

Appendix L — Cumulative effects

The following past, present, and reasonably foreseeable programmatic actions have or will affect units in the planning area. These actions were used to evaluate the cumulative programmatic effects. Several other actions were considered but were not included in the cumulative effects analysis because they either did not affect lynx habitat, or were not of the nature to have cumulative effects (see Project Record, Summary of actions reviewed for cumulative effects, where no cumulative effect was noted).

Existing land & resource management plans & land use plans, as amended

Existing plans form the baseline of effects. The effects of these plans have previously been determined and disclosed in appropriate NEPA documents.

Past programmatic amendments & federal policies that affect units in the planning area

Past programmatic actions either amended existing plans, or added or changed higher-level policy that affected existing plans. Policy decisions have been incorporated into the Code of Federal Regulations (CFRs). Both amendments and policy decisions are listed because they changed management direction

similar to the lynx proposal, or because they affected many existing plans in the planning area.

Past amendments

PACFISH & INFISH

PACFISH (the 1994 Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho and Portions of California) and INFISH (the 1996 Inland Native Fish Strategies) amended plans, establishing management requirements within riparian habitat conservation areas that apply to all FS and BLM units with lynx habitat west of the Continental Divide. PACFISH and INFISH generally require retaining vegetation near streams and wetlands.

PACFISH and INFISH

- ♦ Improve habitat for wildlife, plant and aquatic species, including lynx by minimizing activities in riparian areas
- ♦ May reduce amount of area available for timber harvest
- ♦ May increase insect and disease in some areas
- ♦ May increase fuel buildup in some areas
- ♦ May reduce number of AUMs in grazing allotments or affect the timing of operations
- ♦ May increase costs for transportation systems,

recreation sites, and mineral and energy development

Forest Plan amendments for access management in the Selkirk and Cabinet/Yaak Grizzly Bear Recovery Zones

In March 2004, the Kootenai, Idaho Panhandle, and Lolo NFs amended their plans to change existing plan objectives, standards and guidelines about motorized access in the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones (USDA Forest Service, 2004a). The preferred alternative, Alternative E, sets road densities and core areas for each BMU (bear management unit) reflecting the unique features of each BMU. The grizzly bear access management amendment:

- ♦ Could improve habitat for wildlife, plant and aquatic species
- ♦ May increase fire risk lands where access is restricted
- ♦ Could reduce timber harvest
- ♦ Could reduce areas available for precommercial thinning
- ♦ May change recreational user experiences, especially where vegetation grows back in restricted roads
- ♦ Would not affect mineral and energy development, grazing or land acquisition

On December 13, 2006 Judge Donald Malloy, United States District Court for the District of Montana, set aside this EIS and ROD and remanded the matter back to the FS for preparation of a new environmental analysis.

The timeframe for a new decision and what that decision might entail is not known at this time.

Forest Plan amendments for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests

A Record of Decision was issued in April 2006 which amended six forest plans on six Great Yellowstone Area national forests (Beaverhead-Deerlodge, Bridge-Teton, Caribou-Targhee, Custer, Gallatin, and Shoshone). The amendment incorporates habitat standards and other relevant provisions in the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area (USDA Forest Service, 2006a).

The purpose and need is to ensure conservation of habitat to sustain the recovered grizzly bear population, update the management and monitoring of grizzly bear habitat, provide consistency among Greater Yellowstone Area national forests in managing grizzly bear habitat, and ensure the adequacy of regulatory mechanisms for grizzly bear habitat protection upon delisting as identified in the Grizzly Bear Recovery Plan.

The grizzly bear conservation strategy (USDA Forest Service, 2006b, 2006c)

- ♦ Could maintain habitat for wildlife, including lynx, plant, and aquatic species
- ♦ Would have a minor effect on mineral and energy development, or land acquisition

due to increased time delays and costs

- ♦ Would have no net change on cattle grazing
- ♦ Keeps developed recreation at existing levels
- ♦ May limit size and number of individual fuel reduction projects requiring new motorized access inside the primary conservation area.

Forest Plan amendment for winter motorized recreation on the Flathead National Forest.

In November 2006, the Flathead NF issued a Record of Decision for the Winter Motorized Recreation Plan (USDA, Forest Service, 2006d). The decision establishes a plan for managing over-snow vehicle recreation, including identifying where and when over-the-snow motorized vehicle recreation will be allowed; what criteria will be considered; and what monitoring will be conducted.

The winter motorized recreation amendment would

- Maintain and improve habitat for wildlife, including lynx habitat
- Would not affect mineral and energy development, grazing, or land acquisition
- Could change user experiences and winter recreation opportunities on the Flathead National Forest.

At this time this Decision is under administrative appeal. The decision on the appeal is not known at this

time this document went to the printer.

OHV (off highway vehicle) amendment for Montana

In January 2001, this amendment applying to NF lands in Montana established a new standard restricting yearlong, wheeled motorized cross-country travel where it was not already restricted, with certain exceptions (USDA, FS, Northern Region 2001).

The OHV amendment

- ♦ Improves habitat for wildlife, plant and aquatic species
- ♦ Has no effect on fire management, forest management, grazing, transportation systems, mineral and energy development, winter recreation, or land acquisition

Past policy decisions

BLM Healthy Rangeland Initiative

This 1998 policy incorporated at 43 CFR 4180 the Healthy Rangeland standards and guidelines that describe how livestock grazing is managed on all BLM lands. The policy requires certain habitat conditions be provided for terrestrial and aquatic species.

The Healthy Rangeland Initiative

- ♦ Improves habitat for wildlife, including lynx, plant and aquatic species
- ♦ May reduce number of AUMs in grazing allotments or affect the timing of operations

- ♦ Has no effect on fire management, forest management, transportation systems, mineral and energy development, winter recreation or land acquisition

The Roads Policy

This 2001 policy incorporated at 36 CFR 212 provides the FS direction about its transportation system. Adopted after the LCAS was finalized, the Roads Policy gives managers a scientific analysis process to inform their decision-making. It directs the agency to maintain a safe, environmentally sound road network that’s responsive to public needs and affordable to manage, where unneeded roads are decommissioned.

The Roads Policy generally has no effects since it is an analysis process. It is likely to improve habitat for wildlife, plant, and aquatic species.

The National Travel Management Final Rule

In November 2005, the Forest Service published a new travel management rule governing motor vehicle use on national forests and grasslands (USDA FS, 2005). Under the final rule, each national forest or ranger district will designate those roads, trails, and areas open to motor vehicle use by class of vehicle and, if appropriate, by time of year. As designation is complete on a national forest or ranger district, motor vehicle use off of the designated

system will be prohibited. Designated routes and areas will be identified on a motor vehicle use map. Motor vehicle use outside of designated routes and areas will be provided for fire, military, emergency, and law enforcement purposes, and for use under Forest Service permit. Valid existing rights are honored. The rule also maintains the status quo for snowmobile use, as determined in individual forest plans.

The transportation rule will:

- ♦ Improve habitat for wildlife, plant and aquatic species because once local decisions are made motor vehicle use off designated routes will be prohibited
- ♦ Likely have no effect on fire management, forest management, grazing, transportation systems, mineral and energy development, winter recreation, or land acquisition because it does not affect permits or valid existing rights.

Several units have started and/or completed the travel planning process for all or a portion of their forests. The units include the Bridger Teton, Custer, Gallatin, Helena, and Lewis and Clark National Forests.

Roadless Area Conservation Strategy, “The Roadless Policy”

In January 2001, the Roadless Policy was incorporated at 36 CFR 294, prohibiting road construction and reconstruction, and timber removal in inventoried roadless areas on NF

lands, with certain exceptions (USDA FS, 2001).

In May of 2001, a preliminary injunction was issued by the District Court of Idaho against implementing the Roadless Policy. This injunction was vacated by the 9th Circuit Court of Appeals. However, in July 2003, the District Court of Wyoming again enjoined implementation of the Roadless Policy.

On May 13, 2005 the Department of Agriculture issued a new roadless rule – which some call the “State Petitions Rule” (USDA FS 2005). This new rule: (1) established a State petitioning process for management direction of Inventoried Roadless Areas (IRAs); (2) established the Roadless Area Conservation National Advisory Committee; (3) required individual states to recommend management priorities for individual IRAs in their petitions; and (4) did not change any on-the-ground management direction contained in individual forest plans. In addition, until forest plans are revised the agency issued interim management direction to conserve the roadless character with some exceptions (Interim direction 1920-2006-1).

In September 2006, the United State District Court for the Northern District of California set aside the State Petitions Rule and directed the agency to apply the direction from the 2001 Roadless Rule.

The Roadless Policy, if fully implemented:

- ♦ Improves habitat for wildlife, plant and aquatic species, so cumulatively contributes to the conservation of lynx
- ♦ May increase fire risk in unroaded lands because of reduced timber removal
- ♦ May change user recreational experiences
- ♦ May limit development of some ski areas
- ♦ May change which areas are available for mineral and energy development
- ♦ Would have only a limited affect on grazing, mostly by reducing the forage created by timber harvest
- ♦ Would have no effect on land acquisition

For this analysis, it is assumed that road construction in roadless areas would be limited; therefore many of the effects described in the Roadless Area Conservation EIS would occur.

National Fire Plan and Healthy Forests Initiative

The 2000 National Fire Plan seeks to manage the impact of wildfires on communities and the environment by setting goals for wildland fire policy for the FS and BLM.

In September 2000, a report to the President – *Managing the Impact of Wildfires on Communities and the Environment* was issued (USDI and USDA FS, 2000). This report provides recommendations to the Departments of Agriculture and Interior on how best to respond to the severe fire season of 2000. Key

recommendations include: (1) provide additional fire fighting resources; (2) restore fire damaged landscapes and communities; (3) increase efforts to remove hazardous fuels, and (4) work directly with local communities to improve community fire-fighting capacity and coordination, implement restoration and fuel reduction projects, and expand education and risk mitigation efforts in the Wildland Urban Interface (WUI). This report provided the basis and conceptual framework for the National Fire Plan, and the 10-Year Comprehensive Strategy.

10-Year Comprehensive Strategy

The 2001 10-Year Comprehensive Strategy takes a collaborative approach to reducing wildland fire risks to communities and the environment for the FS, also setting goals for wildland fire policy (USDA FS, 2001).

Both the National Fire Plan and the 10-Year Comprehensive Strategy share goals to:

- ♦ Improve fire prevention and suppression
- ♦ Promote community assistance
- ♦ Restore fire-adapted ecosystems (post-fire restoration)
- ♦ Reduce hazardous fuels

The Development of a Collaborative Fuel Treatment Program

The 2003 multiparty memorandum of understanding (MOU) describes criteria for selecting FS fuel treatment projects, defining high-priority areas as the wildland urban

interface (WUI) and forest Condition Classes 2 and 3 outside the WUI (USDA FS, USDI BLM, FWS, NPS, 2003)

These documents do not prescribe specific outcomes; they are not programmatic decisions. They merely identify actions that should be taken to respond to the National Fire Plan.

Healthy Forests Initiative

In August 2002, the President issued the *Healthy Forests: An Initiative for Wildfire Prevention and Stronger Communities*. The intent of the initiative is to better protect people and natural resources by lowering the procedural and process hurdles that impede the reduction of hazardous fuels on public land. The initiative includes:

- ♦ Improving procedures for developing and implementing fuels treatment and forest restoration projects in priority forests and rangelands;
- ♦ Reducing the number of overlapping environmental reviews by combining project analysis and establishing a process for concurrent project clearance by federal agencies;
- ♦ Developing guidance for weighing the short-term risk against the long-term benefits of fuel treatment and restoration projects;
- ♦ Developing guidance to ensure consistent NEPA procedures for fuel treatment activities and restoration activities.

One outcome of the Healthy Forests Initiative was the Healthy Forests Restoration Act of 2003 (HFRA).

Healthy Forests Restoration Act of 2003 (P.L. 108-148).

The Act, approved by Congress in December 2003, applies to the FS and BLM. The Act contains a variety of provisions to expedite hazardous-fuel reduction and forest-restoration projects on specific types of Federal land that are at risk of a wildland fire or insect and disease epidemics. The act helps rural communities, States, Tribes, and landowners restore healthy forest and rangeland conditions, on State, Tribal, and private lands.

Even though they do not specify outcomes, the direction set forth in these documents (the National Fire Plan and HFRA) was considered in the effects analysis. Estimates, based on FIA data for Montana, were made to approximate the amount of lynx habitat that could be affected by fuel treatments and how the alternatives may affect implementing the National Fire Plan and HFRA.

The Healthy Forests Initiative and HFRA would have no affect as they do not authorize projects, but instead provide a process for project level analysis. Projects implemented under the initiative and act are:

- ♦ Likely to improve habitat for some wildlife, plant and aquatic species and reduce habitat for others
- ♦ Likely will not effect grazing, transportation systems, winter

- recreation, land acquisition, or mineral & energy development
- ♦ Likely to reduce winter snowshoe hare habitat if treated areas are not allowed to re-grow densely
- ♦ Consistent with existing plans.

Energy Implementation Plan

The 2001 FS Energy Implementation Plan was written to implement elements of Executive Order 13212, *Actions to Expedite Energy Related Projects*, also called the National Energy Plan (USDA FS, 2001a). The National Energy Plan encourages agencies to "...expedite their review of permits and or take other actions necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections..."

Priority areas were identified in areas with a high potential for energy development. The Custer, Ashley, and Bridger-Teton NFs were identified as high priority in the planning area because they have oil and gas, even though the potential for oil and gas occurrence and development is rated low or very low. Further, most oil and gas leases take place outside lynx habitat.

The Energy Implementation Plan does not prescribe any specific outcome and is not a programmatic decision. It merely identifies actions that should be taken to respond to the National Energy Plan.

Even though it does not specify outcomes, the direction set forth was considered in the effects analysis.

The National Energy Plan would have limited cumulative effects on resources in lynx habitat because most of the federal oil and gas leases occur outside lynx habitat.

Actions on lands not part of the Northern Rockies Lynx analysis area, but in the Northern Rockies Geographic area.

Past Actions

Yellowstone and Grand Teton National Park snowmobile regulations

In November 2004, the Park Service published a final rule in the *Federal Register* (FR Vol. 69, No. 271, pp. 65348-65366, November 10, 2004; USDI, National Park Service 2004) regarding snowmobile use in Yellowstone and Grand Teton National Parks. The final rule provides interim direction until the after the 2006-2007 season. The interim rule (1) limits the number of snowmobiles allowed per day; (2) requires all snowmobile users in Yellowstone National Park be accompanied by a commercial guide; and (3) requires the use of the Best Available Technology in order to reduce emissions.

The snowmobiling regulations

- ♦ Would maintain habitat for wildlife, plant, and aquatic species
- ♦ Have no effect on fire management, forest management, transportation systems, mineral and energy

development, grazing, or land acquisitions

- ♦ Could change winter recreation user experiences

The interim regulations will expire after the 2006-2007 winter season; therefore in June 2005 the NPS issued a Notice of Intent to prepare an Environmental Impact Statement (FR Vol. 70, No. 121, pp. 36656). The EIS will analyze similar aspects of the winter motorized travel in the park and is likely to have similar effects as noted above.

Other actions which incorporate or will incorporate lynx management direction.

Private lands

Several private timber companies have developed lynx management plans, including the Boise-Cascade Corporation in central Idaho and eastern Washington, Plum Creek Timber Company, Ltd. in Idaho and Montana, and Stimson Timber Company in northern Idaho and eastern Washington.

Generally, these plans were developed to respond to the legal requirement that on private lands, a landowner is required to not act in ways that would result in the “taking” of lynx as defined under the Endangered Species Act. Private lands are not required to manage habitat to conserve lynx.

Private-land with lynx management plans

Appendix L Cumulative Effects

- ♦ Could improve habitat conditions for lynx and other wildlife
- ♦ Would have no effect on fire management, forest management, transportation systems, mineral and energy development, grazing, or land acquisition

Private lands without lynx management plans

- ♦ Could reduce the quality and quantity of lynx habitat and habitat for other species.
- ♦ Would have no effect on fire management, forest management, transportation systems, mineral and energy development, grazing, or land acquisition

Forest Plan revision, amendments on NF and BLM lands not part of this proposal

NF lands inside the geographic area but not part of this proposal have either revised, are in the process of revising, or will soon begin revising their plans to incorporate measures to conserve lynx. BLM units will either amend or their revise plans. In the meantime, recommendations from the LCAS are being considered during project planning and implementation.

The following summarizes these planning efforts

- ♦ In Region 4, the Payette, Boise, Sawtooth, Caribou, Wasatch-Cache and Unita NFs have completed revision, using information from this proposal.
- ♦ In Region 6, the Colville, Umatilla, Wallowa-Whitman,

Malheur NFs will address lynx during revision which began by 2004. The Ochoco will address lynx when they begin revision in the future.

- ♦ In Montana, in 2004, the BLM incorporated management direction for the conservation of lynx into the Garnet Resource Area.
- ♦ In Wyoming, in 2005, the BLM completed a Final Statewide Programmatic Canada Lynx Biological Assessment which adopts Best Management Practices to contribute to the recovery of the species (USDI BLM Wyoming, 2005; USDI FWS, 2005).
- ♦ In Washington, the BLM Spokane District Resource Management Plan was modified in 2003 to incorporate all of the provisions of the LCAS.
- ♦ In Idaho, the BLM is incorporating management direction into their resource management plans; which will likely be completed in 2007.
- ♦ In Utah, BLM only contains linkage areas, and linkage direction will be incorporated into their plans at a later date.

All of these changes to plans protect essential habitat features and provide appropriate management to provide for the conservation of lynx and contribute to the recovery of lynx.

Proposed Issuance of an Incidental Take Permit to the Montana Department of Natural Resources and Conservation on Forested State Trust Lands in Montana

The FWS is preparing an EIS to address the proposed issuance of an incidental take permit to allow take of species on State Trust lands administered by the Montana Department of Natural Resources and Conservation (DNRC) for activities primarily related to forest management. The DNRC is preparing a HCP (Habitat Conservation Plan) as part of the application for the permit. (*Federal Register*, Vol. 68, No. 81, pp. 22412-22414, April 28, 2003, and Montana DNRC, 2005).

For the proposed HCP, the DNRC would develop specific conservation measures for the following categories: biodiversity and silviculture, road management, watershed/riparian areas, grazing on classified forest lands, weed management, land use planning, administration and implementation.

The development of an HCP and issuance of a taking permit

- ♦ Could improve habitat for wild-life, plant, and aquatic species
- ♦ Could reduce timber harvest on state lands
- ♦ Could reduce areas available for precommercial thinning on state lands
- ♦ May change recreational user experiences
- ♦ Would not affect mineral and energy development, or land acquisition

- ♦ May change grazing practices on state lands

Flathead Indian Reservation

The Flathead Indian Reservation is the only reservation with lynx habitat in the analysis area. The tribal lands are managed under their Forest Management Plan which incorporates the provisions of the LCAS (Confederated Salish and Kootenai Tribes, 2000, p 285).

The incorporation of lynx management direction:

- ♦ Could improve habitat for wild-life, plant, and aquatic species
- ♦ Could reduce timber harvest on tribal lands in some situations
- ♦ Could reduce areas available for precommercial thinning on tribal lands
- ♦ May change recreational user experiences
- ♦ Would not affect mineral and energy development, or land acquisition
- ♦ Would not affect grazing

Critical habitat listing

On November 9, 2006 the FWS designated critical habitat for the contiguous United States distinct population segment of the Canada lynx (USDI, FWS 2006). In the Northern Rockies, the areas of Glacier National Park above 4,000 feet on the west side of the Continental Divide and to the Park borders east of the Continental Divide constitute the critical habitat. No National Forests in the Northern

Rockies were designated critical habitat for Canada lynx.

Critical habitat designation: 1) provides additional protection to habitat only where there is a federal action; 2) adds protection only where, in the absence of designation, destruction or adverse modification would, in fact, take place; and 3) triggers the prohibition of destruction or adverse modification of the habitat. However, designation of critical habitat does not require specific actions to restore or improve habitat (USDI, FWS 2006).

Appendix M Fuel treatment data

Part I: Fuel treatment program

Table M- I. Fuel treatment program over next decade

	<u>10 yr fuel treatment program total acres</u>	<u>10 yr fuel treatment program In lynx Habitat acres</u>	<u>10 yr fuel treatment program outside lynx habitat acres</u>	<u>Percent of fuel treatment program in lynx habitat</u>
NATIONAL FORESTS				
Idaho				
Clearwater	144,000	63,750	80,250	44%
Idaho Panhandle	122,000	43,300	78,700	35%
Nez Perce	116,000	32,560	83,440	28%
Salmon-Challis	110,000	49,500	60,500	45%
Targhee	105,000	60,120	44,880	57%
<i>Idaho Summary</i>	<i>597,000</i>	<i>249,230</i>	<i>347,770</i>	
Montana				
Beaverhead-Deerlodge	72,000	49,920	22,080	69%
Bitterroot	93,000	21,080	71,920	23%
Custer	112,000	21,780	90,220	19%
Flathead	108,000	66,640	41,360	62%
Gallatin	50,000	19,050	30,950	38%
Helena	77,000	31,150	45,850	40%
Kootenai	167,000	42,960	124,040	26%
Lewis and Clark	67,000	34,840	32,160	52%
Lolo	191,000	49,230	141,770	26%
<i>Montana Summary</i>	<i>937,000</i>	<i>336,650</i>	<i>600,350</i>	
Utah				
Ashley	263,000	132,850	130,150	51%
Wyoming				
Bighorn	89,000	32,400	56,600	36%
Bridger-Teton	160,000	94,240	65,760	59%
Shoshone	127,000	36,070	90,930	28%
<i>Wyoming Summary</i>	<i>376,000</i>	<i>162,710</i>	<i>213,290</i>	
TOTAL	2,173,000	881,440	1,291,560	41%

Table M-2 . Fuel treatment program over next decade in WUI

	<u>Total acres in WUI¹</u>	<u>Acres of lynx habitat in WUI²</u>	<u>Total 10-year fuel treatment in WUI³</u>	<u>10-year fuels treatment program in lynx habitat in WUI⁴</u>	<u>10-year fuels treatment program outside lynx habitat in WUI</u>	<u>% of fuel treatment program in lynx habitat in WUI</u>
NATIONAL FORESTS						
Idaho						
Clearwater	50,900	90	19,000	0	19,000	0%
Idaho Panhandle	667,600	72,300	39,000	4,290	34,710	11%
Nez Perce	119,800	15,800	40,000	5,200	34,800	13%
Salmon-Challis	163,800	83,200	44,000	22,440	21,560	51%
Targhee	100,000	55,400	26,000	14,300	11,700	55%
<i>Idaho Summary</i>	<i>1,102,100</i>	<i>226,790</i>	<i>168,000</i>	<i>46,230</i>	<i>121,770</i>	
Montana						
Beaverhead-Deerlodge	211,700	154,400	50,000	36,500	13,500	73%
Bitterroot	202,300	17,600	52,000	4,680	47,320	9%
Custer	79,200	22,800	5,000	1,450	3,550	29%
Flathead	247,000	131,800	61,000	32,330	28,670	53%
Gallatin	252,400	94,400	45,000	16,650	28,350	37%
Helena	180,300	69,300	50,000	19,000	31,000	38%
Kootenai	651,600	52,000	87,000	6,960	80,040	8%
Lewis and Clark	69,100	35,800	33,000	17,160	15,840	52%
Lolo	556,800	71,200	130,000	16,900	113,100	13%
<i>Montana Summary</i>	<i>2,450,400</i>	<i>649,300</i>	<i>513,000</i>	<i>151,630</i>	<i>361,370</i>	
Utah						
Ashley	56,000	27,200	64,000	31,360	32,640	49%
Wyoming						
Bighorn	43,400	7,800	22,000	13,640	8,360	62%
Bridger-Teton	70,700	43,900	36,000	22,320	13,680	62%
Shoshone	24,300	7,600	61,000	18,910	42,090	31%
<i>Wyoming Summary</i>	<i>138,400</i>	<i>59,300</i>	<i>119,000</i>	<i>54,870</i>	<i>64,130</i>	
TOTAL	3,746,900	962,590	864,000	284,090	579,910	33%

¹ Based on approximation of WUI - 1 mile from communities listed in the August 17, 2001 Federal Register or from the boundary of a community measured as 28 people per square mile

² Based on same map as used in footnote number 1 but overlapped with lynx habitat

³ Based on 5 year program of work for the NFS lands (see project file - Analysis section, FEIS, Fire data)

⁴ The 10 year program in the WUI multiplied by the % of WUI that is lynx habitat

Table M-3. Fuel treatment program over next decade outside WUI

	<u>Total acres outside WUI⁵</u>	<u>Acres of lynx habitat outside WUI⁶</u>	<u>Total 10-year fuel treatment outside WUI⁷</u>	<u>10-year fuels treatment program in lynx habitat outside WUI⁸</u>	<u>10-year fuels treatment program outside lynx habitat outside WUI</u>	<u>% of fuel treatment program in lynx habitat outside WUI</u>
NATIONAL FOREST						
Idaho						
Clearwater	1,774,500	929,910	125,000	63,750	61,250	51%
Idaho	1,830,600	1,097,700	83,000	39,010	43,990	47%
Panhandle						
Nez Perce	2,104,400	794,200	76,000	27,360	48,640	36%
Salmon-Challis	4,187,100	1,716,800	66,000	27,060	38,940	41%
Targhee	1,710,900	994,600	79,000	45,820	33,180	58%
<i>Idaho</i>	<i>11,607,500</i>	<i>5,533,210</i>	<i>429,000</i>	<i>203,000</i>	<i>226,000</i>	
<i>Summary</i>						
Montana						
Beaverhead-Deerlodge	3,149,200	1,905,600	22,000	13,420	8,580	61%
Bitterroot	1,378,600	622,400	41,000	16,400	24,600	4%
Custer	1,108,400	207,200	107,000	20,330	86,670	19%
Flathead	2,108,600	1,598,200	47,000	34,310	12,690	73%
Gallatin	1,554,200	775,600	5,000	2,400	2,600	48%
Helena	795,100	370,700	27,000	12,150	14,850	45%
Kootenai	1,590,900	958,000	80,000	36,000	44,000	45%
Lewis and Clark	1,793,200	934,200	34,000	17,680	16,320	52%
Lolo	1,526,000	1,038,800	61,000	32,330	28,670	53%
<i>Montana</i>	<i>15,004,200</i>	<i>8,410,700</i>	<i>424,000</i>	<i>185,020</i>	<i>238,980</i>	
<i>Summary</i>						
Utah						
Ashley	1,328,100	672,800	199,000	101,490	97,510	52%
Wyoming						
Bighorn	1,064,300	302,200	67,000	18,760	48,240	28%
Bridger-Teton	3,366,800	1,956,100	124,000	71,920	52,080	58%
Shoshone	2,412,600	632,400	66,000	17,160	48,840	26%
<i>Wyoming</i>	<i>6,843,700</i>	<i>2,890,700</i>	<i>257,000</i>	<i>107,840</i>	<i>149,160</i>	
<i>Summary</i>						
TOTAL	34,783,500	17,507,410	1,309,000	597,350	711,650	46%

⁵ Based on total unit acres (Appendix C) minus acres in WUI (Table M-xx)

⁶ Based on lynx habitat acres (Appendix C) minus acres in WUI in lynx habitat (Table M- XX)

⁷ Based on 5 year program of work for the NFS lands (see project file – Analysis section, FEIS, Fire data)

⁸ The 10 year program outside the WUI multiplied by the % the unit that is lynx habitat (Appendix C)

Appendix M – Part 2 – Amount of fuel treatment in winter snowshoe hare habitat

Assumptions used in this analysis include:

- ♦ Analysis is for Montana only
- ♦ Treatments would occur equally everywhere
- ♦ WUI (wildland urban interface) is defined as within one mile of human habitation, which is defined as 28 people per square mile, based on the year 2000 census – or whose community or infrastructure is on the August, 17, 2001, Federal Register list of Urban Wildland Interface Communities within the vicinity of Federal Lands that are a High Risk from Wildfire (Federal Register, Vol. 66, No. 160).
- ♦ In Montana about 93,700 acres of fuel treatments are planned per year (based on 5-yr program of work –see Project Record/ Analysis/ Fire/ FEIS/ data)
- ♦ 51,300 acres of fuel treatment would occur inside the WUI per year
- ♦ 42,400 acres of fuel treatment would occur outside the WUI per year
- ♦ *High density* winter snowshoe hare habitat is 5,000+ trees per acre in young forests and 2,500+ trees per acre in multistoried forests
- ♦ *Low density* winter snowshoe hare habitat is 2,500 to 5,000 trees per acre in young forests and 1,000 to 2,500+ trees per acre in multistoried forests

There are about 17,454,500 total acres in National Forest system lands Montana

- 2,450,400 acres are within the WUI
- 15,004,100 acre outside the WUI

Of the 2,450,400 acres in the WUI

- 649,300 acres are lynx habitat
- 1,801,100 are not lynx habitat

Of the 15,004,100 acres outside the WUI

- 8,410,700 acres are lynx habitat
- 6,593,400 acres are not lynx habitat

Table M-4. Acres of winter snowshoe hare habitat based on density, young vs. multistory forests, and within and outside the WUI and Wilderness

Winter snowshoe hare habitat Category	Acres within WUI	Acres outside WUI
High density young	61,000	676,000
High density multistory	41,000	1,079,000
Total high density	102,000	1,755,000
Low density young	55,000	491,000
Low density multistory	61,000	751,000
Total low density	116,000	1,242,000

Table M-5. Calculations for fuel treatment in Montana

Winter snowshoe hare habitat	Winter snowshoe hare habitat acres	Montana acres Inside or outside WUI	%	Montana fuel treatment acres	Annual Montana fuel treatment acres	10 years per decade	Montana fuel treatment per decade acres
Inside WUI							
High density	102,000	÷ 2,450,400	= 4%	x 51,300	= 2,050	x 10	= 20,500
Low density	116,000	÷ 2,450,400	= 5%	x 51,300	= 2,565	x 10	= 25,650
Lynx habitat but not good forage	431,300	÷ 2,450,400	= 18%	x 51,300	= 9,200	x 10	= 92,000
Not lynx habitat	1,801,100	÷ 2,450,400	= 74%	x 51,300	= 38,000	x 10	= 380,000
Outside WUI							
High density	1,755,000	÷ 15,004,100	= 12%	x 42,400	= 5,100	x 10	= 51,000
Low density	1,242,000	÷ 15,004,100	= 8%	x 42,400	= 3,400	x 10	= 34,000
Lynx habitat but not good forage	5,413,700	÷ 15,004,100	= 36%	x 42,400	= 15,300	x 10	= 153,000
Not lynx habitat	6,593,400	÷ 15,004,100	= 44%	x 42,400	= 18,600	x 10	= 186,000

Table M-6. Summary of fuel treatment acres by winter snowshoe hare habitat category & WUI next decade

Winter snowshoe hare habitat category	Inside WUI	Outside WUI	Totals
High density	20,500	+ 51,000	= 71,500 acres
Low density	25,700	+ 34,000	= 59,700 acres
Lynx habitat but not good forage	92,000	+ 153,000	= 245,000 acres
Not lynx habitat	380,000	+ 186,000	= 566,000 acres

Appendix M, Part 2 Amount of fuel treatment in snowshoe hare habitat

Assumptions for Tables M-7 through M-9

- ♦ Treated acres are proportional to their occurrence, regardless of any other factors
- ♦ Alternative A (no action) assumes no restrictions
- ♦ Alternative B (no precommercial thinning in young forests or multistory forests).
Assumption: No fuel treatment in young winter snowshoe hare habitat since precommercial thinning is the primary tool. Assume 75 percent of the fuel treatment in multistoried would be done without precommercial thinning, e.g. would be commercial thin or regeneration harvest.
- ♦ Alternatives C and D (no fuel treatments in young or multistory winter snowshoe hare habitat)
Assumption: No fuel treatment allowed
- ♦ Alternative E (no restriction on precommercial thinning if done for fuels treatment – if done in a collaborative manner; fuel treatment in multistory winter snowshoe hare habitat could go forward)
Assumption: All fuel treatments would be allowed in winter snowshoe hare habitat.
- ♦ Alternative F (No restriction for fuel treatment projects within the WUI)
Assumption: Only fuel treatments within WUI would be allowed. No fuel treatment would occur in winter snowshoe hare habitat outside the WUI.
General assumption - all alternatives. Assumes fuel treatment projects would be shifted from winter snowshoe hare habitat and/or lynx habitat to other areas that would not be precluded from treatment under the alternative.

Table M7. Acres of fuel treatment in lynx habitat allowed in winter snowshoe hare habitat by alternative & WUI over the next decade in Montana

	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F
Inside WUI						
High density young	12,300	0	0	0	12,300	12,300
High density multistoried	8,200	6,150	0	0	8,200	8,200
Low density young	12,100	0	0	0	12,100	12,100
Low density multistoried	13,600	10,200	0	0	13,600	13,600
Outside WUI						
High density young	19,900	0	0	0	19,900	0
High density multistoried	31,100	23,000	0	0	31,100	0
Low density young	13,600	0	0	0	13,600	0
Low density multistoried	20,400	15,300	0	0	20,400	0
Total fuel treatment	131,200	54,650	0	0	131,200	46,200

Table M-8. Summary of amount of fuel treatment (acres) allowed by category & alternative over next decade (rounded to nearest thousand)

Winter snowshoe hare habitat	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F
Lynx habitat in forage condition	131,000	55,000	0	0	131,000	46,000
Lynx habitat but not good forage	245,000	245,000	245,000	245,000	245,000	245,000
Not lynx habitat ⁹	561,000	637,000	692,000	692,000	561,000	646,000
Total fuels treatment	937,000	937,000	937,000	937,000	937,000	937,000

Table M-9. Montana fuel treatment acres relocated by winter snowshoe hare habitat category, alternative & WUI next decade

	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F
Inside WUI						
High density young	0	12,300	12,300	12,300	0	0
High density multistoried	0	2,050	8,200	8,200	0	0
Low density young	0	12,100	12,100	12,100	0	0
Low density multistoried	0	3,400	13,600	13,600	0	0
Outside WUI						
High density young	0	19,900	19,900	19,900	0	19,900
High density multistoried	0	8,100	31,100	31,100	0	31,100
Low density young	0	13,600	13,600	13,600	0	13,600
Low density multistoried	0	5,100	20,400	20,400	0	20,400
Total relocated	0	76,550	131,200	131,200	0	85,000

⁹ Assumes fuel treatment projects would be shifted from winter snowshoe hare habitat and/or lynx habitat to other areas that would not be precluded from treatment under the alternative.

Appendix N – Management direction for the Final EIS preferred alternative, Alternative F

GOAL¹⁴

Conserve the Canada lynx.

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

Objective³⁰ ALL O1

Maintain²⁶ or restore⁴⁰ lynx habitat²³ connectivity¹⁶ in and between LAUs²¹, and in linkage areas²².

Standard⁴⁴ ALL S1

New or expanded permanent development³³ and vegetation management⁴⁹ projects³⁶ must maintain²⁶ habitat connectivity¹⁶ in an LAU²¹ and/or linkage area²².

Guideline¹⁵ ALL G1

Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways¹⁸ or forest highways¹² across federal land. Methods could include fencing, underpasses, or overpasses.

Standard⁴⁴ LAU S1

Changes in LAU²¹ boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.

VEGETATION MANAGEMENT ACTIVITIES AND PRACTICES (VEG). The following objectives, standards, and guidelines apply to vegetation management projects³⁶ in lynx habitat within lynx analysis units (LAUs). With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards, and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments such as mineral operations, ski runs, roads, and the like. None of the objectives, standards, or guidelines apply to linkage areas.

Objective³⁰ VEG O1

Manage vegetation⁴⁹ to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.

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Objective VEG O2

Provide a mosaic of habitat conditions through time that support dense horizontal cover¹⁹, and high densities of snowshoe hare. Provide winter snowshoe hare habitat⁵¹ in both the stand initiation structural stage and in mature, multi-story conifer vegetation.

Objective VEG O3

Conduct fire use¹¹ activities to restore⁴⁰ ecological processes and maintain or improve lynx habitat.

Objective VEG O4

Focus vegetation management⁴⁹ in areas that have potential to improve winter snowshoe hare habitat⁵¹ but presently have poorly developed understories that lack dense horizontal cover.

Standard⁴⁴ VEG S1

Where and to what this applies: Standard VEG S1 applies to all vegetation management⁴⁹ projects³⁶ that regenerate³⁸ forests, except for fuel treatment¹³ projects³⁶ within the wildland urban interface⁵⁰ (WUI) as defined by HFRA¹⁷, subject to the following limitation:

Fuel treatment projects³⁶ within the WUI⁵⁰ 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 projects³⁶ within the WUI⁵⁰ see guideline VEG G10.

The standard: Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages⁴⁵ 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 projects³⁶.

Standard VEG S2

Where and to what this applies: Standard VEG S2 applies to all timber management⁴⁷ projects³⁶ that regenerate³⁸ forests, except for fuel treatment¹³ projects³⁶ within the wildland urban interface⁵⁰ (WUI) as defined by HFRA¹⁷, subject to the following limitation:

Fuel treatment projects³⁶ within the WUI⁵⁰ 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 projects³⁶ within the WUI⁵⁰ see guideline VEG G10.

The standard: Timber management⁴⁷ projects³⁶ shall not regenerate³⁸ more than 15 percent of lynx habitat on NFS lands within an LAU in a ten-year period.

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Standard VEG S5

Where and to what this applies: Standard VEG S5 applies to all precommercial thinning³⁵ projects³⁶, except for fuel treatment¹³ projects³⁶ that use precommercial thinning as a tool within the wildland urban interface⁵⁰ (WUI) as defined by HFRA¹⁷, subject to the following limitation:

Fuel treatment projects³⁶ within the WUI⁵⁰ 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 projects³⁶ within the WUI⁵⁰ see guideline VEG G10.

The Standard: Precommercial thinning projects³⁶ that reduce snowshoe hare habitat may occur from the stand initiation structural stage⁴⁵ 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 studies³⁹ or genetic tree tests evaluating genetically improved reforestation stock; or
3. Based on new information that is peer reviewed and accepted by the regional level of the Forest Service, and state level of FWS, where a written determination states:
 - a. that a project³⁶ is not likely to adversely affect lynx; or
 - b. that a project³⁶ 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 thinning⁵ around individual aspen trees, where aspen is in decline; or
5. For daylight thinning of planted rust-resistant white pine where 80 % of the winter snowshoe hare habitat⁵¹ is retained; or
6. To restore whitebark pine.

Standard VEG S6

Where and to what this applies: Standard VEG S6 applies to all vegetation management⁴⁹ projects³⁶ except for fuel treatment¹³ projects³⁶ within the wildland urban interface⁵⁰ (WUI) as defined by HFRA¹⁷, subject to the following limitation:

Fuel treatment projects³⁶ within the WUI⁵⁰ 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 projects³⁶ within the WUI⁵⁰ see guideline VEG G10.

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The Standard: Vegetation management projects³⁶ that reduce snowshoe hare habitat in multi-story mature or late successional forests²⁹ 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 studies³⁹ or genetic tree tests evaluating genetically improved reforestation stock; or
3. For incidental removal during salvage harvest⁴² (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]).

Guideline VEG G1

Vegetation management⁴⁹ projects³⁶ should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority for treatment should be given to stem-exclusion, closed-canopy structural stage⁴⁶ stands to enhance habitat conditions for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat⁵¹ should be near denning habitat⁶.

Guideline VEG G4

Prescribed fire³⁴ activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.

Guideline VEG G5

Habitat for alternate prey species, primarily red squirrel³⁷, should be provided in each LAU.

Guideline VEG G10

Fuel treatment projects³⁶ within the WUI⁵⁰ as defined by HFRA¹⁷ should be designed considering Standards VEG S1, S2, S5, and S6 to promote lynx conservation.

Guideline VEG G11

Denning habitat⁶ 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 projects³⁶ should be designed to retain some coarse woody debris⁴, piles, or residual trees to provide denning habitat⁶ in the future.

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

Objective³⁰ GRAZ O1

Manage livestock grazing to be compatible with improving or maintaining²⁶ lynx habitat²³.

Guideline¹⁵ GRAZ G1

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

Guideline GRAZ G2

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

Guideline GRAZ G3

In riparian areas⁴¹ and willow carrs³, livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages²⁸, similar to conditions that would have occurred under historic disturbance regimes.

Guideline GRAZ G4

In shrub-steppe habitats⁴³, livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs²¹, to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

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

Objective³⁰ HU O1

Maintain²⁶ the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat²³.

Objective HU O2

Manage recreational activities to maintain lynx habitat and connectivity¹⁶.

Objective HU O3

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

Objective HU O4

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Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation⁹ sites or ski areas.

Objective HU O5

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

Objective HU O6

Reduce adverse highway¹⁸ effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity¹⁶, and to reduce the potential of lynx mortality.

Guideline¹⁵ HU G1

When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris⁴, so winter snowshoe hare habitat⁵¹ is maintained.

Guideline HU G2

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

Guideline HU G3

Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat²³.

Guideline HU G4

For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.

Guideline HU G5

For mineral and energy development sites and facilities that are closed, a reclamation plan that restores⁴⁰ lynx habitat should be developed.

Guideline HU G6

Methods to avoid or reduce effects on lynx should be used in lynx habitat²³ when upgrading unpaved roads to 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 connectivity¹⁶. New permanent roads and trails should be situated away from forested stringers.

Guideline HU G8

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Cutting brush along low-speed²⁵, low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.

Guideline HU G9

On new roads built for projects³⁶, public motorized use should be restricted. Effective closures should be provided in road designs. When the project³⁶ is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.

Guideline HU G10

When developing or expanding ski areas and trails, consider locating access roads and lift termini to maintain and provide lynx security habitat¹⁰, if it has been identified as a need.

Guideline HU G11

Designated over-the-snow routes or designated play areas should not expand outside baseline areas of consistent snow compaction¹, unless designation serves to consolidate use and improve lynx habitat. This may be calculated on an LAU basis, or on a combination of immediately adjacent LAUs.

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

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

Guideline HU G12

Winter access for non-recreation special uses and mineral and energy exploration and development, should be limited to designated routes⁸ or designated over-the-snow routes⁷.

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

Objective³⁰ 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.

Standard⁴⁴ LINK S1

When highway¹⁸ or forest highway¹² construction or reconstruction is proposed in linkage areas²², identify potential highway crossings.

Guideline¹⁵ LINK G1

NFS lands should be retained in public ownership.

Guideline LINK G2

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Livestock grazing in shrub-steppe habitats⁴³ should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages²⁸, similar to conditions that would have occurred under historic disturbance regimes.

REQUIRED MONITORING

Map the location and intensity of snow compacting activities and designated and groomed routes that occurred inside LAUs during the period of 1998 to 2000. The mapping is to be completed within one year of this decision, and changes in activities and routes are to be monitored every five years after the decision.

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 LAU²¹).

Report the acres of fuel treatment in lynx habitat within the wildland urban interface⁵⁰ as defined by HFRA¹⁷ when the project³⁶ decision is approved. Report whether or not the fuel treatment met the vegetation standards. If standard(s) are not met, report which standard(s) are not met, why they were not met, and how many acres were affected.

GLOSSARY

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

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

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

⁴ *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.

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

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

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

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

¹⁰ *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 type of vegetation management action that reduces the threat of ignition, fire intensity, or rate of spread, or is used to restore fire-adapted ecosystems.

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

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

¹⁶ *Habitat connectivity (lynx)* – 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

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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.

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 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 decision, maintain means to provide enough lynx habitat to conserve lynx. It does not mean to keep the status quo.

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

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

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

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

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

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

³³ *Permanent development* – 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 prescribed fire replaces the term management ignited prescribed fire. (NWCG)

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

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

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- ³⁷ *Red squirrel habitat* – Red squirrel habitat consists of coniferous forests of seed and cone-producing age that usually contain snags and downed woody debris, generally associated with mature or older forests.
- ³⁸ *Regeneration harvest* – The cutting of trees and creating an entire new age class; an even-age harvest. The major methods are clearcutting, seed tree, shelterwood, and group selective cuts. (Helms, 1998)
- ³⁹ *Research* – Research consists of studies conducted to increase scientific knowledge or technology. For the purposes of Standards VEG S5 and VEG S6, research applies to studies financed from the forest research budget (FSM 4040) and administrative studies financed from the NF budget.
- ⁴⁰ *Restore, restoration* – To restore is to return or re-establish ecosystems or habitats to their original structure and species composition. (Dictionary of Forestry)
- ⁴¹ *Riparian area* – An area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation. (LCAS)
- ⁴² *Salvage harvest* – Salvage harvest is a commercial timber sale of dead, damaged, or dying trees. It recovers economic value that would otherwise be lost. Collecting firewood for personal use is not considered salvage harvest.
- ⁴³ *Shrub steppe habitat* – Shrub steppe habitat consists of dry sites with shrubs and grasslands intermingled.
- ⁴⁴ *Standard* – A standard is a required action in a land management plan specifying how to achieve an objective or under what circumstances to refrain from taking action. A plan must be amended to deviate from a standard.
- ⁴⁵ *Stand initiation structural stage* – The stand initiation stage generally develops after a stand-replacing disturbance by fire or regeneration timber harvest. A new single-story layer of shrubs, tree seedlings, and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands. (Oliver and Larson, 1996)
- ⁴⁶ *Stem exclusion structural stage (Closed canopy structural stage)* – In the stem exclusion stage, trees initially grow fast and quickly occupy all of the growing space, creating a closed canopy. Because the trees are tall, little light reaches the forest floor so understory plants (including smaller trees) are shaded and grow more slowly. Species that need full sunlight usually die; shrubs and herbs may become dormant. New trees are precluded by a lack of sunlight or moisture. (Oliver and Larson, 1996)
- ⁴⁷ *Timber management* – Timber management consists of growing, tending, commercially harvesting, and regenerating crops of trees.
- ⁴⁸ *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)
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⁴⁹ *Vegetation management* – Vegetation management changes the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire or timber harvest. For the purposes of this decision, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use.

⁵⁰ *Wildland urban interface (WUI)* – Use the definition of WUI found in the Healthy Forests Restoration Act. The full text can be found at HFRA § 101. Basically, the wildland urban interface is the area adjacent to an at-risk community that is identified in the community wildfire protection plan. If there is no community wildfire protection plan in place, the WUI is the area 0.5 mile from the boundary of an at-risk community; or within 1.5 miles of the boundary of an at-risk community if the terrain is steep, or there is a nearby road or ridgetop that could be incorporated into a fuel break, or the land is in condition class 3, or the area contains an emergency exit route needed for safe evacuations. (Condensed from HFRA. For full text see HFRA § 101.)

⁵¹ *Winter snowshoe hare habitat* – Winter snowshoe hare habitat consists of places where young trees or shrubs grow densely – thousands of woody stems per acre – and tall enough to protrude above the snow during winter, so snowshoe hare can browse on the bark and small twigs (LCAS). Winter snowshoe hare habitat develops primarily in the stand initiation, understory reinitiation and old forest multistoried structural stages.