



United States
Department of
Agriculture

Forest
Service

Idaho Panhandle
National Forests

3815 Schreiber Way
Coeur d'Alene, ID 83815

File Code: 2670

Date: December 12, 2006

Ms. Susan Martin
Field Supervisor
U. S. Fish & Wildlife Service
11103 E. Montgomery Dr.
Spokane, WA 99206

Dear Susan:

We have completed Biological Assessments for the Myrtle HFRA project on the Bonners Ferry Ranger District of the Idaho Panhandle National Forests. As this project involves helicopter logging in grizzly bear core habitat during the non-denning season, it was determined that the project *may affect*, and is *likely to adversely affect* grizzly bear. Therefore, we are requesting initiation of formal consultation pursuant to Section 7(2)(a) of the Endangered Species Act (50 CFR 402.14).

It was also determined that this project *may affect*, but is *not likely to adversely affect*, Canada lynx and bull trout. We are requesting concurrence on the "*may affect-not likely to adversely affect*" determinations in the attached BAs. Woodland caribou, Kootenai River white sturgeon, bald eagle, gray wolf, water howellia, and Spalding's catchfly will not be affected by this project.

Helicopter logging in core habitat, and potential effects of the Myrtle HFRA project in particular, were discussed at the October 5, 2006 Level 1 consultation meeting. In addition, Bryon Holt has participated in the Myrtle HFRA public working group, and has some familiarity with the project.

If you have any questions or require further information, please feel free to contact Brett Lyndaker at (208) 267-6723.

Sincerely,



for
RANOTTA K. MCNAIR
Forest Supervisor

Enclosure



**Biological
Assessment**USDA
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File Code: 2670

Date: November 30, 2006

Ref: Biological Assessment, *wildlife*, Myrtle HFRA Project

To: Ranotta McNair, Forest Supervisor

Introduction

Threatened and Endangered species are managed under authority of the Federal Endangered Species Act (36 U.S.C. 1531-1544) and the National Forest Management Act (16 U.S.C. 1600-1614). The Endangered Species Act requires that Federal agencies ensure all actions that they "authorize, fund, or carry out" are not likely to jeopardize the continued existence of any threatened or endangered species.

USDA Forest Service Policy (FSM 2670) requires a review of programs and activities, through a biological assessment, to determine their potential effects on threatened and endangered species. The biological assessment process is intended to analyze and document activities necessary to ensure proposed activities will not jeopardize the continued existence or cause adverse modification of habitat for listed species.

Background

In September, 2003, a wildfire burned approximately 3,450 acres in the lower portion of the Myrtle Creek drainage, which is the municipal watershed and the primary source of drinking water for the City of Bonners Ferry, Idaho. The fire burned across the intake diversion structure for the City's water system, and caused some short-term effects to the water quality. It also heightened the community's awareness of potential risks if another catastrophic fire burned within the watershed.

As the primary land management agency within the Myrtle Creek watershed and adjacent areas, the Forest Service was asked to design treatments that will do the following:

- foster long-term reduction of risks from unwanted or undesirable wildfire, and
- reduce or avoid the associated post fire effects within the municipal watershed.

Proposed Action

The Myrtle Creek Healthy Forest Restoration Act (HFRA) project proposes aquatic and vegetation improvement treatments on National Forest System lands in the Myrtle and Snow Creek watersheds of the Bonners Ferry Ranger District. The objectives of the project are to 1) maintain Myrtle Creek watershed as a source of high quality drinking water for the City of Bonners Ferry, Idaho; 2) reduce hazardous fuels in the Myrtle Creek watershed and adjacent forests; and 3) trend vegetation in Myrtle Creek watershed and adjacent forests towards conditions that would be less susceptible to catastrophic fire, while maintaining and restoring habitat for fish and wildlife species.

The proposed action would:

- Treat hazardous fuels and create sustainable stand compositions and structures that are adapted to fire on approximately 2,086 acres of National Forest Systems lands using a variety of silvicultural and slash disposal tools.
- Include 24 treatment units that utilize commercial thinning, sanitation salvage, group selection, irregular shelterwood, or seed tree harvest prescriptions to achieve the desired conditions for the units. Logging systems will include a mixture of ground-based, skyline and helicopter systems dependant on terrain, access and soil conditions. Slash and the risk of fire will be reduced by prescribed burning, or by piling and burning.
- Improve and maintain the transportation system (roadside and surface maintenance, etc.) on approximately 29 miles of roads that will be used as haul routes.
- Reopen about ½ mile of Road 402C, a spur road in the Snow Creek drainage, and close it again after prescribed burning operations are completed.

A summary of proposed treatments is as follows:

Treatment Type	Acres / Miles
<u>Regeneration Cuts</u>	
Irregular Shelterwood (ISW)	806
Seed tree (ST)	59
Total Regeneration Cuts	865
<u>Partial Cuts</u>	
Commercial Thin/Sanitation Salvage (CT/SS)	190
Group Selection/Commercial Thin (GS/CT)	1,031
Total Partial Cuts	1,221
Total Acres Treated	2,086
<u>Logging System</u>	
Ground-based	614
Skyline	343
Helicopter	1,129
<u>Fuels Treatment</u>	
Grapple Pile	1,022
Underburn	1,064
Total Acres of Fuels Treated	2,086
<u>Transportation Miles</u>	
Temporary Road Construction	<1
Improve	29

Timing and Duration of Activity - The activity will be under a five-year contract beginning in 2007.

Location - The project area encompasses the Myrtle Creek watershed (about 17,000 acres), and the lower section of the Snow Creek drainage (about 3,200 acres), within the Selkirk Mountains of northern Idaho. It includes all or portions of Sections 5-9, 15-23, 26-35, T.62N., R.1W., Sections 1-24, 27-33, T.62N. R.2W., Sections 13, 24, T.62N., R.3W., Sections 2-3, T.61N., R.1W., Sections 34-36, T.63N., R.2W., and Section 31, T.63N., R.1W., Boise Meridian, Boundary County, Idaho.

Prefield and Field Reviews

Proposed treatment units and surrounding areas were reviewed by a Wildlife Biologist and wildlife technicians during the 2004–2006 field seasons in order to identify possible wildlife issues and determine existing use by featured species. Prior to this, the District wildlife atlas was consulted to help determine historic use patterns, and habitat suitability models were used to identify potential habitat for various species.

Listed Species

On March 1, 2006 the U.S. Fish and Wildlife Service provided the Bonners Ferry Ranger District with a listing of threatened and endangered species that may be present within the evaluation area. These species include gray wolf (*Canis lupus*), woodland caribou (*Rangifer tarandus caribou*), bald eagle (*Haliaeetus leucocephalus*), Canada lynx (*Lynx canadensis*) and grizzly bear (*Ursus arctos*). Based on the known distribution of these species, habitat requirements, and habitat availability, only Canada lynx and grizzly bear may be impacted by the proposed action (Table 1).

Effects Analysis and Determinations

Table 1. Summary of Effects

Species	Species or Habitat Present?	Species or Habitat Potentially Affected?	Likelihood of Adverse Effects?	Determination of Effects
<i>Endangered</i>				
Gray Wolf	Yes	No	None	No Effect
Woodland Caribou	Yes	No	None	No Effect
<i>Threatened</i>				
Bald Eagle	Yes	No	None	No Effect
Canada Lynx	Yes	Yes	Low	May Affect, Not Likely to Adversely Affect
Grizzly Bear	Yes	Yes	Moderate	May Affect, Likely to Adversely Affect

Woodland caribou

The woodland caribou population is generally found above 3000 feet elevation in the Selkirk Mountains in Engelmann spruce/subalpine fir and western red cedar/western hemlock forest types. They are highly adapted to upper elevation boreal forests and do not occur in drier low elevation habitats except as rare transients. Seasonal movements are complex and normally occur as altitudinal patterns, moving to traditional sites for different seasons. The population is threatened by habitat fragmentation and loss, and excessive mortality from predators and illegal human take (USDI 1994). The recovery area for the population is the Selkirk Mountains of northern Idaho, northeastern Washington and southern British Columbia, Canada.

Habitat management guidelines for woodland caribou were originally provided by the Forest Plan (USDA 1987) and the Woodland Caribou Recovery Plan (USDI 1994). More recent research has resulted in the development of a habitat capability (HCI)/suitability (HSI) model (Allen-Johnson and Deiter 1993, Allen 1998b), which was derived from habitat research on transplanted caribou as well as earlier research and a preliminary model developed by the recovery team in 1985 (Scott and Servheen 1984, Summerfield 1985, Warren 1990, Allen 1998a). The HCI/HSI model tracks five seasonal habitats based on behavioral needs, movements, and habitat use, including: early winter (~November 1 – January 15), late winter (~January 16 – May 15), spring (~May 16 – July 15), calving (pregnant cows, June 1 – July 15), and summer/rut (July 16 – September 15). In addition, stands that have $HSI \geq 0.5$ for all seasons except early winter cedar/hemlock are considered “key” habitat, because they are mid-elevations that have the habitat quality to be useful for more than one season.

Approximately half of the Myrtle HFRA project area is within the Woodland Caribou Recovery Area – mostly in the Myrtle Caribou Management Unit (CMU), with a very small portion in the Snow CMU. The project area contains substantial amounts of all five seasonal habitats currently in suitable condition, as well as key habitat. Early winter habitats (cedar/hemlock and spruce/fir) and key habitats are likely the most important habitats for woodland caribou. In general, percentages for all seasonal habitats except cedar-hemlock early winter have increased during the last 60 years in the Myrtle CMU but not the Snow CMU, much of which was transformed to unsuitable caribou habitat by the 1967 Sundance fire (Allen 2001, unpublished report).

Most of the Myrtle Creek portion of the Recovery Area is identified in the 1987 IPNF Forest Plan as Management Area 7 (MA7), designated for caribou management within identified caribou habitat. Given the purpose and need of the Myrtle HFRA project (fuels reduction), it is unlikely that any meaningful treatment could occur in these stands while maintaining habitat suitability. Therefore, proposed timber harvest units within suitable caribou habitat in the Recovery Area were dropped in the scoping process. As a result, only about 50 acres of proposed units are within the Myrtle CMU. These are immature stands with a significant component of lodgepole pine, and it is questionable if they would reach a suitable habitat condition for caribou without management intervention.

Transplanted caribou and their offspring used suitable habitat in the Myrtle drainage from 1987-2001. The remaining handful of caribou occasionally used the headwater regions of Myrtle Creek during recent years. However, only 3 animals were documented during the 2005 winter flights within the Idaho portion of the recovery area.

Timber harvest within the Woodland Caribou Recovery Area would be limited to less than 50 acres of currently unsuitable habitat, and would likely trend these stands towards suitable condition more quickly than no action would. All proposed temporary road construction and other maintenance would take place outside the recovery area. Given the low density of woodland caribou in this portion of the recovery area, it is unlikely that the small amount of project-related disturbance at the periphery of the recovery zone

would have any measurable effects on this species. The maintenance of existing suitable habitat and open road densities would continue to provide for caribou and their habitat. Therefore, this project would have *no effect* on caribou. There would be no cumulative effects due to the lack of direct or indirect effects.

Bald eagle

Bald eagles are winter visitors and yearlong residents of northern Idaho. They are attracted to the area's larger lakes and rivers, which provide most of their foraging opportunities (e.g. fish, waterfowl). Accordingly, bald eagles select isolated shoreline areas with larger trees to pursue such activities as nesting, feeding, loafing, etc. Nesting habitat usually includes dominant trees that are in close proximity to a sufficient food supply and within line-of-sight of a large body of water (usually within ¼ mile). Nest trees typically are large ponderosa pine, Douglas-fir, western larch or cottonwood trees with open crowns in areas that are relatively free from human disturbance (Montana Bald Eagle Working Group 1991).

During migration and at wintering sites, eagles tend to concentrate on locally abundant food and tend to roost communally. Roost sites are usually located in stands of mature or old growth conifers that provide protection from inclement weather.

The Bonners Ferry Ranger District is included in Zone 7 as designated in the Pacific States Bald Eagle Recovery Plan (USDI 1986). At the time of federal listing, bald eagles were uncommon in this zone. Since then, recovery areas in northern Idaho have contributed enough new territories to reach and exceed goals listed in the Recovery Plan. Originally, there was a target of zero territories in the area covered by the Bonners Ferry RD. In Boundary County alone, there are now at least 12 active or historic territories, most of them discovered in the last decade. The majority of these nests are along the Kootenai River, outside of National Forest System lands.

Protection and enhancement of bald eagle habitat involves securing and maintaining the areas around the following: (1) nest site (¼ mile radius around nest tree); (2) primary use area – where 75% of eagle activity (i.e. foraging, loafing, bathing) is concentrated (½ mile radius); (3) home range – includes all suitable foraging areas within 2.5 miles of nest site; and (4) winter communal roosts (<10 acres in size that contains ≥6 bald eagles on given night) (Montana Bald Eagle Working Group 1994).

In 2006, there were two active bald eagle nests on the Kootenai National Wildlife Refuge east of the Myrtle HFRA project area. However, both of these nests are at least 1¼ miles from the project area, and more than two miles from the nearest proposed harvest unit. If this unit is logged by helicopter, all landings and overflights would be at least 1½ miles from any active nest.

There will be no habitat alteration within two miles of any known bald eagle nests, and no helicopter use will be allowed within 1½ miles of nests. All timber harvest would take place in upland habitats, so there will be no impacts to suitable foraging areas. Since the project area is more than ¼ mile from winter roosting/foraging areas, and outside the primary use area or suitable foraging area of any known nest, there would be *no effect* on bald eagles. There would be no cumulative effects due to the lack of direct or indirect effects.

Gray wolf

Wolves are highly social animals requiring large areas to roam and feed. Conservation requirements for wolf populations are not fully understood, but the availability of prey and reducing risk of human-caused mortality are considered key components (USDI 1987). The risk of human-caused mortality can be

directly related to the density and distribution of open roads.

In 1994, final rules in the Federal register made a distinction between wolves that occur north of Interstate 90 and wolves that occur south of Interstate 90, in Idaho. Gray wolves occurring north of Interstate 90 were listed as Endangered species and receive full protection in accordance with provisions of the Endangered Species Act. Gray wolves occurring south of Interstate 90 are listed as part of an experimental population, with special regulations defining their protection and management.

The Myrtle HFRA project occurs north of Interstate 90. The project area is outside of lands designated for wolf recovery, but lies within the general region that provides linkage between recovery areas. Occasional sightings have been reported near the project area. However, these sightings seem to indicate transient individuals or lone wolves, detached from a resident pack. There is no confirmed evidence of resident wolf packs (i.e. lack of sightings or observations of reproduction, den sites and rendezvous sites) on this portion of the BFRD. The nearest confirmed pack of wolves is the Calder Mountain Pack, located approximately 10 miles east of the project area. Additionally, USFWS and IDFG personnel documented the presence of a group (4-5 individuals) of gray wolves on Hall Mountain (approximately 15 miles northeast of the project area) in early January, 2006. Subsequent efforts to trap and radio-collar one or more of these animals were unsuccessful, as the group apparently left the area shortly after they were detected. However, there have been additional reliable sightings of wolves and wolf tracks in the Hall Mountain area since the unsuccessful trapping effort. It is unknown if these animals represent an established pack that dens on the District.

Wolves primarily feed on ungulates. The project area supports moose, elk and white-tailed deer as potential prey items. Although no specific population numbers are available, ungulates are common enough to provide an ample food supply for any wolves that may visit the area. While fuels reduction would result in a decrease of ungulate hiding cover in the project area, the majority of the affected area is within the Myrtle Creek drainage, where hunting is not allowed. Therefore, the loss of big game security would only be an issue in the Snow Creek unit, while there would be a significant improvement in forage quality and quantity throughout the project area. There would be minor increases in both open and total road densities in the project area during implementation. However, in order to meet grizzly bear management standards the reopened road will not be available for public use, and will be reclaimed after implementation is complete.

While there have been reports of transient wolves near the project area, the reports are infrequent and widely spaced geographically. Since wolves have not established any pack activity near the project area, this project would not affect gray wolves or their habitat. In addition, there would be no reductions in prey densities or increase in public access. Due to the ability of gray wolves to thrive under a variety of land uses, successful wolf recovery in the northern Rocky Mountains does not depend on land-use restrictions, with the possible exception of temporary restrictions around active den sites on federally managed lands (USDI 2003). Therefore, the project would have *no effect* on gray wolf. There would be no cumulative effects due to the lack of direct or indirect effects.

Canada lynx

The Canada lynx was listed as Threatened on March 21, 2000. Lynx populations in Alaska and most of Canada are generally considered stable to slightly dropping. The conservation of lynx populations is the greatest concern in the western mountains of the United States because of the peninsular and disjunct distribution of suitable habitat at the southern periphery of the species' range. Both historic and recent lynx records are scarce, which makes identifying range reductions and determining the historical distribution of stable populations difficult (Koehler and Aubrey 1994).

Important risk factors that can impact lynx populations include alteration of forest habitats, expansion of the range of competitors, and increased levels of human access into lynx habitat. The Canada Lynx Conservation Assessment and Strategy (LCAS) (Ruediger et al. 2000) directs agencies to delineate lynx analysis units (LAUs) to evaluate and analyze effects of planned and on-going projects on lynx and their habitat, and provide guidance for addressing these risk factors. Both snow conditions (influenced by elevation and aspect) and vegetation types are important factors to consider in defining lynx habitat.

The LCAS includes five general guidelines (indicators) typically tracked for habitat management assessment: 1) if more than 30 percent of lynx habitat within a LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of vegetation management activities by federal agencies; 2) maintain denning habitat comprising at least 10 percent of the lynx habitat within an LAU (denning habitat should be well distributed and in patches larger than 5 acres); 3) management actions should not convert more than 15% of lynx habitat per LAU to an unsuitable condition within a 10-year period; 4) maintain vegetative structure that facilitates movement of lynx along important connectivity corridors such as riparian areas, saddles and ridges; and 5) manage for no net increase in groomed or designated over-the-snow routes and snowmobile play areas.

The Myrtle HFRA project includes portions of the Myrtle-Cascade and Snow LAUs. LAUs are intended to provide the fundamental unit for evaluating and monitoring the effects of management activities on lynx habitat. The IPNF has completed an initial habitat suitability model to predict the amount of lynx habitat present in the project area. As this model was refined and the output verified through aerial photo inspection and field reviews, the acreages were changed to better reflect known conditions. The adjusted habitat composition totals for these LAUs are given in Table 2.

Table 2. Current condition of the LAUs incorporated in the Myrtle HFRA project area.

Lynx Analysis Unit	Total LAU Size / Capable Lynx Habitat (Acres)	Currently Suitable Denning Acres / (%)	Currently Unsuitable Acres / (%)	Change in Last Decade Acres / (%)
Myrtle-Cascade	27,915 / 20,626	4,743 / (23.0)	755 / (3.7)	6 / (<0.1)
Snow	11,498 / 7,483	783 / (10.5)	520 / (6.9)	38 / (0.5)

Most of the proposed treatments of lynx habitat are within the Myrtle-Cascade LAU. This LAU contains about seven square miles of private (Forest Capital Partners, LTD {FCP}) lands, as well as several thousand acres of bare rocky terrain and dry site forests near the headwaters of Myrtle Creek and the eastern Selkirk Mountains front, respectively. Denning habitat is well distributed throughout the LAU, and is generally in close proximity to high quality foraging habitat. An exception to this is along the eastern portion of the Myrtle/Snow Creek divide, where recently created openings (from the Myrtle fire and the Salt Lick timber sale) have not yet developed into winter snowshoe hare habitat.

A smaller portion of proposed treatment areas are within the Snow LAU. These areas are confined to the dry south-facing slopes above Snow Creek, and thus impact only a small amount of capable lynx habitat. This LAU contains about 4.5 square miles of property belonging to FCP, as well as a relatively large amount of bare, rocky ground near the headwaters of Snow Creek. Denning habitat in this LAU is not as well distributed as in Myrtle-Cascade LAU, particularly near the headwater area where many of the acres capable of producing forest habitat have not yet recovered from the effects of the Sundance Fire of 1967.

In addition, a number of acres of currently unsuitable habitat in this LAU are harvest units that are approaching 20 years old, and should move into high quality winter hare habitat over the next several years.

Direct and Indirect Effects

Project activities would potentially reduce denning in the Myrtle-Cascade LAU by approximately 101 acres through regeneration harvesting. However, denning habitat is not considered limiting in this LAU, and harvest of these stands would still leave an adequate array of denning habitat in the vicinity. Most (648) of the acres proposed for harvest in this LAU are currently low quality forage. While approximately 601 of these acres will be converted to an unsuitable condition, 47 acres will be group selection / commercially thinned, and will remain as low quality foraging after harvest. The 702 regenerated acres (101 acres denning and 601 acres low quality forage) will result in 3.4% of capable habitat having been converted to unsuitable condition in the last decade.

Table 3. Effects of proposed activities on lynx habitat components for LAUs impacted by the Myrtle HFRA project.

Lynx Habitat	Myrtle-Cascade LAU (27,915 / 20,626)*		Snow LAU (11,498 / 7,483)*	
	Baseline	Project Result	Baseline	Project Result
High quality forage acres				
Early successional	1,882	1,882	1,050	1,050
Late successional	4,178	4,178	623	623
Low quality forage acres	9,068	8,467	4,507	4,460
Denning acres	4,743	4,642	783	783
(% of capable)	(23.0)	(22.5)	(10.5)	(10.5)
Unsuitable acres	755	1,457	520	567
(% of capable)	(3.7)	(7.1)	(6.9)	(7.6)
Increase in unsuitable acres in 10-year period (% of capable)	6 (<0.1)	708 (3.4)	38 (0.5)	85 (1.1)

*Total LAU acres / Capable lynx habitat acres

Only approximately 68 acres of capable habitat will be treated in the Snow LAU, 47 acres of which would be regenerated and converted to unsuitable condition. An additional 21 acres will be treated with a group selection / commercial thinning prescription and will remain as low quality forage. The 47 acres of regeneration harvest will increase the amount of unsuitable habitat created in the last decade to 1.4% of the LAU. The portion of this LAU affected by project activities is probably not highly preferred by lynx because most of the forested stands around treatment areas are in or adjacent to dry (Douglas-fir) habitat types. There is no primary lynx habitat (stands containing significant amounts of subalpine fir) in this part of the Snow LAU.

Cumulative Effects

Timber harvest or other activities on non-Federal ownerships may provide a source of disturbance or adversely modify habitat that lynx are currently utilizing to some degree. However, the LCAS directs that lynx habitat components be evaluated on the basis of percentages of Federal land capable of providing lynx habitat within a LAU. Since non-Federal ownerships are assumed not to provide lynx habitat, activities on these ownerships would not affect reported percentages of lynx habitat components. As a result, there would be no quantifiable cumulative effects on Canada lynx as a result of activities on other (non-USFS) ownerships in the project area.

Determination of Effect

Activities covered by this document would be consistent with all standards and guidelines in the LCAS. The proposed action would have impacts to, including loss of, lynx denning habitat. However, the affected LAUs each contain in excess of 10% of capable habitat in suitable denning condition, both before and after project implementation. Timber harvest will not cause more than 30% of lynx habitat in each LAU to be in an unsuitable condition, or more than 15% of lynx habitat in either LAU to be converted to unsuitable condition within a ten-year period. There will be no permanent increase in drivable road miles or motorized winter recreation within LAUs as a result of this proposal. While the proposed harvest would result in an opening approximately 400 m wide along a potential movement corridor on the Myrtle/Snow divide, it is unlikely that movement would be impeded since this opening would be created near the periphery of both LAUs in an area that lacks primary lynx habitat. Although harvest activities may temporarily disturb resident lynx, there is a low probability that this disturbance would result in lynx mortality. As a result, the proposed action *may affect, not likely to adversely affect* Canada lynx or its habitat.

Grizzly bear

The grizzly bear was listed as Threatened in 1975. It was originally distributed in various habitats throughout western North America. Today, it is confined to less than two percent of its original range and represented in five or six population centers south of Canada, including the Cabinet-Yaak and Selkirk Ecosystems that are located in northeastern Washington, northern Idaho and northwestern Montana. Habitat loss and direct and indirect human-caused mortality are related to its decline (USDI 1993).

The U.S. portion of the Selkirk and Cabinet-Yaak Ecosystems is divided into grizzly bear management units (BMUs) ranging in size from ~30-160 square miles. The Idaho Panhandle, Kootenai and Colville National Forests, and the Idaho Department of Lands administer these BMUs. BMUs are designed to approximate the average home range of a female grizzly bear (~100 mi²), facilitate documentation of bear numbers and distribution, and track cumulative effects within the ecosystem (Christensen and Madel 1982).

The Grizzly Bear Recovery Plan (USDI 1993) indicates that the most important element in grizzly bear recovery is securing adequate effective habitat. This is a reflection of an area's ability to support grizzly bears based on the quality of the habitat and the type/amount of human disturbance imposed on the area. Controlling and directing motorized access is one of the most important tools in achieving habitat effectiveness and managing grizzly bear recovery (USDI 1993). By controlling motorized access, certain objectives can be achieved including minimizing human interactions and potential grizzly bear mortality, reducing displacement from important habitats, and minimizing habituation to humans. This strategy

involves achieving specified levels of “core” habitat (areas >500 m from drivable motorized routes) and road densities.

The Myrtle HFRA project is partially within the Myrtle BMU. This BMU currently meets the standards for core habitat, Open Motorized Route Density >1 mi/mi² (OMRD), and Total Motorized Route Density >2 mi/mi² (TMRD) defined in the Record of Decision (ROD) for the *Forest Plan Amendments for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones for the Kootenai, Idaho Panhandle, and Lolo National Forests* (USDA 2004) (Table 4).

Table 4. Myrtle BMU existing condition and proposed standards (%).

	Core Habitat ¹	OMRD ²	TMRD ³
Existing (2005) condition	58	32	21
FP Amendment standard	56	33	24

¹Percent of BMU >500 m from drivable motorized routes.

²Open Motorized Route Density >1 mile/square mile (percent of BMU)

³Total Motorized Route Density >2 miles/square mile (percent of BMU)

During 2006, the Sandpoint Ranger District replaced bridges along the Chimney Rock trail (Trail 256) with pedestrian bridges across the Pack River and Thor Creek, and converted approximately two miles of trail that were open to motorized access to a yearlong, non-motorized trail. The conversion of this portion of trail will increase core habitat in the Myrtle BMU by one percent (58% to 59%), reduce OMRD from 32% to 31% and TMRD from 21% to 20%. These improvements to the environmental baseline will be fully realized before activities for the Myrtle HFRA project begin (2007 bear year) (Figure 1).

The 2004 Forest Plan Amendment also identified areas of recurring grizzly bear use outside designated recovery zones. The Myrtle HFRA project includes a portion of the Pack River Occupied Area (PROA) to the southeast of the Myrtle BMU. This area is approximately 103 square miles, 40 square miles of which are under USFS management. The PROA currently has a linear open road density of 1.7 miles/square mile, and a linear total road density of 1.8 miles/square mile. On lands administered by the USFS, the linear open and total road densities are 0.9 miles/square mile and 1.0 miles/square mile, respectively. Standards for road densities contained in the Biological Opinion for the 2004 Amendment (USDI 2004) specify no net increase in linear total road densities on Federal lands, and no permanent increase in linear open road densities.

Mortality is a continuing concern for the recovery of the grizzly bear. One of the advantages of access management is to decrease the opportunity for illegal mortality. The Myrtle BMU contains the Myrtle Creek Game Preserve where hunting is not permitted. Some illegal hunting occurs in the Game Preserve, although in small numbers. However, those people who do hunt the area are already in violation of the law, so there may be a slightly greater propensity to illegally take a grizzly bear. The project area includes a portion of the lower Snow Creek drainage not enclosed by the Myrtle Creek Game Preserve. Much of the lower Snow Creek portion is adjacent to currently open roads, and some of it is outside of the Myrtle BMU.

Habitat quality is not quantitatively considered in any of the IPNF guidelines for bear management. The Selkirk Ecosystem has an abundance of high quality bear habitat because of the amount of mesic habitat types that produce abundant bear forage plants. Huckleberries are the most important plant food for grizzly and black bears in the Selkirks, and are generally abundant. The large Sundance Burn occupies

about a third of the Myrtle BMU, and provides huckleberries as well as other preferred species such as mountain ash. The burn has high quality forage, and is increasing in available cover as vegetation grows. Spring habitat is present within and adjacent to the BMU in the form of the Kootenai National Wildlife Refuge at the base of Myrtle Creek, as well as many acres of steep, low elevation southerly and easterly aspect slopes that provide greenup early in the year.

Proposed treatments are generally in the lower portions of the Myrtle and Snow Creek drainages (Figure 2), and down canyon from concentrations of large open huckleberry fields. Treatment areas in the Snow Creek drainage are south-facing, dry forest types dominated by Douglas-fir and lodgepole pine, and often with strong representation of ponderosa pine and Western larch. These areas provide succulent forage early in the season and maintain populations of wintering ungulates. However, potential forage species dry out and lose palatability fairly early in the season, even in shaded areas. Due to the relative unavailability of forage plants, grizzly bear use is likely uncommon outside the spring season. These features, in combination with the fact that treatment areas are geographically situated between spring habitat and high elevation summer habitat, suggest that the greatest potential for disturbance to grizzly bears by project activities is likely to be during the spring.

By contrast, proposed treatments in the Myrtle Creek watershed would impact more mesic habitats containing cedar/hemlock- and grand fir-dominated stands with a component of lodgepole pine and occasionally Douglas-fir. However, with the exception of Unit B1, these proposed units generally contain a dense canopy layer of small diameter (<8" dbh) trees that restrict movement and impede the amount of herbaceous vegetation that grows there. These stands may have value to grizzly bears as cover, but are likely limited in their usefulness as forage areas. Conversely, Unit B1 is highly variable in both tree size and species composition; and generally has a more open structure, particularly near the upper (north) end. This open canopy results in a denser shrub and herbaceous ground cover, including huckleberries at the upper elevations. Consequently, while spring is still a sensitive time period, this portion of Unit B1 may attract grizzly bears throughout the summer.

Grizzly bear numbers in the Selkirk Ecosystem are currently estimated at about 46 animals (USDI 2004). Local biologists consider the population to be on the increase based on reported bear sightings, number of sows with twins or triplets, and sightings in areas not previously known to be used by grizzly bears (Wakkinen, pers. comm., 2006). However, since this population is still quite small, gains in recovery can quickly be reversed.

There have been several confirmed sightings of grizzly bears in the Myrtle and Snow Creek drainages, as well as on the Kootenai National Wildlife Refuge at the base of Myrtle Creek. In the Autumn of 2004, a grizzly sow and three cubs were spotted at two different locations along the Myrtle Creek Road by District employees.

Direct and Indirect Effects

The effects of timber harvesting on grizzly bears can reasonably be categorized as short-term (during implementation) or long-term (post-implementation). Long-term habitat effects include changes in forest structure (reduction of cover and increased foraging habitat) and ongoing disturbance from newly constructed roads. Conversion of stands from cover areas to foraging areas probably improves habitat conditions for grizzly bears, since it is unlikely that forest cover is limiting in the Selkirks. Since this proposal will not permanently increase motorized route miles, disturbance effects are limited to the short-term impacts of timber harvesting and subsequent fuels treatment. The level of potential disturbance is influenced by a number of factors including: 1) the intensity and duration of activity, 2) the correlation of the activity with seasonal habitat preferences of bears, 3) the association of activity with quality habitat, and 4) additive impacts from other sources of disturbance.

The roadside/surface maintenance identified for designated haul routes generally involves minor improvements within the road prism (brushing and blading), and will mostly take place on open roads that are currently popular public driving routes. Since an ambient level of disturbance is presumed to originate from these roads, it is unlikely that improved surface conditions would result in additional displacement. Improvements to restricted roads will not result in increased traffic, as use of these roads during project implementation will be limited to the contractors and administrative purposes, and administrative use will not exceed Forest Plan Amendment standards in subsequent years.

Security (core habitat) is an important consideration in managing grizzly bear habitat. Secure habitat is necessary to provide a sanctuary for grizzly bears that is relatively free of human disturbances in order that bears may meet their life requisites for survival and reproduction. The available scientific literature suggests that high frequency helicopter use, particularly at low elevations, in habitat occupied by grizzly bears can negatively affect the bears. These effects may include disturbance resulting in behavioral changes, such as fleeing from the disturbance; physiological changes, such as increased heart rate; displacement to lower quality habitat; and increased energetic demands. Cumulatively these effects are known to result in lowered production or even death for some species and similar effects are plausible for grizzly bears.

Myrtle BMU – Approximately 1,240 of the acres proposed for treatment are in the Myrtle BMU, including about 551 acres of commercial thinning/group selection and 689 acres of shelterwood/seedtree harvest. Some 608 of these acres would be treated by ground-based systems, while approximately 632 acres would be helicopter logged (Units B1, B3, B6, G7H & G9). Of the acres to be logged using ground-based systems, approximately 358 acres will be tractor logged in winter. The remaining 250 acres of skyline yarding are within the 500 m influence zone of drivable roads, outside of core habitat.

There will be no permanent core loss or TMRD increases in the Myrtle BMU from the proposed action, since no roads will be constructed or reconstructed within the BMU. Treatment in several units would include haul traffic on restricted Forest Road (FR) 1309. Since the number of trips on FR 1309 during this phase of implementation would exceed administrative use guidelines, this road would be modeled as “open” during the bear year(s) (April 1 – November 15) in which these units are active. Use of this road would raise OMRD in the Myrtle BMU to 33%. Therefore, under the current configuration, no other activities that exceed administrative use guidelines on restricted roads would be allowed during the same bear year(s). This restriction would include potential haul traffic on FR 2405, which the contractor may use to access helicopter unit B6. Using FR 2405 as a haul route would increase OMRD by approximately one percent, so would be prohibited from occurring concurrent with (i.e. – during the same bear year as) harvest activities in the units accessed by FR 1309.

Approximately 280 acres of the area to be helicopter logged are in core habitat. Although no road construction is involved in these areas, repeated high intensity helicopter use over a number of years can affect the utility of core. However, by limiting the timing and duration of helicopter use, impacts to core habitat can be limited to the actual duration of the activities and would not necessitate a long-term (10-year) core reduction. Buffering helicopter units by ½ mile (800 m) would result in approximately 1,615 acres of core in the Myrtle BMU potentially being influenced by disturbance. Other sources of disturbance to be considered are open and restricted roads (which are already figured into the baseline core condition) and the adjacent ground-based treatment units (discussed above). Effects of treatment in helicopter units that impact grizzly core (B1, B3, B6 & G9) would be partially mitigated by restricting harvest activities during the grizzly “spring” season (April 1 – June 14). Harvest of Unit G9 would be completed in one operating season, and harvest of Units B1, B3 and B6 would be completed over two operating seasons.

Treatment would impact two different core blocks within the Selkirk Recovery Zone (SRZ). The core block south of Myrtle Creek, which corresponds to a portion of the Kootenai Peak Roadless Area, contains almost 2,000 acres within the SRZ. This block would effectively be split by treatment in unit G9, with about 677 acres impacted. However, given the relatively small size of the block (about three square miles) and its location on the landscape (mostly spring habitat), mitigation measures should reduce disturbance to grizzly bears during the period of highest potential use. A second core block north of Myrtle Creek is contained in the Selkirk Roadless Area, and includes more than 75,000 acres. Approximately 940 acres of this core area would be impacted by treatment of units B1, B3 and B6. The portion of this core block east of the proposed harvest units (the ridgeline between Myrtle and Cascade Creeks) is likely most heavily utilized in spring, so harvest timing restrictions should keep this core habitat available during this time period. In addition, the large size of this core block would provide adequate displacement habitat for bears whose use patterns are disrupted by summer logging activity.

Helicopter logging is generally considered to be more intrusive on wildlife than ground-based harvest systems, as the main source of disturbance is some distance off the ground (making it audible at greater range). However, due to the placement of helicopter units and accessible landings, flight lines will generally be over existing units from this proposal (already disturbed areas). Although there may be as many as three years of helicopter yarding for this project, the Myrtle Creek and Snow Creek helicopter units – though only about 1.5 miles apart – are effectively separated by a major ridge system. As a result, repeated helicopter use will be limited to two years in duration in each major drainage in the project area. There may be two additional days of helicopter use in Snow Creek to assist with post-harvest fuels treatments (aerial ignition), but this potential disturbance would be relatively minor and of short duration. All Myrtle Creek helicopter units will be grapple piled – an additional ground-based disturbance lasting as much as two weeks per unit. There are no other planned activities in the Myrtle BMU that will require helicopter use.

Timber harvest may occur intermittently throughout the project area during the life of the contract, depending upon environmental and market conditions. However, in the case of helicopter units, economic considerations usually allow for little “down time” once aircraft are on site. Therefore, helicopter use may be nearly continuous (during daylight hours) for portions of the operating season. As a result, this activity would likely be compressed into relatively short time periods during implementation. Even though units B1, B3 and B6 will be allowed a two year operating season, the impact area would shrink as harvesting is completed.

Pack River Occupancy Area – This proposal would reconstruct approximately ½ mile of closed road (FR 402C), temporarily raising the linear total road density in the PROA by 0.01 mile per square mile. There would be no change in linear open road density, since traffic on this reconstructed road would be limited to the purchaser and administrative personnel. Following implementation and post-harvest activities, this road would be returned to an undrivable condition.

Within the PROA, about 567 acres of treatments are proposed, approximately 127 acres of which are a shelterwood/seedtree prescription and the remaining 440 acres a commercial thin/group selection. Treatment on approximately 265 acres would utilize ground-based systems, and about 302 acres would be helicopter logged. Approximately 205 of the 265 ground-based acres would be tractor logged during winter.

Treatment areas in the PROA are also considered a point-source disturbance. However, with the exception of helicopter unit G2, these units are within 500 m of open roads that provide an background level of disturbance throughout the snow-free season. As discussed earlier, there are no core habitat standards for occupied areas outside recovery zones. Because unit G2 is in potential spring habitat and is

outside the presumed influence zone of drivable roads, harvest would be restricted during the grizzly “spring” in this unit as well.

Cumulative Effects

Forest Capital Partners (FCP) owns substantial amounts of property within the Myrtle BMU, as well as in the PROA. The Bureau of Land Management (BLM) also manages several small parcels in the Myrtle BMU. Unlike Canada lynx habitat management, Federal agencies must compensate for loss of effective grizzly habitat caused by other landowners within BMUs. The majority of FCP lands within the Myrtle BMU are already relatively heavily roaded, so any future activities would probably emanate from existing roads. The USFS would still have to manage roads to offset any additional roadbuilding on these ownerships, but given the already high road densities on FCP lands, new construction would make relatively minor changes to core habitat or road densities. As a result, road building on FCP lands generally has little influence on core or road density values on adjacent National Forest – the exception being when roads are constructed close enough to the property line that the zone of influence from the road extends out into USFS land. Even in such a case, existing road densities are high enough on these other ownerships that additional road building would only cause minor decreases in effective habitat on USFS land that could be compensated for relatively easily.

Determination of Effect

The proposed action will involve helicopter logging in grizzly bear core habitat. The intent of the core habitat concept is to maintain refugia where grizzly bears can be free from motorized disturbance. High-intensity, repetitive low-elevation helicopter use over several years could affect the utility of core habitat by disturbing or displacing grizzly bears, if they are present. While limiting seasons and duration of activities is expected to reduce the potential for disturbance and/or displacement, there are no guarantees that bears will not be present (and negatively affected) during helicopter harvest. The disturbance/displacement effect will be short-term (during implementation), and grizzly bears are expected to reestablish normal use patterns shortly after the source of disturbance is removed. Therefore, the impacts would not result in a core deduction, and no in-kind core replacement would be necessary.

None of the action alternatives would require permanent road building, and treatment utilizing restricted roads would not elevate OMRD in the Myrtle BMU above standards established in the 2004 Forest Plan Amendment (USDA 2004). Road reconstruction within the PROA would temporarily raise linear total road density an insignificant amount, and linear open road density would not change since this road would be unavailable for general public use. Virtually all acres in ground-based harvest units will be winter harvested or are within the influence zone of open roads, so potentially would have only minor impacts to core habitat. However, since the potential short-term adverse effects are not insignificant or discountable, the proposed action *may affect, likely to adversely affect* grizzly bears or habitat.

Conservation Measures

- Logging of helicopter units that impact grizzly core (B1, B3, B6 & G9) would be restricted during the grizzly “spring” season (April 1 – June 14). This restriction also applies to helicopter unit G2 in the Pack River Occupancy Area. Harvest of Unit G9 would be completed in one operating season, and harvest of Units B1, B3 and B6 would be completed in two operating seasons. This measure would minimize disturbance to grizzly bears, particularly during the sensitive spring season.
- Timber hauling will not be permitted on FR 2405 and FR 1309 during the same Bear Year (April 1 – November 15) in order to remain compliant with Forest Plan Amendment OMRD standards.

- The portion of FR 402C reopened for project implementation will be returned to an undrivable condition following post-sale fuels treatments.
- All harvest units utilizing tractor yarding will be logged during the grizzly bear denning period (November 16 – March 31).

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Statement of Findings

Based on the above analysis, I conclude that the Myrtle HFRA Project would have *no effect* on the bald eagle, gray wolf, or woodland caribou; *may affect, not likely to adversely affect* Canada lynx; and *may affect, likely to adversely affect* grizzly bear.

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Figure 1.

Myrtle BMU 2006 Core Habitat & 2007 Changes

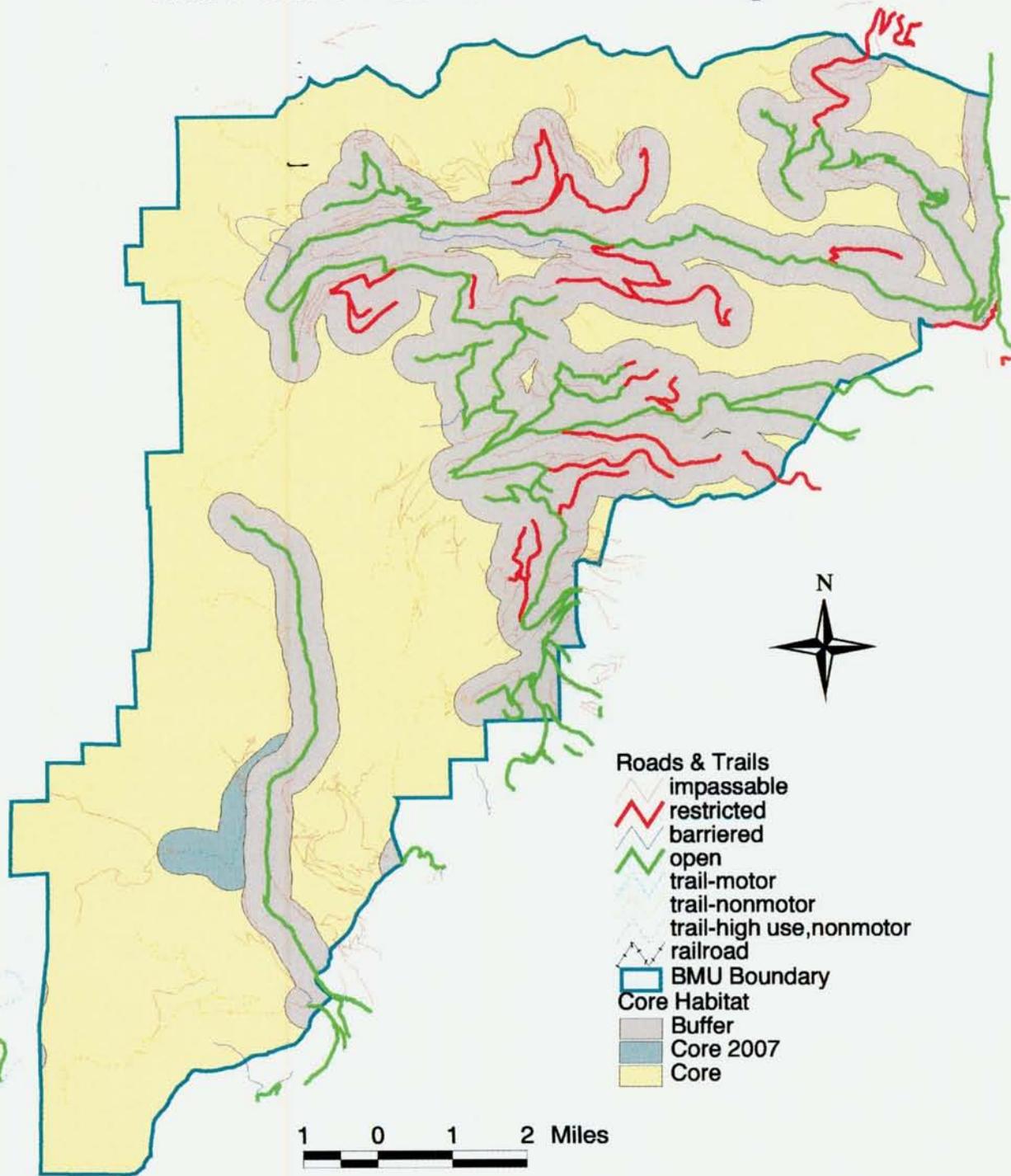


Figure 2.

Myrtle HFRA Proposed Action, Myrtle BMU & Pack River Occupancy Area Boundaries

