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APPENDIX A

List of National Forests

Table 1. National Forests included in the NRLA area with Land and Resource Management Plans being amended and considered in this consultation, identified as being core, secondary or peripheral areas and whether occupied by lynx or not (U.S. Forest Service in litt. 2007)

National Forest	Core (C), Secondary (S), Peripheral (P)	Acres	Acres of Lynx Habitat	% of National Forest that is Lynx Habitat
Occupied Lynx Habitat				
Bridger-Teton NF	C	3,437,527	2,000,000	58.2%
Clearwater NF	S	1,825,397	930,000	50.9%
Custer NF	C & S	1,187,621	230,000	19.4%
Flathead NF	C	2,355,592	1,730,000	73.4%
Gallatin NF	C & S	1,806,565	870,000	48.2%
Helena NF [1]	C, S & P	975,387	440,000	45.1%
Idaho Panhandle NF [2]	C & S	2,498,234	1,170,000	46.8%
Kootenai NF	C	2,242,468	1,010,000	45.0%
Lewis & Clark NF [1]	C, S & P	1,862,289	970,000	52.1%
Lolo NF	C	2,082,784	1,110,000	53.3%
Shoshone NF	C	2,436,850	640,000	26.3%
Targhee NF	C & S	1,810,854	1,050,000	58.0%
Total		**24,521,568**	**12,150,000**	**48.06%**
Unoccupied Lynx Habitat				
Ashley NF	P	1,384,136	700,000	50.6%
Beaverhead-Deerlodge NF	S	3,360,825	2,060,000	61.3%
Bighorn NF	P	1,107,671	310,000	28.0%
Bitterroot NF	S	1,580,948	640,000	40.5%
Salmon-Challis NF	S	4,350,827	1,800,000	41.4%
Nez Perce NF	S	2,224,230	810,000	36.4%
Total		**14,008,637**	**6,320,000**	**43.03%**

[1] Isolated mountain ranges are designated as peripheral habitat and are not subject to management direction outlined in the Northern Rockies Lynx Amendment (NRLA).
[2] Only the NE corner of the Idaho Panhandle NF is identified as core habitat.

APPENDIX B

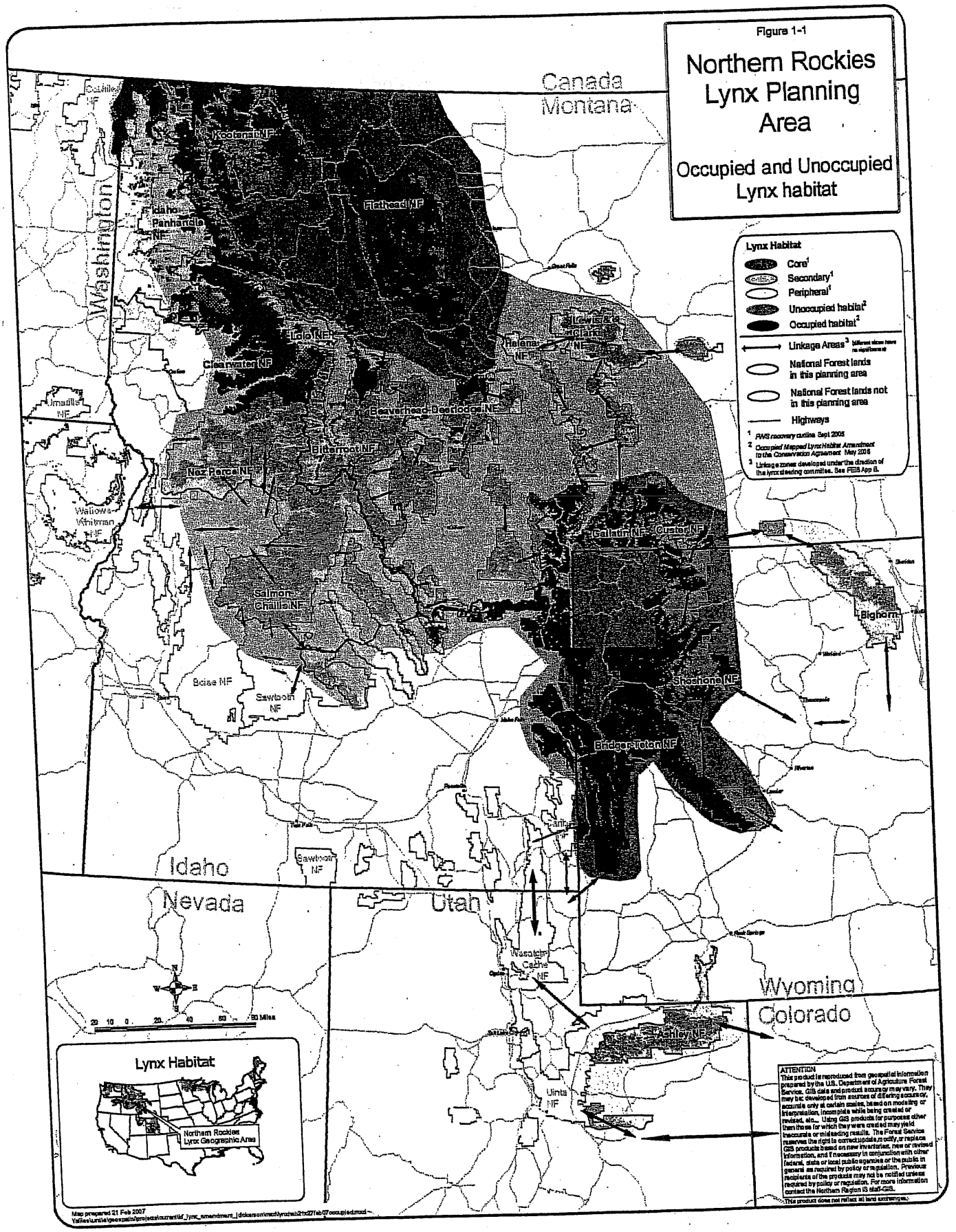
Figure 1-1
Northern Rockies Lynx Planning Area
Occupied and Unoccupied Lynx habitat
Canada
Montana
Washington
Idaho
Nevada
Utah
Wyoming
Colorado
Kootenai NF
Flathead NF
Idaho Panhandle NF
Clearwater NF
Nez Perce NF
Lolo NF
Helena NF
Lewis & Clark NF
Beaverhead-Deerlodge NF
Bitterroot NF
Gallatin NF
Custer NF
Bighorn
Shoshone NF
Bridger-Teton NF
Salmon-Challis NF
Boise NF
Sawtooth NF
Uinta NF
Ashley NF
Lynx Habitat
Core[1]
Secondary[1]
Peripheral[1]
Unoccupied habitat[2]
Occupied habitat[2]
Linkage Areas[3]
National Forest lands in this planning area
National Forest lands not in this planning area
Highways
[1] FWS recovery outline Sept 2005
[2] Occupied Mapped Lynx Habitat Amendment to the Conservation Agreement May 2006
[3] Linkage zones developed under the direction of the lynx steering committee. See FEIS App B.
Lynx Habitat
Northern Rockies Lynx Geographic Area
ATTENTION
This product is reproduced from geospatial information prepared by the U.S. Department of Agriculture Forest Service. GIS data and product accuracy may vary. They may be: developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc... Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct,update,modify, or replace GIS products based on new inventories, new or revised information, and if necessary in conjunction with other federal, state or local public agencies or the public in general as required by policy or regulation. Previous recipients of the products may not be notified unless required by policy or regulation. For more information contact the Northern Region IS staff-GIS.
This product does not reflect all lans exchanges.
Map prepared 21 Feb 2007

APPENDIX C
Alternative F – proposed action in occupied lynx habitat (excerpted from from U.S. Forest Service 2007)

Notes: **(1) Both *beneficial* and *detrimental* effects to all species except lynx are believed to be minimal due to the potentially small amount of acreage affected in relation to the entire NRLA area.**
(2) For those areas identified as **occupied** lynx habitat in the *Occupied Mapped Lynx Habitat Amendment to the Canada Lynx Conservation Agreement* (USDA Forest Service et al. 2006), management direction would be the objectives, standards, guidelines and monitoring identified under Alternative F in Appendix E. Areas identified as **unoccupied** lynx habitat would not have any specific management direction for lynx until such time as those areas are occupied. See section II.F. for more details.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
Goal[14] Conserve Canada lynx.	Same as Alt B	No change.
ALL MANAGEMENT PRACTICES AND ACTIVITIES (ALL). *The following objectives, standards and guidelines apply to management projects in lynx habitat in lynx analysis units (LAU) and in linkage areas, subject to valid existing rights. They do not apply to wildfire suppression, or to wildland fire use*		
Objective[30] ALL O1 Maintain[26] or restore[39] lynx habitat[23] connectivity[16] in and between LAUs[21], and in linkage areas[22].	Same as Alt B	No change.
Standard[43] ALL S1 New or expanded permanent developments[33] and vegetation management projects[48] must maintain[26] habitat connectivity[16].	Standard[43] ALL S1 New or expanded permanent developments[33] and vegetation management projects[48] must maintain[26] habitat connectivity[16] *in an LAU[21] and/or linkage area[22].*	
Guideline[15] ALL G1 Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways[18] or forest highways[12] across federal land. Methods could include fencing, underpasses or overpasses.	Same as Alt B	No change.
Standard[43] LAU S1 LAU[21] boundaries will not be adjusted except through agreement with the FWS, based on new information about lynx habitat[23].	Standard[43] LAU S1 *Changes in LAU[21] boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.*	Clarified standard and added a higher level review to provide for consistency.
VEGETATION MANAGEMENT PROJETS (VEG): *The following objectives, standards and guidelines apply to vegetation management projects in lynx habitat in lynx analysis units (LAU). With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments like mineral operations, ski runs, roads and the like. None of the objectives, standards, or guidelines apply to linkage areas.*		
Objective[30] VEG O1 Manage vegetation to be more similar to historic succession and disturbance processes while maintaining habitat components necessary for the	Objective [30] VEG O1 Manage vegetation[48] to *mimic or approximate natural* succession and disturbance processes while maintaining habitat components necessary for the	Clarified language.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
conservation of lynx.	conservation of lynx.	
Objective VEG O2 Maintain or improve lynx habitat[23], emphasizing high-quality winter snowshoe hare habitat[50] near denning habitat[6].	Objective VEG O2 Provide a mosaic of habitat conditions through time that support dense horizontal cover[19], and high densities of snowshoe hare. Provide winter snowshoe hare habitat[50] in both the stand initiation structural stage and in mature, multi-story conifer vegetation.	Changed to more specific language which provides needed detail to aid project planning.
Objective VEG O3 Conduct fire use[11] activities to restore[39] ecological processes and maintain or improve lynx habitat.	Same as Alt B	No change.
Objective VEG O4 Design regeneration harvest, reforestation, and thinning to develop characteristics suitable for winter snowshoe hare habitat.	Objective VEG O4 *Focus vegetation management[48] in areas that have potential to improve winter snowshoe hare habitat[50] but presently have poorly developed understories that lack dense horizontal cover.*	Changed to more specific language which provides needed detail to aid project planning.
Standard[43] VEG S1 Unless a broad scale assessment[2] has been completed that substantiates different historic levels of unsuitable habitat[24], limit disturbance in each LAU[21] as follows: If more than 30 percent of the lynx habitat[23] in an LAU is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects[48].	Standard[43] VEG S1 Standard VEG S1 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages[44] limit disturbance in each LAU as follows: If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects.	Changed to provide some flexibility for fuels reduction projects.
Standard VEG S2	Standard VEG S2	Changed to provide some flexibility for fuels reduction

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
Timber management projects[46] shall not change more than 15 percent of the lynx habitat on NFS lands in an LAU to an unsuitable condition in a ten-year period.	Standard VEG S2 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Timber management projects shall not regenerate[37] more than 15 percent of lynx habitat on NFS lands in an LAU in a ten-year period.	projects.
Standard VEG S3 Maintain[26] at least ten percent of the lynx habitat in an LAU as denning habitat[6] in patches generally larger than five acres. Where less than ten percent denning habitat is present in an LAU, defer vegetation management projects in stands that have the highest potential to develop denning habitat.	*Guideline VEG G11* *Denning habitat[6] should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees ("jack-strawed" piles). If denning habitat appears to be lacking in the LAU, then projects should be designed to retain some coarse woody debris[4], piles, or residual trees to provide denning habitat[6] in the future.*	Changed because the current consensus by lynx researchers is that denning habitat, in most cases, is not limiting.
Standard VEG S4 After a disturbance kills trees in areas five acres or smaller that could contribute to lynx denning habitat, salvage harvest[41] may occur only in: 1) Developed recreation[9] sites, administrative sites, or authorized special use structures or improvements; or 2) Designated road or trail corridors where public safety or access has been or may be compromised; or 3) LAUs where denning habitat has been mapped and field-validated, provided at least ten percent is retained and well distributed.	*This number is not included in Alt F. This item is included as part of Guideline VEG G11).*	Changed because the current consensus by lynx researchers is that denning habitat, in most cases, is not limiting.
Standard VEG S5 Precommercial thinning[35] projects that reduce winter	Standard VEG S5 Standard VEG S5 applies to all precommercial	Changed to provide some flexibility for fuels reduction projects.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
snowshoe hare habitat[50] during the stand initiation structural stage[44] may occur only: 1) Within 200 feet of administrative sites, dwellings or outbuildings. NOTE: Some thinning projects, such as white pine pruning or Christmas tree harvest, may occur if winter snowshoe hare habitat is not reduced.	thinning[35] projects, except for fuel treatment[13] projects that use precommercial thinning as a tool within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Precommercial thinning projects that reduce snowshoe hare habitat, may occur from the stand initiation structural stage[44] until the stands no longer provide winter snowshoe hare habitat only: 1. Within 200 feet of administrative sites, dwellings, or outbuildings; or 2. For research studies[38] or genetic tree tests evaluating genetically improved reforestation stock; or 3. Based on new information that is peer reviewed and accepted by the regional levels of the Forest Serviceand FWS, where a written determination states: a. that a project is not likely to adversely affect lynx; or b. that a project is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat; or 4. For conifer removal in aspen, or daylight thinning[5] around individual aspen trees, where aspen is in decline; or 5. For daylight thinning of planted rust-	

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
	resistant white pine where 80 % of the winter snowshoe hare habitat[50] is retained; or 6. To restore whitebark pine.	

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
Standard VEG S6 Precommercial thinning projects that reduce winter snowshoe hare habitat during the understory-reinitiation[47] or old-multistory structural stages[31] may occur only: 1) Within 200 feet of administrative sites, dwellings or outbuildings.	Standard VEG S6 Standard VEG S6 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests[29] may occur only: 1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or 2. For research studies[38] or genetic tree tests evaluating genetically improved reforestation stock; or 3. For incidental removal during salvage harvest[41] (e.g. removal due to location of skid trails). (NOTE: Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover [e.g. uneven age management systems could be used to create openings where there is little understory so that new forage can grow]).	Changed to provide some flexibility for fuels reduction projects and to provide for limited flexibility in situations where the standard is not operationally practical to implement.
Guideline[15] VEG G1 Vegetation management projects[47] should be planned to recruit a high density of conifers, hardwoods and shrubs where such habitat is scarce or not available.	Guideline VEG G1 Vegetation management[48] projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available.	Changed to more specific language which provides needed detail to aid project planning.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
Winter snowshoe hare habitat [50] should be near denning habitat[6]. Vegetation management projects should be planned to extend the production of winter snowshoe hare habitat when forage quality and quantity is declining.	Priority should be given to stem-exclusion, closed-canopy structural stage[44] *stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands).* Winter snowshoe hare habitat[50] should be near denning habitat[6].	
Guideline VEG G2 Where more denning habitat is desired, leave standing trees and coarse woody debris in amounts similar to what would be there naturally. Denning habitat should be near winter snowshoe hare habitat.	Guideline VEG G2 *This number is not included in Alt F. This item is included as part of Guideline VEG G11.*	Changed because the current consensus by lynx researchers is that denning habitat, in most cases, is not limiting.
Guideline VEG G3 Vegetation management projects designed to retain or restore[39] denning habitat should be located where there is a low probability of stand-replacing fire.	Guideline VEG G3 *This number is not included in Alt F. This item is included as part of Guideline VEG G11.*	Changed because the current consensus by lynx researchers is that denning habitat, in most cases, is not limiting.
Guideline VEG G4 Fire use[11] activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.	Guideline VEG G4 *Prescribed fire*[34] activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.	Changed language to address specific issue with prescribed fire.
Guideline VEG G5 Habitat for alternate prey species, primarily red squirrel[36], should be provided in each LAU.	Same as Alt B	No change.
Not included	Guideline VEG G10 *Fuel treatment projects in the WUI as defined by HFRA*[17, 48] *should be designed considering standards VEG S1, S2, S5, and S6 to promote lynx conservation.*	Added to provide direction to consider lynx habitat needs when planning fuel treatment projects.
LIVESTOCK MANAGEMENT (GRAZ): *The following objectives and guidelines apply to grazing projects in lynx habitat in lynx analysis units (LAU). They do not apply to linkage areas.*		
Objective[30] GRAZ O1 Manage livestock grazing to be compatible with improving or maintaining[26] lynx habitat[23].	Same as Alt B	No change.
Standard[43] GRAZ S1 In fire- and harvest-created openings, manage livestock grazing to make sure impacts do not prevent shrubs and trees from regenerating.	*This number is not included in Alt F. This item is included as Guideline GRAZ G1.*	Changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
Standard GRAZ S2 In aspen stands, manage livestock grazing to contribute to their long-term health and sustainability.	*This number is not included in Alt F. This item is included as* Guideline GRAZ G2.	Changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
Standard GRAZ S3 In riparian areas[40] and willow carrs[3], manage livestock grazing to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.	*This number is not included in Alt F. This item is included as Guideline GRAZ G3.*	Changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
Standard GRAZ S4 In shrub-steppe habitats[42], manage livestock grazing in the elevation ranges of forested lynx habitat[23] in LAUs[21], to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	*This number is not included in Alt F. This item is included as Guideline GRAZ G4.*	Changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
This number is not included in Alt B. This item is included as Standard GRAZ S1.	Guideline[15] GRAZ G1 *In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.*	Standard was changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
This number is not included in Alt B. This item is included as Standard GRAZ S2.	Guideline GRAZ G2 *In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.*	Standard was changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
This number is not included in Alt B. This item is included as Standard GRAZ S3.	Guideline GRAZ G3 *In riparian areas[40] and willow carrs[3], livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.*	Standard was changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
This number is not included in Alt B. This item is included as Standard GRAZ S4.	Guideline GRAZ G4 *In shrub-steppe habitats[42], livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs[21], to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.*	Standard was changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
HUMAN USE PROJETS (HU): The following objectives and guidelines apply to *human use projects, such as special uses (other than grazing), recreation management, roads, highways, mineral and energy development, in lynx habitat in lynx analysis units (LAU),* subject to valid existing rights. *They do not apply to vegetation management projects or grazing projects directly. They do not apply to linkage areas.*		
Objective[30] HU O1 Maintain[26] the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat[23].	Same as Alt B.	No change.
Objective HU O2 Manage recreational activities to maintain lynx habitat and connectivity[16].	Same as Alt B.	No change.
Objective HU O3 Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.	Same as Alt B.	No change.
Objective HU O4 Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation[9] sites or ski areas.	Same as Alt B.	No change.
Objective HU O5 Manage human activities – such as exploring and developing minerals and oil and gas, placing utility corridors and permitting special uses – to reduce impacts on lynx and lynx habitat.	Objective HU O5 Manage human activities, *such as special uses, mineral and oil and gas exploration and development, and placement of utility transmission corridors*, to reduce impacts on lynx and lynx habitat.	Clarified language.
Objective HU O6 Reduce adverse highway[18] effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity[16], and to reduce the potential of lynx mortality.	Same as Alt B.	No change.
Standard[43] HU S1 Allow no net increase in designated over-the-snow routes[7] or play areas by LAU[21], unless designation serves to consolidate use and improve lynx habitat[23]. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private in holdings or where regulated by HU S3.	*This number is not included in Alt F. This item is included as Guideline HU G11.*	USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not consider packed snowtrails to be a threat to lynx at this time. Recent published research in western Montana has provided evidence to support this contention (Kolbe 2005). Other unpublished research in Utah arrived at differing conclusions (Bunnell 2005). Both studies used different methodology.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
Standard HU S2 When developing or expanding ski areas, locate trails, access roads and lift termini to maintain[26] and provide lynx security habitat[10] if it's been identified as a need.	*This number is not included in Alt F. This item is included as Guideline HU G10.*	No clear evidence to indicate this is limiting lynx use.
Standard HU S3 Winter access for non-recreation special uses and mineral and energy exploration and development, shall be limited to designated routes[8] or designated over-the-snow routes[7].	*This number is not included in Alt F. This item is included as Guideline HU G12.*	USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not consider packed snowtrails to be a threat to lynx at this time. Recent published research in western Montana has provided evidence to support this contention (Kolbe 2005). Other unpublished research in Utah arrived at differing conclusions (Bunnell 2005). Both studies used different methodology.
Guideline[15] HU G1 When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris[4], so winter snowshoe hare habitat[49] is maintained.	Same as Alt B	No change.
Guideline HU G2 When developing or expanding ski areas, foraging should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.	Same as Alt B	No change.
Guideline HU G3 Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effective- ness of lynx habitat[23].	Same as Alt B	No change.
Guideline HU G4 For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.	Same as Alt B	No change.
Guideline HU G5 For mineral and energy development sites and facilities that are closed, a reclamation plan that restores[39] lynx habitat should be developed.	Same as Alt B	No change.
Guideline HU G6 Upgrading unpaved roads to maintenance levels[27] 4	*Methods to avoid or reduce effects to lynx should be used in lynx habitat when* upgrading unpaved roads to	Clarified language.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
and 5 should be avoided in lynx habitat, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.	maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.	
Guideline HU G7 New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity[16]. New permanent roads and trails should be situated away from forested stringers.	Same as Alt B	No change.
Guideline HU G8 Cutting brush along low-speed[25], low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.	Same as Alt B	No change.
Guideline HU G9 On new roads built for projects, public motorized use should be restricted. Effective closures should be provided in road designs. When the project is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.	Same as Alt B	No change.
This number is not included in Alt B. This item is included as Standard HU S2.	*Guideline HU G10* *When developing or expanding ski areas and trails, access roads and lift termini to maintain and provide lynx security[10] habitat.*	Changed from Standard to Guideline because no clear evidence to indicate this is limiting lynx use.
This number is not included in Alt B. This item is included as Standard HU S1.	Guideline HU G11 ***Designated over-the-snow routes, or designated play areas, should not expand outside baseline areas of consistent snow compaction[1], unless designation serves to consolidate use and improve lynx habitat. This is calculated on an LAU basis, or on a combination of immediately adjacent LAUs.*** *This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by Guideline HU G12.* *Use the same analysis boundaries for all actions subject to this guideline.*	Changed from Standard to Guideline. USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not consider packed snowtrails to be a threat to lynx at this time. Recent published research in western Montana has provided evidence to support this contention (Kolbe 2005). Other unpublished research in Utah arrived at differing conclusions (Bunnell 2005). Both studies used different methodology.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
This number is not included in Alt B. This item is included as Standard HU S3.	Guideline HU G12 *Winter access for non-recreation special uses, and mineral and energy exploration and development, should be limited to designated routes[8] or designated over-the-snow routes[7].*	Changed from Standard to Guideline. USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not consider packed snowtrails to be a threat to lynx at this time. Recent published research in western Montana has provided evidence to support this contention (Kolbe 2005). Other unpublished research in Utah arrived at differing conclusions (Bunnell 2005). Both studies used different methodology.
LINKAGE AREAS (LINK): The following objective, standard and guidelines apply to *all projects within linkage areas*, subject to valid existing rights.		
Objective[30] LINK O1 In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.	Same as Alt B	No change.
Standard[43] LINK S1 When highway[18] or forest highway[12] construction or reconstruction is proposed in linkage areas[22], identify potential highway crossings.	Same as Alt B	No change.
Standard LINK S2 Manage livestock grazing in shrub- steppe habitats[42] to contribute to maintaining[26] or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.	*This number is not included in Alt F. This item is included as* Guideline LINK G2.	Standard was changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
Guideline[15] LINK G1 NFS lands should be retained in public ownership.	Same as Alt B	No change.
This number is not included in Alt B. This item is included as Standard LINK S2.	Guideline LINK G2 *Livestock grazing in shrub-steppe habitats[42] should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.*	Standard was changed to Guideline because the USFWS Remand Notice (Federal Register Vol. 69, No. 128, July 3, 2003) did not identify grazing practices as a threat to lynx.
REQUIRED MONITORING		
Map the location and amount of snow-compacting use that coincided with lynx habitat[23] in LAUs[21] during the	*Map the location and intensity of snow compacting activities, and designated and groomed routes that occurred inside LAUs during the period of 1998 to*	Clarified language.

NRLA Baseline - Alternative B	NRLA Alternative F	Rationale for Change
1998-2000 seasons for designated over-the-snow[7] and groomed routes and areas, and areas of consistent snow compaction[1]. Such activities include snowmobiling, snowshoeing, cross-country skiing, dog sledding, etc.	*2000. The mapping is to be completed within one year of this decision and changes in activities and routes are to be monitored every five years after the decision.*	
None	Annually report the number of acres where any of the exemptions 1 through 6 listed in Standard VEG S5 were applied. Report the type of activity, the number of acres, and the location (by unit, and LAU[21]).	Additional monitoring item needed.
None	Report the acres of fuel treatment in lynx habitat within the wildland urban interface[49] as defined by HFRA[17] when the project decision is approved. Report whether or not the fuel treatment met the vegetation standard. If standard(s) are not met, report, which standard(s) are not met, why they were not met, and how many acres were affected. Units will report to their respective USFS Regional Office. Region 1 of the USFS will consolidate all reports.	Additional monitoring item needed.

Glossary

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

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

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

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

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

[6] *Denning habitat (lynx)* – Denning habitat is the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning habitat must be within daily travel distance of winter snowshoe hare habitat – the typical maximum daily distance for females is about three to six miles. Denning habitat includes mature and old growth[24] forests with plenty of coarse woody debris. It can also include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed.

[7] *Designated over-the-snow routes* – Designated over-the-snow routes are routes managed under permit or agreement or by the agency, where use is encouraged, either by on-the-ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps) or in electronic media produced or approved by the

agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition. The determination of baseline snow compaction will be based on the miles of designated over-the-snow routes authorized, promoted or encouraged in 1998 to 2000.

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

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

[10] *Security habitat (lynx)* – Security habitat amounts to places in lynx habitat that provide secure winter bedding sites for lynx in highly disturbed landscapes like ski areas. Security habitat gives lynx the ability to retreat from human disturbance. Forest structures that make human access difficult generally discourage human activity in security habitats. Security habitats are most effective if big enough to provide visual and acoustic insulation and to let lynx easily move away from any intrusion. They must be close to winter snowshoe hare habitat. (LCAS)

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

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

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

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

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

[16] *Habitat connectivity (lynx)* – Habitat connectivity consists of an adequate amount of vegetation cover arranged in a way that allows lynx to move around. Narrow forested mountain ridges or shrub-steppe plateaus may serve as a link between more extensive areas of lynx habitat; wooded riparian areas may provide travel cover across open valley floors. (LCAS)

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

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

[19] *Horizontal cover* – Horizontal cover is the visual obscurity or cover provided by habitat structures that extend to the ground or snow surface primarily provided by tree stems and tree boughs, but also includes herbaceous vegetation, snow, and landscape topography. Horizontal cover was measured by John Squires et al. (pers. com.) in Northwestern Montana according to the following methodology:
"A canvas cover-board (2 m x 0.5 m) was erected 10 m from plot center in 4 directions (forward track, back track, and at 2, 90° angles) was read to directly measure horizontal cover. The cover board was divided into 4, 0.5 meter blocks and each block was further dividend into quarters. At each reading, technicians estimated horizontal cover by 10% class at each of the 4 heights; these 4 estimates were then averaged for an overall estimate of that reading." (According to Squires via pers. com., cover measured during the summer period averaged approximately 65% while at den sites it was measured at roughly 85%. During the winter period cover was measured at 45% while at winter kill sites it was slightly greater than 50%.)

[20] *Isolated mountain range* – Isolated mountain ranges are small mountains cut off from other mountains and surrounded by flatlands. On the east side of the Rockies, they are used for analysis instead of sub-basins. Examples are the Little Belts in Montana and the Bighorns in Wyoming.

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

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

[23] *Lynx habitat* – Lynx habitat occurs in mesic coniferous forest that experience cold, snowy winters and provide a prey base of snowshoe hare. In the northern Rockies, lynx habitat is generally occurs between 3,500 and 8,000 feet of elevation, and primarily consists of lodgepole pine, subalpine fir and Engelmann spruce. It may consist of cedar-hemlock in extreme northern Idaho, northeastern Washington and northwestern Montana, or of Douglas fir on moist sites at higher elevations in central Idaho. It may also consist of cool, moist Douglas fir, grand fir, western larch and aspen when interspersed in subalpine forests. Dry forests do not provide lynx habitat. (LCAS)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[38] *Research* – Research consists of studies conducted to increase scientific knowledge or technology. For the purposes of Standards VEG S5 and VEG S6, research applies to studies financed from the forest research budget (FSM 4040) and administrative studies financed from the NF budget.

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

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

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

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

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

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

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

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

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

[48] *Vegetation management projects* – Vegetation management projects change the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire and timber harvest. For the purposes of this amendment, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use.

[49] *Wildland urban interface (WUI)* - The area adjacent to an at-risk community that is identified in the community wildfire protection plan. If there is no community wildfire protection plan in place, the WUI is the area 0.5 mile from the boundary of an at-risk community or within 1.5 miles of the boundary of an at-risk community. The WUI could also include areas if the terrain is steep, or there is a nearby road or ridge top that could be incorporated into a fuel break, or the land is in condition class 3, or the area contains an emergency exit route needed for safe evacuations. (Condensed from HFRA. For full text see HFRA § 101.)

[50] *Winter snowshoe hare habitat* – Winter snowshoe hare habitat consists of places where young trees or shrubs grow dense – thousands of woody stems per acre – and tall enough to protrude above the snow during winter, so hares can browse on the bark and small twigs (Ruediger et al. 2000). Winter snowshoe hare habitat develops primarily in the stand initiation, understory reinitiation and old forest multistoried structural stage.

APPENDIX D (US Forest Service 2007)

Table 1. Acres* of precommercial thinning during in lynx habitat next decade for Alternative F, Scenario 2

(Management direction would apply to occupied habitat, but not unoccupied (would follow no action – Alternative A)) full funding compared to historic average funding

	Alternative A		Alternative F	
	Full funding	*Historic average	Full funding	*Historic average
Occupied units				
Bridger-Teton-R4			1,000	340
Clearwater			1,930	670
Custer			1,000	340
Flathead			1,460	500
Idaho Panhandle			**40,280	13,670
Kootenai			**13,520	4,600
Lolo			2,200	750
Shoshone			0	0
Targhee -R4			870	300
Total occupied			**62,260**	**21,170**
Mix of occupied/unoccupied ***				
Gallatin	26,300	8,940	1,310	445
Helena	3,830	1,300	730	250
Lewis & Clark	7,410	2,520	20	5
Total mixed	**37,540**	**12,760**	**2,060**	**700**
Unoccupied units				
Beaverhead-Deerlodge	21,280	7,240		
Bitterroot	510	180		
Nez Perce	12,370	4,210		
Salmon-Challis - R4	22,000	7,480		
Ashley –R4	7,710	2,620		
Bighorn-R2	3,000	1,020		
Total unoccupied	**66,870**	**22,750**		
TOTAL				

Acres are estimates rounded to the nearest ten, and could change based on changing needs.

*Historically about 34% of precommercial thinning has been funded.

About **36,400 acres on the Idaho Panhandle and 11,720 acres on the Kootenai of precommercial thinning allowed under Alternative F is for daylight thinning of planted rust-resistant western white pine, where 80% of the cover would be retained.

***The Gallatin is 89% occupied; the Helena is 75% occupied; and the Lewis and Clark is 39% occupied

Table 2. Grazing allotments in occupied and unoccupied lynx habitat

				Active allotments with lynx habitat:			
	Number of allotments	With lynx habitat	Active with lynx habitat	Less than 25 percent	From 25 to 50 percent	More than 50 percent	With similar direction‡
Occupied units							
Bridger-Teton	278	278	236	0	236	0	236
Clearwater	17	0	0	0	0	0	0
Custer	133	24	24	13	4	7	24
Flathead	20	19	11	0	3	8	11
Idaho Panhandle	11	9	8	1	2	5	6
Kootenai	44	27	17	7	3	7	17
Lolo	36	18	13	2	5	6	13
Shoshone	84	47	45	21	14	10	10
Targhee	145	100	86	8	24	54	86
Total Occupied	**768**	**522**	**440**	**52**	**291**	**97**	**403**
Mixed of occupied/unoccupied							
Gallatin	98	98	94	20	36	38	0
Helena	88	88	75	27	30	18	25
Lewis and Clark	269	146	143	21	11	111	73
Total mixed	**455**	**332**	**312**	**68**	**77**	**167**	**98**
Unoccupied units							
Beaverhead-Deerlodge	318	318	315	91	80	144	315
Bitterroot	20	19	15	9	2	4	15
Nez Perce	29	15	12	3	3	6	12
Salmon-Challis	114	85	85	49	27	9	85
Ashley	68	68	51	6	19	26	51
Bighorn	106	61	59	13	23	23	59
Total unoccupied	**655**	**566**	**537**	**171**	**154**	**212**	**537**
TOTAL	1,878	1,420	1,289	291	522	476	1,045

‡ *Similar direction* includes plan standards for riparian habitat protection or other management direction for grazing.

APPENDIX D cont.

Table 3. Miles of designated or groomed winter routes and acres of designated play areas in occupied and unoccupied lynx habitat

	All groomed or designated routes, in miles	Inside lynx habitat			
		Groomed or designated routes, in miles	Average designated routes groomed/year, in miles	Designated routes that could be groomed, in miles	Designated play areas (Number) & acres
Occupied units					
Bridger-Teton	850	850	750	100	0
Clearwater	1,025	500	425	75	0
Custer	50	25	0	25	0
Flathead	175	175	175	0	0
Idaho Panhandle	1,450	975	475	500	0
Kootenai	425	250	175	75	0
Lolo	700	375	300	75	0
Shoshone	500	150	100	50	0
Targhee	1,000	400	400	0	0
Total occupied	**6,175**	**3700**	**2800**	**900**	**0**
Mix of occupied and unoccupied					
Gallatin	425	350	305	50	0
Helena	375	275	200	75	(2) for 3,750
Lewis & Clark	825	600	225	400	(2) for 300
Total mixed	1625	1225	730	525	**(4) for 4,050**
Unoccupied units					
Beaverhead-Deerlodge	1,000	575	275	300	0
Bitterroot	250	100	25	75	0
Nez Perce	2,275	1,075	275	775	0
Salmon-Challis	1,500	1,125	225	900	0
Ashley	125	125	120	0	0
Bighorn	425	50	25	25	0
Total unoccupied	**5,575**	**3,050**	**945**	**2,075**	**0**
TOTAL	13,375	7,975	4,475 (56%)	3,500 (44%)	(4) for 4,050

The table contains estimated miles for each unit rounded to the nearest 25, as of January 2004. The baseline miles need to be established by each unit once a decision is made. The lynx amendment is not setting these as the baseline figures. These data may be updated as each unit conducts further site specific analysis to map the baseline, and for travel planning.

APPENDIX D cont.

Table 4. Recreation special use permits (SUPs) and agreements in occupied and unoccupied lynx habitat

	Recreation SUPs and agreements	Winter recreation SUPs and agreements	Winter recreation SUPs and agreements in lynx habitat
Occupied units			
Bridger-Teton	227	39	39
Clearwater	37	6	3
Custer	17	0	0
Flathead	201	8	8
Idaho Panhandle	195	25	24
Kootenai	61	19	19
Lolo	141	24	20
Shoshone	279	25	20
Targhee	325	24	21
Total occupied	**1483**	**170**	**154**
Mix of occupied and unoccupied habitat			
Gallatin	376	30	30
Helena	58	8	6
Lewis and Clark	21	21	21
	455	59	57
Unoccupied units			
Beaverhead-Deerlodge	28	4	4
Bitterroot	211	7	7
Nez Perce	64	17	15
Salmon-Challis	114	14	14
Ashley	24	2	2
Bighorn	343	86	85
Total unoccupied	**784**	**130**	**127**
TOTAL	2,722	359	338

Table 5. Cross-country and downhill ski areas operating under special use permit In occupied and unoccupied lynx habitat

		Inside lynx habitat			
	Ski areas	Number	Acres	Planning expansion	New areas planned
Occupied units					
Bridger-Teton	5	5	4,620	0	0
Clearwater	0	0	0	0	0
Custer	1	1	1,288	1	0
Flathead	6	5	3,749	1	0
Idaho Panhandle †	2	0	0	1	0
Kootenai	3	1	2,640	1	1
Lolo †	3	2	1,412	1	0
Shoshone	10	1	2	0	0
Targhee	2	2	974	1	0
Total occupied	**32**	**17**	**14,685**	**6**	**1**
Mix of occupied and unoccupied habitat					
Gallatin	2	2	956	1	0
Helena	3	2	320	0	0
Lewis & Clark	3	3	1,498	1	0
Total mixed	8	7	2,774	2	0
Unoccupied units					
Beaverhead-Deerlodge	2	2	1,999	1	0
Bitterroot ‡	0	0	0	0	0
Nez Perce	1	0	0	0	0
Ashley	0	0	0	0	0
Salmon-Challis ‡	1	1	1,401	1	0
Bighorn	6	1	400	0	0
Total unoccupied	**10**	**4**	**3800**	**2**	**0**
TOTAL	50	28	21,259	10	1

† The Idaho Panhandle and Lolo National Forests both have parts of the Lookout Pass ski area within their administrative boundaries. On this table it is listed under the Lolo in Montana.

‡ The Salmon-Challis and Bitterroot National Forests both have parts of the Lost Trail ski area within their administrative boundaries. On this table it is listed under the Salmon-Challis NF in Idaho.

APPENDIX D cont.

Table 6. Mining operations and wells in occupied and unoccupied lynx habitat

	Wells in last 10 years		Foreseeable wells or pads*	Minerals operations	
	Drilled	Outside habitat		Number	Name of major operations
Occupied units					
Bridger-Teton	0	Several	24	0	-
Clearwater	0	0	0	0	-
Custer	2*	0	2	1	Stillwater
Flathead	0	0	0	0	-
Idaho Panhandle	0	0	0	0	-
Kootenai	0	0	0	1	Troy
Lolo	0	0	0	1 to 5	-
Shoshone	0	1	1	0	-
Targhee	0	0	0	0	-
Total occupied	**2**	**several**	**27**	**3 to 5**	
Mix of occupied and unoccupied habitat					
Gallatin	0	0	0	1	East Boulder
Helena	1*	0	2	2 to 3	-
Lewis and Clark	0	0	2	0	-
Total mixed	1	1	4	3 to 4	
Unoccupied units					
Beaverhead-Deerlodge	0	0	4	2	Beal & Golden Jubilee
Bitterroot	0	0	0	0	-
Nez Perce	0	0	0	0	-
Salmon-Challis	0	0	0	0	-
Ashley	0	0	3	1	-
Bighorn	0	0	1	0	-
Total unoccupied	**0**	**0**	**8**	**3**	
TOTAL	1	3+	39	9 to 14	-

*Pads with multiple wells on the same location are counted as "1 well or pad" since the disturbance is comparable to a single well.

**One well on the Helena NFis on private land within the National Forest boundary has been plugged and abandoned. The two wells on the Custer NF are also plugged and abandoned.

APPENDIX D cont.

Table 7. Miles of forest roads in occupied and unoccupied lynx habitat, part 1

			Paved 2 or more lanes		Environmental paving	
	Maintenance level 2	Maintenance levels 3 to 5	Paved last 10 years	Planned next 10 years	Paved last 5 years	Planned next 5 years
Occupied units						
Bridger-Teton	848	624	0	0	1	1
Clearwater	299	184	0	0	0	0
Custer	95	50	0	6.6	0	0
Flathead	500	795	0	0	0	1
Idaho Panhandle	1,166	830	0	0	0	0
Kootenai	400	450	0	0	1	0
Lolo	704	621	0	7.1	0	0
Shoshone	197	58	2	0	0	0
Targhee	138	557	2.2	5	0	0
Total occupied	**4,347**	**4169**	**4.2**	**18.7**	**2**	**2**
Mix of occupied and unoccupied habitat						
Gallatin	981	202	0.5	8	0	0
Helena	447	168	0	5	0	0
Lewis and Clark	327	323	0	0	0	0
Mixed total	**1755**	**693**	**0.5**	**13**	**0**	**0**
Unoccupied habitat						
Beaverhead-Deerlodge	1,050	741	10	5	0	0
Bitterroot	120	130	0	0	0	0
Nez Perce	386	372	0	7	0	0
Salmon-Challis	670	420	0	0	0	0
Ashley	211	353	0	1.7	0	0
Bighorn	125	51	0	0	0	0
Total unoccupied	**2,.562**	**2,067**	**10**	**13.7**	**0**	**0**
TOTAL	8,664	6,929	14.7	45.4	2	2

Table 8. Forest roads in occupied and unoccupied lynx habitat, part 2

	New open last 5 years	New open planned next 5 years	Upgrades planned next 5 years	On ridge-top planned next 10 years
Occupied habitat				
Bridger-Teton	10	0	100	2
Clearwater	0.4	0	7.2	2.8
Custer	0	0	14	0
Flathead	2	0	0	0
Idaho Panhandle	0.7	0	0	0
Kootenai	0	0	4	0
Lolo	0	0	63.4	0
Shoshone	0	0	3.6	0
Targhee	0.8	2.5	5	0.2
Total occupied	**13.9**	**2.5**	**197.2**	**5**
Mix of occupied and unoccupied habitat				
Gallatin	0	0	5	2
Helena	0	0	20	0
Lewis and Clark	0	0	0	0
Total mixed	**0**	**0**	**25**	**0**
Unoccupied habitat				
Beaverhead-Deerlodge	0.3	2.4	1.5	0
Bitterroot	0	0	0	0
Nez Perce	0	0	0	0
Salmon-Challis	0	0	12	0
Ashley	0	0	1.7	0
Bighorn	0.2	0	0	0
Total unoccupied	**.5**	**2.4**	**15.2**	**0**
TOTAL	14.4	4.9	237.4	7

APPENDIX E (adapted from U.S. Forest Service 2007)

Unit	Unit Acres	Acres of lynx habitat	% of lynx habitat	Acres within WUI*	Acres of lynx habitat within WUI*	% of acres within WUI* that are lynx habitat	% of all lynx habitat within WUI*	Lynx habitat treated in WUI* over a 10 year period				Total		Total 10 yr fuel treatment program
								Inside WUI*		Outside WUI*				
								Acres of lynx habitat	% of lynx habitat	Acres of lynx habitat	% of lynx habitat	Total acres of lynx habitat	% of lynx habitat	
Occupied Lynx Habitat														
Bridger-Teton NF	3,437,527	2,000,000	58.2%	70,700	43,900	62.1%	2.2%	22,320	1.1%	71,920	3.6%	94,240	4.7%	160,000
Clearwater NF	1,825,397	930,000	50.9%	50,900	90	0.2%	0.0%	0	0.0%	63,750	6.9%	63,750	6.9%	144,000
Custer NF	1,187,621	230,000	19.4%	79,200	22,800	28.8%	9.9%	1,450	0.6%	20,330	8.8%	21,780	9.5%	112,000
Flathead NF	2,355,592	1,730,000	73.4%	247,000	131,800	53.4%	7.6%	32,330	1.9%	34,310	2.0%	66,640	3.9%	108,000
Gallatin NF	1,806,565	870,000	48.2%	252,400	94,400	37.4%	10.9%	16,650	1.9%	2,400	0.3%	19,050	2.2%	50,000
Helena NF	975,387	440,000	45.1%	180,300	69,300	38.4%	15.8%	19,000	4.3%	12,150	2.8%	31,150	7.1%	77,000
Idaho Pan NF	2,498,234	1,170,000	46.8%	667,600	72,300	10.8%	6.2%	4,290	0.4%	39,010	3.3%	43,300	3.7%	122,000
Kootenai NF	2,242,468	1,010,000	45.0%	651,600	52,000	8.0%	5.1%	6,960	0.7%	36,000	3.6%	42,960	4.3%	167,000

Lewis & Clark NF	1,862,289	970,000	52.1%	69,100	35,800	51.8%	3.7%	17,160	1.8%	17,680	1.8%	34,840	3.6%	67,000
Lolo NF	2,082,784	1,110,000	53.3%	556,800	71,200	12.8%	6.4%	16,900	1.5%	32,330	2.9%	49,230	4.4%	130,000
Shoshone NF	2,436,850	640,000	26.3%	24,300	7,600	31.3%	1.2%	18,910	3.0%	17,160	2.7%	36,070	5.6%	127,000
Targhee NF	1,810,854	1,050,000	58.0%	100,000	55,400	55.4%	5.3%	14,300	1.4%	45,820	4.4%	60,120	5.7%	105,000
Total	**24,521,568**	**12,150,000**	**49.5%**	**2,949,900**	**656,590**	**22.3%**	**5.4%**	**170,270**	**1.4%**	**392,860**	**3.2%**	**563,130**	**4.6%**	**1,369,000**
Unoccupied Lynx Habitat														
Ashley NF	1,384,136	700,000	50.6%	56,000	27,200	48.6%	3.9%	31,360	4.5%	101,490	14.5%	132,850	19.0%	263,000
B-D NF	3,360,825	2,060,000	61.3%	211,700	154,400	72.9%	7.5%	36,500	1.8%	13,420	0.7%	49,920	2.4%	72,000
Bighorn NF	1,107,671	310,000	28.0%	43,400	7,800	18.0%	2.5%	13,640	4.4%	18,760	6.1%	32,400	10.5%	89,000
Bitterroot NF	1,580,948	640,000	40.5%	202,300	17,600	8.7%	2.8%	4,680	0.7%	16,400	2.6%	21,080	3.3%	93,000
Nez Perce NF	2,224,230	810,000	36.4%	119,800	15,800	13.2%	2.0%	5,200	0.6%	27,360	3.4%	32,560	4.0%	116,000
Salmon-Challis NF	4,350,827	1,800,000	41.4%	163,800	83,200	50.8%	4.6%	22,440	1.2%	27,060	1.5%	49,500	2.8%	110,000
Total	**14,008,637**	**6,320,000**	**45.1%**	**797,000**	**306,000**	**38.4%**	**4.8%**	**113,820**	**1.8%**	**204,490**	**3.2%**	**318,310**	**5.0%**	**743,000**

*** WUI= Within 1 mile of communities with >28 people/sq. mi.**

APPENDIX F (U.S. Forest Service 2007)

Non-developmental = GIS Categories 1-3

1. Natural, unmodified environments

In *natural, unmodified environments*, ecological processes such as fire, insects, and disease operate relatively free from human intervention. Diversity resulting from natural succession and disturbance predominate and non-native vegetation is rare.

Users must be self-reliant and expect little contact with others. Few if any structural improvements exist; travel is usually non-motorized.

Natural, unmodified environments are usually Designated Wilderness, Wilderness Study Areas, Research Natural Areas, backcountry lands, or rivers that are designated, suitable, or eligible for classification as Wild Rivers.

2. Special natural areas

In *special natural areas*, representative or rare, narrowly distributed ecological settings or components are conserved, helping to make sure the pieces and functions are saved to provide for the overall sustainability of larger landscapes.

The influences of humans on the ecosystem are sometimes evident. Human uses vary but generally are non-intensive. Travel is generally non-motorized.

Some of these areas serve as a "natural" reference for areas that are heavily managed for particular objectives.

Special natural areas are often formally designated. They include some Research Natural Areas, most Areas of Critical Environmental Concern, many old growth reserves, rivers that are designated, suitable, or eligible for classification as Scenic Rivers outside of Wilderness, and some other areas.

3. Essentially unmodified forested and grassland ecosystems

In *essentially unmodified forested and grassland ecosystems*, although characterized by natural appearing landscapes, an array of management tools may be used to restore or maintain ecological processes, resulting in some evidence of human activities. Normally, natural processes and patterns predominate.

Ecological values are in balance with human occupancy, and consideration is given to both. Users may expect to experience some challenge and risk. Restrictions on motorized travel vary from area to area and season to season.

Essentially unmodified forested and grassland ecosystems include lands unsuitable for timber production that have no planned harvest, special-status species habitat areas, and areas designated for and occupied by wild horses or burros.

Developmental = Categories 4-8

4. Natural appearing, but modified for human use and occupancy

In areas that are *natural appearing, but modified for human use and occupancy,* ecological values are managed to provide recreational use, but maintained well within levels necessary to maintain ecological systems. Resource use is not emphasized and has little impact.

Sights and sounds of humans can be expected. Motorized transportation is common.

Such lands include environmental education sites, rivers that are designated, suitable or eligible for classification as recreational, non-linear recreation sites and areas, and all other Areas of Critical Environmental Concern not included in special natural areas.

5. Modified forest ecosystems

Modified forest ecosystems are primarily forested ecosystems managed to meet a variety of needs. Ecologic conditions will be maintained with an emphasis on selected structures and compositions within the range of natural variability.

These lands often display high levels of forest management investment, use or activity, evidence of vegetative manipulation, and many facilities.

Users expect to see other humans and the evidence of human activities. Motorized transportation is common.

6. Modified grassland

Modified grasslands are grasslands but include many woodland ecosystems, managed to meet a variety of needs. Ecologic objectives are likely to emphasize selected structures and compositions within the range of natural variability.

These lands often display high levels of forest management investment, use or activity, evidence of vegetative manipulation, and many facilities. A wide variety of structure and composition is present.

Users expect to see other humans and the evidence of human activities. Motorized transportation is common.

7. Areas modified by human occupation and activities

In *areas modified by human occupation and activities,* public lands are intermingled with private lands to the point that public landowners cannot effectively manage for ecological values without the support and cooperation of the private sector.

Human activities have altered the natural appearances in most of these areas. The sight and sound of humans predominates. Private land use is often intensive agriculture, industrial, or residential.

Resource use may not be planned on a sustainable basis but may occur in concert with surrounding private land values. Motorized transportation is common.

8. Modified non-sustainable areas

In *modified non-sustainable areas,* ecological conditions and processes likely are or have been permanently altered by humans beyond the point where natural appearing landscapes and ecological processes can be maintained. The areas are generally small; they may include mines or other concentrated uses.

Ecological values are protected where they affect the heath and welfare of humans. Human activities are generally commercial, directly or indirectly providing jobs and income. Motorized transportation is common.