Filly Project

Environmental Assessment
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INTRODUCTION

Filly Project

Location of Proposed Action:

T. 48N, R. 3W, Sections 23 and 24, 8 miles northeast of Harrison, Idaho (Kootenai County) (See Appendix 1 Maps –Filly Project Area).

General Setting;

The area of the proposed action lies about 8 miles northeast of Harrison, Idaho. Some public lands adjacent to the proposed project area have been logged and reforested in the 1990s to start returning the treated areas toward their historic species mix (55% Ponderosa pine (PP)/ Western Larch (WL), 40% Douglas fir (DF), 5% other species). Adjacent private lands have been logged at various times in the 1980s and 1990s. The project area consists primarily of ponderosa pine with some Douglas fir and grand fir. Slopes vary from 33 to 55%. Elevation varies from 2820 ft to 3200 ft. above sea level. The aspect is generally west to southwest with a ridgeline running north and south at the top (east end) of the unit.

Need:
Currently, 64% of the prescribed fire unit is delineated as Condition Class (CC) 3, while the remaining portion is within Condition Class 2 (see Appendix 2). Condition class 3 means the ponderosa pine forest type, which typically has an understory burn every 15-25 years, has missed 3 or more fire return intervals (i.e. the understory hasn't burned in 45-75 years or more).

Currently 53% of the thinning unit is within CC3 and the remaining 47% within CC2.

Approximately 20% of the site is infested with root rot, predominantly in the Douglas fir and grand fir along the north boundary of the prescribed fire unit.

- Although no fire history exists for this specific area, it has been more than 50 years since fire has burned on the landscape. This area is dominated by ponderosa pine with a 15-30 year fire return interval.
- The area was probably once dominated by dry site ponderosa pine, due to the south facing aspect and large diameter ponderosa pine overstory. Douglas fir and grand fir populations have increased (in-growth) and are encroaching into the current stand and, along with the brush in the understory, are creating a fuel ladder into the dominant and co-dominant trees in the stand.
- Root rot and other forest health issues (e.g. bark beetle, fir engraver, etc.) are becoming prevalent in the burn project area. A loss of all tree species from root rot disease is increasing ground and vertical fuel loading especially in the northern part of the prescribed burn unit.

- The past logging activity on private and public land has fragmented habitat connectivity adjacent to the project area.

Purpose:

- Emphasize the use of natural disturbance (prescribed fire), reduce fine fuels and seedlings/saplings to begin to restore historic composition within dry conifer vegetation cover types. Restore ponderosa pine as the dominant cover-type and restore ~75% of the project area to condition class 1. Allow crown fires in the root rot pockets to eliminate the infected trees and allow for re-establishment of a healthier stand of trees.
- Reduce the potential for stand replacing wildfire in a typical understory burn forest type, while invigorating the plant understory. Generally, ponderosa pine is less apt to insect and disease infestations. Prescribed fires can help prevent the further spread of insects and diseases in the stand.
- A wildlife corridor thru the center of the unit would create secure areas that connect feeding and bedding areas for big game and other wildlife species.

Scoping and Public Involvement and Issues:

A scoping document for the Filly Project has been posted on the Bureau of Land Management's (BLM) Coeur d'Alene (CDA) Field Office website since April 18, 2009. A field tour for Field Office personnel was conducted on June 12th.

PROPOSED ACTION AND ALTERNATIVES

Alternative 1 – Proposed Action (Prescribed Burn, create wildlife corridor and hand thinning)

Prescribed Burn

Conduct a prescribed burn using hand ignition on 55 acres of predominantly ponderosa pine. There would be a minimal amount of hand-line construction for control of the prescribed burn (approximately 100 ft along the south end and 60 ft along the northeast end) due to the road structure in the project area. Additional hand-line construction is necessary along the wildlife corridor. Standard thinning along each of the firelines/roads would be necessary to reduce the amount of heat and reduce the chances of fire escape. The thinning would focus on/target predominantly smaller (<4" DBH) seedlings/saplings to a distance of 10 ft from the edge of the fireline or road.

The prescribed fire would reduce 50-80% of the fine fuels (wood/duff less than 0.5" diameter), eliminate 50% of the seedlings and saplings that create sustained crown fires during a wildfire event. Within the prescribed fire unit, approximately 75% of the area would be affected by the burn. The prescribed fire would have some crown fire behavior in pockets of root rot and would create small openings (2-4 acres) on approximately 10-30% of the prescribed fire project area. These openings would benefit wildlife by creating additional forbs and grasslands areas, while increasing snag densities.

Post-treatment the bases of most of the larger trees (ponderosa pine and Douglas fir) would be blackened from the understory burn. Approximately 10 to 30% or less of the area would experience single or group tree torching, which would kill all the trees in those areas. Some of the large ponderosa pine and Douglas fir would have brown needles for about 1 year and then the needles would fall and the tree would become a snag. Many of the Douglas fir and grand fir saplings would be blackened and die from either first order fire effects or die soon after the burn. In a fall burn typically much of the large down wood is consumed by the prescribed fire and only grey ash would remain. Brush species usually do not die from prescribed burns, but would take two to five years to regrow, thus the understory will be very open compared to the current condition. The casual observer may see pockets of trees with brown/red needles for up to 1 year post burn in a few of the larger trees.

The wildlife corridor (See wildlife corridor map in Appendix 1) is through the center of the prescribed burn unit. This is a dense stand of ponderosa pine, Douglas fir and grand fir, which would provide security for big game and a transition corridor for all species of wildlife. Thinning and hand-lines would be constructed on each side of the wildlife corridor to prevent, as much as possible, fire from removing the vegetative cover. In the event fire does get established in the corridor, during the prescribed burning, resources would not attempt to stop the fire.

Currently the road system in the project area is closed to public access. The road along the southwest side of the prescribed burn is closed by a Jersey barrier, and a section of the road has been removed to prevent public access. As a safety concern, prior to implementing the prescribed burn the Jersey barrier would be removed, and the section of the road filled in for an egress route. After the prescribed burn is called 'out' the Jersey barrier would be replaced and the road would be closed at the same section the road was previously successfully closed.

The project area would be inventoried for weeds prior to thinning and burning activities. Existing weed infestations should be pre-treated with appropriate weed control measures. If post-burn monitoring detects weed invasion or expansion in the project area, the Field Office Weeds staff would implement appropriate weed treatment(s). In the event of an outbreak of beetles, 3-methylcyclohex-3-en-1-one (MCH) packets would be placed around the Filly project area. These are small boxes that hang on trees and deter beetles from establishing in an area.

Thinning

Conduct hand thinning operations on 50 acres (see Filly Project Map). Trees less than 6" DBH, primarily Douglas fir and ponderosa pine would be removed from the understory. Areas greater than one acre in size, stocked mostly with coniferous trees less than 6" DBH and no over-story trees, will be thinned to a 16ft x 16ft spacing. Areas within the thinning unit that have predominantly smaller trees and are less than 1 acre would be made into small openings for foraging wildlife. The thinned trees would be piled 25-30 feet away from leave trees or from under the canopy of the leave trees (whichever is greater), the piles should not be higher than 6 foot and burned in the late fall or early spring to prevent as much damage to adjacent trees and the soil as possible. Some of the piles would not be burned to provide small mammal habitat.

Alternative 2 (Prescribed burn and create wildlife corridor)

Alternative 2 would conduct the prescribed fire and create a wildlife corridor through the prescribed burn unit, however the thinning project would not be completed and would be left in its current state.

Alternative 3 (No Action)

In alternative 3 none of the actions mentioned above would be conducted. There would be no prescribed burn or thinning project.

Alternatives Considered but not analyzed in detail

Conducting a prescribed fire in lieu of the thinning was considered, but disregarded due to the cost and the problems associated with holding a fire at a mid-slope.

CONFORMANCE

Conformance with land use plan: The proposed action is in conformance with the Coeur d'Alene Resource Management Plan (RMP) approved June 2007, as stated in Action VF-1.2.2, Action FW-2.1.3, Action FW-2.2.4, Action FW-2.2.6, Objective WF-1.5, Actions WF-1.5.2 and WF-1.5.3 and Objective WF-1.6.

AFFECTED ENVIRONMENT

Air Quality/Management

The Filly burn unit is approximately 8 miles northeast of the city of Harrison, Idaho. Generally, the winds would be from the west, southwest or northwest and would move smoke away from the city.

Air quality within the interior west was not pristine prior to European settlement especially in regards to smoke. Many historical accounts refer to the presence of smoke and burned areas within the western states. Levels of smoke declined as fire was excluded from the land, particularly after the initiation of organized fire suppression.

National Ambient Air Quality Standards (NAAQS) have been established for six criteria pollutants: sulfur dioxide (SO2), particulate matter (PM10), carbon monoxide (CO), ozone, Nitrogen oxides (NOx) and lead (Pb). Nitrogen and sulfur oxides can cause adverse effects on visibility, plant life and water quality. The majorities of these pollutants are primarily associated with urbanization and industrialization rather than the natural resource management activity of prescribed fire and are not dealt with further in this analysis.

Airsheds are classified either as having attainment or nonattainment status or they are unclassified for meeting air quality standards. The closest non-attainment areas with a probability of being impacted by smoke would be the town of Pinehurst,ID, which is approximately 20 air miles to the west. Another non-attainment area is Coeur d'Alene, ID., which is approximately 10 miles north/northeast of the project area and would probably not be affected due to prevailing winds from the west or south.

Soils

Soil types within the project are mapped by the Natural Resources Conservation Service (NRCS) as deep, well-drained soils on mountain slopes. These soils are gravelly silt loams underlain by fractured meta-sedimentary rocks. They formed in material weathered from meta-sedimentary rock with a mixture of loess and volcanic ash. Permeability is moderate and runoff can be rapid. (USDA, 1981)

Water Resources, including Water Quality

The project area extends across a broad, west to southwest-facing slope. Average annual precipitation is 25 inches. Drainage in the project area is generally to the southwest into Blue Lake. There are two ephemeral channels originating within the proposed units, with total contributing drainage areas to the lake of about 65 acres each. The proposed action is generally confined to the upper third of the slope. At the down slope boundary of the thinning unit, these channels (draws) have contributing drainage areas of about 30 acres each.

Vegetation Communities, including Invasive, Non-native Species

The project area is located on the upper slopes above Blue Lake and the Lower Coeur d'Alene River but does not border either of these water bodies. As generally described in the Coeur d'Alene (CDA) Resource Management Plan (RMP) (June 2007) and confirmed by field inventory, the project area's forest vegetation cover type is almost entirely Dry Conifer and has a mix of open and closed mid seral stages of development. Representative species of this cover type on this site include PP and DF. Because fire frequency has been reduced, in-growth consisting mostly of DF and grand fir (GF) is increasing in this cover type, and the brush component of the stand is aging, creating current and potential future fuel ladder situations. Root rot disease is prevalent throughout this cover type, and, with the increased DF/GF in-growth, this disease would continue to spread due to increased natural root grafting between trees.

The forest vegetation cover type shifts to the Wet Warm Conifer category in the northern end of the burn unit. In this location, slope aspect changes from south/west to north, and the vegetation becomes dominated by species requiring more shade and moisture, such as western hemlock (WH), western red cedar (WRC), and grand fir, with associated shrubs and herbs. This part of the project area is predominantly in the mid-seral closed stage of ecological succession and is the primary area of root disease infestation.

The table below summarizes historic and existing vegetation condition information from the CDA RMP, which is applicable to the forest cover types in the project area:

Forest Cover Type	Time Period	Vegetation Condition (Seral Stage) (%)		
		Early	Mid	Late
Dry Conifer	Historic	15	35	50
	Existing	9	70	22
Wet Warm Conifer	Historic	10	35	55
	Existing	10	65	25

Private lands immediately adjacent to the project area are predominantly of the Dry Conifer cover type and mostly in the early seral stage of ecological succession due to extensive logging. Other disturbance to vegetation within and adjacent to the action area includes recreational use of roads and trails; fire activity; insect and disease outbreaks; timber harvest; road building, use, and/or maintenance; and home-site development.

Threatened and Endangered Species

The Idaho Natural Heritage Program (formerly the Idaho Conservation Data Center) database was searched for known occurrences of rare plants in the project area. Field work was done in the area during the past three years.

No water howellia (threatened) individuals, populations, or potential habitat occur in the project area. Although suitable habitat for Spalding's catchfly (threatened) exists on south-facing, grass-dominated sites, inventories found no individuals or populations.

BLM Sensitive Species

No clustered lady's-slipper, moonworts, or pine broomrape (all BLM Sensitive) individuals or populations were found during inventory of the project area, though potential habitat for these species is present throughout the site. No bank monkeyflower plants (BLM Watch) were seen either, although a population occurs on BLM land just east of the project area, and potential habitat is present in both treatment units.

Invasive, Non-native Species

Weedy species such as meadow hawkweed (noxious), ox-eye daisy (noxious), bull thistle, common St. John's-wort, and cheatgrass occur in the project area. While these species are primarily found along roads, wildlife activity and wind currents have spread them into both of the treatment units.

Fisheries

The project area is adjacent to Blue Lake, which is adjacent to the lower Coeur d'Alene River, near where it enters Coeur d'Alene Lake. There are no perennial streams within the project area, which is mostly located on or near a ridge-top. A small ephemeral tributary to Blue Lake is located outside the southern boundary of the thinning unit. Bull trout and westslope cutthroat trout are found in Coeur d'Alene Lake and the Coeur d'Alene River. Blue Lake contains warm water game fish, and is not known to contain either bull trout, *Salvelinus confluentus* (federally listed as threatened) or westslope cutthroat trout, *Oncorhynchus clarkii lewisi* (BLM sensitive species).

Wildlife

This site provides habitat for a wide array of wildlife species (Table 1). Both "generalist" wildlife species, such as coyote, and "habitat specialists" such as flammulated owl, may inhabit the site. The relative abundance of mature ponderosa pine forest in north Idaho is low. This forest type has declined 60-70% in Idaho, and 85-98% in the greater Rocky Mountain and Inter Mountain West, and the eastside Cascade Mountains (Noss and others 1995). That makes the value of this habitat type to wildlife species, especially habitat specialists, disproportionate to its abundance.

Table 1. Migratory birds, raptors, Special Status Species, Species of Greatest Conservation Need and game animals that may inhabit the project site

Species	Likely to Inhabit	Uncommon-May Inhabit	Encountered on Site Visit
Bald Eagle	X		X
Northern Goshawk		X	
Red-tailed hawk	X		
Sharp-shinned hawk	X		
Cooper's hawk	X		
Northern pygmy owl*	X		
Flammulated owl*[M]		X	
Ruffed Grouse	X		
Wild turkey	X		
Calliope hummingbird*[M]	X		
White-headed woodpecker*		X	
Lewis', woodpecker*		X	
Cordilleran flycatcher*[M]	X		X
Dusky flycatcher [M]	X		
Western wood peewee[M]	X		X
Black-headed grosbeak[M]	X		X
Brown creeper[M]	X		
Pygmy nuthatch*		X	
House wren[M]	X		
Swainson's thrush[M]	X		X
Cassin's vireo[M]	X		X
Warbling vireo[M]	X		
MacGillivray's warbler[M]	X		
Yellow-rumped warbler[M]	X		
Yellow warbler[M]	X		
Townsend's warbler[M]	X		X
Orange-crowned warbler[M]	X		
Wilson's warbler[M]	X		
Nashville warbler[M]		X	
Western tanager[M]	X		X

Lazuli bunting [M]	X		X
Chipping sparrow[M]	X		X
Spotted towhee[M]	X		X
Cassin's finch*	X		
Gray wolf*		X	
Fisher*		X	
Fringed Myotis		X	
Townsend's big-eared bat*		X	
Yuma myotis*	X		
Long-eared myotis*		X	
California myotis*		X	
Long-legged myotis*		X	
Western small-footed myotis*		X	
Common garter snake*	X		
Northern alligator lizard*		X	
Coeur d' Alene Salamander*		X	

*Special Status Species, ** Threatened, Endangered, Proposed, or Candidate Species, [M] Migratory Bird

Threatened and Endangered Species

There are currently three Federally protected species that occur in north Idaho. Woodland caribou (*Rangifer tarandus*) is listed as Endangered, and grizzly bear (*Ursus arctos*), and Canada lynx (*Lynx canadensis*) are listed as Threatened under the Endangered Species Act. In addition, the gray wolf, which was introduced to central Idaho in 1995, has recently been delisted and is currently being managed by the State of Idaho. None of these species have been documented on the site. This project area is not within a Lynx Assessment Unit, nor is it in a Bear Management Unit or in designated Grizzly Bear Core Habitat. The most recent census of woodland caribou in Idaho has found only two animals in the northwestern portion of the Idaho Panhandle near the Canada and Washington borders.

Other Special Status Species

Very often, species that are habitat specialists are BLM Special Status Species or Idaho State Listed Species of Greatest Conservation Need. Their populations tend to be less secure because loss of their specialized habitat results in more dramatic population declines and higher rates of extinction (R.L.Smith 1992). Recovery of declining populations requires restoration of lost habitat which may be difficult for many reasons. Ponderosa pine specialists require ponderosa pine during some portion of their life history. Brown creepers prefer mature ponderosa pine with knobby bark for foraging and nesting. They hide their nests behind a large slab of bark, or occasionally in an existing cavity. Lewis' woodpecker and white-headed woodpecker use large ponderosa

pine for excavating nesting cavities and for foraging. Pygmy nuthatches forage for insects along the bole of the ponderosa tree, and they store pine seeds from the cones in the knobby bark. Pygmy nuthatches excavate a nesting cavity in the soft wood of a dead limb or snag. Small family groups roost in the nesting cavity during the non breeding season. Calliope humming birds build their nests on pine boughs, or on the base of an old pine cone (Kaufman, 1996).

While the common garter snake is fairly common in north Idaho, the northern alligator lizard is relatively rare. The alligator lizard is a habitat specialist that can occur in many different upland habitats, but is limited to those habitats that have talus slopes, or rocky outcrops. Common garter snakes are found in many upland and riparian sites in the Panhandle region of Idaho. Usually they are not too far from a water source. They are habitat generalists that prey on insects, small fishes, amphibians, and occasionally small mammals and birds (NatureServe, 2009).

The Coeur d'Alene Salamander is associated with three habitat types; waterfall spray zones, springs and seeps, and stream edges. In wet weather they may be found under leaf litter, logs, and bark. Forest sites where they have been documented have at least 25% canopy cover but can be highly variable in cover type; from ponderosa pine to hemlock (Montana Fish Wildlife and Parks, 2009). Because they respire (breath) through their skin, the most important habitat component for the Coeur d'Alene Salamander is moisture and humidity. On the project site, salamanders would be located in perpetually wet areas, such as a seep, spring or perennial stream banks.

The bat species found in Table 1 are habitat specialists because they require roosting and hibernating habitats that are very specific in their temperature and airflow requirements. Often bat populations, roosting sites, and life histories are not well known. This lack of knowledge leads most wildlife and land managers to take a more conservative approach when it comes to actions that may impact these bat species or their habitats. No mine workings, which would provide valuable roosting habitat, are known on this site. Some species that use snags, loose bark, cavities, or foliage for roosting may be present on the site. California myotis (Myotis is a species of bats) prefer dry conifer sites, and they may use this site for foraging. They may also roost under loose tree bark. The fringed myotis, which is relatively rare in north Idaho, is most likely to be found in low elevation ponderosa pine. Little is known about its roosting habitat requirements, but snags are one likely source in spring, summer, and early fall. Townsend's big eared bat may use this site for foraging and roosting. The long legged myotis and long eared myotis (bat) are both forest dwelling bats that use snags, caves, and sometimes structures as roosts. This site may provide both foraging and roosting habitat for these two species. Yuma myotis are most commonly found near open water so these bats are highly associated with wetlands. Because of the proximity of the project site to Blue Lake and the nearby wetlands along the lower Coeur d'Alene River, it is likely that Yuma bats may use this site for roosting and for foraging (Adams, 2003).

Migratory Birds

The open forest canopy and shrub understory on the project site provide foraging and nesting habitat for numerous neo-tropical migrants in spring and summer.

Table 1 lists migratory birds that are expected to use the site, were documented on the site, and those that are uncommon but are known to use the habitat types that are currently present on the project site. Mature ponderosa pine, with an open and shrubby understory is a habitat type that supports both specialist and generalist migratory birds.

Unlike ponderosa pine specialists, migratory birds that are generalists on the project site can usually fulfill all of their life history requirements in mixed coniferous forests, the shrubby forest understory, or in sunny forest openings with grasses and shrubs. Table 1 lists these generalists that are likely to be on the project site and are usually relatively common. These birds may nest in pine trees, from near to ground level up to the highest branches. They may be secondary cavity nesters, or nest on the ground.

Other Wildlife

Elk and deer use on the site is high, particularly in winter. The south facing aspect, low elevation, shrubby understory, and open canopy are components of winter range for deer, moose, and elk. Elk prefer habitat that is composed of 60% forage and 40% cover (Thomas, 1979). This project site also provides necessary habitat components for mountain lion, bear, grouse, wild turkey, bobcat, and numerous small mammal species.

Cultural Resources

A cultural resource inventory was conducted in the project area. There are no known cultural resources within the project area. Consultation was also completed with the Idaho State Historic Preservation Office.

Visual Resources

The area is within a Class III Visual Resource Management area. This management class should partially retain the existing character of the landscape. The level of change should be moderate, and management activities may attract attention but should not dominate the view of the casual observer.

Recreation

Recreation use in and adjacent to the project site is low. Redhorse Mountain Ranch is approximately 1 mile to the north of the project area, but not within the view shed of the project area. The Redhorse Mountain Ranch has a recreational use permit for a horse

trail that runs through the center of the project area between the thinning unit and prescribed burn unit.

ENVIRONMENTAL EFFECTS

Air Quality/Management

Alternative 1, Proposed Action

Direct/Indirect Effects

The Montana/North Idaho Airshed Group will consider any potential smoke impacts to impact zones prior to issuing a permit for the prescribed burn.

Because of generally favorable plume height, as well as the infrequency and short duration of prescribed burns, there normally is not a significant human or ecological health concern. The PM10 and PM2.5 (particulate matter of 2.5 and 10 microns) do not seriously affect rangeland and forest vegetation types, but can impact the human respiratory system. Since wildland fire historically was a natural occurrence within the range and forest vegetation types described, these ecosystems have some natural adaptation to the effects of fire.

Spot weather forecast information and the morning Fire Weather Forecast produced by the National Weather Service would be used to ensure that mixing heights (dispersal) and transport winds are favorable to minimize smoke impact. The Burn Boss would observe smoke dispersion and drift of smoke from test fire and throughout ignition. Smoke modeling may be used near time of implementation, using current predicted weather to predetermine the potential for impacts, both locally and down range. Smoke would continue to be monitored until the fire is out.

Cumulative Effects

No cumulative effects to air resources are anticipated from the proposed action. The USFS is beginning to conduct an environmental assessment near this project area that includes prescribed fire. The Filly prescribed burn would probably be completed prior to the USFS beginning to implement any prescribed fire in the area, however, if there were two or more prescribed burns in the project area, the North Idaho and Montana Airshed Group would evaluate the impacts from smoke.

Alternative 2 (Prescribed Burning Only)

Direct/Indirect Effects

The effects would be the same as in Alternative 1.

Cumulative Effects

No cumulative effects to air resources are anticipated from Alternative 2.

Alternative 3 (No Action)

Direct/Indirect/Cumulative Effects

There would be no direct/indirect or cumultative effects from the no action alternative. However, if a wildland fire were to burn through the area there would be some short term impacts to visibility from the smoke.

Soils

Alternative 1 (Prescribed burn and thinning)

Direct/Indirect Effects (Alternate 1)

Erosion potential varies by slope and degree of soil disturbance. Hand thinning and properly applied broadcast burning can keep soil losses to a minimum.

The Natural Resource Conservation Service (NRCS) provides soil characteristic information for the burn site, including potential for soil damage by the fire. These soils are rated as "low" indicating that potential for damage is unlikely due to the coarse texture and relatively high content of rock fragments. As described by NRCS, "the ratings in this interpretation indicate the potential for damage to nutrient, physical, and biotic soil characteristics by fire. The ratings involve an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer. The ratings are based on slope as well as the texture, content of rock fragments, organic matter, and thickness of the surface layer"(NRCS, Web Soil Survey, 2010).

There would be a minimal and short-term disturbance to soils from construction of hand lines. The area of disturbance is minor and would re-vegetate with ground cover and become covered with duff within one to two years. Offsite erosion of the disturbed soil would be minimal, as there would be little to no concentrated overland flow for sediment transport.

Cumulative Effects

The 'Red Beauty' project run by the USFS is within and adjacent to the watershed for the Filly project. Although it is very difficult to assess potential cumulative effects from this

project, due to the early stages of their planning effort, there would appear to be no cumulative effects from the USFS project and the Filly project.

Alternative 2 (Prescribed burn only)

Direct/Indirect Effects

Impacts to soils would be only slightly less than Alt 1, since the hand thinning in the proposed action involves a very minor degree of soil disturbance.

Cumulative Effects

Same as alternative 1.

Alternative 3 (No Action)

Direct/Indirect Effects

Generally, there would be no direct impacts from the no action alternative because there would be no prescribed fire or thinning that may impact soil. However, if a wildfire were to burn thru the area there would be impacts to soil resources that may cause long term soil damage.

Cumulative Effects

Cumulative effects of a wildfire could cause soil to recover very slowly and not allow vegetation to recover for 20 or more years. The only potential cumulative effects would be from the USFS project 'Red Beauty', which by itself would have few impacts.

Water Resources, including Water Quality

Alternative 1 (Prescribed burn and thinning)

Direct/Indirect Effect

Due to the drainage characteristics described in the Affected Environment, as well as the untreated buffer area between the project and any water courses, sediment or ash delivery to Lake Coeur d'Alene is unlikely. No cumulative effects to water resources are anticipated from the project. The proposed action would therefore, have no measurable effects on water quantity or quality.

Cumulative Effects

Forest, agricultural practices, mining and development on lands within the action area have occurred in the vicinity of the project area. Timber harvest, and associated road construction, has occurred near the lake in the vicinity of the proposed project. There are no known future timber harvests or prescribed burning projects in the area of the Filly project, though some is likely to continue to occur. Due to the relatively minor degree of soil disturbance, i.e., hand thinning and piling, on the thinning unit; light to moderate intensity burn on the upper unit, no cumulative impacts to soil or water resources are anticipated.

Foreseeable future impacts include implementation of the USFS Red Beauty project. Details of this project are not fully refined at this time, but relevant general guidelines- from a soil and water quality standpoint include the following:

- no road construction in the Filly project watershed
- the project will be spread out over several years
- and much of the treatment is prescribed burning as opposed to mechanical disturbance

Due to these guidelines, no cumulative effects are expected.

Alternative 2 (Prescribed burn only)

Direct/Indirect Effect

Impacts to water resources would be only slightly less than Alt 1, since the hand thinning in the proposed action involves a very minor degree of soil disturbance.

Cumulative Effects

The cumulative effects from alternative 2 would be very similar to the cumulative effects from alternative 1.

Alternative 3 (No Action)

Direct/Indirect Effects

Under this alternative no road would be cleared or built, there would be no ground disturbance and thus, have no effects to water quality or soils. Wildfires have the potential to cause severe impacts to soil and water. Without the proposed treatments (Alts 1 and 2) there would be an unquantified, but greater, risk of future wildfire within the project area.

Cumulative Effects

The potential cumulative effects to soil/water include the intense soil scorching that would take place if a wildfire occurred. This could cause some soil displacement, which

could cause some downstream water problems, but the impacts would be minimal. The USFS project as mentioned above would have minimal impacts.

Vegetation, including Invasive, Non-native Species

Alternative 1 (Prescribed burn and thinning)

Direct/Indirect Effects

Vegetation Communities

The proposed action would change the species composition, structure, and density of vegetation in both the prescribed burn and thinning units. Broadcast burning and thinning of vegetation would benefit shade-intolerant plant species, which would have less competition for sunlight, water, nutrients, or pollinators due to removal of adjacent vegetation. Other shade-tolerant plant species would be negatively impacted, such as by sun scalding, due to the resulting warmer, drier growing conditions.

Plant response to treatment with fire depends on many factors, including soil and duff moisture, plant vigor, phenological state (e.g., dormant; flowering; releasing seed) at time of burning, and fire severity (Agee 1993; Smith and Fischer 1997). Response also depends on stand history. As organic material accumulates between fire events, seedlings and new rhizomes of some species become established in the organic horizons, where they are more vulnerable to fire than plants established in mineral soil (especially if heavy fuels have accumulated and increased potential fire severity exists) (Smith and Fischer 1997).

Mature ponderosa pine trees have several fire-resistant characteristics such as very thick, insulating bark, relatively deep roots, and open foliage which increase chances of surviving lower intensity fire (Smith and Fischer 1997); therefore, lower intensity fire may be lethal to only small-diameter saplings and seedlings. Ponderosa pine may be vulnerable to fire if pitch has collected around old fire scars, or fires burning in deep surface fuels or deep duff affect the fine roots (Smith and Fischer 1997). Douglas fir trees also develop fire-resistant bark as they mature, so only seedling, sapling and small-pole size trees may be vulnerable to lower intensity surface fire. However, the resistance offered by a thick layer of bark may be offset by shallow roots susceptible to fire damage, growth of closely spaced branches along the trunk, and pitch-streaked lower trunks (Agee 1993; Smith and Fischer 1997). In comparison, other tree species in northern Idaho such as GF and WRC do not possess characteristics that protect them as well from fire and, therefore, are less resistant to its effects and are more likely to suffer mortality from prescribed fires.

Lower intensity fire may not be lethal to many of the shrub and herbaceous species that occur in the action area. It is recognized that some plants or their means of reproducing themselves such as seeds, may die as a result of fire treatments, but it is anticipated that site populations adapted to fire would survive, and some species' growth actually would

be enhanced (USDA Forest Service 2009). Although aerial portions of fire-tolerant shrubs or herbs may be killed, the plants would survive by re-sprouting from roots, stems, rhizomes, or stored seed (Smith and Fischer 1997; USDA Forest Service 2009). Fire may also remove competing vegetation, facilitating regeneration by decreasing competition for light, water, nutrients, and pollinators.

As fire intensity increases, though, impacts to vegetation would be expected to become more severe. For example, in the northern portion of the burn unit, dense tree regeneration and heavy fuels resulting from disease-caused mortality would increase potential for crown fire (Smith and Fischer 1997). Also, fuels outside of root rot "pockets", such as down logs, rotting stumps, or piled, thinned trees would produce more concentrated fire intensity that would kill or injure nearby live plants.

Fires perpetuate dominance by tree species that are resistant to both fire and root disease, especially the pine species and western larch. Conditions ideal for the spread of root disease tend to develop in forests where fire exclusion and selective logging have increased dominance by Douglas fir and the true firs (Smith and Fischer 1997). Therefore, prescribed burning that approximates historic fire frequencies converts stand composition back to early successional stages and is an effective tool for managing root disease (Rippy and others 2005). The amount of root disease in the project area would likely be reduced as a result of prescribed burning. Removal of understory vegetation, small-diameter PP and DF, as well as shade tolerant trees, by burning or thinning would reduce competition for water, nutrients, and sunlight, which would increase the vigor of the remaining trees.

Bark beetles prefer stressed trees to vigorous trees especially in dense stands where the target species dominates (Smith and Fisher 1997). Injuries to trees caused by broadcast burning can also affect the tree's ability to withstand attacks by insects and pathogens. Stress to trees caused by fire-damaged roots, cambium or foliage can weaken the tree and predispose it to attack by bark beetles and root pathogens (Hood and others 2007; Rippy and others 2005; Demars, Jr. and Roerrgering 1982). Trees weakened by fire can contribute to increased beetle populations; however, less damaged, surviving trees would have better defenses to withstand bark beetle attacks because reduced competition for water and nutrients increases overall tree health.

Over time, sites in the project area that experience lower intensity fire would likely be reseeded or re-colonized from surviving native vegetation, although replanting or seeding may be necessary to inhibit post-burn weed invasion. Microsites in the native plant community that do not recover within one to two years following the prescribed burn, perhaps due to more severe fire effects, would continue to be vulnerable to weed invasion or expansion.

Project elements such as the untreated wildlife corridor; variation in fire intensity; and thinning smaller diameter conifers would contribute to a post-project mosaic of species, structures, and densities. For example, common native plant species that are less tolerant of burning or thinning may not be as well-represented in the post-treatment plant

community, resulting in a change in the composition of site habitats over time. The post-project mosaic would change as ecological succession proceeds or a future vegetation disturbance occurs.

In summary, the proposed action would move the Dry Conifer existing vegetation condition more toward the historic condition by:
- increasing the percentage of vegetation in the early seral stage;
-decreasing the percentage of vegetation in the mid-seral stage;
-enhancing the potential for these stands to continue moving to the late seral stage of development by decreasing fuel ladders (in-growth) and favoring larger-diameter, fire resistant trees; and
-reducing the encroachment of DF/GF, and thus providing some management of the current root rot problem.

Under this Alternative, the percentage of the Wet Warm Conifer cover type in the early seral stage would increase and the amount in the mid-seral stage would decrease, with no movement toward the late seral stage. These changes would occur due to the fuel loading associated with historic fire exclusion, root disease mortality, and the expected higher fire intensity.

Threatened and Endangered Species

This alternative would have no effect on water howellia or its habitat, nor any direct effect on Spalding's catchfly individuals or populations. Suitable habitat for Spalding's catchfly would be burned, but if the fire remains low in intensity, then the treatment likely would be beneficial to this plant community by removing plant litter accumulations and stimulating new growth. However, weeds such as cheatgrass or bull thistle that presently occur in this habitat could increase in coverage following the burn, lowering overall habitat quality.

BLM Sensitive Species

While clustered lady's-slipper, moonworts or pine broomrape individuals or populations would not be directly impacted, potential habitat for each of these three species would be disturbed by burning and thinning activities.

Invasive, Non-native Species

Vegetation and ground disturbance associated with thinning, slashing, and burning would create sites favorable for weed invasion. For example, these activities would result in conditions that allow more sunlight to reach the forest floor. Therefore, weeds, which currently occupy sites in or adjacent to the units and tend to do extremely well in warmer, drier environmental conditions, may spread or at least maintain their present level of infestation. Improvement of the existing road(s) in order to implement the project, as well as any maintenance of the road(s), would disturb plant communities and soils along the road corridor(s), increasing the threat of weed invasion and/or expansion. Project-

associated passenger vehicles and equipment could introduce weed seed or fragments onsite from infestations along access roads, or transport seed or fragments from current infestations in the project area. Weeds may out-compete and displace desirable, native vegetation, altering plant community composition, structure, and function both in the present and future. However, inventory, treatment and monitoring of the project area would reduce potential impacts to native vegetation from weeds.

Cumulative Effects

The analysis area extends from Red Horse Mountain north of the project area; west to the Thompson Creek drainage; east to the Chatfield Creek drainage; and south to the Lower Coeur d'Alene River, including the face drainages that empty into Thompson, Blue, Swan, and Killarney Lakes; approximately 23,560 acres.

Past land use practices and natural disturbances in the analysis area have influenced the composition, structure, and function of existing plant communities. About 450 acres of nearby BLM land were harvested and reforested approximately 15 years ago. Of these lands that were reforested, a 14 acre parcel and a 12 acre parcel did not successfully reforest. These parcels were slashed in 2007. The 14 acre parcel was burned in fall 2008, and the 12 acre parcel was burned in the fall of 2009. Both parcels were planted with western white pine (WWP), western larch (WL), and PP in spring 2010. There is also a 100 acre unit on BLM land adjacent to the project area that was pre-commercially thinned in 2008 to reduce stocking levels to approximately 220 trees per acres (TPA) and accelerate desired tree growth. Another BLM parcel approximately 26 acres in size located on the east side of the analysis area was also pre-commercially thinned in 2008 to reduce stocking levels to approximately 220 TPA.

Other past impacts to vegetation in the analysis area include road building, use, and maintenance; fire activity; insect and disease outbreaks; trail development, use, and maintenance; additional timber harvest; and/or home site establishment. Some sites have been replanted with native conifer species or non-native, landscaping-type vegetation. Invasive or seeded, introduced herbaceous species grow on adjacent lands. Currently, various stages of ecological succession are present in the analysis area due to past disturbances.

Present activities and natural disturbances in the analysis area include road building, use, and maintenance; fire activity; insect and disease outbreaks; trail use and maintenance; timber harvest; and/or home site establishment.

Reasonably foreseeable future actions and natural disturbances in the analysis area include road building, use, and maintenance; fuels reduction and mechanical treatments (e.g. commercial thinning) on public lands to sustain movement of these lands toward the late seral stage of development; continued harvesting on private lands to recover commercial value of forest products (e.g. sawlogs and biomass for pulp, electrical power generation, etc.); fire activity; insect and disease outbreaks; trail use and maintenance, especially on private lands; timber harvest; and/or home site establishment on private

lands. The Idaho Panhandle National Forests' conceptual Red Beauty fuels reduction project would treat an estimated 1200 acres of vegetation in the analysis area with low intensity prescribed fire (800-900 acres; including 60 BLM acres east of the current project) and timber sales (300-400 acres). Implementation is proposed to be staggered over several years' time, starting in approximately 2013. As currently envisioned by the USFS, no new roads would be built to accomplish the burn portion of this project.

Ongoing and future vegetation-disturbing activities in the analysis area would continue to promote a mosaic of plant communities in various stages of ecological succession. Ecological succession would proceed where vegetation is left undisturbed. Plant communities that revert to earlier ecological succession stages due to disturbance such as timber harvest, insect infestation or disease would begin the process of maturing all over again. Ongoing and proposed activities that impact vegetation would open up sites favorable to weed invasion due to ground disturbance and/or reduction of tree canopy cover. Where left untreated, weeds would continue to threaten native plant communities.

The proposed action would treat 105 of 23,560 acres of vegetation in the analysis area; therefore, this project is unlikely to contribute cumulative effects to vegetation communities; special status plant species; or invasive non-native species, due to the relatively small level of disturbance and its projected timing of implementation, when compared to the overall analysis area.

Alternative 2 (Prescribed burn only)

Direct/Indirect Effects

Same as Alternative 1, except only the analysis which applies to prescribed burning.

Cumulative Effects

Under Alternative 2, 55 of 23,560 acres of vegetation in the analysis area would be treated by prescribed fire. Therefore, this project is unlikely to contribute cumulative effects to vegetation communities; special status plant species; or invasive non-native species, due to its small size and its projected timing of implementation, when compared to the overall analysis area.

Alternative 3 (No Action)

Direct/Indirect Effects

Vegetation Communities

Plant succession would continue toward the potential natural community, where possible, except where root disease persists, and assuming that future fire suppression efforts are successful. Over a period of years, sites in the area capable of supporting more dense forest vegetation would become dominated by shade-tolerant species, until a future

disturbance such as timber harvest; wildfire; insect or disease outbreak; or weather event creates openings in the vegetation. Tree mortality within DF and GF as a result of root rot disease would continue within the project area possibly preventing the development of large trees of these species. Fuel loading would increase until changed by wildfire. Weeds would still remain in and adjacent to the project area and compete with native species.

Impacts to common native plant populations due to a wildfire may be more severe due to the amount of fuels accumulated in the project area, and possibly spread beyond the boundaries of the proposed action. A wildfire has the potential to be stand-replacing but may also create a mosaic of burned and unburned vegetation in certain areas, depending upon factors such as variation in fire behavior. Leaving the stands in their current condition would increase the potential for a crown fire to occur under wildfire conditions due to the continued development of fuel ladders. The ability for these stands to sustain themselves in the mid seral stage and then move to the late seral stage would be reduced.

One result of a stand replacing fire would be to return the stands to an earlier stage of development. For example, as noted in the Affected Environment section, there is a shortage of early seral stage stands in the Dry Conifer forest vegetation cover type (currently 9% versus the historic 15%) on CdA FO lands, so a wildfire that moves these stands back in succession would tend to alleviate this condition. However, there is a more significant shortage in the late seral stage (currently 22% versus the historic 50%), and a wildfire occurring on this site likely would not improve this situation. Because private lands will tend to remain in the early and mid seral stages of development, shortages of these seral stages in the project area vicinity should be insignificant. Since management of private lands does not favor late seral stages, shortages of the late seral stages could be a more significant problem in the future if stand replacing fire(s) occur on BLM and USFS lands.

Threatened and Endangered Plant Species

This alternative would have no effect on water howellia or its habitat, nor any direct effect on Spalding's catchfly individuals or populations. Suitable grassland habitat for Spalding's catchfly would persist in the project area until plant succession introduced more shrub or tree canopy into areas capable of supporting these other plant lifeforms. Compared to the proposed action, however, this suitable habitat could be burned over by a more intense wildfire, which might negatively affect suitable habitat features such as species composition, primarily by opening more areas to invasion and/or expansion by weedy species such as cheatgrass or meadow hawkweed.

BLM Sensitive Species

This alternative would have no direct effect on clustered lady's-slipper, moonworts, pine broomrape, or bank monkeyflower individuals or populations. Potential habitat for each of these species would persist in the project area unless plant succession or another type of disturbance creates conditions unsuitable for species' survival. Compared to the

proposed action, however, the potential habitat could be burned over by a more intense wildland fire, which might negatively affect species' habitat requirements such as composition and structure, as well as open more areas to weed invasion and/or expansion.

Invasive, Non-native Species

If a wildfire of higher intensity than the prescribed burn occurred at in the project area, it is possible even more acres would be vulnerable to weed invasion due to more severe fire effects to native plant communities and soils, and proximity of weed seed/fragments to colonize the burned area.

Cumulative Effects

Under Alternative 3, zero acres of vegetation would be disturbed by thinning or prescribed fire in the project area. The Red Beauty fuels reduction project would affect approximately 1200 acres of Forest Service land in the analysis area. Vegetation composition and structure on adjacent lands in the analysis area could be altered by a future wildfire. The number of acres burned and severity of fire effects would be dependent upon many variables, including whether or not any treatments have been implemented to lessen the severity of those fire effects. Fires on these lands could also spread to the project area. Where left untreated, weeds would continue to threaten native plant communities.

Fisheries

Alternative 1 (Prescribed burn and thinning)

Direct/Indirect Effect

The project entails hand-thinning and pile burning on 50 acres, and prescribed burning on an additional 55 acres. Very little ground disturbance would occur for either treatment other than construction of about 160 feet of hand line around the burn unit. With the minimal amount of disturbance and lack of perennial water in the unit there is little opportunity for any movement of sediment into the adjacent Blue Lake. Bull trout and westslope cutthroat trout are not found within the project area and are not known to inhabit Blue Lake, therefore no impacts to either of these species is anticipated. Other fish species inhabiting Blue Lake are not expected to be affected by the proposed project.

Cumulative Effect

The Colts project, which is located adjacent to the current project, was implemented within the past several years, and included hand thinning on approximately 100 acres and several small units of burning. No impacts to fisheries resources were anticipated or observed from the Colts project. The Forest Service has proposed a prescribed burn project, Red Beauty, on lands mostly to the north and one unit to the east of the Filly project; most of the units to the north fall within the Blue Lake Creek drainage, which

drains into Blue Lake. The Red Beauty project is expected to have limited impacts because it would be only burning, have no road building, and entail very little mechanical treatment (only that associated with fireline construction). The Red Beauty project is still in the planning stage and is not expected to be implemented for at least three years, which is well after the planned implementation of the Filly project. Since no impacts to fisheries are expected from the Filly project, and since impacts from the Red Beauty project are expected to be minimal and separated from the Filly project temporally, no cumulative impacts are expected.

Alternative 2 (Prescribed burn only)

Direct/Indirect Effect

Alternative 2 would only include implementing the 55 acre prescribed burn. The impacts would be less than for Alternative 1, due to less ground disturbance because the thinning and pile burning on 50 acres would not occur. Therefore, no impacts are anticipated for any threatened, sensitive or other fish species.

Cumulative Effect

Since Alternative 2 would result in fewer impacts than Alternative 1, no cumulative impacts are expected.

Alternative 3 (No Action)

Direct/Indirect/Cumulative Effects

No impacts or disturbance would occur under the No Action Alternative; therefore, there would be no effect on any threatened, sensitive or other fish species. This alternative would be the least likely of the three alternatives to impact fish, however, impacts from all alternatives would be negligible. However, if a wildfire were to burn through the project area there is a possibility of impacts to fisheries from increased soil movement into the surrounding lakes.

Wildlife

Alternative 1 (Prescribed burn and thinning)

Direct/Indirect Effects

Table 2 summarizes the predicted impacts to Threatened, Endangered, Special Status Species, and Raptors that may use the project site. *Short term effects* to resident species on the site would occur at the time of the fire and for the following year until vegetation (shrubs, forbs, and grasses) began to recover. These effects are most likely to result in mortality (i.e. direct mortality resulting from the fire, or indirect mortality via increased

predation) and immediate displacement of wildlife. *Medium to long term effects* would occur 2 to 10 years after the fire and would be mostly effects to habitat. The loss of snag habitat would hurt cavity users, and a change in the overall character of the site would favor some species that prefer more open forest. A *negative effect* is defined, for the purposes of this analysis, as an effect which results in the medium to long term displacement of the individuals of a species on the site, or the mortality of the individual. *Neutral or No Effect* is defined as having no effect at all to the species in the medium to long term, or having effects that neither benefit nor harm the species. *Positive effects* are those that will benefit a species and the resulting available habitat is likely to attract more individuals of that species to the site, increase successful reproduction, or decrease mortality.

Threatened and Endangered Species, Special Status Species

While wolves, grizzly bears, and lynx have large home ranges and can move great distances in a relatively short time period (Squires and Laurion in Rugerio et al. 1999, Schwartz et al.2003), it is unlikely that either of them use this site with any regularity for foraging, denning, or cover. This project area is not within a Lynx Assessment Unit, nor is it in a Bear Management Unit or in designated Grizzly Bear Core Habitat. Gray wolves may pass through this site, but no documentation of individuals, packs, or dens exists. If wolves or grizzly bears did pass through the project site, impacts resulting from the project are likely to be beneficial, though indirect. Positive impacts to big game species (see below), which are prey for grizzlies and wolves, may indirectly benefit these two Threatened species. While this site would not be considered lynx habitat, it is not out of the realm of possibility that this species would pass through or use the site, at some point. Removal of shrubby understory cover would be detrimental to snowshoe hare which are the lynx's primary prey. In the short term, this loss of cover would result in the loss of hiding cover for hares and for lynx, and probably mortality to hares during the burn. If there were lynx using the site, which is highly unlikely, there would be a short term negative effect. As shrub species begin to recover 1 to 5 years after the fire, hare populations should normalize.

Special status species would be both negatively and positively impacted by this Alternative. Ponderosa pine specialists like the Lewis' woodpecker, pygmy nuthatch, flammulated owl, white-headed woodpecker, and brown creeper would benefit in the long term. Maintenance and protection of ponderosa pine, which is relatively rare in north Idaho, is important in the persistence of these species (Birds of North America 2009). However, because all of these species are cavity excavators or secondary cavity users, the almost certain loss of large diameter snags would be a serious negative impact immediately after the fire and until new cavities could be excavated. Fire mortality to mature trees would mitigate some of these impacts, but the newly dead trees may not be useful to cavity excavators for at least one year and perhaps longer. Large diameter snags (greater than 25 inches dbh) are not common on the north Idaho landscape and so the temporary loss of large diameter snags may be detrimental to these species.

Northern alligator lizards and common garter snakes would be vulnerable to direct mortality during the burn. Shrub cover and coarse woody debris they need to protect

themselves from predation by raptors and other predators would be temporarily lost (Smith 2000). When shrub cover returns, these species should recolonize the site. After the burn, trees that are killed would fall to the ground, replacing the coarse woody debris lost to the fire. Long term impacts to habitat should have neutral or no effects on these species. As a habitat generalist, the common garter snake should have no problem utilizing the modified habitat. The northern alligator lizard is limited to rocky sites with exposed gravel and soil. This project should not have any negative impacts on these habitats (NatureServe 2009). The Coeur d'Alene salamander would only be found in the most moist portions of the site, and for this reason, they may by insulated to some extent from the fire if it did not have enough intensity to burn moist habitats. Because of their habit of hiding under rocks and in rock crevices near springs, seeps, and streams during daylight hours they might have some level of protection from the heat (Smith 2000). However, any salamanders that did not have adequate protection would not be able to escape the fire and would die as a result.

Special status bats would be negatively affected by the short to medium term loss of snag habitat they use for roosts. But fire induced mortality to mature trees should provide habitat after one to two years, and some of the large diameter snags on site may persist through the fire. Effects to foraging habitat would be minimal and very short term.

Migratory Birds

The proposed burn and thinning would occur in late summer or fall, after most migratory birds have completed nesting. Some species may initiate second clutches, and these eggs or nestlings may be lost to the direct effects of the fire. But only a handful of species have second clutches and impacts at the local population level would be insignificant (Smith 2000). Most birds that are mature enough to be flight capable should be able to escape the fire without incident (Smith 2000).

The most significant effects to migratory birds would be habitat effects. For those species that specialize in using mature ponderosa pine or open conifer habitats, the project would be beneficial. Killing more shade tolerant tree regeneration (Douglas fir and grand fir) and some shade tolerant mature trees would reduce fuel loads on the project site. As a result, the unique old growth ponderosa pine habitat would be better protected from stand replacing fire. Ponderosa pine regeneration and mature trees would be less affected by competition from surrounding shade tolerant trees. This should improve the resistance of ponderosa pine to bark beetle mortality.

Those bird species that require or prefer a shrubby understory (Townsend's warbler) would be temporarily displaced as the understory recovers from the burn. Shrub habitat would be reduced significantly the first spring after the burn, but would likely recover by year two (Bock and Bock 1983). Ground nesting species like spotted towhees may not have enough cover the first spring after the burn to adequately hide their nests. As a result, they may choose not to nest on the site, or their nests may have a higher rate of predation or cowbird parasitism than if the burn was not implemented (Birds of North America Online: http://bna.birds.cornell.edu/bna). Below is a table (Table 3) of migratory

bird species and the predicted medium to long term impacts (positive, negative, or no effect/neutral) to that species.

Other Wildlife

The potential direct impacts of the proposed action are of little concern for big game animals. Deer, elk, moose, bear, bobcat, and mountain lion should have no problem leaving the area during implementation of the burn (Smith 2000). Effects to habitat would be more immediate in their impacts to game animals. In the short term, the loss of shrubs, understory forbs, and grasses would negatively impact deer and elk. Cover would be reduced dramatically and thus use of the site would decline in the short term (Smith 2000). What is currently good winter habitat for deer and elk would be of little value the first winter after the burn. The first spring following the burn shrubs would be smaller and provide a smaller quantity of forage. What does begin to re sprout would be highly succulent and very desirable (Bock and Bock 1983). In the medium to long term, deer, elk, and moose should be beneficiaries of the proposed action. Once shade tolerant regeneration is removed and the mid level canopy is opened up, shrubs, forbs, and grasses should flourish with increased access to sunlight and moisture. The burn should reinvigorate shrub species and encourage new growth that would be higher in nutritive value than older, more decadent shrubs (Hooker and Tisdale 1974, Smith 2000). The proposed wildlife corridor would maintain cover in between foraging areas providing an ideal area for big game to forage, travel, and rest.

Benefits to ungulates should translate into benefits for their predators. If any lions or bears use the site, they should benefit from increased use by their prey (deer and elk). Bobcats, which prefer brushy habitats that provide cover for their prey (small mammals and snowshoe hare), should be negatively impacted until shrub cover returns (1 to 2 years).

Grouse and turkey may have a more difficult time escaping the fire because of their hesitance to fly, and their habit of escaping threats by taking cover under shrubs (Smith 2000). Wild turkey should benefit in the long term because mature ponderosa pine with flat tops are a preferred roosting tree (Boeker and Scott 1969). As ground nesters, both species may be hard pressed to find adequate cover for their nests during the first spring after the burn (Smith 2000). But in subsequent years, shrub cover should be available for nesting sites (Bock and Bock 1983).

Table 2- Medium to long term effects on Threatened, Endangered and Special Status Species Habitats

Species	Negative	Neutral	Positive
Bald Eagle		X	
Northern Goshawk		X	
Red-tailed hawk		X	
Sharp-shinned hawk		X	
Cooper's hawk		X	
Northern pygmy owl		X	

Flammulated owl			X
Calliope hummingbird			X
White-headed woodpecker			X
Lewis' woodpecker			X
Cordilleran flycatcher		X	
Pygmy nuthatch			X
Cassin's finch		X	
Gray wolf		X	
Grizzly bear		X	
Lynx		X	
Fisher		X	
Fringed Myotis		X	
Townsend's big-eared bat		X	
Yuma myotis		X	
Long-eared myotis		X	
California myotis		X	
Long-legged myotis		X	
Western small-footed myotis		X	
Common garter snake		X	
Northern alligator lizard		X	

Table 3- Medium to long term effects on migratory birds

Species	Negative Effect	Neutral Effect	Positive Effect
Flammulated owl*			X
Calliope hummingbird*			X
Cordilleran flycatcher*		X	
Dusky flycatcher			X
Western wood peewee			X
Black-headed grosbeak		X	
Brown creeper			X
House wren		X	
Swainson's thrush		X	
Cassin's vireo		X	
Warbling vireo		X	
MacGillivray's warbler		X	
Yellow-rumped warbler		X	
Yellow warbler		X	
Townsend's warbler	X		
Orange-crowned warbler		X	
Wilson's warbler		X	

Nashville warbler		X	
Western tanager			X
Lazuli bunting			X
Chipping sparrow			X
Spotted towhee		X	

*- Special status species

Cumulative Effects

The project area lies within the larger areas of the lower Coeur d'Alene River Valley. Significant historical activities in the analysis area include timber harvest, road construction, home construction, natural and human ignited fires, mining, and recreation site development and its associated activities. All of these activities have the potential to disturb and displace wildlife. Some behaviors may attract wildlife, such as the accumulation of trash at picnic sites or the feeding of wildlife by recreationists and residents.

Historical activities that modified the vegetation community contribute to the animal community using the site today. Displacement of some species, followed by colonization by others is expected as habitats are altered. In some cases where habitat is directly removed for a home site or a road, that habitat is permanently removed and wildlife species are displaced. In other instances, modification to habitat, by forest insects and disease for example, create forest openings and/or snags and the habitat becomes suitable for a new suite of species.

Current activities in the analysis area include use by recreationists. Hunting, horseback riding, camping, and boating are a few of the more common pursuits. Timber harvest and forest health projects occur on adjacent lands. Much of the immediate area has been logged by BLM and private landowners.

Reasonably foreseeable activities include continued but relatively limited recreation in the project area and on adjacent sites, continued home development and timber harvest on nearby private lands; human caused and naturally ignited fires, and mining. Currently, the Forest Service is planning a landscape scale prescribed burning project that will be implemented in stages over several years. The "Red Beauty" project would include several burn units that are near the Filly Project Site. These prescribed burns are intended to be low intensity, fuel reducing burns that will also help to maintain ponderosa pine on warm, dry forest sites. Implementation of these burns would further help to protect mature ponderosa pine in the surrounding landscape.

Implementation of Alternative 1 would result in removal of shade tolerant understory conifers and shrubs. This would reduce the likelihood that fire (natural or human-caused) would result in stand replacement on the site. In essence this would help to preserve or maintain the site as a mature ponderosa pine site. This would create a mosaic of habitats

in the nearby area which would accommodate a higher diversity of wildlife species on a landscape scale. Habitat specialists that require mature ponderosa pine would immigrate to or continue to use the site. Wildlife generalists would use the site regularly and opportunistically while also using adjacent sites that provide necessary habitat components.

Alternative 2 (Prescribed burn only)

Direct/Indirect Effects

No direct effects to special status species are expected if this portion of the project area is not hand-thinned.

If Alternative 2 is implemented large diameter ponderosa pine in the thinning area would be more vulnerable to mortality in a stand replacing fire because of the higher amounts of fuel on the site. The loss of these trees would be a negative impact to many species that are specialists and require mature ponderosa pine forest. These species are discussed in detail under Alternative 1 above. Species that prefer a more closed canopy, mixed coniferous forest (discussed in Alternative 1) would benefit from the implementation of Alternative 2.

Cumulative Effects

Cumulative effects would be very similar to those discussed under Alternative 1. If Alternative 2 is implemented the portion of the area that is not hand thinned would be more likely to experience a stand replacing fire because of the build-up of fuels. The loss of mature ponderosa pine on this site would contribute to the continuing loss of this valuable habitat on the landscape and result in less available habitat to ponderosa pine specialists in the analysis area.

Alternative 3 (No Action)

Direct/Indirect Effects

If Alternative 3 is implemented, no prescribed burn or thinning would occur on the site. The shade tolerant tree species would slowly begin to dominate the project area as shade intolerant species die and are replaced. The tree density would increase, and overall tree age and diameter would decrease.

The impacts to wildlife species in the medium to long term are summarized in Table 4 and Table 5. Specialists that depend on mature ponderosa pine forests would be negatively affected. Species that prefer more closed canopy forests with a shrubby understory would benefit. Generalists that reside in mixed coniferous forests would likely neither benefit nor be harmed by Alternative 3.

There would be no direct mortality to any individuals or increased predation as a result of the loss of cover.

Threatened, Endangered and Special Status Species

None of the three listed species are likely to use the site, except incidentally. Effects to grizzly bear, lynx, and gray wolf are likely to be neutral or there would be no effects at all. Impacts to local big game populations of not implementing the prescribed burn, would not be of enough significance to negatively affect prey species. Snowshoe hare, are a prey item of the lynx, prefer a very dense shrubby understory. So not implementing the burn might be of benefit to any lynx that might pass through the site. But this habitat type is not typical of lynx.

The Special Status species that are ponderosa pine specialists would be negatively affected if Alternative 3 were implemented (See Table 4). Over time, without fire or timber harvest, shade tolerant species will begin to dominate the site. Large diameter, mature ponderosa pine will slowly decrease due to competition, insects, and disease. They will be replaced with shade tolerant species that can better compete in a more closed canopy understory. There is also the increased likelihood of a high intensity stand replacing fire as the tree density and fuel load increases on the site. With increased fuel loads, crown fires that result in mortality of older larger trees would be more likely. In the medium to long term, Lewis' woodpecker, brown creeper, pygmy nuthatch, flammulated owl, and white-headed woodpecker, all closely tied to mature ponderosa pine, would be negatively affected by loss of this habitat type. Those that use cavities would not be negatively impacted by the short term loss of snags.

Northern alligator lizard, common garter snake, and the Coeur d'Alene salamander would not be at risk of mortality due to the prescribed burn. Forest succession that will occur without the prescribed burn is unlikely to have negative or positive impacts on these species since their habitat requirements do not necessitate mature ponderosa pine. Rock and talus slopes required by the northern alligator lizard will remain intact if Alternative 3 is implemented. Likewise, and springs or seeps will also remain undisturbed under this Alternative. As a habitat generalist, the common garter snake will not experience any positive or negative impacts if forest succession continues and the burn is not implemented.

Special status bats will still use the site for foraging and roosting under Alternative 3. However, the gradual loss of large diameter snags may reduce the quantity of roosting habitat over time. But this is not likely to have significant effects on the local population. Large diameter snags would be replaced by small and medium diameter snags that can also be used as roosting sites.

Migratory Birds

Table 5 summarizes the medium to long term effects of Alternative 3 on migratory birds. Under this Alternative, there would be no mortality risk to the offspring of migratory or

ground nesting birds that are incubating or rearing second clutches. Birds like the calliope humming bird and the dusky flycatcher that prefer open ponderosa pine forests would be negatively affected by the gradual replacement of ponderosa pine by more shade tolerant species on the site. More generalist species like the Swainson's thrush and the black headed grosbeak would not experience positive or negative effects under Alternative 3. Townsend's warblers, which prefer a more dense forest canopy, would benefit under Alternative 3.

Other Wildlife

Under Alternative 3, big game animals would not experience any loss of cover or forage as a result of the prescribed burn. But neither would they get the benefits of a rejuvenated shrub understory. The net effect would likely be neutral and no significant increases or decreases in the local big game population would be expected. Ground nesting game birds, like grouse, valley quail, and wild turkey would not experience mortality to themselves or their offspring due to the fire. While the gradual succession of the site into more shade tolerant coniferous species would not exclude use by wild turkey, the loss of large diameter, broken topped ponderosa pine that make good roosting habitat would be a negative effect of Alternative 3.

Table 4- Medium to long term effects of Alternative 3 on Threatened, Endangered and Special Status Species Habitats

Species	Negative	Neutral	Positive
Bald Eagle		X	
Northern Goshawk		X	
Red-tailed hawk		X	
Sharp-shinned hawk		X	
Cooper's hawk		X	
Northern pygmy owl		X	
Flammulated owl	X		
Calliope hummingbird	X		
White-headed woodpecker	X		
Lewis, woodpecker	X		
Cordilleran flycatcher		X	
Pygmy nuthatch	X		
Cassin's finch		X	
Gray wolf		X	
Grizzly bear		X	
Lynx		X	
Fisher		X	
Fringed Myotis		X	
Townsend's big-eared bat		X	
Yuma myotis		X	

Long-eared myotis		X	
California myotis		X	
Long-legged myotis		X	
Western small-footed myotis		X	
Common garter snake		X	
Northern alligator lizard		X	

Table 5- Medium to long term effects of Alternative 3 on migratory birds

Species	Negative Effect	Neutral Effect	Positive Effect
Flammulated owl*	X		
Calliope hummingbird*	X		
Cordilleran flycatcher*		X	
Dusky flycatcher	X		
Western wood peewee	X		
Black-headed grosbeak		X	
Brown creeper	X		
House wren		X	
Swainson's thrush		X	
Cassin's vireo		X	
Warbling vireo		X	
MacGillivray's warbler		X	
Yellow-rumped warbler		X	
Yellow warbler		X	
Townsend's warbler			X
Orange-crowned warbler		X	
Wilson's warbler		X	
Nashville warbler		X	
Western tanager		X	
Lazuli bunting	X		
Chipping sparrow	X		
Spotted towhee		X	

*- Special status species

Cumulative Effects

Under Alternative 3, zero acres of BLM lands would be disturbed by known, future activities. Wildlife habitat in the analysis area could be altered by one or more (unplanned) future wildfires, with the number of acres burned dependent upon many different variables. The gradual build up of fuels on the site would likely result in an increased intensity of any unplanned fire, depending on the time of year. If any one of these fires was of sufficient intensity to kill the large mature ponderosa pine on the site, this valuable resource, which is not common in the analysis area, would be lost. Wildlife species dependent on this forest type would be negatively affected.

The site would continue to transition into a forest type dominated by more shade tolerant tree species of a younger age and smaller diameter. This would be more typical of the surrounding forested habitat on private, State, and Federal lands. Habitat and wildlife species diversity in the analysis area would be lower.

Cultural Resources

No cultural resources would be directly or indirectly effected by either the proposed action or the no action alternative. There would be no cumulative effects.

Visual Resources

Alternative 1 (Prescribed burn and thinning)

Direct/Indirect Effects

The understory burn and thinning portions of the project are not expected to exceed the level of change allowed within a Class III Visual Resource Management zone.

Cumulative Effects

The irregular edges and various cover/canopy densities that would result from the project and those of the surrounding lands lend a mosaic appearance to the landscape, which tends to mimic the natural forest conditions within the region prior to fire suppression.

Alternative 2 (Prescribed burn only)

Direct/Indirect Effects

The understory burn proposed in this alternative is not expected to exceed the level of change allowed within a Class III Visual Resource Management zone.

Cumulative Effects

The irregular edges and various cover/canopy densities of the project area and those of the surrounding lands lend a mosaic appearance to the landscape, which tends to mimic the natural forest conditions within the region prior to fire suppression.

Alternative 3 (No Action)

Direct/Indirect Effects

Although a wildfire could drastically effect the landscape, this would not exceed VRM Class III. A wildfire could effect the aesthetics of the landscape and this would not be preferred because there is some dispersed recreational use in the area.

Cumulative Effects

Negligible.

Recreation

Alternative 1 (Prescribed burn and thinning)

Direct/Indirect Effects

Patrons of the Red Horse Mountain Ranch would be exposed to the burned landscape and the mechanically thinned area as they traverse the project area after the project is conducted. However, the permit holder is supportive of the wildlife enhancement potential of prescribed burning and the proposed wildlife corridor built into the proposed action.

Cumulative Effects

Negligible. The lack of public access minimized use of the area year-round for the general public. The USFS project would have very little cumulative impacts on recreation in the project area.

Alternative 2 (Prescribed burn only)

Direct/Indirect Effects

Patrons of the Red Horse Mountain Ranch would be exposed to the burned landscape as they traverse the project area after the project is conducted. However, the permit holder is supportive of the wildlife enhancement potential of prescribed burning and the proposed wildlife corridor built into the project.

Cumulative Effects

Same as in alternative 1.

Alternative 3 (No Action)

Direct/Indirect Effects

Negligible. The lack of public access minimized use of the area year-round for the general public. Red Horse Mountain Ranch would continue to operate as they have under their existing permit.

Cumulative Effects

Negligible. Same as in alternative 1.

MITIGATION

None.

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Corey Inouye – Redhorse Mountain Ranch Manager – Discussed the burn and location, his reaction was more burning helps wildlife and he encouraged us to burn more BLM lands.
Billy Loveless. Adjacent landowner. Discussed the project with him and the potential use of his private road as a emergency egress route. He was in favor of the burn and using his road as an egress route, but we needed to discuss more of the specifics with him at a later time.
Kootenai County Wildland Urban Interface Committee Meetings from November 2008 thru August 2009 (Representatives from Kootenai County Office of Emergency Management, Local Fire Departments, Coeur d'Alene Tribal Representatives, Idaho Department of Lands, US Forest Service, Kootenai County Planning, Panhandle Area Council, University of Idaho Extension Office and City of Coeur d'Alene representatives)

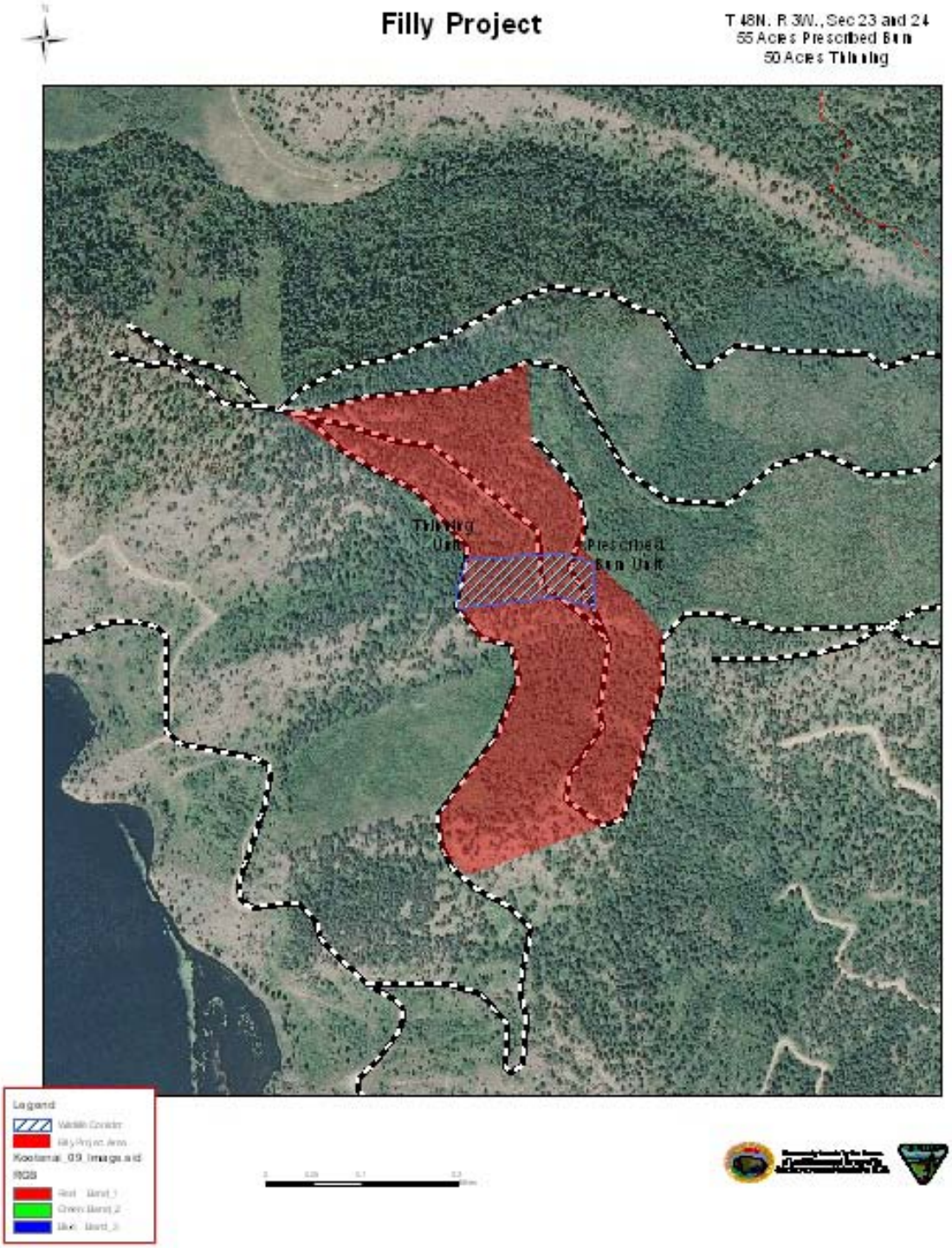
LIST OF PREPARERS

_____	_____
Kurt Pindel (Fire Ecologist/Project Lead)	Date
_____	_____
LeAnn Abell (Botanist/NEPA Review)	Date
_____	_____
Carrie Hugo (Wildlife Biologist)	Date
_____	_____
Mark Reeves (Forester)	Date
_____	_____
David Sisson (Archeologist)	Date
_____	_____
Mike Stevenson (Hydrologist)	Date
_____	_____
Cynthia Weston (Fisheries Biologist)	Date
_____	_____
Brian White (Recreation)	Date

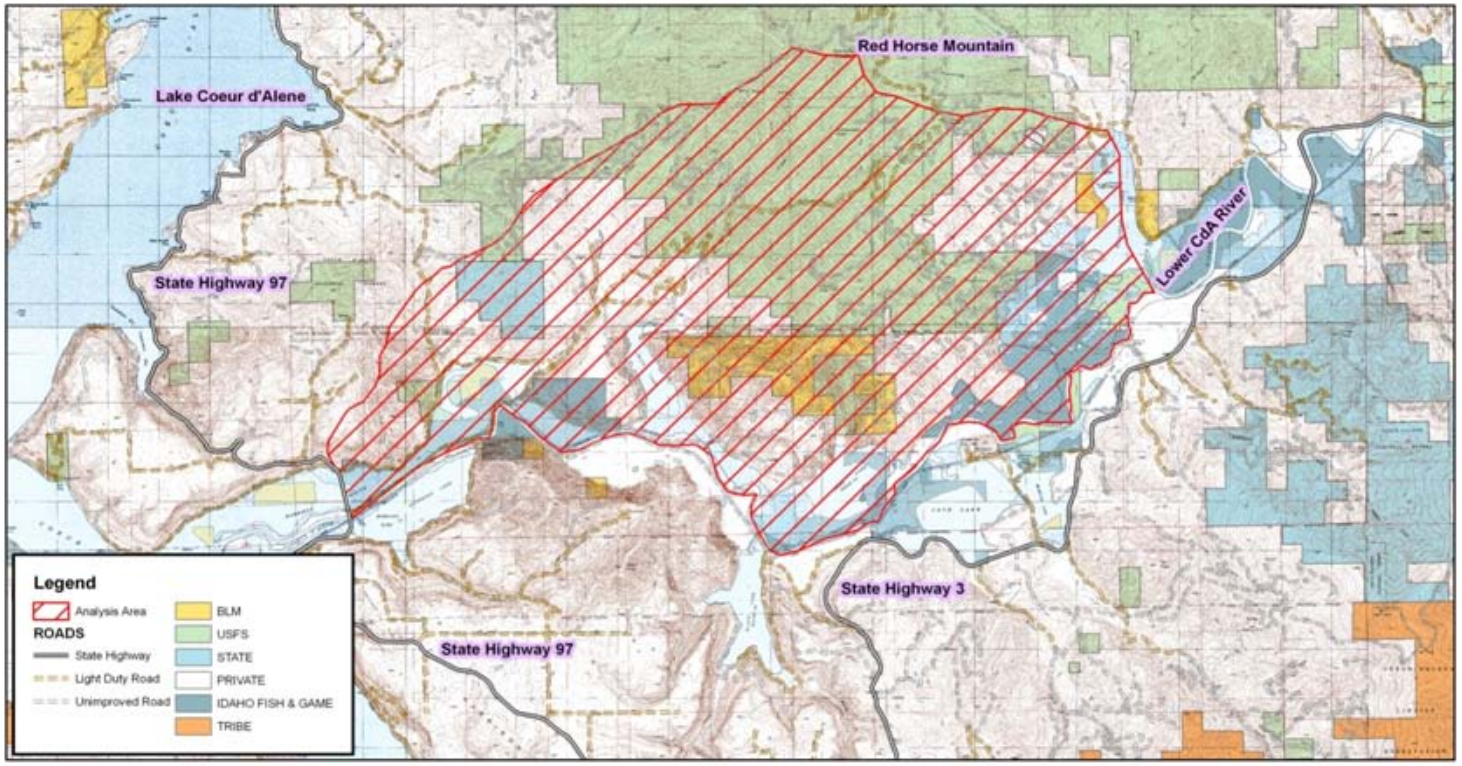
Appendix 1 – Maps
Alternative 1

Alternative 2

Wildlife Corridor Map



Filly Prescribed Burn
Vegetation Cumulative Effects Analysis Area



Map Created: 4/2/2010

The surface management status ("land ownership") should be used as a general guide only. Official land records, located at the Bureau of Land Management (BLM) and other offices, should be checked for up-to-date information concerning any specific tract of land.

No warranty is made by the Bureau of Land Management. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. The following cannot be made Section 508 compliant. For help with its data or information, please contact the BLM Idaho State Office Webmaster at 208-373-4000

1:112,003

Data displayed in UTM Zone 11N, NAD83

Appendix 2 – Fire Regime Condition Class

Fire Regime Condition Class

The five natural (historical) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant overstory vegetation. These five regimes include:
I – 0-35 year frequency and low (surface fires most common) to mixed severity (less than 75% of the dominant overstory vegetation replaced);
II – 0-35 year frequency and high (stand replacement) severity (greater than 75% of the dominant overstory vegetation replaced);
III – 35-100+ year frequency and mixed severity (less than 75% of the dominant overstory vegetation replaced);
IV – 35-100+ year frequency and high (stand replacement) severity (greater than 75% of the dominant overstory vegetation replaced);
V – 200+ year frequency and high (stand replacement) severity. As scale of application becomes finer these five classes may be defined with more detail, or any one class may be split into finer classes, but the hierarchy to the coarse scale definitions should be retained.

Fire Regime Condition Class	Description	Potential Risks
Condition Class 1	Within the natural (historical) range of variability of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances	Fire behavior, effects, and other associated disturbances are similar to those that occurred prior to fire exclusion (suppression) and other types of management that do not mimic the natural fire regime and associated vegetation and fuel characteristics. Composition and structure of vegetation and fuels are similar to the natural (historical) regime. Risk of loss of key ecosystem components (e.g. native species, large trees, and soil) are low
Condition Class 2	Moderate departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances	Fire behavior, effects, and other associated disturbances are moderately departed (more or less severe). Composition and structure of vegetation and fuel are moderately altered. Uncharacteristic conditions range from low to moderate; Risk of loss of key ecosystem components are moderate
Condition Class 3	High departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances	Fire behavior, effects, and other associated disturbances are highly departed (more or less severe). Composition and structure of vegetation and fuel are highly altered. Uncharacteristic conditions range from moderate to high. Risk of loss of key ecosystem components are high