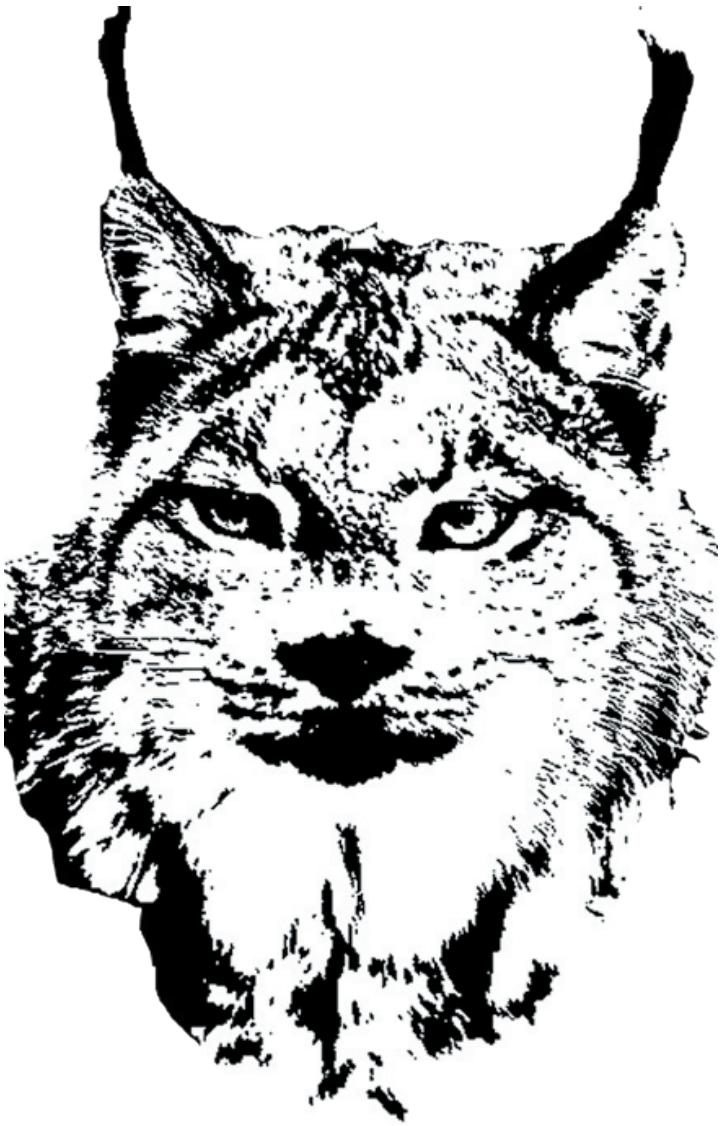
USDA
Forest Service

Southern Rockies Lynx Management Direction

National Forests in
Colorado & southern Wyoming
October 2008

Record of Decision



Southern Rockies Lynx Amendment

Record of Decision

Lead Agency: USDA Forest Service
Rocky Mountain Region

Cooperating Agency: Colorado Department of
Natural Resources

Location:

Arapaho-Roosevelt National Forests
Boulder, Clear Creek, Grand, Gilpin, Jefferson, Larimer, Park and Weld Counties, CO

Grand Mesa, Uncompahgre and Gunnison National Forests
Delta, Garfield, Gunnison, Hinsdale, Mesa, Miguel, Montrose, Ouray, Saguache, and San Juan Counties, CO

Medicine Bow-Routt National Forests
Albany, Carbon, Converse, Laramie, and Platte Counties, WY
Garfield, Grand, Jackson, Moffat, Rio Blanco, and Routt Counties, CO

Pike-San Isabel National Forests
Alamosa, Baca, Chaffee, Clear Creek, Custer, Douglas, El Paso, Fremont, Huerfano, Jefferson, Lake, Las Animas, Otero, Park, Pueblo, Saguache, and Teller Counties, CO

Rio Grande National Forest
Alamosa, Archuleta, Conejos, Costilla, Custer, Hinsdale, Mineral, Rio Grande, Saguache, and San Juan Counties, CO

San Juan National Forest
Archuleta, Conejos, Dolores, Hinsdale, LaPlata, Mineral, Montezuma, San Juan, San Miguel, and Rio Grande Counties, CO

White River National Forest
Eagle, Garfield, Gunnison, Mesa, Moffat, Pitkin, Rio Blanco, Routt, and Summit Counties, CO

Responsible Official:

Rick D. Cables
Regional Forester, Rocky Mountain Region

10/28/08
Date

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This decision amends the following Land and Resource Management Plans:

1997 Revision of the Land and Resource Management Plan, Arapaho-Roosevelt National Forests
1983 Land and Resource Management Plan for the Grand Mesa, Uncompahgre and Gunnison National Forests
Medicine Bow National Forest Revised Land and Resource Management Plan, December 2003
Pike-San Isabel National Forests Land and Resource Management Plan, 1984
Revised Land and Resource Management Plan, Rio Grande National Forest, 1996
Routt National Forest Land and Resource Management Plan, 1997 Revision
San Juan National Forest Land and Resource Management Plan 1983
Land and Resource Management Plan 2002 Revision for the White River National Forest

Summary of Decision

The Forest Service is charged with managing various renewable resources so that they are utilized in the combination that will best meet the needs of the American people, with due consideration given to the relative values of the resources, and without impairment of the productivity of the land (Multiple Use Sustained Yield Act of 1960). Under the Endangered Species Act, the agency is required to use its authorities to conserve threatened and endangered species and the ecosystems upon which they depend. In this decision, I consider how to amend Land and Resource Management Plans (Plans) to add consistent management direction that will conserve the Canada lynx (*Lynx canadensis*), a species listed as threatened under the Endangered Species Act, while at the same time allowing management and use of other natural resources in the Southern Rocky Mountains.

I have selected Alternative F-modified (Attachment 1). With this decision, the eight Land and Resource Management Plans (Plans) listed above are amended to incorporate the goal, objectives, standards and guidelines, and monitoring requirements of Alternative F-modified. My decision provides management direction that contributes to conservation of the lynx in the Southern Rocky Mountains, meets the Purpose and Need, responds to public concerns, and incorporates the terms and conditions contained in the U.S. Fish and Wildlife Service's Biological Opinion. My decision is consistent with applicable law, regulation and policy.

This decision supersedes the 2006 Lynx Conservation Agreement in the Southern Rockies Lynx Amendment area. The White River and Medicine Bow National Forests previously completed revisions of their Plans (in 2002 and 2004, respectively) and incorporated management direction for lynx. By amending all eight Plans in the Southern Rockies, this decision assures consistent management direction. The U.S. Fish and Wildlife Service's 2008 Biological Opinion for this amendment supersedes previous

Biological Opinions for lynx that were issued for the White River Revised Plan, Medicine Bow Revised Plan, and Rio Grande MIS Amendment.

Introduction

Status of Lynx in the Southern Rockies

The lynx is a highly specialized predator, adapted to prey on snowshoe hares. Lynx inhabit coniferous forests in the spruce-fir zone that experience cold, snowy winters and provide a snowshoe hare prey base. In the Southern Rockies, lynx habitat generally occurs between 8,000 and 12,000 feet in elevation, with forest cover dominated by spruce-fir, lodgepole pine, and aspen-conifer mix. Low-elevation forests and forests on dry sites, such as ponderosa pine and climax lodgepole pine, do not support snowshoe hares and are not lynx habitat.

The Southern Rockies Lynx Amendment area encompasses about 14.6 million acres of National Forest System lands, of which about 7.5 million acres have been mapped as lynx habitat. Mapping of lynx habitat and delineation of lynx analysis units was completed by the Forest Service in coordination with the U.S. Fish and Wildlife Service, as agreed under the Canada Lynx Conservation Agreement (2000, 2005, 2006b). As new information becomes available and site-specific analysis occurs, habitat mapping will continue to be updated and refined.

The Southern Rocky Mountains are at the southern margin of the range of lynx. Historically, there was a strong record of lynx presence in the Southern Rockies. However, after conducting statewide surveys beginning in 1978, the Colorado Division of Wildlife concluded that the resident population was extremely small, and probably too small to be self-sustaining. In 1999, the Colorado Division of Wildlife initiated a reintroduction project to augment the population. To date, 218 lynx have been released into southern Colorado, and at least 103 kittens have been born in the wild (Shenk 2007). While success of the reintroduction effort looks promising, whether the lynx population in Colorado will become self-sustaining is still unknown.

Listing of the Lynx under the Endangered Species Act

On March 24, 2000, the U.S. Fish and Wildlife Service listed the Canada lynx (United States Distinct Population Segment) as a "Threatened" species under the Endangered Species Act. The single factor threatening the lynx in the contiguous United States was the inadequacy of existing regulatory mechanisms, specifically the lack of guidance in National Forest Land and Resource Management Plans (Plans) and BLM Land Use Plans for conservation of lynx, and the potential for those Plans to allow or direct actions that could adversely affect lynx.

In response to litigation and a court order on their listing decision, on July 3, 2003, the U.S. Fish and Wildlife Service published a Clarification of Findings in the Federal Register, commonly referred to as the Remand Notice. The U.S. Fish and Wildlife

Service reviewed the threats to lynx at the population level, and confirmed that "Threatened" status remained appropriate for the United States Distinct Population Segment. The effects of timber harvest, pre-commercial thinning and fire suppression in the Southern Rocky Mountains were determined to constitute a threat to the species at a low magnitude, because a significant proportion of lynx habitat is in non-developmental land allocations, a relatively small amount of thinning occurred in the period prior to listing, and significant additional funding for thinning is not anticipated. The lack of adequate regulatory mechanisms to protect key habitat attributes was determined to pose a moderate threat to lynx. The Remand Notice also concluded that several activities addressed in the LCAS, such as forest roads, mining, grazing, and packed snow trails, may have local effects on individual lynx, although there is no evidence that they pose a threat at the population level.

Risks to Lynx and Lynx Habitat

Between 1998 and 2000, the Forest Service, Bureau of Land Management (BLM), National Park Service, and U.S. Fish and Wildlife Service jointly compiled the best available information about the lynx across the contiguous United States. Two products resulted from these efforts: *Ecology and Conservation of Lynx in the United States* (Ruggiero et al. 2000), often referred to as the Science Team Report, and the Lynx Conservation Assessment and Strategy (Ruediger et al. 2000).

The Lynx Conservation Assessment and Strategy (LCAS) identified possible risk factors to lynx and lynx habitat, established a basis for assessing the adequacy of existing Plans, and recommended lynx conservation measures. The following section summarizes how the risk factors were considered in this decision.

The LCAS identified *risk factors affecting lynx productivity* (pp. 2-2 to 2-15) as: timber management, wildland fire management, livestock grazing, recreational uses, forest backcountry roads and trails, and other human developments.

> These common activities on National Forest System lands may affect lynx productivity by altering the snowshoe hare prey base. The likely effects of these activities on lynx in the Southern Rockies were analyzed in the Environmental Impact Statement, and management direction to guide these activities on National Forest System lands is included as part of this decision.

The LCAS identified *risk factors affecting mortality* (pp. 2-15 to 2-17) as: trapping, shooting, predator control, highways, and predation by other species.

> These factors can directly cause lynx deaths. State regulations no longer permit trapping of lynx in the planning area, although incidental capture of lynx during furbearer harvest seasons is possible. Incidental or illegal shooting likewise may occur. However, trapping and hunting are regulated by state agencies, while predator control activities are conducted by USDA Animal and Plant Health Inspection Service-Wildlife Services. This decision does not provide management

direction for trapping, shooting or predator control activities since they are authorized and conducted by the other agencies.

Highways (generally defined as having two or more paved lanes, high speeds and high traffic volumes) are a known source of direct mortality of lynx. Depending on the situation, certain aspects of the management of highways may fall under the authority of the Forest Service. Therefore, this decision includes management direction for National Forest System lands that is applicable to highways.

Lynx are thought to have a competitive advantage in places where deep, soft snow in mid-winter tends to exclude other predators, a time when availability of prey is most limiting for lynx. Because some activities, such as winter recreation, may compact the snow and thereby provide other predators (e.g., coyotes) with access into lynx habitat, the potential for increased competition and predation was considered. Guidance for these activities on National Forest System lands is included in this decision.

The LCAS identified *risk factors affecting movement* (pp. 2-17 to 2-19) as highways and associated development, and private land development.

Within lynx home ranges, highways and associated high-intensity uses and developments may constrain habitat use and impede daily movements. At a broader scale, lynx are known to disperse and make exploratory movements across long distances and varied habitat and terrain. Maintaining connectivity within and between lynx subpopulations is an important consideration to maintain long-term persistence. However, the Forest Service has limited authority over highways and no authority to manage activities on private land. This decision provides guidelines applicable to maintaining connectivity, within the limits of the Forest Service's jurisdiction.

Changed Conditions: Mountain Pine Beetle Epidemic

A large-scale mountain pine beetle epidemic is occurring in Colorado and southern Wyoming. It is expected that the vast majority of the approximately 2 million acres of mature lodgepole pine stands will be killed during this outbreak. A substantial portion of this mortality, estimated at about 1.5 million acres, will affect lynx habitat.

The mountain pine beetle is a native insect, and functions as a natural disturbance agent in this area. The unusually large extent of this particular epidemic is the result of a convergence of several factors: large acreages of forests that were susceptible to insect attack because of tree size, age and density; several years of drought that weakened the trees' natural defenses; and several consecutive years with warm winter temperatures that favored beetle survival and reproduction.

Because of its very large extent, vegetation management actions cannot stop the spread of the current beetle epidemic. In the aftermath of the epidemic, however, forest

management can influence the diversity within stands and across landscapes, to reduce the probability of repeating the cycle.

Maintaining some degree of management flexibility so that managers are able to influence the development of future forest conditions was an important consideration to me in making this decision. Alternative F was modified to provide additional management flexibility for this purpose. Monitoring of projects that utilize this additional flexibility will yield new information about which treatments are most effective in moving beetle-impacted areas toward the desired future condition.

Purpose and Need for Action

The Purpose and Need for this amendment is to establish management direction that conserves and promotes the recovery of lynx, and reduces or eliminates potential adverse effects from land management activities and practices on national forests in the Southern Rockies, while preserving the overall multiple-use direction in existing Plans.

The Decision

This decision amends eight Land and Resource Management Plans. I have selected Alternative F with modifications of the language for standards VEG S5 and VEG S6. With this decision, the new management direction contained in Alternative F-modified amends the Plans for the Arapaho-Roosevelt, Medicine Bow, Routt, Pike-San Isabel, Rio Grande, San Juan, White River and Grand Mesa, Uncompahgre and Gunnison National Forests to provide consistency throughout the Southern Rocky Mountains Amendment area. The amended Plan language is provided in Attachment 1.

The management direction is designed to strike a reasonable balance in providing for the conservation of lynx habitat while also allowing appropriate levels of human uses to occur. The decision adds one goal, 13 objectives, 7 standards, and 34 guidelines related to all activities (ALL), vegetation management (VEG), grazing management (GRAZ), human uses (HU), and linkage areas (LINK). *Goals* are general descriptions of desired results; *objectives* are descriptions of desired resource conditions; *standards* are management requirements designed to meet the objectives; and *guidelines* are recommended management actions that will normally be taken to meet the objectives, but are not required.

Under this decision, standards are applied only to vegetation management activities that have the potential to directly affect snowshoe hare prey and thus may impact lynx at the population level. Other activities that may have possible adverse effects on individual lynx are subject to guidelines. Any deviations from guidelines would be considered only after analysis of site-specific conditions, and in compliance with Endangered Species Act Section 7 consultation requirements. The application of guidelines will be monitored to verify the assumption that guidelines will be followed in most cases.

The definition of lynx habitat is included in the glossary (see Attachment 1). This decision does not designate lynx habitat, but rather establishes the management direction that will be applied to mapped lynx habitat. Mapping will continue to be refined over time, using the best available information.

Alternative F-modified incorporates the requirements (Terms and Conditions and Reporting Requirements) of the Biological Opinion (USDI Fish and Wildlife Service 2008), and supersedes any requirements specific to lynx that were established under previous Biological Opinions for amended or revised Plans (i.e., Medicine Bow Revised Plan, White River Revised Plan, and Rio Grande MIS Amendment).

The direction given in this decision to promote and facilitate lynx conservation will be reviewed and reconsidered when each Plan is revised, and Plan direction updated as needed to respond to new information and remain consistent with law, regulation and policy.

Rationale for the Decision

Based on the analysis, I have determined that Alternative F-modified contributes to conservation and recovery of lynx, while allowing appropriate levels of other human uses and activities to occur. This decision will allow some possible adverse effects on lynx to occur, for example by exempting fuels treatment projects in the wildland urban interface (WUI) from the required standards on up to 3 percent of lynx habitat by national forest, as well as allowing other exceptions including additional forest thinning (up to 1 percent by LAU) within lynx habitat. By placing certain limits on the activities that could have adverse effects to lynx, this decision will provide for long-term persistence of this species while accommodating other multiple uses.

The following section provides additional explanation for why I selected Alternative F-modified. As an aid to the reader, a side-by-side comparison of the management direction under Alternative B (the Proposed Action, which represents the Lynx Conservation Assessment and Strategy), Alternative F (the FEIS Preferred Alternative), and Alternative F-Modified is provided in Attachment 2.

Vegetation Management

Vegetation management can directly affect lynx habitat, particularly by altering habitat for its primary prey, the snowshoe hare. The amount and quality of snowshoe hare habitat, especially winter habitat, directly affects lynx survival, reproduction, and population persistence.

Objectives for vegetation management

Objectives define the desired conditions for lynx habitat. Four objectives, *VEG O1, VEG O2, VEG O3,* and *VEG O4* are identified for vegetation management in the context of natural ecological processes. Based on comments on the Draft EIS, the wording of the

objectives under Alternative F was changed slightly to improve clarity, but the intent is the same as in the LCAS.

Standards and guidelines for vegetation management

Standard VEG S1. The intent of this standard is to provide a distribution of stand age classes that would maintain lynx habitat over time (Brittell et al. 1989). The LCAS recommended that if a lynx analysis unit (LAU) (an area approximating the size of the home range of a female lynx) has more than 30 percent of its lynx habitat in a currently unsuitable condition, then vegetation management projects should not move additional acres into a stand initiation stage. Lynx habitat in a currently unsuitable condition includes those forests in a stand initiation structural stage that are not yet tall enough to provide winter snowshoe hare habitat. These conditions are created by stand-replacing wildfires, prescribed burns that remove all of the vegetation, or regeneration timber harvest. The LCAS recommendation is reflected in Alternative B Standard *VEG S1*.

Some people commented that the 30 percent threshold was too high or too low, or should not be constrained to a single LAU.

In lynx habitat, large stand-replacing fires are often the dominant type of disturbance. None of the alternatives change the 30 percent criterion, since we had no basis for a different threshold. Under Alternatives C and D, the standard would apply to a combination of immediately adjacent LAUs. In their comments on the Draft EIS, the U.S. Fish and Wildlife Service favored application of the standard to a single LAU in order to maintain a good distribution of lynx habitat at the scale of a lynx home range.

Alternative F-modified applies the management direction to a single LAU to ensure a variety of structural stages are provided within a home range. This may result in timber harvest being more concentrated in some areas to compensate for area where timber management is deferred to meet this standard. Some changes in wording were made to clarify what is meant by "habitat currently in unsuitable condition" and to apply an exemption for fuels treatment projects within WUI.

Standard VEG S2. The LCAS also recommended that timber harvest not change more than 15 percent of lynx habitat within a decade to an unsuitable condition (i.e., stand initiation structural stage that is too short to provide winter snowshoe hare habitat). The purpose of this standard was to limit the rate of management-induced change in lynx habitat.

This criterion has only rarely been exceeded in the past. Standard *VEG S2* was changed to Guideline *VEG G6* in Alternative C and dropped as a standard or guideline in Alternative D. However, the U.S. Fish and Wildlife Service expressed concerns that dropping Standard *VEG S2* could appreciably reduce the amount of lynx habitat in a short period of time and allow negative effects to accumulate.

Based on these comments, Standard *VEG S2* was retained in Alternative F-modified. The standard was reworded to clarify that it only applies to timber management

practices that regenerate the stand (clearcut, seed tree, shelterwood, and selection harvests), and to add an exemption for fuels treatment within WUI. This standard is not expected to have any effect on timber harvest.

Standard VEG S5. The LCAS recommended no precommercial thinning within lynx habitat since it directly impacts winter snowshoe hare habitat.

Some people suggested that this standard should apply to all vegetation management projects, since activities such as fuel treatments or prescribed burning could also reduce horizontal cover. Others suggested that precommercial thinning should be allowed, using an adaptive management approach, where it could be done to promote or prolong winter snowshoe hare habitat.

In Alternative F-modified, Standard *VEG S5* applies to precommercial thinning, which is the predominant activity in young regenerating forests that has a direct effect in reducing winter snowshoe hare habitat (Ruggiero et al. 2000, USDI Fish and Wildlife Service 2000a, 2000b, 2003). Fuels treatment projects within WUI would be exempt from compliance with Standard VEG S5, which could affect up to 3 percent of lynx habitat by national forest. Precommercial thinning would be allowed adjacent to administrative sites, dwellings, or outbuildings, for research and genetic tests, and to restore aspen where it is in decline. This is estimated to have cumulatively little effect on lynx habitat.

In addition, precommercial thinning would be allowed to occur up to the historical 1995-99 levels, which was analyzed for Alternative A. This additional flexibility to allow precommercial thinning using modified techniques is needed to explore methods for influencing stand development in the aftermath of the mountain pine beetle epidemic. The need for precommercial thinning is expected to increase over the next 15-20 years as an expected wave of new regeneration in areas currently experiencing high levels of tree mortality reaches critical size and density. New thinning methods will be tried, to determine which best meet the aims of sustaining snowshoe hare and lynx habitat, while also improving stand composition and growth.

The various types of thinning allowed under the exceptions are anticipated to have some adverse effects on lynx. However, the overall amount of impact under Alternative F-modified will be limited. In their 2003 Remand Notice, the U.S. Fish and Wildlife Service concluded that the effects of timber harvest, precommercial thinning and fire suppression in the Southern Rocky Mountains constituted a low magnitude threat to lynx, in part because a relatively small amount of activity occurred during the period prior to listing.

In their Biological Opinion (2008), the U.S. Fish and Wildlife Service identified non-discretionary terms and conditions (T&C) to minimize the potential for incidental take as a result of the exceptions under VEG S5. T&C 1 limits the total area subject to the exemptions and exceptions to no more than 4.5 percent (3 percent for WUI and 1.5 percent for other exceptions). Under T&C 2, exceptions for research and to restore aspen

are not allowed in any LAU in which VEG S1 is exceeded (that is, more than 30 percent of the LAU is in the stand initiation stage). Furthermore, precommercial thinning in LAUs in which VEG S1 is exceeded is limited to areas that do not yet provide snowshoe hare habitat. These requirements were incorporated into Alternative F-modified.

Standard VEG S5 does not apply to non-lynx habitat such as ponderosa pine and climax lodgepole pine. Within lynx habitat, precommercial thinning has occurred primarily in lodgepole pine stands that are seral to spruce-fir, and to a lesser extent in spruce-fir, Douglas-fir, white fir and occasionally aspen stands. With the exception provided under Alternative F-modified, historical levels of thinning could be continued, using modified techniques. No change in annual timber outputs is expected, although this standard may influence what material is harvested and where.

Standard VEG S6. The LCAS (as updated in 2004) recommended providing habitat conditions through time to support winter snowshoe hare habitat in multistory forests. Multistory forest structures can develop from natural processes, such as wildfire or insects and diseases, or from management actions like timber harvest that create small openings where young trees and shrubs can become established and grow.

In their comments, some people said the management direction should preclude all activities that reduce winter snowshoe hare habitat in multistory forest. Recent research in northwest Montana and southern Colorado demonstrated that mature multistory forests provide important winter snowshoe hare habitat that may support higher hare densities than younger regenerating stands (Squires and Ruggiero 2007, Shenk 2007).

Compared to Alternatives C and D, Alternative F provides stronger protection for multistory forest conditions. Alternative F-modified provides clarification that the emphasis is on sustaining winter snowshoe hare habitat, and that uneven-aged management practices will be employed to maintain and encourage desired habitat attributes. Within WUI, fuels treatment projects would be exempt from this standard. In their Biological Opinion (USDI Fish and Wildlife Service 2008), non-discretionary terms and conditions (T&C) were identified to minimize the potential for incidental take as a result of the exemptions and exceptions. T&C 1 limits the total area subject to the exemptions and exceptions to no more than 4.5 percent (3 percent for WUI and 1.5 percent for other exceptions). Under T&C 2, exceptions for research and for uneven-aged management are not allowed in any LAU in which VEG S1 is exceeded (that is, more than 30 percent of the LAU is in the stand initiation stage). These requirements were incorporated into Alternative F-modified.

Uneven-aged management may shift species composition to a greater proportion of subalpine fir, which is a less desirable species for wood fiber production. Overall, however, Alternative F-Modified would allow a moderate to high level of flexibility to achieve timber management objectives on suitable timber lands, and to respond to insect and/or disease concerns.

Standard *VEG S6* is an important component of management to sustain lynx habitat. Reductions in winter snowshoe hare habitat would be allowed for activities within 200 feet of structures, for research or genetic tests, for incidental removal during salvage harvest, and for uneven-aged management practices that are employed to maintain and encourage multistory attributes of the stand, which would be expected to have only minor effects.

Guideline VEG G1. The LCAS included a guideline to encourage vegetation management practices that would improve lynx foraging habitat (i.e., winter snowshoe hare habitat) where it is currently lacking, in proximity to denning habitat.

There was little public comment concerning this guideline. Under Alternative F-modified, the intent was retained. The wording was changed to clarify that lodgepole pine stands with little understory currently, and where snowshoe hare habitat can be improved, should be priority areas for treatment to enhance habitat conditions.

Guideline VEG G11. During the first few months of life, denning habitat must be available throughout the home range to give kittens an escape route from predators and cover from the elements. The most important feature of denning habitat is large woody debris: typically piles of wind-thrown trees, root wads, or large downed trees. The LCAS recommended two standards and two guidelines related to denning habitat, which are reflected under Alternative B as Standards *VEG S3 and VEG S4* and Guidelines *VEG G2 and VEG G3*.

Some people commented that the agency should allow more flexibility by recognizing that denning habitat can be created through timber harvest practices. Some disagreed with a requirement to retain at least ten percent denning habitat, and others thought more should be required. Some people proposed that all old growth be protected to provide denning habitat. Some people said that all salvage harvests should be deferred.

Some new information about lynx denning habitat became available after the DEIS was prepared. In Colorado, Merrill and Shenk (2006) reported that 20 dens were found on steep slopes in the Engelmann spruce/subalpine fir zone at an average elevation of about 11,000 ft. Most were located in forest stands, but five were located near tree line along rock and boulder fields. In various other studies, lynx denning habitat was found in a variety of forest structural stages, from young regenerating forests to old forests.

Habitat mapping indicates that 20 to 40 percent of most LAUs currently provide denning habitat. Furthermore, denning habitat will be maintained in areas managed for old growth forest characteristics and in non-developmental land allocations. This information, combined with the research showing a lynx use of a greater variety of habitat for denning, indicates that denning habitat is not expected to be a limiting factor for lynx in the Southern Rockies Lynx Amendment area.

However, it is still advisable for vegetation management practices to consider the abundance and distribution of denning habitat in project design, and to retain or create habitat components (piles of down wood, or standing dead trees) in areas where it is

found to be lacking. Under Alternative F, some guidance for denning habitat was retained but simplified into Guideline *VEG G11*. No effects on forest health or timber harvest are expected due to this guideline.

Fire and Fuels Management

With the exception of objective *VEG O3*, which specifically addresses wildland fire use, the vegetation objectives, standards and guidelines do not apply to wildfire suppression or wildland fire use. *VEG O3* encourages fire use activities that would restore ecological processes and maintain or improve lynx habitat.

After the 2000 wildfire season that burned substantial acreage of forested land, the Forest Service reviewed and refined the agency's goals and priorities for wildland fire management (USDA Forest Service 2001). Priority for selection of hazardous fuel treatment projects on National Forest System lands in collaboration with Federal, State, and other agencies, as well as Tribes and communities, generally is as follows:

(1) Closest proximity to communities at risk in the Wildland Urban Interface (WUI);
(2) Strategic areas outside the WUI that prevent wildland fire spread into communities or critical infrastructure;
(3) Areas outside of WUI that are in Condition Classes 2 or 3; and
(4) Other considerations.

Lynx habitat consists of high-elevation spruce/fir and lodgepole pine forests and may include some mesic mixed-conifer forests. Generally, these areas have not been affected to any large degree by fire exclusion, in contrast to lower-elevation and dryer forests with shorter fire return intervals. However, some existing stands may be susceptible to extreme fire behavior because of high incidences of insect and disease-caused tree mortality or the amount of tree limbs that provide ladder fuels. Lynx habitat may also occur in WUI.

Standards and guidelines related to fuels treatments

Most lynx habitat is currently in Condition Class 1, meaning large, stand-replacing fires occur infrequently, every 100 to 200 years, in these forests. Fire is a natural process in these ecosystems, but some of these Condition Class 1 forests can still pose a threat to communities.

Many comments were received on the Draft EIS and Supplemental Draft EIS regarding fuels treatments. Some people suggested there be no exemptions for fuels treatments. Several groups suggested that only fuels treatments near human residences and other structures be allowed, because these areas are generally not appropriate for lynx habitat anyway. Some said the agencies should define WUI more specifically. Others liked the exemptions as they were written in Alternative D.

The U.S. Fish and Wildlife Service cautioned against exempting a broad range and unknown number of actions from Plan direction. They felt that the exemption, as

worded in Alternative D, was too vague to assure an adequate analysis of potential effects upon lynx or lynx habitat, and could result in adverse effects to lynx.

After reviewing the public comments, national direction regarding fuels treatments, and analysis of the effects on lynx, I decided to modify the fuels treatment exemption. The intent is to allow fuels treatments to reduce the hazard to communities, while continuing to provide for the conservation of lynx in the Southern Rockies.

Exemption to VEG S1, S2, S5 and S6. Under Alternative F-Modified, fuels treatment projects within the WUI as defined by the Healthy Forest Restoration Act (HFRA) are exempt from the vegetation standards, up to a certain limit. HFRA describes WUI as generally being ½ mile to 1 ½ miles in width (see Attachment 1, p. 15, Glossary). Our analysis showed that about three percent of lynx habitat falls within one mile of communities in the Southern Rockies Lynx Amendment area. In the Final EIS, each forest's five-year fuels treatment program was reviewed, and we found that a cap of three percent would accommodate all identified fuels treatments needs. Therefore, under Alternative F-modified, up to three percent of the total lynx habitat on a National Forest (administrative unit) is exempt from adhering to the vegetation standards.

The cap limits the overall amount of lynx habitat that would be impacted to a small percentage. Nevertheless, the exemption could result in local adverse effects on lynx. The U.S. Fish and Wildlife Service recommended that fuel treatment projects should not result in more than three adjacent LAUs exceeding the standard. This was incorporated into the management direction (see Attachment 1).

Guideline VEG G10. Guideline *VEG G10* was added to Alternative F-modified, which says fuels treatment projects within the WUI should be designed *considering* Standards *VEG S1, S2, S5*, and *S6*. The intent in adding this guideline is to recognize that while these vegetation standards are not required for fuels treatment projects within the WUI, in many cases projects can be designed to reduce hazardous fuels while still providing for lynx needs. This guideline ensures lynx are considered in the project design, but allows flexibility in situations where implementing the standards would otherwise prevent the project from meeting hazardous fuels objectives in the WUI.

Summary for Vegetation Management: The vegetation management direction set forth in Alternative F-modified focuses on conserving the most important components of lynx habitat: a mosaic of young and mature multistory forests with high levels of horizontal cover and coarse woody debris. These components will sustain lynx habitat and the snowshoe hare prey base across all seasons. The standards will be applied for all vegetation management actions in lynx habitat, with exceptions that may be applied on less than 5 percent of lynx habitat. Collectively, application of the standards for vegetation management is expected to minimize adverse effects on lynx and promote the survival and recovery of lynx populations.

The standards and guidelines place some limits on timber harvest and thinning that may reduce Long Term Sustained Yield by 0 to 6 percent by forest. Annual timber

outputs would not change, although there may be changes in what material is harvested and where.

Fuels treatments in the WUI would not have to comply with the vegetation standards, up to a cap of three percent of lynx habitat by national forest. This will accommodate all identified fuels treatment needs.

Livestock Grazing Management

Livestock grazing could have local effects on lynx foraging habitat in areas that grow quaking aspen and willow in riparian areas. Local impacts could affect individual lynx. However, no information exists to indicate that grazing poses a threat to overall lynx populations (USDI Fish and Wildlife Service 2003, p. 40083). In addition, appropriate grazing management can rejuvenate and increase forage and browse in key habitats.

The LCAS recommended four standards for grazing management. These are reflected in Alternative B. Standards *GRAZ S1, GRAZ S2, GRAZ S3, and GRAZ S4* provide management direction for grazing in fire and harvest-created openings, aspen stands, riparian areas and willow carrs, and shrub-steppe habitat.

Many people who commented on Alternative D, the preferred alternative in the Draft EIS, said the guidelines should be changed to standards in the final alternative. Some said the grazing guidelines should be retained. Some people recommended that grazing should not be allowed at all.

Guidelines GRAZ G1, G2, G3 and G4. Under Alternative F-modified, the management direction for grazing is in the form of guidelines. These guidelines provide project design criteria for managing grazing in fire and harvest-created openings, aspen, willow, riparian areas, and shrub-steppe habitats. For the most part, existing direction and current practices provide equivalent guidance. Therefore amending the Plans to incorporate these guidelines would have only minimal direct or indirect effects on current livestock grazing on NFS lands.

Recreation Management

Over-the-snow winter recreation

Lynx have very large feet relative to their body size, providing them with a competitive advantage over other carnivores in deep snow. The LCAS recommended two objectives and two standards relating to winter dispersed recreation, which are reflected under Alternative B as Objectives *HU O1 and HU O3,* and Standards *HU S1 and HU S3*. All alternatives contain Objectives *HU O1* and *HU O3* that discourage expansion of snow-compacting human activities. All alternatives would allow existing special use permits and agreements to continue.

In comments on the Draft EIS, some people said they thought allowing no net increase in groomed or designated routes was insufficient, and asked that no dispersed over-the-

snow use be allowed off groomed or designated trails. Some recommended that the management direction be in the form of a standard, not a guideline.

Other people said standards related to over-the-snow use should be removed. They said there is no evidence to show that coyotes and other predators use packed snow trails to compete with lynx for prey, and the amount of compaction created by snowmobiles is insignificant compared to the compaction created naturally by the weather. They were concerned that if such language was introduced into Plans, it could be difficult to change and would restrict the places where snowmobiling is allowed. Others wanted an allowance made to increase snowmobile use.

Multi-species predator and prey relationships in the boreal forest are complex. The degree to which lynx and coyotes compete for snowshoe hares in the western United States is unknown. In some regions and studies, coyotes were found to use supportive snow conditions more than expected. For example, Bunnell et al. (2006) reported that the presence of snowmobile trails was a highly significant predictor of coyote activity in deep snow areas, and suggested that coyotes may use compacted routes to access lynx habitat and compete with lynx for snowshoe hare prey. On the other hand, Kolbe et al. (2007) found that compacted snow routes did not appear to enhance coyotes' access to lynx and hare habitat, and that there was little evidence that compacted snowmobile trails increased competition between coyotes and lynx during winter in Montana. In their final listing rule (2000b) and remanded rule (2003), FWS concluded there is no evidence that competition exists that may exert a population-level impact on lynx, although adverse effects on individual lynx are possible depending on the situation (USDI Fish and Wildlife Service 2008).

Current research indicates that prohibiting snow-compacting activities or reducing dispersed recreation use would be unwarranted. At the same time, an alternative to drop all direction limiting snow compaction was not developed in detail, because snow compaction may affect individual lynx.

I decided to include guideline *HU G10* in Alternative F-modified, which says that designated over-the-snow routes or play areas should not expand outside of the baseline areas of consistent snow compaction, unless it serves to consolidate use and improve lynx habitat. There may be some cases where expansion of over-the-snow routes would be warranted and acceptable, or where research indicates there would be no harm to lynx, and this guideline provides the flexibility to accommodate those situations. Guideline *HU G12* limits access for non-recreation uses to designated routes.

The U.S. Fish and Wildlife Service concluded the Objectives *HU O1* and *O3* and Guidelines *HU G10* and *G12* would maintain habitat effectiveness for lynx by limiting the expansion of compacted snow routes. This conclusion will be tested through monitoring required as part of this decision.

Developed recreation

There are 25 existing alpine ski areas in the Southern Rockies Lynx Amendment area, encompassing 82,704 permitted acres. Most ski areas were constructed well before the lynx was listed (Hickenbottom et al. 1999, p. 70).

The LCAS identified risk factors associated with ski areas, including possible short-term effects on denning, foraging, and diurnal security habitat, and long-term effects on movement within and between home ranges (LCAS, p. 2-10). The LCAS recommended Objectives *ALL O1, HU O2, HU O3,* and *HU O4;* Standards *ALL S1* and *HU S2;* and Guidelines *HU G1, HU G2, HU G3,* and *HU G10.* Objectives and standards regarding linkage areas *(LINK O1* and *LINK S1)* are also applicable to management of developed recreation.

In commenting on the Draft EIS, some people said ski areas should be removed or at least prevented from expanding. Others said there is no evidence that ski area development and activities need to be constrained to conserve lynx.

Under Alternative F-modified, the management direction would only apply to the development of new ski areas and to expansions of existing ski areas, and would not affect existing ski area facilities or operations, with minor exceptions. Since the U.S. Fish and Wildlife Service concluded in their 2003 Remand Notice that there is no evidence showing that recreational activities exert a population-level impact on lynx, Alternative F-modified applies guidelines, rather than standards. To assure that lynx habitat connectivity is maintained, Alternative F-modified includes standards *ALL S1* and *LINK S1*.

The management direction in Alternative F-modified will minimize the potential impacts of ski areas and other developed recreation sites on lynx habitat. Existing facilities and operations would not be affected. New developments and expansions would need to be designed in accordance with the management direction, which in most cases would have only minor effects.

Minerals and Energy Development

The main impact identified in the LCAS related to minerals and energy development was the potential for plowed roads to provide competing predators with access into lynx habitat. LCAS recommendations are reflected in Alternative B, Objectives *ALL O1, HU O1,* and *HU O5,* Standards *ALL S1* and *HU S3,* and Guidelines *HU G4* and *HU G5* which provide management direction for mineral and energy development.

Some comments on the Draft EIS said more constraints should be placed on oil and gas, coal, or geothermal resource exploration and development. Others emphasized the importance of mineral and energy resources and said there is a need to develop more flexible guidelines and management tools.

All objectives, standards and guidelines except standard *HU S3* remain essentially the same in all alternatives. Under Alternative F-modified, Standard *HU S3,* which

requires use of designated routes for mineral and energy development, was changed to Guideline *HU G12*, to be consistent with management direction regarding over-the-snow routes discussed above.

The management direction in Alternative F-modified will minimize the potential impacts of mineral and energy development on lynx by encouraging remote monitoring to reduce snow compaction, reclaiming closed sites and facilities, and limiting access to designated routes. This will minimize the impacts on lynx while allowing exploration and development activities to proceed.

Forest Roads

The LCAS recommended several guidelines to address potential impacts of upgrading, cutting and brushing, and public use of forest roads. Alternative B incorporated LCAS recommendations in Guidelines *HU G6, HU G7, HU G8,* and *HU G9*. All the action alternatives, including the selected alternative, contain these guidelines.

In commenting on the Draft EIS, some people said more restrictions on roads were needed to conserve lynx. They wanted new road construction halted, road densities identified and existing roads closed or eliminated, or they wanted the road guidelines turned into standards. Other people said there should be no road-related standards or guidelines, saying no evidence exists that roads harm lynx.

Unlike high-speed highways, the types of roads managed by the Forest Service do not have the high speeds and high use levels that would create barriers to lynx movements or result in significant mortality risk. Roads may reduce lynx habitat by removing forest cover, but this constitutes a minor amount of habitat. Along less-traveled roads where roadside vegetation provides good hare habitat, sometimes lynx use the roadbeds for travel and foraging (Koehler and Brittell 1990). Research on the Okanogan NF in Washington showed that lynx neither preferred nor avoided forest roads, and the existing road density did not appear to affect lynx habitat selection (McKelvey et al. 2000). Available information suggests lynx do not avoid roads (Ruggiero et al. 2000) except at high traffic volumes (Apps 2000).

No information was found to indicate that further restrictions on road building are needed to conserve lynx. However, upgrading roads and roadside brushing may degrade lynx habitat. I believe the guidelines in the selected alternative provide useful management direction for project design and decision-making, with only minor effects to the existing road system, resource programs and the traveling public.

Linkage Areas

Highways

Highways impact lynx by fragmenting habitat and impeding their movement. With human population growth, highways tend to increase in size and traffic density. As

traffic lanes, volumes, speeds, and rights-of-way increase, the effects on lynx are increased.

The LCAS recommended one objective, two standards, and a guideline directly or indirectly related to highways and connectivity. These are reflected in Alternative B, Objective *ALL O1*, Standards *ALL S1* and *LINK S1,* and Guidelines *ALL G1* and *LINK G1*. Objective *ALL O1* and Standard *ALL S1* are intended to maintain connectivity. Standard *LINK S1* provides a process for identifying wildlife crossings across highways. Guideline *Link G1* encourages retaining in public ownership National Forest System lands located within linkage areas.

In comments on the Draft EIS, some people said more should be done than just identifying highway crossings. Others questioned whether wildlife will even use highway crossing structures.

The U.S. Fish and Wildlife Service identified connectivity as an important consideration in the Southern Rockies (USDA Fish and Wildlife Service 2000b and 2003). The selected alternative will provide management direction for those aspects within the authority of the Forest Service that will contribute to the conservation of lynx. Only minor effects to the existing road system, resource management programs, and the traveling public would be anticipated as a result of the management direction under Alternative F-modified.

The Colorado Department of Transportation (DOT) and Wyoming DOT coordinate with the Forest Service to identify areas where efforts could be made to reduce lynx mortality and to improve highway permeability to lynx movement. There will be some additional time and costs associated with evaluating and implementing methods to avoid or reduce effects of highways on lynx.

Coordination

Coordination among different land management agencies and landowners is important to the recovery of lynx, because lynx have large home ranges and may move long distances. The LCAS recommended working with other landowners to pursue solutions to reduce potential adverse effects. This recommendation is reflected in Alternative B, Objective *LINK O1.* This objective is the same among all alternatives.

Habitat Connectivity

Maintaining habitat connectivity is particularly important in the Southern Rockies Amendment area, which is separated from lynx habitat to the north in Wyoming and distant from populations of lynx in the Northern Rockies and Canada. Objective *ALL O1* and standard *ALL S1* assure that all management projects in lynx habitat will consider the need to maintain habitat connectivity within and between LAUs and in linkage areas.

Response to the FWS Biological Opinion

In its Biological Opinion on the Southern Rockies Lynx Amendment (USDI Fish and Wildlife Service 2008), the U.S. Fish and Wildlife Service concluded that the management direction would not jeopardize the continued existence of lynx, but that some adverse effects to lynx would still be anticipated. The Biological Opinion contains an incidental take statement that describes the anticipated level of incidental take of lynx that may occur as a result of implementing this decision. It also provides reasonable and prudent measures that are necessary to minimize the impacts of the take and sets forth terms and conditions which must be complied with in order to implement the reasonable and prudent measures.

Reasonable and Prudent Measures, and Terms and Conditions

The Biological Opinion identified one reasonable and prudent measure (RPM) with two associated terms and conditions (T&C). The T&Cs are incorporated into the management direction.

RPM #1: The Forest Service shall minimize harm of lynx from pre-commercial thinning and other vegetation management projects by ensuring that lynx home ranges, as represented by LAUs, either retain sufficient lynx habitat (when sufficient lynx habitat already exists in an LAU) or lynx habitat is not substantially reduced (when sufficient lynx habitat does not already exist in an LAU).

> The following terms and conditions implement RPM #1:
>
> T&C 1. The Forest Service shall ensure that timber management projects conducted under the exemptions and exceptions from standards *VEG S1, S2, S5,* or *S6* in occupied habitat do not occur in greater than 4.5 percent of lynx habitat on any Forest (340,972 acres total in SRLA area) for the life of the amendment (15 years).
>
> T&C 2. In lynx habitat, pre-commercial thinning and vegetation management projects allowed per Exceptions 2 and 3 in *VEG S5* and Exceptions 2 and 4 in *VEG S6* shall not occur in any LAU in which *VEG S1* is exceeded (i.e., no more than 30 percent of LAU in stand initiation structural stage). Furthermore, consistent with the proposed action (Exception 5[b] in *VEG S5*), pre-commercial thinning in LAUs in which *VEG S1* is exceeded is limited to areas that do not yet provide winter snowshoe hare habitat. Pre-commercial thinning activities shall consider prescriptions that reduce impacts to snowshoe hare habitat, as indicated in emerging research.

The U.S. Fish and Wildlife Service identified several monitoring and reporting requirements related to the above terms and conditions. We have incorporated these elements in the selected alternative (see Attachment 1, page 9).

Consideration of Conservation Recommendations

The U.S. Fish and Wildlife Service identified five conservation recommendations, which are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery programs, or to develop needed information. The following summarizes the U.S. Fish and Wildlife Service's recommendations.

Recommendation 1. The Forest Service is commended for initiating important efforts to increase our understanding of lynx and lynx habitat. We recommend that the Forest Service should continue to be a leader in these arenas, and to provide a leadership role for the Lynx Biology Team and Lynx Steering Committee. To the extent possible, seek to gain additional information as identified in the lynx recovery outline items 6.6.1, 6.6.2, 6.6.3, and 6.6.5.

Recommendation 2. The Forest Service should continue to provide logistical and financial support of the Colorado Division of Wildlife's management efforts as well as current and future research that will assist in evaluating the impacts of human activities on lynx and their habitat.

Recommendation 3. The Forest Service should, in conjunction with, and with financial assistance of partners, conduct an analysis along with any associated research to determine the level at which recreational use may contribute to barrier effects to wildlife movement, including lynx. The Forest Service is also encouraged to develop a strategy that combines analysis of level of use, seasons of use, and relevant research to establish techniques to minimize impacts to lynx. This analysis should be initiated as soon as practicable.

Recommendation 4. The Forest Service and the U.S. Fish and Wildlife Service will jointly develop Implementation Guidelines within six months of the issuance of the Record of Decision.

Recommendation 5. The Forest Service and the U.S. Fish and Wildlife Service should continue to jointly update lynx habitat maps within the Southern Rockies Lynx Amendment area.

Subject to available funding, I intend to continue our efforts as they relate to recommendations 1, 2, and 3. I also agree that development of Implementation Guidelines would be useful, and we will work with the U.S. Fish and Wildlife Service to prepare them. Updating lynx habitat maps will continue to be done as needed, in coordination with the U.S. Fish and Wildlife Service.

Public Involvement

This Record of Decision is the culmination of eight years of study, collaboration, planning, and public participation. Throughout this period, as various documents including the proposed action, Draft EIS, Supplemental Draft EIS, Final EIS, and Record

of Decision became available, they have been posted on our official website at http://www.fs.fed.us/r2/projects/lynx/documents/.

To determine the scope of public interest in lynx management on the national forests, we published a Notice of Intent to prepare an Environmental Impact Statement in the Federal Register on March 28, 2000, which was revised on June 30, 2000.

Comments were solicited from individuals, organizations, and other federal, state and local agencies interested in or affected by the proposed action. We also hosted several open-house meetings during the scoping period to provide information and gain an understanding of people's issues and concerns.

On January 30, 2004, we published a Notice of Availability of the Draft EIS in the Federal Register. This notice began a 90-day public comment period.

We hosted open-house meetings in March and April of 2004 to provide the public with a better understanding of the Draft EIS and its alternatives. Open houses were held at several different locations throughout the Southern Rockies Lynx Amendment area. We accepted public comments on the Draft EIS received through the mail and e-mail. The public comment period ended on April 29, 2004, with about 240 comments received.

The White River National Forest originally was not included in the Southern Rockies Lynx Amendment, because the Revised Plan (2002) had already incorporated management direction to conserve the lynx. On December 30, 2004, the Deputy Under Secretary for Natural Resources and Environment, U.S. Department of Agriculture, issued the findings from his discretionary review of the Forest Service Chief's earlier decision regarding public appeals of the White River National Forest Revised Land and Resource Management Plan. As part of his decision, Deputy Under Secretary Dave Tenny directed the Forest Service to include the White River in the Southern Rockies Lynx Amendment. The Deputy Under Secretary's discretionary review decision is available at http://www.fs.fed.us/r2/projects/lynx/documents/.

Preparation of a Supplemental Draft EIS for the Southern Rockies Lynx Amendment was required by Deputy Under Secretary Tenny's instructions. We published a Notice of Intent to prepare the Supplemental Draft EIS in the Federal Register on December 30, 2004. The Supplemental Draft EIS added information and analysis specific to the White River National Forest to the material already provided for the other six national forests in the January 2004 Draft EIS. The Notice of Availability of the Supplemental Draft EIS was published in the Federal Register on November 24, 2006. The 90-day comment period ended on February 21, 2007. An additional 32 comments were submitted.

The public comments on the Draft EIS and Supplemental Draft EIS, together with information from the U.S. Fish and Wildlife Service, the Northern Rockies Lynx Amendment team, and Forest Service staff in the Southern Rockies, were used to formulate Alternative F, to correct errors, and to update information in the Final EIS. Responses to the public comments are presented in Appendix I of the Final EIS.

Alternatives Considered in Detail

The exact language of the management direction (goal, objectives, standards, and guidelines) under each action alternative can be found in the Final EIS. The management direction of Alternative F-modified is included in this Record of Decision as Attachment 1. A comparison of Alternatives B, F, and F-modified, with the modifications shown in italics, is provided in Attachment 2.

Alternative A - No Action

Analysis of a no-action alternative is required by the National Environmental Policy Act and Forest Service planning procedures. The analysis of Alternative A in the Final EIS considers the effects of implementing the direction in the Plans in their current form, including any previous amendments or revisions. In this case, "no action" means no change to the current Plans. Therefore, except for the Medicine Bow and White River Forest Plans (revised in the spring of 2002 and fall of 2004, respectively), the No Action alternative does not include specific conservation measures for lynx. Although selecting Alternative A means we would not incorporate additional conservation measures into the Plans, this would not void the existing Conservation Agreement or the Forest Service's ongoing responsibilities under the Endangered Species Act.

Alternative B - Proposed Action

The Proposed Action was developed from conservation measures recommended in the LCAS to address activities on National Forest System lands that can affect lynx and their habitat. (See Appendix E in the Final EIS for a crosswalk from the LCAS to the proposal as written in the scoping letter, to the Proposed Action, Alternative B; See Table 2-1 of the Final EIS for a comparison of all alternatives.) Alternative B was used to initiate public scoping.

Alternative C

Alternative C was designed to respond to issues concerning over-the-snow recreation management and maintaining foraging habitat in multistory forests, while providing a level of protection to lynx comparable to Alternative B. Alternative C would add direction to the Plans that is similar to the LCAS, but would have fewer restrictions on new over-the-snow trails and more restrictions on management actions in winter snowshoe hare habitat in multistory forests.

Alternative D - DEIS Preferred Alternative

Alternative D was designed to provide greater emphasis on management of other multiple uses, particularly to address wildland fire risk. Alternative D would add direction that is similar to the LCAS, but has fewer restrictions on new over-the-snow trails and collaborative fuel reduction projects, and more restrictions on management actions in winter snowshoe hare habitat in multistory forests. Based on the Remand

Notice (USDI FWS, 2003), standards for grazing and other human uses were changed to less-restrictive guidelines.

Alternative F - FEIS Preferred Alternative

Alternative F was developed from public comments on the Draft EIS and Supplemental Draft EIS, by drawing from parts of the other alternatives, and by working collaboratively with the U.S. Fish and Wildlife Service in accordance with a consultation agreement established for this project. Since it was derived from parts of the other alternatives, the effects of Alternative F fall within the range of effects of the alternatives that were analyzed and disclosed in the Draft EIS and Supplemental Draft EIS.

Alternative F addresses many concerns that were expressed about Alternative D, the Draft EIS/Supplemental Draft EIS preferred alternative. Many people commented that they thought Alternative D would not meet the purpose and need because it did not provide adequate protection for lynx habitat. Alternative F was designed to provide adequate regulatory mechanisms for those risk factors found to be a threat to lynx at the population level, as identified in the 2003 Remand Notice.

Alternatives Eliminated from Detailed Study

Six additional alternatives were not considered in detail. Public comments received in response to the proposed action provided suggestions for alternative management direction. These were primarily suggestions for specific standards and guidelines to manage a particular resource, rather than complete alternatives covering the full spectrum of lynx conservation and recovery. The rationale for not analyzing these alternatives (standards or guidelines) in detail is generally based on a comparison to the proposed action and other fully developed alternatives and whether it meets the purpose and need. These alternatives and the rationale for not considering them in detail can be found in the Final EIS, Chapter 2.

Findings Required by Laws, Regulation, and Policies

National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires analysis of decisions to ensure the anticipated effects on the environment within the analysis area are considered prior to implementation (40 CFR 1502.16). The analysis for the Southern Rockies Lynx Amendment followed the NEPA guidelines as provided by the Council on Environmental Quality.

Alternatives were developed based on the Purpose and Need, the primary issues, public comments, and lynx habitat needs as identified by the LCAS, research, and other publications. Five alternatives were considered in detail, including the No Action Alternative as required by NEPA. Additional management direction was considered

but eliminated from detailed study (Final EIS, Chapter 2). The range of alternatives is appropriate given the scope of the proposal, the public issues expressed, and the Purpose and Need for action (Final EIS, Chapter 1).

Unavoidable adverse effects

The selected alternative does not represent an irreversible or irretrievable commitment of resources. Ground disturbance cannot occur without further site-specific analyses, Section 7(a)(2) consultation required under ESA, and decision documents. For a detailed discussion of effects of this decision, see Chapter 3 of the Final EIS.

Environmentally preferable alternative(s)

Regulations implementing NEPA require agencies to specify "the alternative or alternatives which are considered to be environmentally preferable" (40 CFR 1505.2(b)). The environmentally preferable alternative causes the least damage to the biological and physical environments and best protects, preserves, and enhances historical, cultural, and natural resources. Based on the description of the alternatives considered in detail in the Final EIS and in this ROD, we determined that Alternative F-modified best meets the goals of Section 101 of the NEPA, and is therefore the environmentally preferable alternative for this proposed federal action.

In their 2003 Remand Notice, the U.S. Fish and Wildlife Service concluded that timber harvest, pre-commercial thinning, and fire suppression may have adverse population-level impacts on lynx. The vegetation standards in the selected alternative minimize adverse effects on lynx from the timber management program. Standard *VEG S1* limits the amount of lynx habitat that is in the stand initiation stage to 30 percent of each LAU at any time, ensuring a continuous rotation of all forest stages through time that supply lynx habitat in each LAU. Standard *VEG S2* allows no more the 15 percent of the lynx habitat to change to the stand initiation stage through timber harvest in a 10-year period. This limits the rate of change within an LAU to ensure sufficient habitat is available to support lynx at any given point in time.

Precommercial thinning directly impacts snowshoe hare and lynx habitat. Standard *VEG S5* precludes precommercial thinning except in certain situations that would have little effect upon lynx or their habitat, but would achieve other multiple use resource objectives. While these exceptions have little effect on lynx (about 1.5 percent of lynx habitat) they have important positive impacts on other resources by maintaining aspen, allowing fuel reduction near buildings, and permitting thinning to occur in order to explore methods to sustain snowshoe hare habitat over time, reduce hazardous fuels outside WUI, improve forest health, and increase timber production.

Alternative F-modified allows for management of fuels in the WUI under Guideline *VEG G10*. Under *VEG G10*, fuel reduction projects in the WUI should consider applying the VEG standards, but may deviate from them, up to a cap of 3 percent of the lynx habitat on each National Forest. Lynx habitat is still evaluated as part of the site-

specific decision-making process; however, if the fuel reduction needs are such that any of the four VEG standards cannot be met while at the same time meeting the fuels treatment objective, the project may proceed.

Since the LCAS was published, it has become clear that mature multistory stands with dense horizontal cover are especially important to lynx. Under Alternative F-modified, Standard *VEG S6* is instrumental in maintaining winter snowshoe hare habitat in multistory forests, which will help sustain lynx habitat.

The selected alternative contains guidelines for the various activities on National Forest System land that may have adverse affects on individual lynx, but are not expected to have an adverse population-level impact. Thus, standards were changed to guidelines for activities such as livestock grazing, recreation, and forest road management.

The selected alternative contributes to lynx conservation and recovery on National Forest System lands, but allows flexibility for management of other resources and public uses. Considering all this, the selected alternative is the environmentally preferred alternative because it causes the least damage to the biological and physical environments and best protects, preserves, and enhances natural resources.

National Forest Management Act

Significance determination

This proposal was initiated on March 28, 2000, which was before the transition period of the 2000 National Forest Management Act (NFMA) planning regulations. It was prepared using the provisions of the 1982 NFMA planning regulations. The 2008 NFMA planning rule also allows the use of the provisions of the 1982 NFMA regulations during the transition period.

The NFMA provides that forest plans may be amended in any manner, but if the management direction results in a significant change in the plan, the same procedure as that required for development and approval of a plan shall be followed. The 1982 regulations at 36 CFR 219.10(f) require the agency to determine whether or not a proposed amendment will result in a significant change in the plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, then the agency may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

Forest Service Manual (FSM) 1920, section 1926.5 (Jan. 31, 2006) identifies factors to consider in determining whether an amendment is significant or non-significant for those plans using planning regulations in effect before November 9, 2000.

Changes to the land management plan that are not significant can result from:

1. Actions that do not significantly alter the multiple-use goals and objectives for long-term land and resource management.

2. Adjustments of management area boundaries or management prescriptions resulting from further on-site analysis.
3. Minor changes in standards and guidelines.
4. Opportunities for additional projects or activities.

Examples of significant changes include:

1. Changes that would significantly alter the long-term relationship between levels of multiple-use goods and services originally projected.
2. Changes that may have an important effect on the entire land management plan or affect land and resources throughout a large portion of the planning area during the planning period.

The selected alternative will change in plans similar to examples of non-significant changes #1 and #3. The effects of this decision are not similar to either example of significant plan changes. These findings are discussed in further detail below.

Changes in standards and guidelines are minor

The selected alternative adds one goal to forest plans: conserve Canada lynx. This goal is consistent with other goals in existing plans and other legal requirements to provide for habitat needs for threatened and endangered species. The selected alternative adds several objectives to the plans. These objectives require consideration of natural ecosystem process and functions, and consideration of lynx habitat needs. The additional objectives provide more specific guidance to provide for habitat needs for threatened and endangered species, but do not alter the overall objectives of the Plan. The proposal does not change any Management Area designation.

The selected alternative adds seven standards and 24 guidelines. The addition of these new standards and guidelines are minor as discussed below.

Changes would not significantly alter the long-term relationship between levels of multiple-use goods and services originally projected.

The management direction would not substantially alter outputs for grazing, minerals, energy, transportation systems, and developed recreation areas, such as ski areas or winter recreation sites. These activities will not be prohibited by the management direction; however, habitat needs for lynx will need to be considered when managing these resources. The new direction will also not substantially alter timber outputs, even though it may affect the mix of products as well as growth and yield.

The selected alternative limits precommercial thinning in winter snowshoe hare habitat in young regenerating forests, with some exceptions specified in Standard *VEG S5*, such as for defensible space, research studies, and to restore aspen where it is in decline. In addition, precommercial thinning may be allowed up to 1995-99 levels in order to explore methods to sustain snowshoe hare habitat over time, reduce hazardous fuels outside WUI, improve forest health, and increase timber production. Limiting

precommercial thinning may reduce growth and yield of some lodgepole pine stands, and the potential to produce some products in the future; however, overall cubic foot volume would not be measurably affected.

Limiting precommercial thinning would reduce Long-Term Sustained Yield (LTSY) on the Forests. The effect on LTSY would vary with age at the time of thinning, species, site quality, rotation length, final product, etc. Based on average conditions in the analysis area, the LTSY reduction is assumed to be 1,800 cubic feet per acre. The precommercial thinning programs in lynx habitat have historically been concentrated in young lodgepole pine stands. Approximately half of this lodgepole pine is seral to spruce-fir and considered lynx habitat. Future volume reductions and forest health concerns resulting from precommercial thinning restrictions would be greatest in the seral lodgepole pine stands. However, the effect of the sawtimber volume reduction on actual harvest volumes would be relatively small.

In addition, the ASQ would not be affected on any units because the management direction does not preclude timber harvest. Standards *VEG S1* and *S2* may defer regeneration harvest in some areas, but Guideline *VEG G1* encourages projects creating winter snowshoe hare habitat where it is currently lacking. Timber outputs have historically been well below the level of LTSY in these plans. Therefore, changes in LTSY are unlikely to lead to changes in outputs, especially as measured in cubic feet. There could be changes in what material is harvested and where.

Changes would not have an important effect on the entire land management plan or affect land and resources throughout a large portion of the planning area during the planning period.

There are approximately 14.6 million acres within the seven National Forests in the planning area. Of this, approximately 7.5 million acres has been mapped as lynx habitat (see table 3.1). Of the 7.5 million acres of mapped lynx habitat, approximately two-thirds are in land allocations that allow for developmental actions. The most noticeable effects are likely to be the location and amount of precommercial thinning. It should be noted that precommercial thinning is not constrained on areas outside lynx habitat.

Summary: Considering the three factors, I determined this management direction is not a significant change under the National Forest Management Act to the eight forest plans because it imposes minor changes over a limited area of these national forests.

The duration of this decision will vary across the amendment area. As required under the National Forest Management Act, Land and Resource Management Plans are revised every ten to fifteen years. The White River and the Medicine Bow Plans are the most recently revised (2002 and 2004, respectively). The Pike-San Isabel, the San Juan, and the Gunnison, Uncompahgre and Grand Mesa National Forests are currently revising their Plans.

Viability determination

This management direction was prepared in accordance with the provisions of the 1982 NFMA regulations for amending land and resource management plans. According to the 1982 regulations, fish and wildlife habitat shall be managed to maintain viable populations of native and desired non-native species in the planning area (36 CFR 219.19). For the purpose of this decision, the planning area is the range of lynx encompassed by the national forests subject to this decision. This is based on a biological delineation of the Southern Rockies Geographic Area made in the LCAS.

A viable population is one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well-distributed in the planning area. It is not possible to reliably predict future population demographics for lynx, and continued existence of lynx may be influenced by threats that exist outside of Forest Service jurisdiction (e.g., linkage areas across other ownerships). Based on the best scientific information available, and for the specific reasons provided below, this management direction will provide habitat to support persistence of lynx in the Southern Rockies in the long term.

The LCAS was used as the basis for developing the selected alternative. The Remand Notice (2003), and other new information and research were also evaluated, and became the basis for updating standards and guidelines based upon the current state of knowledge regarding threats to lynx since the LCAS was compiled. An assessment of lynx persistence outcomes was disclosed in the Final EIS. While the selected alternative may allow some negative impacts to occur to individual lynx, it is expected to maintain habitat quality and connectivity, and will provide for persistence of the lynx population in the Southern Rockies over the long-term.

All of the lynx habitat within the provisional core area as defined in the *Recovery Outline* (USDI FWS 2005) will be subject to the management direction for lynx conservation. In its Biological Opinion (2008), the U.S. Fish and Wildlife Service concluded that the selected alternative will support lynx populations in the Southern Rocky Mountains Lynx Amendment area, and will contribute to recovery of the lynx.

Endangered Species Act

Section 7(a)(1) Conservation of Threatened and Endangered Species

The Endangered Species Act creates an affirmative obligation ". . . that all federal departments and agencies shall seek to conserve endangered and threatened species" of fish, wildlife, and plants. In its Biological Opinion (2008), the U.S. Fish and Wildlife Service found that the selected alternative is consistent with Section 7(a)(1) of the Endangered Species Act, which directs federal agencies to utilize their authorities to carry out conservation programs for the benefit of endangered and threatened species.

On September 12, 2005 the U.S. Fish and Wildlife Service issued a Recovery Outline for Canada lynx (USDI Fish and Wildlife Service 2005). The outline is intended to serve as an interim strategy to guide and encourage recovery efforts until a recovery plan is completed. In the Recovery Outline, the U.S. Fish and Wildlife Service categorized lynx habitat as: 1) core areas; 2) secondary areas; and 3) peripheral areas. The areas with the strongest long-term evidence of the persistence of lynx populations within the contiguous United States are defined as "core areas." The Southern Rocky Mountains was identified as a "provisional" core area, due to the uncertainties associated with the reintroduction project.

In the Recovery Outline, the U.S. Fish and Wildlife Service presented four preliminary recovery objectives. Following is a summary of the findings in the Biological Opinion (USDI Fish and Wildlife Service 2008) regarding how the selected alternative meets the recovery objectives.

Preliminary recovery objective 1: *Retain adequate habitat of sufficient quality to support the long-term persistence of lynx populations within each of the identified core areas.*

The U.S. Fish and Wildlife Service concluded the selected alternative fulfills this objective and adequately manages the provisional core area of the SRLA area to support lynx recovery.

Preliminary recovery objective 2: *Ensure that sufficient habitat is available to accommodate the long-term persistence of immigration and emigration between each core area and adjacent populations in Canada or secondary areas in the United States.*

The U.S. Fish and Wildlife Service concluded the selected alternative contributes to this recovery objective in part, although some concerns remain regarding connectivity within the Southern Rockies and between the Northern Rockies and Southern Rockies.

Preliminary recovery objective 3: *Ensure habitat in secondary areas remains available for continued occupancy by lynx.*

Since the entire SRLA area is a provisional core area, this objective does not apply.

Preliminary recovery objective 4: *Ensure threats have been addressed so that lynx populations will persist in the contiguous United States for at least the next 100 years.*

The U.S. Fish and Wildlife Service found that although plans do not apply for 100 years and thus cannot directly fulfill this objective, the selected alternative will allow lynx populations to persist on federal lands in the planning area within the foreseeable future. The selected alternative addresses the threat (inadequate regulatory measures) to the Distinct Population Segment within lynx habitat in the SRLA by limiting, reducing or avoiding major adverse impacts of federal land management on lynx, as well as addressing other impacts or influences that do not rise to the level of a threat.

Section 7(a)(2) Interagency Consultation

A biological assessment (BA) was prepared to assess the effects of the selected alternative on all listed species. For all listed species, except for Canada lynx, the selected alternative would have "no effect" or would be "not likely to adversely affect" them. While the management direction in the selected alternative would contribute to improved lynx conservation, individual lynx still could be adversely affected as a result of the exemptions and exceptions to the vegetation standards for fuel treatments projects and precommercial thinning. The July 2, 2007 BA, as supplemented on April 25, 2008, was submitted to the U.S. Fish and Wildlife Service for formal consultation.

The U.S. Fish and Wildlife Service concurred with the "no effect" and "not likely to adversely affect" determinations, and provided a Biological Opinion on the effects of the Southern Rockies Lynx Amendment on the United States Distinct Population Segment of Canada lynx (USDI FWS 2008). The Biological Opinion acknowledges that the selected alternative is likely to have overall beneficial effects to lynx by addressing the primary threat identified at the time of listing: the inadequacy of existing regulatory mechanisms. Acknowledging that some adverse effects could still occur, primarily due to the allowance for fuel treatment projects and precommercial thinning, the Biological Opinion concluded that the selected alternative is not likely to jeopardize the continued existence of Canada lynx. The Biological Opinion identifies incidental take, and reasonable and prudent measures with associated terms and conditions to avoid or minimize take. These measures have been incorporated into the selected alternative through this decision.

Further section 7(a)(2) consultation will occur on future site-specific projects and activities if they may affect lynx. Future consultations will reference back to the Biological Opinion issued on this decision to ensure the effects of the specific projects are within the effects anticipated in the Biological Opinion issued on this decision (USDI FWS 2008).

Critical Habitat

On November 9, 2006, FWS published the final rule for the designation of Canada lynx critical habitat (Federal Register, Vol. 71, No. 217, pp. 66008 to 66061). On Feb. 28, 2008, FWS published a new proposed rule. No National Forest System lands in the Southern Rockies were initially designated, nor were any included in the new proposal to be designated as critical habitat. Therefore, no critical habitat would be adversely modified as a result of implementation of this decision.

National Historic Preservation Act

The National Historic Preservation Act (NHPA) and subsequent amendments require that federal agencies consider the effects of their undertakings on historic properties.

As required under the Act, and as practiced in the Rocky Mountain Region, site-specific project areas are subject to requirements for survey, identification of resources, determination of eligibility, evaluation of effect, consultation and resolution of adverse effects, if any. This decision is programmatic and does not authorize site-specific activities. Projects will comply fully with the laws and regulations that ensure protection of cultural resources. It is my determination that this decision complies with the NHPA and other statues that pertain to the protection of cultural resources.

Clean Air Act

This decision is programmatic and does not authorize site-specific activities. Projects undertaken following the management direction will comply fully with the laws and regulations that ensure protection of air quality. It is my determination this decision complies with the Clean Air Act and other statutes that pertain to the protection of air quality.

Clean Water Act

This decision is programmatic and does not authorize site-specific activities. Projects undertaken following the management direction will comply fully with the laws and regulations that ensure protection of water quality. It is my determination this decision complies with the Clean Water Act and other statutes that pertain to the protection of water quality.

Invasive Species (Executive Order 13112)

Executive Order 13112 directs federal agencies not to authorize any activities that would increase the spread of invasive species. This decision is a programmatic action and does not authorize site-specific activities. It is my determination that this decision complies with Executive Order 13112.

Environmental Justice (Executive Order 12898)

Executive Order 12898 directs federal agencies to identify and address, as appropriate, any disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. I determined from the analyses disclosed in the Final EIS that this decision complies with Executive Order 12898.

Prime Farmland, Rangeland, and Forest Land

The selected alternative is a programmatic action and does not authorize site-specific activities. It is my determination based on the analyses disclosed in the Final EIS that prime farmland, rangeland, and forest land will not be affected by this decision.

Equal Employment Opportunity, Effects on Minorities, Women

The Final EIS describes the impacts to social and economic factors in Chapter 3. The selected alternative will not have a disproportionate impact on any minority or low-

income communities. I determined the selected alternative will not differentially affect the civil rights of any citizens, including women and minorities.

Wetlands and Floodplains (Executive Orders 11988 and 11990)

This decision is programmatic and does not authorize site-specific activities. I determined the selected alternative will not have adverse impacts on wetlands and floodplains and will comply with Executive Orders 11988 and 11990.

Implementation and Appeal Provisions

Effective Date and Transition

The management direction will become effective 7 days after publication of the notice of availability of the Final EIS in the Federal Register. Requests to stay implementation of the amended plans shall not be granted pursuant to 36 CFR 217.10.

This decision supersedes the 2006 Lynx Conservation Agreement in the Southern Rockies. The White River and Medicine Bow National Forests previously completed revisions of their Plans (2002 and 2004, respectively). Although those Revised Plans already incorporated management direction to provide habitat for lynx, this decision amends all eight Plans in the Southern Rockies to assure consistent management direction across the region. The 2008 Biological Opinion for this amendment supersedes any requirements specific to lynx that were established under previous Biological Opinions for amended or revised Plans (i.e., Medicine Bow Revised Plan, White River Revised Plan, and Rio Grande MIS Amendment).

The National Forest Management Act requires that permits, contracts, and other instruments for use and occupancy of National Forest System lands be consistent with the current Plan. However, this requirement is conditioned as follows:

1) These documents must be revised only when necessary;
2) These document must be revised as soon as practicable; and
3) Any revisions are subject to valid existing rights.

In developing this amendment to eight Plans, pre-existing site-specific decisions and associated effects were considered to be part of the baseline against which the alternatives were evaluated. Therefore, their implementation is not in conflict with the amended Plans.

I have determined it is not necessary to apply the amended management direction retroactively to pre-existing use and occupancy authorizations, such as timber sale contracts, livestock grazing permits, and ski area permits. However, I have also determined that deciding officers have the discretion, on a case-by-case basis, to modify previous decisions or authorizations if they are not consistent with the amended management direction. Some decisions recently made but not yet

implemented will be reviewed, adjusted and implemented to meet the management direction in the amended Plans.

Opportunity for Administrative Appeal

This decision is subject to review pursuant to 36 CFR 217.3. Any appeals must be postmarked or received by the Appeal Reviewing Officer within 45 days of the date the legal notice is published in the Denver Post, the newspaper of record.

Appeals sent through the U.S. Postal Service must be sent to:

USDA Forest Service, Attn: EMC Appeals
Mail Stop 1104
1400 Independence Ave., SW
Washington, DC 20250-1104

Appeals sent through FedEx, UPS, or a courier service must be sent to:

USDA Forest Service
Ecosystem Management Coordination, Attn: Appeals
Yates Bldg., 3CEN
201 14th Street, SW
Washington, DC 20250

Appeals may be hand-delivered to the above address during regular business hours, 8:00 AM to 4:30 PM Monday through Friday, excluding holidays; or sent by fax to (202) 205-1012; or by email to appeals-chief@fs.fed.us. Emailed appeals must be submitted in rich text format (.rtf) or Word (.doc) and must include the decision name in the subject line.

Any notice of appeal must be fully consistent with 36 CFR 217.9 and include at a minimum:

- A statement that the document is a Notice of Appeal filed pursuant to 36 CFR Part 217;
- The name, address, and telephone number of the appellant;
- Identify the decision to which the objection is being made;
- Identify the document in which the decision is contained, by title and subject, date of the decision, and name and title of the Deciding Officer;
- Specifically identify the portion(s) of the decision or decision document to which objection is made;
- The reasons for the appeal, including issues of fact, law, regulation, or policy and, if applicable, specifically how the decision violates law, regulation, or policy; and
- Identification of the specific change(s) in the decision that the appellant seeks.

Further Information and Contact Person

The Southern Rockies Lynx Amendment Final EIS, the Summary, this Record of Decision and the FWS Biological Opinion, as well as other background documents are available on the Web at http://www.fs.fed.us/r2/projects/lynx/documents/.

For further information regarding the Final EIS, Record of Decision, or related documents, contact:

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ATTACHMENT 1

The Selected Alternative

Southern Rockies Lynx Amendment – Management Direction

The management direction applies to lynx habitat on the following National Forests in the Southern Rockies Lynx Amendment area:

Medicine Bow Routt National Forests (two separate Plans),
Arapaho-Roosevelt National Forests,
Grand Mesa, Uncompahgre and Gunnison National Forests,
Pike-San Isabel National Forests,
Rio Grande National Forest,
San Juan National Forest, and
White River National Forest.

GOAL[14]

Conserve the Canada lynx.

ALL MANAGEMENT PRACTICES AND ACTIVITIES (ALL). The following objectives, standards, and guidelines apply to all management projects in lynx habitat in lynx analysis units (LAUs) in occupied habitat and in linkage areas, subject to valid existing rights. They do not apply to wildfire suppression, or to wildland fire use.

Objective[30] ALL O1

Maintain[26] or restore[40] lynx habitat[23] connectivity[16] in and between LAUs[21], and in linkage areas[22].

Standard[44] ALL S1

New or expanded permanent developments[33] and vegetation management[50] projects[36] must maintain[26] habitat connectivity[16] in an LAU[21] and/or linkage area[22].

Guideline[15] ALL G1

Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways[18] or forest highways[12] across federal land. Methods could include fencing, underpasses or overpasses.

Standard[44] LAU S1

Changes in LAU[21] boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.

VEGETATION MANAGEMENT ACTIVITIES AND PRACTICES (VEG). The following objectives, standards, and guidelines apply to vegetation management projects[36] in lynx habitat within lynx analysis units (LAUs) in occupied habitat. With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards, and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments such as mineral operations, ski runs, roads, and the like. None of the objectives, standards, or guidelines apply to linkage areas.

Objective[30] VEG O1

Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.

Objective VEG O2

Provide a mosaic of habitat conditions through time that support dense horizontal cover[19], and high densities of snowshoe hare. Provide winter snowshoe hare habitat[51] in both the stand initiation structural stage and in mature, multi-story conifer vegetation.

Objective VEG O3

Conduct fire use[11] activities to restore[40] ecological processes and maintain or improve lynx habitat.

Objective VEG O4

Focus vegetation management[50] in areas that have potential to improve winter snowshoe hare habitat[52] but presently have poorly developed understories that lack dense horizontal cover.

Standard[44] VEG S1

Where and to what this applies: Standard VEG S1 applies to all vegetation management[50] projects[36] that regenerate[38] forested stands, except for fuel treatment[13] projects[36] within the wildland urban interface[51] (WUI) as defined by HFRA[17], subject to the following limitation:

> Fuel treatment projects[36] within the WUI[51] that do not meet Standards VEG S1, VEG S2, VEG S5, or VEG S6 shall occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a National Forest or administratively combined National Forests). In addition, fuel treatment projects may not result in more than three adjacent LAUs exceeding the standard.

For fuel treatment projects[36] within the WUI[51] see guideline VEG G10.

The standard: Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages[45] limit disturbance in each LAU 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[36].

Standard VEG S2

Where and to what this applies: Standard VEG S2 applies to all timber management[47] projects[36] that regenerate[38] forests, except for fuel treatment[13] projects[36] within the wildland urban interface[51] (WUI) as defined by HFRA[17], subject to the following limitation:

> Fuel treatment projects[36] within the WUI[51] that do not meet Standards VEG S1, VEG S2, VEG S5, or VEG S6 shall occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a National Forest or administratively combined National Forests).

For fuel treatment projects[36] within the WUI[51] see guideline VEG G10.

The standard: Timber management[47] projects[36] shall not regenerate[38] more than 15 percent of lynx habitat on NFS lands within an LAU in a ten-year period. This 15 percent includes the entire stand within an even-age regeneration area, and only the patch opening areas within group selections. Salvage harvest within stands killed by insect epidemics, wildfire, etc. does not add to the 15 percent, unless the harvest treatment would cause the lynx habitat to change to an unsuitable condition[24].

Standard VEG S5

Where and to what this applies: Standard VEG S5 applies to all precommercial thinning[35] projects, except for fuel treatment[13] projects that use precommercial thinning as a tool within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation:

> Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, or VEG S6 may occur on no more than three percent (cumulatively) of lynx habitat on each administrative unit (a National Forest or administratively combined National Forests) for the life of this amendment.

For fuel treatment projects within the WUI see guideline VEG G10.

The Standard: Precommercial thinning practices and similar activities intended to reduce seedling/sapling density are subject to the following limitations from the stand initiation structural stage[45] until the stands no longer provide winter snowshoe hare habitat.

Precommercial thinning[35] may occur only:

1. Within 200 feet of administrative sites, dwellings, or outbuildings; or
2. For research studies[39] or genetic tree tests evaluating genetically improved reforestation stock; or
3. For conifer removal in aspen, or daylight thinning[5] around individual aspen trees, where aspen is in decline; or

4. Based on new information that is peer reviewed and accepted by the regional/state levels of the Forest Service and FWS, where a written determination states:
   a) That a project is not likely to adversely affect lynx; or
   b) That a project is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat.
5. In addition to the above exceptions (and above and beyond the three percent limitation for fuels projects within the WUI[51]), precommercial thinning may occur provided that:
   a) The additional precommercial thinning does not exceed one percent of the lynx habitat in any LAU for the life of this amendment, and the amount and distribution of winter snowshoe hare habitat within the LAU must be provided through appropriate site-specific analysis and consultation; and
   b) Precommercial thinning in LAUs with more than 30 percent of the lynx habitat currently in the stand initiation structural stage[45] is limited to areas that do not yet provide winter snowshoe hare habitat [52]; and
   c) Projects are designed to maintain lynx habitat connectivity[16] and provide snowshoe hare habitat over the long term; and
   d) Monitoring is used to determine snowshoe hare response.

Exceptions 2 and 3 may not occur in any LAU in which VEG S1 is exceeded (i.e., more than 30 percent of LAU in stand initiation structural stage).

Note: This standard is intended to provide snowshoe hare habitat while permitting some thinning, to explore methods to sustain snowshoe hare habitat over time, reduce hazardous fuels, improve forest health, and increase timber production. Project design must ensure any precommercial thinning provides an appropriate amount and distribution of snowshoe hare habitat with each LAU over time, and maintains lynx habitat connectivity within and between LAUs. Project design should focus on creating irregular shapes for the thinning units, creating mosaics of thinned and unthinned areas, and using variable density thinning, etc.

Standard VEG S6

Where and to what this applies: Standard VEG S6 applies to all vegetation management[50] practices within multi-story mature or late successional conifer forests[29], except for fuel treatment[13] projects within the wildland urban interface (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[51] that do not meet Standards VEG S1, VEG S2, VEG S5, or VEG S6 shall occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a National Forest or administratively combined National Forests).

For fuel treatment projects[36] within the WUI[51] see guideline VEG G10.

The Standard: Vegetation management projects[36] that reduce winter snowshoe hare habitat[52] in multi-story mature or late successional conifer forests[29] may occur only:

1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or
2. For research studies[38] or genetic tree tests evaluating genetically improved reforestation stock; or
3. For incidental removal during salvage harvest[41] (e.g., removal due to location of skid trails); or
4. Where uneven-aged management (single tree and small group selection) practices are employed to maintain and encourage multi-story attributes as part of gap dynamics. Project design must be consistent with VEG O1, O2 and O4, except where impacts to areas of dense horizontal cover are incidental to activities under this exception (e.g., construction of skid trails).

Exceptions 2 and 4 may not occur in any LAU in which VEG S1 is exceeded.

Guideline VEG G1

Vegetation management[50] projects[36] 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[46] stands to enhance habitat conditions for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat[52] should be near denning habitat[6].

Guideline VEG G4

Prescribed fire[34] activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.

Guideline VEG G5

Habitat for alternate prey species, primarily red squirrel[37], should be provided in each LAU.

Guideline VEG G10

Fuel treatment projects[36] within the WUI[51] as defined by HFRA[17] should be designed considering Standards VEG S1, S2, S5, and S6 to promote lynx conservation.

Guideline VEG G11

Denning habitat[6] 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 small wind thrown trees ("jack-strawed" piles). If denning habitat appears to be lacking in the LAU, then projects[36] should be designed to retain some coarse woody debris[4], piles, or residual trees to provide denning habitat[6] in the future.

LIVESTOCK MANAGEMENT (GRAZ): The following objectives and guidelines apply to grazing projects in lynx habitat in lynx analysis units (LAUs) in occupied habitat. They do not apply to linkage areas.

Objective[30] GRAZ O1

Manage livestock grazing to be compatible with improving or maintaining[26] lynx habitat[23].

Guideline[15] GRAZ G1

In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.

Guideline GRAZ G2

In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.

Guideline GRAZ G3

In riparian areas[41] and willow carrs[3], livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.

Guideline GRAZ G4

In shrub-steppe habitats[43], livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs[21], to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

HUMAN USE PROJECTS (HU): The following objectives and guidelines apply to human use projects, such as special uses (other than grazing), recreation management, roads, highways, and mineral and energy development, in lynx habitat in lynx analysis units (LAUs) in occupied habitat, subject to valid existing rights. They do not apply to vegetation management projects or grazing projects directly. They do not apply to linkage areas.

Objective[30] HU O1

Maintain[26] the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat[23].

Objective HU O2

Manage recreational activities to maintain lynx habitat and connectivity[16].

Objective HU O3

Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.

Objective HU O4

Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation[9] sites or ski areas.

Objective HU O5

Manage human activities, such as special uses, mineral and oil and gas exploration and development, and placement of utility transmission corridors, to reduce impacts on lynx and lynx habitat.

Objective HU O6

Reduce adverse highway[18] effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity[16], and to reduce the potential for lynx mortality.

Guideline[15] HU G1

When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris[4], so winter snowshoe hare habitat[51] is maintained.

Guideline HU G2

When developing or expanding ski areas, lynx foraging habitat should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.

Guideline HU G3

Recreation development and recreational operational uses should be planned to provide for lynx movement and to maintain the effectiveness of lynx habitat[23].

Guideline HU G4

Remote monitoring of mineral and energy development sites and facilities should be encouraged to reduce snow compaction.

Guideline HU G5

A reclamation plan should be developed (e.g., road reclamation and vegetation rehabilitation) for closed mineral and energy development sites and facilities that promote the restoration of lynx habitat.

Guideline HU G6

Methods to avoid or reduce effects to lynx habitat connectivity[16] should be used when upgrading unpaved roads to maintenance levels 4 or 5[27], where the result would be increased traffic speeds and volumes, or contribute to development or increases in human activity.

Guideline HU G7

New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity[16]. New permanent roads and trails should be situated away from forested stringers.

Guideline HU G8

Cutting brush along low-speed, low-traffic-volume roads[25] should be done to the minimum level necessary to provide for public safety.

Guideline HU G9

If project level analysis determines that new roads adversely affect lynx, then public motorized use should be restricted. Upon project[36] completion, these roads should be reclaimed or decommissioned, if not needed for other management objectives.

Guideline HU G10

Designated over-the-snow routes or designated play areas should not expand outside baseline areas of consistent snow compaction[1], unless designation serves to consolidate use and improve lynx habitat. This may be calculated on an LAU basis, or on a combination of immediately adjacent LAUs.

This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by Guideline HU G12.

Use the same analysis boundaries for all actions subject to this guideline.

Guideline HU G11

When developing or expanding ski areas and trails, consider locating access roads and lift termini to maintain and provide lynx security habitat[10].

Guideline HU G12

Winter access for non-recreation special uses and mineral and energy exploration and development should be limited to designated routes[8] or designated over-the-snow routes[7].

LINKAGE AREAS (LINK): The following objective, standard, and guidelines apply to all projects within linkage areas in occupied habitat, subject to valid existing rights.

Objective[30] LINK O1

In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.

Standard[44] LINK S1

When highway[18] or forest highway[12] construction or reconstruction is proposed in linkage areas[22], identify potential highway crossings.

Guideline[15] LINK G1

National Forest System lands should be retained in public ownership.

Guideline LINK G2

Livestock grazing in shrub-steppe habitats[43] should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.

Required Monitoring

1. Maps of the location and intensity of snow compacting activities and designated and groomed routes that occurred inside LAUs during the period of 1998 to 2000 constitute baseline snow compaction. Changes in activities and routes are to be monitored every five years after the decision.
2. When fuels treatment and vegetation management project decisions are signed, report the following:
   a) Acres of fuel treatment in lynx habitat by Forest and LAU, and whether the treatment is within or outside the WUI as defined by HFRA.
   b) Whether or not the fuel treatment met the vegetation standards or guidelines. If standard(s) were not met, report which standard(s) was not met, why it could not be met, and how many acres were affected.
   c) Application of exceptions in Standard VEG S5:

      For areas where any of the exceptions 1 through 5 listed in Standard VEG S5 were applied, report the type of activity, the number of acres, and the location (by unit, and LAU) and whether or not Standard VEG S1 was within the allowance.
   d) Application of exceptions in Standard VEG S6:

      For areas where any of the exceptions 1 through 4 listed in Standard VEG S6 were applied, report the type of activity, the number of acres, and the location (by unit, and LAU) and whether or not Standard VEG S1 was within the allowance.
   e) Total acres of lynx habitat treated under exemptions and exceptions to vegetation standards, to assure the 4.5 percent limit is not exceeded on any Forest over the life of the amendment (15 years).
3. Application of guidelines:
   a) Summarize what guideline(s) was not followed and why.
   b) Document the rationale for deviations to guidelines.

Glossary

[1] *Area of consistent snow compaction* – An area of consistent snow compaction is an area of land or water that during winter is generally covered with snow and gets enough human use that individual tracks are indistinguishable. In such places, compacted snow is evident most of the time, except immediately after (within 48 hours) snowfall. These can be areas or linear routes, and are generally found in or near snowmobile or cross-country ski routes, in adjacent openings, parks and meadows, near ski huts or plowed roads, or in winter parking areas. Areas of consistent snow compaction will be determined based on the acreage or miles used during the period 1998 to 2000.

[2] *Broad scale assessment* – A broad scale assessment is a synthesis of current scientific knowledge, including a description of uncertainties and assumptions, to provide an understanding of past and present conditions and future trends, and a characterization of the ecological, social, and economic components of an area. (LCAS)

[3] *Carr* – Deciduous woodland or shrub land occurring on permanently wet, organic soil. (LCAS)

[4] *Coarse woody debris* – Any piece(s) of dead woody material, e.g., dead boles, limbs, and large root masses on the ground or in streams. (LCAS)

[5] *Daylight thinning* – Daylight thinning is a form of precommercial thinning that removes the trees and brush inside a given radius around a tree.

[6] *Denning habitat (lynx)* – Denning habitat is the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning habitat must be within daily travel distance of winter snowshoe hare habitat – the typical maximum daily distance for females is about three to six miles. Denning habitat includes mature and old growth forests with plenty of coarse woody debris. It can also include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed.

[7] *Designated over-the-snow routes* – Designated over-the-snow routes are routes managed under permit or agreement or by the agency, where use is encouraged, either by on-the-ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps), or in electronic media produced or approved by the agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition. The determination of baseline snow compaction will be based on the miles of designated over-the-snow routes authorized, promoted or encouraged during the period 1998 to 2000.

[8] *Designated route* – A designated route is a road or trail that has been identified as open for specified travel use.

[9] *Developed recreation* – Developed recreation requires facilities that result in concentrated use. For example, skiing requires lifts, parking lots, buildings, and roads; campgrounds require roads, picnic tables, and toilet facilities.

[10] *Diurnal security habitat (lynx)* – Places in lynx habitat that provide secure winter bedding sites in highly disturbed landscapes such as ski areas. Security habitat gives lynx the ability to retreat from human disturbance. Site characteristics and stand conditions make human access difficult and discourage human activity. Security habitats are sufficiently large to provide effective visual and acoustic insulation and to let lynx easily move away from any intrusion. Lynx security habitat must be in proximity to winter snowshoe hare habitat. (LCAS)

[11] *Fire use* – Fire use is the combination of wildland fire use and using prescribed fire to meet resource objectives. (NIFC) Wildland fire use is the management of naturally ignited wildland fires to accomplish resource management objectives in areas that have a fire management plan. The use of the term wildland fire use replaces the term prescribed natural fire. (Wildland and Prescribed Fire Management Policy, August 1998)

[12] *Forest highway* – A forest highway is a forest road under the jurisdiction of, and maintained by, a public authority and open to public travel (USC: Title 23, Section 101(a)), designated by an agreement with the FS, state transportation agency, and Federal Highway Administration.

[13] *Fuel treatment* – A fuel treatment is a type of vegetation management action that reduces the threat of ignition, fire intensity, or rate of spread, or is used to restore fire-adapted ecosystems.

[14] *Goal* – A goal is a broad description of what an agency is trying to achieve, found in a land management plan. (LCAS)

[15] *Guideline* – A guideline is a particular management action that should be used to meet an objective found in a land management plan. The rationale for deviations may be documented, but amending the plan is not required. (LCAS modified)

[16] *Habitat connectivity (lynx)* – Cover (vegetation) in sufficient quantity and arrangement to allow for the movement of lynx. Narrow forested mountain ridges or shrub-steppe plateaus may serve as a link between more extensive areas of lynx habitat; wooded riparian communities may provide cover across open valley floors. (LCAS)

[17] *HFRA (Healthy Forests Restoration Act)* - Public Law 108-148, passed in December 2003. The HFRA provides statutory processes for hazardous fuel reduction projects on certain types of at-risk National Forest System and Bureau of Land Management lands. It also provides other authorities and direction to help reduce hazardous fuel and restore healthy forest and rangeland conditions on lands of all ownerships. (Modified from Forest Service HFRA web site.)

[18] *Highway* – The word highway includes all roads that are part of the National Highway System. (23 CFR 470.107(b))

[19] *Horizontal cover* – The visual obscurity provided by vegetation that extends to the ground or snow surface, primarily provided by tree stems and tree boughs, but may also be provided by shrubs, herbaceous vegetation, and landscape topography.

[21] *LAU (Lynx Analysis Unit)* – An LAU is an area of at least the size used by an individual lynx, from about 25 to 50 square miles (LCAS). An LAU is a unit for which the effects of a project would be analyzed; its boundaries should remain constant.

[22] *Linkage area* – A linkage area provides landscape connectivity between blocks of lynx habitat. Linkage areas occur both within and between geographic areas, where blocks of lynx habitat are separated by intervening areas of non-lynx habitat such as basins, valleys, or agricultural lands, or where lynx habitat naturally narrows between blocks. (LCAS updated definition approved by the Steering Committee 10/23/01)

[23] *Lynx habitat* – Lynx habitat occurs in mesic coniferous forest that experience cold, snowy winters and provide a prey base of snowshoe hare. In the southern Rocky Mountains, lynx habitat generally occurs between 8,000 and 12,000 feet in elevation. Primary vegetation consists of Engelmann spruce, subalpine fir, aspen-conifer mix and lodgepole pine on spruce-fir habitat types. On cool moist sites, Douglas-fir and aspen, when interspersed with subalpine forests, may also contribute to lynx habitat. Dry forest types (e.g., ponderosa pine, climax lodgeople pine) do not provide lynx habitat. (LCAS)

[24] *Lynx habitat in an unsuitable condition* –Lynx habitat in an unsuitable condition consists of lynx habitat in the stand initiation structural stage where the trees are generally less than ten to 30 years old and have not grown tall enough to protrude above the snow during winter. Stand replacing fire, insect epidemics or certain vegetation management projects can create unsuitable conditions. Vegetation management projects that can result in unsuitable habitat include clearcuts and seed tree harvest, and sometimes shelterwood cuts and commercial thinning depending on the resulting stand composition and structure. (LCAS)

[25] *Low-speed, low-traffic-volume road* – Low speed is less than 20 miles per hour; low volume is a seasonal average daily traffic load of less than 100 vehicles per day.

[26] *Maintain* – In the context of this decision, maintain means to provide enough lynx habitat to conserve lynx. It does not mean to keep the status quo.

[27] *Maintenance level* – Maintenance levels define the level of service provided by and maintenance required for a road. (FSH 7709.58, Sec 12.3) Maintenance level 4 is assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most level 4 roads have double lanes and an aggregate surface. Some may be single lane; some may be paved or have dust abated. Maintenance level 5 is assigned to roads that provide a high degree of user comfort and convenience. Normally, level 5 roads are have double lanes and are paved, but some may be aggregate surfaced with the dust abated.

[28] *Mid-seral or later* – Mid-seral is the successional stage in a plant community that is the midpoint as it moves from bare ground to climax. For riparian areas, it means willows or other shrubs have become established. For shrub-steppe areas, it means shrubs associated with climax are present and increasing in density.

[29] *Multi-story mature or late successional forest* – This stage is similar to the *old multistory structural* stage (see below). However, trees are generally not as old, and decaying trees may be somewhat less abundant.

[30] *Objective* – An objective is a statement in a land management plan describing desired resource conditions and intended to promote achieving programmatic goals. (LCAS)

[31] *Old multistory structural stage* – Many age classes and vegetation layers mark the old forest, multistoried stage. It usually contains large old trees. Decaying fallen trees may be present that leave a discontinuous overstory canopy. On cold or moist sites without frequent fires or other disturbance, multi-layer stands with large trees in the uppermost layer develop. (Oliver and Larson, 1996)

[32] *Old growth* – Old growth forests generally contain trees that are large for their species and the site, and are sometimes decadent with broken tops. Old growth often contains a variety of tree sizes, large snags, and logs, and a developed and often patchy understory.

[33] *Permanent development* – Any development that results in a loss of lynx habitat for at least the duration of a Forest Plan, approximately 15 years. Ski trails, parking lots, new permanent roads, structures, campgrounds, and many special use developments would be considered permanent developments.

[34] *Prescribed fire* – A prescribed fire is any fire ignited as a management action to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements met, before ignition. The term prescribed fire replaces the term management ignited prescribed fire. (NWCG)

[35] *Precommercial thinning* – Precommercial thinning is mechanically removing trees to reduce stocking and concentrate growth on the remaining trees, and not resulting in immediate financial return. (Dictionary of Forestry)

[36] *Project* - All, or any part or number of the various activities analyzed in an Environmental Impact Statement, Environmental Analysis, or Decision Memo. For example, the vegetation management in some units or stands analyzed in an EIS could be for fuel reduction, and therefore those units or stands would fall within the term *fuel treatment project* even if the remainder of the activities in the EIS are being conducted for other purposes, and the remainder of those units or stands have other activities prescribed in them. All units in an analysis do not necessarily need to be for fuel reduction purposes for certain units to be considered a *fuel reduction project*.

[37] *Red squirrel habitat* – Red squirrel habitat consists of coniferous forests of seed and cone-producing age that usually contain snags and downed woody debris, generally associated with mature or older forests.

[38] *Regeneration harvest* – The cutting of trees and creating an entire new age class; an even-age harvest. The major methods are clearcutting, seed tree, shelterwood, and group selective cuts. (Helms, 1998)

[39] *Research* – Research consists of studies conducted to increase scientific knowledge or technology. For the purposes of Standards VEG S5 and VEG S6, research applies to

studies financed from the forest research budget (FSM 4040) and administrative studies financed from the NF budget.

[40] *Restore, restoration* – To restore is to return or re-establish ecosystems or habitats to their original structure and species composition. (Dictionary of Forestry)

[41] *Riparian area* – An area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation. (LCAS)

[42] *Salvage harvest* – Salvage harvest is a commercial timber sale of dead, damaged, or dying trees. It recovers economic value that would otherwise be lost. Collecting firewood for personal use is not considered salvage harvest.

[43] *Shrub steppe habitat* – Shrub steppe habitat consists of dry sites with shrubs and grasslands intermingled.

[44] *Standard* – A standard is a required action in a land management plan specifying how to achieve an objective or under what circumstances to refrain from taking action. A plan must be amended to deviate from a standard.

[45] *Stand initiation structural stage* – The stand initiation stage generally develops after a stand-replacing disturbance by fire, insects or regeneration timber harvest. A new single-story layer of shrubs, tree seedlings, and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands. (Oliver and Larson, 1996)

[46] *Stem exclusion structural stage (Closed canopy structural stage)* – In the stem exclusion stage, trees initially grow fast and quickly occupy all of the growing space, creating a closed canopy. Because the trees are tall, little light reaches the forest floor so understory plants (including smaller trees) are shaded and grow more slowly. Species that need full sunlight usually die; shrubs and herbs may become dormant. New trees are precluded by a lack of sunlight or moisture. (Oliver and Larson, 1996)

[47] *Timber management* – Timber management consists of growing, tending, commercially harvesting, and regenerating crops of trees.

[48] *Uneven-aged timber management* - Uneven-aged management develops a stand with trees of three or more distinct age classes, either intimately mixed or in small groups of 2 acres or less (based on *The Dictionary of Forestry* Helms ,1998). Group openings do not exceed 20% of the stand in a single entry, but individual tree selection can occur throughout an entire stand or between the groups.

[49] *Understory re-initiation structural stage* – In the understory re-initiation stage, a new age class of trees gets established after overstory trees begin to die, are removed, or no longer fully occupy their growing space after tall trees abrade each other in the wind. Understory seedlings then re-grow and the trees begin to stratify into vertical layers. A low to moderately dense uneven-aged overstory develops, with some small shade-tolerant trees in the understory. (Oliver and Larson, 1996)

[50] *Vegetation management* – Vegetation management changes the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire

or timber harvest. For the purposes of this decision, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use.

[51] *Wildland urban interface (WUI)* – Use the definition of WUI found in the Healthy Forests Restoration Act. The full text can be found at HFRA § 101. Basically, the wildland urban interface is the area adjacent to an at-risk community that is identified in the community wildfire protection plan. If there is no community wildfire protection plan in place, the WUI is the area 0.5 mile from the boundary of an at-risk community; or within 1.5 miles of the boundary of an at-risk community if the terrain is steep, or there is a nearby road or ridgetop that could be incorporated into a fuel break, or the land is in condition class 3, or the area contains an emergency exit route needed for safe evacuations. (Condensed from HFRA. For full text see HFRA § 101.)

[52] *Winter snowshoe hare habitat* – Winter snowshoe hare habitat consists of places where young trees or shrubs grow densely – thousands of woody stems per acre – and tall enough to protrude above the snow during winter, so snowshoe hare can browse on the bark and small twigs (LCAS). Winter snowshoe hare habitat develops primarily in the stand initiation, understory reinitiation and old forest multistoried structural stages.

ATTACHMENT 2

Comparison of Alternatives B, F, and F-modified

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
ALL O1. Maintain or restore lynx habitat connectivity.	**ALL O1.** Maintain or restore lynx habitat connectivity in and between LAUs, and in linkage areas.	(Same as Alt. F)
ALL S1. New or expanded permanent developments and vegetation management practices and activities must maintain habitat connectivity.	**ALL S1.** New or expanded permanent developments and vegetation management practices and activities must maintain habitat connectivity in an LAU and/or linkage area.	**ALL S1.** New or expanded permanent developments and vegetation management *projects* must maintain habitat connectivity in an LAU and/or linkage area.
ALL G1. Techniques to avoid or reduce effects on lynx should be used when constructing or reconstructing **highways**. Techniques could include underpasses or overpasses.	**ALL G1.** Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways or forest highways across federal land. Methods could include fencing, underpasses or overpasses.	(Same as Alt. F)
LAU S1. LAU boundaries would not be adjusted except through agreement with the US Fish and Wildlife Service, based on new lynx habitat information.	**LAU S1**. Changes in LAU boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.	(Same as Alt. F)
VEG O1. Manage vegetation to be consistent with historical **succession** and **disturbance** processes while maintaining habitat components necessary for the conservation of lynx.	**VEG O1.** Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.	(Same as Alt. F)
VEG O2. Maintain or improve lynx habitat, with an emphasis on continued availability of high-quality **foraging habitat** in juxtaposition to **denning habitat**.	**VEG O2**. Provide a mosaic of habitat conditions through time that support dense horizontal cover, and high densities of snowshoe hare. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation.	(Same as Alt. F)
VEG O3. Conduct **fire use** activities to restore **ecological processes** and maintain or improve lynx habitat.	(Same as Alternative B)	(Same as Alt. F)
VEG O4. Design **regeneration harvest**, reforestation**,** and thinning to develop characteristics suitable for lynx and **snowshoe hare habitat**.	**VEG O4.** 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.	(Same as Alt. F)

ALTERNATIVE B **Proposed Action**	**ALTERNATIVE F** **FEIS Preferred Alternative**	**ALTERNATIVE F-MODIFIED**
VEG S1. Unless a **broad scale assessment** has been completed that substantiates different historical levels of **unsuitable habitat**, limit disturbance within each LAU as follows: if more than 30 percent of lynx habitat within a LAU on NFS lands is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of vegetation management activities or practices. This standard does not apply to: 1. **Wildland Fire Use** practices and activities that restore ecological processes, or maintain or improve lynx habitat. 2. Wildfire suppression.	**VEG S1.** ***Where and to what this applies***: Standard VEG S1 applies to all vegetation management practices and activities that regenerate forested stands, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard**: Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages limit disturbance in each LAU 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. **Note:** Fuel treatment projects that create stand initiation structural stage will be included in the 30 percent calculation – meaning that if a fuel treatment project w/in the WUI creates more than 30 percent, then other management practices and activities designed to regenerate more acres would have to be modified or deferred until the standard can be met.)	**VEG S1.** ***Where and to what this applies***: Standard VEG S1 applies to all vegetation management *projects* that regenerate forested stands, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, *or* VEG S6 *shall* occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). *In addition, fuel treatment projects may not result in more than three adjacent LAUs exceeding the standard.* For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages limit disturbance in each LAU 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.

ALTERNATIVE B **Proposed Action**	**ALTERNATIVE F** **FEIS Preferred Alternative**	**ALTERNATIVE F-MODIFIED**
VEG S2. Timber management practices, such as timber harvest and salvage sales, shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10-year period.	**VEG S2** ***Where and to what this applies****:* Standard VEG S2 applies to all timber management practices and activities that regenerate forested stands, except for fuel treatment projects within the WUI as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Timber management practices and activities shall not regenerate more than 15 percent of lynx habitat on NFS lands in an LAU in a ten-year period.	**VEG S2** ***Where and to what this applies****:* Standard VEG S2 applies to all timber management *projects* that regenerate *forests*, except for fuel treatment projects within the WUI as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, *or* VEG S6 may occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Timber management *projects* shall not regenerate more than 15 percent of lynx habitat on NFS lands in an LAU in a ten-year period. *This 15% includes the entire stand within an even-age regeneration area, and only the patch opening areas within group selections. Salvage harvest within stands killed by insect epidemics, wildfire, etc. does not add to the 15%, unless the harvest treatment would cause the lynx habitat to change to an unsuitable condition*[24]
VEG S3. Maintain **denning habitat** within a LAU in patches generally larger than 5 acres comprising at least 10 percent of the lynx habitat. Where less than 10 percent denning habitat is present in a LAU, defer vegetation management practices and activities in stands that have the highest potential to develop denning-habitat. This standard does not apply to: 1. **Wildland Fire Use** practices and activities that restore ecological processes. 2. Wildfire suppression.	N/A (See Guideline VEG G11)	(Same as Alt. F)

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
VEG S4. Following a disturbance, such as blowdown, fires, insects, or pathogens mortality that could contribute to lynx **denning habitat**, **salvage harvest** may only occur when the affected area is smaller than 5 acres in the following situations: 1. Developed recreation sites, administrative sites, or authorized special use structures or improvements; 2. Designated road and trail corridors where public safety or access has been or may be compromised; and 3. LAUs where **denning habitat** has been **mapped and field validated**, provided that at least 10 percent denning habitat is retained and is well distributed. 4. *Within the* ***structure ignition zone*** (200 feet of administrative sites, dwellings and/or associated outbuildings). 5. Wildfire suppression. 6. Removal of dead or down trees for personal use (i.e., firewood collection).	N/A (See Guideline VEG G11)	(Same as Alt. F)
VEG S5. Precommercial thinning may be allowed only when stands no longer provide snowshoe hare habitat (e.g., self-pruning processes or stand composition and/or stand structure do not provide snowshoe hare cover and forage availability during winter conditions with average snow pack). The following precommercial thinning activities may occur prior to the stands no longer providing snowshoe hare habitat: 1. Conducted within the structure ignition zone (200 feet of administrative sites, dwellings and/or associated outbuildings). This standard does not apply to: 1. Wildfire suppression. 2. **Wildland Fire Use.** 3. Developed recreation sites, administrative sites, or authorized special use improvements including within permitted ski area boundaries.	**VEG S5** ***Where and to what this applies****:* Standard VEG S5 applies to precommercial thinning practices and activities, except for fuel treatment projects that use precommercial thinning as a tool within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Precommercial thinning practices and activities 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 administrative sites, dwellings, or outbuildings; or	**VEG S5** ***Where and to what this applies****:* Standard VEG S5 applies to precommercial thinning practices and activities, except for fuel treatment projects that use precommercial thinning as a tool within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, *or* VEG S6 may occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Precommercial thinning practices and *similar activities intended to reduce seedling/sapling density are subject to the following limitations from the stand initiation structural stage until the stands no longer provide winter snowshoe hare habitat.*

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
	2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or 3. Based on new information that is peer reviewed and accepted by the regional/state levels of the Forest Service and FWS, where a written determination states: a. that a project is not likely to adversely affect lynx; or b. that a project is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat; or 4. For conifer removal in aspen, or daylight thinning around individual aspen trees, where aspen is in decline.	*Precommercial thinning may occur:* 1. Within 200 feet of administrative sites, dwellings, or outbuildings; or 2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or 3. For conifer removal in aspen, or daylight thinning around individual aspen trees, where aspen is in decline; or 4. Based on new information that is peer reviewed and accepted by the regional/state levels of the Forest Service and FWS, where a written determination states: a) that a project is not likely to adversely affect lynx; or b) that a project is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat. *5. In addition to the above exceptions (and above and beyond the three percent limitation for fuels projects within the WUI), precommercial thinning may occur each year within the historical 1995-1999 levels (see Note 1 below) provided that:* *a) The additional precommercial thinning does not exceed one percent of the lynx habitat in any LAU for the life of this amendment, and the amount and distribution of winter snowshoe hare habitat within the LAU must be provided through appropriate site-specific analysis and consultation; and* *b) Precommercial thinning in LAUs with more than 30 percent of the lynx habitat currently in the stand initiation structural stage is limited to areas that do not yet provide winter snowshoe hare habitat; and* *c) Projects are designed to maintain lynx habitat connectivity and provide hare habitat over the long term; and* *d) Monitoring is used to determine snowshoe hare response.*

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
		Note 1: This standard is intended to provide snowshoe hare habitat while permitting some thinning, to explore methods to sustain snowshoe hare habitat over time, reduce hazardous fuels, improve forest health, and increase timber production. Project design must ensure any precommercial thinning provides an appropriate amount and distribution of snowshoe hare habitat within each LAU over time, and maintains lynx habitat connectivity within and between LAUs. Project design should focus on creating irregular shapes for the thinning units, creating mosaics of thinned and unthinned areas, and using variable density thinning, etc.

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
VEG S6. Management practices and activities in mature and late successional, multi-layered Engelmann spruce-subalpine fir stands shall provide for winter snowshoe hare habitat. This standard does not apply to: 1. Designated road and trail corridors where public safety or access has been or may be compromised; 2. Practices and activities conducted within the **structure ignition zone** (200 feet of administrative sites, dwellings and/or associated outbuildings). 3. Wildfire suppression. 4. **Wildland Fire Use.** 5. Developed recreation sites, administrative sites, or authorized special use improvements including within permitted ski area boundaries.	**VEG S6** ***Where and to what this applies****:* Standard VEG S6 applies to all vegetation management practices and activities that regenerate forested stands, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5 and VEG S6 may occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI, see guideline VEG G10. **The Standard**: Vegetation management practices and activities that reduce snowshoe hare habitat in multi-story mature or late successional forests may occur only: 1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or 2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or 3. For incidental removal during salvage harvest (e.g. removal due to location of skid trails). (NOTE: Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover [e.g. uneven age management systems could be used to create openings where there is little understory so that new forage can grow.)	**VEG S6** ***Where and to what this applies****:* Standard VEG S6 applies to all vegetation management practices *within multi-story mature or late successional conifer forests*, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5 *or* VEG S6 may occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI, see guideline VEG G10. **The Standard**: Vegetation management *projects* that reduce *winter* snowshoe hare habitat in multi-story mature or late successional *conifer* forests may occur only: 1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or 2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or 3. For incidental removal during salvage harvest (e.g., removal due to location of skid trails). *4. Where uneven-aged management (single tree and small group selection) practices are employed to maintain and encourage multi-story attributes as part of gap dynamics. Project design must be consistent with VEG O1, VEG O2, and VEG O4, except where impacts to areas of dense horizontal cover are incidental to activities under this exception (e.g., construction of skid trails).*

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
VEG G1. Where little or no habitat for snowshoe hares is currently available, vegetation management practices should be planned to recruit a high density of conifers, hardwoods, and shrubs preferred by snowshoe hares. Preference should be given to mesic sites and mid-seral stage stands. Provide for continuing availability of lynx **foraging habitat** in proximity to **denning habitat**.	**VEG G1** Vegetation management practices and activities should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority 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). Winter snowshoe hare habitat should be near denning habitat.	(Same as Alt. F)
VEG G2. Where recruitment of additional **denning habitat** is desired, vegetation management practices should retain sufficient standing dead trees and **coarse woody debris**, consistent with the likely availability of such material under natural disturbance regimes. The juxtaposition of denning and foraging habitat should be maintained or improved.	NA. (See Guideline VEG G11)	(Same as Alt. F)
VEG G3. Vegetation management should provide for the retention or restoration of **denning habitat** on landscape settings with a low probability of loss from stand replacing fire events.	NA. (See Guideline VEG G11)	(Same as Alt. F)
VEG G4. Fire management activities should not create permanent travel routes that would facilitate snow compacting activities**.** Construction of permanent **firebreaks** on ridges or saddles should be avoided.	**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.	(Same as Alt. F)

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
VEG G5. Habitat for alternate prey species (primarily red squirrel) should be provided in each LAU.	(Same as Alternative B)	(Same as Alternative F)
(N/A - See VEG S6)	(See Standard VEG S6)	(Same as Alt. F)
(N/A - See VEG S2)	(See Standard VEG S2)	(Same as Alt. F)
(N/A - See VEG S4)	(See Guideline VEG G11)	(Same as Alt. F)
	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.	(Same as Alt. F)
	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 small 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.	(Same as Alt. F)
GRAZ O1. Manage livestock grazing to be compatible with the improvement or maintenance of lynx habitat.	(Same as Alternative B)	(Same as Alternative F)
GRAZ S1. In fire- and harvest-created openings, manage livestock grazing to ensure impacts do not prevent successful regeneration of shrubs and trees.	(See GRAZ G1)	(Same as Alt. F)
GRAZ S2. In aspen stands, manage livestock grazing to ensure impacts do not prevent or inhibit sprout survival sufficient to perpetuate the long-term viability of the clones.	(See GRAZ G2)	(Same as Alt. F)
GRAZ S3. Manage livestock grazing in riparian areas, and willow **carrs**, to contribute to maintaining or achieving a preponderance of **mid- or later-seral stages**, similar to conditions that would have occurred under historic disturbance regimes.	(See GRAZ G3)	(Same as Alt. F)
GRAZ S4. Manage livestock grazing in shrub steppe habitats, in the elevational ranges that encompass forested lynx habitat (within LAUs) to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar the conditions that would have occurred under historic disturbance regimes.	(See GRAZ G4)	(Same as Alt. F)

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
(NA – See GRAZ S1)	**GRAZ G1**. In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.	(Same as Alt. F)
(NA – See GRAZ S2)	**GRAZ G2.** In aspen stands, livestock grazing should be managed to contribute to the long-term viability of the aspen.	**GRAZ G2.** In aspen stands, livestock grazing should be managed to contribute to the long-term *health and sustainability* of aspen.
(NA – See GRAZ S3)	**GRAZ G3** In riparian areas and willow carrs, livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	(Same as Alt. F)
(NA – See GRAZ S4)	**GRAZ G4** In shrub-steppe habitats, livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs, to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	(Same as Alt. F)

ALTERNATIVE B **Proposed Action**	**ALTERNATIVE F** **FEIS Preferred Alternative**	**ALTERNATIVE F-MODIFIED**
HU O1. Maintain the lynx's natural competitive advantage over other predators in deep-snow by discouraging the expansion of snow compacting activities in lynx habitat.	(Same as Alternative B)	(Same as Alt. F)
HU O2. Manage recreational activities to maintain lynx habitat and connectivity.	(Same as Alternative B)	(Same as Alt. F)
HU O3. Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.	(Same as Alternative B)	(Same as Alt. F)
HU O4. Provide for lynx habitat needs and connectivity when developing or expanding developed recreation sites or ski areas.	(Same as Alternative B)	**HU O4.** Provide for lynx habitat needs and connectivity when developing *new* or expanding *existing* developed recreation sites or ski areas.
HU O5. Manage human activities, such as special uses, mineral and oil and gas exploration and development, and placement of utility transmission corridors, to reduce impacts on lynx and lynx habitat.	(Same as Alternative B)	(Same as Alt. F)
HU O6. 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 for lynx mortality.	(Same as Alternative B)	(Same as Alt. F)
HU S1. Allow no net increase in **groomed or designated over-the-snow routes** outside of baseline **areas of consistent snow compaction**, within the **lynx habitat matrix**, by LAU unless the grooming or designation serves to consolidate use and improve lynx habitat. This does not apply within permitted ski area boundaries, to winter logging, reroutes that reduce public risks from avalanches, access to private in-holdings, roads and trails designed and managed for non-winter use, and to other access regulated by HU S3. Special Use Permits, authorizations, or agreements could be allowed to expand inside baseline routes and baseline areas of consistent snow compaction. Grooming could be allowed to expand in side baseline areas of consistent snow compaction, and on routes that have been designated but not groomed in the past.	(See Guideline HU G10)	(Same as Alt. F)

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
HU S2. When developing or expanding ski areas, locate trails, access roads and lift termini to maintain and provide **lynx diurnal security habitat** if it is identified as a need.	(See HU G11)	(Same as Alt. F)
HU S3. Winter access for non-recreation special uses, and mineral and energy exploration and development, shall be limited to designated routes or designated over-the-snow routes.	(See Guideline HU G12)	(Same as Alt. F)
HU G1. When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris to maintain lynx foraging habitat.	**HU G1.** When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris, so winter snowshoe hare habitat is maintained.	(Same as Alt. F)
HU G2. When developing or expanding ski areas, nocturnal foraging opportunities should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.	**HU G2.** When developing or expanding ski areas, lynx foraging habitat should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.	(Same as Alt. F)
HU G3. Recreational development and recreational operational uses should be planned to provide for lynx movement and to maintain effectiveness of lynx habitat.	(Same as Alternative B)	(Same as Alt. F)
HU G4. Remote monitoring of mineral and energy development sites and facilities should be encouraged to reduce snow compaction.	(Same as Alternative B)	(Same as Alt. F)
HU G5. A reclamation plan should be developed (e.g. road reclamation and vegetation rehabilitation) for closed mineral and energy development sites and facilities that promote the restoration of lynx habitat.	(Same as Alternative B)	(Same as Alt. F)
HU G6. Upgrading unpaved **roads** that would result in increased speeds and traffic volume or that would foreseeably contribute to development or increases in human activity in lynx habitat should be avoided. This applies to upgrading roads to higher maintenance levels (to **maintenance levels 4 or 5**) that would result in substantially increased speeds, traffic volume or potential future use.	(Same as Alternative C)	*Methods to avoid or reduce effects to lynx habitat connectivity[16] should be used when upgrading unpaved roads to maintenance levels 4 or 5, where the result would be increased traffic speeds and volumes, or contribute to development or increases in human activity.*
HU G7. New permanent roads should not be built on ridge tops and saddles, or in areas identified as important for lynx habitat connectivity. New permanent roads and trails should be situated away from **forested stringers**.	(Same as Alternative B)	(Same as Alt. F)

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
HU G8. Cutting brush along **low-speed, low-volume roads** should be done to the minimum level necessary to provide for public safety.	(Same as Alternative B)	(Same as Alt. F)
HU G9. On new roads built for project-specific activities, public motorized use should be restricted. Provide for an effective closure in the initial design of the road. Upon project completion, these roads should be reclaimed or **decommissioned**, if not needed for other management objectives.	**HU G9** If project level analysis determines that new roads adversely affect lynx, then public motorized use should be restricted. Upon project completion, these roads should be reclaimed or decommissioned, if not needed for other management objectives.	(Same as Alt. F)
NA (See HU S1)	**HU G10** Designated over-the-snow routes or designated play areas should not expand outside baseline areas of consistent snow compaction, unless designation serves to consolidate use and improve lynx habitat. This may be calculated on an LAU basis, or on a combination of immediately adjacent LAUs. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings or to access regulated by Guideline HU G12. Use the same analysis boundaries for all actions subject to this guideline.	(Same as Alt. F)
NA (See HU S2.)	**HU G11** When developing or expanding ski areas and trails, consider locating access roads and lift termini to maintain and provide lynx security habitat.	(Same as Alt. F)
NA	**HU G12** Winter access for non-recreation special uses and mineral and energy exploration and development should be limited to designated routes or designated over-the-snow routes.	(Same as Alt. F)

ALTERNATIVE B **Proposed Action**	**ALTERNATIVE F** **FEIS Preferred Alternative**	**ALTERNATIVE F-MODIFIED**
LINK O1. In areas of intermixed land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.	(Same as Alternative B)	**LINK O1.** In areas of *intermingled* land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.
LINK S1. When **highway** construction or reconstruction is proposed in **linkage areas**, identify potential highway crossings	(Same as Alternative B)	**LINK S1.** When highway or *forest highway* construction or reconstruction is proposed in linkage areas, identify potential highway crossings.
LINK S2. Manage livestock grazing in shrub steppe habitats to contribute to maintaining or achieving a preponderance of **mid- or late-seral stages**, similar to conditions that would have occurred under historic disturbance regimes.	(See LINK G2)	(Same as Alt. F)
LINK G1. National Forest System lands should be retained in public ownership.	(Same as Alternative B)	(Same as Alt. F)
NA - See LINK S2.	**LINK G2.** Livestock grazing in shrub-steppe habitats should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	(Same as Alternative F)

Monitoring Requirements		
ALTERNATIVE B **Proposed Action**	**ALTERNATIVE F** **FEIS Preferred Alternative**	**ALTERNATIVE F-MODIFIED**
1. Map the location and intensity of snow compacting activities and designated and groomed routes that occurred inside LAUs during the period of 1998-2000 within one year and monitor every five years.	**1.** Map the location and intensity of snow compacting activities and designated and groomed routes that occurred inside LAUs during the period of 1998 to 2000. The mapping is to be completed within one year of this decision, and changes in activities and routes are to be monitored every five years after the decision.	**1.** Maps *of the* location and intensity of snow compacting activities and designated and groomed routes that occurred inside LAUs during the period of 1998 to 2000 *constitute baseline snow compaction*. Changes in activities and routes are to be monitored every five years after the decision.
	2. Annually report the number of acres where any of the exemptions 1 through 4 listed in Standard VEG S5 were applied. Report the type of activity, the number of acres, and the location (by unit, and LAU).	*2. When fuels treatment and vegetation management project decisions are signed, report the following:* *a) Acres of fuel treatment in lynx habitat by forest and LAU, and whether the treatment is within or outside the WUI as defined by HFRA.* *b) Whether or not the fuel treatment met the vegetation standards or guidelines. If standard(s) are not met, report which standard(s) are not met, why they could not be met, and how many acres were affected.* *c) Application of exception in Standard VEG S5: For areas where any of the exceptions 1 through 5 listed in Standard VEG S5 were applied, report the type of activity, the number of acres, and the location (by unit, and LAU) and whether or not Standard VEG S1 was within the allowance.* *d) Application of exception in Standard VEG S6: For areas where any of the exemptions 1 through 4 listed in the Standard VEG S6 were applied, report the type of activity, the number of acres, and the location (by unit, and LAU) and whether or not Standard VEG S1 was within the allowance.* *e) Total acres of lynx habitat treated under exemptions and exceptions to vegetation standards, to assure the 4.5 percent limit is not exceeded on any Forest over the life of the amendment (15 years).*

ALTERNATIVE B Proposed Action	ALTERNATIVE F FEIS Preferred Alternative	ALTERNATIVE F-MODIFIED
	3. Report the acres of fuel treatment in lynx habitat within the wildland urban interface as defined by HFRA when the project decision is approved. Report whether or not the fuel treatment met the vegetation standard. If standard(s) are not met, report which standard(s) were not met, why they were not met, and how many acres were affected.	*3. Application of guidelines* *a) Summarize what guideline(s) was not followed and why.* *b) Document the rationale for deviations to guidelines.*