APPENDIX F – WILDLIFE

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THREATENED OR ENDANGERED SPECIES SCREENS

Grizzly bears, wolves, bald eagles, and lynx are the listed species that occur incidentally throughout the Butte Field Office. This appendix describes analysis screens developed by a Level 1 team of interagency field biologists to facilitate, streamline, and ensure consistency across administrative boundaries during Section 7 consultation under the Endangered Species Act.

The screens are designed to identify simple, straightforward actions that have insignificant or discountable effects on listed species. If proposed actions are fully compliant with the wildlife screens, and the screen leads to a "not likely to adversely affect" conclusion, they will likely be covered for terrestrial species by a programmatic concurrence from the U.S. Fish and Wildlife Service. These proposed actions could proceed once the appropriate documentation (i.e. biological assessment or worksheet with appropriate documentation) is completed. The screens are not all inclusive because some projects warrant additional analyses from the onset. Furthermore, even though an action is identified in the screen, the standard consultation procedure could still be required. A qualified wildlife biologist is responsible for implementing the screening process.

Wildlife screens are attached for bald eagle, gray wolf, and grizzly bear. Measures identified in the Lynx Conservation and Assessment Strategy (LCAS) will serve as the screen for lynx

The Level 1 team is currently determining the appropriate format documentation procedure for the wildlife screening process. At a minimum, the action agency would be required to submit periodic progress reports for NLAA actions that have been consulted on using the programmatic concurrence.

The following sections provide guidance on how to use the wildlife screens and emphasize when the programmatic concurrence would not apply. If programmatic concurrence does not apply, the standard[1] section 7 process would occur. The process described here follows and compliments the National Fire Plan consultation strategy. The screens developed for the National Fire Plan process consider the effects of certain fire-related projects and may be used to screen all National Fire Plan projects. The screens presented here consider the effects of most other activities.

CONDITIONS APPLICABLE TO ALL SCREENS

The programmatic concurrence applies to Forest Service and BLM projects or actions where the biological assessment clearly leads to a "not likely to adversely affect" (NLAA) determination. Use of the consultation screens is intended to be a tool to arriving at an effects determination; the biologist must consider the effects of the action added to the environmental baseline and cumulative effects. The concurrence is expressly limited to those simple, straightforward actions that will have documentation supporting insignificant or discountable effects on wildlife. **More complex projects that do not clearly lead to an NLAA determination or those projects for which the project biologist has any threatened and endangered wildlife species concerns do not qualify for this programmatic concurrence. For these projects, biologists should follow standard consultation processes.**

Further, projects not meeting or included in the species-specific criteria are not covered by the programmatic consultation and must follow the standard processes for conducting project analysis, biological assessment development, and consultation. Several activities are not included in the species' screens because the nature of the activity warrants additional consideration provided through standard consultation procedures.

If one species does not meet the screening criteria, then standard consultation procedures need to be followed for all species. However, it is possible to use the screens as a documentation process for those species that fit the screens and include this documentation alongside the analysis for the species that do not fit the screens.

As always, cumulative effects must be considered; cumulative effects findings may cause the project to go to standard consultation.

No Effect determinations are included in the species-specific flowcharts to assist in overall effect determinations even though consultation is not necessary.

Application of the screens and determination of project effects for compliance with Section 7 must be accomplished by a qualified wildlife biologist.

In no case does the programmatic concurrence apply to any project or action that has the potential to cause or increase the likelihood of take as defined by the Service's regulations.

In the event that a project or action proceeds under the programmatic concurrence and exceeds the conditions of the programmatic concurrence, the action agency must initiate informal or formal consultation or request reaf-

[1] Standard consultation refers to the process whereby the action agency biologist commences dialogue with U.S. Fish and Wildlife Service (Service) counterparts to determine the appropriate consultation procedures. Typically this involves phone correspondence to apprise the Service of the effects of an ongoing project and to reach consensus on such an effect and to determine if informal consultation is sufficient or if the project should proceed to formal consultation. Upon agreement of the respective consultation procedure, the action agency biologist will submit the appropriate request and documentation to the Service for concurrence or a biological opinion.

firmation of concurrence, as appropriate, for that project or action.

GRIZZLY BEAR PROJECT SCREENING ELEMENTS & DETERMINATIONS

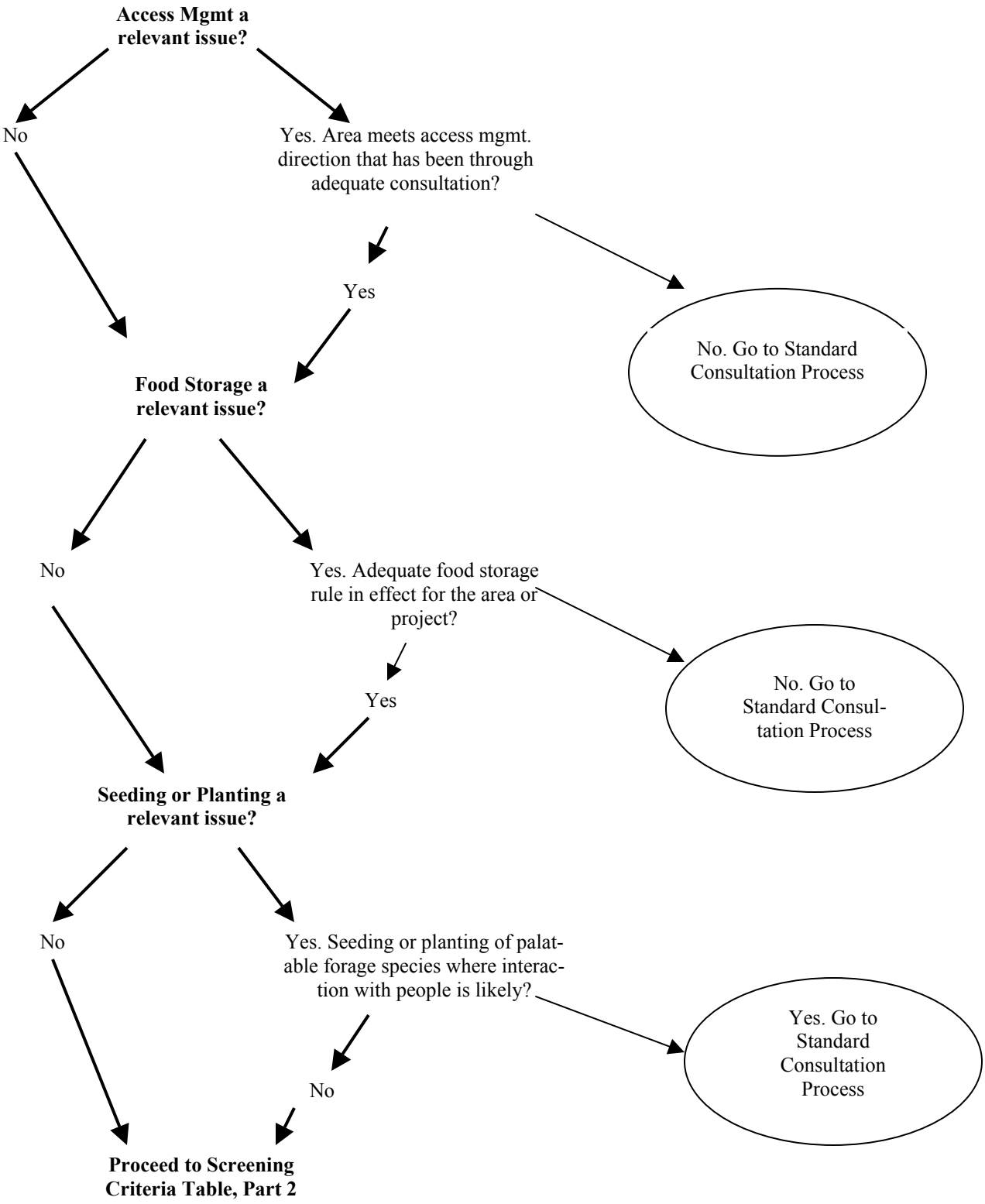
Three considerations are prerequisite to more detailed consideration of other project information and are considered in screening process Part 1. (1) The area must be in compliance with the appropriate access management direction. (2) Human foods, livestock feed, garbage, and other attractants must be managed by the application of an adequate[2] "food storage rule" similar to the NCDE or Yellowstone food storage orders. If no specific rule exists for the area, use of either the Yellowstone or NCDE order will be considered adequate. (3) Projects that involve seeding or planting of grasses, forbs, or shrubs, must do so in a manner that will tend not to attract bears into areas where increased mortality risk or interaction between bears and people is likely.

After access management, food/attractant storage, and seeding/planting of grasses, forbs, or shrubs has been considered in Part 1, only then can other project details be considered in the Screening Criteria Table, Part 2. Table 2 represents a comprehensive activity list. There may be activities that are not included in this Table. For those activities not included and for which there is an effect, follow standard consultation procedures. Also, the Not Likely to Adversely Affect (NLAA) determinations reflects a conservative determination. There may be activities listed as NLAA in Table 2 that upon site-specific analyses warrant a No Effect determination.

Note: The scope of this programmatic biological assessment applies to areas where grizzly bears are expected to occur – not just within Recovery Zone boundaries.

[2]Food shall be attended or stored in a bear resistant manner. For examples of applicable methods of bear resistant storage and definitions for 'attended' review the NCDE or Yellowstone food storage orders.

GRIZZLY BEAR SCREENING PROCESS PART 1



Part 2: The following Screening Criteria Table displays forest activities and criteria, that when met, will allow the project to meet "screening elements". If the project does not meet the identified criteria, the project should proceed through the established consultation process[3].

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
1	**Timber harvest**	Harvest, skidding, and/or hauling of timber products	NA	NA	Potential LAA, go to Standard Consultation process
2	**Healthy Forest Initiative Categorical Exclusions**	Category 12, Limited Timber Harvest: Live Trees – commercial thinning of overly dense stands of trees to improve the health of remaining trees; removing individual trees for forest products or fuel wood	NA	Limited timber harvest of live trees does not exceed 70 acres and there is less than ½ mile of temporary road construction. This is also not allowed in inventoried roadless areas and other specified areas of significance such as grizzly bear core areas.	NLAA
3	**Mechanical**	Off road heavy equip operation, such as site prep, fuel piling, log yarding, etc	NA	NA	Potential LAA, go to Standard Consultation process
		Helicopter use for monitoring, prescribed fire ignition, wildlife relocations, etc	Use includes few trips and ≤2 activities/year and ≤2 days/activity/ analysis area	NA	NLAA
4	**Existing Gravel Pit Use**	Existing gravel pit use for road maintenance, etc.		Use occurs off existing roads only. If on closed roads, use does not exceed administrative use levels	NLAA or NE
5	**Roads and Road Maintenance**	Opening closed road			Potential LAA, go to Standard Consultation process.

[3] References for crew levels and duration of use as well as time frames identified under Screening Criteria include: CEM – A model for assessing effects on grizzly bears, 1990; Response to peer review of the A19 and proposed approach to managing access in grizzly bear habitat, NCDE Technical Group 1/24/01; and Draft, Rationale and choices made in the review and development of an access direction proposal for the NCDE grizzly bear ecosystem, 11/24/98.

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
		Reclaiming road outside of riparian/ spring habitat	Use is ≤ 14 consecutive days		NLAA
		Reclaiming road in riparian/spring habitat		Project occurs between July 1 through March 31	NLAA
		Reclaiming road		Does not meet administrative use levels, or occurs in riparian/spring habitat and active during 4/1-6/30	Potential LAA, go to Standard Consultation process
		Road maintenance: blading, culvert cleaning, brushing, etc		Road is open, or use meets administrative use criteria	NLAA
		New road construction	Construction is ≤ 14 consecutive days	≤ ½ mile temporary road construction. If in riparian or spring habitat, new road construction occurs between July 1 and March 31	NLAA
		Bridge or stream culvert replacement		Project occurs between July 1 through March 31 or completed in ≤1 day	NLAA
6	**Silviculture Activities**	Reforestation hand planting	Day use only or camping of ≤20 individuals and ≤5 days/analysis area	Does not include snow plowing for access	NLAA
		Reforestation mechanical treatments	NA	NA	Potential LAA, go to Standard Consultation process.
		Insect suppression Aerial chemical application	NA	Chemicals do not effect cutworm moth or habitat	NLAA
		Insect suppression Aerial chemical application	NA	Chemicals affect cutworm moth or habitat, and in moth habitat	Potential LAA, go to Standard Consultation process
		Insect suppression ground chemical application	NA	NA	NLAA
		Insect suppression survey, fertilization, manual treatment, individual tree fire treatment, or pheromone treatment	NA	NA	NLAA

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
		Precommercial thinning and long term (>1 year) commercial Christmas tree harvest			Potential LAA, go to Standard Consultation process
		Disease control – manual treatment of larch through girdling to control larch mistletoe	NA	NA	NLAA
7	**Range**	Infrastructure development	NA	NA	NLAA
		Grazing		Maintains or reduces existing livestock grazing or changes livestock class to a less vulnerable spp, and no history of depredation or control actions	NLAA
		Grazing		Increases livestock grazing, introduces new grazing into areas where depredation more likely, or history of livestock depredation	Potential LAA, go to Standard Consultation process
8	**Recreation**	Trail maintenance or reconstruction	NA	Results in increased use or change of user type	Potential LAA, go to Standard Consultation process
		Trail maintenance or reconstruction		Does not result in increase in use or change in user type	NLAA
		New Trail construction			Potential LAA, go to Standard Consultation process
		Facility operations, including developed and dispersed camping		Educate public campers and enforce sanitation standards. Does not increase use or change user type.	NLAA
				Sanitation standards are not enforced or use is increased or user type is changed.	Potential LAA, go to Standard Consultation process

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
9	**Forest Products**	Personal use firewood collection, annual Christmas tree cutting, berry picking, low/incidental mushroom picking, and collection of "other forest products" (such as bear grass greens, medicinal herbs, pachistima, etc)		Does not include off road mechanical skidding or hauling. Include "bear aware" education message	NLAA
		Commercial firewood collection, berry picking, and "other forest products" (such as bear grass greens, medicinal herbs, pachistima, etc), but does not include mushrooms.	Day use only or camping of ≤20 individuals and ≤5 days total/analysis area	Does not include off road mechanical skidding or hauling. Enforce sanitation standards, and Include "bear aware" education message.	NLAA
10	**Habitat Restoration**	See timber harvest, mechanical treatments, roads, weed control, and prescribed fire. Also includes monitoring, fencing, fish barrier development, fish spp removal/trapping, rotenone treatment, interpretation/Con Ed, meadow restoration, riparian planting and restoration, snag creation, and water source development.	Day use only or camping of ≤20 individuals and ≤5 days/analysis area	Project occurs between July 1 through March 31 or completed in ≤1 day in riparian areas. Project does not result in an increase in public use or user type.	NLAA
11	**Prescribed Fire**	General support, ignition, mop-up	Day use only or camping of ≤20 individuals for ≤5 days/analysis area	Does not include riparian areas	NLAA
		Fire line construction	Same as support	Fire line does not/will not function as a road or trail and will be reclaimed after the fire.	NLAA
		Defensible space treatments (within 100m of structure) (Cohen 2000)	Same as support	Planting and/or seeding does not include palatable forage spp.	NLAA

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
12	**Watershed Restoration**	Includes erosion control structures, sediment control, monitoring. Also, see reforestation, timber harvest, mechanical treatments, etc.	Day use only or camping of ≤20 individuals and ≤5 days/analysis area	Project occurs between July 1 through March 31 or completed in ≤1 day	NLAA
13	**Weed Management**	Chemical, aerial or ground application	NA	NA	NLAA
		Sheep or goat grazing	NA	NA	Potential LAA, go to Standard Consultation process
14	**Non-recreational Special Uses**	This includes maintenance of existing sites, corridors, or other facilities and is often carried out by the entity that owns the structures or facilities	NA	Meets administrative use levels	NLAA
		New construction of facilities – this includes microwaves, cell towers, substation communications, powerlines, etc.	NA	Construction of powerlines is ≤ ½ mile and includes vegetation clearing. Includes ≤ ½ mile of temporary road construction. Roads are not constructed in spring habitat between April 1 and June 30.	NLAA
15	**Miscellaneous**	Similar activity component, but must meet all screening criteria in parts 1 and 2 of the screens table and not violate any of these criteria.			NE or LNAA

CONSERVATION ACTIONS FOR GRIZZLY BEARS

The following excerpts from the Yellowstone Conservation Strategy and Grizzly Bear Management Plan for Southwestern Montana are pertinent to grizzly bear management in the Butte Field Office. These are the conservation measures that address the needs and risk factors for grizzly bear, and will be used to evaluate land management authorizations. The DFO is outside the Primary Conservation Area for grizzly, and only those actions specific to areas outside the PCA will be used.

Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area

March 2003

Chapter 1 Introduction and Background

The future management of the Yellowstone grizzly bear population is envisioned as one in which the grizzly and its habitat are conserved as integral parts of the Greater Yellowstone Area.

Within the Greater Yellowstone Area (GYA), the grizzly bear population and its habitat will be managed utilizing a management approach that identifies a Primary Conservation Area (PCA) and adjacent areas where occupancy by grizzly bears is anticipated and acceptable. The PCA is the existing Yellowstone grizzly bear recovery zone as identified in the 1993 *Grizzly Bear Recovery Plan (Recovery Plan)* (USFWS 1993). The size of the recovery zone is not being expanded in this approach. Upon implementation of this Conservation Strategy, management using a recovery zone line and grizzly bear Management Situations described in the Interagency Grizzly Bear Guidelines (IGBC 1986) will no longer be necessary1. The PCA boundary will replace the recovery zone boundary.

In the Conservation Strategy, management direction is described for both the PCA and adjacent areas within the GYA. State grizzly bear management plans, forest plans, and other appropriate planning documents will provide specific management direction for the adjacent areas outside the PCA.

This Conservation Strategy was developed to be the document guiding management and monitoring of the Yellowstone grizzly bear population and its habitat upon recovery and delisting. This approach will remain in place beyond recovery and delisting. Ongoing review and evaluation of the effectiveness of this Conservation Strategy is the responsibility of the state and federal managers in the GYA. This Conservation Strategy will be updated by the management agencies every five years or as necessary, allowing public comment in the updating process.

Upon implementation of the Conservation Strategy, the Yellowstone Grizzly Coordinating Committee (YGCC) will replace the Yellowstone Ecosystem Subcommittee.

The Conservation Strategy and the State Management Plans

The purpose of this Conservation Strategy (Strategy) and the state plans is to:

• Describe and summarize the coordinated efforts to manage the grizzly bear population and its habitat to ensure continued conservation in the GYA

• Specify the population, habitat, and nuisance bear standards to maintain a recovered grizzly bear population for the foreseeable future

• Document the regulatory mechanisms and legal authorities, policies, management, and monitoring programs that exist to maintain the recovered grizzly bear population

• Document the commitment of the participating agencies

Implementation of the management strategies requires continued cooperation between federal and state agencies.

The GYA is a dynamic environment; monitoring systems in the Strategy allow for dynamic management as environmental issues change. The agencies are committed to be responsive to the needs of the grizzly bear by dynamic management actions based on the results of detailed annual population and habitat monitoring.

The vision of the Strategy can be summarized as follows:

• The PCA will be a secure area for grizzly bears, with population and habitat conditions maintained to ensure a recovered population is maintained for the foreseeable future and to allow bears to continue to expand outside the PCA.

• Outside of the PCA, grizzly bears will be allowed to expand into biologically suitable and socially acceptable areas.

• Outside of the PCA, the objective is to maintain existing resource management and recreational uses and to allow agencies to respond to demonstrated problems with appropriate management actions.

• Outside of the PCA, the key to successful management of grizzly bears lies in bears utilizing lands that are not managed solely for bears but in which their needs are considered along with other uses.

• Expand public information and education efforts.

• Provide quick responsive management to deal with grizzly bear conflicts.

• Manage grizzly bears as a game animal; including allowing regulated hunting when and where appropriate.

Relationship to Other Plans

By integrating state plans into the Strategy, it was ensured that the plans and the Strategy are consistent where necessary and complementary. The state plans are formally incorporated in the Conservation Strategy as Appendices K, L, and M.

Relationships with national forest and national park plans are also mentioned throughout the Strategy. Land and resource management plans for some national forests, national parks, and the Bureau of Land Management (BLM) in the GYA have incorporated the habitat standards and other relevant provisions of the Conservation Strategy. For those standards and provisions not yet incorporated into management plans, the agencies will implement the habitat standards and monitoring requirements in this conservation strategy through their established planning processes, subject to NEPA or other legal requirements.

Chapter 2 Population Standards and Monitoring

To maintain a healthy (recovered) grizzly bear population in the GYA, it is necessary to have adequate numbers of bears that are widely distributed with a balance between reproduction and mortality. This section details the population criteria in the *Recovery Plan* that were necessary to achieve recovery, and the population standards necessary to maintain it. *Recovery Plan* criteria focus on the PCA and a 10-mile perimeter, whereas standards in the Strategy and the parameters in appended state plans focus beyond the PCA and encompass the entire GYA. Because grizzly bears are a difficult species to monitor and manage, multiple standards with additional monitoring items are identified to provide sufficient information upon which to base management decisions. It is the goal of the agencies implementing this Conservation Strategy to manage the Yellowstone grizzly population in the entire GYA at or above a total of 500 grizzly bears.

Chapter 3 Habitat Standards and Monitoring

The habitat standards identified in this document will be maintained at identified levels inside the PCA. In addition to the habitat standards, several other habitat factors will be monitored and evaluated to determine the overall condition of habitat for bears. It is the goal of the habitat management agencies to maintain or improve habitat conditions existing as of 1998, as measured within each subunit within the PCA, while maintaining options for management of resource activities at approximately the same level as existed in 1998. The habitat standards in this document are subject to revision based on the best available science and will be reviewed and updated as necessary.

Habitat standards include:

• Maintenance of secure habitat at 1998 levels in each BMU subunit through management of motorized access route building and density, with short-term deviations allowed under specific conditions. Secure habitat is defined as more than 500 meters from an open or gated motorized access route or reoccurring helicopter flight line and must be greater than or equal to 10 acres in size.

• The number of commercial livestock allotments and number of permitted domestic sheep will not exceed 1998 levels inside the PCA. Existing sheep allotments will be phased out as the opportunity arises with willing permittees.

• Management of developed sites at 1998 levels within each BMU subunit, with some exceptions for administrative and maintenance needs

Habitat criteria that will be monitored and reported include:

• Monitoring open and total motorized access route density in each BMU subunit inside the PCA

• Monitoring of four major food items throughout the Yellowstone area: winter ungulate carcasses, cutthroat trout spawning numbers, bear use of army cutworm moth sites, and whitebark pine cone production. The incidence of white pine blister rust in sampled areas will also be monitored.

• Monitoring of habitat effectiveness in the PCA using the databases from the Yellowstone Grizzly Bear Cumulative Effects Model

• Monitoring the number of elk hunters inside the PCA

• Monitoring the number of grizzly bear mortalities throughout the Yellowstone area on private lands and development of a protocol to monitor private land status and condition

• Land managers will ensure that habitat connectivity is addressed throughout the Yellowstone area as part of any new road construction or reconstruction

Chapter 4 Management and Monitoring of Grizzly Bear/Human Conflicts

The management of grizzly bear/human conflicts inside the PCA is based upon the existing laws and authorities of the state wildlife agencies and federal land management agencies. Outside the PCA, state management plans will direct the management of nuisance bears. Management of nuisance bears usually falls into one or more of the following categories:

• Removing or securing the attractant

• Deterring the bear from the site through the use of aversive conditioning techniques

• Capturing and relocating the nuisance bear

• Removing the bear from the wild, including lethal control

The focus and intent of nuisance grizzly bear management inside and outside the PCA will be predicated on strategies and actions to prevent grizzly bear/human

conflicts. It is recognized that active management aimed at individual nuisance bears will be required in both areas. Management actions outside the PCA will be implemented according to state management plans. These actions will be compatible with grizzly bear population management objectives for each state for the areas outside the PCA.

In circumstances that result in a nuisance bear situation outside the PCA, more consideration will be given to existing human uses. Site-specific conflict areas within and outside the PCA will be documented and prioritized to focus proactive management actions to minimize grizzly bear/human conflicts and address existing and potential human activities that may cause future conflicts. Past conflict management has demonstrated that grizzly bears can coexist with most human activities.

Management of all nuisance bear situations will emphasize resolving the human cause of the conflict. Relocation and removal of grizzly bears may occur if other management actions are not successful.

Before any removal, except in cases of human safety, management authorities will consult with each other prior to judging the adequacy of the reason for removal.

Captured grizzly bears identified for removal may be given to public research institutions or public zoological parks for appropriate non-release educational or scientific purposes as per regulations of states and national parks. Grizzly bears not suitable for release, research, or educational purposes will be removed as described in appropriate state management plans or in compliance with national park management plans. .

All grizzly bear relocations and removals will be documented and reported annually in the IGBST (Interagency Grizzly Bear Study Team) Annual Report.

Chapter 5 Information and Education

The purposes of the information and education aspects of this cooperative effort are to support the development, implementation, and dissemination of a coordinated information and education program. This program should be understandable and useful for the people who visit, live, work, and recreate in bear habitat to minimize grizzly bear/human conflicts and to provide for the safety of people while building support for viable bear populations.

Information made available to the public will be open and responsive to public concerns. Open discussions with the public will increase credibility of the grizzly bear management program.

These efforts will be reviewed periodically and program adjustments will be made as necessary. In addition, efforts will be expanded as the bear population expands and additional efforts will be needed in areas that could become occupied in the near future.

The current information and education (I & E) working group within the Greater Yellowstone Area will continue. Members of this I & E team include public affairs personnel from Forest Service Regions 1, 2, and 4; Grand Teton and Yellowstone National Parks; the BLM; representatives from each state wildlife agency; and the information and education specialist from the IGBC. This team will continue to work with all affected interests to ensure consistency of information, efficient funding strategies, identifying and targeting audiences, developing partnerships, and identifying new tools for implementation.

Grizzly Bear Management Plan for Southwestern Montana

2002-2012

Specific Habitat Management and Guidelines

FWP will seek to maintain road densities of 1 mile or less per square mile of habitat as the preferred approach. This is the goal of the statewide elk management plan (including the southwestern Montana areas covered by this plan). The goal seeks to meet the needs of a variety of wildlife while maintaining reasonable public access. If additional management is needed based on knowledge gained as bears reoccupy areas, it should be developed and implemented by local groups as suggested in this plan.

The following general management guidelines are applicable coordination measures. They should be considered when evaluating the effects of existing and proposed human activities in identified seasonally important habitats for a variety of wildlife species including grizzlies on federal and State lands.

1. Identify and evaluate, for each project proposal, the cumulative effects of all activities, including existing uses and other planned projects. Potential site-specific effects of the project being analyzed are a part of the cumulative effects evaluation which will apply to all lands within a designated “biological unit”. A biological unit is an area of land which is ecologically similar and includes all of the year-long habitat requirements for a sub-population of one or more selected wildlife species.
2. Avoid human activities, or combinations of activities, on seasonally important wildlife habitats that may result in an adverse impact on the species or reduce long-term habitat effectiveness.
3. Base road construction proposals on a completed transportation plan which considers important wildlife habitat components and seasonal use areas in relation to road location, construction period, road standards, seasons of heavy vehicle use, road management requirements, and more.
4. Use minimum road and site construction specifications based on projected transportation needs.

Schedule construction times to avoid seasonal-use periods for wildlife as designated in species-specific guidelines.

5. Locate roads, drill sites, landing zones, etc., to avoid important wildlife habitat components based on site-specific evaluation.
6. Roads that are not compatible with area management objectives, and are no longer needed for the purpose, for which they were built, will be closed and reclaimed. Native plant species will be used whenever possible to provide proper watershed protection on disturbed areas. Wildlife forage and/or cover species will be used in rehabilitation projects where appropriate.
7. Impose seasonal closures and/or vehicle restrictions based on wildlife, or other resource needs, on roads that remain open and enforce and prosecute illegal use by off-road vehicles if given authority. FWP will actively work to secure authority through the appropriate process and identify funding to support enforcement efforts.
8. FWP supports the U.S. Forest Service and BLM restrictions banning all off-road/trail use.
9. Efforts will be directed towards improving the quality of habitat in site-specific areas of habitually high human-caused bear mortality. Increased sanitation measures, seasonal road closures, etc., could be applied.

BALD EAGLE PROJECT SCREENING ELEMENTS & DETERMINATIONS

All attempts were made to adhere to and be compatible with the guidance found in the Montana Bald Eagle Management Plan (July 1994). Please refer to the Montana Bald Eagle Management Plan for further, more detailed, information. For a proposed activity in or near bald eagle breeding habitat, take it through each of the screens that refer to the location in which the project will occur (e.g. Zone I, etc.). Read each separate section if it is within the area of zone affected. Note, the Not Likely to Adversely Affect (NLAA) determinations reflect a conservative determination. There may be activities listed as NLAA that upon site specific analyses warrant a No Effect determination.

Definitions:

Zone I - Nest Site Area, ¼ mi (400 m) radius of all nest sites in the breeding area that have been active within 5 years or until an active nest is located. When an active nest is located, Zone I applies only to the active nest (MBEMP p.23). Zone maps may be modified if sufficient information on bald eagle use of the area exists.

Zone II - Primary Use Area, includes the area ¼ mi (400 m) to ½ mi (800 m) from all nest sites in the breeding area that have been active within 5 years or until an activities nest is located. When an active nest is located, Zone II applies only to the active nest (*Id*.p.23).

Zone III - Home Range, represents most of a home range used by eagles during the nesting season. It usually includes all suitable foraging habitat within 2.5 mi (4 km) of all nest sites in the breeding area that have been active within 5 years (*Id*. p.24).

Foraging Habitat - Includes foraging habitat outside of Zones I, II and III where resident breeding birds may forage. This is essential for the entire population, not just resident breeding eagles. This includes lakes, rivers, wetlands and meadows (*Id*. p.24).

Human Activity - Examples of low intensity such as dispersed recreation; high intensity is heavy equipment use, blasting, logging, or concentrated recreation (*Id*. p.24).

Development - Development that may increase human activity levels or negatively impact bald eagle habitat (*Id*. p. 24 refers to permanent development)

Nesting Season (dates) - As early as Feb. 1 and as late as Aug. 15 in MT (*Id*. p.22); nest specific information will firm up the dates for that nest/pair.

Postfledging - Birds leave the nest area, generally in Aug. in MT

Habitat alteration - That which may negatively affect bald eagles include, but are not limited to, timber harvest, prescribed fire, power line construction, pesticide use, land clearing, stream channeling, levee or dam construction or wetland drainage (*Id*.p.23).

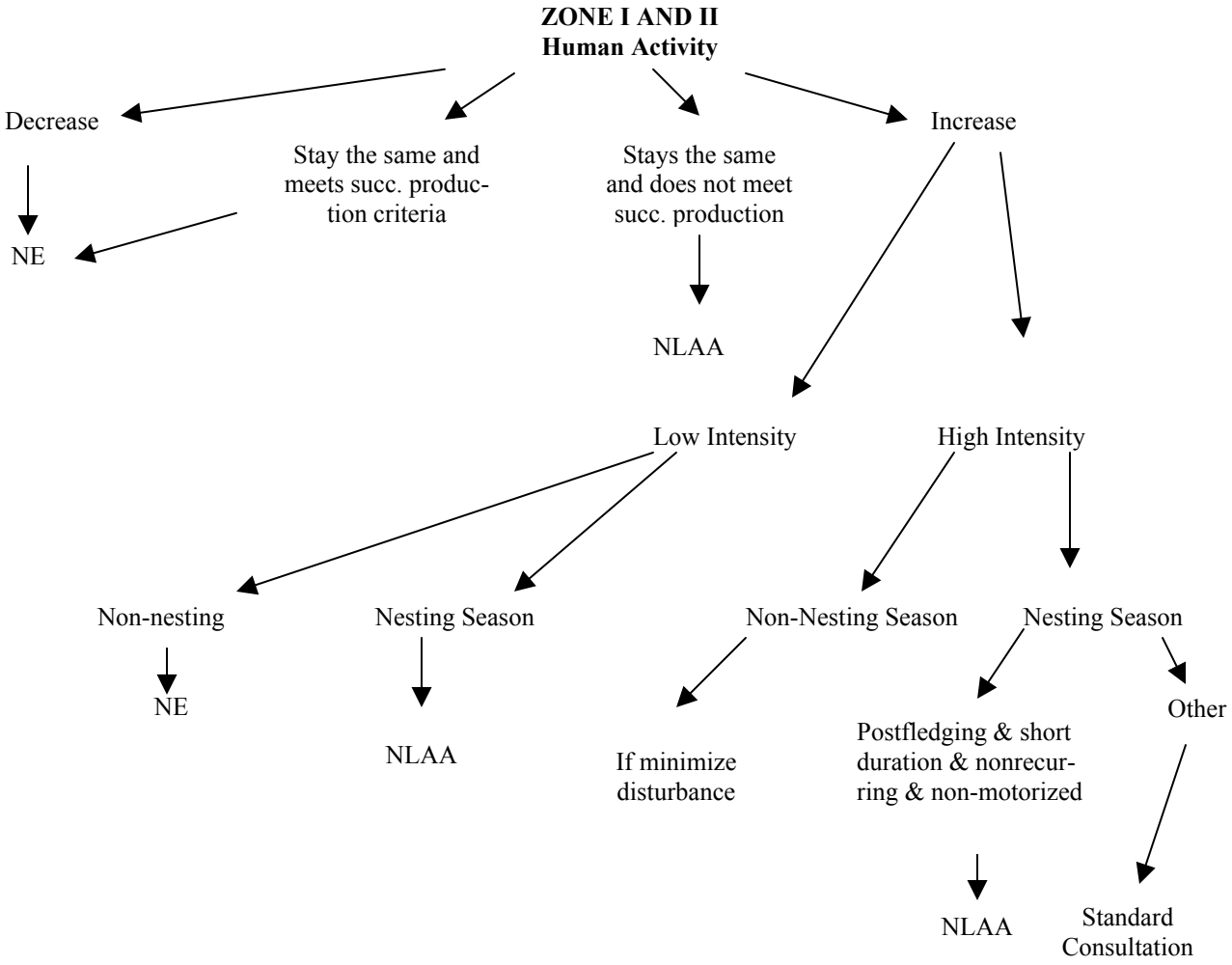
Nesting and feeding habitat characteristics - See MBEMP p. 27-28

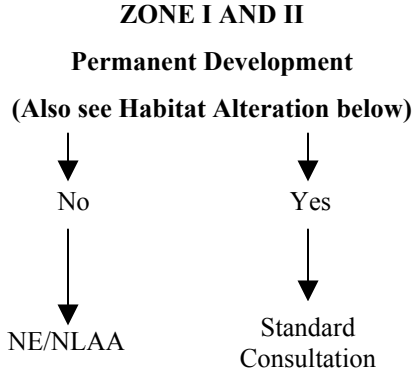
Structures - Example of a structure hazardous to bald eagles is overhead utility lines (*Id*. p.24)

Disturbance - Any human elicited response that induces a behavioral or physiological change in a bald eagle contradictory to those that facilitate survival and reproduction. Disturbance may include elevated heart or respiratory rate, flushing from a perch or events that cause a bald eagle to avoid an area or nest site (*Id*. p. 48).

Key use areas - Parts of Zone III most used by bald eagles

Successful Production Criteria - 60% nest success and has fledged 3 or more young during the preceding 5 years (*Id*. p. 23)


ZONE I AND II
Human Activity
Decrease
Stay the same and meets succ. production criteria
Stays the same and does not meet succ. production
Increase
NE
NLAA
Low Intensity
High Intensity
Non-nesting
Nesting Season
Non-Nesting Season
Nesting Season
NE
NLAA
If minimize disturbance
Postfledging & short duration & nonrecurring & non-motorized
Other
NLAA
Standard Consultation


ZONE I AND II
Permanent Development
(Also see Habitat Alteration below)
No
Yes
NE/NLAA
Standard Consultation

ZONE I AND II*

Repeated flights by helicopter, light plane, hang glider, paraglider, parachute, or hot air balloon under the control of an agency (permitted, etc.)

↓

During nesting season, less than ½ mi above nest,*
in Zone I or II within line of sight of nest, and Zone I outside of line of sight of nest

No → NE

Yes → Standard Consultation

ZONE I, II AND III

Habitat Alteration

No → NE

Yes → Will it alter nesting and feeding habitat characteristics in the Zones?

No → NE

Yes → Standard consultation

ZONE II AND III AND FORAGING AREAS

Structures proposed that pose no risk to bald eagles or their prey

↓

NE

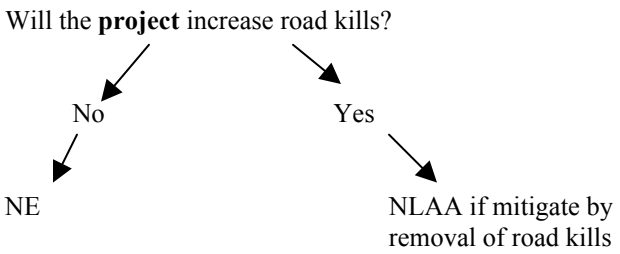
ZONE III

Disturbance proposed in key use areas

No → NE

Yes → Standard consultation

FORAGING HABITAT



*Not addressed in Montana Bald Eagle Management Plan (1994); taken from Pacific Bald Eagle Recovery Plan (USDI USFWS 1986), p. 53 (pers. comm. Eric Greenquist to Carole Jorgensen)

WOLF PROJECT SCREENING ELEMENTS & DETERMINATIONS

The following screening process is intended to facilitate ESA processing of project consultation requirements. The wolf screen should be used to assist you in identifying projects that have "no effect" (NE) or *"not likely to adversely affect"* (NLAA) determination calls for the wolf. All projects that do not fall into the NE or NLAA must consider effects on wolves by using the standard consultation process for evaluating impacts of proposed projects on threatened and endangered species. Also, the Not Likely to Adversely Affect (NLAA) determinations reflect a conservative determination. There may be activities listed as NLAA that upon site specific analyses warrant a No Effect determination.

The major components of the wolf screen are population designation (wild or experimental) and whether the proposed project has any relationship to den or rendezvous sites during spring/summer, the prey base and/or livestock grazing. The wolf screen was based on personal communications, review by the Montana Level I Team and the following references:

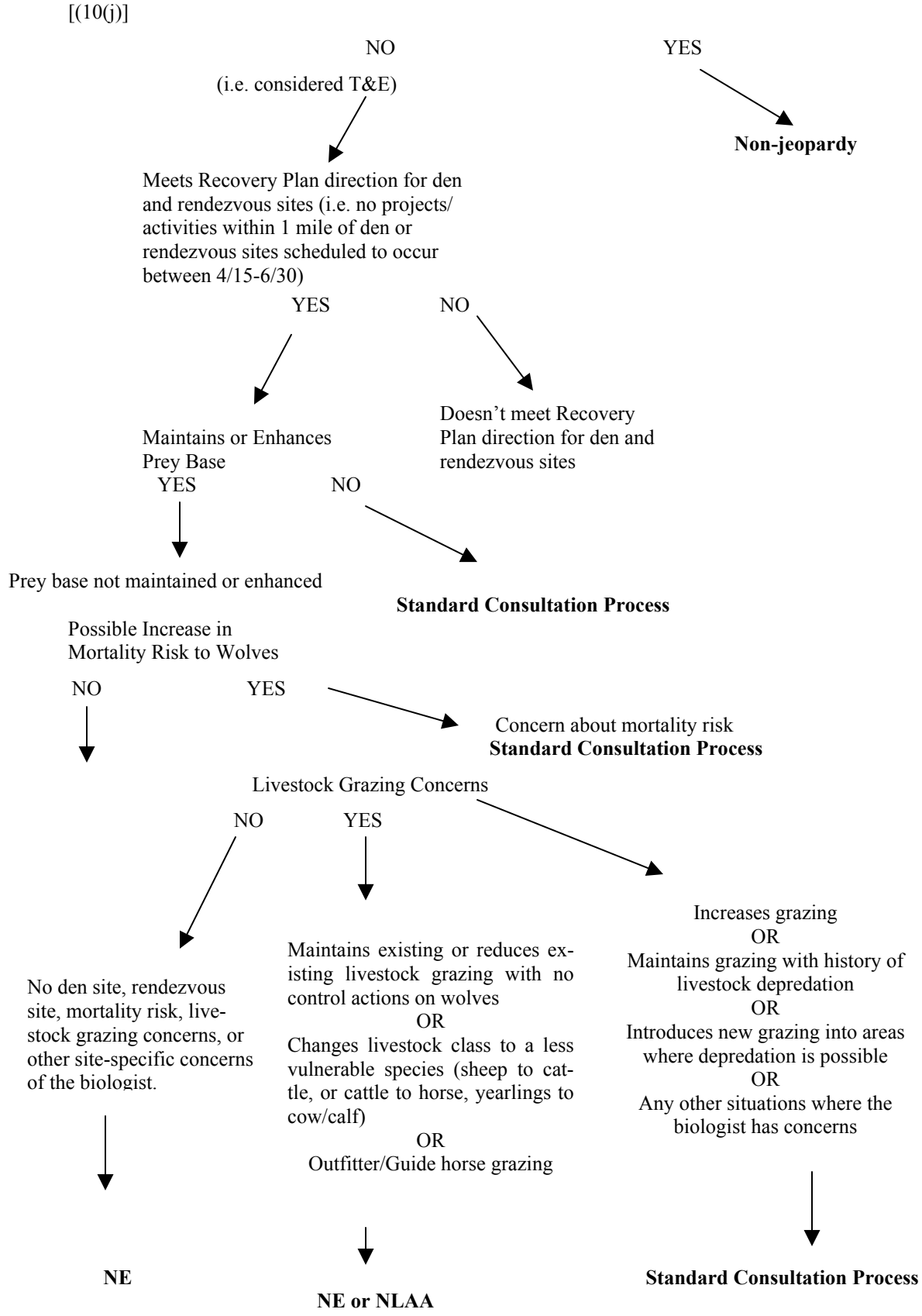
USDI. 1987. Wolf Recovery Plan.

Fontaine, Joe. Personal communication (with Mike Hillis)

USDA and USDI. 2000. Interior Columbia Basin Ecosystem Management Project, Final Environmental Impact Statement.

USDA and USDI. Biological Assessment. Interior Columbia Basin Ecosystem Management Project.

EXPERIMENTAL POPULATION



LYNX PROJECT SCREENING ELEMENTS & DETERMINATIONS[4]

The lynx screen is a two-part process. Projects are initially screened through the Part 1 Flow Chart to determine whether they are carried forward into Part 2 or if standard consultation procedures need to be followed. Part 2 consists of two different tables, D1 and D2. Table D1 is composed of those activities described in the LCAS. Table D2 consists of projects that are not identified in the LCAS but that may be implemented as part of program of work and as such need to be analyzed for effects to listed species.

Table D2 is a based on the consultation that was completed when the lynx was listed in 2000 and through ongoing project analysis. As such, we retained the *"no effect"* determination in these screens as a general guideline for use by project biologists.

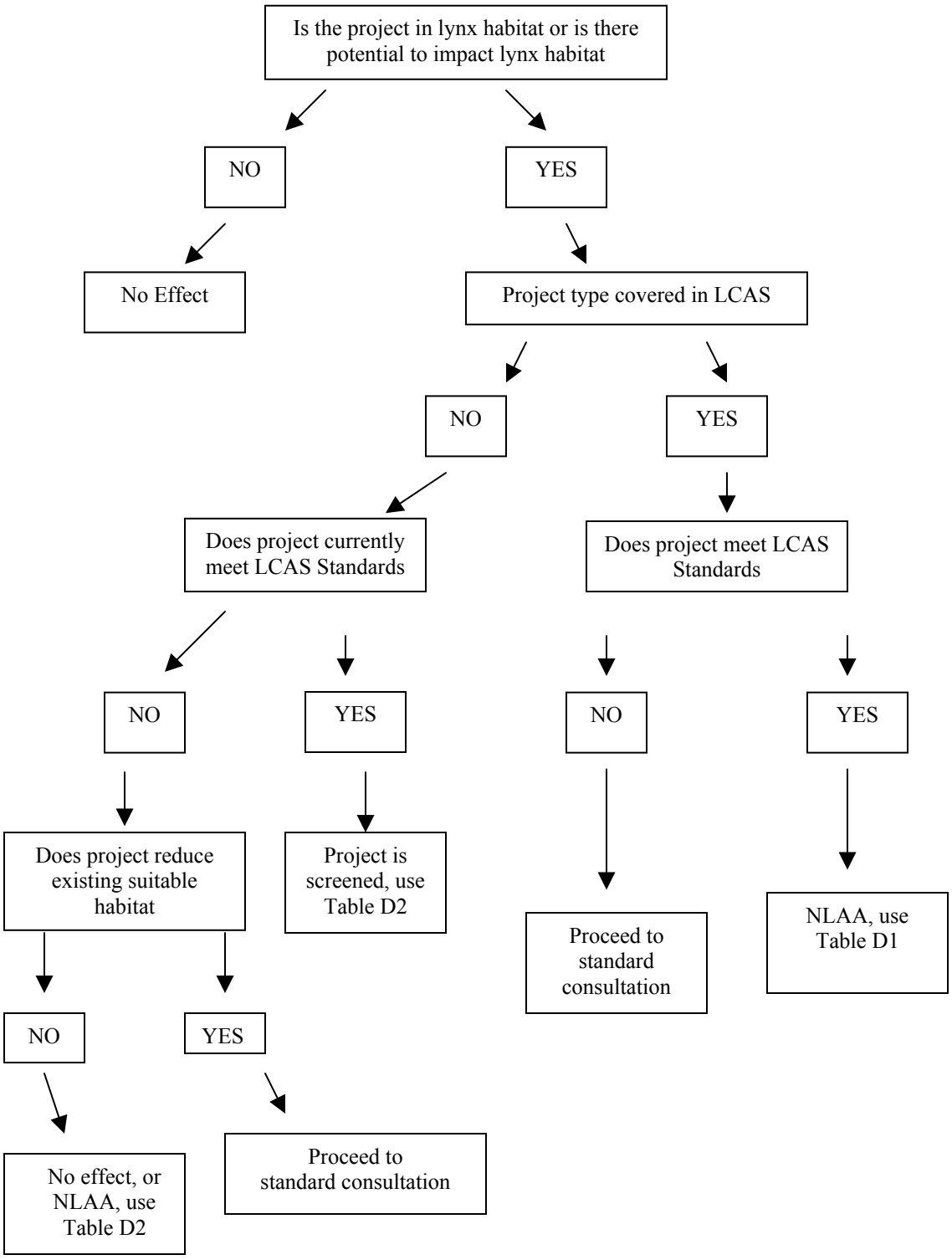
Applicable to both Tables, the *Not Likely to Adversely Affect* (NLAA) determinations reflect a conservative determination. There may be activities listed as NLAA that upon site specific analyses warrant a No Effect determination.

[4] Screening elements apply to projects that are in lynx habitat that are within a lynx analysis unit.

Refer to the Lynx Conservation Assessment and Strategy for a definition of lynx habitat

LYNX SCREENS

PART 1



LYNX SCREENS, PART 2 (Tables D1 and D2)

Table D1. Screening criteria for projects included in the Lynx Conservation and Assessment Strategy

#	Activity Type	Activity Component	Screening Criteria	Determination
1	**Timber Harvest (from LCAS)**	Felling, skidding, and/or hauling of timber products (not including salvage harvest). Includes post sale prescribed fire (slash, broadcast burning, etc.)	Management actions shall not change more than 15% of lynx habitat within a LAU to an unsuitable condition within a 10-year period; no more than 30% of lynx habitat within an LAU will be in unsuitable condition; greater than 10% denning habitat remains after the project; habitat connectivity is maintained	Proceed to standard consultation
	(From LCAS)	Salvage harvest (in this case, salvage harvest of blowdown)	Affected area is greater than or equal to 5 acres OR denning habitat has been field verified and comprises more than 10% of lynx habitat within an LAU and will be well-distributed after salvage harvest	Proceed to standard consultation
2	**Healthy Forest Initiative Categorical Exclusions or similar project meeting these and screening criteria in #1**	Category 12, Limited Timber Harvest: Live Trees – commercial thinning of overly dense stands of trees to improve the health of remaining trees; removing individual trees for forest products or fuelwood	Area does not exceed 70 acres and there is no more than ½ mile of temporary road construction (and meets screening criteria in #1 above)	NLAA
		Category 13, Salvage of Dead and Dying Trees – Salvage harvest in areas where trees have been severely damaged by forces such as fire, wind, ice, insects, or disease and still have some economic value	Area does not exceed 250 acres and there is no more than ½ mile of temporary road construction	NLAA
		Category 14, Tree Removal to Prevent Spread of Insect/Disease – Commercial and non-commercial felling and removal of any trees necessary to control the spread of insects and disease	Area does not exceed 250 acres and there is no more than ½ mile of temporary road construction	NLAA
3	**Roads and Road Maintenance**	Highways	Highway crossings are identified that reduce highway impacts on lynx. This screening element refers to actual projects that involve the creation of highway crossings to facilitate lynx movement.	Proceed to standard consultation

#	Activity Type	Activity Component	Screening Criteria	Determination
		Non-recreation motorized winter access	Over-snow access is restricted to designated routes	NLAA
4	**Silviculture Activities**	Precommercial thinning	Precommercial thinning occurs in stands that no longer provide snowshoe hare habitat	NLAA
5	**Range**	Livestock grazing in post-fire and post-harvest areas	Livestock use is delayed in these created openings until successful regeneration of the shrub and tree component occurs	NLAA
		Livestock grazing in aspen stands	Aspen stands are managed to ensure sprouting and survival sufficient to perpetuate long-term viability of the clones	NLAA
		Livestock grazing in shrub-steppe habitats	Shrub-steppe habitats are managed to maintain or achieve mid-seral or higher condition to provide lynx habitat matrix	NLAA
		Livestock grazing in riparian areas or willow carrs	Livestock grazing is managed to maintain or achieve mid-seral or higher condition to provide cover and forage for prey species	NLAA
6	**Recreation**	Snowmobiling and other over-the-snow activity such as cross country skiing, snowshoe races, and dogsledding	No net increase in groomed or designated over-the-snow routes for any winter activity and snowmobile play areas by LAU (see definition of 'designated' 5/19/2002 McAllister letter with Clarification and Revised Definitions, p.2)	NLAA
		Developed Recreation including planning and operating new or expanded recreation developments	Landscape connectivity is not compromised; trails, roads, and lift termini are designed to direct winter use away from diurnal security areas; key linkage areas are provided for landscape connectivity	NLAA
7	**Prescribed Fire**	All activity components	Burn prescriptions are designed to regenerate or create snowshoe hare habitat	NLAA

Table D2. Screening criteria for projects not included in the Lynx Conservation and Assessment Strategy

#	Activity Type	Activity Component	Screening Criteria		Determination
1	**Roads and Road Maintenance**	Road Maintenance - This includes general road maintenance that may involve the brushing of vegetation on the road or along roadsides. Road maintenance may include but is not limited to roadbed blading, brushing, cleaning ditches, replacing or cleaning culverts, cleaning dips, or spot graveling.	Brushing included		NLAA
			No brushing associated with activity		NE
		Road Decommissioning - This involves the use of heavy equipment and includes obliteration and other methods to hydrologically neutralize the road.			NLAA
		General Road Use - This includes hauling timber, removing mining waste and materials, and moving livestock over federal roads for which permits are required. It also includes routine road use by administrative units to carry out work associated with recreation, range, timber and minerals management, fire prevention and suppression, inventories, surveys, and other monitoring activities. This includes use of roads consistent with existing travel plans.	Activity includes right-of-ways, multiple dwelling construction, or development of large corporate lands		Proceed to Standard Consultation
			Activity occurs in winter and does NOT include right-of-ways, multiple dwelling construction, or development of large corporate lands		NLAA
			Activity occurs in spring, summer, or fall and does NOT include right-of-ways, multiple dwelling construction, or development of large corporate lands		NE
2	**Silvicultural Activities**	Tree planting	Tree planting does not result in stand type conversion. Activity does not involve snowplowing		NE
		Disease control – manual treatment of larch through girdling to control larch mistletoe	Activity does not involve snowplowing		NLAA
3	**Recreation**	Recreation Special Uses - This includes activities for which permits are issued and includes outfitting and permits issued to a variety of organizations that engage in activities such as mountaineering, rock climbing, outward bound, ski races, concerts, “Poker Runs”, “Fun Runs”, driving tours, nature watch hikes, hunting, fishing, and a wide variety of other events.	Activity is consistent with existing access management from Forest and Travel Plans and is consistent with the LCAS	Activity occurs in Spring, Summer, Fall	NE
				Activity involves hunting mountain lions with dogs	NLAA
				Activity occurs in winter	NLAA

#	Activity Type	Activity Component	Screening Criteria	Determination
		Trail Use consistent with existing travel management	Activity occurs in winter, meets LCAS	NLAA
			Activity occurs in spring, summer, or fall	NE
		Maintenance and/or Minor Trail Re-routes - This consists of maintenance of trails and minor trail re-routes and may require use of heavy equipment.	Activity does not involve blasting	NE
		New Trail Construction and/or Major Trail Re-routes and Maintenance - This includes the development of new trails used for foot, stock, or motorcycles and may require the use of heavy equipment or hand tools and may create a clearing width up to 10 feet wide (FSH 2309.18). This also includes major re-routing and may require use of heavy equipment and/or blasting.		NLAA
		Camping – Includes dispersed and developed campgrounds	Consistent with existing travel plans and LCAS and occurs during spring, summer, or fall	NE
		Dispersed off-road activities	Consistent with existing travel plans and LCAS	NLAA
		Permitted and Non-permitted use of Developed Sites, Facilities, and Their Maintenance - This includes special use permits issued for facilities, residences, and other structures. Permits are also issued for organizational camps such as the Boy Scouts and church groups at developed campgrounds. Other facilities include but are not limited to campgrounds, rental cabins, watchable wildlife sites, picnic areas, warming huts, and communication sites. Also includes Forest Service administrative sites and their maintenance (e.g. campgrounds, trailheads, ranger stations, etc.)	Activity occurs or is associated with ski areas	Proceed to Standard Consultation
			Activity occurs during the winter	NLAA
			Activity occurs during spring, summer, or fall	NE
4	**Forest Products**	Post and Pole Sales – This includes both commercial and non-commercial post and pole sales. This typically occurs in forested stands consisting of trees 5-9” diameter at breast height (dbh).	LCAS habitat criteria are met within the respective LAU (i.e. activity occurs in dense stands where low live limbs are generally out of reach for snowshoe hare).	NLAA

#	Activity Type	Activity Component	Screening Criteria	Determination
		Firewood Collection - This includes both commercial and non-commercial collection and involves the collection of standing dead or down wood.	LCAS habitat criteria are met within the respective LAU	NLAA
		Other Forest Products – This includes but is not limited to berry, mushroom, and bear grass collection and includes both commercial and non-commercial activities. Collection of tree products is not included.	LCAS habitat criteria are met within the respective LAU	NE
		Christmas Tree/Bough Cutting - This includes both commercial and non-commercial cutting. The trees cut range from 3" to 5" dbh and are less than 25' tall.	LCAS habitat criteria are met within the respective LAU. Stand must not be converted to unsuitable snowshoe hare habitat. See Lynx Conservation Assessment and Strategy for a definition of 'unsuitable' habitat.	NLAA
5	**Habitat Restoration**	Forest and Shrub/Grassland Habitat Management - This includes aspen rejuvenation, shrub field maintenance and other types of ecosystem 'driven' projects designed to promote natural processes in an area.	LCAS habitat criteria are met within the respective LAU	NLAA
6	**Noxious Weed Management**	This includes chemical and biological treatments to noxious weeds within or adjacent to lynx habitat	Activity includes aerial application	NLAA
			Activity includes only ground application (no aerial application)	NE
7	**Other Special Uses**	This includes maintenance of existing sites, corridors, or other facilities and is often carried out by the entity that owns the structures or facilities. Maintenance may include vegetation blading or cutting, or spraying to reduce brush and reduce the invasion of shrubs and trees among other activities.		NLAA
8	**Mining and Gravel Pits**	Quarries, recreational mining, small mines, and reclamation of small mines	Mines and gravel pits <5 acres, no winter time operation	NLAA or NE

#	Activity Type	Activity Component	Screening Criteria	Determination
9	**Ditches and Diversions**			NE
10	**Surveys**	Surveys – This includes snow course surveys, track counts, habitat sampling, hair posts, remote camera stations, and radio telemetry among other methods.	Operations are during winter and include repeated snow compaction activities(cross country ski trips, snowmobile trips) on ungroomed trails generally not being used by public	NLAA
			Operations are during spring, summer, or fall	NE
11	**Miscellaneous**	Similar activity component, but must meet all screening criteria in parts 1 and 2 of the screens table and not violate any of these criteria		NE or LNAA

CONSULTATION SUMMARY SHEET FOR PROGRAMMATIC ASSESSMENT

CONSULTATION SUMMARY SHEET *INSTRUCTIONS* FOR PROGRAMMATIC BIOLOGICAL ASSESSMENT

Summary sheets will be filled out by Project Biologists and reviewed by Forest Biologists. Project Biologists will submit summary sheets to Forest Biologists on a project-by-project basis. Forest Biologists will submit summary sheets, with one project per sheet, to the U.S. Fish and Wildlife Service quarterly and, as needed, these projects will be reviewed and discussed by the Level One Team to ensure the screening criteria are adequately interpreted and applied. There will be a random audit of a few projects each year to insure compliance and effectiveness of the screens and reporting requirements.

Page ___ of ___

Administrative Unit: _____

Contact: _____***Project Biologist***_____

Reviewed by: _____***Forest Biologist***_____

Date: _____

Project Name and Description	Species	Effects of Action	Cumulative Effects (ESA)	How does the project meet screening criteria?	Determination of Effects
Project description should provide pertinent information including all aspects of the project that potentially affect T&E species. This includes but is not limited to: project name, project location including management unit if applicable, timing of implementation and details of project activities.	**Grizzly Bear**	Briefly describe the overall effect for the entire project on the species and base it on the screening criteria.	Briefly describe the effects of future, non-federal actions that are reasonably likely to occur in the action area (this is the area where the effects of the project may be felt).	Specifically identify the screening criteria and describe how the project meets these specific criteria.	• No Effect • May affect not likely to adversely affect
	Gray Wolf				
	Bald Eagle				
	Canada Lynx				

CONSULTATION SUMMARY SHEET FOR PROGRAMMATIC BIOLOGICAL ASSESSMENT

Page ___ of ___

Administrative Unit: _____

Contact: _____

Reviewed by: _____

Date: _____

Project Name and Description	Species	Effects of Action	Cumulative Effects (ESA)	How does the project meet screening criteria?	Determination of Effects
	Grizzly Bear				
	Gray Wolf				
	Bald Eagle				
	Lynx				

LYNX CONSERVATION ASSESSMENT AND STRATEGY (LCAS) SUMMARY AND LYNX CONSERVATION MEASURES

The BLM and FWS signed a Conservation Agreement to promote the conservation of the Canada lynx and its habitat on BLM lands, using the Lynx Science Report and the Lynx Conservation and Assessment Strategy. The LCAS was developed in place of the normal recovery plan previously used for most other species listed under ESA.

The agreement and strategy identify objectives, standards, guidelines, and conservation measures to reduce or eliminate risk factors. These measures are intended to conserve the lynx, and to reduce or eliminate adverse effects from the spectrum of management activities on federal lands. These measures are provided to assist federal agencies in seeking opportunities to benefit lynx and to help avoid negative impacts through the thoughtful planning of activities. Plans that incorporate them, and projects that implement them, are generally not expected to have adverse effects on lynx, and implementation of these measures across the range of the lynx is expected to lead to conservation of the species.

Critical habitat for the Canada Lynx was not designated through the listing process. The LCAS instead relies on defining potential habitat based on vegetation characteristics and prey availability wherever that may occur since current lynx populations are small and widely dispersed. Conservation focus is to:

- Manage forested habitat within the historic range of variability for vegetation, and maintain large unfragmented blocks of forest with the appropriate structure;
- Maintain dense understory conditions providing cover and forage for snowshoe hares as the primary lynx prey base;
- Minimize snow compaction that would encourage access for competing predators into lynx habitat; and
- Provide connections within and between lynx habitat areas, emphasizing riparian habitats.

CONSERVATION MEASURES APPLICABLE TO ALL PROGRAMS AND ACTIVITIES

Because it is impossible to provide standards and guidelines to address all possible actions in all locations across the broad range of the lynx, it is imperative that project specific analysis and design be completed for all actions that have the potential to affect lynx. Circumstances unique to individual projects or actions and their locations may still result in adverse effects on lynx. In these cases, additional or modified mitigating measures may be necessary to avoid or minimize adverse effects.

Programmatic Planning - Objectives

Design vegetation management strategies that are consistent with historical succession and disturbance regimes. The broad-scale strategy should be based on a comparison of historical and current ecological processes and landscape patterns, such as age-class distributions and patch size characteristics. It may be necessary to moderate the timing, intensity, and extent of treatments to maintain all required habitat components in lynx habitat, to reduce human influences on mortality risk and interspecific competition, and to be responsive to current social and ecological constraints relevant to lynx habitat.

Programmatic Planning - Standards

1. Conservation measures will generally apply only to lynx habitat on federal lands within LAUs.

2. To facilitate project planning, delineate LAUs. To allow for assessment of the potential effects of the project on an individual lynx, LAUs should be at least the size of area used by a resident lynx and contain sufficient year-round habitat.

3. To be effective for the intended purposes of planning and monitoring, LAU boundaries will not be adjusted for individual projects, but must remain constant.

4. Lynx habitat will be mapped using criteria appropriate to each geographic area.

5. Prepare a broad-scale assessment of landscape patterns that compares historical and current ecological processes and vegetation patterns, such as age-class distributions and patch size characteristics. In the absence of guidance developed from such an assessment, 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 by federal agencies.

Programmatic Planning - Guidelines

1. The size of LAUs should generally be 6,500- 10,000 ha (16,000 – 25,000 acres or 25-50 square miles) in contiguous habitat, and likely should be larger in less contiguous, poorer quality, or naturally fragmented habitat. Larger units should be identified in the southern portions of the Northern Rocky Mountains Geographic Area (in Idaho from the Salmon River south, Oregon, Wyoming, and Utah) and in the Southern Rocky Mountains Geographic Area.

In the west, we recommend using watersheds (e.g., 6th code hydrologic unit codes (HUCs) in more northerly portions of geographic areas, and 5th code HUCs in more southerly portions). In the east, terrestrial ecological units that have been delineated at the land type association or subsection level (e.g., LTAs or whatever scale most closely approximates the size of a lynx home range) may be an appropriate context for analysis. Coordinate delineation of LAUs with adjacent administrative units and state wildlife management agencies, where appropriate.

2. After LAUs are identified, their spatial arrangement should be evaluated. Determine the number and arrangement of contiguous LAUs needed to maintain lynx habitat well distributed across the planning area. LAUs with only insignificant amounts of lynx habitat may be discarded, or portions of the unit combined with or divided among neighboring LAUs to provide a meaningful unit for analysis.

Project Planning - Standards

1. Within each LAU, map lynx habitat. Identify potential denning habitat and foraging habitat (primarily snowshoe hare habitat, but also habitat for important alternate prey such as red squirrels), and topographic features that may be important for lynx movement (primary ridge systems, prominent saddles, and riparian corridors). Also identify non-forest vegetation (meadows, shrub-grassland communities, etc.) adjacent to and intermixed with forested lynx habitat that may provide habitat for alternate lynx prey species.

2. Within a LAU, maintain denning habitat in patches generally larger than 5 acres, on at least 10 percent of the area that is capable of producing stands with these characteristics. Where less than 10 percent of the forested lynx habitat within a LAU provides denning habitat, defer those management actions that would delay achievement of denning habitat structure.

3. Maintain habitat connectivity within and between LAUs.

CONSERVATION MEASURES TO ADDRESS RISK FACTORS AFFECTING LYNX PRODUCTIVITY

TIMBER MANAGEMENT IN LYNX HABITAT

Timber management modifies the vegetation structure and mosaic of forested landscapes. Timber management can be used in conjunction with, or in place of, fire as a disturbance process to create and maintain snowshoe hare habitat. In the southern portion of its range, lynx populations appear to be limited by the availability of snowshoe hare prey, as suggested by large home range sizes, high kitten mortality due to starvation, and greater reliance on alternate prey, especially red squirrels, as compared with populations in northern Canada. Timber management practices should be designed to maintain or enhance habitat for snowshoe hare and alternate prey such as red squirrel. Dense horizontal cover of conifers, just above the snow level in winter, is critical for snowshoe hare habitat. This structure may occur either in regenerating seedling/sapling stands, or as an understory layer in older stands.

Most aspen stands in the Rocky Mountains are in late successional condition as a result of past fire prevention and grazing. In aspen stands intermixed with spruce-fir forests, particularly in southern Idaho, southern Montana, Wyoming, Utah, and Colorado, treatments that result in dense regeneration of aspen are likely to enhance habitat for potential prey of lynx.

Programmatic Planning - Objectives

1. Evaluate historical conditions and landscape patterns to determine historical vegetation mosaics across landscapes through time. For example, large infrequent disturbance events may have been more characteristic of lynx habitat than small frequent disturbances.

2. Maintain suitable acres and juxtaposition of lynx habitat through time. Design vegetation treatments to approximate historical landscape patterns and disturbance processes.

3. If the landscape has been fragmented by past management activities that reduced the quality of lynx habitat, adjust management practices to produce forest composition, structure, and patterns more similar to those that would have occurred under historical disturbance regimes.

Project Planning - Objectives

1. Design regeneration harvest, planting, and thinning to develop characteristics suitable for snowshoe hare habitat.

2. Design project to retain/enhance existing habitat conditions for important alternate prey (particularly red squirrel).

Project Planning - Standards

1. Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10-year period.

2. Following a disturbance such as blowdown, fire, insects, and disease that could contribute to lynx denning habitat, do not salvage harvest when the affected area is smaller than 5 acres; exceptions would include areas such as developed campgrounds. Where larger areas are affected, retain a minimum of 10% of the affected area per LAU in patches of at least 5 acres to provide future denning habitat. In such areas, defer or modify management activities that would prevent development or maintenance of lynx foraging habitat.

3. 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 snowpack).

4. In aspen stands within lynx habitat in the Cascade Mountains, Northern Rocky Mountains and Southern Rocky Mountains Geographic Areas, apply harvest prescriptions that favor regeneration of aspen.

Project Planning - Guidelines

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.

WILDLAND FIRE MANAGEMENT

Wildland fire and insects have historically played the dominant role in maintaining a mosaic of forest successional stages in lynx habitat. Stand-replacing fires were infrequent and affected large areas. In areas with a mixed fire regime, moderate to low intensity fires also occurred in the intervals between stand-replacing events. Refer to the geographic area descriptions for more detailed information regarding historical fire regimes.

Periodic vegetation disturbances maintain the snowshoe hare prey base for lynx. In the period immediately following large stand-replacing fires, snowshoe hare and lynx densities are low. Populations increase as the vegetation grows back and provides dense horizontal cover, until the vegetation grows out of the reach of hares. Low to moderate intensity fires may also stimulate understory development in older stands.

Fire exclusion may have altered the pattern and composition of vegetation in subalpine forests. In the western United States, particularly in the southern portion of the Northern Rocky Mountains Geographic Area and in the Southern Rocky Mountains Geographic Area, fire exclusion is one of the primary factors contributing to the decline or loss of aspen. Aspen communities occupy a small percentage of the total forested area, but they provide important habitat diversity. Aspen/tall forb community types, especially those that include snowberry, serviceberry and chokecherry shrubs in the understory, are very productive and may contribute to the quality of lynx foraging habitat.

Wildland fire management activities include suppression and pre-suppression activities, as well as prescribed fire (natural and management ignitions).

Programmatic Planning - Objectives

1. Restore fire as an ecological process. Evaluate whether fire suppression, forest type conversions, and other forest management practices have altered fire regimes and the functioning of ecosystems.

2. Revise or develop fire management plans to integrate lynx habitat management objectives. Prepare plans for areas large enough to encompass large historical fire events.

3. Use fire to move toward landscape patterns consistent with historical succession and disturbance regimes. Consider use of mechanical pre-treatment and management ignitions if needed to restore fire as an ecological process.

4. Adjust management practices where needed to produce forest composition, structure, and patterns more similar to those that would have occurred under historical succession and disturbance regimes.

5. Design vegetation and fire management activities to retain or restore denning habitat on landscape settings with highest probability of escaping stand-replacing fire events. Evaluate current distribution, amount, and arrangement of lynx habitat in relation to fire disturbance patterns.

Project Planning - Objectives

1. Use fire as a tool to maintain or restore lynx habitat.

2. When managing wildland fire, minimize creation of permanent travel ways that could facilitate increased access by competitors.

Project Planning - Standards

1. In the event of a large wildfire, conduct a post-disturbance assessment prior to salvage harvest, particularly in stands that were formerly in late successional stages, to evaluate potential for lynx denning and foraging habitat.

2. Design burn prescriptions to regenerate or create snowshoe hare habitat (e.g., regeneration of aspen and lodgepole pine).

Project Planning - Guidelines

1. Design burn prescriptions to promote response by shrub and tree species that are favored by snowshoe hare.

2. Design burn prescriptions to retain or encourage tree species composition and structure that will provide habitat for red squirrels or other alternate prey species.

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. Minimize construction of temporary roads and machine fire lines to the extent possible during fire suppression activities.

6. Design burn prescriptions and, where feasible, conduct fire suppression actions in a manner that maintains adequate lynx denning habitat (10% of lynx habitat per LAU).

RECREATION MANAGEMENT

Lynx have evolved a competitive advantage in environments with deep soft snow that tends to exclude other predators during the middle of winter, a time when prey is most limiting (Murray and Boutin 1991, Livaitis 1992, Buskirk et al. 1999). Widespread human activity (snowshoeing, cross-country skiing, snowmobiling, snow cats) may lead to patterns of snow compaction that make it possible for competing predators such as coyotes and bobcats to occupy lynx habitat through the winter, reducing its value to and even possibly excluding lynx (Bider 1962, Ozoga and Harger 1966, Murray et al. 1995, O'Donoghue et al. 1998). In order to maintain a competitive advantage for lynx, it may be necessary to minimize or even preclude snow compacting activities in and around quality snowshoe hare habitat. To not do so may lead to the elimination of lynx, or preclude the ability to re-establish them, in these landscapes.

A consideration for lynx in winter landscapes is exploitation or interference competition from other predator/competitors (Buskirk et al. 1999) and human disturbance (e.g., large developed recreational sites or areas of concentrated winter recreational use). Lynx may be able to adapt to the presence of regular and concentrated recreational use, so long as critical habitat needs are being met. Therefore it is essential that an interconnected network of foraging habitat be maintained that is not subjected to widespread human intervention or competition from other predator species.

In areas of concentrated recreational use (e.g., large ski areas), it may be necessary to maintain or provide "diurnal security habitat". In landscapes where there is widespread or intense recreational use, the natural diurnal patterns of human and lynx activity may provide the opportunity to maintain both uses in the landscape. Most human activity occurs during daylight hours, while lynx appear to be most active dusk to dawn, although weather may affect the time period when lynx are most active (Apps 1999). A key to providing temporal segregation of use may be in ensuring there are places in that landscape were lynx can bed during the day relatively undisturbed. Sites that are similar to denning habitat (i.e., areas that are tangled with large woody debris) will tend to exclude most human activity because of the inherent difficulty they pose for human movement. Diurnal security habitat should be sufficiently large to provide effective and visual insulation from human activity, and must be well distributed and in proximity to foraging habitat.

Where such diurnal security sites exist, they should be protected from actions or activities that would destroy or compromise their functional value. In landscapes where these areas are lacking or inadequate, it may be desirable to create them, focusing on location, adequate size, and an abundance of jackstrawed large woody debris.

Landscape connectivity may be provided by narrow forested mountain ridges, plateaus, or forest stringers that

link more extensive areas of lynx habitat. Woodland riparian communities that provide travel cover across otherwise open areas may also provide connectivity.

Minimizing disturbance around denning habitat is important from May to August.

Programmatic Planning - Objectives

1. Plan for and manage recreational activities to protect the integrity of lynx habitat, considering as a minimum the following:

   a) Minimize snow compaction in lynx habitat.

   b) Concentrate recreational activities within existing developed areas, rather than developing new recreational areas in lynx habitat.

   c) On federal lands, ensure that development or expansion of developed recreation sites or ski areas and adjacent lands address landscape connectivity and lynx habitat needs.

Programmatic Planning - Standards

1. On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU. This is intended to apply to dispersed recreation, rather than existing ski areas.

2. 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.

Programmatic Planning - Guidelines

1. Provide a landscape with interconnected blocks of foraging habitat where snowmobile, cross-country skiing, snowshoeing, or other snow compacting activities are minimized or discouraged.

2. As information becomes available on the impact of snow-compacting activities and disturbance on lynx, limit or discourage this use in areas where it is shown to compromise lynx habitat. Such actions should be undertaken on a priority basis considering habitat function and importance.

Project Planning - Standards

Developed Recreation:

1. In lynx habitat, ensure that federal actions do not degrade or compromise landscape connectivity when planning and operating new or expanded recreation developments.

2. Design trails, roads, and lift termini to direct winter use away from diurnal security habitat.

Dispersed Recreation:

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.

Project Planning - Guidelines

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.

FOREST/BACKCOUNTRY ROADS AND TRAILS

Forest and backcountry roads and trails are those that occur on public lands; highways are addressed separately. Refer also to the conservation measures in the Forest Management, Recreation, and Trapping sections.

Plowed roads and groomed over-the-snow routes may allow competing carnivores such as coyotes and mountain lions to access lynx habitat in the winter, increasing competition for prey (Buskirk et al. 1999). However, plowed or created snow roads may be necessary to accomplish winter logging, which may be desirable to meet a variety of resource management objectives.

Preliminary information suggests that lynx may not avoid roads, except at high traffic volumes. Therefore, at this time, there is no compelling evidence to recommend management of road density to conserve lynx. However, new road construction continues to occur in many watersheds within lynx habitat, many of which are already highly roaded, and the effects on lynx are largely unknown. Further research directed at elucidating the effects of road density on lynx is needed.

Programmatic Planning - Objectives

Maintain the natural competitive advantage of lynx in deep snow conditions.

Programmatic Planning - Standards

On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU. Winter logging activity is not subject to this restriction.

Programmatic Planning - Guidelines

1. Determine where high total road densities (>2 miles per square mile) coincide with lynx habitat, and prioritize roads for seasonal restrictions or reclamation in those areas.

2. Minimize roadside brushing in order to provide snowshoe hare habitat.

3. Locate trails and roads away from forested stringers.

4. Limit public use on temporary roads constructed for timber sales. Design new roads, especially the entrance, for effective closure upon completion of sale activities.

5. Minimize building of roads directly on ridgetops or areas identified as important for lynx habitat connectivity.

LIVESTOCK GRAZING

In riparian areas within lynx habitat, ungulate forage use levels may reduce forage resources available to snowshoe hares. Browsing or grazing can have a direct effect on snowshoe hare habitat if it alters the structure or composition of native plant communities.

Throughout the Rocky Mountains, grazing has been a factor in the decline or loss of aspen as a seral species in subalpine forests. Young, densely regenerating aspen stands with a well-developed understory provide good quality habitat for snowshoe hares and other potential lynx prey species, such as grouse. Grazing should be managed to allow for regeneration of aspen clones.

Particularly in the naturally fragmented habitats of the western United States, inclusions of high elevation shrub-steppe habitats often may exist within the home range of a lynx. Resident lynx are also known to occasionally make exploratory movements out of their home ranges (Squires and Laurion 1999, Aubry et al. 1999), encountering these habitats and potential alternate prey such as ground squirrels and jackrabbits. Therefore, shrub-steppe habitats within the elevational ranges of forested lynx habitat should be considered lynx habitat and be managed to maintain or achieve mid-seral or higher conditions, thereby providing maximum natural cover and prey availability. Those areas that are currently in late seral condition should not be degraded.

Programmatic Planning - Objectives

In lynx habitat and adjacent shrub-steppe habitats, manage grazing to maintain the composition and structure of native plant communities.

Project Planning - Objectives

1. Manage livestock grazing within riparian areas and willow carrs in lynx habitat to provide conditions for lynx and lynx prey.

2. Maintain or move towards native composition and structure of herbaceous and shrub plant communities.

3. Ensure that ungulate grazing does not impede the development of snowshoe hare habitat in natural or created openings within lynx habitat.

Project Planning - Standards

1. Do not allow livestock use in openings created by fire or timber harvest that would delay successful regeneration of the shrub and tree components. Delay livestock use in post-fire and post-harvest created openings until successful regeneration of the shrub and tree components occurs.

2. Manage grazing in aspen stands to ensure sprouting and sprout survival sufficient to perpetuate the long-term viability of the clones.

3. Within the elevational ranges that encompass forested lynx habitat, shrub-steppe habitats should be considered as integral to the lynx habitat matrix and should be managed to maintain or achieve mid seral or higher condition.

4. 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 prey species.

OTHER HUMAN DEVELOPMENTS: OIL AND GAS LEASING, MINES, RESERVOIRS, AGRICULTURE

Most of these activities affect lynx habitat by changing or eliminating native vegetation, and may also contribute to fragmentation. The primary effects of leases and mines on lynx are probably related to the potential for plowed roads to provide access for lynx competitors, particularly coyotes. Construction of reservoirs will be handled under normal FERC and consultation procedures, and no conservation measures were developed specific to those projects.

Programmatic Planning - Objectives

Design developments to minimize impacts on lynx habitat.

Programmatic Planning - Guidelines

Map oil and gas production and transmission facilities, mining activities and facilities, dams, and agricultural lands on public lands and adjacent private lands, in order to assess cumulative effects.

Project Planning - Standards

On projects where over-snow access is required, restrict use to designated routes.

Project Planning - Guidelines

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.

CONSERVATION MEASURES TO ADDRESS MORTALITY RISK FACTORS

TRAPPING (LEGAL AND NON-TARGET)

Lynx are known to be very vulnerable to trapping. Ward and Krebs (1985) stated that trapping was the single most important mortality factor in their Yukon study area. Incidental trapping of lynx can occur in areas where regulated trapping of other species overlaps with lynx habitat (Mech 1973, Carbyn and Patriquin 1983, Squires and Laurion 1999). Lynx may be more vulnerable to trapping near open roads (Koehler and Aubry 1994, Bailey et al. 1986).

The U.S. Fish and Wildlife Service (FWS) is proposing to work with the States to develop a 4-d. rule for all regulated or unregulated trapping (e.g., coyote, wolverine, bobcat, fox) in lynx habitats by establishing adequate trapping protocols to minimize incidental take. Each state would work with FWS to customize the protocol for their specific regions.

Programmatic Planning - Objectives

Reduce incidental harm or capture of lynx during regulated and unregulated trapping activity, and ensure retention of an adequate prey base.

Programmatic Planning - Guidelines

Federal agencies should work cooperatively with States and Tribes to reduce incidental take of lynx related to trapping.

PREDATOR CONTROL

Predator control activities conducted on federal lands by Wildlife Services include trapping, shooting, and poisoning animals on domestic livestock allotments, occasionally within lynx habitat. Similar efforts may be conducted on adjacent private lands. Although such actions are intended to target the offending animal, non-target animals including lynx may be impacted.

Programmatic Planning - Objectives

Reduce incidental harm or capture of lynx during predator control activities, and ensure retention of adequate prey base.

Programmatic Planning - Standards

Predator control activities, including trapping or poisoning on domestic livestock allotments on federal lands within lynx habitat, will be conducted by Wildlife Services personnel in accordance with FWS recommendations established through a formal Section 7 consultation process.

SHOOTING

Lynx may be mistakenly shot by legal predator hunters seeking bobcats, or illegally by poachers. Prey species, such as snowshoe hares and ground squirrels, may also be affected by legal shooting.

Programmatic planning - Objectives

Reduce lynx mortalities related to mistaken identification or illegal shooting.

Programmatic Planning - Guidelines

1. Initiate interagency information and education efforts throughout the range of lynx in the contiguous states. Utilize trailhead posters, magazine articles, news releases, state hunting and trapping regulation booklets, etc., to inform the public of the possible presence of lynx, field identification, and their status.

2. Federal agencies should work cooperatively with States and Tribes to ensure that important lynx prey are conserved.

COMPETITION AND PREDATION AS INFLUENCED BY HUMAN ACTIVITIES

Habitat changes that benefit competitor/ predator species, including some vegetation management practices and providing packed snow travel ways, may lead to increased starvation or direct mortality of lynx. Refer also to applicable conservation measures in the Forest Management, Recreation, and Forest/ Backcountry Roads and Trails sections.

Programmatic Planning - Objectives

Maintain the natural competitive advantage of lynx in deep snow conditions.

Programmatic Planning - Standards

1. On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU. This is intended to apply to dispersed recreation, rather than existing ski areas.

HIGHWAYS

Direct mortality from vehicular collisions may be detrimental to lynx populations in the lower 48 states. Mortality levels can drastically increase with relatively small increases in traffic volumes and speed.

Programmatic Planning - Objectives

Reduce the potential for lynx mortality related to highways.

Programmatic Planning - Standards

Within lynx habitat, identify key linkage areas and potential highway crossing areas.

Programmatic Planning - Guidelines

Where needed, develop measures such as wildlife fencing and associated underpasses or overpasses to reduce mortality risk.

CONSERVATION MEASURES TO ADDRESS MOVEMENT AND DISPERSAL

It is essential to provide landscape connectivity so that all or most habitat has the potential of being occupied, and populations remain connected.

At the southern periphery and eastern portions of lynx range, habitat occurs in narrow fragmented bands (man-made or naturally-occurring), or has been fragmented by human developments. Connected forested habitats allow lynx, and other large and medium size carnivores, to easily move long distances in search of food, cover, and mates. Highways and private lands that are subdivided for commercial or residential developments or have high human use patterns can interrupt existing habitat connectivity and further fragment lynx habitat, reducing the potential for population interchange. In some areas, particularly the eastern United States, habitat connectivity may be difficult to achieve because of mixed ownerships. Land exchanges and cooperative management with private landowners may be the only options available to provide landscape connectivity.

Shrub-steppe habitats provide connectivity between mountain ranges and other blocks of primary forested lynx habitat. Where blocks of lynx habitat are separated by intervening basins, valleys, or high mesas of shrub-steppe, land managers should evaluate those shrub-steppe expanses for potential to provide landscape connectivity. Vegetative or geomorphic features within shrub-steppe habitats that may be particularly important are riparian systems and relatively high ridge systems. Where such features exist, land management practices should be consistent with maintaining landscape connectivity. Livestock grazing within shrub-steppe habitats in such areas should be managed to maintain or achieve mid seral or higher condition, to maximize cover and prey availability. Such areas that are currently in late seral condition should not be degraded.

Programmatic Planning - Objectives

Maintain and, where necessary and feasible, restore habitat connectivity across forested landscapes.

Programmatic Planning - Standards

1. Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships.

2. Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.

3. Evaluate the potential importance of shrub-steppe habitats in providing landscape connectivity between blocks of primary lynx habitat. Livestock grazing within shrub-steppe habitats in such areas should be managed to maintain or achieve mid seral or higher condition, to maximize cover and prey availability. Such areas that are currently in late seral condition should not be degraded.

Programmatic Planning - Guidelines

Where feasible, maintain or enhance native plant communities and patterns, and habitat for potential lynx prey, within identified key linkage areas. Pursue opportunities for cooperative management with other landowners.

HIGHWAYS

Highways impact lynx and other carnivores by fragmenting habitat and impeding movements. As traffic lanes, volume, speeds, and right-of-way width increase,

the effects on lynx and other carnivores are magnified. As human demographics change, highways tend to increase in size and traffic density. Special concern must be given to the development of new highways (gravel roads being paved), and changes in highway design, such as additions in the number of traffic lanes, widening of rights-of-way, or other modifications to increase highway capacity or speed.

Within key linkage areas, highway crossing structures should be employed to reduce effects on wildlife. Information from Canada (Trans-Canada Highway) suggests crossings should generally be at ½-mile intervals and not farther than 1 mile apart, depending on topographic and vegetation features.

Programmatic Planning - Objectives

Ensure that connectivity is maintained across highway rights-of-way.

Programmatic Planning - Standards

1. Federal land management agencies will work cooperatively with the Federal Highway Administration and State Departments of Transportation to address the following within lynx geographic areas:

   a) Identify land corridors necessary to maintain connectivity of lynx habitat.

   b) Map the location of "key linkage areas" where highway crossings may be needed to provide habitat connectivity and reduce mortality of lynx (and other wildlife).

Programmatic Planning - Guidelines

Evaluate whether land ownership and management practices are compatible with maintaining lynx highway crossings in key linkage areas. On public lands, management practices will be compatible with providing habitat connectivity. On private lands, agencies will strive to work with landowners to develop conservation easements, exchanges, or other solutions.

Project Planning - Standards

1. 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.

2. Within the range of lynx, complete a biological assessment for all proposed highway projects on federal lands. A land management agency biologist will review and coordinate with highway departments on development of the biological assessment.

Project Planning - Guidelines

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. Such projects may increase habitat fragmentation, create a barrier to movements, increase mortality risks due to vehicle collisions, and generate secondary adverse effects by inducing, facilitating, or exacerbating development and 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.

LAND OWNERSHIP

Lynx exemplify the need for landscape-level ecosystem management. Contiguous tracts of land in public ownership (national forests, national parks, wildlife refuges, and BLM lands) provide an opportunity for management that can maintain lynx habitat connectivity. Throughout most of the lynx range in the lower 48 states, connectivity with habitats and populations in Canada is critical for maintaining populations in the U.S.

Programmatic Planning - Objectives

Retain lands in key linkage areas in public ownership.

Programmatic Planning - Standards

Identify key linkage areas by management jurisdiction(s) in management plans and prescriptions.

Programmatic Planning - Guidelines

In land adjustment programs, identify key linkage areas. Work towards unified management direction via habitat conservation plans, conservation easements or agreements, and land acquisition.

Project Planning - Standards

1. Develop and implement specific management prescriptions to protect/ enhance key linkage areas.

2. Evaluate proposed land exchanges, land sales, and special use permits for effects on key linkage areas.

SKI AREAS/LARGE RESORTS AND ASSOCIATED ACTIVITIES

Ski areas and large resorts are often developed in and across bands of high elevation boreal forests containing lynx habitat. Landscape location, the high intensity of recreational and operational use, and associated development pose a risk to lynx movement and dispersal. Developments that may impede lynx movement occur in Utah and western Wyoming (Northern Rocky Mountains Geographic Area), Colorado (Southern Rocky Mountains Geographic Area), and possibly portions of the Northeast Geographic Area.

Programmatic Planning - Objectives

When conducting landscape level planning on Federal lands, allocate land uses such that landscape connectivity is maintained.

Programmatic Planning - Standards

Within identified key linkage areas, provide for landscape connectivity.

Project Planning - Standards

When planning new or expanding recreational developments, ensure that key linkage areas are protected.

Project Planning - Guidelines

Plan recreational development, and manage recreational and operational uses to provide for lynx movement and to maintain effectiveness of lynx habitat.

This information has been excerpted from the Canada Lynx Conservation Assessment and Strategy. The entire assessment and strategy, along with the amendment proposed for the Northern Rockies can found on the U.S. Fish and Wildlife Service website at:

http://www.fs.fed/r1/planning/lynx/reports/lcas.pdf