediment delivery could occur during and immediately following new road construction activities within 300 feet of a HCP fish species stream and installation of new stream crossing structures (e.g., culverts). These same events could occur during the implementation of HCP corrective actions, including BMP upgrades to existing roads within 300 feet of a HCP fish species stream, replacement or removal of existing stream crossing structures, rehabilitation of existing stream crossing sites, and reclamation of existing or previously abandoned roads within 300 feet of a HCP fish species stream. For most of these activities, the amount of sediment delivery is expected to be relatively minor and of short duration (i.e., an acute pulse lasting a few hours) because of the HCP requirement to incorporate BMPs before, during, and after implementation of these activities.

Nevertheless, sediment delivery can cause habitat modifications that result in reduced habitat function for HCP fish species to meet their feeding, breeding, and/or sheltering needs. For example, chronic sedimentation can alter habitat by filling pools and destroying spawning habitat (through compaction of gravel with fine sediment). However, the primary adverse effect from sediment delivery that is likely to result in incidental take of HCP fish species is reduced egg survival and emergence of fry in the localized area affected by the

sedimentation event due to smothering by sediment. The HCP commitments include numerous measures to reduce sedimentation from roads within 300 feet of streams, including:

- Minimizing the number of roads. (However, the HCP cannot place a limit on road density, because of DNRC's unique requirements as a State public agency, detailed in the subsection on Incidental Take Attributed to High Road Densities in the NCDE under the section on Analysis of Grizzly Bears above.)
- Upgrading existing roads to meet current BMP standards and applying BMPs prior to, during, and after road construction activities and culvert installations and replacements.
- Inventorying roads and stream crossings to determine where sediment problem sites occur.
- Prioritizing and applying corrective actions to address sediment problem sites.
- A DNRC water resource specialist to oversee site-specific design of protective measures for road construction in sensitive areas.

These measures would reduce the amount and effects of sediment delivery associated with forestry activities. However, because application of these commitments would require several years to achieve and an extensive road system occurs in the HCP project area, new sediment sources will continually be identified and require corrective actions. Therefore, to ensure sediment-related effects in the HCP project area are adequately offset, the DNRC HCP would reduce total existing (pre-HCP) sediment production by approximately 10% per decade over the 50-year Permit term in those areas prioritized for corrective actions (e.g., repairing problem road segments and stream crossings). The combination of avoiding and minimizing impacts from new road design and construction activities under the HCP and performing timely corrective actions on existing chronic sediment sources would result in an ultimate net benefit to the HCP fish species.

Incidental Take From Sediment Delivery Associated with Grazing Management

The Service anticipates that take of HCP fish species and their habitats due to excessive sediment produced from covered grazing activities delivered to a Class 1 stream is likely at some point during the term of the Permit. In these situations, the take would be in the form of harm as result of alteration of habitat and decreased survival of eggs and emergence of fry, as described above.

The DNRC HCP contains measures for grazing practices that would reduce the potential for and amount of delivering fine sediment delivered to HCP fish streams on grazing parcels within the HCP project area. In addition to the existing grazing inspection and monitoring program, DNRC would use a coarse filter to identify potential problem areas, then develop a process and timeline for verifying and prioritizing the problems affecting aquatic habitat, develop and

implement corrective actions, and follow up with implementation and effectiveness monitoring. In addition to the grazing management rules and regulations, the HCP establishes specific criteria to determine when riparian vegetation and streambank disturbance levels require corrective actions. This approach is expected to minimize the loss of riparian vegetation and physical damage to stream banks, maintain channel stability and channel morphological characteristics, and promote diverse and healthy riparian plant communities.

Consequently, implementing the HCP would result in progressively less HCP fish species stream miles exposed to chronic sediment input from grazing licenses and an ultimate net benefit to the HCP fish species.

Incidental Take Associated with Fish Passage Barriers

Incidental take and other adverse effects to the HCP fish species would occur from inadequately designed and improperly installed stream crossing structures that diminish connectivity for those species. Improperly installing a new stream crossing structure, improperly replacing an existing stream crossing structure, or improperly rehabilitating a site where an existing structure is being removed could fully or partially obstruct fish passage. In turn, the impediment to migration and movement could adversely affect the ability of the HCP fish species to find and use spawning and rearing habitats necessary for their survival. In turn, local populations could be reduced if adequate spawning and rearing areas are inaccessible.

The DNRC HCP would minimize the potential for these impacts by designing road-stream crossing installations to simulate natural streambed form and function. The intent is to provide the same levels of connectivity to adult and juvenile HCP fish species as are provided by an undeveloped stream channel during low to bank-full flows. Emulating stream channel form and function within and immediately adjacent to a culvert can be technically challenging and involves critical measurements that need to be obtained prior to construction and then later accounted for during the culvert installation. Therefore, it is reasonable to expect that over the Permit term, some culvert installations could temporarily hinder achieving connectivity goals of the HCP. We anticipate that this will be a seldom occurrence over the course of the Permit term (32 new culvert installations out of the anticipated 417), but take would occur at those locations until the problem is fixed or the culvert is re-installed. To mitigate for those impacts, the HCP requires removal of existing impediments to migration and movement. Removal of all legacy fish barriers (106 culvert replacements) would provide for an improving trend in connectivity over the HCP project area. However, DNRC would retain some barriers if the removal of the barrier would expose HCP fish species to adverse effects from competition by nonnative fish populations in other stream reaches. The improved connectivity is expected to reduce the isolation of HCP fish species local populations and more than offset any impacts from installation of additional stream crossings over the Permit term.

Conclusion

In consideration of all the above factors, the Service finds that: a) the proposed mitigation under the HCP is commensurate with anticipated impacts of the take of the covered fish species from the covered activities, and b) the HCP minimizes and mitigates the impacts of take of the covered fish species from the covered activities to the maximum extent practicable. These findings are based on the fact that impacts of covered activities are likely to be low or minimal, the effects of anticipated take are fully addressed by the HCP, and the HCP would result in a net benefit to the covered fish species over the Permit term due to the measures for net reduction in sediment delivery to streams and increased access to habitat through removal of barriers.

C. The Permittee will ensure that adequate funding for the HCP and procedures to deal with unforeseen circumstances will be provided.

The Service finds that DNRC has ensured adequate funding for implementation of the HCP. The HCP adapted the existing forest management program and ARMs for meeting the biological goals and objectives of the HCP. This approach will allow DNRC to implement much of the HCP within its existing program budget, which accounts for continued implementation of the existing forest management program and ARMs. Implementation of the proposed HCP would entail an increase in annual program costs of approximately \$177,000 over the existing program costs.

DNRC's commitment to fund full implementation of the HCP for the duration of the Permit is reflected in the dedication of staff resources through DNRC's base biennial budget, which will continue for the duration of the Permit. In its annual budget, DNRC has \$160,000 in forest improvement funds that will be directed to HCP implementation, as needed. DNRC will submit a budget that is adequate to fulfill the remaining annual costs for its obligations under the HCP, Permit, and Implementing Agreement (IA). The forest management program is funded from a portion of the timber sale receipts and forest improvement fees collected from timber harvest. Therefore, once the DNRC budget is approved through the legislative process, funding for the forest management program is relatively secure from Statewide budget fluctuations.

Additionally, to expedite implementation of some of its commitments, such as addressing road sedimentation or replacing culverts to provide fish passage, DNRC will continue to seek funding through grant programs that it has successfully used in the past, including the Future Fisheries Grant administered by MFWP. However, if these grants are not awarded, DNRC would still have adequate funding from their annual budget to complete the improvements as currently scheduled the HCP.

The Service finds that the DNRC HCP includes procedures to address unforeseen circumstances. The HCP and IA include procedures for determining the occurrence of both changed and unforeseen circumstances (see DNRC HCP Chapter 6). For this HCP, identified changed circumstances include:

- Natural catastrophic events (e.g., fire, wind, insect or disease outbreak, floods, and mass movements) of a magnitude expected to occur during the term of the Permit;
- Administrative changes including:
 - o Occupation of the Bitterroot Ecosystem by grizzly bears;
 - Termination of the Swan Agreement in the Swan River State Forest portion of the HCP project area;
 - o Changes in listing status of a species; and
 - o Changes in DNRC rules, laws, or policies
- Climate change.

DNRC in coordination with the Service, will follow the procedures outlined in the HCP and will propose additional or alternative measures as the need arises to deal with changed circumstances as described in the HCP, Chapter 6. The DNRC will use the State forest improvement accounts and also will seek funding through alternative sources that have been successfully used under existing programs to fund its response to changed circumstances under the HCP.

Unforeseen circumstances are those events that are completely unpredictable (e.g., earthquake, volcanic eruption, or the outbreak of a disease completely lethal to one or more wildlife species) or an event that exceeds historic variability, which results in a substantial and adverse change to the status of a covered species. Pursuant to the Service's "No Surprises" regulations [50 CFR 17.22(b)(5) and 17.32(b)(5)], the DNRC HCP (Chapter 6) includes procedures to address unforeseen circumstances. In the event of unforeseen circumstances affecting the covered species, the DNRC would not be required to provide additional land, water, or financial compensation or additional restrictions on the land, water, or other natural resources beyond the level otherwise agreed upon for the species covered by the HCP without their consent, provided the HCP is being properly implemented.

D. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

The Service finds that the take to be authorized under the proposed Permit will not appreciably reduce the likelihood of the survival and recovery of the HCP species in the wild. The legislative history of the ESA establishes the intent of Congress that this issuance criterion be based on a finding of "not likely to jeopardize" under Section 7(a)(2). As a result, the Service has analyzed DNRC's Permit application under Section 7 of the ESA. In the biological/conference opinion (USFWS 2011b), which is incorporated here by reference, the Service concluded that the issuance of a Permit to DNRC would not jeopardize the continued existence of any listed or currently unlisted Permit species, would allow for recovery of listed species, and would reduce threats to currently unlisted species. In addition, the Service concludes that critical habitat for the lynx and bull trout is not likely to be destroyed or adversely modified by the proposed Permit.

The findings that the HCP species are not likely to be jeopardized as a result of the take authorized under the proposed Permit is discussed in detail in the Opinion and summarized below. The term “action area” for each species is discussed and identified in the Opinion and varies for each species, but generally includes the HCP project area as well as some amount of additional adjacent lands where the actions carried out under the HCP may result in direct or indirect effects on the species.

D.1 Analysis of Grizzly Bear

Based on our review of the current status of the grizzly bear, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, we determined that implementation of the HCP and issuance of the Permit are not likely to appreciably reduce the likelihood of survival and recovery of grizzly bears in the wild. The following HCP minimization and mitigation measures that support our determination include the following:

- Where DNRC ownership is concentrated, the HCP commits to limit the number of ongoing activities in an area so that localized habitats are available for use by grizzly bears even while other nearby areas are undergoing forest management. Additionally, spring habitat actively used by bears would be restricted from certain activities in the spring season in spring habitat.
- On HCP project area lands in recovery zones, major activities are restricted to about 4 out of 12 years to allow ample opportunity for use by grizzly bears over time.
- The HCP includes provisions to ensure that bears would continue to access important habitats with a reduced risk of displacement and human-bear conflicts.
- The HCP would maintain the integrity of linkages such that bears could continue to move between suitable habitats and recovery zones.
- The HCP would retain habitat elements, cover, and habitat linkage and connectivity such that adverse effects on these grizzly bear habitat needs are not expected to occur.
- Under the HCP, disturbance at den sites and human-bear and livestock-bear conflicts would largely be avoided.
- The HCP includes an extensive program to minimize risk of disturbance and displacement of bears from key habitats during important seasons. This program would limit open roads, restrict public and State access on other roads during key time of year for bears, implement a management/rest scenario, provide cover and screening for bears, and address potential human-bear conflicts.
- The potential disposal of approximately 45,500 acres from the HCP would not compromise the HCP’s ability to complement grizzly bear recovery

efforts on adjacent Federal lands managed by the Forest Service, because sufficient amounts of habitat would remain in the HCP to support grizzly bear conservation on DNRC lands.

- Disposal of lands in grizzly bear recovery zones and CYE NROH would be limited to 5 % of the baseline HCP project area. Therefore, no more than 10,880 acres could be removed from grizzly recovery zones and CYE NROH, lynx management areas, and bull trout core areas, combined.
- Lands that may be added to the HCP over the Permit term are most likely to be private industrial timber lands and would generally result in a net benefit to bears because these lands are presently not managed with the same conservation commitments as the in HCP. If DNRC maintains high road densities on these lands, existing adverse effects on bears would persist but would be tempered by the HCP commitments to provide for grizzly bear security and minimize risk of displacement from human disturbance.

Our conclusion is further supported by the following reasons:

- The DNRC HCP project area accounts for 1.8% of grizzly bear recovery lands in Montana (154,201 out of 8,565,699 acres).
- The DNRC HCP project area accounts for 2.5% of the lands encompassed by the NCDE recovery zone (147,845 out of 5,717,399 acres) and 1% of the lands encompassed by the CYE recovery zone (6,174 out of 1,699,760 acres).
- Of the DNRC HCP project area within grizzly bear recovery zones, nearly 96% (147,845 out of 154,201 acres) occur in the NCDE, where the grizzly bear population is estimated at 765 grizzly bears (Kendall et al. 2009), and preliminary evidence suggests a stable to increasing (+3% in 2010) population trend (Mace and Roberts 2011).
- The DNRC HCP project area is dispersed across western Montana; even where they are localized in “blocked lands” (e.g., the Stillwater or Swan State Forests), in no case does DNRC ownership encompass an entire BMU or subunit (a surrogate female home range).
- The best available science indicates that grizzly bears are capable of surviving and reproducing in multiple-use forest environments when considerations such as those in the HCP are made to manage human activities in space and time.

D.2 Analysis of Canada Lynx

Based on our review of the current status of the lynx, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, we determined that implementation of the HCP and issuance of the

Permit are not likely to appreciably reduce the likelihood of survival and recovery of the lynx in the wild. The following HCP minimization and mitigation measures that support our determination include the following:

- The proposed action would maintain key elements of the habitat mosaic, structure, and components required to support lynx and their primary prey, the snowshoe hare, on DNRC lands.
- The HCP requires DNRC to retain specific percentages of suitable habitat and winter foraging habitat, retain unthinned areas within thinning units, and limit the additional acres of winter foraging habitat subject to green harvest following changed circumstances.
- Adverse effects on winter foraging habitat would be limited to approximately 1,850 acres per year in LMAs (averaged over a 5-year period) and 234 acres per year on scattered parcels in occupied habitat (averaged over a 5-year period). To limit the effects on lynx over the long term, at least 20% of potential lynx habitat in each LMA will support winter foraging habitat.
- Adverse effects of the loss of an additional 2,300 acres of winter foraging habitat over the 50-year Permit term under changed circumstances, such as wildfire, would be distributed across four LMAs (deferral of harvest would be prioritized in the Seeley and Garnet LMAs given DNRC limited acreage in those LMAs). Implementation of a contingency plan would partially offset additional effects and must be approved by the Service.
- Adverse effects from pre-commercial thinning would be limited to approximately 1,200 acres annually (averaged over a 5-year period) in both occupied and unoccupied lynx habitat. Therefore, a portion of this thinning would occur in habitat that is not occupied by lynx. A similar number of acres of habitat are likely to grow into summer foraging habitat across the HCP project area annually.
- Monitoring and tracking habitat conditions for lynx in the HCP project area are required to ensure that habitat ratios are maintained and habitat conversion does not exceed the allowable amount per 10-year increment.
- The proposed HCP applies additional protective provisions within areas known to be occupied by reproductive-aged female lynx or that may become occupied or be more important to lynx during population increases (LMAs). The HCP also would provide foraging habitats and connectivity for lynx within occupied lynx habitat on scattered parcels. Measures on scattered parcels would contribute lynx habitat and a prey base for lynx home ranges on LAUs encompassing scattered parcels, or opportunistic foraging by lynx using the area.

- Adverse effects from disposal of HCP lands would be capped at 5% of the baseline acreage of the HCP within LMAs. This amount would not compromise the HCP's ability to complement lynx recovery efforts on adjacent Federal lands, because sufficient amounts of habitat would remain in the HCP to support lynx conservation on DNRC lands.
- Based on caps on land disposals, coupled with the provisions of the Real Estate Management Rules and the MEPA process, parcels with high value for the covered species are unlikely to be transferred to a non-conservation entity. Disposal of lands from the HCP may result in some adverse effects on an individual lynx home range but not an appreciable loss of habitat, numbers, and distribution of lynx overall, because sufficient amounts of habitat would remain in the HCP to support lynx conservation on DNRC lands.
- Adding lands to the LMAs in the HCP may subject these lands to vegetation management activities that could result in adverse effects on foraging habitat. However, the addition of lands would likely result in an overall increase of the amount of land maintained as suitable and foraging habitat for lynx, because these lands are presently not managed with the same conservation commitments as the in HCP.

Our conclusion is further supported by the following reasons:

- The final rule listing lynx as a threatened species (March 24, 2000; 65 FR 16052) concluded that the primary factor threatening the lynx distinct population segment is the inadequacy of existing regulatory mechanisms, specifically the lack of guidance for conservation of lynx in Federal land management plans. The Final Opinion for the NRLMD (USFWS 2007) concluded that the programmatic and project-level objectives, standards, and guidelines in the amended Forest Plans provide comprehensive conservation direction adequate to reduce adverse effects to lynx from forest management and to preclude jeopardy to the lynx distinct population segment. Similar U.S. Forest Service (USFS) plan amendments or revisions have occurred in the Midwest and the southern Rockies. Hence, the primary threat to lynx has been addressed across most of its range.
- Overall, the proposed HCP would likely affect 257,000 acres of potential lynx habitat on DNRC LMAs and scattered parcels in the HCP project area at some point over the Permit term. Notably, approximately 107,200 acres of this habitat is unoccupied. This is in comparison to 8.4 million acres of lynx habitat in Federal LAUs in western Montana managed under the Lynx Conservation and Assessment Strategy or the NRLMD.

- The average lynx home range in the action area is 53,375 acres for males and 21,745 acres for females (Squires et al. 2004). In comparison, the HCP project area encompasses 150,000 acres of occupied potential lynx habitat. Therefore, the number of individual lynx home ranges that would be affected would be low.
- We have determined that the proposed action is compatible with recovery needs for lynx (USFWS 2005). As analyzed in our Opinion (USFWS 2011), the proposed action addresses, in whole or in part, the relevant objectives for non-Federal land managers in the recovery outline for lynx.

Canada Lynx Critical Habitat

Implementation of the HCP and issuance of the Permit is not likely to destroy or adversely modify designated critical habitat for the lynx for the following reasons:

- The proportion of lynx critical habitat Unit 5 that would be affected by the covered activities is discountable. Only 0.0001% (783 acres) of the entire critical habitat Unit 5 (6,080,000 acres) may be impacted by Permit issuance. Adverse effects on lynx critical habitat would occur on a very small portion of critical habitat Unit 3. Only 2.7% (174,343 acres) of the entire critical habitat Unit 3 (6,465,254 acres) may be impacted by Permit issuance.
- Overall, we anticipate adverse effects to lynx critical habitat only from the timber harvest/thinning and pre-commercial thinning activities that occur within lynx foraging habitat (snowshoe hare habitat) and so impact Primary Constituent Element (PCE) 1.a. The covered activities' adverse effects on lynx critical habitat are temporary, and no permanent loss of the inherent capacity of treated stands to provide lynx habitat is expected.
- The affected habitat (PCE1.a) would retain its inherent capacity to regenerate into snowshoe hare and lynx habitat and thus would not be adversely modified or destroyed as a result of the HCP.
- For those areas of the project that provide lynx habitat but not snowshoe hare habitat or are located in matrix habitat (PCE1.d), we do not anticipate adverse effects as a result of implementation of the HCP.
- The proposed action would have no effect on PCE1.b, deep fluffy snow.
- The proposed action would have no adverse effects on PCE1.c, denning sites.
- Some adverse effects to habitat in lynx critical habitat within LMAs are expected. However, when taken into consideration with the amount and status of critical habitat Unit 3, the application of the NRLMD on Federal land across the vast majority of lynx critical habitat, and the current status of

lynx critical habitat, the HCP would not affect Unit 3's conservation role, which is the continued production of adequate densities of snowshoe hares to support persistent lynx populations.

D.3 Analysis of Fish Species

Bull Trout

Based on our review of the current status of the bull trout, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, we determined that implementation of the HCP and issuance of the Permit are not likely to appreciably reduce the likelihood of survival and recovery of bull trout in the wild. The following HCP minimization and mitigation measures that support our determination include the following:

- The DNRC anticipates conducting RMZ harvest on only 32-64 acres annually.
- The DNRC HCP would maintain or improve stream temperature for bull trout by ensuring adequate streamside shade levels in relation to riparian timber harvest and by ensuring that grazing parcels maintain healthy riparian vegetation plant communities. Consequently, baseline conditions of summer maximum or winter minimum stream temperatures are not anticipated to be measurably affected over the Permit period.
- The DNRC HCP is expected to reduce total existing sediment production from problem road sources in those areas prioritized for corrective actions by 10% per decade for the Permit term. Thus, baseline conditions are expected to improve in the areas where chronic sources of sediment from existing roads exist within 300 feet of bull trout streams (including all Class 1 streams), as well as problem culverts and stream crossings.
- The DNRC HCP will identify sediment sources on bull trout streams caused by livestock grazing, prioritize the problem sites, and implement corrective actions on prioritized sites before the next grazing season and on non-prioritized sites within 1 year of verification.
- The DNRC HCP would maintain baseline conditions or improve existing Large Woody Debris (LWD) recruitment levels on bull trout streams (including all Class 1 streams) in relation to timber harvest by ensuring, that at a minimum, 80% of the RMZ acres on bull trout streams would meet LWD targets.
- The HCP would require DNRC to install all new culverts and stream crossing structures to ensure safe and effective fish passage on all bull trout streams (including all Class 1 streams) by removing or replacing all fish passage barriers based on prioritization of the most severe problems.
- The DNRC HCP would address potential adverse cumulative watershed effects by taking into account existing watershed conditions and implementing a process that is sensitive to the anticipated impacts to

watershed functions from a project proposal. These functions include, but are not limited to, water yield, flow regime, and channel stability that support and/or maintain habitat conditions for bull trout. The process would ensure that proposed projects would not exacerbate degraded habitat conditions for bull trout or contribute to poor water quality and quantity conditions.

- The DNRC HCP would employ a monitoring and adaptive management program to ensure HCP provisions are implemented as intended and are effective throughout the Permit term. This program provides assurances that the HCP aquatic minimization and mitigation measures will be done appropriately, and if these measures are not yielding the desired results for bull trout and its habitats, the program outlines a process and course of action to make the necessary changes to achieve the intended results.
- The potential disposal of 45,500 acres from the HCP would not compromise the HCP's ability to complement recovery efforts on adjacent Federal lands managed by the Forest Service, because sufficient amounts of habitat would remain in the HCP to support bull trout conservation on DNRC lands.
- Overall, for any lands added to the HCP project area and managed under the terms of the HCP, the effects would be similar to those disclosed in the Effects of the Action Section of the Biological Opinion. While some adverse effects may occur on such lands, particularly sediment input from roads, the DNRC would maintain existing baseline conditions or improve habitat conditions for HCP fish species, because baseline conditions of lands that would be added are likely to be the same or worse than those in the HCP.

Our conclusion is further supported by the following:

- The DNCR HCP project area comprises only 2.47% of the total habitat acres occupied by bull trout in bull trout core areas within Montana (Final Environmental Impact Statement (EIS)/HCP, Chapter 4, Table 4.8-16, 2010).
- The DNRC HCP project area contains 8% of the total stream miles occupied by bull trout not under DNRC ownership (Final EIS/HCP, Appendix E, Table E4-4, 2010) and only 2.8% of the total stream miles of bull trout critical habitat (Final EIS/HCP, Chapter 4, Table 4.8-17, 2010). The majority of critical habitat for bull trout occurs on Federal lands in western Montana.
- The action area contains only 2 of at least 20 major watersheds forming the Columbia River basin, though it is amongst the largest (USFWS 2002).
- The DNRC HCP would not preclude recovery of bull trout and is likely to contribute to recovery by helping reduce habitat threats in some core areas, such as those where sediment sources from legacy roads continue to exist (e.g., Bitterroot, Blackfoot, and Middle Clark Fork bull trout core areas).

- Numerous efforts have been undertaken to improve degraded baseline conditions for bull trout, including significant progress with fish passage over large hydroelectric dams on major bull trout river corridors in western Montana (e.g., all Clark Fork River mainstem dams) and on several privately owned small irrigation dams within the action area; countless habitat restoration projects throughout the range of bull trout in western Montana; and conservation through HCPs in place on about 993,000 acres of private land (Plum Creek Timber Company Native Fish HCP, Stimson Lumber Company) within the action area.

Designated Bull Trout Critical Habitat

Implementation of the HCP and issuance of the Permit is not likely to destroy or adversely modify designated critical habitat for the bull trout. This conclusion is primarily based on the low magnitude of the project effects in relation to the designated critical habitat at the Columbia River basin scale. Anticipated impacts would be confined to localized road segments of designated bull trout critical habitat in the action area. The following reasons are the basis for our conclusion:

- The function of designated critical habitat in the action area would not be significantly reduced because none of the PCEs would be eliminated. At most, affected PCEs (likely PCE 6 and 2) would be diminished functionally to only a small degree.
- The DNRC HCP would support and likely contribute to the conservation role of bull trout critical habitat by maintaining or improving the overall functions of PCEs in all bull trout core areas over the Permit term. Baseline habitat conditions would be maintained or improved for eight (PCEs 1 through 8) of the nine PCEs potentially affected by forest management under the HCP.
- By the end of the Permit term, improvements in baseline conditions for PCEs 2 and 6 in the HCP project area are anticipated (i.e., replacement of culvert barriers and net reduction in sediment delivery).
- Only 2.8% of the total stream miles of bull trout critical habitat in the planning area occur within the HCP project area (Final EIS/HCP, Chapter 4, Table 4.8-17, 2010). The majority of critical habitat for bull trout occurs on Federal lands in western Montana.
- The HCP project area is encompassed in the Clark Fork and Kootenai River subbasins where several habitat restoration projects and fish passage projects have been implemented, such that improvements in PCEs have occurred, including those affected by the proposed HCP. The Clark Fork River and Kootenai River subbasins are only 2 of at least 20 major watersheds forming the Columbia River basin, and the Clark Fork is amongst the largest (USFWS 2002).

- Bull trout conservation is being implemented on thousands of acres of critical habitat associated with private industrial lands through existing HCPs that are adjacent to or intermixed with DNRC HCP scattered lands. Baseline habitat conditions are gradually improving in bull trout core areas due to restoration projects included in these HCPs.
- The majority of the lands occupied by bull trout and that contain most of the critical habitat within the action area are owned by the USFS, the agency largely responsible for implementing management and development of programs and projects that promote recovery of the species. The DNRC HCP would contribute to the USFS recovery efforts in areas of mixed ownership.

Westslope Cutthroat Trout and Columbia Redband Trout

Based on our review of the current status of the unlisted WCT and RBT, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, we determined that implementation of the HCP and issuance of the Permit are not likely to appreciably reduce the likelihood of survival and recovery of WCT or RBT in the wild.

Because the baseline habitat conditions are likely to improve for WCT and RBT during the Permit term, the HCP would not preclude the recovery of either WCT or RBT. The HCP would likely contribute to recovery of each species based on the same reasons for bull trout in that the most important habitat parameters (stream temperature, sediment, LWD, connectivity, and cumulative watershed effects) for recovering these species are expected to improve over the Permit term. Additionally, numerous efforts undertaken to improve degraded baseline conditions for WCT include: progress with fish passage for WCT over large hydroelectric dams on major river corridors in western Montana; efforts to remove nonnative fish species that hybridize with WCT; 234 projects directed toward the protection and restoration of WCT and their habitats on national forests in Montana; 500 habitat improvement projects in Montana as reported by MFWP; and 12 habitat improvement projects in Yellowstone National Park. The extensive efforts aimed at recovering bull trout and restoring and protecting WCT habitat all benefit RBT where habitats overlap.

E. Other measures, required by the Director of the Service, have been met.

The Service finds that the HCP, IA, and the Permit terms and conditions incorporate all measures determined by the Service to be necessary for issuance of the Permit and approval of the IA.

III. GENERAL CRITERIA AND DISQUALIFYING FACTORS—ANALYSIS AND FINDINGS

The Service has no evidence that the Permit should be denied on the basis of the criteria and conditions set forth in 50 CFR 13.21(b)-(c). DNRC has met the criteria for the issuance of the Permit and approval of the IA, and does not have any disqualifying factor that would prevent the Permit or IA from being approved under current regulations.

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