NORTHERN ROCKIES LYNX AMENDMENT
PROPOSED ACTION

Proposed Action: The proposed action is based on the Lynx Conservation Assessment and Strategy (LCAS). The conservation measures in the LCAS were reorganized to fit Forest Service land and resource management plan and BLM land use plan direction (hereafter referred to as land management plans or plans). Analysis procedures included in the LCAS would be required, but would not be included as plan direction.
Objectives describe what we are trying to achieve over time. Standards describe limitations on activities that can occur. Guidelines describe recommended courses of action or criteria to consider.

Management Direction Applicable to All Programs and Activities

Standards

All Programs S1. Management direction applies only to lynx habitat within LAU's, or, where specified for some measures, applies where needed to address connectivity between LAU's. Management direction only applies to management of federal lands. Note some management direction may require analysis beyond National Forest or BLM lands, however management constraints will only be applied to National Forest or BLM lands. LAU boundaries will not be adjusted except through agreement with the US Fish and Wildlife Service, based on new information on the presence or absence of lynx habitat within a LAU.
All Programs S2. Maintain, and where necessary and feasible restore habitat connectivity within and between LAU's.

Management Direction Applicable to Vegetation Treatments

Objectives

Vege O1. Maintain suitable acres and juxtaposition of lynx habitat through time, with an emphasis on continued availability of high quality foraging habitat in proximity to denning habitat.
Vege O2. Restore fire as an ecological process, and use fire as a tool to maintain or restore lynx habitat where appropriate.
Vege O3. Design vegetation management practices, to the extent practicable, to be consistent with historical succession and disturbance regimes, while maintaining all required habitat components in lynx habitat.
Vege O4. Design vegetation and fire management activities to retain or restore denning habitat on landscapes with the lowest probability of stand replacing fire events.
Vege O5. Design regeneration harvest, planting, and thinning to maintain or enhance dense horizontal cover of conifers for snowshoe hare habitat. In aspen stands intermixed with spruce-fir forests, particularly in southern Idaho, southern Montana, Wyoming, and Utah, treatments should result in dense regeneration of aspen.
Vege O6. Design vegetative management practices to develop characteristics suitable for lynx and snowshoe hare habitat while also considering the habitat needs of important alternate prey, especially red squirrels.
Vege O7. When managing wildland fire, minimize creation of permanent travel ways that could facilitate increased access by competitors.

Standards

Vege S1. Unless a broad scale assessment has been completed that substantiates different historical levels suitable habitat, limit disturbance within each LAU as follows: if more than 30 percent of lynx habitat within a LAU is currently in unsuitable condition, no further reduction of

suitable conditions shall occur as a result of vegetation management activities on National Forest or BLM lands.
Vege S2. Within a LAU, maintain at least 10 percent of the LAU in lynx denning habitat. Denning habitat patches generally should be larger than 5 acres in size. Where less than 10 percent denning habitat is currently present within a LAU, defer vegetative management practices in stands that have the highest potential for developing denning habitat structure in the future. NOTE the intent is not to defer management actions where the denning habitat doesn't exist or won't exist in the near (20-30 yr future), but to defer in those stands that would provide denning in the near future (0-20 years).
Vege S3. Vegetative management practices shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10-year period.
Vege S4. In the event of a large wildfire, conduct a post-disturbance assessment prior to salvage harvest to evaluate potential for lynx denning and foraging habitat.
Vege S5. Following a disturbance, such as blowdown, fires, insects/pathogens mortality that could contribute to lynx denning habitat, do not salvage harvest when the affected areas is smaller than 5 acres. Exceptions to this include (a) developed recreation sites or other areas of high human concentration; (b) in LAU's where denning habitat has been mapped and field validated, salvage harvest may occur, provided that a minimum of 10 percent of the area is retained and is well distributed within a LAU.
Vege S6. In lynx habitat, pre-commercial thinning will be allowed only when stands no longer provide snowshoe hare habitat (e.g., self-pruning processes have eliminated snowshoe hare cover and forage availability during winter conditions with average snow pack).
Vege S7. In aspen stands within lynx habitat harvest prescriptions must favor regeneration of aspen. Note: An aspen stand is a group of aspen occupying a specific area and sufficiently uniform in composition, age, spatial arrangement, and conditions as to be distinguishable from the vegetation on adjoining lands.
Vege S8. Burn prescriptions in aspen and lodgepole pine stands will be designed to regenerate or create snowshoe hare habitat.

Management Direction Applicable to Grazing

Objectives

Grazing O1. Within lynx habitat, manage livestock grazing in riparian areas and willow carrs to maintain or achieve mid seral or higher condition to provide cover and forage for lynx and prey species.
Grazing O2. In lynx habitat and adjacent shrub-steppe habitats, manage grazing to maintain the composition and structure of native plant communities.

Standards

Grazing S1. Do not allow livestock use in openings created by fire or timber harvest that would delay successful regeneration of the shrub and tree components.
Grazing S2. Manage grazing in aspen stands to ensure sprouting and sprout survival sufficient to perpetuate the long-term viability of the clones.
Grazing S3. Shrub-steppe habitats interspersed within or immediately adjacent to lynx habitat are integral to the lynx habitat. Managed shrub-steppe habitat to maintain or achieve mid seral or higher condition.

Management Direction Applicable to Human Uses and Developments

Objectives

HUD O1. Maintain the natural competitive advantage of lynx in deep snow conditions. Minimize snow compaction in lynx habitat

HUD O2. Concentrate activities within existing developed areas, rather than developing new areas in lynx habitat.
HUD O3. On National Forest and BLM lands, ensure that development or expansion of developed recreation sites or ski areas and adjacent lands provides for landscape connectivity and lynx habitat needs.
HUD O4. Manage human activities such as special uses, oil and gas leasing, mining and utility transmission corridors to minimize impacts to lynx and lynx habitat.
HUD O5. Reduce the potential for lynx mortality related to highways on National Forest and BLM lands.
HUD O6. Ensure that connectivity is maintained across highway rights-of-way on National Forest and BLM lands.

Standards applicable to dispersed recreation
Dispersed Rec S1. On National Forest and BLM lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and designated snowmobile play areas by LAU, unless the grooming or designation serves to consolidate use and improve lynx habitat. This does not apply to permitted ski areas, winter logging or trail re-routes necessary for public safety.
Dispersed Rec S2. To protect the integrity of lynx habitat, evaluate (as new information becomes available) and amend as needed, winter recreational special use permits (outside of permitted ski areas) that promote snow compacting activities in lynx habitat.

Standards applicable to developed recreation
Developed Rec S1. Design trails, roads, and lift termini to direct winter use away from diurnal security habitat. This standard only applies to developed ski areas.
Developed Rec S2. In lynx habitat, ensure that federal actions do not degrade or compromise landscape connectivity when planning and operating new or expanded recreation developments.

Standards applicable to other development activities
Other Deve S1. On projects where over-snow access is required, restrict use to designated routes.
Other Deve S2. Identify, map and prioritize site-specific locations, using topographic and vegetation features, to determine where highway crossings are needed to reduce highway impacts on lynx.

Management Direction Applicable to Key Linkage Areas

Objectives applicable to key linkage areas
Linkage O1. Within identified key linkage areas, provide for landscape connectivity.
Linkage O2. Retain lands in key linkage areas in public ownership.

Standards applicable to key linkage areas
Linkage S1. When planning new or expanding recreational developments, maintain connectivity within key linkage areas.
Linkage S2. Within lynx habitat, identify key linkage areas and potential highway crossing areas.
Linkage S3. Evaluate proposed land exchanges, land sales, and special use permits for effects on key linkage areas.

Monitoring Requirements

Monitoring. Map and monitor the location and intensity of snow compacting activities (for example, snowmobiling, snowshoeing, cross-country skiing, dog sledding, etc) that coincide with lynx habitat, to facilitate future evaluation of effects on lynx as information becomes available.

Guidelines

These guidelines would be considered when developing and completing project level analysis. A plan amendment would NOT be required to deviate from these guidelines, however any deviation would be documented and rationale provided.

Vegetation Management

1. Plan regeneration harvests in lynx habitat where little or no habitat for snowshoe hares is currently available, to recruit a high density of conifers, hardwoods, and shrubs preferred by hares. Consider the following:
    a) Design regeneration prescriptions to mimic historical fire (or other natural disturbance) events, including retention of fire-killed dead trees and coarse woody debris;
    b) Design harvest units to mimic the pattern and scale of natural disturbances and retain natural connectivity across the landscape. Evaluate the potential of riparian zones, ridges, and saddles to provide connectivity; and
    c) Provide for continuing availability of foraging habitat in proximity to denning habitat.
2. In areas where recruitment of additional denning habitat is desired, or to extend the production of snowshoe hare foraging habitat where forage quality and quantity is declining due to plant succession, consider improvement harvests (commercial thinning, selection, etc). Improvement harvests should be designed to:
    a) Retain and recruit the understory of small diameter conifers and shrubs preferred by hares;
    b) Retain and recruit coarse woody debris, consistent with the likely availability of such material under natural disturbance regimes; and
    c) Maintain or improve the juxtaposition of denning and foraging habitat.
3. Consider the need for pre-treatment of fuels before conducting management ignitions.
4. Avoid constructing permanent firebreaks on ridges or saddles in lynx habitat.
5. Design burn prescriptions and, where feasible, conduct fire suppression actions in a manner that maintains adequate lynx denning habitat (more than 10% of lynx habitat per LAU).

Developed Recreation:

1. Identify and protect potential security habitats in and around proposed developments or expansions.
2. When designing ski area expansions, provide adequately sized coniferous inter-trail islands, including the retention of coarse woody material, to maintain snowshoe hare habitat.
3. Evaluate, and adjust as necessary, ski operations in expanded or newly developed areas to provide nocturnal foraging opportunities for lynx in a manner consistent with operational needs, especially in landscapes where lynx habitat occurs as narrow bands of coniferous forest across the mountain slopes.
4. Plan recreational development, and manage recreational and operational uses to provide for lynx movement and to maintain effectiveness of lynx habitat.

Other Human Uses

1. If activities are proposed in lynx habitat, develop stipulations for limitations on the timing of activities and surface use and occupancy at the leasing stage.

2. Minimize snow compaction when authorizing and monitoring developments. Encourage remote monitoring of sites that are located in lynx habitat, so that they do not have to be visited daily.
3. Develop a reclamation plan (e.g., road reclamation and vegetation rehabilitation) for abandoned well sites and closed mines to restore suitable habitat for lynx.
4. Close newly constructed roads (built to access mines or leases) in lynx habitat to public access during project activities. Upon project completion, reclaim or obliterate these roads.

Highways and roads

1. Dirt and gravel roads traversing lynx habitat (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway, etc.) in a manner that is likely to lead to significant increases in traffic volumes, traffic speeds, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitat. Whenever rural dirt and gravel roads traversing lynx habitat are proposed for such upgrades, a thorough analysis should be conducted on the potential direct and indirect effects to lynx and lynx habitat.
2. Minimize building of roads directly on ridgetops or areas identified as important for lynx habitat connectivity.
3. Where needed, develop measures such as wildlife fencing and associated underpasses or overpasses to reduce mortality risk.
4. Conduct roadside brushing on low-speed and low volume roads at the minimum level necessary to provide for public safety
5. Locate trails and roads away from forested stringers.
6. New roads constructed for project specific activities in lynx habitat, such as timber sales and mineral exploration should be closed to public use. Provide for the ability to implement an effective closure in the initial design of the road. Upon project completion obliterate these roads if not needed for other management objectives.
7. Determine where high total road densities (greater than 2 miles per square mile) coincide with lynx habitat, and prioritize roads for seasonal restrictions or reclamation in those areas.

Linkage Areas

1. Within key linkage areas, highway-crossing structures should be employed to reduce effects on wildlife.

Glossary

Boreal Forest – Forests growing in northern and mountainous parts of the northern hemisphere.

Broad-scale Assessment – 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 ecological, social and economic components within an area.

Composition (of forest vegetation) – The proportion of each tree species in a stand, expressed as a percentage of the total number, basal area, or volume of all tree species in the stand.

Cover Type – The present vegetation composition of an area, described by the dominant plant species.

Denning Habitat – Habitat used during parturition and rearing of young until they are mobile. The common component appears to be large amounts of coarse woody debris, either down logs or root wads. Coarse woody debris provides escape and thermal cover for kittens. Denning habitat may be found either in older mature forest of conifer or mixed conifer/deciduous types, or in regenerating stands (>20 years since disturbance). Denning habitat must be located within daily travel distance of foraging habitat (typical maximum daily distance for females is 3-6 miles).

Designated Over the Snow Routes – Groomed routes (snowmobile, ski, dog sled, etc trails), snowplowed roads, and other non-groomed routes authorized in Forest Service and BLM permits.

Developed Recreation – Recreational uses that are dependent upon facilities and therefore occur in concentrated use areas. Examples include campgrounds and ski areas. Facilities in these areas might include roads, parking lots, picnic tables, drinking water, toilets, ski lifts, and buildings.

Dispersed Recreation – Those outdoor recreation activities in forest environment that normally take place outside of developed sites or areas that support concentrated recreational use. Dispersed recreation activities may require facilities for safeguarding visitors, protecting resources, and enhancing the quality of the visitor experience.

Disturbance – Events that alter the structure, composition, or function of terrestrial or aquatic habitats. Natural disturbances include drought, floods, wind, fires, wildlife grazing, and insects and pathogens. Human-caused disturbances include actions such as timber harvest, livestock grazing, road construction, and the introduction of exotic species.

Foraging Habitat – Habitat that supports primary prey (snowshoe hare) and/or important alternate prey (especially red squirrels) that are available to lynx. The highest quality snowshoe hare habitats are those that support a high density of young trees or shrubs (> 4,500 stems or branches per acre), tall enough to protrude above the snow. These conditions may occur in early successional stands following some type of disturbance, or in older forests with a substantial understory of shrubs and young conifer trees. Coarse woody debris, especially in early successional stages (created by harvest regeneration units and large fires), provides important cover for snowshoe hares and other prey. Red squirrel densities tend to be highest in mature cone-bearing forests with substantial quantities of coarse woody debris.

Objectives – Descriptions of what an agency strives to accomplish.

Guidelines – Management direction and actions specifying how to achieve goals and objectives. Guidelines may include direction to refrain from taking an action. Deviations are allowed without an amendment to the plan, but must not be detrimental to conserving the lynx and the rationale for deviations must be documented.

Habitat – The complete suite of biotic and abiotic components of the environment where an animal lives.

Habitat Connectivity (Landscape) – Cover (vegetation) in sufficient quantity and arrangement to allow for the movement of lynx.

Highway – A road that is at least 2 lanes wide, paved with asphalt or concrete. Average daily traffic may exceed 5,000 vehicles and speeds are 45 mph or greater.

Key Linkage Areas – Key linkage areas provide landscape connectivity between blocks of lynx habitat. Linkage areas occur both within and between geographic areas where intervening areas of non-lynx habitat such as basins, valleys, agricultural lands separate blocks of lynx habitat, or where lynx habitat naturally narrows between two blocks.

Lynx Analysis Unit (LAU) – The LAU is a project analysis unit upon which direct, indirect, and cumulative effects analyses are performed. LAU boundaries should remain constant to facilitate planning and allow effective monitoring of habitat changes over time. An area of at least the size used by an individual lynx, about 25-50 mi^2.

Lynx Habitat – Lynx occur in mesic coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare. In the Rocky Mountains primary vegetation that contributes to lynx habitat is lodgepole pine, subalpine fir, and Englemann spruce. In extreme northern Idaho, northeastern Washington, and northwestern Montana, cedar-hemlock habitat types may be considered primary vegetation. In central Idaho, Douglas-fir on moist sites at higher elevations may be considered primary vegetation. Secondary vegetation that, when interspersed within subalpine forests, may also contribute to lynx habitat, includes cool, moist Douglas-fir, grand fir, western larch, and aspen forests. Dry forest types (e.g. ponderosa pine, climax lodgepole pine) do not provide lynx habitat. Primary elevations for lynx habitat are between 1500-2000, (49,20-6,560 ft) elevation zones in the northern Rockies.

Lynx Habitat Currently in Unsuitable Condition – Areas within identified/mapped lynx habitat that are in early successional stages as a result of recent fires or vegetation management, in which the vegetation has not developed sufficiently to support snowshoe hare populations during all seasons. Management-created openings would likely include clearcut and seed tree harvest units, and might include shelterwood and commercially-thinned stands depending on unit size and remaining stand composition and structure.

Precommercial Thinning – A thinning that does not yield trees of commercial value, usually designed to reduce stocking in order to concentrate growth on the more desirable trees.

Snow Play Areas – All areas where snow play has been designated to occur where use results in snow compaction that keeps the snow in the area compacted for over half of the winter. Examples include designated sledding hills and skiing hills.

Standards – Required management direction and actions specifying how to achieve goals and objectives. Standards may include requirements to refrain from taking an action. Deviations are not permissible without an amendment to the plan.

Structure (of forest vegetation) – The horizontal and vertical distribution of plants in a stand, including height, diameter, crown layers, and stems of trees, shrubs, herbaceous understory, snags, and coarse woody debris.

Unsuitable Areas – Areas such as lakes and openings that do not support snowshoe hare populations and are not considered to be capable of providing lynx habitat. See also Lynx Habitat and Lynx Habitat Currently in Unsuitable Condition.