Jocko Lake Salvage Project

Terrestrial Wildlife BA

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For TEAMS Enterprise

for:

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9/17/08

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Abstract

The Modified Proposed Action (Alternative 3) Jocko Lake Fire Salvage Project would have no effect on gray wolves, and May Affect, Not Likely to Adversely Affect Canada lynx and grizzly bears. Below are the summary rationale for these findings.

Gray Wolf

1. Region 1 Programmatic BA for NLAA, 2005.
2. There are no known den sites or rendevous sites within the project area. MTFWP has a good handle on pack activity all across MTFWP Region 2.
3. There are no livestock grazing permits on FS lands within the project area and no known livestock grazing occurs on adjacent DNRC or PCTC lands.
4. Wolf use of this area is currently low, based on MTFWP data.
5. The Seeley Lake area has high ungulate densities. While the fire may have had immediate detrimental impacts, even after 1 year post fire, forage values and availability have likely increased exponentially. Given that most activity associated with the project will occur in winter, ungulate displacement should be low as most animals will already be on lower elevation winter range.

Canada Lynx

1. Activities planned under this project meet or exceed all objectives, standards and guidelines found in the Northern Rockies Lynx Amendment (2007) for this type of project.
2. Lynx would not be expected to be utilizing the portions of the LAUs being proposed for treatments as they are within a larger block of currently unsuited lynx habitat.
3. The only expected affects to lynx are discountable because they are unlikely to occur, would not change any lynx habitat to unsuited, and the proposed haul routes primarily cross unsuited lynx habitat.

Grizzly Bear

1. The project is not within the NCDE Grizzly Bear Recovery area and is not within Management Situation 1 habitat. A programmatic biological assessment is in place that covers the effects of existing roads, grazing and sanitation/attractants on grizzly bears (USDA Forest Service, 2004).
2. No new permanent roads would be constructed. The road improvements would be done on existing roads, most of which are closed to the public year-round. Post project there would be more obliterated and decommissioned roads in the immediate project area which translates to enhanced wildlife security.
3. Most logging activities would occur during winter (12/1 – 4/1) seasons.

4. Based on elevation, slope and aspect, the project area is not high quality denning habitat and the probability of disturbing a denning grizzly bear is low to very low.

5. Cover would remain where it currently exists and an accelerated recovery of long-term cover would occur on about 1,056 acres of salvaged stands that would be replanted. Large areas of non-treated burned areas would remain within the project area post project.

6. A district wide bear attractant order is in place which requires safe storage of all bear attractants.

7. No grizzly bear linkage zones or corridors would be impacted.

Introduction

This biological assessment displays the analysis of possible effects to the ESA threatened lynx and grizzly bear for Alternative 3 (Modified Proposed Action) of the Jocko Lakes Fire Salvage Project (JLFSP). This alternative would have No Effect on gray wolves (Region 1 Programmatic BA for NLAA, 2004) and no discussion on this species or the de-listed bald eagle will be presented in this document.

Regulatory Framework

Under provisions of the Endangered Species Act, federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of their critical habitats. Whenever an action may affect a species that is listed (or proposed for listing) or its habitat, federal agencies must consult with the U. S. Fish and Wildlife Service.

Management of lynx habitat components is controlled by the ESA, but also includes the Northern Rockies Lynx Management Direction.

The project falls entirely outside of the Northern Continental Divide Ecosystem (NCDE) grizzly bear recovery area but is within the area considered to be occupied grizzly bear habitat, outside the recovery area (Wittinger et al, 2002).

Methodology for Analysis

Analysis Process

National Forest Management Act (NFMA) regulations, adopted in 1982, require that habitat be managed to support viable populations of native and desired non-native vertebrates within the planning area (36 CFR 219.19). USDA regulation 9500-004, adopted in 1983, re-enforces the NFMA viability regulation by requiring that habitats on national forests be managed to support viable populations of native and desired non-native plants, fish, and wildlife. The following 5-step process is used in this analysis to assess changes in wildlife habitat and determine possible effects to viability:

Step 1: Pre-field Assessment - The analysis process related to wildlife started prior to identification of proposed activities. For example unique habitats such as rendezvous or denning sites, critical habitat, or uncommon or high use habitats such as riparian areas were identified. Because it was recognized that these areas are important to maintaining species viability and biodiversity, these areas were excluded from treatment early in the planning process. Once the proposed action was identified, information was

collected to identify the wildlife present condition or affected environment. This information included aerial photos, GIS data, past timber sale activity, existing wildlife surveys, Forest and district monitoring and wildlife observation data, pre-fire vegetation surveys, and remote sensing data related to fire severity and mortality.

Step 2: Field Assessment –Sites proposed for treatment and some high priority habitat were visited by Tim Holden, July 8 and 9, 2008, to assess the effects of the Jocko Lake fire and resulting existing condition specifically for lynx and grizzly habitat. . During this review observations and incidental sign of wildlife were recorded and habitat conditions identified in the pre-field assessment were validated and described (See project file).

Step 3: Wildlife Screening – Collectively, information from the pre-field and field assessments were used to identify project mitigation measures or modifications to the proposed action that may be necessary to reduce or eliminate impacts to wildlife. This information was then used in combination with the most recent scientific literature, Forest and Region wide assessments and monitoring, and species conservation assessments to identify species and habitats most likely to be affected by the proposed activities and identify the appropriate level of analysis necessary to determine effects to wildlife. Based on this analysis, only one species was not carried forward for detailed analysis in this BA. This preliminary analysis identified two species (Canada lynx and grizzly bear) that might be affected by the proposed activities. These species were carried forward into steps 4 and 5.

Step 4: Habitat & Species Assessment –The analysis of the wildlife resource was done using a multi-scale assessment that includes a combination of two basic strategies; 1) a coarse filter approach (described below) which is used to identify wildlife communities across the watershed. This approach assumes that if the species, genetics, functions and processes are protected at the community level, then the bulk of the biotic species, both known and unknown, will also be protected; and 2) fine filter. This second strategy is to assess habitat and effects to those species considered most at risk and/or those species with potential viability concerns. These include Federally Threatened and Endangered Species and Regionally Sensitive species (FSM 2670.32, 16 USC 1536).

Using information from steps 1-2, anticipated changes in wildlife habitat and the associated communities are predicted under the actions considered and associated effects to wildlife and wildlife habitat evaluated. Information from steps 1 and 2 are used to complete the coarse filter analysis, identify and evaluate spatial relationships between habitat(s), assess changes in landscape diversity and predict changes and effects to species. Whereas site-specific data is used to assess stand level changes in habitat and to ensure that unique vegetative and physical habitat conditions are maintained and/or protected. This information is also used to assess changes in population viability in Step 5.

Step 5: Population Viability Assessment – Using information from Steps 1-4, the population viability for Threatened or Endangered species evaluated in detail is assessed under each of the alternatives (FSM).

Professional judgment is the basic method used to forecast effects. This judgment is backed by applying the most applicable scientific information related to wildlife on the Lolo NF (LNF), through experience assessing impacts from proposed activities to wildlife and wildlife habitat from similar proposed actions, and through informational consultation with the USF&WS.

Scale of Analysis

The appropriate methodology and level of analysis needed to determine effects are influenced by a number of variables including the presence of species or habitat, the scope and nature of activities associated with the proposed actions and the potential risks that could ultimately result in effects. Wildlife

distribution and use of an area is largely determined by the availability of suitable habitat and can be influenced by site specific needs such as the vegetative structure or physical features on a site, as well as by landscape considerations such as the proximity to other habitat or the need for isolation or seclusion. As a result a multi-scale analysis that looks at site specific conditions in stands proposed for treatment (fine filter), as well as landscape considerations such as the proximity and availability to other habitat (coarse filter) will be considered. The multi-scale of analysis used in this assessment includes the following:

Site Level Assessment – This level of assessment involves evaluation of individual stands or sites proposed for treatment. Sites at this scale vary in size from 1 to 168 acres. Grizzly bear and lynx use is often influenced by specific conditions that can only be identified at the stand or site scale. This level of analysis identifies stand level habitat conditions that influence grizzly and lynx use. This level of analysis is also used to identify habitat features that may need to be protected or enhanced and is used to identify site-specific mitigation measures.

Project Area Assessment – Direct and indirect effects to grizzly bear and lynx are assessed by evaluating effects and changes in habitat on National Forest System (NFS) lands within the project area boundary. The JLFS project area encompasses about 11,881 acres including 7,381 acres of NFS land, 3,856 acres of private land and 644 acres of state land. The project area boundary was selected for analysis of direct and indirect effects on grizzly bear and lynx because it includes all areas proposed for treatment and contains an adequate diversity of habitat conditions (vegetative and topographic) to assess wildlife distribution and use. Also the burning severity (i.e. mix of high, moderate and low) within the project area is similar and representative of that found within the Jocko Lakes fire perimeter.

Cumulative Effects Assessment – Cumulative Effects (CE) related to grizzly bear and lynx are evaluated by looking at past, present and foreseeable future activities which could adversely affect these species when considered cumulatively over time. When considering CE's to grizzly bear and lynx and based on past and anticipated future disturbances, the primary factors of change include timber harvest, wildfire, insect and disease related tree mortality, road construction and management, private land development and recreational use. The CE boundary used in this analysis will vary by species. For lynx, the CE boundary is the affected lynx analysis unit (LAU) boundaries, and for grizzlies the CE analysis area used includes the collection of the 6th field Hydrologic Unit Codes (HUC) that contain proposed activities. This area totals about 41,570 acres. It includes 12,164 acres of the Boles; 21,786 acres (all of) of the Finley/Slippery; and 7,620 acres of the Seeley/Archibald 6th field HUCs (east of the Clearwater River). Rationale for selection of these areas includes:

- These areas are large enough to assess theoretical home ranges for these species, thereby framing the context and significance of potential impacts to each species.
- The CE areas include private lands immediately to the east of the project area that have been affected by past private land development, as well as developed and dispersed recreation in the Seeley Lake area.
- While these areas do not include all private industrial lands affected by the Jocko Lakes fire, they include additional acreage of more intensively harvested Plum Creek Timberlands LLC (PCTC) and the level of past and anticipated future harvest on these lands, as well as NFS lands is expected to be representative of those found in the area.
- Expanding the grizzly CE area further to the west would include less intensively managed lands (South Fork Jocko Tribal Primitive Area), which would tend to "dilute" potential cumulative effects. Similarly, lands within the Seeley Lake/Archibald watershed east of the Clearwater River

were not included in the CE area, because a GIS analysis indicated that management (timber harvest and recreation) and wildlife habitat conditions (Forest types and structural conditions, habitat groups and management area emphasis) within that portion of the CE area were similar and representative to the remainder of the HUC. As a result, expanding the analysis area an additional five miles beyond the fire perimeter (to include the entire subwatershed) would tend to "mask" the effects of treatment, without changing the type or level of cumulative effects anticipated.

- By following primarily natural boundaries (watershed/drainage), a full range of topographic and vegetative conditions, which greatly influence wildlife distribution and use will be considered.

Appendix D of the JLFS EA provides a summary of past and foreseeable future actions that have occurred within the project area and includes future activities listed on the Forest's Schedule of Proposed Actions (SOPA), and reasonably foreseeable actions on non-federal lands.

Timeframes

Timeframes for direct and indirect effects include short-term effects, which generally go out 10 years and long-term effects, which are greater than 10 years and may go out several decades. Although some historic effects are considered, the CE analysis spans a period of about 55 years and runs from about 1954 to 2013, which is the period of time when recent timber harvest began, to the time when all of the proposed treatments are expected to be completed (including road decommissioning), as well as the time when future projects can be reasonably predicted.

Project Description

Project Type and Description of Proposed Activities

The purpose of the project is to salvage trees killed and those that are sure to die within the next year across about 1,648 acres of National Forest land primarily using the existing road systems. There would be about 2.0 miles of new short-term road and 2.0 miles of temporary roads constructed to facilitate treatment of currently inaccessible areas. In addition, this project would decommission or store about 10.7 miles of long-term existing inventoried or uninventoried roads and obliterate, recontour newly constructed short-term and temporary roads. Road maintenance and weed spraying along haul routes would also occur.

Scope of Proposed Activities

The Seeley Lake Ranger District is proposing to salvage timber within the area burned by the Jocko Lakes fire of 2007. The Forest's proposed salvage logging would be limited to 14 percent (about 1,648 acres) of the total area of NFS lands burned by the fire. Other NFS lands within the fire perimeter (about 10,000 acres) would remain in their current post-fire condition. The proposed action is summarized in Table 1 and would include:

- Salvage harvest about 1,648 acres. Tree mortality within the project area is either a result of the fires, post-fire stress, or pre- and post-fire insect damage and only dead trees and trees with a low probability of survival (Scott 2003) would be harvested.

- Maintain about 55 miles of classified NFS road to be used as haul routes for the salvaged timber.

- Construct up to 2.0 miles of temporary and 2.0 miles of short-term specified roads to access proposed salvage areas. These roads would be decommissioned (fully re-contoured and restored) following salvage activities.
- Store or decommission about 10.7 miles of unneeded classified NFS roads and unclassified roads to mitigate potential sedimentation from the log haul and reduce open road density for a variety of wildlife benefit.
- Conduct ground-based noxious weed herbicide treatments along about 55 miles of NFS haul roads and disturbed areas such as landings, and about 10.7 miles of decommissioned or stored roads, and up to 4 miles of short-term and temporary roads in order to mitigate potential weed spread from harvest.
- Replant about 1,056 acres of proposed salvage units.

Table 1. Proposed Action

Activity	Amount
Timber Harvest	
Salvage harvest	1,648 acres
Regeneration Planting	1,056 acres
Logging System	
Skyline Yarding	77 acres
Tractor	1,571 acres
Transportation	
Road Maintenance	55 miles
Road Decommissioning	4.3 miles
Short-term Road	2.0 miles
Temporary Road	2.0 miles
Road Storage	6.4 miles
Non-native Invasive Weed Treatment	
Along Roads	55 miles
Disturbed Areas	TBD[a]

[a] - TBD – to be determined during implementation

Purpose and Need (Why)

The portion of the Jocko fire that is proposed for salvage is within the 52 percent of the Lolo National Forest that is managed to provide timber to help meet the public's demand for wood based products and support local communities.

The Forest Service is proposing this project in order to:

Recover the economic value of dead and fire-damaged trees having a low probability of survival.

The Lolo National Forest Land Management Plan provides guidance that supports salvaging timber in the Jocko burn. The first of eight forest wide management goals of the Lolo National Forest plan is to

"Provide a sustained yield of timber…at a level that will support the economic structure of local communities and provide for regional and national needs (USDA 1986, p. II-1). A forest wide standard is to "Increase the use of the available wood fiber consistent with management objectives and economic principles" (id, p. II-11). Each of the three management areas, where salvaging would occur, is classified as "suitable for timber production" (id, p. III-71, III-78, II-127). All of the salvage would occur within Forest Plan management areas that have as a goal "optimize timber growing". Seventy eight percent of the acres to be salvaged have a management goal to "optimize sustained timber production" (USDA 1986, p. III-70, p. III-78, p. III-127). Salvaging timber from the Jocko fire helps meet these goals.

Forty five percent of the primary wood product facilities in Montana in 2004 were in the economic impact area considered for this project. While the National Forest is no longer the primary source for wood fiber in the area, providing material to existing industry is important since many land management activities, including hazardous fuels reduction would likely be more difficult and expensive without local industry.

Public comments also support salvaging in the Jocko burn. While there is a clear need to salvage there is an equally compelling need and scientific literature to support conducting the salvage in a manner that minimizes potential impacts to the sensitive post-fire landscape.

Design features for this project include:

Table 2 displays the design features that are likely to reduce potential effects to T&E species for this project.

Table 2. Design Features to reduce potential effects to T&E wildlife.

Code	Category	Design Feature
WL 1	Road and Cable Corridor Design	To retain habitat for snag-dependent species and species dependent on large-diameter trees, the location of proposed roads, skid trails and cable corridors would ensure, whenever practical, that veteran and relic survivor trees and snags would not be removed during construction.
WL 2	Road Management	Existing roads which are currently restricted or closed and utilized for this project would be retained in their pre-project road status.
WL 3	Road Management	Newly constructed short-term spec. roads will be closed to public access during and following implementation. All temporary roads will be closed to public access during implementation and decommissioned and re-seeded within one season following purchasers use.
WL 4	Road Management – Grizzly Bear and Elk	The following gated roads access more remote portions of the project area (>1/4 mi. from an open road) and will be used during project implementation. In order to reduce elk vulnerability until hiding cover becomes re-established (@10 years), these roads will remain closed during the Montana big game season (rifle and archery) (16001 - sec. 26), (16655, 16687, 16688, 16727, 16729 - sec. 31 & 32), (16898 & 17457 - sec. 10), (17544 - sec. 2) and (16899 & 17455 - sec. 20).
WL 5	Snag Retention	Due to the importance of large diameter snags for wildlife, with the exception of lodge pole pine, trees near roads, trails or high use recreation sites, where public safety and facility protection is necessary, all dead trees greater than or equal to 21 inches dbh will be retained within treatment units.
WL 6	Snag Retention	For dry sites (habitat groups 2 and 3 (VRU 2), retain a minimum of 4 snags per acre greater than or equal 20 inches dbh, or largest available. Select ponderosa pine, western larch and Douglas-fir in order of priority when available.
WL 7	Snag Retention	For moist sites (habitat group 4 (VRU 4), retain a minimum of 6 snags per acre greater than or equal to 10 inches dbh, with a minimum of 2 snags/acre greater than 20 inches dbh, or largest available. Up to 12 snags per acre would be desirable. Select ponderosa pine, western larch or Douglas-fir in order of priority when available.

Code	Category	Design Feature
WL 8	Snag Retention	For higher elevation moist sites (habitat group 4 (VRU 6) and habitat group 5), retain a minimum of 5 of the largest snags /acre, with a desire to have up to 10 per acre.
WL 9	Snag Retention	In order to maximize potential wildlife use and/or help reduce windthrow, snags retained should be randomly distributed singly or retained in small clumps (generally 3-15 trees).
WL 10	Snag Retention	Unless they pose a safety hazard, un-merchantable trees greater than 9 inches dbh will be left standing.
WL 11	Downed Wood Retention	On dry sites (habitat groups 2 and 3) retain 15-25 tons/acre downed woody debris. 6 inch + diameter are desirable.
WL 12	Downed Wood Retention	On moist sites (habitat groups 4 and 5) retain 16 to 60 tons/acre downed woody debris. 6 inch + diameter are desirable.
WL 13	MIS (elk)	No harvest will occur within 150 feet of any elk wallow identified during layout.
WL 14	TES (all species)	If any threatened, endangered, or sensitive species are located during project layout or implementation, a wildlife biologist will be notified. Management activities would be altered, if necessary, so that proper protection measures can be taken. Timber sale contract provisions that require the protection of Threatened, Endangered and Sensitive Species would be included in the timber sale contact.

Interrelated and Interdependent Activities

All proposed activities within the modified proposed action (Alt. 3) are connected. If no salvage occurs, no short-term or temporary road construction, road maintenance, no replanting, and no reduction of open road density would occur within the project area. There are no additional interrelated or interdependent activities within the project area.

Chronology and Duration of Activities

The activity will be under one or more timber sale contracts beginning in 2009 and it is anticipated that all harvest, road work and invasive weed treatments will be implemented by 2013. Salvage operations would occur primarily in the winter over snow or frozen ground (94 percent). One unit, about 22 acres, is proposed for summer tractor harvest, but would likely also be treated along with the remaining winter units. Three units are proposed for skyline harvest. The timing for these activities could occur during any time of year within the period of a timber sale contract.

Detailed Information about Project Pertinent to Wildlife Species

Lynx

The project area contains portions of two LAUs, the Placid and Boles LAU. Lynx were documented users of the project area prior to the Jocko Lake Fire. Due to a lack of radio collared animals and lack of recent sightings, existing utilization of the project area by lynx is unknown. The Jocko Lakes and Boles Meadows Fires substantially changed the availability of suitable lynx habitat within these LAUs.

Grizzly Bear

The project falls entirely outside of the Northern Continental Divide Ecosystem (NCDE) grizzly bear recovery area but is within the area considered to be occupied grizzly bear habitat outside the recovery area (Wittinger et al, 2002).

Past Consultation

The Forest met with the U.S. Fish & Wildlife Service on March 10, 2008 to provide an introduction to the fire salvage project and to start an early kickoff of the consultation process. At the meeting participants established communications, reviewed the proposed action and design criteria, discussed issues, concerns, and opportunities, and possible alternatives, and reviewed timelines. Several projects within the JLFS project area or nearby have recently (within the last 5 years) been consulted on.

Description of Project Area

Legal Description and Maps

All or portions of the following sections are within the JLFS project area: T16N, R16W, Sections 2, 4, 8, 10, 13, 14, 20, 22, 26, 28, 29, 34; T17N, R15W, Section 31, 32; and T17N, R16W, Sections 36. Figure 1 is a vicinity map and Figure 2 is a display of the JLFS project area with unit boundaries and RAVG fire severity ratings.

Environmental Baseline (current condition of habitat and project area)

The JLFS project area totals about 11,900 acres of checkerboard ownership lands. The ownership including 7,381 acres of National Forest System (NFS) lands, 3,856 acres of Plum Creek Timber Company (PCTC) land and 644 acres of State lands. These lands are accessed by a substantial road network covering all ownerships. Table 3 displays the vegetative communities, forested structural conditions, habitat groups, water/riparian habitat, and available transportation information within the project area.

The entire project area is within the boundary of the 2007 Jocko Lake Fire. According to the RAVG Fire Severity rating system, over 70 percent of the project area was burned moderate to severely. For a complete explanation of the RAVG fire rating system, please see the Jocko Lake Fire Salvage Wildlife Report. The result of the Jocko Lake Fire is a substantial change in stand structure and composition across the entire fire area. The results of this fire for each species and their habitats will be explained in the relevant section of this document.

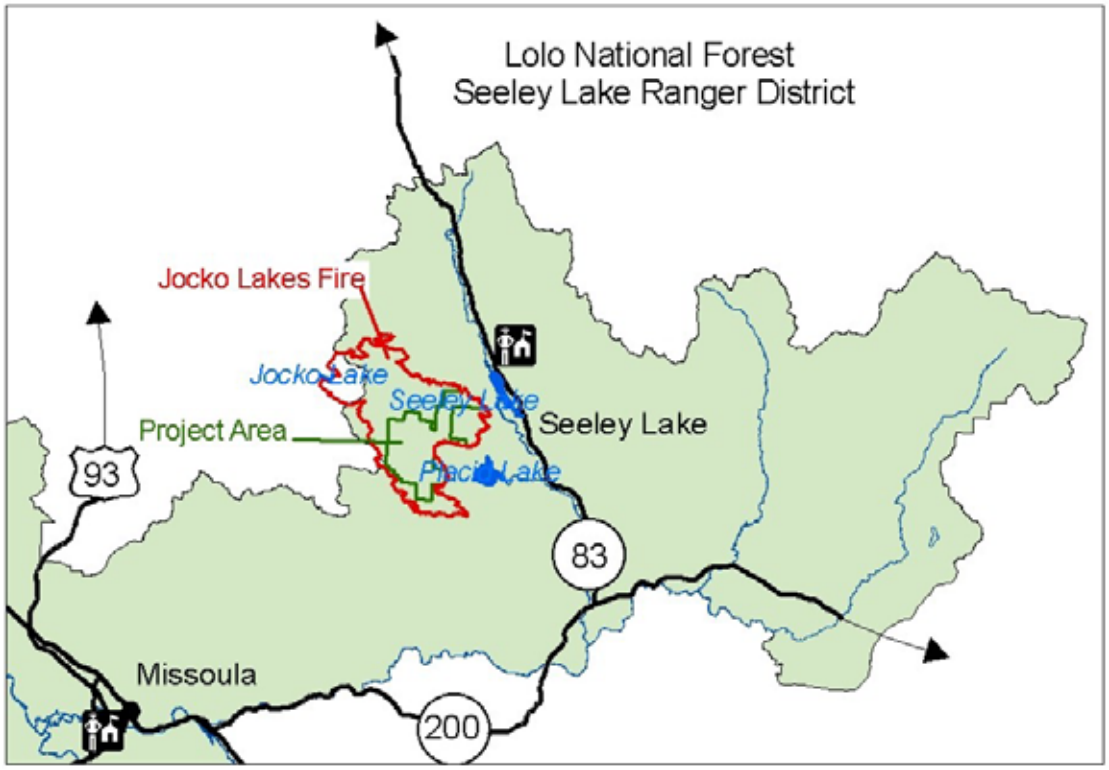

Figure 1. Jocko Lake Fire Salvage Project Area Vicinity Map

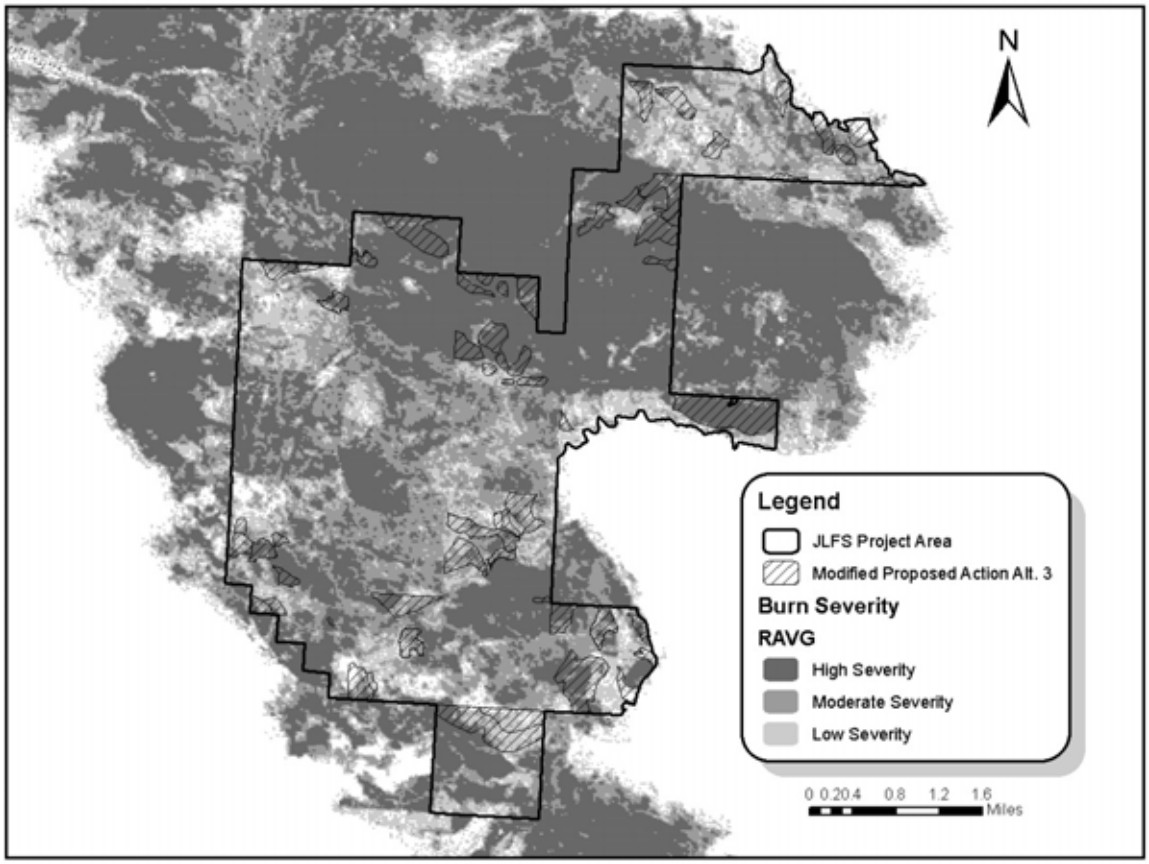

Figure 2. Jocko Lake Fire Salvage Project Area, Proposed Units, and Fire Severity

Table 3. Project Area Habitat & Fire Severity Summary

Habitat/Fire Severity	Units	% of NFS owned w/ in the Project Area
Cover Type (acres)		
Forest	7,275	98
Non-Forest	35	<1
Water	70	1
Total	7,381	
Forest Structural Condition (acres)		
Seedling (<5" dbh, grass/forb understory)	163	2
Sapling/Pole (generally 5-9" dbh)	2,690	36
Mature/Sawtimber (generally >9" dbh)	3,991	54
Old Growth (defined by Green et al 2000)	431	6
Habitat Group[a] (acres)		
1 (warm and dry – open grown PP)	12	<1
2 (moderately warm and dry – mix of PP & DF)	624	9
3 (moderately cool and dry – mix of PP, WL, LP and DF)	393	5
4 (moderately cool and moist – mix stands of PP, WL, LP & DF).	2,477	34
5 (cool and moderately dry – pure stands of LP, DF, WL & spruce)	3,757	51
Water/Riparian		
Streams (miles)	30	
Lakes (acres)	1	<1
Swamps/wetlands (acres)	70	1
Riparian Conservation Area (acres)	1,368	19
Roads & Trails (miles)		
		Road Density
Total Roads	51	4.4 mi/mi^2
Open Roads	38	3.2 mi/mi^2
Pedestrian Trail	1.7	.15 mi/mi^2
Snowmobile Trail	17	1.5 mi/mi^2

[a] - Species Codes – PP-Ponderosa Pine, DF-Douglas Fir, WL-Western Larch, LP-Lodgepole Pine

Listed Species

The USFWS (July 2008) discloses that Canada lynx, grizzly bear, and gray wolves are listed within the portion of the Lolo National Forest where this project would occur.

Species Description and Habitat Requirements

Canada lynx (Threatened)

Population Distribution and Habitat Status

The population distribution, life history, habitat status and recovery objectives for Canada lynx in R1 are detailed in Ruggiero et al. (1999), Ruediger et al. (2000), USDA-FS (2001, 2005, 2007), and USDI-FWS (2007).

The range of the Canada lynx is the Northern Taiga. In the conterminous U.S., lynx range has typically been depicted as marginal or peninsular extensions of the Northern Taiga into the western mountains, Great Lakes and Northeast. These regions represent southern extensions of boreal forest in the lower 48

states. Prior to listing, lynx distribution in Montana and other western states was based on historical data and trapping records. Following listing, a national lynx survey was conducted and the results indicated that lynx were less common than historic records indicated. Intensive track surveys conducted by the Rocky Mountain Research Station across western Montana have shown that lynx are uncommon to absent in many parts of this region with the Yaak and the Clearwater valley near Seeley Lake being the primary strongholds for lynx in Montana (Squires, Lynx Research Progress Report, 2006).

In 2006, the FWS classified the LNF as occupied/core lynx habitat due to strong recent and long-term evidence of lynx reproduction. About 53 percent of the LNF is comprised of mapped lynx habitat (1,110,000 of 2,082,784 acres) indicating potential habitat for the species is abundant and well distributed.

The Rocky Mountain Research Station has been studying winter and summer habitat use patterns of lynx on the LNF since 1998. Results indicate that, in winter lynx preferentially forage in spruce-fir forests with high horizontal cover, abundant hares, deep snow conditions, and large-diameter trees (Squires et al. 2006). A review of Forest Inventory and Analysis (FIA) data for the LNF shows old growth estimates for the three primary lynx habitats (old growth habitat types 4, 5, and 6) are 13.39 percent (90 percent CI 9.81 to 17.19), 7.76 percent (90 percent CI 3.26 to 12.98 percent), and 22.07 percent (90 percent CI 11.85 to 33.10), respectively, indicating areas of high structural diversity to support lynx denning and lynx foraging habitat are well represented. In summer, Squires et al. (2006) found that lynx will expand habitat use to include young, regenerating forests. Based on this research, quality lynx foraging habitat is not confined to young stands as was once believed. However, young stands with high structural complexity do provide quality foraging habitat for lynx (see Lynx Amendment, USDA Forest Service, 2007).

Mortality causes (n = 49) in order of frequency include: predation by mountain lions primarily in spring/fall (31 percent), starvation primarily in winter (29 percent), unknown factors (22 percent), and trapping/shooting (18 percent) (*Ibid*.). Current research on the LNF is focused on collecting data that could provide the basis for modeling how forest management should be configured on the landscape in ways that provide sustainable lynx habitat, both spatially and temporally, in a multi-use context. Results, of that research should be available in 2008.

The project area and effected LAUs are best described as checkerboard ownership, with a combination of NFS lands, PCTC, State of Montana, Confederated Salish and Kootenai Tribes of the Flathead Reservation (CSKT), and Private. Table 4 displays the Lynx Analysis Units (LAUs) that are within the Jocko Lake Salvage Project Area along with the expected lynx activity, elevation, and likely occupancy by lynx.

Table 4. Canada Lynx; Population and Habitat Status in the Analysis Area

Lynx Analysis Unit (LAU)	Canada Lynx Activity	Project within Lynx Elevation	Occupied Lynx Habitat
Placid	Unknown currently due to large-scale wildfires – Historically Yes	Yes	Unknown – prior to Jocko Lake Fire Yes, but questionable now.
Boles	Unknown currently due to large-scale wildfires – Historically Yes	Yes	Unknown – prior to Jocko Lake Fire Yes, but questionable now.

The best available queriable information (course filtered data) was used to assess the existing condition of lynx habitat throughout the two effected LAUs and is summarized in Table 5. It is important to note that this information being displayed is likely the best case scenario numbers, as much of the area currently identified as potentially suited is clearly not, when compared to recent aerial photos. There are large blocks of unsuitable habitat in both LAUs from recent wildfire activities (Jocko Lake and Boles Meadow

Fires) as well as timber harvest throughout much of the PCTC owned lands. These currently unsuited areas will likely return to suitable habitat in about 15 years.

For sight specific (fine filter) information, on the ground review was conducted in 2008 focusing on proposed harvest units and concentrated on the areas most likely to still maintain suitable foraging or mature multi-storied foraging habitat. All of the reviewed areas identified as having RAVG Low Severity rating displayed that most if not all understory trees of all species (less than 2 inches DBH) did not survive through this growing season and therefore would not provide suitable lynx habitat at this point in time. GPS points and photos of these portions of stands were taken as well and are in the project record. Figure 3 below is an example of what was found in these low severity burned stands; the understory was dead, and the overstory was primarily intact. As a result of the Jocko Lake Fire, it is likely that none of the areas mapped out as low, moderate, or high severity continue to provide suitable foraging or mature multi-storied lynx foraging habitat, nor will they for the next 14 or more years. Some small areas remained unaffected by the Jocko Lake Fire and continue to provide small patches of small trees, or contain some understory structure, but not in sufficient quantities to qualify as suitable lynx habitat. Therefore, the likelihood of either LAU being capable of providing a suitable home range at this time for lynx is very questionable. To the west of the JLFS project area, the South Fork Jocko Tribal Primitive Area continues to provide high quality lynx habitat.

Table 5. Current Lynx Habitat Suitability Using a Coarse Filter

Category	Placid LAU	Boles LAU
Potentially Suited Habitat [1]	9,563 Ac (27%)	12,341 Ac (59%)
Likely Unsuited Habitat	22,461 Ac (63%)	6,089 Ac (29%)
Unclassified Habitat	3,727 Ac (10%)	2,408 Ac (12%)
Ownership		
Lolo NF (NFS lands)	11,190 Ac (31%)	8,463 Ac (41%)
PCTC	23,258 Ac (65%)	10,801 Ac (52%)
MT State	1,063 Ac (3%)	1,072 Ac (5%)
CSKT	0 Ac (0%)	441 Ac (2%)
Private	154 Ac (<1%)	5 Ac (<1%)

[1] These acres are listed as potentially suited, because the base layer used to establish areas in which existing habitat was suitable was large-scale and may have been out of date. Recent aerial photos clearly show substantially reduced conifer canopies than would be expected to be seen on currently suitable lynx habitat. Many of these areas in question are within privately owned (corporate) lands.

Figure 3. Photo of a RAVG Low Fire Severity Rated Area

Figure 4 displays the JLFS project area, and lynx analysis units (LAUs) affected by the Jocko Lake Fire and Boles Meadow Fire with course filtered potential lynx habitat availability.

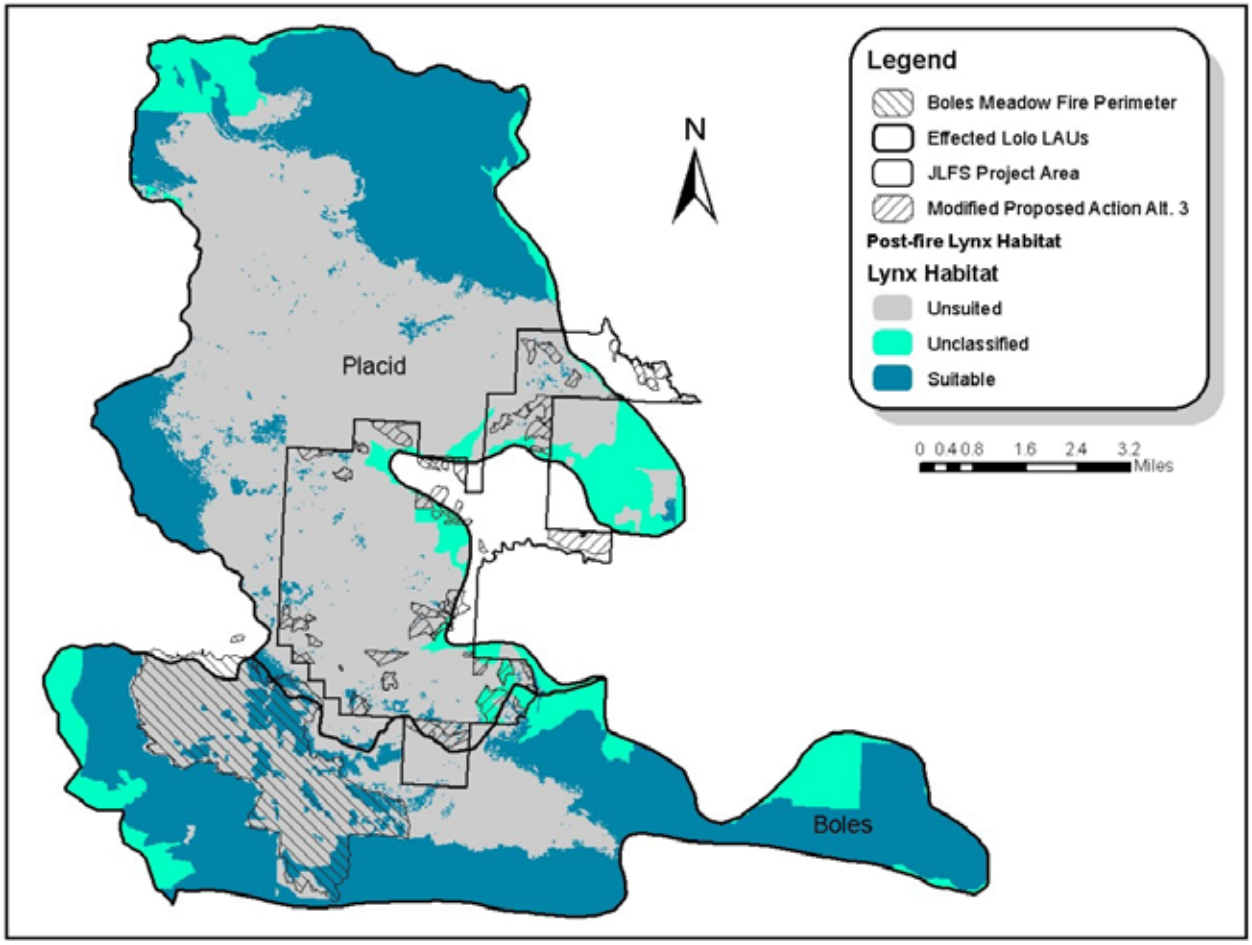

Figure 4. LAUs Affected by Jocko Lake Fire

Figure 5 displays the same course filtered lynx habitat suitability with an overlay of ownership. All areas where no owner is identified are NFS lands administered by the Lolo NF.

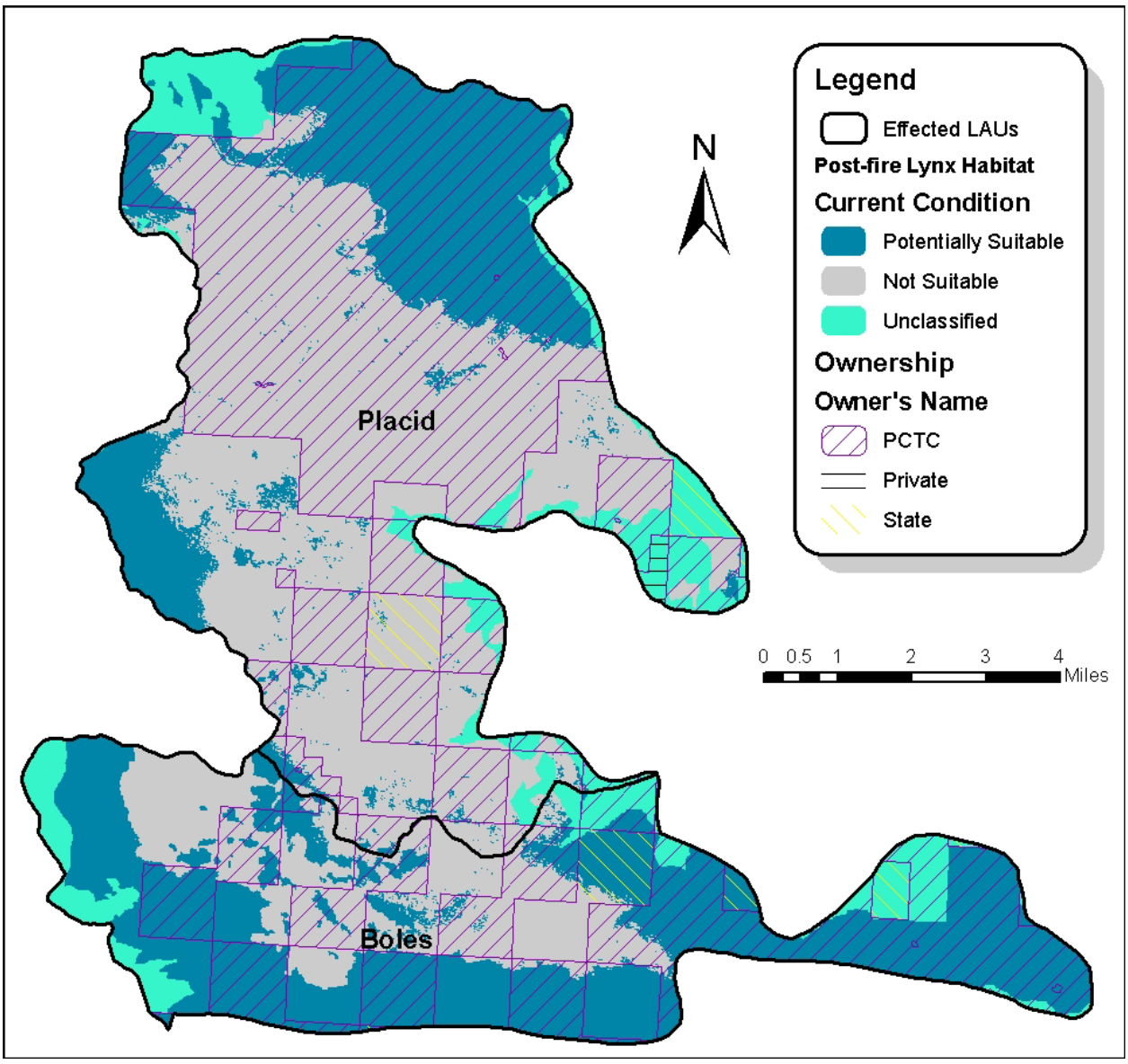

Figure 5. Ownership Overlay of Affected LAUs

Grizzly Bear (Threatened)

Features of the existing environment that are relevant to grizzlies include motorized access, cover, habitat suitability, and food and garbage attractants.

Motorized Access – The proposed project is located in an area with high total and open road densities (4.5 mi/mi² and 3.2 mi/mi² respectively on NFS lands). In addition, there are about 17 miles of groomed snowmobile trails within the JLFS project area. In summary, the JLFS project area receives moderate to high motorized use year-round by recreationists.

Grizzly Habitat - The best grizzly habitat in the vicinity of the project lies in the wetland and riparian areas associated with Finley, Placid, Grouse, and Beaver Creeks. These riparian areas, swamps and meadows are best characterized as spring habitat. Summer and fall habitats are generally at higher

elevations further to the west, although we know that grizzlies use the lower elevations within and adjacent to the project area in the summer and fall as well.

As stated, the project area is within a checkerboard ownership pattern of federal, state, small private and PCTC ownership. In addition to the Jocko Lake Fire, the forestry activities conducted on the adjacent industrial timberlands in recent years have reduced habitat value for grizzly bears to some degree but overall, habitat conditions on these lands are still generally suitable. Although cover values on these lands are low, motorized access within the large non-NFS blocks are limited by closures which prohibit public access for most of the year.

Cover - Cover, especially along roads, is very important for grizzly bears. Although adult female bears are known to avoid roads, males and younger bears may not (Mace et al, 1997). Mortality from poaching and mistaken identity hunting is a factor contributing to the bears' continued threatened status. Retention of cover along roads (especially open roads) helps reduce this mortality. Large blocks of cover provide security for bears using areas for feeding, breeding, resting, and other activities.

The Lolo Guidelines call for at least 75 percent of a Bear Management Analysis Area (BMAA) to be cover, based on lands that are typically tree-covered in an undisturbed state. High elevation rocky land is omitted from the analysis. Existing cover values throughout the JLFS project area are low due to the aforementioned wildfire and management of adjacent landowners.

Seventy-six percent of the areas proposed for salvage activities are either identified as high or moderate severity, containing high numbers of dead trees, another 20 percent is listed as low severity and the remaining 4 percent identified as unchanged. Small amounts of cover do exist within the lower intensity burned areas, but is primarily made up of cover provided by stems, as understory vegetation is lacking throughout 96 percent of the proposed units.

Disturbance/Displacement - The Lolo Guidelines state that major activity like timber sales will occur for no more than 3 consecutive years out of 10 years in a given BMAA. This area is not within a BMAA so activity is not tracked in the same way. In general, there has been no major Forest Service activity in the project vicinity in the past 10 years, with the exception of the Hidden Lake Fuels Reduction and Boles Salvage. However, there has been ongoing timber harvest activity in this area in recent years on both PCTC and small private lands.

Linkage – There are no grizzly bear linkage areas within the proposed project area boundary.

Sanitation – The project area is covered by the food storage order that applies to the SLRD outside of the recovery area (Lolo National Forest Special Order No. F06-003-LOLO-D6). All project activities would require adherence to this order to ensure all food and garbage would be stored in a bear safe manner (see Management Guidelines).

Inventories and Surveys

The NCDE Grizzly DNA project

The aforementioned RMRS lynx research + the National Lynx Survey

Other grizzly collaring done jointly by USFWS, MTFWP and PCTC

Incidental track surveys and reports

Effects Analysis and Determinations

Lynx

The analysis of effects to lynx and their habitat will concentrate on whether or not the proposed activities would violate any of the objectives, standards or guidelines within the Lynx Amendment, because the Jocko Lake Fire resulted in changed condition of no suitable lynx habitat remaining within the proposed units, if not on a much larger scale. Therefore, none of the proposed activities would change any existing suitable lynx habitat into unsuited. Table 6 and Table 7 review all relevant objectives, standards and guidelines in detail and describe anticipated effects of this project.

Table 6. Lynx Amendment – Review of Applicable Objectives

Objectives	Pre-Treatment Compliance	Post-Treatment Compliance
ALL O1 – Maintain or restore lynx habitat connectivity in and between LAUs and in linkage areas	27 percent of the Placid LAU may provide suitable lynx habitat 59 percent of the Boles LAU may provide suitable lynx habitat (see Table 5 for full disclosure of this). The recent wildfires (Jocko Lake and Boles Meadows) resulted in large blocks of area that do not currently provide suitable lynx habitat.	The proposed activities would not reduce the existing suitable lynx habitat within either LAU or decrease the future ability to provide suitable lynx habitat. As a result of salvage harvest, about 1,056 acres are likely to recover sooner due to replanting.
VEG 01 – Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.	The recent wildfires (Jocko Lake and Boles Meadow Fires) changed the majority of lynx habitat within the Placid LAU and a substantial portion of the Boles LAU in the last five years. Although natural, the wildfires affected larger areas than would normally be expected as a result of drought conditions that existed at the time of the fires, in addition to past successful suppression activities.	The proposed activities would not change any existing suitable lynx habitat into unsuited.
VEGO2 – Provide a mosaic of habitat conditions through time that support dense horizontal cover and high densities of snowshoe hares. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation.	Due to the recent wildfire activities (Jocko Lake and Boles Meadow Fires), the majority of the Placid and a substantial portion of the Boles LAUs will provide an abundance of young conifer vegetation suitable for snowshoe hares in future years.	The proposed activities would likely speed up restoration of suitable lynx habitat by replanting areas that would otherwise take much longer or not regenerate conifer vegetation on their own at all.
VEGO3 – Conduct fire use activities to restore ecological processes and maintain or improve lynx habitat.	Recent wildfire has substantially affected the majority of the Placid LAU and a substantial portion of the Boles LAU, including the Boles Meadow Fire in 2003.	No additional burning, other than activity fuels (slash piles at landings and skyline corridors), would be expected as a result of any proposed activities.

Objectives	Pre-Treatment Compliance	Post-Treatment Compliance
VEGO4 – Focus vegetation management in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover.	97 percent of the JLFS project area was changed by the Jocko Lake Fire. Most, if not all, of this area is lacking suitable winter snowshoe hare habitat that with little horizontal cover.	The proposed activities would limit future horizontal structure on about 14 percent of the JLFS project area, but the proposed replanting activities would likely speed up recovery of understories that provide dense cover.
Objective HU01 – Maintain the lynx's natural competitive advantage over other predators in deep snow by discouraging the expansion of snow compacting activities in lynx habitat.	Existing snow compacting activities are primarily associated with roads. However, due to the recent wildfires, much more of the Placid and Boles LAUs could be accessed as a result of open understories and complete lack of overstories.	The proposed activities would decrease the number of stems per acre that are currently vertical. However, this reduction is not expected in result in an increase of over the snow activities in areas with remaining green vegetation.
HU 05 – Manage human activities – such as exploring and developing minerals and oil and gas, placing utility corridors and permitting special uses – to reduce impacts on lynx and lynx habitat.	No such human activities currently occur within the project area.	This project would not result in a substantial increase in human activities, other than work related to the removal of dead material, road maintenance, construction, and decommissioning, and replanting activities.
HU 06 – Reduce adverse highway effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity and to reduce the potential of lynx mortality.	Lolo National Forest is involved is these interagency relationships.	Lolo National Forest will continue to be involved in interagency relationships.
LINK 01 – In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservations plans, land exchanges or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.	The LNF is currently involved in these types of activities and exchanges.	The LNF will continue to be involved in such activities. However, this project would not involve any of these activities and would be well outside the purpose and need.

Table 7. Applicable Lynx Management Standards and Guidelines; Conservation Measures to Address Risk Factors Affecting Lynx Productivity (Northern Rockies Lynx Management Direction, 2007)

Standards	Pre-Treatment Compliance	Post-Treatment Compliance
All S1 – New or expanded permanent developments and vegetation management projects must maintain habitat connectivity in an LAU and/or linkage area.	27 percent of the Placid LAU may provide suitable lynx habitat 59 percent of the Boles LAU may provide suitable lynx habitat (see Table 5 for full disclosure of this). The recent wildfires (Jocko Lake and Boles Meadows) resulted in large blocks of area that do not currently provide suitable lynx habitat.	The proposed activities would not reduce the existing suitable lynx habitat within either LAU or decrease the future ability to provide suitable lynx habitats. Proposed activities include replanting of about 1,056 acres and therefore would likely result in sooner recovery.
VEG S1 – Unless a broad scale assessment has been completed that substantiates different levels of stand initiation structural stages limit disturbance in each structural stage as follows: If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat no additional habitat may be regenerated by vegetation management projects.	27 percent of the Placid LAU may provide suitable lynx habitat 59 percent of the Boles LAU may provide suitable lynx habitat (see Table 5 for full disclosure of this). The recent wildfires (Jocko Lake and Boles Meadows) resulted in large blocks of area that do not currently provide suitable lynx habitat.	The proposed activities would not change any existing suitable lynx habitat into unsuited.
VEG S2 – Timber management projects shall not regenerate more than 15 percent of lynx habitat on NFS lands within a LAU within a 10-year period.	27 percent of the Placid LAU may provide suitable lynx habitat 59 percent of the Boles LAU may provide suitable lynx habitat (see Table 5 for full disclosure of this). The recent wildfires (Jocko Lake and Boles Meadows) resulted in large blocks of area that do not currently provide suitable lynx habitat.	The proposed activities would not change any existing suitable lynx habitat into unsuited.
VEG S5 – Applies to precommercial thinning projects and states: Precommercial thinning projects that reduce snowshoe hare habitat, may occur from the stand initiation structural stage until the stands no longer provide winter snowshoe hare habitat only: 1. Within 200 feet of admin sites, dwellings or outbuildings or 2. For research studies or genetic tree tests evaluating genetically improved reforestation stock or 3. Based on new information that is peer review and accepted by the regional level of the Forest Service that meets certain criteria outlined in the amendment	No recent precommercial thinning activities have occurred within the Placid or Boles LAUs.	No precommercial thinning is proposed with implementation of this project in either LAU.

Standards	Pre-Treatment Compliance	Post-Treatment Compliance
VEG S6 – Applies all vegetation managements except for fuels treatment projects within the WUI and states: Vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests may occur only: 1. Within 200 feet of admin sites, dwellings or outbuildings or 2. For research studies or genetic tree tests evaluating genetically improved reforestation stock or 3. For incidental removal during salvage harvest.	The project area is outside of designated WUI areas.	This vegetation removal portion of this project is salvage of dead trees and trees with a low probability of survival (Scott 2002). After field review of proposed units, it is not believed that suitable snowshoe hare habitat exists within proposed salvage units. However, if incidental removal does occur, it would be minimal, but allowable with this standard.
Guidelines		
VEG G1 – Vegetation management projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority for treatment should be given to stem exclusion, closed canopy structural stage stands to enhance habitat conditions for lynx or their prey (e.g. mesic monotypic lodgepole stands).	N.A.	Stands selected for treatment are not considered multi-storied forests providing quality snowshoe hare habitat.
VEG G4 – Prescribed fire activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.	N.A.	Proposed activities do not include increasing open road densities to the public and no permanent firebreaks are proposed.
VEG G5 – Habitat for alternate prey species, primarily red squirrel, should be provided in each LAU.	27 percent of the Placid LAU may provide suitable lynx habitat 59 percent of the Boles LAU may provide suitable lynx habitat (see Table 5 for full disclosure of this). The recent wildfires (Jocko Lake and Boles Meadows) resulted in large blocks of area that do not currently provide suitable lynx habitat.	This project would not reduce the amount of live trees within either LAU with minor exceptions. Therefore, existing secondary prey habitat that exists, would remain following project implementation.
VEG G10 – Fuel treatment projects within the WUI as defined by HFRA should be designed considering Standards VEG S1, S2, S5, and S6 to promote lynx conservation.	N.A.	N.A.
VEG G11 – Denning habitat should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads or large piles of wind thrown trees (jack strawed piles). If denning habitat appears to be lacking in the LAU, then projects should be designed to retain some coarse woody debris, piles or residual trees to provide denning habitat in the future.	27 percent of the Placid LAU may provide suitable lynx habitat 59 percent of the Boles LAU may provide suitable lynx habitat (see Table 5 for full disclosure of this). The recent wildfires (Jocko Lake and Boles Meadows) resulted in large blocks of area that do not currently provide suitable lynx habitat.	About 92 percent of the recently burned area on National Forest Systems lands within the Placid and Boles LAUs combined would be maintained as they are. All salvage units would also retain snags and down materials within them following treatments. Denning habitat in the future should be abundant throughout both LAUs.

As discussed throughout Table 6 and Table 7, the proposed activities would not violate or prevent attainment of any applicable standards, guidelines or objectives for lynx. In fact, replanting activities would assist recovery of about 1,056 acres in a quicker timeframe than would occur naturally. With the limited suitable lynx habitat that remains within the effected LAUs this project occurs in, it is likely that no lynx would frequent areas near or within the JLFS project area for some time.

Cumulative Effects

Plum Creek lands in and adjacent to the project area have been extensively harvested in the past 40 years. There is limited commercial timber remaining at this time outside of Stream Management Zones on these private lands. It is unlikely that additional roads will be built for the purpose of timber harvest. The potential exists for these lands to be developed for real estate. Some resource management activities will likely continue to occur on these lands regardless of ownership.

Logging activities on federal lands in the project area vicinity has occurred over the last 5 or more decades with the last substantial green harvests occurring in the late 1980s and salvage harvest, in the Boles Meadow area more recently (2003-2005).

The scale of this project is moderate (1,648 acres) and involves no new permanent road building or other permanent development. In regard to cumulative effects to lynx, the anticipated habitat changes related to this project are not substantial. Further, security will be enhanced by more permanent and restrictive road closures. Although the Forest Service lands in this area were substantially changed by the Jocko Lake Fire, they will provide habitat for lynx in the future as the remnant snags fall and stands regenerate. Over time as cover is restored, use of these LAUs by lynx will increase to or above levels experienced several years ago.

Because the effects analysis above was conducted at the same scale and considerations of a regular cumulative effects analysis, no additional analysis is necessary.

Determination

The determination for lynx with the implementation of this project is: "**May Affect**, **Not Likely To Adversely Affect"**. This determination is based on the following rationale:

> Activities planned with this project meet or exceed all objectives, standards and guidelines found in the Lynx Amendment for this type of project.
>
> Lynx would not be expected to be utilizing the portions of the LAUs being proposed for treatments as they are within a larger block of currently unsuited lynx habitat.
>
> The only expected affects to lynx are discountable because they are unlikely to occur, would not change any lynx habitat to unsuited, and the proposed haul routes primarily cross unsuited lynx habitat as well.

Grizzly Bear

Roads/Access – The effects of roads and road use in areas of grizzly bear habitat outside of the recovery area were described and analyzed in the 2004 Amendment to the Biological Opinion and Incidental Take Statement on the Lolo National Forest Plan (USDA Forest Service 2004). Activities outside of the recovery area associated with this project (hauling) would not impart effects of existing permanent roads or road use in addition to those already covered in the biological opinion (excluding up to 4.0 miles of

short-term or temporary road continually closed to the public during and following activities). Consultation on the effects of roads occurring outside the recovery area is complete, the roads are considered as part of the environmental baseline for grizzly bears, and no further analysis on existing roads outside of the recovery area is required.

No new permanent roads would be constructed for the project. As mentioned previously, some short-term and temporary roads would be constructed but these roads would only be used in winter for access/hauling, would be closed yearlong to the public, and would be decommissioned upon project completion. Some BMP work may be conducted on several roads that are closed year-round to the public. No road maintenance work or harvesting would be conducted during the spring season (4/1 – 6/30) due to soils and fisheries issues. In addition, upon completion of this project there would be an overall decrease of roads (10.7 miles) currently open to public travel, which equates to increased security for grizzly bears and other wildlife species.

Cover – The proposed actions may reduce cover, through a reduction of dead and dying trees within proposed salvage units. This effect would not be considered substantial for several reasons. Seventy six percent of the proposed salvage area is composed of moderate to severely burned lands that currently provide little if any cover. Most of these moderate to severely burned treatment areas are also proposed for replanting. This would provide long-term cover in the shortest period of time. Other areas are expected to reseed naturally within a reasonable time or would maintain a sufficient forested component to be considered fully stocked. In addition, having all but one proposed salvage unit winter or cable yarded would minimize damage to newly sprouted, low growing, vegetation.

Disturbance – Short periods (less than 1 month in duration) of slashing, piling and burning may occur in the summer and fall (7/1 – 11/30) following mechanical treatment. No fuels treatment, harvest or road improvement would be conducted during the spring season (4/1 – 6/30) due to wildlife, soils and fisheries concerns. The mechanical fuels reduction is planned for the winter (12/1 – 4/1) season of 2008-09 but may extend into the winter (12/1-4/1) season of 2009-10.

Regarding denning habitat, the areas proposed for treatment are at relatively low elevations (less than 5,800 feet with the majority under 5,000 feet) and are on low to moderate slopes. Based on various studies on grizzly bear den site selection in Montana (Mace and Waller 1996, Servheen and Sandstrom 1993, Aune and Kasworm 1989), it is unlikely that grizzlies would select these low elevation areas for denning, so the possibility of disturbing or displacing a denning grizzly bear is low to very low.

Adequate displacement areas exist in the Mission, South Fork Jocko, Rattlesnake, and Swan subunit which are surrounding the project area on the west and north sides, several being less than 2 miles away. These subunits are a mixture of NFS, PCTC, and Tribal lands with varying levels of human activity. The Swan subunit is bordered to the west by the Mission Tribal Wilderness (which receives little human use) and to the southwest by the Rattlesnake Wilderness (also receives limited human activity). Further, the project area currently has open roads, campgrounds and is near residences. Thus, the additive impacts of the activities proposed under this project would be insignificant in regard to grizzly bear disturbance/displacement, especially given the emphasis on winter activity.

Sanitation and other bear-human conflicts – People working in the woods provide opportunities for grizzly bears (and black bears) to be attracted to food and garbage and to become food conditioned. Management Requirement 2 addresses this issue with food and garbage storage requirements. Further, the entire Seeley Lake Ranger District is now under an attractant storage order designed to minimize human/bear conflicts.

Cumulative Effects

Plum Creek and State lands in and adjacent to the project area have been moderately to extensively harvested in the past 40 years. There is limited commercial timber remaining at this time outside of Stream Management Zones on Plum Creek lands. It is unlikely that additional roads will be built for the purpose of timber harvest, as sufficient roads already exist to manage these lands. The potential exists for these lands to be developed for real estate. Some resource management activities will likely continue to occur on these lands regardless of ownership.

Forest Service lands in this area were substantially changed by the Jocko Lake Fire, but may continue to provide lower quality suitable habitat for grizzly bears, due to the lack of cover. Over time as cover is restored and insect levels increase in the remaining rotting wood, habitat quality will improve. Logging activities on federal lands in the project area vicinity has occurred over the last 5 or more decades with the last substantial green harvests occurring in the late 1980s and salvage harvest, in the Boles Meadow area more recently (2003-2005).

The scale of this project is moderate (1,648 acres) and involves no new permanent road building or other permanent development. In regard to cumulative impacts on grizzly bears, the anticipated habitat changes related to this project are not substantial. Further, security will be enhanced by more permanent and restrictive road closures. Finally, the District-wide food storage Forest Order should reduce potential for habituation to human food and garbage.

Because this project is reducing the amount of open roads and is not adding to the public open road density or long-term administrative open road density, a detailed roads analysis was not performed for the cumulative effects area as this project will improve the trend.

Determination

The determination for this project is “May Affect, Not Likely to Adversely Affect”. This determination is based on the following rationale:

The project is not within the NCDE Grizzly Bear Recovery area and is not within Management Situation 1 habitat. A programmatic biological assessment is in place that covers the effects of existing roads, grazing and sanitation/attractants on grizzly bears. This project would follow the Terms and Conditions of the BO prepared for the programmatic biological assessment, no net increase in permanent roads. It would actually reduce the permanent roads within the analysis area.

No new permanent roads would be constructed. The road improvements would be done on existing roads, most of which are closed to the public year-round. Post project there would be more obliterated and decommissioned roads in the immediate project area which translates to enhanced wildlife security.

Most logging activities would occur during winter (12/1 – 4/1) seasons.

Based on elevation, slope and aspect, the project area is not high quality denning habitat and the probability of disturbing a denning grizzly bear is low to very low.

Cover would remain where it currently exists and an accelerated recovery of long-term cover would occur on about 1,056 acres of salvaged stands that would be replanted. Large areas of non-treated burned areas would remain within the project area post project

A district wide bear attractant order is in place which requires safe storage of all bear attractants.

No grizzly bear linkage zones or corridors would be impacted.

Although portions of the Jocko Lake Fire burned within portions of the NCDE Recovery Area, these areas were avoided and not considered as potential units for this project to minimize impacts to grizzly bears and their habitat.

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