APPENDIX A - SCENIC RESOURCE INVENTORIES

The following information is available at the Supervisor's Office and will be used to develop a forestwide Scenic Integrity Objective Map using the matrix in the Scenic Resources section of the plan. This information will be used at the project level for site-specific analysis.

Scenic Attractiveness

A Forest wide Scenic Attractiveness layer is available in the GIS database, and will be used to map SIOs.

Landscape Visibility Mapping

Landscape visibility mapping involves consideration of categories of concern levels. The general categories are listed first in this section and the BDNF concern level list follows identifying specific routes and sites of concern**.**

Concern Level One:

Paved highway sections across and within 15 miles of the Forest boundary, includes Interstates, Federal and State highways, forest and county roads and other jurisdictions.

All designated National Historic, Scenic, and Recreation trails, National Scenic and Backcountry Byways, National Landmarks and Historic Sites.

All National Forest Campgrounds

All State Parks and Campground

All incorporated towns

All eligible Wild, Scenic, and Recreation rivers

Developed Campgrounds and Recreation Resorts

Concern Level Two

All Forest Service Trailheads

Forest Service Cabins and Administrative Sites

The following are routes and sites identified for mapping minimum Scenic Integrity Levels according to the Scenic Integrity Matrix.

Concern Level List

Big Hole Landscape: Butte, Dillon, Wisdom, and Wise River Ranger Districts		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 15	Melrose to Rocker
	State Highway 278	Badger Pass to Wisdom
	State Highway 43	Interstate 15 to Chief Joseph Pass
	County Highway 274	Highway 43 to the Continental Divide
	Continental Divide National Scenic Trail	I-15 Divide Junction to Goldstone Pass
	Lewis and Clark National Historic Trail	Gibbons Pass to Badger Pass
	Nez Perce National Historic Trail	Gibbons Pass to Bannock Pass
	Forest Trail 103, May Creek National Recreation Trail	Highway 43 to the Continental Divide
	Big Hole River, including BLM Suitable National Recreational River Segment``	Hwy 43 bridge (T1N, R14W, Sec. 26) to Maiden Rock Campground
	Site	
	All towns along Highways 43 and 278 Beaver Dam Campground North Van Houten Campground Big Hole National Battlefield Pintler Campground May Creek Campground Twin Lakes Campground Miner Lake Campground Seymour Lake Campground Mussigbrod Campground South Van Houten Campground	

Concern Level Two	**Route**	**Extent of Concern**
	Beaverhead Co. Lower North Fork Road	Its entire length north of Highway 43
	Forest Road 183 and 183A, and connecting Beaverhead Co. road	Highway 278 to Twin Lakes Campground
	Forest Road 182, Miner Lake Road and connection Beaverhead Co. road	Highway 278 to Miner Lake Trailhead
	Forest Road 537.2	North Fork Road to Mussigbrod Campground
	Forest Road 943 and county connecting roads	Highway 278 to Forest Road 944
	Forest Road 944 and 945, Foothills Road	Highway 43 to Forest Road 943
	Forest Road 185	Highway 43 to Pintler Campground
	Forest Road 96	Interstate 15 to Beaverdam Campground
	Chief Joseph Ski Trail System	All trails, Gordon Reese Cabin, and parking
	Site	
	n/a	
Boulder River Landscape: Butte and Jefferson Ranger Districts		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 15	I-15 crossing to the top of Boulder Hill
	State Highway 69	Boulder to Jack Creek
	Forest Road 82, Boulder River Road	Interstate 15 to the Continental Divide
	Continental Divide National Scenic Trail	Our Lady of the Rockies to Bison Mountain
	Haystack National Recreation Trail	Interstate 15 to Haystack Mountain summit
	Site	

	Basin Boulder Sheepshead Recreation Area Lowland Campground Elder Creek Picnic Area Whitehouse Campground Cottonwood Lake	
Concern Level Two	**Route**	**Extent of Concern**
	Forest Road 9485	Sheepshead Day Use to the Continental Divide
	Forest Road 442	Forest Road 82 to the Continental Divide
	Forest Road 8675, Little Boulder Road	Highway 63 to Elder Creek Picnic Area
	Forest Road 8505, Sunday Gulch Road	Interstate 15 to the CDNST
	Site	
	n/a	
Clark Fork Flint Landscape: Pintler Ranger District		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 90	Butte to Medicine Tree Hill
	US Highway 12	First 12 miles north from Garrison Junction
	State Highway 1, Pintler Scenic Loop	Drummond to Opportunity
	State Highway 48	Interstate 90 to Highway 1
	State Highway 38 (Skalkaho Road)	Highway 1 to the Bitterroot NF boundary
	County Highway 441	Interstate 90 to Highway 1
	County Highway 274	Highway 1 to the Continental Divide
	County Road 348	Phillipsburg to Highway 38

	Forest Road 195	Highway 1 to Anaconda Job Corp Center
	Forest Road 65	Loop from Highway 1 by Echo Lake
	Forest Road 1598	Forest Road 65 to Discover Basin Ski Area
	Forest Road 406	Highway 1 to Forest Road 672
	Forest Road 672	Highway 1 to Highway 38
	Forest Road 102	County Road 384 to the Lolo N. F. boundary
	Continental Divide National Scenic Trail	Our Lady of the Rockies to Bison Mt
	Discovery Basin Ski Trails and facilities	All trails and lifts
	Lodgepole National Recreation Trail	Highway 1 to Forest Road 65
	Site	
	All towns along included highway extents Georgetown Lake and surrounding recreation sites Flint Creek Campground Spring Hill Campground Warm Springs Picnic Area Spring Hill Picnic Area Warm Springs Campground Grant-Kohrs National Historic Site Lost Creek State Park Orofino Campground Racetrack Campground	
Concern Level Two	**Route**	**Extent of Concern**
	Forest Roads 705 and 1504, and county road following Cottonwood Creek. Also known as Spring/Emery Loop	Cottonwood Creek to Peterson Creek

	Forest Roads 707	Interstate 90 to Highway 1
	Forest Roads 302 and 645, Gold Creek	Interstate 90 to Doney Cabin
	Forest Road 78615	Gold Creek Road to Forest Road 636
	Forest Road 636	Forest Road 1554 to Forest Road 1557
	Forest Road 1544	Forest Road 636 to Forest Road 707
	Forest Road 1557	Forest Road 636 to Forest Road 1554
	Forest Road 168 and connecting county road	Deer Lodge to Rock Creek Lake
	Forest Road 670 and connecting county road	Interstate 90 to Caruthers Lake
	Forest Road 170	Highway 1 to Warm Springs Picnic Area
	Forest Road 675	Highway 1 to Storm Lake
	Forest Road 635	County Road 273 to Lost Creek Campground
	County Road 273	From Highway 48 to Galin
	Forest Road 169, Racetrack Creek Road	Warm Springs to end of road
	Forest Road 5146	Forest Road 169 to Pozega Lake
	Forest Road 5008 and 5147	Interstate 90 to Bowman Lakes
	Forest Road 5107	Forest Road 5008 to Forest Trail 56
	Forest Road 241	Forest Road 102 to Forest Trail 2
	Forest Road 261 and 5141	Forest Road 672 to East Fork Reservoir
	Forest Road 242	Forest Road 65 to Forest Road 1525
	Forest Road 1525	Phillipsburg to Forest Road 242

	Forest Road 676	State Highway 1 to Princeton
	Forest Trails 32, 33, and 34	Flints, between Phillipsburg and Boulder Cr.
	Site	
	n/a	

Elkhorn Mountains Landscape: Jefferson Ranger District & Helena National Forest

Mgt direction from the 1987 Deerlodge Plan remains until the Helena National Forest revises Forest Plan direction for this area.

Gravelly Landscape: Madison Ranger District

Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 15	Red Rock to Monida Pass
	State Highway 287	Sheridan to Silver Star
	US Highway 287	Norris to Quake Lake
	State Highway 87	US Highway 287 to Henry's Lake, ID
	Madison County 248, Ruby River Road	Alder to Ruby Reservoir
	Blacktail Road	Dillon to Centennial Valley Road
	Southside Centennial Valley Road	Monida to Henry's Lake, ID
	Madison River	Earthquake Lake to Norris
	Continental Divide National Scenic Trail	Italian Peak to Sawtell Peak
	Site	

	All towns along highway concern extents Ruby Reservoir Recreation Area Cottonwood Campground Earthquake Lake Recreation Area West Fork Madison Rest Area Cliff and Wade Lakes Recreation Complex Elk Lake Recreation Area Madison River Recreation Area Red Rock Lake National Wildlife Refuge	
Concern Level Two	**Route**	**Extent of Concern**
	Blacktail Road	Price Creek to the Centennial Valley Road
	Ruby Road (Centennial Divide Road)	Ruby Reservoir to the Centennial Valley Road
	North Side Centennial Valley Road	Blacktail Road to Forest Road 8384
	Forest Road 8384, Elk Lake Road	North Side Centennial Valley Road to Elk Lake
	Forest Road 163, Warm Springs Road	Ruby River Road to Forest Road 290
	Forest Road 347	Ruby River Road to Eureka Basin
	Forest Road 290, Gravelly Range Road	Eureka Basin to Forest Road 292
	Forest Road 237, Standard Creek Road	Forest Road 209 to Forest Road 290
	Forest Road 209, West Fork Road	US Highway 287 to Little Elk River
	Forest Roads 292, Call Road and county connecting road	Ennis to Forest Road 290
	County Road 122, Horn Creek Road	State Highway 87 to Cliff Lake
	Forest Road 572	US Highway 287 to Wade Lake
	Forest Road 8386A	Forest Road 572 to Cliff Lake

	Forest Road 325	Blacktail Road to Antone Station
	Snowcrest Trail 603, 69, and 670	Vigilante to Antone Station and to Peterson Basin
	Divide Trail 61	Divide Administrative Site to Snowcrest Trail
	East Fork Blacktail Trail 69	East Fork Blacktail Road to Snowcrest Trail
	Hidden Lake Trail 35	Elk Lake to Cliff Lake
	Lobo Mesa Trail 405	Forest Road 209 to West Fork Trailhead
	Forest Road 1206, Elk River Jeep Trail	Forest Road 209 to Forest Trail 79
	Site	
	Hidden Lake Otter Lake Goose Lake	
Jefferson River Landscape: Butte and Jefferson Ranger District		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 90	Homestake Pass to Cardwell
	State Highway 2	Pipestone Pass to Whitehall
	State Highway 55	State Highway 41 to Whitehall
	State Highway 69	Whitehall to Boulder
	State Highway 41	State Highway 55 to Twin Bridges
	Continental Divide National Scenic Trail	Our Lady of the Rockies to Bison Mt
	Jefferson River	Twin Bridges to Whitehall
	Forest Road 84	Continental Divide to Forest Boundary
	Site	

	Delmoe Lake Campground and Picnic Area Delmoe Lake Toll Mountain Campground Homestake Lake Picnic Area Pigeon Creek Campground	
Concern Level Two	**Route**	**Extent of Concern**
	Whitetail Road	Boulder to Whitehall
	Forest Road 222	I-90 to Forest Road 8689
	Forest Road 8689	Forest Road 222 to I-90
	Site	
	n/a	
Lima-Tendoy Landscape: Dillon Ranger District		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 15	Melrose to Monida, including communities
	State Highway 278	Dillon to Wisdom, including Jackson
	Continental Divide National Scenic Trail (CDNST)	Above Eunice Creek to Monida Pass
	Lewis and Clark National Historic Trail (LCNHT)	Carroll Hill to State Highway 324 to Dillon, and Dillon to Lemhi Pass
	Nez Perce National Historic Trail (NPNHT)	Wisdom to Bannock Pass
	Road 257, Medicine Lodge BLM Backcountry Byway	From Highway 278 to Interstate 15
	Site	

	Clark Canyon Reservoir and all shoreline developments Reservoir Lake Campground Lemhi Pass National Historic Landmark East Creek Campground Bannack State Park	
Concern Level Two	**Route**	**Extent of Concern**
	None Identified	n/a
	Site	
	n/a	
Madison Landscape: Madison Ranger District		
Concern Level One	**Route**	**Extent of Concern**
	US Highway 287	Earthquake Lake Visitor Center to Norris
	State Highway 287	Ennis to Madison Overlook
	Madison River	Earthquake Lake to Bear Trap Trailhead
	Site	
	Bear Creek Trailhead Madison River Recreation Area	
Concern Level Two	**Route**	**Extent of Concern**
	None Identified	n/a
	Site	
	n/a	
Pioneer Landscape: Dillon, Wisdom, and Wise River Ranger Districts		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 15	Rocker to Monida Pass
	State Highway 278	Dillon to Wisdom
	State Highway 43	Interstate 15 to Chief Joseph Pass
	Forest Road 73, Pioneer Mountain National Forest Scenic Byway	Wise River to Highway 278

	Forest Road 1299	The Byway to Lacy Creek Trailhead
	Forest Road 2417	The Byway to Odell Creek Trailhead
	Forest Road 98, Birch Creek Road	Interstate 15 to Dinner Station Campground
	Forest Road 8210, Rock Creek Road	Interstate 15 to Browns Lake
	Forest Trail 750, Pioneer Loop National Recreation Trail	The Byway to Lacy Creek Trailhead
	Forest Trail 428, Grasshopper Ridge National Recreation Trail	Elkhorn Hot Springs to the Byway
	Lewis and Clark National Historic Trail	Trail Creek Road Junction to Twin Bridges
	Nez Perce National Historic Trail	Trail Creek Road Junction to Reservoir Lake
	Site	
	Towns along the extents of Interstate 15, Highway 278, and Highway 43 All Forest recreation sites along the Pioneer Mountains Scenic Byway Steel Creek Campground Coolidge Townsite and Trailhead Mono Creek Campground & Trailhead Elkhorn Hot Springs Resort Maverick Mountain Ski Area Canyon Creek Campground Canyon Creek Charcoal Kilns Browns Lake Campground Dinner Station Campground Aspen Picnic Area Birch Creek CCC camp and Bender Center	
Concern Level Two	**Routes**	**Extent of Concern**
	Beaverhead Co. Trapper Creek Road	Melrose to Glendale

	Forest Road 7401, Canyon Creek Road	Forest Road 187 to Forest Trail 92
	Forest Road 187, Quartz Hill Road	Highway 43 to Glendale
	Beaverhead Co. Argenta Road	Dillon to Argenta, and spur to Highway 278
	Forest Road 806 and 192, French Cr.	Birch Creek Road to Argenta
	Willow Creek Road, Forest Road 8200	Birch Creek Road to end of road
	Doolittle Road, Forest Road 2421	Highway 43 to end of road
	Forest Road 90	Wisdom to Steel Creek Campground
	Site	
	Steel Creek Trailhead Sawtooth Trailhead Birch Creek Cabin	
Tobacco Root Landscape: Jefferson and Madison Ranger Districts		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 90	Homestake Pass to Three Forks
	US Highway 287	Cameron to Three Forks
	State Highway 287	Ennis to Twin Bridges, and communities
	State Highway 41	Dillon to State Highway 2, and communities
	State Highway 55	Whitehall to Highway 41, and Whitehall
	State Highway 2	Pipestone Pass to Three Forks
	Highway 359	Interstate 90 to U.S. 287
	Madison Co Highway 283	Harrison to Pony, including communities
	Forest Road 107, South Boulder Road	Highway 359 to Mammoth

	Madison Co. and Forest Road 111	Sheridan to Upper Branham Lake
	Lake Louise National Recreation Trail	Forest Road 107 to end of trail
	Lost Cabin National Recreation Trail	Forest Road 107 to end of trail
	Jefferson River	Twin Bridges to Three Forks
	Madison River	Cameron To Bear Trap
	Site	
	Towns along the extents of Interstate 90, and Highways 2, 287, 41, and 44 Pony Mammoth Mill Creek Campground and Day Use Balance Rock Campground and Day Use Branham Lakes Campground Ennis Lake Recreation Complex Potosi Campground	
Concern Level Two	**Route**	**Extent of Concern**
	Forest Road 107, South Boulder River Road	Mammoth to Brannan Lakes
	Forest Road 106 and Madison Co. connecting road, N. Meadow Cr. Road	McAllister to Sure Shot Lakes
	Forest Road 1221 and Madison Co. connecting road, S. Meadow Creek Road	McAllister to South Meadow Creek Lake
	Forest Road 160 and Madison Co. connecting road, S. Willow Creek Road	Pony to Potosi Campground
	Forest Trail 301	Pony to Hollow Top Lakes
	Forest Trail 338 and #366	Forest Road 106 to Lupine and Twin Lakes
	Site	

	All trailheads and picnic areas not CL1	
Upper Clark Fork Landscape: Butte Ranger District		
Concern Level One	**Route**	**Extent of Concern**
	Interstate Highway 90	Warm Springs to Homestake Pass
	Phillipsburg to Flint Creek	State Highway 1, Pintler Scenic Loop
	Interstate Highway 15	Elk Park to Divide
	State Highway #2	Butte to Pipestone Pass
	Highway 441	Fairmont Hot Springs to Interstate 90
	Forest Road 8493, Roosevelt Drive	Forest Road 84 to the end of the road
	Forest Road 84	Highway 2 to CDNST
	Continental Divide National Scenic Trail	Our Lady of the Rockies to Bison Mountain
	Site	
	Butte Homestake Pass Trailhead Thompson Park Beaverdam Campground Pipestone Pass Trailhead	
Concern Level Two	**Route**	**Extent of Concern**
	Forest Road 9485 and Silver Bow Co. connecting road, Lowland Road	Butte to the Continental Divide
	Forest Road 96	Interstate 15 to Beaverdam Campground
	Moulton Reservoir Ski Trail System	
	Site	
	n/a	

Upper Rock Creek Landscape: Pintler Ranger District		
Concern Level One	**Route**	**Extent of Concern**
	State Highway 38 (Skalkaho Road)	Scenic Highway 1 to Bitterroot Forest Boundary
	County Road 348	Phillipsburg to State Highway 38
	Forest Road 406	State Highway 1 to Forest Road 672
	County Road 102	County Road 384 to the Lolo Forest Boundary
	Forest Road 672	State Highway #1 to State Highway #38
	Discovery Basin Ski Trails and Facilities	All trails and lifts
	Site	
	Moose Lake and Moose Lake Campground Stony Campground East Fork Campground Crystal Creek Campground	
Concern Level Two	**Route**	**Extent of Concern**
	Forest Road 5070	Highway 38 to end of road.
	Forest Road 5141	Forest Road 261 to Forest Road 5103
	Forest Road 88, Willow Creek Road	County Road 348 to the Lolo Forest boundary
	Forest Road 5106, Moose Lake Road	Highway 38 to the end of the road
	Forest Road 80, Copper Creek Road	Forest Road 5106 to the Bitterroot Forest line
	Forest Trail 2	Forest Road 241 to Stony Lake
	Forest Trail 10	State Road 38 to Stony Lake
	Forest Trail 12	State Road 38 to Fuse Lake

	Forest Trail 168	Lost Tooth Cabin to Frog Pond Basin
	Site	
	Medicine Lake Copper Creek Campground	

APPENDIX B - LEASE STIPULATIONS AND NOTICES

Background

The following information pertaining to lease stipulations is taken from the booklet, “Uniform Format for Oil and Gas Lease Stipulations,” prepared by the Rocky Mountain Regional Coordinating Committee in March 1989. These guidelines were developed by the Bureau of Land Management (BLM) and the Forest Service.

Stipulations are conditions that are to be made part of a lease when the environmental and planning record demonstrates the necessity for the stipulations. The stipulation forms, in this appendix, provide standardized structure, wording, and usage. What, why, and how this mitigation/protection is to be accomplished is determined by the land management agency through land management planning and National Environmental Policy Act (NEPA) analysis.

If the determination is made, upon weighing the relative resource values, uses, and/or users, that conflict with oil and gas operations exist and cannot be adequately managed under the Standard Lease Terms, a lease stipulation is necessary. Land use/management plans serve as the primary vehicle for determining the necessity for lease stipulations (BLM Manual 1624). Documentation of the necessity for a stipulation is disclosed in planning documents and through site-specific analysis. Land management plans and/or NEPA documents also establish the guidelines by which future waivers, exceptions, or modifications may be granted. Substantial modification or waiver subsequent to lease issuance is subject to public review for at least a 30-day period in accordance with Section 5102.f of the Federal Onshore Oil and Gas Leasing Reform Act of 1987.

Stipulations may be necessary if the authority to control the activity on the lease does not already exist under laws, regulations, or orders. It is important to recognize that the authorized officer has limited authority to modify the site location and design of facilities, control the rate of development and timing of activities, as well as require other mitigation under Sections 2 and 6 of the Standard Lease Terms (BLM Form 3100-11) and 43 CFR 3101.1-2. Specifically, Standard Lease Terms allow the authorized officer to move a well or other facility site up to 200 meters or delay operations for up to 60 days in a year.

The necessity for individual lease stipulations is documented in the lease-file record with reference to the appropriate land management plan or other leasing analysis document. The necessity for exceptions, waivers, or modifications also will be documented in the lease-file record through reference to the appropriate plan or other analysis. The uniform format for stipulations should be implemented when amendments or revisions of land management plans are prepared or by other appropriate means.

The uniform format for stipulations is designed to accommodate most existing stipulations by providing space to record the local mitigation objectives. The stipulations have been developed for the categories of:

No Surface Occupancy (NSO)

Timing Limitations (TL)

Conditional Surface Use (CSU)

This guidance also includes the use of lease notices. Also, there is provision for special or unique stipulations, such as those required by prior agreements between agencies when the standardized forms are not appropriate. In all cases, use of uniform forms for stipulations requires identification of specific resource values to be protected and description of the specific geographical area covered.

Standard Lease Terms

The Standard Lease Terms (ST) are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, United States Department of the Interior, BLM, October 1992. They provide the lessee the right to use the leased land as needed to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands. Operations must be conducted in a manner that minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Federal environmental protection laws such as the Clean Water Act, Endangered Species Act, and Historic Preservation Act, will be applied to all lands and operations and are included in the standard lease terms. If threatened or endangered species; objects of historic, cultural, or scientific value; or substantial unanticipated environmental effects are encountered during construction, all work affecting the resource will stop and the land management agency will be contacted.

Standard Lease Terms provide for reasonable measures to minimize adverse impacts to surface resources. These include, but are not limited to, modifications to the location or design of facilities, timing of operations, and specifications of interim and final reclamation measures. At a minimum, measures shall be deemed consistent with lease rights granted provided that they do not: require relocation of proposed operations by more than 200 meters; require that operations be sited off the leasehold; or prohibit new surface disturbing operations for a period in excess of 60 days in any lease year.

All leases on National Forest System (NFS) lands contain the “Stipulation for Lands of the National Forest System under Jurisdiction of Department of Agriculture,” requiring the lessee to comply with the rules and regulations of the Department of Agriculture. All leases are subject to regulations and formal orders of the Secretaries of the Interior and Agriculture in effect at the time of issuance.

Definitions

Conditions of Approval

Conditions of Approval (COA) are requirements under which an Application for a Permit to Drill or a Sundry Notice is approved.

Controlled Surface Use

Use and occupancy is allowed (unless restricted by another stipulation), but identified resource values require special operational constraints that may modify the lease rights. Controlled Surface Use (CSU) is used for operating guidance, not as a substitute for the NSO or timing stipulations.

Exception

Exemptions from a lease stipulation can be made on a case by case basis. The stipulation continues to apply to all other sites within the leasehold to which restrictive criteria apply.

Lease Notice

A Lease Notice (LN) provides more detailed information concerning limitations that already exist in law, lease terms, regulations, or operational orders. A lease notice also addresses special items the lessee should consider when planning operations, but does not impose new or additional restrictions. Lease notices attached to leases should not be confused with Notices to Lessees (NTL) (see 43 CFR 3160.0-5).

Modification

A modification is a fundamental change to the provisions of a lease stipulation, either temporarily or for the term of the lease. Therefore, a modification may include an exemption from or alteration to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other sites within the leasehold to which the restrictive criteria apply.

No Surface Occupancy

Use or occupancy of the land surface for fluid mineral exploration or development is prohibited to protect identified resource values. The No Surface Occupation (NSO) stipulation includes stipulations that may have been worded as “No Surface Use/Occupancy,” “No Surface Disturbance,” “Conditional NSO,” and “Surface Disturbance or Surface Occupancy Restriction (by location).”

Notice to Lessees

A written notice issued by the BLM authorized officer. It implements regulations and operating orders, and serve as instructions on specific item(s) of importance within a state, district, or area.

Stipulation

A provision that modifies standard lease rights and is attached to and made a part of the lease.

Timing Limitation

A Timing Limitation (TL) prohibits surface use during specified time periods to protect identified resource values. This stipulation does not apply to the operation and maintenance of production facilities unless the findings of analysis demonstrate the continued need for such mitigation and that less stringent, project-specific mitigation measures would be in sufficient.

Waiver

Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

No Surface Occupancy Stipulation Guidance

The No Surface Occupancy (NSO) stipulation is intended for use only when other stipulations are determined insufficient to adequately protect the public interest. The land management plan/NEPA document prepared for leasing must show that less restrictive stipulations were considered and determined by the authorized officer to be insufficient, i.e., show why the NSO stipulation is needed. The planning/NEPA record must also show that consideration was given to a no-lease alternative when applying an NSO stipulation. An NSO stipulation is not needed if the desired protection would not require relocation of proposed operations by more than 200 meters (43 CFR 3101.1-2).

The legal subdivision, distance, location, or geographic feature, and resource value of concern must be identified in the stipulation and be tied to a land management plan and/or NEPA document.

Land description may be stated as:

The “Entire Lease”

Distance from resources and facilities such as rivers, trails, campgrounds, etc.

Legal description

Geographic feature such as a 100-year floodplain

Municipal watershed, percent of slope, etc.

Special areas with identified boundaries--area of critical environmental concern, wild and scenic rivers, etc.

Other description that specifies the boundaries of the lands affected.

The estimated percent of the total lease area affected by the restriction must be given if no legal or geographic description of the location of the restriction is given. In other cases the estimated percent is optional (see Example B-1).

This Land and Resource Management Plan identifies the specific conditions for providing waivers, exceptions, or modifications to lease stipulations. Waivers, exceptions, or modifications must be supported by appropriate environmental analysis and documentation, and are subject to the same test used to initially justify the imposition of this stipulation.

Language may be added to the NSO stipulation form to provide the lessee with information or circumstances under which waivers, exceptions, or modifications would be considered. A waiver, exception, or modification may be approved if the record shows that circumstances or relative resource values have changed or that the lessee can demonstrate that operations can be conducted without causing unacceptable impacts, and that less restrictive stipulations will protect the public interest. Waivers, exceptions, or modifications can only be granted by the authorized officer. If the waiver, exception, or modification is inconsistent with the land management planning document, that document must be amended or the change disallowed.

If the authorized officer determines, prior to lease issuance, that a stipulation involves an issue of major concern, modification or waiver of the stipulation will be subject to public review (43 CFR 3101.1-4). The land management plan also may identify other cases when a public review is required for a waiver, exception, or modification. In such cases, wording such as the following should be added to the stipulation form to inform the lessee of the required public review: "A 30-day public notice period is required prior to modification or waiver of this stipulation."

Timing Limitations Stipulation Guidance

The Timing Limitation (TL) Stipulation prohibits fluid mineral exploration and development activities for time periods less than yearlong. When using this stipulation, assure date(s) and location(s) are as specific as possible. ***A timing limitation stipulation is not necessary if the time limitation involves the prohibition of new surface-disturbing operations for periods of less than 60 days*** (43 CFR 3101.1-2).

The land use plan/NEPA document prepared for leasing must show less restrictive stipulations were considered insufficient. The environmental effects of exploration, development, and production activities may differ markedly from each other in scope and intensity. If the effects of reasonable foreseeable production activities necessitate timing limitation requirements, this need should be clearly documented in the record. The record should (shall?) also show that less stringent, project-specific mitigation may be insufficient. In such cases the stipulation language should be modified on a case-by case basis to clearly document that the timing limitation applies to all stages of activity.

The legal subdivision and resource value of concern must be identified in the stipulation and be tiered to a land use planning and/or NEPA document. The timing limitations for separate purposes may be written on separate forms or as combined stipulation (see Example Timing Limitations). During the review and decision-making process for Application for Permit to Drill (APD) and Sundry Notices, the date(s) and location(s) should be refined based on current information.

The Beaverhead-Deerlodge Forest Plan identifies the specific conditions for providing waivers, exceptions, or modifications to lease stipulations. Waivers, exceptions, or modifications of this stipulation, such as continuing drilling operations into a restricted time period, must be supported with appropriate environmental analysis and documentation. They will be subject to the same test used to initially justify the imposition of this stipulation. Language may be added to the stipulation form to provide the lessee with information or circumstances under which waiver, exception or modification would be considered. The need

for one-time, case-by case exceptions of timing limitations stipulation may arise from complications or emergencies during the drilling program. The need for timely review and decision making is great in such cases. For this reason, it is desirable that land use plans/NEPA documents clarify how the review procedures and other requirements, if any, would apply in such cases.

A waiver, exception, or modification may be approved if the record shows how circumstances or relative resource values have changed or that the lessee can demonstrate operations can be conducted without causing unacceptable impacts, and that less restrictive stipulations would protect the public interest. If waivers, exceptions or modifications are inconsistent with the land use planning document - and that document does not disclose the conditions under which such changes would be allowed - the plan or NEPA document must be amended as necessary, or the change disallowed.

If the authorized officer determines, prior to lease issuance, a stipulation involves an issue of major concern, modification or waiver of the stipulation would be subject to public review (e.g., 43 CFR 3101.1-4). The land use plan also may identify other cases where a public review is required for waiver, exception, or modification. In such cases, wording such as the following should be added to stipulation form to inform the lessee of the required public review: “A 30-day public notice period is required prior to modification or waiver of this stipulation.”

Controlled Surface Use Stipulation Guidance

The Controlled Surface Use (CSU) stipulation is intended to be used when fluid mineral occupancy and use are generally allowed on all or portions of the lease area year-round, but because of special values or resource concerns, lease activities must be strictly controlled. The CSU stipulation is used to identify constraints on surface use or operations that may otherwise exceed the mitigation provided by Section 6 of the standard lease terms and the regulations and operating orders. The CSU stipulation is less restrictive than the NSO (No Surface Occupancy) or Timing Limitation stipulations, which prohibit all occupancy and use on all or portions of a lease for all or portions of a year. The CSU stipulation should not be used in lieu of an NSO or Timing Limitation stipulation. This stipulation should be limited to areas where restrictions or controls are necessary for specific types of activities rather than all activity.

The stipulation should explicitly describe the activity to be restricted or limited, or the operation constraints required, and must identify the applicable area and the reason for the requirement. The record must show that less restrictive stipulations were considered and determined to be insufficient. The legal subdivision, distance, location, or geographic feature, and resource value of concern must be identified in the stipulation and be tied to a land management plan and/or NEPA document.

Land management plans and/or NEPA documents should identify the specific conditions under which waivers, exceptions, or modifications to lease stipulations would be considered. Waivers, exceptions, or modifications of this stipulation must be supported with appropriate environmental analysis and documentation, and will be subject to the same test used to initially justify the imposition of this stipulation. Language may be added to the stipulation

form to provide the lessee with information or circumstances under which a waiver, exception, or modification would be considered. A waiver, exception, or modification may be approved if the record shows that circumstances or relative resource value have changed or that the lessee can demonstrate that operations can be conducted without causing unacceptable impact, and that less restrictive stipulations would protect the public interest. Waivers, exceptions, or modifications can only be granted by the authorized officer. If the waiver, exception, or modification is inconsistent with the land management planning document, that document must be amended as necessary or the change disallowed.

If the authorized officer determines, prior to lease issuance, that a stipulation involves an issue of major concern, modification or waiver of the stipulation would be subject to public review (e.g., 43 CFR 3101.1-4). The land management plan also may identify other cases when a public review is required for waiver, exception, or modification. In such cases, wording such as the following should be added to the stipulation form to inform the lessee of the required public review: “A 30-day public notice period is required prior to modification or waiver of this stipulation.”

Special Administration Stipulation Guidance

There is no required or suggested uniform format for special administration stipulations. They are usually provided by another agency or organization. However, other agencies are encouraged to use the uniform stipulation format.

Special Administration stipulations are used in situations where the three uniform stipulation forms or lease notices do not adequately address the concern. A Special Administration stipulation are used only when special external conditions, such as pre-existing agreements with other agencies, require use of a one-of-a-kind stipulation that is not used in any other area or situation. The resource use or value, location, and specific restrictions must be clearly identified. In addition, the external agency, agreement, or pre-existing use that dictates the special restrictions must be identified. The stipulation should state if and under what circumstances a waiver, exception, or modification may be allowed.

STIPULATIONS

PRESCRIBED STIPULATIONS - This section describes the stipulations that will be attached to Beaverhead National Forest leases. Conditions are also described for waivers, exceptions, and modifications as follows:

Eligible Scenic and Recreation Segments of Wild and Scenic River Candidates

Stipulation:	Controlled Surface Use - ¼ mile buffer
Mapping Criteria:	Scenic and Recreational River Segments GIS layer s21_ScenicRecRivers
Objective:	To protect scenic and recreational river values along the river corridor and within a buffer zone of ¼ mile on either side. Proposed activities must be designed or located in such a manner as to not affect the eligibility of the river segment.
Waiver:	This stipulation may be waived if it is determined the entire lease no longer contains a scenic and recreational river candidate area.
Exception:	An exception may be granted if the operator can demonstrate in a surface use plan of operations that the scenic and recreational river values of the area can be maintained at a level acceptable to the authorized forest officer.
Modification:	This stipulation may be modified if it is determined portions of the lease no longer contain scenic and recreational river candidate areas.
Justification:	The area is a candidate area for wild and scenic rivers designation. Therefore, a Controlled Surface Use stipulation is necessary to notify potential lessees of the resource concern and restrictions on activities. Under Standard Lease Terms some impacts could be mitigated but operations could not be denied if all the scenic and recreational values could not be protected. The No Surface Occupancy or No Lease stipulations were not considered appropriate since impacts can be mitigated using a Controlled Surface Use stipulation and not leasing could subject the federal mineral estate to drainage from adjacent leased lands.

Research Natural Areas

Stipulation:	No Surface Occupancy
Mapping Criteria:	Research Natural Areas GIS layer s23_ResearchNatAreas
Objective:	To preclude surface disturbance and maintain near natural conditions for future research.
Waiver:	A waiver may be granted if it is determined the entire leasehold no longer contains portions of a Research Natural Area.
Exception:	None
Modification:	A modification may be granted if the Research Natural Area boundaries have changed.
Justification:	A commitment has been made to maintain the area in near natural conditions for future research and use and a No Surface Occupancy stipulation is deemed necessary to protect the area in such a condition. Also, the area contains unique resources that cannot be provided elsewhere on the forest. If the operations within these areas would be allowed under either a Controlled Surface Use or Timing Limitation stipulations, or under Standard Lease Terms, natural conditions and value for future research within the area could be affected. The

No Lease stipulation is not considered appropriate since impacts can be mitigated using a No Surface Occupancy stipulation and not leasing could subject the federal mineral estate to drainage from adjacent leased lands.

Eligible Wild Segments of Wild and Scenic River Candidates

Stipulation:	Administratively Unavailable.
Mapping Criteria:	One quarter mile buffer around segments. GIS layer s22_WildRivers
Objective:	n/a
Waiver:	n/a
Exception:	n/a
Modification:	n/a
Justification:	n/a

Inventoried Roadless Areas

Stipulation:	Controlled Surface Use
Mapping Criteria:	2000 Roadless Area Conservation Rule FEIS Inventoried Roadless Areas GIS layer s25_ira
Objective:	To preclude new temporary roads, permanent roads, road construction or reconstruction as defined in 36 CFR 294.11
Waiver:	This stipulation may cease to apply in the event the District Court orders reinstating the 2001 Rule are reversed, set aside, or if the Forest Service determines that other events have caused the 2001 rule to no longer be in effect.
Exception:	Same as waiver
Modification:	Same as waiver
Justification:	Compliance with Orders of the District Court C05-03508 and C05-04038

Big Game Winter Range

Stipulation:	July 2006, Montana Fish, Wildlife, and Parks - Big Game Winter Range. GIS layer s05_BigGameWinterRange
Mapping Criteria:	Timing Limitation
Objective:	To preclude surface disturbing activities in big game winter range. Big game can be adversely affected by drilling activity, causing increased stress and/or displacement during the critical December 1 to May 15 time period.
Waiver:	A waiver may be granted if habitat studies, in coordination with Montana Fish, Wildlife, and Parks, conclude the area affected by this stipulation is no longer used as big game winter range.
Exception:	An exception may be granted if seasonal conditions are such that the animals have moved and are not using the specified area during the time they would normally be expected.
Modification:	A modification of the stipulation may be granted if habitat studies show that a portion of the area is not important winter range.

Justification:	Standard Lease Terms provide for delay of activities for up to 60 days. Since the critical period extends for approximately 166 days, the Standard Lease Terms would not be adequate. The No Lease or No Surface Occupancy stipulations are overly restrictive since operations conducted outside the winter range period would have a minimal effect on big game.

Trumpeter Swan Nests

Stipulation:	Timing Limitation
Mapping Criteria:	Within ½ mile of known trumpeter swan nests. GIS layer s06_Nests
Objective:	To preclude surface disturbing activities near nests which may cause increased stress and/or displacement of birds during the critical April 1 to September 1 time period.
Waiver:	A waiver may be granted if new habitat studies, in coordination with Montana Fish, Wildlife, and Parks, conclude the area affected by this stipulation is not critical for trumpeter swans.
Exception:	An exception may be granted if the operator demonstrates in a plan of operations, that impacts from the proposed action are acceptable or can be adequately mitigated.
Modification:	A modification of the stipulation may be granted if new habitat studies show a portion of the area is not used by trumpeter swans.
Justification:	Surface activities within these areas could adversely impact trumpeter swans. If operations were allowed to occur under Standard Lease Terms or Controlled Surface Use, swans could be displaced. The No Surface Occupancy and No Lease stipulations are overly restrictive since impacts can be avoided by using the Timing Limitation stipulation.

Bald Eagle and Peregrine Falcon Nests

Stipulation:	No Surface Occupancy
Mapping Criteria:	One half mile around bald eagle and peregrine falcon nests from February 1 to September 1. GIS layer s07_BaldEagleETALL
Objective:	To protect habitat and to facilitate recovery of the species.
Waiver:	A waiver may be granted if new habitat studies, coordinated with the US Fish and Wildlife Service, conclude the area affected by this stipulation no longer contains an eagle or falcon nest.
Exception:	An exception may be granted if the operator demonstrates, in a plan of operations, that impacts from the proposed action are acceptable or can be adequately mitigated.
Modification:	Same as waiver.
Justification:	A No Surface Occupancy stipulation is necessary to ensure continued use of the nest. If operations within these areas were to be under either a Controlled Surface Use or Timing Limitations stipulation, or under Standard Least Terms, the use of these areas by eagles or falcons would be affected. The No Lease stipulation is not considered appropriate since impacts can be mitigated using a No Surface Occupancy stipulation. No Lease could expose the federal mineral estate to revenue losses as a result of drainage from adjacent leased lands.

Bald Eagle and Peregrine Falcon Habitat

Stipulation:	Timing Limitation
Mapping Criteria:	An additional one half mile from No Surface Occupation area. GIS layer s07_BaldEagleETALL
Objective:	Buffer is and additional ½ mile to preclude surface disturbing activities around nests. Disturbance may cause increased stress and/or displacement of eagles or falcons during the critical February 1 to September 1 time period.
Waiver:	A waiver may be granted if new habitat studies, coordinated with the US Fish and Wildlife Service, conclude the area affected is not critical for eagles or peregrine falcons.
Exception:	An exception may be granted if the operator demonstrates, in a plan of operations, that impacts from the proposed action are acceptable or can be adequately mitigated. If the nest area contains only a peregrine falcon nest, an exception to the timing limitation from February 1 through March 31 would be considered.
Modification:	A modification of the stipulation may be granted if new habitat studies show a portion of the area is not used by eagles or peregrine falcons.
Justification:	Surface activities within these areas could adversely impact bald eagles or peregrine falcons. If operations were allowed under Standard Lease Terms or Controlled Surface Use, eagles and peregrine falcons could be displaced. The No Surface Occupancy and No Lease stipulations are overly restrictive since impacts can be avoided by using a Timing Limitation stipulation.

Grizzly Bear Habitat

Stipulation:	Controlled Surface Use
Mapping Criteria:	Grizzly Bear Amendment for the Greater Yellowstone Ecosystem Occupied Habitat as mapped by Kim Barber (USFS, 2006). GIS layer s08_GrizzlyHabitat
Objective:	To ensure proposed activities do not adversely affect the viability of grizzly bears. Operations will be designed and/or located to not adversely affect grizzly bears. Coordination of timing and timing adjustments in activities within grizzly use areas may be necessary. Noise levels may also be limited.
Waiver:	A waiver may be granted if habitat studies, in coordination with Montana Fish, Wildlife, and Parks, conclude the area affected by this stipulation is no longer used as grizzly bear habitat.
Exception:	An exception may be granted if the operator demonstrates, in a plan of operations, that impacts from the proposed action are acceptable or can be adequately mitigated.
Modification:	A modification of the stipulation may be granted if new habitat studies show that a portion of the area is not used by grizzly bears.
Justification:	Surface activities within these areas could adversely impact grizzly bears. If operations were allowed to occur under Standard Lease Terms, the bears could be displaced. No Surface Occupancy and No Lease stipulations are overly restrictive since impacts can be avoided by using a Controlled Surface Use stipulation.

Westslope Cutthroat Trout in Fish Key Watersheds

Stipulation:	No Surface Occupancy
Mapping Criteria:	Fish Key Watersheds GIS layer s09_Alts_Wct
Objective:	To prevent negative effects to westslope cutthroat trout populations critical to species viability.
Waiver:	None
Exception:	None
Modification:	None
Justification:	Forest plan direction precludes multiple management activities from these watersheds to ensure viability requirements are met.

Westslope Cutthroat Trout Conservation Populations

Stipulation:	Controlled Surface Use
Mapping Criteria:	Watersheds with westslope cutthroat trout conservation populations outside of fish key watersheds GIS layer s09_Alts_Wct
Objective:	To minimize effects to westslope cutthroat trout populations important to meet conservation objectives, mitigation will be applied to: Ensure no net increase in sediment over existing condition. Off-site mitigation may be required within the occupied reach of stream. Centralize drilling or production pads to minimize road network. Require that any proposed linear feature, pipeline, road, utility, etc. crossing a conservation population stream, be mitigated by special engineering or underground construction measure. Limit number of stream crossings. Ensure operations will not affect stream water quality and quantity.
Waiver:	None
Exception:	If a population is determined extinct, and the State of Montana and Beaverhead-Deerlodge National Forest biologists determine the watershed is not critical for future restoration of westslope cutthroat trout, an exception may be granted.
Modification:	None
Justification:	Standard lease terms were determined inadequate to meet conservation objectives. Mitigation under Controlled Surface Use ensures water quality, quantity, and habitat, adequate to maintain conservation populations. No Surface Occupancy was determined unnecessary because viability requirements were met through the NSO for Fish Key Watersheds Stipulation and the CSU mitigation on conservation populations outside of fish key watersheds.

Arctic Grayling

Stipulation:	Controlled Surface Use
Mapping Criteria:	The Ruby River from the forest boundary to its headwaters near Divide Creek. On the east side of the river the CSU buffer will be ½ mile wide and ¼ on the west side. The east side requires a wider buffer because the slopes are less stable than those on the west side. National Forest System within the Trail Creek Hydrologic Drainage up to the confluence with May Creek. Tributaries to the Big Hole River where sediment introduction is affecting grayling habit: Lower Steel, Squaw, Sawlog, Shaw, Papoose, Toomey, Tucker, and Walker creeks. The main branch of Steel Creek will be buffered from the forest boundary, upstream for 2 miles to Moose Meadows. The buffer on the north side of the creek will be a ½ mile wide and 1 mile on the south side. This configuration follows the hydrologic boundaries of this portion of the drainage. On all other listed streams, CSU will apply to the National Forest System within their hydrologic drainages. GIS layer s10_Grayling
Objective:	To protect Arctic Grayling in the Big Hole and Ruby river drainages. To meet conservation objectives mitigation measures will apply to: Ensure no net increase in sediment over existing condition. Off-site mitigation may be required within the occupied reach of stream. Centralize drilling or production pads to minimize road network. Require any proposed linear feature, pipeline, road, utility, etc. across arctic grayling streams be mitigated by special engineering or underground construction measures to protect the stream. Limit the number of stream crossings Ensure operations will not affect stream water quality and quantity.
Waiver:	None
Exception:	If the Ruby River Population is determined extinct and the State of Montana and Beaverhead-Deerlodge National Forest biologists determine the stream reach is not critical for future restoration of arctic grayling, an exception may be granted.
Modification:	None
Justification:	Standard lease terms were determined inadequate to meet conservation objectives. Mitigation under Controlled Surface Use ensures water quality, quantity, and habitat adequate to maintain conservation.

Slopes over 60%

Stipulation:	No Surface Occupancy
Mapping Criteria:	Slopes over 60% GIS layer s11_Slopes60
Objective:	To minimize the potential for adverse effects to soil and water.
Waiver:	None
Exception:	An exception may be granted if the operator can demonstrate, in a surface use plan of operations that adverse effects can be minimized and activities safely conducted.
Modification:	A modification may be granted if an on-the-ground inspection of a proposed well site or facility shows that an area of less than 60% slope exists or that design of the site can mitigate erosion and reclamation concerns.

Justification: This stipulation is necessary to protect the basic soil and water resources. Soils disturbance of an area required for a well pad on steep slopes would be difficult to reclaim and could result in unacceptable soil loss through erosion, displacement, and compaction and could potentially increase the sediment load of streams. If operations within these areas were to be allowed under Standard Lease Terms, erosion and reclamation could result. The No Lease option is not considered appropriate since impacts can be mitigated using a Controlled Surface Use stipulation. No Lease could expose the federal mineral estate to revenue losses as a result of drainage from adjacent leased lands.

Areas of Mass Failure

Stipulation: No Surface Occupancy

Mapping Criteria: Areas where potential exists for mass failure
GIS layer s12_AreasMassFailure

Objective: To preclude construction of well sites and related facilities in areas where the potential for mass failure exists because these areas of high erosion and stability hazard are difficult to reclaim.

Waiver: None

Exception: An exception may be granted if the operator can demonstrate in a surface use plan of operation that adverse effects can be minimized and activities safely conducted.

Modification: A modification may be granted if an on-the-ground inspection of a proposed well site or facility determines a low risk of mass wasting or that site design can mitigate failure and reclamation concerns.

Justification: This stipulation is necessary to protect the basic soil and water resources. Soil disturbance of an area required for a well pad on mass wasting soils would be difficult to reclaim, could result in unacceptable soil loss through erosion, and potentially increase the sediment load of streams. If operations within these areas were to be allowed under Controlled Surface Use or Timing Limitation stipulations, or under Standard Lease Terms, erosion and reclamation of the area could be affected. The No Lease option is not considered appropriate since impacts can be mitigated using a No Surface Occupancy stipulation. No Lease could expose the federal mineral estate to revenue losses as a result of drainage from adjacent leased lands.

Areas Prone to Failure with Slopes over 35%

Stipulation: No Surface Occupancy

Mapping Criteria: Current soil survey overlaid with slopes over 35%
GIS layer s13_ProneFailureGT35

Objective: To preclude construction of well sites and related facilities in areas which would be difficult to rehabilitate and to preclude surface disturbing activities on areas that have a high erosion/stability hazard rating

Waiver: None

Exception: An exception may be granted if the operator can demonstrate in a surface use plan of operations that adverse effects can be minimized and activities safely conducted.

Modification: A modification may be granted if an on-the-ground inspection of a proposed well site or facility shows an area of less than 35% slope exists and mass wasting - prone soils do not exist or that design of the site can mitigate erosion, failure, and reclamation concerns.

Justification: This stipulation is necessary to protect the basic soil and water resources. Soil disturbance of an area required for a well pad on steep slopes or mass wasting soils would be difficult to reclaim, could result in unacceptable soil loss through erosion, and could increase the sediment load of streams. If operations within these areas were to be allowed under Controlled Surface Use, Timing Limitations, or Standard Lease Terms, erosion, failure, and reclamation of the area could be affected. The No Lease stipulation is not considered appropriate since impacts can be mitigated using a No Surface Occupancy stipulation. No Lease could expose the federal mineral estate to revenue losses as a result of drainage from adjacent leased lands.

Areas Sensitive to Soil Compaction

Stipulation: Controlled Surface Use

Mapping Criteria: Areas where soil has a high compaction /displacement hazard.
GIS layer s14_SensitiveSoilCompaction

Objective: To protect areas where soil conditions are such that the site would be difficult to rehabilitate and have a high compaction/displacement hazard. Reclamation standards will include: control of species, planting rate and methods, seed bed preparation method, and quality and handling of available topsoil.

Waiver: None

Exception: An exception may be granted if the operator can demonstrate in a surface use plan of operations that adverse effects can be minimized and activities safely conducted.

Modification: A modification may be granted if an on-the-ground inspection of proposed well site or facility shows an area of sensitive soils does not exist or that site design can mitigate erosion, failure, and reclamation concerns.

Justification: This stipulation is necessary to protect the basic soil and water resources. Soil disturbance on sensitive soils in an area of the size required for a well pad would be difficult to reclaim and could result in unacceptable soil damage, compaction, and displacement, it could also increase the sediment load of streams. If operations within these areas were to be allowed under either a Timing Limitation stipulation or under Standard Lease Terms, sensitive soils could be affected and reclamation would be difficult.

Heritage Resource Sites and Traditional Cultural Properties

Stipulation: No Surface Occupancy

Mapping Criteria: Heritage resource sites larger than 40 acres
GIS layer s15_CulturalSites

Objective: To meet forest plan objectives to preserve in place significant heritage resources and to avoid disturbance to traditional cultural properties. Stipulations will be applied to ensure proposed activities do not adversely affect heritage resource sites larger than 40 acres. Heritage sites smaller than 40 acres will also be stipulated NSO but it is assumed operations will be designed and/or located to not adversely affect the heritage resource site.

Waiver: None

Exception: If the on-site inspection reveals archaeological or historic material that does not constitute a heritage site, or an archaeological site exists but is not significant, an exception may be granted. No exceptions will be given for traditional cultural properties.

Modification:	None
Justification:	To prevent the construction of well sites, support facilities and access roads on heritage sites eligible for inclusion in the National Register of Historic Places, or on sites whose significance has not been determined.

Grasshopper and Rock Creek Recreation Areas

Stipulation:	Controlled Surface Use
Mapping Criteria:	Management Area 28 and 30 from the 1986 Beaverhead Forest Plan. GIS layer s16_RecAreas
Objective:	To control surface occupancy and new surface disturbing activities in these recreation areas by requiring activities to be located and operations conducted in a manner that will minimize the effects on the characteristics of the area. Extensive reclamation will be required.
Waiver:	A waiver may be granted if these areas cease to be managed for their recreational values.
Exception:	Same as Waiver
Modification:	Same as Waiver
Justification;	A Controlled Surface Use stipulation is considered necessary to protect the recreation experience. By enforcing a CSU stipulation, noise, lights, and other disturbances to the visitors at the recreation area should be minimized. The No Surface Occupancy or No Lease stipulations are overly restrictive since operations within the area can be mitigated using a Controlled Surface Use stipulation.

Special Use Recreation Residences

Stipulation:	Controlled Surface Use
Mapping Criteria:	A quarter mile buffer around Special Use Recreation Residences GIS layer s17_RecreationResidences
Objective:	To control surface occupancy and new surface disturbing activities for special use recreation residences by requiring activities to be located and operations conducted in a manner that will minimize the effects on the characteristics of the area. Extensive reclamation will be required.
Waiver:	A waiver may be granted if the recreation residence is moved or eliminated.
Exception:	Same as waiver
Modification:	Same as waiver
Justification:	A Controlled Surface Use stipulation is considered necessary to protect the recreation experiences of the special use recreation residences permittees. By enforcing a CSU stipulation, noise, light, and other disturbances to visitors at the residence should be minimized. A No Surface Occupancy stipulation or No Lease are overly restrictive since operations within the area can be mitigated using a Controlled Surface Use stipulation and occupation of the sites is not year-round.

Developed Campgrounds and Administrative Sties

Stipulation:	No Surface Occupancy
Mapping Criteria:	Sites within one half mile of developed campgrounds, or administrative sites

	GIS layer s18_Campgrounds_AdminSites
Objective:	To preclude surface occupancy and surface disturbing activities.
Waiver:	A waiver may be granted for campgrounds or administrative sites if the site is moved or eliminated.
Exception:	An exception may be granted for campgrounds or administrative sites if the site is moved or eliminated.
Modification:	Same as waiver.
Justification:	Construction of site developments allocates those specific lands to a specific use. A No Surface Occupancy stipulation is deemed necessary to protect the capital investment. If operations were to be allowed within these areas under either a Controlled Surface Use or Timing Limitations stipulation, or under Standard Lease Terms, the capital investment and/or recreational setting could be affected. The No Lease option is not considered appropriate since impacts can be mitigated using a No Surface Occupancy stipulation and not leasing could subject the federal mineral estate to drainage from adjacent lease lands.

National Scenic and Historic Trails

Stipulation:	No Surface Occupancy
Mapping Criteria:	One quarter mile corridor of the Continental Divide National Scenic Trail or half mile buffer along the Nez Perce and Lewis and Clark national historic trails. GIS layer s19_NationalTrails
Objective:	To preclude surface occupancy and surface disturbing activities
Waiver:	None
Exception:	An exception may be granted if a surface occupancy plan shows that the designated routes, recreation experiences along those routes, and historic resources are protected.
Modification:	Same as exception.
Justification:	These National Trails have been designated to protect historic resources and to provide recreation opportunities. If operations were to be allowed within these areas under either a Controlled Surface Use or Timing Limitations stipulation, or under Standard Lease Terms, the capital investment and/or recreational setting could be affected. The No Lease option is not considered appropriate since impacts can be mitigated using a No Surface Occupancy stipulation and not leasing could subject the federal mineral estate to drainage from adjacent lease lands.

Specific Semi-Primitive Recreation Areas

Stipulation:	Controlled Surface Use
Mapping Criteria:	GIS layer s04_Alts_PrimitiveSemiprimitive (1986 Beaverhead National Forest Plan MA 8 and the current West Big Hole Management Area.)
Objective:	To maintain semi-primitive values of the area through use of extensive reclamation requirements. The stipulation will also require activities to be located and operations conducted in a manner that will minimize the effects on the area characteristics.
Waiver:	A waiver may be granted if the area is no longer managed for semi-primitive values.
Exception:	None

Modification:	This stipulation may be modified if it is determined portions of the lease are no longer managed for semi-primitive recreation opportunities.
Justification:	These areas have been recognized for their high value as primitive and semi-primitive areas. Application of a Controlled Surface Use stipulation protects the surface resources and does not preclude development of potential oil and gas resources. If operations were allowed under Standard Lease Terms, the roadless character and recreational value of the area could be impacted. A No Lease stipulation is not necessary since the application of a Controlled Surface Use stipulation protects the resource concern and provides some opportunity to explore for oil and gas. Oil and gas exploration activities can be located or mitigated so the integrity of the area will not be affected.

Areas of High Scenic Value

Stipulation:	No Surface Occupancy
Mapping Criteria:	Forest plan management areas with a high scenic objective and one half mile buffer on Concern Level One routes and sites. GIS layer s20_SenicValue
Objective:	To provide high scenic integrity
Waiver:	None
Exception:	An exception may be granted if the operator can demonstrate in a surface use plan of operations that the objectives for scenery can be met.
Modification:	None
Justification:	Areas are designated as high value because of natural beauty in proximity to travel routes or sites where users expect and desire a natural appearance. Therefore, a No Surface Occupancy stipulation is deemed necessary to notify potential lessees of the resource concern and restrictions.

Areas of Moderate Scenic Value

Stipulation:	Controlled Surface Use
Mapping Criteria:	All areas that do not meet the criteria for high scenic value and are outside of the Tie-Johnson and Bryant Creek Mass. GIS layer s20_ScenicValue
Objective:	To ensure the scenic integrity of the area is maintained, proposed activities would be required to be located or designed to meet a minimum moderate scenic integrity level.
Waiver:	None
Exception:	An exception may be granted if the operator can demonstrate in a surface use plan of operations that the objectives for scenery can be met.
Modification:	If the area is determined to be not visible from those sensitive routes and sites listed above mitigation for scenery may not be needed.
Justification:	Application of the Controlled Surface Use stipulation identifies the standard an operator must meet and provides the opportunity to conduct activities as long as the standard is met. The No Lease or No Surface Occupancy stipulations are deemed overly restrictive because visual impacts to the scenic integrity level can often be mitigated by vegetative or topographic screening Under the Standard Lease Terms some impacts could be mitigated but operations could not be denied if the moderate scenic integrity level could not be mitigated.

Lease Notice Background

Lease notices are attached to leases to transmit information at the time of lease issuance to assist the lessee in submitting acceptable plans of operation or to assist in administration of leases. Lease notices are attached to leases in the same manner as stipulations. However, there is an important distinction between lease notices and stipulations: lease notices do not involve new restrictions or requirements. Any requirements contained in a lease notice must be fully supported either in a law, regulation, standard lease term, or an onshore oil and gas order. A lease notice is not signed by the lessee. Guidance in the use of lease notices is found in BLM Manual 3101 and 43 CFR 3101.1-3.

A lease notice should contain the following elements:

The resource/use/value,

The lands affected, if applicable,

The reason(s),

The effect on lease operations or what may be required, and

A reference to the lease term, regulation, law, or the order from which enforcement authority is derived.

If a situation or condition is known to exist that could affect lease operations, there should be full disclosure at the time of lease issuance via a lease notice. If a lessee may be prevented from extracting oil and gas through a prohibition mandated by a specific non-discretionary statute, such as the Endangered Species Act, then a stipulation may be used even though a lease notice would be sufficient. It is at the discretion of the authorized officer whether a situation is sufficiently sensitive to warrant the use of a lease stipulation.

BEAVERHEAD NATIONAL FOREST LEASE NOTICES

The following language provides example language for lease notices. Since lease notices transmit information about laws, regulations, or orders, the language in the lease notices may change if the underlying law, regulation, or order changes.

NOTICE FOR LANDS OF THE NATIONAL FOREST SYSTEM UNDER JURISDICTIONOF DEPARTMENT OF AGRICULTURE

The permittee/lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of Interior in the permit. The Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of an exploration plan by the Secretary of the Interior, (2) uses of all existing improvements, such as forest development roads, within and outside the area permitted by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by an exploration plan approved by the Secretary of the Interior.

All matters related to this stipulation are to be addressed to:

Forest Supervisor or District Ranger

who is the authorized representative of the Secretary of Agriculture.

CULTURAL RESOURCES - The FS is responsible for assuring that the leased lands are examined to determine if cultural resources are present and to specify mitigation measures, in accordance with the Archaeological Resources Protection Act of 1979, the National Historic Preservation Act of 1966 (as amended), and the American Indian Religious Freedom Act of 1996. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator, unless notified to the contrary by the FS, shall:

1. Contact the FS to determine if a site specific cultural resource inventory is required. If a survey is required, then:
2. Engage the services of a cultural resource specialist acceptable to the FS to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the area of proposed disturbance to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the FS for review and approval at the time a surface disturbing plan of operation is submitted.
3. Implement mitigation measures required by the FS and BLM to preserve or avoid destruction of cultural resource values. Mitigation may include relocation of proposed facilities, testing, salvage, and recordation or other protective measures. All costs of the inventory and mitigation will be borne by the lessee or operator, and all data and materials salvaged will remain under the jurisdiction of the U.S. Government as appropriate.

The lessee or operator shall immediately bring to the attention of the FS and BLM any cultural or resources or any other objects of scientific interest discovered as a result of surface operations under this lease, and shall leave such discoveries intact until directed to proceed by FS and BLM.

Vertebrate Paleontology Notice - The FS is responsible for assuring that the leased lands are examined to determine if paleontologic resources are present and to specify mitigation measures, in accordance with Organic Act, and the National Forest Management Act of 1976

Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator, unless notified to the contrary by the Forest Service, shall:

1. Contact the Forest Service to determine if a site-specific vertebrate paleontologic inventory is required. The Forest Service will conduct inventories and surveys as part of the field review for the proposed activity on the lease. The operator may voluntarily engage the services of a qualified paleontologist to conduct the inventory.
2. Implement mitigation measures required by the Forest Service and Bureau of land management to preserve or avoid destruction of vertebrate paleontologic resources. Mitigation may include relocation of proposed facilities or other protective measures.
3. The lessee or operator shall immediately bring to the attention of the Forest Service any vertebrate paleontological resources discovered as a result of surface operation under this lease, and shall leave such discoveries intact until directed to proceed by the Forest Service.

FLOODPLAIN AND WETLANDS - The lessee is hereby notified that this lease may contain land within a riparian ecosystem. All activities within this area may be highly restricted in order to comply with Executive Order 11988 - *Floodplain Management* and Executive Order 11990 - *Protection of Wetlands*, in order to preserve and restore or enhance the natural and beneficial values served by floodplains and wetlands.

Riparian ecosystems will be managed by the Forest Service to protect from conflicting uses in order to provide healthy, self-perpetuating plant and water communities that will have optimum diversity and density of understory and overstory vegetation. Occupancy and use of lands within riparian ecosystems proposed in a proposed Surface Use Plan of Operations will be considered in an

environmental analysis done to identify the mitigation measures necessary to protect the riparian area. Special measures such as road design, well pad size and location or directional drilling, may be made part of the permit authorizing the activity.

THREATENED, ENDANGERED, AND SENSITIVE PLANT OR ANIMAL SPECIES LEASE NOTICE

The lease area may contain threatened and endangered species or habitat necessary for the continued existence of threatened, proposed, candidate or endangered species which are protected by the 1973 Endangered Species Act, as amended (16 USC 1531 et seq.) and implementing regulations (50 CFR 402 et seq.). The lease area may also contain habitat or species, which may require protective measures to prevent them from being listed as threatened or endangered; or result in a loss of viability or biological diversity

(36 CFR 219.19 or 219.26). A biological evaluation of the leased lands may be required prior to surface disturbance to determine if endangered, threatened, proposed, candidate or sensitive plant or animal species or their habitat are present and to identify needed mitigation measures. Prior to under taking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Forest Service to determine if a biological evaluation is required. The Forest Service is responsible for ensuring that the leased land is examined through a biological evaluation, prior to undertaking any surface-disturbing activities, to determine effects upon any plant or animal species listed or proposed for listing as threatened, endangered, or a sensitive species.

2. The lessee or operator may choose to conduct the evaluation on the leased lands at their discretion and cost. This biological evaluation must be done by or under the supervision of a qualified biologist/botanist approved by the Forest Service. An acceptable report must be provided to the Forest Service identifying the anticipated effects of a proposed action on endangered, threatened, proposed, candidate or sensitive species. An acceptable biological evaluation is to be submitted to the Forest Service for review and approval no later than that time when an otherwise complete application for permit to drill or subsequent surface-disturbing operation is submitted.

3. Implement mitigation measures required by the Forest Service. Mitigation may include the relocation of proposed lease-related activities or other protective measures. The findings of the biological evaluation, analysis and consultation may result in restrictions to the operator's plans or even disallow use and occupancy to comply with the 1973 Endangered Species Act (as amended), threatened and endangered species regulations and Forest Service statutes and regulations.

If endangered, threatened, proposed, candidate or sensitive plant or animal species are discovered in the area after any required biological evaluation has concluded; an evaluation will be conducted to assess the effect of ongoing and proposed activities. Based on the conclusion drawn in the evaluation, additional restrictions or prohibitions may be imposed to protect the species or their habitats.

APPENDIX C - PROJECTED OUTPUTS AND BUDGET

	Average Annual Estimated Goods and Services*					
Outputs	Current Level	Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
Sawtimber Volume (CCF)	28,000	28,000	28,360	28,670	28,690	29,890
Sawtimber Volume (MMBF)	14	14	14.2	14.3	14.4	14.9
Fuelwood/post and poles (CCF)	5,000	5,000	5,000	5,000	5,000	5,000
Cattle, Horse, Bison Grazing (AUMs)	163,700	163,700	163,700	163,700	163,700	163,700
Sheep Grazing (AUMs)	7,400	7,400	7,400	7.400	7,400	7,400
General Recreation Visits	432,217	432,217	475,439	522,982	575,280	632,808
Hunting, Fishing, Wildlife Viewing Visits	389,464	389,464	428,410	471,251	518,376	570,214
Summer Motorized Recreation Visits	80,339	80,339	88,372	97,211	106,931	117,624
Snowmobile Visits	10,434	10,434	11,477	12,625	13,888	15,276
Crude Oil (barrels from 4 wells)**	0	12,704	17,236	17,862	18,014	18,043
Natural Gas (MCF from 4 wells)**	0	503,000	901,000	1,007,000	1,036,000	1,042,000
Forest Service Budget Expenditures (M$)	19,385	19,385	19,188	19,088	18,888	18,988

*Assumptions are documented in the Project File “FEIS PNV Assumptions” where recreation visits are organized by categories described in the Resources Planning Act (RPA)

*based on reasonably foreseeable development scenario

APPENDIX D - SCHEDULE OF TIMBER SALES AND RELATED ACTIVITIES

The following schedule is displays the proposed timber sales to be offered to the public during the next three years (to meet the requirements of CFR 219.16) along with the schedule of watershed restoration and other activities incorporated into or funded by the stewardship portion of those sales. The timber sale program is one aspect of the Northern Region Integrated Restoration Strategy designed to comply with the National Fire Plan and emphasizing stewardship contracting to achieve multiple forest objectives. This is the BDNF contribution to the Regional 3-year schedule and subject to revision upon approval by the Forest Supervisor. Each year the Forest reviews the Integrated Restoration Strategy, makes necessary adjustments, and adds another year's activities to the schedule. Abbreviations used in the tables are as follows:

DIST = District	D3 = Wise River Ranger District
D4 = Butte Ranger District	D6 = Madison Ranger District
D6 = Jefferson Ranger District	D8 = Pintlar Ranger District
HUC = hydrologic unit code	CCF = hundred cubic feet
STWD = stewardship contract	WUI = wildland urban interface

PROJECT NAME	DIST	6TH CODE HUC	ACTIVITY	OUT-PUT	UNIT	STWD
2008						
Lime Kiln	D4	170102010202	Timber Sale, Salvage	7000	CCF	YES
		170102010202	Fuel Reduction, WUI	350	Acres	YES
		170102010202	Road Maintenance	.5	Miles	YES
		170102010202	Road Maintenance-STWD	3	Miles	YES
		170102010202	Noxious Weed Trtmt- STWD	350	Acres	YES
		170102010202	Habitat Enhancement	200	Acres	YES
		170102010202	Stream Enhancement	1	Mile	YES
		100200050102	Habitat Enhancement-STWD	1000	Acres	YES
		170102010202	Stream Enhancement-STWD	2	Miles	YES
		170102010202	Soil & Water Improvement	20	Acres	YES
		170102010202	Soil & Water Improvement-STWD	180	Acres	YES
Homestake Pass	D4	170102010202	Timber Sale, Salvage	6000	CCF	YES
		170102010202	Fuel Reduction, WUI	600	Acres	YES
		170102010202	Road Decommission	2	Miles	YES
		170102010202	Noxious Weed Trtmt-STWD	600	Acres	YES

PROJECT NAME	DIST	6TH CODE HUC	ACTIVITY	OUT-PUT	UNIT	STWD
		100200050102	Habitat Enhancement-STWD	2000	Acres	YES
		100200050202	Stream Enhancement	1	Mile	YES
		100200050202	Stream Enhancement-STWD	15	Miles	YES
		100200050202	Trail Restoration	3	Miles	YES
		100200050202	Soil & Water Imprv STWD	105	Acres	YES
		100200050202	Travel Management STWD	270,000	Acres	YES
		100200050202	Trail Decommission STWD	8.5	Miles	YES
North Butte	D4	170102010202	Timber Sold, Salvage	10000	CCF	YES
		170102010202	Fuels Reduction, WUI	600	Acres	YES
		170102010202	Road Decommission	2	Miles	YES
		170102010202	Road Maintenance-STWD	12	Miles	YES
		170102010202	Abandoned Mine Rec STWD	5	Sites	YES
		170102010202	Noxious Weed Trtmt-STWD	1500	Acres	YES
		170102010202	Habitat Enhancement	300	Acres	YES
		170102010202	Habitat Enhancement-STWD	1500	Mile	YES
		170102010202	Stream Enhancement	2	Miles	YES
		170102010202	Stream Enhancement-STWD	5	Miles	YES
		170102010202	Fuel Reduction Other-STWD	9400	Acres	YES
Thompson Park	D4	170102010202	Timber Sold, Salvage	10000	CCF	YES
		170102010202	Fuels Reduction, WUI	500	Acres	YES
		170102010202	Road Maintenance	.5	Miles	YES
		170102010202	Road Maintenance -STWD	2	Miles	YES
		170102010202	Habitat Enhancement	200	Acres	YES
		170102010202	Habitat Enhancement-STWD	1000	Acres	YES
		170102010202	Stream Enhancement	1	Mile	YES
		170102010202	Stream Enhancement-STWD	8	Miles	YES
		170102010202	Noxious Weed Trtmnt-STWD	500	Acres	YES
		170102010202	Recreation Site Imprv -STWD	150	Acres	YES
		170102010202	Soil & Water Imprv-STWD	150	Acres	YES
		170102010202	Soil and Water Imprv.	10	Acres	YES
East Deerlodge	D8	170102010506	Timber Sold, Salvage	20000	CCF	YES
		170102010506	Habitat Enhancement	650	Acres	YES
		170102010506	Habitat Enhancement-STWD	2000	Acres	YES
		170102010506	Stream Enhancement	1	Mile	YES
		170102010506	Stream Enhancement-STWD	5	Miles	YES
		170102010506	Road Improvement	1.5	Miles	YES

PROJECT NAME	DIST	6TH CODE HUC	ACTIVITY	OUT-PUT	UNIT	STWD
		170102010506	Road Improvement –STWD	10	Miles	YES
		170102010506	Soil & Water Improvement	10	Acres	YES
		170102010506	Soil & Water Imprv.-STWD	30	Acres	YES
		170102010506	Noxious Weed Trtmt	200	Acres	YES
		170102010506	Noxious Weed Trtmt -STWD	500	Acres	YES
		170102010506	Boundary line marked	5	Miles	YES
		170102021003	Noxious Weed Trtmt -STWD	2500	Acres	YES
		170102021003	Habitat Enhancement-STWD	2400	Acres	YES
		170102021003	Soil & Water Improvement	50	Acres	YES
		170102021003	Soil & Water Imprv.-STWD	150	Acres	YES
		170102021003	Stream Enhancement	2	Miles	YES
		170102021003	Stream Enhancement-STWD	8	Miles	YES
		170102021003	Road Decommission	1	Miles	YES
		170102021003	Road Decommission-STWD	4	Miles	YES
		170102010506	Fuel Reduction, WUI	200	Acres	YES
Battle Mountain	D2	100200040402	Timber Sold, Salvage	3000	CCF	NO
		100200040402	Fuels Reduction, WUI	400	Acres	NO
		100200040402	Noxious Weed Trtmt	400	Acres	NO
		100200040402	Stream Enhancement	2	Miles	NO
Roadside Salvage #2	D4 D7	170102010202	Timber sold, Salvage	6000	CCF	NO
		170102010202	Noxious Weed Trtmt	300	Acres	NO
Elk Park Sawmill	D4D7	100200060201	Timber Sold, Salvage	6200	CCF	YES
		100200060201	Fuels Reduction, WUI	150	Acres	YES
		100200060201	Noxious Weed Treatment	300	Acres	NO
		100200060105	Habitat Enhancement	400	Acres	YES
		100200060105	Habitat Enhancement-STWD	1000	Acre	YES
		100200060201	Stream Enhancement	.5	Miles	YES
		100200060201	Stream Enhancement-STWD	1.5	Miles	YES
		100200060201	Road Improvement	.5	Miles	YES
		100200060201	Soil & Water Imprv	5	Acres	YES
		100200060201	Soil & Water Imprv-STWD	15	Acres	YES
Rat Creek Fire	D2	100200040402	Timber Sold, Salvage	20000	CCF	NO
		100200040402	Noxious Weed Trtmt	400	Acres	NO
Z Bar Tee	D7	100200050205	Timber Sold, Salvage	1500	CCF	NO
			Fuels Reduction, WUI	28	Acres	NO

PROJECT NAME	DIST	6TH CODE HUC	ACTIVITY	OUT-PUT	UNIT	STWD
2009						
Birch Willow	D1	100200041403	Timber Sold, Salvage	6000	CCF	YES
		100200041403	Fuels Reduction, WUI	200	Acres	YES
		100200041403	Habitat Enhancement	200	Acres	YES
		100200041403	Habitat Enhancement-STWD	1000	Acres	YES
		100200041403	Stream Enhancement	.5	Miles	YES
		100200041403	Stream Enhancement-STWD	3.5	Miles	YES
		100200041403	Road Improvement	3	Miles	YES
		100200041403	Road Improvement –STWD	9	Miles	YES
		100200041403	Trail Maintenance	25	Miles	YES
		100200041403	Trail Maintenance –STWD	25	Miles	YES
		100200041403	Abandoned Mine Reclamation	7	Sites	YES
		100200041403	Soil & Water Imprv	15	Acres	YES
		100200041403	Soil & Water Imprv –STWD	45	Acres	YES
Powerline Salvage #1	D4D7	100200060401	Timber Sold, Salvage	6000	CCF	NO
		100200060401	Fuels Reduction, WUI	300	Acres	NO
		100200060401	Road Maintenance	2.5	Miles	NO
Roadside Salvage #3	D4	170102010506	Timber Sold, Salvage	6000	CCF	NO
			Noxious Weed Treatment	200	Acres	NO
Bear Creek	D7	100200071301	Winter Range Restoration	3000	Acres	NO
2010						
Moulton Reservoir	D4	170102010403	Timber Sold, Salvage	3000	Acres	NO
		170102010403	Fuels Reduction, WUI	150	Acres	NO
		170102010403	Stream Enhancement	1	Miles	NO
		170102010403	Noxious Weed Trtmt	150	Acres	NO
		170102010403	Trail Replacement	5	Miles	NO
		170102010403	Road Improvement	.5	Miles	NO
		170102010403	Road Maintenance	1	Mile	NO
South Fk Divide	D4	100200041101	Timber Sold, Salvage	6000	CCF	YES
		100200041101	Fuels Reduction, WUI	300	Acres	YES
		170102010205	Habitat Enhancement	250	Acres	YES
		170102010205	Habitat Enhancement-STWD	1000	Acres	YES
		100200041101	Stream Enhancement	.5	Miles	YES
		100200041101	Stream Enhancement-STWD	1	Miles	YES

PROJECT NAME	DIST	6TH CODE HUC	ACTIVITY	OUT-PUT	UNIT	STWD
		100200041101	Noxious Weed Trtmt -STWD	300	Acres	YES
		100200041101	Soil & Water Imprv –STWD	35	Acres	YES
		100200041101	Soil & Water Imprv	10	Acres	YES
Timber Creek	D6	100200030108	Timber Sold	2000	CCF	NO
		100200030108	Fuels Reduction, WUI	300	Acres	NO
		100200030108	Road Maintenance, Hi Clear.	5	Miles	NO
		100200030108	Habitat Enhancement	400	Acres	NO
		100200030108	Noxious Weed Trtmt	400	Acres	NO
Lockhart Meadow	D7	100200060104	Timber Sold, Salvage	11000	CCF	YES
		100200060104	Fuels Reduction, WUI	600	Acres	YES
		100200060103	Habitat Enhancement	200	Acres	YES
		100200060103	Habitat Enhancement-STWD	1000	Acres	YES
		100200060104	Stream Enhancement	1	Mile	YES
		100200060104	Stream Enhancement-STWD	3	Miles	YES
		100200060104	Noxious Weed Trtmt -STWD	600	Acres	YES
		100200060104	Road Maintenance	1	Mile	YES
		100200060104	Road Maintenance -STWD	7	Miles	YES
		100200060104	Soil & Water Imprv	5	Acres	YES
Johnson Creek	D3	100200040902	Timber Sold, Salvage	4000	CCF	YES
		100200040902	Fuels Reduction, Other	200	Acres	YES
		100200041201	Habitat Enhancement	250	Acres	YES
		100200044201	Habitat Enhancement-STWD	1000	Acres	YES
		100200040902	Stream Enhancement	1	Mile	YES
		100200040902	Stream Enhancement-STWD	3	Miles	YES
		100200040902	Noxious Weed Trtmt	200	Acres	YES
		100200040902	Road Maintenance	.5	Miles	YES
		100200040902	Road Maintenance -STWD	3	Miles	YES
		100200041201	Soil & Water Imprv –STWD	15	Acres	YES
		1002000412012	Soil & Water Imprv	5	Acres	YES
Powerline Salvage #2	D4	100200060302	Timber Sold, Salvage	6000	CCF	NO
		100200060302	Fuels Reduction, WUI	300	Acres	NO
		100200060302	Noxious Weed Trtmt	300	Acres	NO
		100200060302	Road Maintenance	2	Miles	NO
Rader Creek	D7	100200050204	Timber Sold, Salvage	4000	CCF	NO

PROJECT NAME	DIST	6TH CODE HUC	ACTIVITY	OUT-PUT	UNIT	STWD
		100200050204	Road Improvement	2	Miles	NO
		100200050204	Habitat Impv	200	Acres	NO
		100200050204	Noxious Weed Trtmt	300	Acres	NO
		100200050205	Timber Sold, Salvage	4000	CCF	NO
		100200050205	Noxious Weed Trtmt	300	Acres	NO
		100200050205	Fuel Reduction, WUI	600	Acres	NO

APPENDIX E - VEGETATION MANAGEMENT PRACTICES

Vegetation management practices available for the primary coniferous forest types on the forest are described below, as required in CFR 219.15. The conditions and circumstances for selecting a practice are outlined. Planting and timber stand improvement practices are only applicable to suitable timber lands where timber production is the purpose for the activity.

These practices are general guidelines. The final decision for the vegetative management practice (silvicultural system) chosen for each vegetative type and circumstance shall be made by a certified silviculturist using guidance in this Appendix, a review of applicable technical and scientific literature, and practical experience. Using this knowledge, the silviculturist will evaluate the practice for relevance to the specific vegetation and site condition. Additional practices may be dictated by other resource goals, particularly in riparian areas.

Harvest Systems

Managed forest lands include five general vegetative types. Each vegetative type provides several options for harvest systems depending on site conditions, phonological characteristics of individual species and management goals. Appropriate harvest systems for each type are as follows:

Lodgepole Pine

These sites generally occur on alpine fir or Douglas-fir climax habitats. Sites are generally dominated by pure or nearly pure lodgepole pine stands.

Clearcut – Where timber production is the primary goal for the area, and lodgepole pine is the desired management species, clearcutting may be used. Lodgepole pine is very shade tolerant and produces maximum seed germination and growth in full sunlight conditions.

Shelterwood – This harvest method may be used where conversion to more shade tolerant species such as Spruce or Douglas-fir is desirable, and where shelter is necessary to protect regeneration. Lodgepole pine will generally not be retained as shelter trees due to its; high susceptibility for windthrow.

Seedtree – Harvest may occur on sites where conversion to more tolerant species is desireable. In these cases residual seed trees will generally be spruce or Douglas-fir. Lodgepole pine may be retained as seed trees on sites where cone serotony is poor and sufficient seed is not present in the logging slash to adequately regenerate the site following harvest. Due to the high susceptibility of lodgepole pine seedtrees to windthrow, this method should be used where the risk is low. Lodgepole pine containing seed bearing cones may be retained as seed trees on stands wehre broadcast burning is used to dispose of slash. This method may be used as a one-shot attempt to establish

natural regeneration as seedtrees will normally be killed by the fire. These sites should be scheduled for planting if first year regeneration surveys do not show adequate stocking.

Selection/Group Selection/Commercial Thinning – Lodgepole pine types are generally not well suited for unevenaged silvicultural systems where lodgepole pine is the desired species of regeneration. Hormonal response to shaded sunlight prevents germination of lodgepole pine seed and restricts root growth in existing trees in shaded or partially shaded conditions. These methods may be used where other resource goals dictate continuous site occupancy with trees and where conversion to more tolerant species is desirable or acceptable.

Douglas-fir

These stands generally occur on Douglas-fir climax habitats and are characterized by species compositions ranging from a mixture of Douglas-fir and lodgepole pine to pure Douglas-fir.

Clearcut – This harvest method may be used on sites where existing stands do not contain sufficient suitable seed or shelter trees. This may occur due to disease, infestation with insects or genetic undesirability of available trees. Sites harvested using this method will generally be scheduled for planting.

Shelterwood – This harvest method will generally be used on sites where the retention of shelter trees is necessary to protect regeneration from excessive drying of the site or where continuous site occupancy with trees is necessary to protect other resource values. Where timber production is the primary goal of the area, the shelter trees will generally be removed after the regeneration is well established (10 to 20 years). Douglas-fir is considered a moderately shade intolerant species and produces greater growth under full sunlight conditions. On sites where the shelter trees are retained to protect other resource values, shelter trees may be retained on the site for a longer period of time, or not removed at all.

Seedtree – This harvest method will be used on sites where the retention of shelter trees is not necessary to protect regeneration or other resource values. The retention of seedtrees provides seed for natural regeneration while retaining near full sunlight conditions to maximize growth. Seed trees will generally be removed from the site after sufficient desirable regeneration is established.

Selection/Group Selection/Commercial Thinning – On very dry or harsh sites where regeneration of the site is difficult and stockability is low, selection harvest may be the most appropriate method of assuring continued regeneration of the site. These systems may also be used where other resource goals dictate continuous site occupancy with trees, and where full stocking of stands is not required.

Spruce/Sub-alpine fir/Whitebark pine

These stands generally occur on relatively high elevation sub-slpine fir climax habitat types and are characterized by a species mixture of sub-alpine fir, spruce, and whitebark pine. These sites often are not suited for regulated timber management due to harsh site conditions but may be managed where adequate site protection and regeneration can be assured or to meet other resource goals.

Clearcut, Shelterwood, Seed tree – Even aged harvest may be used to manage these sites where individual site and stand conditions allow and successful regeneration is likely to occur.

Selection/Group Selection/Commercial Thinning – On harsh sites where regeneration of the site is difficult and stockability is low, selection harvest may be the most appropriate method of assuring continued regeneration of the site. These systems may also be used where other resource goals dictate continuous site occupancy with trees, and where full stocking of stands is not required.

Riparian

These areas occur along streams and wet meadows. Existing stand conditions are highly variable, ranging from even-aged lodgepole stands to all-aged, multi-storied, mixed species stands. Harvest treatments will be designed to maintain natural conditions, protect riparian values, and to provide recruitment of trees to streams for pool development where appropriate.

Selection/Group Selection – These harvest methods will be used in riparian areas to manage the timber resource while protecting other resource values. Selection harvest may be used where the desired management species is shade tolerant and regeneration of that species is likely to occur. On sites where the desired management species is shade intolerant, such as lodgepole pine, group selection will generally be used to create conditions favorable for regeneration and growth. Group selection units will generally not exceed five acres in size.

Clearcut, Shelterwood, Seedtree – Even-aged systems will normally not be utilized in riparian areas. Exceptions may occur where other resource goals dictate removing the trees and riparian values can be adequately protected.

Quaking Aspen

These stands occur in riparian zones, in open sagebrush grasslands and intermingled with conifer stands. Quaking aspen regenerates primarily from root sprouts (suckers). Aggregations of raments (above ground stems) result from surviving root sprouts. Root sprouts are usually stimulated when above ground ramets are suppressed or removed thus removing apical dominance by auxins produced in the crowns from inhibiting the underground stem from sprouting. Heat of fires also stimulates root sprouting. Successful aspen ramets are intolerant of shade.

Clearcut - Where an aspen stand has declined due to insect or disease, even aged regeneration may be attempted by clearcutting.

Selection -Where the above ground ramets are generally free of pathogens and in sound physiological condition but are undergoing encroachment by various coniferous species subjecting the clone to competition for light, nutrients and moisture removal of the competitive stress by girdling encroaching conifers, falling and leaving encroaching conifers, or falling and removal when damage to the residual aspen ramets can be minimized are appropriate practices. Removal of conifers from a perimeter surrounding an existing aspen clone often allows the clone to expand into the space. Thus removal of

conifers surrounding an aspen clone by clearcutting is an acceptable practice for aspen regeneration.

Other - Where browsing pressure is identified as inhibiting the development of aspen ramets producing an ungulate barrier may be desirable. Prescribed burning to stimulate root suckering and reduce pathogens is an acceptable practice.

Site Preparation/Slash Disposal

Site preparation/slash disposal will be scheduled for harvested units where logging slash creates an untenable fire hazard and/or where site conditions inhibit reforestation efforts. Methods of site preparation/slash disposal to be utilized include the following:

Tractor Piling – will generally be scheduled following harvest on sites where slopes are less than 45% and soils are not sensitive to erosion or compaction.

Hand Piling – will generally be scheduled on harvested units containing sensitive soils or hwere small unit size makes hand piling more cost efficient than other methods.

Trampling – may be used on sites where logging slash will not create an undue fire hazard and trampling will accomplish adequate site preparation to allow the prescribed type of regeneration.

Broadcast Burning – may be used on sites where other methods are not feasible due to slopes exceeding 45% or on sensitive soils where mechanical methods would crate undue soil disturbance or compaction.

YUM Yarding – Yarding of unmerchantable material may be appropriate where whole tree yearding is planned or where other methods will cause undue soil disturbance.

Jackpot Burning – may be used where fuels are scattered and site preparation is adequate to provide for regeneration.

Herbicide Treatment – may be used where competing vegetation precludes regeneration and mechanical methods of removing the competing vegetation are infeasible or cost prohibitive. Herbicides will be applied under an approved environmental analysis and disclosure document like the BDNF 2002 Noxious Weed Management Plan FEIS and Record of Decision.

Reforestation

Natural Regeneration – will be the primary system of reforestation on the forest

Planting – will generally only be scheduled on forested sites where natural regeneration is desired but unlikely to occur within five years of final harvest. Site conditions which generally indicate the need for planting include but are not limited to the following:

1. Following clearcut harvest on Douglas-fir sites where Douglas-fir is the desired regenerated species.

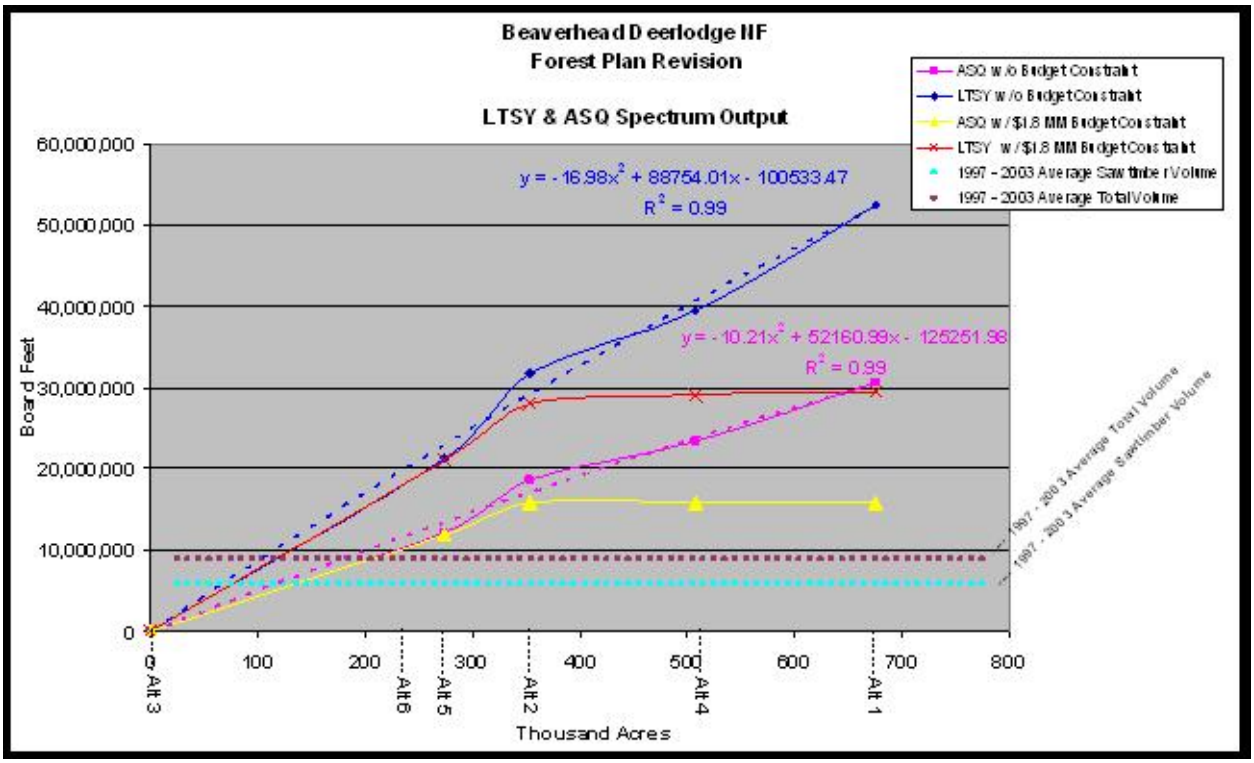
2. Following clearcut harvest on Lodgepole pine sites where cone serotony is poor or sites must be broadcast burned to dispose of logging slash due to steep slopes.
3. Following shelterwood harvest where natural regeneration is not expected within five years due to harsh site conditions.
4. Where third year regeneration surveys indicate that natural regeneration will not result in adequate stocking within five years of final harvest..

Timber Stand Improvement

Precommercial thinning, cleaning, release and weeding may be used on seedling/sapling sized stands allocated as suitable timber lands. Treatments will be designed to reduce overstocking to increase growth, remove diseased, damaged, or genetically inferior trees or to control species composition. Treatment will be scheduled prior to growth loss due to stagnation but after the possibility of significant ingrowth has past, generally between twenty and thirty years of stand age. Residual stocking levels, species preference and timing of treatment will be specific in the silvicultural prescription.

APPENDIX F - TIMBER CAPACITY PROJECTIONS

SPECTRUM software was used as a timber harvest scheduling tool, reporting long term sustained yield (LTSY) and allowable sale quantity (ASQ) for alternatives 1-5 as well as the benchmark calculations (Chapter 2). . Based on 2004 SPECTRUM runs, the maximum timber benchmark has an allowable sale quantity (ASQ) of 766 MMBF in decade 1 (76.6 MMBF/year), with harvest occurring on 82,693 acres. LTSY and ASQ, constrained by estimated budget projections, were calculated for Alternative 6 based on the following graphed data and calculations



APPENDIX G - GRIZZLY BEAR AND LYNX MANAGEMENT DIRECTION

UNITED STATES
DEPARTMENT OF
AGRICULTURE

FOREST SERVICE

APRIL 2006

FOREST PLAN AMENDMENT FOR GRIZZLY BEAR HABITAT CONSERVATION FOR THE GREATER YELLOWSTONE AREA NATIONAL FORESTS

RECORD OF DECISION

BEAVERHEAD-DEERLODGE NATIONAL FOREST
BRIDGER-TETON NATIONAL FOREST
CARIBOU-TARGHEE NATIONAL FOREST
CUSTER NATIONAL FOREST
GALLATIN NATIONAL FOREST
SHOSHONE NATIONAL FOREST

COUNTIES IN IDAHO
BEAR LAKE, BONNEVILLE, CARIBOU, CLARK, FRANKLIN, FREMONT, MADISON, AND TETON
COUNTIES IN MONTANA
BEAVERHEAD, CARBON, GALLATIN, MADISON, PARK, STILLWATER, AND SWEET GRASS
COUNTIES IN WYOMING
FREMONT, HOT SPRINGS, LINCOLN, PARK, SUBLETTE, AND TETON

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Abstract: The Forest Service is amending six forest plans on six Greater Yellowstone Area national forests (Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, Gallatin, and Shoshone National Forests) to incorporate the habitat standards and other relevant provisions in the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area. Amended forest plans are the 1986 Beaverhead Forest Plan, the 1990 Bridger-Teton National Forest Land and Resource Management Plan, the 1997 Revised Forest Plan—Targhee National Forest, the 1987 Custer National Forest and Grasslands Land and Resource Management Plan, the 1987 Gallatin National Forest Plan, and the 1986 Shoshone National Forest Land and Resource Management Plan. The purpose and need for the amendments 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. This Record of Decision presents the three principal reasons the responsible officials selected Alternative 2-Modified described in the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Six Greater Yellowstone Area National Forests Final Environmental Impact Statement. Additionally, this decision document describes the public involvement process and issues and other alternatives considered; it explains legally required findings and administrative review procedures. The amendment to the six forest plans is contained in the appendix.

Lead Agency:	USDA Forest Service
Responsible Officials:	Bruce Ramsey, Forest Supervisor Beaverhead-Deerlodge National Forest 420 Barrett Street Dillon, MT 59725-3572 Carole 'Kniffy' Hamilton, Forest Supervisor Bridger-Teton National Forest P O Box 1888 340 North Cache Jackson, WY 83001-1888 Lawrence A. Timchak, Forest Supervisor Caribou-Targhee National Forest 1405 Hollipark Drive Idaho Falls, ID 83401-2100 Nancy T. Curriden, Forest Supervisor Custer National Forest 1310 Main Street Billings, MT 59105-1786 Rebecca Heath, Forest Supervisor Gallatin National Forest P O Box 130 10 East Babcock Bozeman, MT 59771-0130 Rebecca Aus, Forest Supervisor Shoshone National Forest 808 Meadow Lane Avenue Cody, WY 82414-4549
For Information Contact:	Mr. Kim Barber Shoshone National Forest 808 Meadow Lane Avenue Cody, WY 82414-4549 Telephone 307.527.6241

This document is available on the Internet at http://www.fs.fed.us/r1/wildlife/igbc/Subcommittee/yes/YEamend/gb_internet.htm

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Preface

This Record of Decision describes our decision to approve Alternative 2-Modified from the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests Final Environmental Impact Statement.

This Record of Decision has two purposes. First, it is a legal document detailing a formal decision from a government agency. Second, it explains why the decision was made.

We want to thank all of the 55,000+ people that provided comments during the development of this amendment. Your comments helped guide the development of the amendment's components. When implemented, this amendment and the supporting documents will shape the management of grizzly bear habitat for many years.

Our decision strikes a balance that sustains a recovered grizzly bear population in the Greater Yellowstone Area while retaining public enjoyment and economic uses of these public lands.

While the management direction in this amendment provides a firm foundation for grizzly bear habitat management, we recognize that habitat management is dynamic and new information is constantly being developed. The selected alternative embraces an adaptive management approach—as conditions change, so will management direction. Any necessary changes, based on monitoring and evaluation, will involve public collaboration.

Again, thank you for your interest in grizzly bear habitat conservation and in the management of your national forests.

Sincerely,

Bruce Ramsey, Forest Supervisor, Beaverhead-Deerlodge National Forest

Carole 'Kniffy' Hamilton, Forest Supervisor, Bridger-Teton National Forest

Lawrence A. Timchak, Forest Supervisor, Caribou-Targhee National Forest

Nancy T. Curriden, Forest Supervisor, Custer National Forest

Rebecca Heath, Forest Supervisor, Gallatin National Forest

Rebecca Aus, Forest Supervisor, Shoshone National Forest

Part 1 Introduction

1.1 About this document

This Record of Decision is organized into eight parts.

- *Part 1—Introduction.* This part includes information about the Greater Yellowstone Area, a summary of the history of grizzly bear conservation in the Greater Yellowstone Area, and describes the purpose and need for action.
- *Part 2—Decision.* The decision and a summary of direction in the selected alternative are presented in part 2.
- *Part 3—Reasons for the Decision.* In this part, the three principal reasons for the decision are described.
- *Part 4—Implementation.* Part 4 includes information about the implementation of the amendment and the delisting process.
- *Part 5—Public Involvement and Issues.* The public involvement process, a summary of public comment, a description of government consultation, and the issues are included in part 5.
- *Part 6—Alternatives Considered.* This part describes the alternatives considered in the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests Final Environmental Impact Statement.
- *Part 7—Legally Required Findings.* Part 7 lists the laws and regulations that were considered during the process.
- *Part 8—Administrative Review.* Administrative review procedures are described in part 8.

The Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests, baseline values and other relevant data, and a list of criteria and definitions used in the amendment are included in the appendix.

1.2 Setting

Since the 1960s, the Greater Yellowstone Area has been acknowledged as an ecosystem that extends beyond the core of Yellowstone National Park. The Greater Yellowstone Area is approximately 18 million acres of public and private lands. Public lands comprise about 76 percent, or 13.6 million acres, of the Greater Yellowstone Area, including six national forests, two national parks, two national wildlife refuges, Bureau of Land Management and Bureau of Reclamation lands, and state and tribal lands. The Greater Yellowstone Area is in the states of Idaho, Montana, and Wyoming.

Public lands are concentrated around the Yellowstone Plateau. Geographically, the Greater Yellowstone Area includes the headwaters of the Missouri-Mississippi, Snake-Columbia, and Green-Colorado River systems and 14 surrounding mountain ranges.

Grizzly bear conservation in the Greater Yellowstone Area

In 1975, the U.S. Fish and Wildlife Service listed the grizzly bear as a threatened species in the lower 48 states, placing the species under federal protection under the Endangered Species Act of 1973, as amended[1].

Since listing, government agencies have worked to improve habitat conditions, minimize grizzly bear/human conflicts and grizzly bear mortality, and increase public awareness and appreciation for the grizzly bear in the Greater Yellowstone Area. In 1975, land management agencies in the Greater Yellowstone Area initiated an effort to develop consistent management direction for grizzly bears. In 1983, the Interagency Grizzly Bear Committee was formed to coordinate management and research actions more effectively for recovery of grizzly bears in different ecosystems, and the Yellowstone

[1] In this Record of Decision, all references to the Endangered Species Act of 1973 are to the Endangered Species Act of 1973, as amended.

Ecosystem Subcommittee was created to coordinate management of the Yellowstone grizzly bear habitat and population. The 1982 and 1993 Grizzly Bear Recovery Plans (Recovery Plan) were developed to identify actions necessary for the conservation and recovery of the grizzly bear. The Recovery Plan[2] defined a recovered grizzly bear population as one that could sustain a defined level of mortality and that is well distributed throughout the recovery zone.

In 2003, the Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area (Conservation Strategy) was developed to be the document guiding management and monitoring of the Yellowstone grizzly bear population and its habitat upon recovery and delisting. The Conservation Strategy describes the Primary Conservation Area for grizzly bears, which is the same area as the recovery zone identified in the Recovery Plan. The Primary Conservation Area for the grizzly bear in the Greater Yellowstone Area is approximately 5,893,000 acres in size and includes portions of the six national forests, two national parks, and other intermingled lands (Figure 1).

The states of Idaho, Montana, and Wyoming developed state grizzly bear management plans that were incorporated as integral parts of the Conservation Strategy. These state grizzly bear management plans recommend and encourage land management agencies to maintain or improve habitats that are important to grizzly bears in areas biologically suitable and socially acceptable for grizzly bears and to monitor habitat conditions in those areas.

Decades of interagency management efforts resulted in the grizzly bear population's increasing from an estimated 200 bears to current estimates of 500 to 600 bears. The U.S. Fish and Wildlife Service reviewed the status of the Yellowstone grizzly bear population under the Endangered Species Act and the Proposed Rule to delist the Yellowstone grizzly bear population has been published in the Federal Register. The Status Review determined adequate regulatory mechanisms are in place to delist the grizzly bear if the habitat standards in the Conservation Strategy are incorporated into the National Park Service's Superintendent's Compendium for each affected national park and if current forest plans for each of the six Greater Yellowstone Area national forests are amended before the Rule is finalized.

1.3 The purpose and need for action

The management of grizzly bear habitat on national forests in the Greater Yellowstone Area is a dynamic process. Experience provides the public and land managers with understanding and insights regarding the conservation of grizzly bear habitat. Scientific research continues to bring forth new theories, observations, and findings relevant to the management of these resources. This learning is continuous. Most importantly, the Yellowstone grizzly bear population has increased over the past 25 years to the point where all established[3] demographic recovery targets have been met or exceeded since 1998 and the Yellowstone grizzly bear population is in the process of being delisted.

The purpose of these amendments is to:

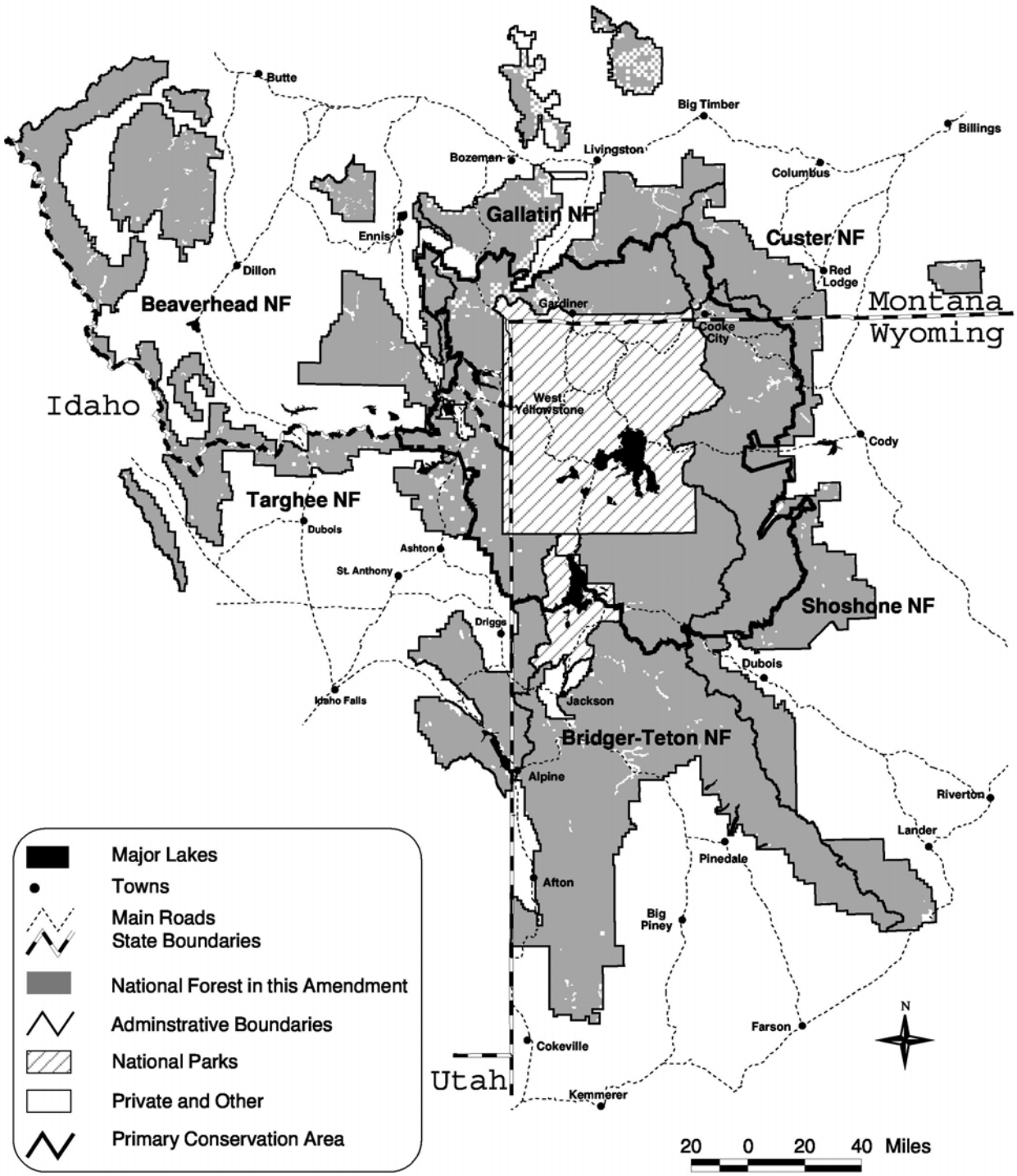
- Ensure conservation of habitat to sustain the recovered Yellowstone grizzly bear population
- Update the management and monitoring of grizzly bear habitat to incorporate recent interagency recommendations and agreements, as described in the Conservation Strategy
- Improve consistency among Greater Yellowstone Area national forests in managing grizzly bear habitat
- Ensure the adequacy of regulatory mechanisms for grizzly bear habitat protection upon delisting as identified in the Recovery Plan

[2] The 1993 Recovery Plan is a revised and updated version of the original Recovery Plan, published in 1982. Throughout this document, any reference to the Recovery Plan is to the 1993 version, unless otherwise stated.

[3] The Yellowstone Ecosystem Subcommittee has approved new analysis protocols, developed by the Interagency Grizzly Bear Study Team, for estimating total population and mortality limits from all causes (IGBST 2005). This new method is a more comprehensive mortality management approach and is derived from a more accurate model for establishing sustainable mortality limits for grizzly bear populations. The U.S. Fish and Wildlife Service will incorporate this new methodology into the Grizzly Bear Recovery Plan and append this to the Conservation Strategy before making its final determination on the Rule to delist the grizzly bear.

The six national forests included in this proposal are the Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer (Beartooth Ranger District), Gallatin, and Shoshone National Forests with a total area of about 13 million acres within proclaimed boundaries (Figure 1).

Figure 1. The six Greater Yellowstone Area national forests and the Primary Conservation Area boundary.



Part 2 Decision

2.1 Introduction

The foundation for our decision is the analysis of alternatives documented in the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests Final Environmental Impact Statement and public comment during scoping and on the Draft Environmental Impact Statement. Our decision incorporates by reference the analysis of effects and management direction disclosed in the Final Environmental Impact Statement and the planning record in its entirety. All references and citations used in this Record of Decision are fully described in the Final Environmental Impact Statement.

Our decision applies only to National Forest System lands in the six Greater Yellowstone Area national forests. It does not apply to any other federal, state, or private lands, although the effects of our decision on those lands were considered. The geographic area of interest for the selected alternative is National Forest System lands inside and outside the Primary Conservation Area (Figure 1).

The forest plan amendment for grizzly bear habitat conservation establishes the framework for future decision making by outlining direction for sustaining a recovered grizzly bear population. The selected alternative is programmatic in nature and guides implementation of site-specific projects that tier to forest plans. Additional National Environmental Policy Act compliance is required for site-specific projects.

Reconsideration of other goals, objectives, land allocations, and other direction in a forest plan are not part of the selected alternative, but may be addressed when forest plans are revised. We find this amendment is not significant under the National Forest Management Act regulations as described in part 7.

2.2 The decision

We have selected Alternative 2-Modified to amend the six national forest plans. By selecting Alternative 2-Modified, we are approving management direction that maintains the integrity of grizzly bear habitat in the Greater Yellowstone Area, establishes consistent management direction, and sustains a recovered Yellowstone grizzly bear population.

Our decision strikes a balance between competing demands expressed by many people: a sustainable, recovered grizzly bear population in the Greater Yellowstone Area balanced with public enjoyment and economic reliance on these public lands. In making our decision, we used the best available science in conjunction with public comments. In addition to the habitat standards in the Conservation Strategy, our decision adds guidance to provide assurances that many grizzly bear habitat management efforts that have been ongoing will continue. These additions include guidance inside and outside the Primary Conservation Area for food storage regulations, information and education, grizzly bear/human and grizzly bear/livestock conflict management, monitoring of secure habitat outside the Primary Conservation Area, and maintenance of key grizzly bear food sources.

This decision incorporates adaptive management and monitoring and continued active government coordination through the agreement in the Conservation Strategy. This adaptive strategy offers an avenue to describe and evaluate the consequences of changing conditions and new knowledge. Monitoring and additional analyses will be used to shape future management actions within the framework of the amended forest plans.

We selected Alternative 2-Modified because it conserves grizzly bear habitat, acknowledges the social and economic values of local communities, and allows us to work with others to monitor and adapt management. Further, it meets the purpose and need and responds to the issues. For further discussion on

these issues, see part 5. Alternative 2-Modified is summarized in Figure 2 and described in detail in the appendix[4].

Figure 2. The direction and guidance in Alternative 2-Modified. Wording in italics was added to the proposed action between the Draft and Final Environmental Impact Statements to create Alternative 2-Modified in response to public comment

Goals, Standards, Guidelines, and Monitoring Items
Goal Manage grizzly bear habitat within the Primary Conservation Area to sustain the recovered Yellowstone grizzly bear population. *Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, accommodate grizzly bear populations to the extent that accommodation is compatible with the goals and objectives of other uses.*
Standard 1—Secure Habitat Inside the Primary Conservation Area, maintain the percent of secure habitat in Bear Management Unit subunits at or above 1998 levels. Projects that change secure habitat must follow the Application Rules.
Standard 2—Developed Sites Inside the Primary Conservation Area, maintain the number and capacity of developed sites at or below 1998 levels, with the following exceptions: any proposed increase, expansion, or change of use of developed sites from the 1998 baseline in the Primary Conservation Area is analyzed and potential detrimental and positive impacts on grizzly bears are documented through a biological evaluation or assessment. Projects that change the number or capacity of developed sites must follow the Application Rules.
Standard 3—Livestock Grazing Inside the Primary Conservation Area, do not create new active commercial livestock grazing allotments, do not increase permitted sheep animal months from the identified 1998 baseline, and phase out existing sheep allotments as opportunities arise with willing permittees.
Standard 4 *Standard 4 was dropped from Alternative 2-Modified. The intent of Standard 4—to no longer manage by Management Situation areas or use the Interagency Grizzly Bear Guidelines—is stated in this Record of Decision.*
Standard 5—Nuisance Bears Coordinate with state wildlife management agencies to apply Conservation Strategy nuisance bear standards.
Standard 6—Food Storage *Inside the Primary Conservation Area, minimize grizzly bear/human conflicts using food storage, information and education, and other management tools.*
Guideline 1—Winter Motorized Access Inside the Primary Conservation Area, use localized area restrictions to address conflicts with winter use activities, where conflicts occur during denning or after bear emergence in the spring.

[4] Standards and guidelines are numbered here and in the Final Environmental Impact Statement. Numbers were dropped in the appendix describing final direction for grizzly bear management.

Goals, Standards, Guidelines, and Monitoring Items
Guideline 2—Livestock Grazing *Inside the Primary Conservation Area, cattle allotments or portions of cattle allotments with recurring conflicts that cannot be resolved through modification of grazing practices may be retired as opportunities arise with willing permittees. Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, livestock allotments or portions of allotments with recurring conflicts that cannot be resolved through modification of grazing practices may be retired as opportunities arise with willing permittees.*
Guideline 3—Food Storage *Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, emphasize proper sanitation techniques, including food storage orders, and information and education, while working with local governments and other agencies.*
Guideline 4—Food Sources *Inside and outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, maintain the productivity, to the extent feasible, of the four key grizzly bear food sources as identified in the Conservation Strategy. Emphasize maintaining and restoring whitebark pine stands inside and outside the Primary Conservation Area.*
Monitoring Item 1—Secure Habitat and Motorized Access Inside the Primary Conservation Area, monitor, compare to the 1998 baseline, and annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: secure habitat, open motorized access route density greater than one mile per square mile, and total motorized access route density greater than two miles per square mile in each Bear Management Unit subunit on the national forest. *Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, monitor, and submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: changes in secure habitat by national forest every two years.*
Monitoring Item 2—Developed Sites Inside the Primary Conservation Area, monitor, and annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: changes in the number and capacity of developed sites on the national forest, and compare with the 1998 baseline.
Monitoring Item 3—Livestock Grazing Inside the Primary Conservation Area, monitor, compare to the 1998 baseline, and annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: the number of commercial livestock grazing allotments on the national forest and the number of permitted domestic sheep animal months. *Inside and outside the Primary Conservation Area, monitor and evaluate allotments for recurring conflicts with grizzly bears.*
Monitoring Item 4—Habitat Effectiveness Inside the Primary Conservation Area, monitor, and *every five years* submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: changes in seasonal habitat effectiveness in each Bear Management Unit and subunit on the national forest through the application of the Cumulative Effects Model or the best available system and compare outputs to the 1998 baseline. Annually review Cumulative Effects Model databases and update as needed. When funding is available, monitor representative non-motorized trails or access points where risk of grizzly bear mortality is highest.

Goals, Standards, Guidelines, and Monitoring Items

Monitoring Item 5—Whitebark Pine
Monitor whitebark pine occurrence, productivity, and health inside and outside the Primary Conservation Area in cooperation with other agencies. Annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: results of whitebark pine cone production from transects or other appropriate methods, and results of other whitebark pine monitoring.

2.3 Decision authority

The authority for this decision, under 36 CFR 219.10(f), belongs to the forest supervisors of the six Greater Yellowstone Area national forests.

Part 3 Principal reasons for the decision

Our decision to select Alternative 2-Modified for implementation is based on the three principal reasons.

1. ***Habitat is conserved to sustain the recovered Yellowstone grizzly bear population***
2. ***Local communities and social and economic values are acknowledged and public safety is emphasized***
3. ***Federal, state, local, and tribal governments work together to monitor and adapt to changing conditions and new science***

The reasons for our decision are described in the following sections.

3.1 Principal reason 1 - habitat is conserved to sustain the recovered Yellowstone grizzly bear population

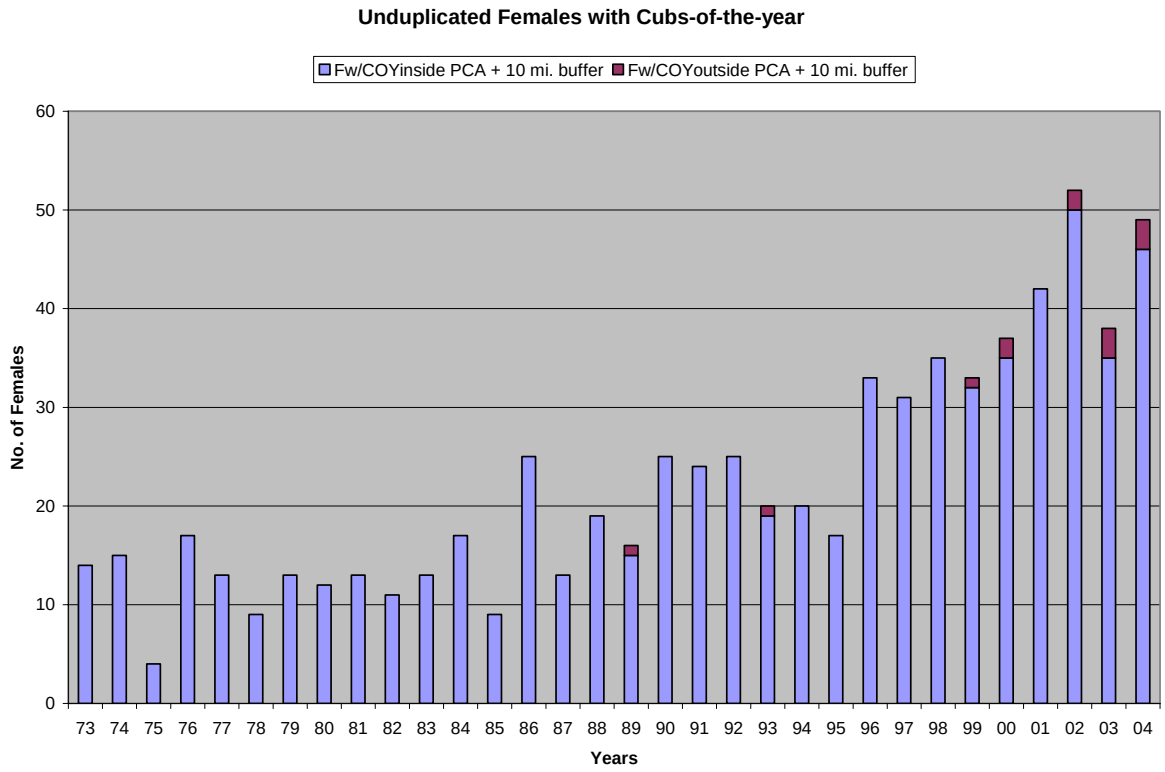
Habitat loss and uncontrolled human-caused mortality have been the primary reasons for the elimination of bears from much of their former range. How and where bears use existing habitat is primarily a function of seasonally available foods moderated or precluded by the presence of humans. The majority of grizzly bear mortality is attributable to grizzly bear/human conflicts with a common outcome of bear mortality by either interagency bear managers or by other humans. In addition to mortality concerns, it is important to provide secure habitat (areas free of motorized access) so bears are able to fully utilize the available resources. Human presence can limit bear use of habitat, create tolerance among some bears that allows for interaction at great risk to both humans and bears, or attract bears to unnatural or unsecured food sources. This increases the risks of habituation to unnatural foods and human conflict. Maintenance of adequate habitat and associated important foods, along with management of human activities within the habitat, are key for the long-term sustainability of grizzly bear populations.

Maintaining habitat to ensure the recovery of the Yellowstone grizzly bear population has been a cooperative goal of the national forests, national parks, state wildlife management agencies, and the U.S. Fish and Wildlife Service in the Greater Yellowstone Area since the listing of the grizzly bear as a threatened species in 1975. Habitat management efforts on National Forest System lands, including seasonal and permanent motorized access restrictions, closure of many sheep allotments, provisions in livestock grazing and special use permits, food storage orders, installation of bear resistant facilities, information and education materials and programs, and the development of coordinated direction for management of forest resources have been instrumental in the recovery of this bear population.

Current information indicates this population of grizzly bears is growing at approximately 4 to 7 percent or more annually. The grizzly bear has increased its distribution in the Greater Yellowstone Area by almost 50 percent since the 1970s; expansion is expected to continue. All of the current information (i.e., number of unduplicated females, distribution of reproducing females, distribution of bears, informal sightings by agency personnel, and areas where nuisance bears are being managed) indicates this population has increased in both the number of bears and the geographic area they occupy. Figure 3 and Figure 4 display the increase in number and distribution of one of the most important factors of the

grizzly bear population: females with cubs-of-the-year. Existing habitat conditions—basically unchanged since 1998—have allowed for a recovered grizzly bear population that is increasing, expanding, and exceeding established demographic recovery targets. Consequently, maintaining habitat quality and quantity at current conditions is sufficient to support the recovered population of grizzly bears.

Figure 3. Unduplicated females with cubs-of-the-year in the Greater Yellowstone Area (Haroldson 2005).



Alternative 2-Modified is tied closely to interagency agreements for habitat direction and cooperative and adaptive management reached in the Conservation Strategy. In response to public comment, Alternative 2-Modified also includes guidance to continue key ongoing Forest Service actions that have been instrumental in minimizing grizzly bear/human conflicts and promoting grizzly bear recovery. We have also formalized our commitment to maintaining the productivity, to the extent feasible, of the four key grizzly bear foods and monitoring other key habitat components.

The following are key elements of grizzly bear habitat and are addressed in terms of why Alternative 2-Modified is the selected alternative.

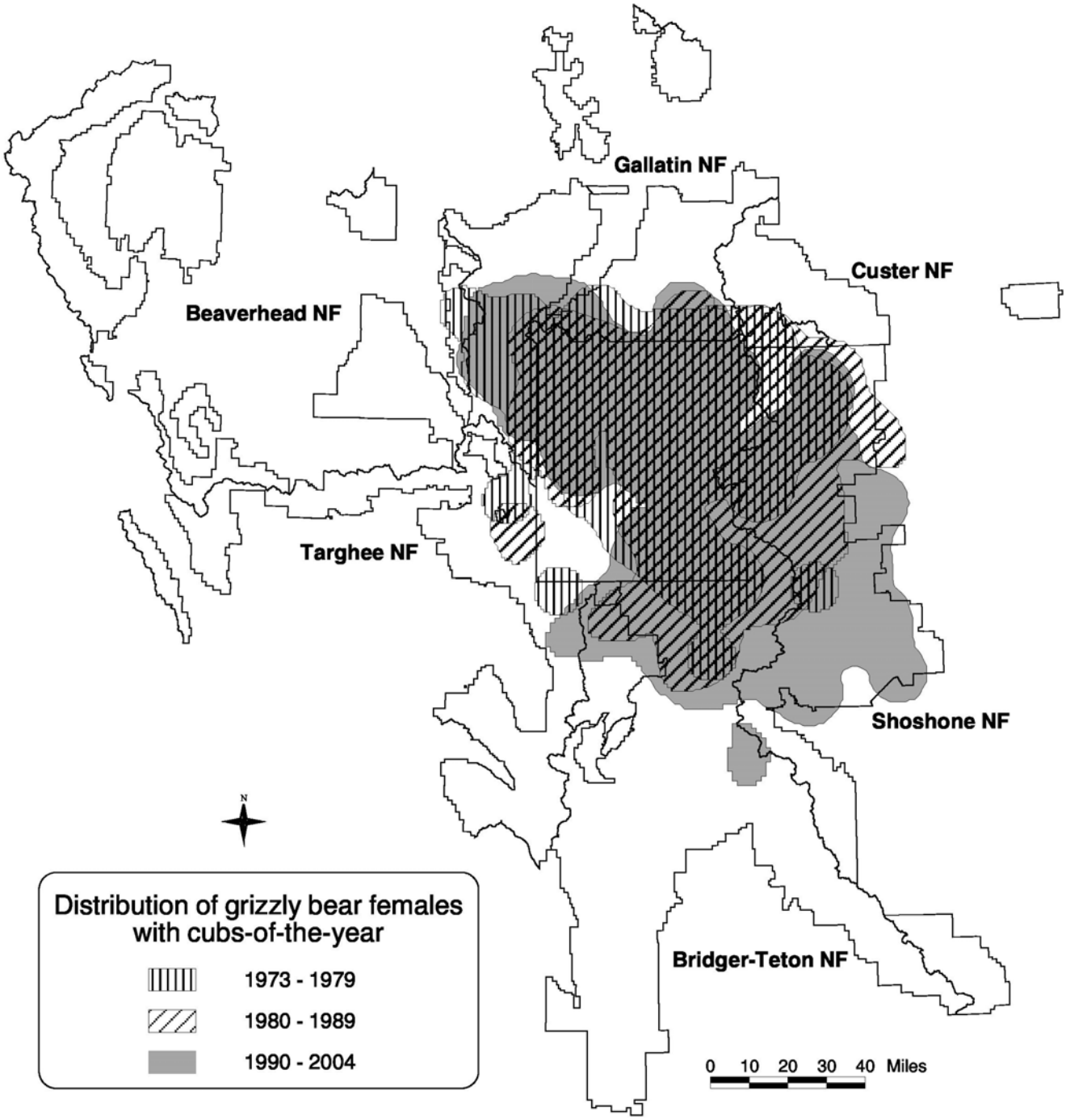
- Area necessary to sustain a recovered grizzly bear population
- Secure habitat
- Food sources
- Management of human activities
- Minimize grizzly bear/human conflicts

Area necessary to sustain a recovered grizzly bear population

Many respondents to the Draft Environmental Impact Statement suggested the area necessary to sustain the grizzly bear population should be expanded beyond the Primary Conservation Area. Some believed due to the uncertainty regarding the loss of important grizzly bear foods, especially whitebark pine, an area larger than the Primary Conservation Area should be managed for grizzly bears. Other respondents suggested the ability of bears to move between important habitats in the Greater Yellowstone Area, particularly outside the Primary Conservation Area, should be addressed. Others believed the Primary

Conservation Area is adequate and should not be expanded, while others believed the restrictions proposed under Alternative 4 outside the Primary Conservation Area were unrealistic.

Figure 4. Distribution of female grizzly bears with cubs-of-the-year for three different time periods in the Greater Yellowstone Area[5].



[5] Distribution map constructed from the initial observations of females with cubs-of-the-year using a 95 percent fixed kernel estimator (Schwartz et al. 2002 and Schwartz et al. 2005d).

The Recovery Plan identifies the Primary Conservation Area or recovery zone as the area where grizzly bears and grizzly bear habitat would be managed to achieve recovery while recognizing that grizzly bears would occur outside the recovery zone. The grizzly bear population achieved recovery under that zone designation. The Conservation Strategy identifies the Primary Conservation Area as the area adequate to sustain a recovered grizzly bear population and allows grizzly bear occupancy in biologically suitable and socially acceptable habitats, as identified by the states, outside the Primary Conservation Area.

There is little doubt the Primary Conservation Area is key to sustaining a recovered grizzly bear population. We have been and remain committed to maintaining the integrity of the Primary Conservation Area for grizzly bears. All alternatives in the Final Environmental Impact Statement provide various levels of protection to habitats inside the Primary Conservation Area. The question is how much habitat beyond the Primary Conservation Area should be managed to sustain the recovered grizzly bear population at a minimum of 400 bears as identified in the Conservation Strategy. It has been estimated that 10 to 14 percent of the 500 to 600 grizzly bears in the Greater Yellowstone Area from 1990 through 2004 lived outside the Primary Conservation Area. Approximately 21 percent of the area occupied by grizzly bears during that time was outside the Primary Conservation Area on National Forest System lands. Bears continue to expand in both range and numbers.

Alternatives 1, 2, and 3 do not specifically address the management of habitats for grizzly bears outside the Primary Conservation Area. Alternative 4 imposes restrictions on land uses outside the Primary Conservation Area where there is no way to predict when or if bears would occupy those areas. Alternative 2-Modified was developed between the Draft and Final Environmental Impact Statements in response to public comments and is consistent with the state grizzly bear management plans in providing guidance for accommodating the grizzly bear in biologically suitable and socially acceptable habitats outside the Primary Conservation Area. We believe Alternative 2-Modified will provide habitat protection in an area large enough to sustain the recovered grizzly bear population, while minimizing impacts to other forest activities. See further discussion in part 3 and the following discussions on secure habitat management inside and outside the Primary Conservation Area.

Secure habitat

Secure habitat is defined as areas greater than or equal to 10 acres in size[6] and more than 500 meters from an open or gated motorized access route or recurring helicopter flight line. This is the same definition used in the Conservation Strategy. Secure habitat is divided into long- and short-term secure habitat based on the management area categories in existing forest plans. Long-term secure habitat is within management areas where new motorized access routes will generally not be constructed. Short-term secure habitat is within management area categories that allow for forest management activities that could change secure habitat[7].

Many of the comments on the Draft Environmental Impact Statement were related to the amount of secure habitat that should be maintained for grizzly bears both inside and outside the Primary Conservation Area. Concerns were also expressed regarding the provision in Alternatives 2 and 2-Modified that allows for a temporary 1 percent reduction in secure habitat inside the Primary Conservation Area. Some suggested the 1 percent rule should be eliminated and no change allowed and others believed the percentage should be increased to allow for more management activities. Still others questioned the 1998 baseline and believed site-specific secure habitat levels should be set to meet identified population goals rather than a no net loss of secure habitat.

---

[6] Secure habitat for analysis used in this decision did not include areas open to cross country off-highway vehicle (OHV) travel.

[7] The long-term secure habitat subject to the 1 percent rule under Alternatives 2 and 2-Modified inside the Primary Conservation Area is defined as short-term secure habitat under Alternative 1. Under Alternative 1, short-term secure habitat inside the Primary Conservation Area could be lost due to project activities as there is no requirement to restore the secure habitat after project completion. Under Alternatives 2 and 2-Modified, any secure habitat affected by the 1 percent rule will be restored within one year after project completion and is considered long-term secure habitat.

We recognize the importance of secure habitat to long-term maintenance of the recovered grizzly bear population. This commitment to ensuring secure habitat for grizzly bears has resulted in a net reduction of over 600 miles of road inside the Primary Conservation Area on National Forest System lands from 1986 through 2002. Almost 10 percent of the existing secure habitat inside the Primary Conservation Area was created through these road closures. Maintaining habitat security requires minimizing mortality risk and displacement from human activities in a sufficient amount of habitat to allow the grizzly bear population to benefit from this secure habitat and respond with increasing numbers and distribution. Both of these bear population responses are currently ongoing in the Yellowstone population.

Secure habitat inside the Primary Conservation Area. There are 2.83 million acres of long-term secure habitat on National Forest System lands within the Primary Conservation Area, which is 83 percent of the National Forest System lands within the Primary Conservation Area (Figure 5). Under Alternative 2-Modified, 87 percent of the secure habitat on National Forest System lands inside the Primary Conservation Area will remain unchanged. Thirteen percent of the secure habitat could be affected temporarily under the 1 percent rule. Even if all subunits (the area of application for the secure habitat standard) had simultaneous projects on National Forest System lands inside the Primary Conservation Area, which is unlikely, only 29,500 acres of secure habitat could be affected at any one time. This means at least 82 percent of the habitat on National Forest System lands inside the Primary Conservation Area will always be secure. Under Alternative 2-Modified, any secure habitat temporarily affected by the 1 percent rule will be restored to secure habitat after project completion.

This level of habitat security, along with other habitat conditions inside the Primary Conservation Area in 1998, provided the base environment that led to the growth of the bear population and the achievement of all demographic recovery targets by 1998. The bear population continues to grow in range and numbers under these secure habitat conditions. The allowance of a 1 percent temporary reduction in secure habitat maintains options for resource management activities at approximately the same level as existed in 1998 as the bear population reached recovery. Therefore, we believe the 1998 baseline for secure habitat, used as the basis for the secure habitat standard in Alternative 2-Modified inside the Primary Conservation Area, is more than adequate to maintain the recovered grizzly bear population.

Figure 5. Total and secure habitat acres for areas inside the Primary Conservation Area under Alternative 2-Modified.

Area	Total acres	Long-term secure habitat acres	Acres of long-term secure habitat that will remain unchanged	Acres of long-term secure habitat subject to 1% rule
Primary Conservation Area	3,413,000	2,827,000	2,458,000	369,000

Alternatives 3 and 4 would result in 88 percent secure habitat on National Forest System lands inside the Primary Conservation Area (5 percent increase in secure habitat from existing conditions) by requiring each subunit to have a minimum of 70 percent secure habitat and by closing all existing motorized routes in inventoried roadless areas. No temporary reductions in secure habitat would be allowed. Forest management activities would not be allowed to occur at levels that existed during the recovery of the grizzly bear and some existing motorized recreation opportunities would be eliminated. We believe these strict limitations on other uses are unnecessary at this time. Bear populations continue to increase and expand without these restrictions.

Monitoring of secure habitat levels inside the Primary Conservation Area will continue under Alternative 2-Modified and the adequacy of secure habitat levels inside the Primary Conservation Area will be evaluated with other habitat and population parameters on an annual basis.

Secure habitat outside the Primary Conservation Area. The area outside the Primary Conservation Area as described in Alternative 4 is our best estimate of the biologically suitable habitat for grizzly bears on

National Forest System lands. This area was developed in response to concerns that more secure habitat should be maintained for grizzly bears outside the Primary Conservation Area and was based on the best available scientific information on suitable habitat and linkage areas outside the Primary Conservation Area. In Wyoming, this area is similar to that identified by the Wyoming Game and Fish Department as the area where grizzly bears outside the Primary Conservation Area would be managed to allow for population growth. This area includes lands identified for grizzly bear management in the Idaho and Montana state grizzly bear management plans on National Forest System lands, although these plans have not yet identified specific areas that are socially acceptable. The biologically suitable area includes 96 percent of the area occupied by grizzly bears on National Forest System lands outside the Primary Conservation Area from 1990 through 2004.

Alternative 4 results in an increase from 72 percent secure (71 percent long term) to 85 percent secure (100 percent long term) in the Alternative 4 area outside the Primary Conservation Area by requiring each analysis unit (the area of application for the secure habitat standard in Alternative 4 outside the Primary Conservation Area) to have a minimum of 70 percent secure habitat and by closing all motorized access routes (roads and trails) in inventoried roadless areas. No temporary reductions in secure habitat would be allowed. Forest management activities would be significantly reduced and many existing motorized recreation opportunities would be eliminated.

Many believe that existing forest plans—following the Interagency Grizzly Bear Guidelines— provide habitat protections outside the Primary Conservation Area for the bear as a listed species. These Guidelines, applicable under Alternative 1, do not provide habitat direction for the bear outside the Primary Conservation Area. Section 7 consultations with the U.S. Fish and Wildlife Service for activities outside the Primary Conservation Area have generally been focused on minimizing conflicts and mortality rather than prescribing habitat direction.

Management of secure habitat outside the Primary Conservation Area under Alternatives 1, 2, and 3 would be guided by existing individual forest plan direction. The same direction will apply under Alternative 2-Modified with the addition of requirements to monitor changes in secure habitat in areas determined by the states to be biologically suitable and socially acceptable for grizzly bear occupancy. Results will be reported and evaluated with other required monitoring according to the process outlined in the Conservation Strategy (see part 3.3). The following discussion focuses on how secure habitat outside the Primary Conservation Area will be managed under existing forest plan direction and why we selected Alternative 2-Modified.

The areas estimated to be biologically suitable for grizzly bears outside the Primary Conservation Area on National Forest System lands total six million acres. Nearly three-fourths of the six million acres are secure habitat. About one-half of the six million acres is long-term secure habitat because it is in a management designation that generally does not allow road building, such as wilderness or backcountry management (long-term secure) (Figure 5). The remaining secure habitat, about one-fifth of the six million acres, is short-term secure habitat. Some of the short-term secure habitat (less than one-third of the total secure habitat) could be changed due to management activities. Most of the short-term secure habitat is managed under current forest plan direction that limits the amount of new road construction, e.g., road density standards on the Bridger-Teton and Targhee National Forests and no net gain in roads on the Shoshone National Forest. Additionally, the draft revised forest plan for the Beaverhead-Deerlodge National Forest proposes road density standards for all Forest landscapes, and the draft travel management plan for the Gallatin National Forest includes a Forest-wide standard for no increase in public motorized access routes. These standards will allow only small changes in existing motorized access route density and associated secure habitat. Further, the trend over the last 17 years has been a reduction in road miles. Over 1,400 miles of road have been decommissioned in the Greater Yellowstone Area national forests, with less than 400 miles of road being constructed—a net reduction of over 1,000 miles of road. Approximately 37 percent of the short-term secure habitat in the biologically suitable area is open to leasing for oil and gas where surface occupancy is allowed. Much of this area has a very low to moderate potential for occurrence and there are only eight active leases. Refer to part 3.3 for more discussion on oil and gas leasing.

In summary, the biologically suitable area outside the Primary Conservation Area contains three million acres more secure habitat (4.3 versus 1.3 million acres) in excess of that used by bears outside the Primary Conservation Area on National Forest System lands from 1990 through 2004 (Figure 6). This area contains two million acres more long-term secure habitat (3.1 versus 0.7 million acres) in excess of that used by bears outside the Primary Conservation Area on National Forest System lands. While we recognize there is not a one-to-one relationship between the amount of secure habitat and bear population numbers, we believe the maintenance of this level of secure habitat outside the Primary Conservation Area will provide additional assurances the population will be maintained above 400 grizzly bears as required by the Conservation Strategy.

Figure 6. Total and secure habitat acres for areas outside the Primary Conservation Area on the six Greater Yellowstone Area national forests.

Area	Total acres	Secure habitat acres	Acres of long-term secure habitat[1]	Acres of short-term secure habitat[1]
Area estimated to be biologically suitable habitat for grizzly bears outside the Primary Conservation Area	5,999,000	4,331,000	3,089,000	1,242,000
Occupied grizzly bear habitat outside the Primary Conservation Area from 1990-2004	1,954,000	1,277,000	699,000	578,000

[1] Designation as long- or short-term secure habitat based on current forest plan direction.

Alternative 4 increases the amount of secure habitat outside the Primary Conservation Area with restrictions and motorized route closures (1,850 miles overall). We believe restrictions and closures over such a large area, without existing bear occupation or state defined biologically suitable or socially acceptable areas, are premature and would meet with resistance from local communities and recreation users and are unnecessary to maintain adequate secure habitat outside the Primary Conservation Area.

Alternatives 1, 2, and 3 would provide the same assurances for maintenance of secure habitat outside the Primary Conservation Area as Alternative 2-Modified because management area direction outside the Primary Conservation Area in existing forest plans will not change. Alternatives 1, 2, and 3 provide no guidance for accommodating grizzly bears outside the Primary Conservation Area in biologically suitable and socially acceptable areas nor do they require monitoring secure habitat outside the Primary Conservation Area.

We believe Alternative 2-Modified does the best job of maintaining sufficient secure habitat both inside and outside the Primary Conservation Area to support the recovered grizzly bear population at desired levels, while allowing for management activities and other uses. Secure habitat outside the Primary Conservation Area will be monitored and any reduction in secure habitat evaluated as part of the Biology and Monitoring Review process identified in the Conservation Strategy. The selected alternative provides the most flexibility in working with state wildlife management agencies and local communities to define areas that will be socially acceptable and biologically suitable for bear occupancy. We believe public acceptance of grizzly bears is a key component in the ultimate success of sustaining a recovered grizzly bear population.

One concern we heard from respondents was an interest in maintaining or improving connectivity between important habitats in the Greater Yellowstone Area. We believe the maintenance of over three million acres of long-term secure habitat, supplemented by over one million acres of short-term secure habitat outside the Primary Conservation Area, will provide the security necessary for bears to occupy

many new areas within the Greater Yellowstone Area, improving chances for movement between important habitats.

Food sources

Respondents expressed numerous concerns regarding the persistence of the four major foods for grizzly bears— ungulates, cutthroat trout, army cutworm moths, and whitebark pine seeds—in the Greater Yellowstone Area. Of greatest concern was the future health of whitebark pine stands. Most respondents believed potential declines in these foods, from disease, climate change, and other factors, would significantly impact grizzly bear populations and that larger areas with more protection should be managed for the grizzly bear to offset any declines in availability of these foods. Others suggested threats to these food sources should be studied further or the Forest Service should manage habitats to protect or enhance these important foods.

We have long recognized the importance of these foods to bears. The annual availability of these four key foods currently fluctuates widely primarily due to weather conditions and is generally independent of forest management or recreational activities. Grizzly bears have shown great adaptability to annual fluctuations in these key foods. Reproductive performance has remained constant over the years as the population has continued to grow between 4 to 7 percent annually, even with this food fluctuation (USDI FWS 2005a).

Coordinated efforts have been ongoing for over a decade to gather more information on the status of whitebark pine and to develop management strategies to ensure whitebark pine's future in the Greater Yellowstone Area. Transects for long-term monitoring have been established and a draft map displaying the distribution of whitebark pine has been completed. We have emphasized the importance of moth aggregation sites by discouraging new trails or extensive human uses in these areas. Winter ranges for ungulates have always received special management emphasis, partly for their importance to spring carcass-feeding bears. Since 1979, the Interagency Grizzly Bear Guidelines for forest management activities that were adopted by all the Greater Yellowstone Area national forests have included direction for protecting, maintaining, or enhancing important foraging areas for grizzly bears.

In response to potential declines in these important foods due to climate change or disease, grizzly bear use of moth aggregation sites, cutthroat trout spawning streams, whitebark pine cone production, and availability of winter-killed ungulate carcasses will continue to be monitored annually under the direction in the Conservation Strategy. The selected alternative provides additional guidance not included in the Conservation Strategy or Alternative 2 for maintaining the productivity of the four key grizzly bear foods inside and outside the Primary Conservation Area, with emphasis on maintaining and restoring whitebark pine. We believe this emphasis may lead to improved conditions for whitebark pine if additional funds are available for research or restoration activities. Vegetation management activities could be used to increase whitebark pine resistance to disease, regenerate stands where whitebark pine is declining, and improve habitats for ungulates. The productivity, occurrence, and health of whitebark pine will be monitored and annually submitted for inclusion in the Interagency Grizzly Bear Study Team Annual Report, which will serve as the basis for determining the need for adaptive management if significant declines in these important foods occur and/or negative grizzly bear population responses are documented.

We believe the selected alternative and the Conservation Strategy together provide the mechanisms to monitor and document any declines in the four key grizzly bear foods and respond as necessary with management changes. Alternative 2-Modified provides secure habitat for grizzly bears inside and outside the Primary Conservation Area in sufficient quantity and protection to allow the grizzly bear to increase in numbers and range, even if some of these foods decline.

Alternative 4 does not provide additional protection to food sources from the potential impacts of climate change above and beyond those adaptive management practices specified for Alternative 2-Modified. The strict limits on other uses of National Forest System lands outside the Primary Conservation Area are, we believe, counterproductive in maintaining habitats for grizzly bears. Rather, the adaptive

management approach of the selected alternative will provide for interagency and public cooperation in the maintenance and monitoring of habitat for grizzly bears outside the Primary Conservation Area.

Where needed, critical food sources including whitebark pine seed production, army cutworm moth aggregation sites, major fish spawning areas, elk parturition areas, and big game winter ranges will be maintained. Seasonal area closures will be used as necessary to provide adequate security to ensure areas are available to bears.

Management of human activities

Some respondents believed the numbers of developed sites both inside and outside the Primary Conservation Area should be reduced and those with recurring conflicts with grizzly bears should be eliminated. Others were concerned that limits on developed sites inside the Primary Conservation Area would impact future recreation uses (see part 3.2). Most comments on the livestock grazing standard (Standard 3) suggest more emphasis should be given to the grizzly bear in livestock conflict cases, both inside and outside the Primary Conservation Area. Some respondents were particularly concerned that cattle conflicts inside the Primary Conservation Area would not be solved in favor of the bear, while others felt the lack of direction for resolving conflicts with sheep and grizzly bears outside the Primary Conservation Area was inappropriate.

A primary factor in providing for the conservation of grizzly bears is the management of human activities on the landscape. Most of the conflicts with grizzly bears on National Forest System lands in the Greater Yellowstone Area that can be attributed to Forest Service management activities are associated with developed sites and livestock allotments. In response, in conjunction with willing permittees, we have closed many domestic sheep allotments inside and outside the Primary Conservation Area to benefit the grizzly bear. Portions of cattle allotments have been rested to reduce conflicts and one cattle allotment has been closed to grazing. We have included special provisions, including food storage requirements, in livestock grazing permits and special use permits for developed sites to minimize grizzly bear/human conflicts. The number and capacity of developed sites on National Forest System lands has been reduced or remained stable in most cases during the last decade. Several developed sites have been closed; some campgrounds have been modified to allow hard-sided camping only or designated as picnic areas.

Developed sites. Developed sites in grizzly bear habitat increase the potential for conflict with humans primarily due to the potential availability of human foods. Developments also reduce the effectiveness of the natural habitat near these sites. The larger the developed site and the more people using the site, the greater the potential for conflicts and reduction in the effectiveness of the adjacent habitat for bears. Food storage regulations and information and education efforts mitigate much of the potential for conflict.

Alternative 2-Modified defines and limits site development within the Primary Conservation Area and contributes to sustaining the recovered grizzly bear population. Rather than imposing the strict requirements to close developed sites with recurring conflicts in the Primary Conservation Area (Alternatives 3 and 4), we believe the direction included within Alternative 2-Modified inside the Primary Conservation Area to minimize grizzly bear/human conflicts with various management tools provides a more effective and flexible approach to solve problems on a case-by-case basis for the benefit of the bear. Food storage orders, information and education, and clauses in special use permits have been effective in solving many conflict issues at developed sites. Alternative 2-Modified includes direction for continuing these efforts inside the Primary Conservation Area. Bear populations have recovered with the existing level of developed sites inside the Primary Conservation Area and the number of bears continues to increase.

Limiting site development outside the Primary Conservation Area, as proposed under Alternative 4, is unnecessary at this time. The guidance under the selected alternative to accommodate grizzly bears in areas outside the Primary Conservation Area in cooperation with the states allows us to make adjustments in site development as needed and provides the mechanisms to accommodate site development outside the Primary Conservation Area where these developments are precluded inside the

Primary Conservation Area. Food storage and other management tools will be used at these developed sites to minimize conflicts. Although it was assumed food storage orders would remain, Alternatives 2 and 3 are silent on direction for minimizing conflicts or accommodating grizzly bears outside the Primary Conservation Area. Alternative 4 would impose limits on site development where there is no way to predict when or if bears would occupy those areas. Grizzly bear populations are expanding in range and numbers outside the Primary Conservation Area with the existing level of developed sites. Food storage orders and information and education efforts are ongoing in areas occupied by bears outside the Primary Conservation Area. Alternative 2-Modified includes guidance to ensure the continuation of these efforts to accommodate grizzly bears in areas that are biologically suitable and socially acceptable. Many of the conflicts between grizzly bears and humans occur at dispersed camping sites. Alternative 2-Modified provides the flexibility to deal with these problem areas by consolidating dispersed uses into a new or existing developed site where compliance with food storage regulations can be more easily monitored and controlled. Under Alternative 4, no increase in developed sites would be allowed, regardless of the potential benefit to bears.

Livestock grazing. Most, if not all, grizzly bears that come in contact with domestic sheep prey on sheep and conflicts are inevitable. The majority of grizzly bears that come in contact with cattle do not make kills. Conflicts between livestock and grizzly bears have resulted in the relocation, removal, or direct mortality of grizzly bears. Many of the conflicts with grizzly bears and sheep have been resolved inside the Primary Conservation Area due to the closure of many of the affected allotments. Selective removal of grizzly bears is a viable management option, particularly when adult males that are repeat offenders are involved and translocation, aversion tactics, or carcass removal efforts are ineffective.

All action alternatives prohibit the creation of new allotments and provide various levels of guidance for resolving conflicts with grizzly bears and livestock inside the Primary Conservation Area. Alternatives 3 and 4 require the closure of the four remaining sheep allotments within three years and the closure of portions of cattle allotments with recurring conflicts. Alternatives 2 and 2-Modified do not allow increases in sheep animal months and would phase out the four sheep allotments with willing permittees. In response to public comment, Alternative 2-Modified includes guidance for retiring cattle allotments with recurring conflicts that cannot be resolved through modification of grazing practices as opportunities arise with willing permittees. Permittees with allotments that experience recurring conflicts will be given the opportunity to place their livestock in a vacant allotment outside the Primary Conservation Area should one be available. The nuisance bear standards in the selected alternative will allow the removal of bears that kill livestock but removal of female grizzly bears will be minimized. Adult males are responsible for the majority of cattle depredations. No grizzly bear involved in livestock depredations will be removed unless it has been relocated at least once and continues to prey on domestic livestock. We believe Alternative 2-Modified provides the mechanisms necessary to minimize conflicts with cattle inside the Primary Conservation Area without the mandatory retirement of these allotments as prescribed under Alternatives 3 and 4. Only three of the existing 69 cattle allotments inside the Primary Conservation Area have been documented with recurring conflicts between 1992 and 2004.

Alternatives 2 and 3 do not provide guidance for resolving livestock conflicts outside the Primary Conservation Area. Alternative 2-Modified includes guidance for retiring both sheep and cattle allotments with recurring conflicts outside the Primary Conservation Area that cannot be resolved through modification of grazing practices as opportunities arise with willing permittees. Alternative 4 requires the closure of all 73 sheep allotments outside the Primary Conservation Area within three years and the closure of portions of cattle allotment with recurring conflicts. Only two cattle allotments outside the Primary Conservation Area have been documented with recurring conflicts from 1992 through 2004. For areas outside the Primary Conservation Area, the nuisance guidelines in state grizzly bear management plans would apply under all action alternatives, with direction on how to manage bears that prey on livestock.

We believe Alternative 2-Modified is the best approach for managing conflicts with grizzly bears and livestock outside the Primary Conservation Area. Many of the sheep allotments that would be closed under Alternative 4 are not occupied by grizzly bears. These blanket closures would likely increase

social intolerance for grizzly bears. Rather, the mechanisms to solve livestock depredation issues on a case-by-case basis would minimize impacts on local communities and the livestock industry.

Minimize grizzly bear/human conflicts

Many respondents had concerns regarding the need to minimize grizzly bear/human conflicts from both the impacts to grizzly bears and the risks to human safety. Grizzly bear mortality is almost solely attributable to grizzly bear/human conflicts with a common outcome of bear mortality by interagency bear managers or by other humans. Human injuries and deaths are often associated with grizzly bears that have a prior history of conflicts with humans. Human-food conditioned and human-habituated bears are usually removed from the population due to the threat they pose to humans. Efforts by the six Greater Yellowstone Area national forests, other state and federal agencies, and numerous non-governmental agencies to minimize grizzly bear/human conflicts and subsequent mortality have been key to grizzly bear recovery.

To reduce grizzly bear conflicts and deaths on National Forest System lands, we have established food storage regulations and special grizzly bear requirements in contracts and permits, provided bear resistant containers for garbage/food storage and information and education materials and programs, and issued access restrictions and regulations. Studies have demonstrated these efforts have been successful in reducing grizzly bear mortalities. Of the 270 documented grizzly bear mortalities in the Greater Yellowstone Area since 1975, only 27 are directly or indirectly attributable to Forest Service management activities or actions.

Alternative 2-Modified provides direction to continue with efforts to minimize conflicts both inside and outside the Primary Conservation Area using food storage regulations, information and education, and other management tools, including efforts to assist the public in the development of bear resistant products. Minimizing conflicts benefits both bears and people. While it was assumed these efforts would continue inside the Primary Conservation Area under Alternatives 2 and 3, no specific direction was provided. Alternative 4 requires forest wide food storage regulations, while Alternatives 3 and 4 require elimination of sites with recurring conflicts and area closures; neither specifically identifies the need to minimize conflicts through information and education efforts or use less restrictive management tools. Alternative 2-Modified provides adequate direction to ensure the continued use of proven methods to minimize conflicts without eliminating human uses. Strict requirements to eliminate human uses before trying other, less drastic approaches could work against grizzly bear expansion. Public support for grizzly bear occupancy and expansion is important for long-term persistence of the grizzly bear in the Greater Yellowstone Area. The direction in the selected alternative to work cooperatively with local governments and other agencies to minimize conflicts outside the Primary Conservation Area is especially critical to local public support.

3.2 Principal reason 2 - local communities and social and economic values are acknowledged and public safety is emphasized

Grizzly bears and bear management affect people’s lifestyles, livelihoods, and values. This amendment affects 20 counties, more than 40 local communities, and more than 370,000 human residents in the Greater Yellowstone Area. Grizzly bears and bear management also affect the estimated eight million recreation visits that occur annually on the six national forests in the Greater Yellowstone Area. Approximately 60 percent of recreation users are local, but regional, national, and international visitors are attracted to the area as well. This amendment affects the business operations that are closely tied to the Greater Yellowstone Area, including outfitting and guiding services, resorts and recreation businesses, and ranching operations that have traditionally used public lands to graze livestock during the summer months.

It is a credit to all citizens, residents, businesses, and recreation users that the demographic recovery targets have been met—the grizzly bear population has recovered.

Recreation activities and grizzly bear/human interactions have been monitored and evaluated over the last 25 years by the various land management agencies, research scientists, the Interagency Grizzly Bear Committee, and non-governmental organizations. Particular efforts deemed effective in managing grizzly bear/human interactions are:

- Information and education about recreating and living in bear country
- Ensuring unnatural food sources are secure from bear use
- Limiting human development and access within bear areas
- Responding to grizzly bear/human conflicts

The public highly values their opportunities to recreate and enjoy wildlife viewing in the Greater Yellowstone Area. The current undeveloped nature, wildness, and presence of grizzly bears are part of the allure that attracts recreation visitors and are valued by many of the residents of the Greater Yellowstone Area. Alternative 2-Modified maintains the undeveloped and wild character of the Greater Yellowstone Area within the Primary Conservation Area. Additionally, Alternative 2-Modified addresses the needs of the grizzly bear outside the Primary Conservation Area and the recreation pursuits and values of the public. Alternative 4 offers the most control over human uses inside and outside the Primary Conservation Area, which supports some of the environmental interests. Alternative 2-Modified best moves the partnership between the public, local communities, and state and federal governments in a common commitment toward support of the bear and without major impacts to recreation and livestock grazing on lands currently unoccupied by grizzly bears.

Public safety

Public safety continues to be a key consideration in grizzly bear management. Alternative 2-Modified addresses this concern by managing nuisance bears and minimizing grizzly bear/human conflicts using food storage, information and education, and other management tools within the Primary Conservation Area. Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, Alternative 2-Modified emphasizes proper sanitation techniques, including food storage orders and information and education, while working with local governments and other agencies.

Alternative 2-Modified puts more attention on public safety than do Alternatives 1, 2, and 3 by including areas outside the Primary Conservation Area where bears may exist. Alternatives 3 and 4 include a standard to eliminate developed sites or dispersed camping, including outfitter camps, with recurring grizzly bear/human conflicts and limit use of backcountry trails in high bear-use areas. These restrictions are not necessary to include in Alternative 2-Modified because other agencies are actively responding to reported grizzly bear/human conflicts and working to resolve recurrent problems. We have the flexibility of making adjustments on a site-specific basis and will continue to use the nuisance bear standard in resolving conflicts.

Recreation, social and economic effects on local communities, and commercial livestock grazing

Other social and economic considerations relate to issues identified through public comments during scoping and on the Draft Environmental Impact Statement. These include:

- Recreation opportunities—motorized use
- Recreation opportunities—developed sites
- Recreation opportunities—winter use activities
- Social and economic effects on local communities
- Commercial livestock grazing

Recreation opportunities—motorized use. Many people expressed concerns that grizzly bear habitat standards would result in reduced motorized recreation opportunities by closing more roads and trails to motorized use. Motorized use is closely associated with reduced levels of secure habitat for grizzly bears. Since secure habitat is more than 500 meters from an open or gated motorized access route, where security is needed, permanent closures of motorized routes are often the solution.

Alternative 2-Modified and all alternatives reflect a history of motorized route (roads and trails) restrictions and closures that achieved the secure habitat that exists both inside and outside the Primary Conservation Area. Over the years, this has resulted in a net reduction of more than 1,000 miles of motorized routes on the six Greater Yellowstone Area national forests. This reduction has impacted many people who have enjoyed more freedom in exploring public lands through motorized travel. Because 83 percent of the Primary Conservation Area is secure habitat, additional motorized route closures are not proposed by Alternative 2-Modified. Alternatives 3 and 4 proposed an additional 500 miles of motorized closures within the Primary Conservation Area; we believe these closures are unnecessary at this time and would unduly impact existing motorized use. We also recognize that as individual national forests amend forest plans with regard to travel management, recreational opportunities and wildlife habitat needs will be more comprehensively evaluated than with these amendments, which focus on grizzly bear habitat management across six national forests.

Alternative 4 proposed an additional 1,400 miles of motorized route closures outside the Primary Conservation Area. We believe these additional closures are unnecessary at this time. Under Alternative 2-Modified, there are approximately 4,331,000 acres of long- and short-term secure habitat on National Forest System lands outside the Primary Conservation Area in areas estimated to be biologically suitable for grizzly bears. We believe this is an adequate base and provides opportunities for grizzly bear movement and occupancy outside the Primary Conservation Area. Alternative 2-Modified does not propose motorized route closures. The selected alternative provides more flexibility in working with state wildlife management agencies and local communities to define areas that will be socially acceptable and biologically suitable for bear occupancy. Alternative 2-Modified goes beyond Alternatives 1, 2, and 3 to address the existing and likely occupancy by grizzly bears of lands outside the Primary Conservation Area with the goal of accommodating grizzly bear populations with other land use activities.

Recreation opportunities—developed sites. Generally, the public did not seem as concerned with the standard that maintains developed Forest Service recreation sites (campgrounds, trailheads, lodges, etc.) at 1998 levels as they were with the potential effects on motorized use. The exceptions were agency comments concerned with areas that are experiencing capacity limits and public concerns regarding the effects to special use permitted resorts, ski areas, and lodges if developed sites were limited to 1998 levels.

Alternative 2-Modified retains Standard 2 as identified in the proposed action and in the Conservation Strategy. Within the Primary Conservation Area, approximately 267 developed recreation sites—nearly one-third of developed recreation sites in the six Greater Yellowstone Area national forests—will not be increased in size to accommodate more people, unless increases are mitigated. Specifically, this could affect approximately 19 lodges, resorts, dude ranches, and hotels having special use permits on the six national forests.

Agency concerns about experiencing capacity limits are currently more of an issue in areas outside the Primary Conservation Area, specifically to accommodate winter use parking on the Gallatin and Targhee National Forests and to better manage dispersed use by concentrating use in some developed sites on the Custer National Forest.

Taking steps to define and limit recreation developments within the Primary Conservation Area is appropriate and contributes to sustaining the recovered grizzly bear population. Research shows grizzly bear use is lower and foraging behavior is disrupted in areas near human developments and activities. Alternative 2-Modified retains the relatively undeveloped character within the Primary Conservation Area and people will continue to be attracted to the area for its wildlife and scenic beauty.

Alternative 2-Modified is similar to Alternatives 1 and 2 where developed sites have been maintained at or below capacity since 1998. Alternative 2-Modified allows for slight adjustments in developed site capacity based on the Application Rules and this differs from the stricter standards of Alternatives 3 and 4. Some flexibility is important to respond to situations for the benefit of the bear.

In addition, we chose not to extend the limitations on developed sites outside the Primary Conservation Area, as Alternative 4 does, because we want to reserve the opportunity to evaluate the entire spectrum

of recreation use and potential conflicts with grizzly bears and make adjustments as needed when recurring conflicts are identified at local levels. Further, we want the ability to accommodate potentially displaced recreation uses (from inside the Primary Conservation Area) in areas outside the Primary Conservation Area.

Recreation opportunities—winter use activities. Many respondents to the Draft Environmental Impact Statement raised concerns that snow machine use would be eliminated from bear denning habitat under Alternatives 3 and 4. Snow machine use is one of the primary recreation activities on the Bridger-Teton, Gallatin, Shoshone, and Targhee National Forests. As a 2002 Biological Opinion on snow machine use noted, the effects of snow machining on grizzly bears show disturbance and conflicts with grizzly bears have always been very low. We believe it is more appropriate to encourage restrictions on snow machine use on a localized basis where conflicts with denning or bear emergence in the spring are identified.

Social and economic effects on local communities. Many respondents were concerned with the effects on income, employment, and lifestyle changes related to livestock operations, ranches, people associated with the timber industry, and recreation-related businesses. National Forest System lands within the Greater Yellowstone Area contribute to the social and economic bases of more than 40 local communities. Residents and communities need to ensure proper management of bear attractants as bear populations have expanded their range and movement through private lands. Some counties have passed resolutions banning the presence of grizzly bears and are concerned about the social and economic well being of their areas.

We are committed to sustaining a recovered grizzly bear population in the Greater Yellowstone Area. This commitment is shared and managed with other agencies and organizations. Alternative 2-Modified was developed to respond to public and agency concerns about the need to provide for grizzly bears as the population expands outside the Primary Conservation Area. Grizzly bear habitat needs and minimizing human/bear conflicts are addressed. The value many people place on grizzly bears is also acknowledged in the selected alternative. While some communities will not favor additional grizzly bear management guidance outside the Primary Conservation Area, the guidance is responsive to managing bear habitat where bears are already occupying these areas and will ensure coordination with the states' roles in managing bears.

We recognize the importance of public acceptance of grizzly bears as a key component in the ultimate success in perpetuating the bear's recovery, public safety, and ease to which agencies can effectively manage for the bear. A continued dialogue with the public, including local communities and environmental organizations, will be essential as grizzlies occupy lands outside the Primary Conservation Area. Alternative 2-Modified includes guidance outside the Primary Conservation Area based upon the states' definitions of socially acceptable and biologically suitable lands for the grizzly bear.

Alternative 2-Modified does the best job of managing habitat for bear populations while ensuring close coordination with the states and local communities with regard to socially acceptable areas for bears. Alternatives 1, 2, and 3 do not address the management of lands outside the Primary Conservation Area, and Alternative 4 imposes restrictions on land uses when there is no way to predict when or if bears would occupy those areas. Local communities, residents, and recreation users are likely to be intolerant of the restrictions in Alternative 4; we believe Alternative 4 diminishes the societal acceptance of bear occupation and our ultimate goal of accommodating bears.

Livestock grazing operations. Livestock grazing on public lands is a long tradition of western culture and the use of public lands has been a key component of viable ranching operations. As has been demonstrated within the Primary Conservation Area, grizzly bears and sheep grazing are relatively incompatible, whereas cattle grazing and grizzly bears can be compatible with active management by the livestock operator and immediate response by agency officials when conflicts between bears and livestock are identified.

Alternative 2-Modified maintains the management direction within the Primary Conservation Area as identified in the Conservation Strategy. Consistent with Alternatives 1 and 2, the selected alternative will

phase out, at most, four sheep allotments. Alternatives 3 and 4 require the immediate action of closing the operations and include three cattle allotments as well. The approach in the selected alternative will work for the bear and is appropriate with our permittee partnerships.

Alternative 2-Modified diverges from Alternatives 1 and 2 by establishing a guideline for livestock grazing outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy. This direction is needed to address recurring conflicts between livestock and bears. This guideline is less restrictive than Alternative 4's, which would close 73 sheep allotments and two cattle allotments outside the Primary Conservation Area. The best approach with livestock grazing and grizzly bears is reflected with the selected alternative. We intend to minimize the economic impact on grazing operations and address local situational conflicts between bears and livestock as they occur.

Vegetation, fuels, and access

Timber management. Since implementation of the Interagency Grizzly Bear Guidelines, vegetation management has been limited to those activities that did not adversely affect grizzly bears. For all six Greater Yellowstone Area national forests, nearly 10,000 acres have been treated each year through timber harvesting since 1986; although in the three-year period from 2000 through 2002, only 1,400 acres were treated annually. The 10,000 acres represent 0.1 percent of the area of National Forest System lands in the Greater Yellowstone Area and 1 percent of the suitable acres. A review of five-year vegetation treatment plans indicates this number may have increased from the past three years, but is expected to be within the 17-year average, with vegetation treatment expected to be around 5,000 to 10,000 acres per year in order to address insect, disease, and hazardous fuels concerns.

Some respondents felt that Alternative 2 allowed too much flexibility and at least one part of the Application Rule, the 1 percent temporary reduction in secure habitat, should be dropped to allow no reduction in secure habitat. Others felt the standard for secure habitat was too restrictive and more than one project should be allowed at a time in a Bear Management Unit subunit.

Alternative 2-Modified provides about the same amount of flexibility in treating vegetation as current management (Alternative 1). Because the secure habitat standard allows a 1 percent temporary reduction in secure habitat, timber harvesting activities that took place under the Guidelines could take place in this alternative. A 1 percent change in secure habitat means, on average, about 2,000 acres of secure habitat could be temporarily changed in a Bear Management Unit subunit since subunits average around 200,000 acres. Most timber sale and mechanical treatment activities are temporary and would fit within this standard. Additionally, road decommissioning will occur within one year after project completion. Harvesting activities, other than road construction or the opening of a permanently restricted road, do not affect secure habitat. Up to about five miles of temporary road could be constructed to access areas for vegetation management under this Application Rule.

Alternatives 3 and 4 evaluated dropping the Application Rule that allows a 1 percent temporary reduction in secure habitat. It is necessary to have the 1 percent Application Rule in order to allow managers to have some flexibility in managing vegetation. Without the Application Rule, the effects of reduced timber harvest in Alternatives 3 and 4 could be severe in terms of lost jobs and income in local communities. Finally, the recovered grizzly bear population could be sustained with a 1 percent temporary reduction in secure habitat because it is temporary. Secure habitat will be restored within one year of project completion; the grizzly bear population recovered with this level of activity.

Our analysis indicates almost all harvesting activities that have taken place in the last 15 years could still take place within the secure habitat standard. During the last decade, the rate of road decommissioning has been greater than the rate of road construction both inside and outside the Primary Conservation Area, indicating the past level of harvesting activities would be consistent with the 1 percent temporary change in secure habitat.

The current level of vegetation management can proceed with the selected alternative without negatively impacting the recovered grizzly bear population. Alternative 2-Modified provides some additional flexibility in treating vegetation due to fewer timing restrictions on timber harvest. These treatments are

generally designed to protect structures, help control wildfire, prevent extensive loss of bear food sources, as well as provide timber and associated income and jobs to local communities.

Fuels and vegetation management. Nearly all of the vegetation in the Greater Yellowstone Area has burned at one time or another. All the major plant communities have adapted to fire, although some plant communities ignite and carry fire more readily than others do. Conditions under which any given vegetation community will burn vary, depending on a wide variety of parameters including temperature, humidity, and vegetation type.

Across the national forests in the Greater Yellowstone Area, the overall composition and structure of the different forest types would not be expected to change much in any alternative due to the effects of motorized access restrictions on potential vegetation treatments. Vegetation treatments would affect only about 0.1 percent of the National Forest System lands in Alternatives 1, 2, and 2-Modified. Within the suitable timber base and based on historical harvest rates in the past 17 years, about 6 percent of the area would be treated in one decade (about 98,000 acres out of the 1,500,000 acres in the suitable timber base). This can help improve conditions for some of the key forest types, such as aspen and lodgepole pine.

The selected alternative is consistent with current wildland fire management, prescribed fire, and fuels management activities. The objectives, standards, and guidelines in the selected alternative will have little effect on fire starts or acreages burned. Roads currently available will remain available for use. Dozer lines created as part of wildland fire activities will be rehabilitated as part of normal fireline operations and will not reduce secure habitat. Allowing a 1 percent temporary reduction in secure habitat can allow some treatments of vegetation to improve composition and structure of key vegetation types, although we recognize these treatments will only be a small part of the landscape. Fire, both wildland fire and prescribed fire, will continue to be the single biggest process that changes vegetation in the Greater Yellowstone Area.

Treatment of areas in the wildland urban interface is of particular concern because of communities at risk from destruction by wildland fire, such as Cooke City and West Yellowstone, Montana. Strategic placement of fuels treatments can affect the intensity and pattern of wildland fires. The same number of acres can be mechanically treated for fuels under the selected alternative as under current management. The Application Rule allows up to nearly five miles of road to be temporarily built for fuels treatment in a subunit at one time. This is more than adequate to treat fuels within 1½ miles of structures or communities.

Access management. From 1986 through 2002, over 1,400 miles of road were decommissioned in the six Greater Yellowstone Area national forests, with less than 400 miles of road being constructed—a net reduction of over 600 miles of road inside the Primary Conservation Area and 400 miles outside the Primary Conservation Area. These tended to be roads in excess of what was needed for management or recreational activities, were difficult or expensive to maintain, or both.

The trend for road decommissioning inside the Primary Conservation Area has slowed, with only 13 miles decommissioned from 2000 to 2002, as opportunities are limited for more decommissioning. Outside the Primary Conservation Area, opportunities still exist for road decommissioning.

Some respondents were concerned more roads could be closed with the selected alternative—restricting access—while other respondents felt more road closures were necessary to improve habitat for the grizzly bear.

The selected alternative will not change access, current use, traffic patterns, and road standards from current management. The secure habitat standard requires secure habitat be maintained at 1998 levels, which allows access and use to continue at those levels. Proposals to permanently increase the transportation system in the Primary Conservation Area will not occur unless mitigation is met, as described in the Application Rules. We believe the current level of access is reasonable for the enjoyment of the recreating public. Not increasing the access will “keep it the way it is”; that is, the six Greater Yellowstone Area national forests will maintain their primitive settings for the nation to enjoy, with the grizzly bear an integral part of the landscape.

Minerals management

There are no active oil and gas leases inside the Primary Conservation Area. Under current management, oil and gas development could occur but surface occupancy is allowed on only 3 percent of the National Forest System lands inside the Primary Conservation Area. Leasing decisions have yet to be made for the Gallatin National Forest and a small portion the Bridger-Teton National Forest inside the Primary Conservation Area.

Many respondents were concerned oil and gas leasing would increase if Alternative 2 were implemented and the grizzly bear delisted. The respondents felt this could lead to increased oil and gas development in the Greater Yellowstone Area. Some respondents wanted to prohibit all oil and gas development in the Primary Conservation Area or even larger areas in the Greater Yellowstone Area.

Areas available for surface occupancy will not change under the selected alternative because of the low potential and mitigation necessary. Oil and gas development inside the Primary Conservation Area will be even more unlikely with the selected alternative because of the mitigation necessary under the developed site and secure habitat standards. New proposals inside the Primary Conservation Area will need to be mitigated by closing out other types of developed sites, consolidating dispersed camping sites, or closing motorized routes to maintain the 1998 levels of developed sites and secure habitat. The Gallatin and Bridger-Teton National Forests' future oil and gas decisions will be constrained by the direction in the selected alternative

Alternative 4 was developed in response to the concern for limiting oil and gas development. It allowed us to look at the tradeoffs of not allowing any new oil and gas leases in not only the Primary Conservation Area but in a larger area as defined by Alternative 4. Not allowing any new oil and gas leases is unnecessary at this time. Outside the Primary Conservation Area, the likelihood for oil and gas development is basically the same as current management.

Even with consultation with the U.S. Fish and Wildlife Service, under Alternative 1, proposals for development would likely proceed, as a jeopardy opinion[8] is highly unlikely due to the current status of the grizzly bear population. Surface occupancy for oil and gas is allowed on approximately 37 percent of the short-term secure habitat in the area considered as the best estimate of the biologically suitable habitat outside the Primary Conservation Area. Much of this area has a very low to moderate potential for occurrence and there are only eight active leases and no active oil and gas wells. We will continue with individual leasing decisions for the six Greater Yellowstone Area national forests.

3.3 Principal reason 3 - federal, state, local, and tribal governments work together to monitor and adapt management to changing conditions and new science

We recognize the uncertainty in estimating precisely how many bears are needed and how much and what kind of habitat is required to support the grizzly bear population. This is especially difficult in relationship to potential changes in habitat due to climate change, fluctuations in annual food availability, and associated dynamics of grizzly bear social structure at various bear densities. The best approach to ensure a healthy grizzly bear population is to monitor both population and habitat parameters closely and respond with adaptive management. While the management direction in this amendment provides a firm foundation for grizzly bear habitat management, habitat management is dynamic and new information is constantly being developed. The selected alternative embraces this adaptive management approach—as conditions change, so will management direction. Future changes, based on monitoring and evaluation, will involve public collaboration.

For more than 30 years, federal, state, and other governments have been committed to the recovery of the grizzly bear in the Greater Yellowstone Area. Since 1983, the Interagency Grizzly Bear Committee has coordinated management and research actions for recovery of the grizzly bear nationwide. A subcommittee of the Interagency Grizzly Bear Committee, the Yellowstone Ecosystem Subcommittee,

[8] A jeopardy opinion is issued by the U.S. Fish and Wildlife Service when an activity or project is likely to jeopardize the continued existence of a species.

coordinates efforts specific to the Greater Yellowstone Area. The Yellowstone Ecosystem Subcommittee is comprised of representatives of the Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Wyoming Game and Fish Department, Idaho Department of Fish and Game, Montana Fish, Wildlife and Parks, county governments, and tribes. At the Yellowstone Ecosystem Subcommittee's biannual meetings, the public is invited to observe the proceedings and share comments and information about bear conservation. The Interagency Grizzly Bear Study Team, created in 1973, provides scientific information from monitoring and other research that is used by the Yellowstone Ecosystem Subcommittee and the Interagency Grizzly Bear Committee for adapting management and sustaining the recovered Yellowstone grizzly bear population.

With delisting of the grizzly bear, the Conservation Strategy, state grizzly bear management plans, National Park Service management plans, and this amendment provide the direction for coordinated and adaptive management of the grizzly bear and grizzly bear habitat.

The Forest Service has signed the Memorandum of Understanding detailing agency agreements to implement the Conservation Strategy. By signing the Memorandum of Understanding, we agree to:

- Use our authorities to maintain and enhance the recovered status of the grizzly bear in the Greater Yellowstone Area by implementing the regulatory mechanisms, interagency cooperation, population and habitat management and monitoring, and other provisions of the Conservation Strategy
- Be members of the Yellowstone Grizzly Coordinating Committee
- Support and be part of the adaptive management process as identified in the Biology and Monitoring Review section of the Conservation Strategy

Yellowstone Grizzly Coordinating Committee

As agreed upon in the Conservation Strategy, management of the delisted grizzly bear population will be coordinated by a new committee that will replace the Yellowstone Ecosystem Subcommittee. We (forest supervisors of the six Greater Yellowstone Area national forests) will be members of the new committee, which will be called the Yellowstone Grizzly Coordinating Committee. The Yellowstone Grizzly Coordinating Committee is the body that will coordinate management, promote the exchange of information about the Yellowstone grizzly bear population, and adapt to changing conditions and new science. The Yellowstone Grizzly Coordinating Committee will inform the Interagency Grizzly Bear Committee about the Yellowstone grizzly bear population for the benefit of grizzly bear conservation and management.

As part of the adaptive management process and within our authorities within the Yellowstone Grizzly Coordinating Committee, we will revise or amend the Conservation Strategy based on the best biological data and the best available science. Any such amendments will be subject to public review and comment.

Participation in Yellowstone Grizzly Coordinating Committee activities related to adaptive management includes:

- Ensuring population and habitat data are collected annually by the Interagency Grizzly Bear Study Team, as specified in the Conservation Strategy, and evaluated to assess the current status of the grizzly bear population
- Sharing information and implementing management actions in a coordinated fashion
- Identifying management, research, and financial needs to successfully implement the coordinated Conservation Strategy
- Implementing a Biology and Monitoring Review as necessary and submitting a petition for relisting as appropriate to ensure agency responsiveness to changing circumstances of the grizzly or its habitat in the Greater Yellowstone Area

Under the Conservation Strategy, a Biology and Monitoring Review is a process carried out by the Interagency Grizzly Bear Study Team. A Biology and Monitoring Review examines management of habitat, populations, or efforts of participating agencies to complete their required monitoring. Biology and Monitoring Reviews will be undertaken after the annual summary of monitoring information

presented to the Yellowstone Grizzly Coordinating Committee and in response to deviations from required population or habitat standards. Any Yellowstone Grizzly Coordinating Committee member agency can request a Biology and Monitoring Review be considered. Such consideration would be a topic for discussion by the Yellowstone Grizzly Coordinating Committee and the review would be initiated based on the decision of the Yellowstone Grizzly Coordinating Committee. The Biology and Monitoring Review process would be completed within six months and the resulting written report presented to the Yellowstone Grizzly Coordinating Committee and made available to the public. Two of the purposes of a Biology and Monitoring Review related to adaptive management are:

- To identify the reasons why particular demographic or habitat objectives have not been achieved and to recommend modifications to the Yellowstone Grizzly Coordinating Committee for changes as necessary
- To consider and establish a scientific basis for possible changes in management due to changed conditions in the ecosystem and make those recommendations to the Yellowstone Grizzly Coordinating Committee

The Yellowstone Grizzly Coordinating Committee will respond to the Biology and Monitoring Review in written form, through either the minutes of the Yellowstone Grizzly Coordinating Committee meeting or in specific Biology and Monitoring Review response documents, as necessary. The purpose of the Yellowstone Grizzly Coordinating Committee response is to address the issue(s) raised in the Biology and Monitoring Review with an explanation or management changes as necessary.

When habitat management changes have been identified through the Biology and Monitoring Review process, we (forest supervisors of the six Greater Yellowstone Area national forests) will use the forest plan amendment process to establish new direction or guidance for grizzly bear habitat to maintain the recovered grizzly bear population.

All action alternatives incorporate this adaptive management process to ensure continued coordination in sustaining the recovered grizzly bear population. Alternative 2-Modified goes beyond the direction in the Conservation Strategy by providing direction for coordination with states in implementing state management plans for grizzly bear occupancy outside the Primary Conservation Area. Additionally, the selected alternative provides direction for local public involvement in implementing food storage regulations in the areas determined to be biologically suitable and socially acceptable for grizzly bears outside the Primary Conservation Area. Additional monitoring added to the selected alternative outside the Primary Conservation Area will help provide a better picture of habitat conditions for grizzly bears in the Greater Yellowstone Area for adaptive management decisions by the Yellowstone Grizzly Coordinating Committee.

Alternative 4 provides direction for grizzly bear habitat outside the Primary Conservation Area. The strict requirements allow little room for flexibility in accommodating other uses and local considerations. The adaptive management approach described above, when coupled with using best available science in decision making, will ensure a timely response if conditions change for the grizzly bear. We will be able to make necessary adjustments in habitat monitoring and management in order to sustain a recovered grizzly bear population.

Part 4 Implementation

This forest plan amendment will be implemented no sooner than five (5) working days after the Final Rule delisting the Yellowstone grizzly population has been published in the Federal Register. If the grizzly bear is not delisted, existing forest plan direction for grizzly bears will remain in place.

The Interagency Grizzly Bear Guidelines and management situations as defined in the 1986 Guidelines no longer apply (except for Management Situation 3 on the Targhee National Forest).

If litigation occurs, implementation of the standards and guidelines depends on whether the court issues an injunction. Should the delisting of the grizzly bear be overturned, existing forest plan direction for grizzly bears would remain in place.

The Conservation Strategy emphasizes the importance of continued coordination and cooperative working relationships among management agencies to continue application of best available science and maintain effective actions to benefit the coexistence of grizzly bears and humans in the ecosystem. Through membership in the Yellowstone Grizzly Coordinating Committee, the Forest Service will work cooperatively with state wildlife management agencies and the National Park Service to meet the population goals identified in the Conservation Strategy and occupancy goals for biologically suitable and socially acceptable habitats as identified in the state grizzly bear management plans. The Wyoming Game and Fish Department has identified the biologically suitable and socially acceptable area for grizzly bears outside the Primary Conservation Area in Wyoming. Idaho's and Montana's state grizzly bear management plans have not yet identified specific areas that are socially acceptable for grizzly bear occupancy outside the Primary Conservation Area and will likely only do so on a case-by-case basis.

Further direction in special orders, cooperative agreements, and the Forest Service directives system will be followed; regional supplements to Forest Service Manual 2600, chapter 2670, will be approved before the grizzly bear is delisted and will include direction designating the grizzly bear as a sensitive species in Forest Service Regions 1 (Northern Region), 2 (Rocky Mountain Region), and 4 (Intermountain Region).

As forest plans are revised under the 2005 Forest Service planning regulations, the grizzly bear is expected to be designated a species of concern. The Forest Service provided the following statements to the U.S. Fish and Wildlife Service on March 23, 2006:

> After delisting, grizzly bears will be managed as a sensitive species on the six Yellowstone area National Forests under their amended land management plans. Under future revisions of these plans, we expect that grizzly bears will be designated as a "species of concern" (FSH 1909.12.43.22b (5)). This will ensure that components of the revised land management plans will provide the appropriate ecological conditions (i.e., habitats) necessary to continue to provide for a recovered population (FSM 1921.76c). In this way, the intent of the habitat standards in the Conservation Strategy and the amended land management plans will be perpetuated in future plans as they are revised.

Transition to the direction in this amendment

This decision does not affect or apply to existing occupancy and use authorized by permits, contracts, or other instruments implementing approved projects and activities. Using the monitoring items described in the appendix of this Record of Decision, ongoing projects other than those authorized by permits, contracts, or other instruments will be evaluated for compliance with the new direction. Any projects not in compliance with this direction will be mitigated using the Application Rules. All future projects will comply with the direction in this amendment.

4.1 Delisting

The U.S. Fish and Wildlife Service reviewed the status of the Yellowstone grizzly bear population under the Endangered Species Act and published the Proposed Rule to remove the Yellowstone Distinct

Population Segment from the federal list of endangered and threatened wildlife in the Federal Register on November 17, 2005[9].

After reviewing comments, the Final Rule regarding the proposal to delist the Yellowstone grizzly bear population will be published in the Federal Register. The Final Rule will address the status of the Yellowstone grizzly bear population according to the five factors in section 4(a)(1) of the Endangered Species Act. These factors include population and habitat status and the existence of adequate regulatory mechanisms, as described in the Conservation Strategy and other appropriate direction. This analysis will result in a determination by the U.S. Fish and Wildlife Service whether to delist the Yellowstone population or maintain protection under the Endangered Species Act. If the determination is that the bear no longer meets the Endangered Species Act's definition of threatened or endangered, the publication of the Final Rule will change the status of the Yellowstone grizzly bear population—the population will no longer be a listed species.

Part 5 Public involvement and issues

5.1 Public involvement process

The scoping period began when a Notice of Intent to prepare an environmental impact statement was published in the Federal Register on July 16, 2003. The Notice of Intent asked for public comment on the proposal from July 16 through August 15, 2003. On August 12, 2003, a revised Notice of Intent was published, extending the comment period to September 2, 2003. Additionally, as part of the public involvement process, a description of the proposed action was:

- Mailed to 3,577 individuals, organizations, and agencies in July 2003
- Published in news releases in local Greater Yellowstone Area newspapers
- Posted on the Web at http://www.fs.fed.us/r1/wildlife/igbc/Subcommittee/yes/YEamend/gb_internet.htm
- Listed on each forest's quarterly Schedule of Proposed Actions report beginning in the summer of 2003

Briefings were held with individuals and organizations, as requested. An email address was established to receive comments electronically. Nearly 55,000 responses were received, including 396 original responses and 54,505 organized campaign responses.

The Notice of Availability of the Draft Environmental Impact Statement was published in the Federal Register on August 13, 2004. The Draft Environmental Impact Statement was available on the Web and was mailed to 872 individuals, organizations, and agencies. Five open houses were held throughout the Greater Yellowstone Area. The 90-day comment period ended November 12, 2004. The Forest Service received 675 original responses and 44,984 organized campaign responses.

5.2 Summary of public comment

Public comment on the Draft Environmental Impact Statement was far-reaching, often highly detailed, and represented a wide range of values and perspectives with respect to grizzly bear management and area management in general.

Respondents expressed different views regarding the proposed forest plan amendment in the Draft Environmental Impact Statement. In general, people took one of two positions: preservation management as an objective of the Forest Service with support for continued federal protection of grizzly bears, or

[9] Federal Register Vol. 70, No. 221. Department of the Interior. Fish and Wildlife Service. Endangered and Threatened Wildlife and Plants; Designating the Greater Yellowstone Ecosystem Population of Grizzly Bears as a Distinct Population Segment; Removing the Yellowstone Distinct Population Segment of Grizzly Bears from the Federal List of Endangered and Threatened Wildlife; Proposed Rule.

multiple use management of national forests with support for delisting grizzly bears as this is seen as a positive step toward more state and local management of public lands.

Many respondents felt Alternative 2 was the best option for grizzly bears and the Greater Yellowstone Area because it allowed for multiple use management of public lands. These writers assert that the Forest Service, as mandated in the National Forest Management Act, should manage for "sustained yields of multiple use." A number of respondents valued motorized recreational use of public lands and felt Alternative 2 adequately accounted for this recreational activity. Additional multiple uses of value included livestock grazing rights and natural resource development. Other writers suggested Alternative 2 is supported by science and maintains consistency with other Forest Service plans. As one respondent stated, "More restrictive policies and standards are not required for grizzly management," and "The recovered population is no longer threatened or endangered."

Others believed that Alternative 1 is the best option because current forest plans provide suitable and adequate amounts of habitat for recovery of a viable grizzly bear population; what is not broken does not need to be fixed. "The current plans are working—they brought about the recovery." There is a perception that Alternatives 2, 3, and 4 would impose more restrictions on multiple use of public lands.

On the other hand, a number of respondents viewed Alternative 4 as the best alternative, given its emphasis on protected grizzly bear habitat. These writers state that Alternative 4 is the environmentally preferred option and is the only option to provide adequate protection for long-term grizzly bear survival.

A number of others mentioned the Forest Service should prohibit resource development and livestock grazing on public lands in the interest of preserving natural wildlife and wild and pristine areas. One respondent described the Forest Service as the "stewards of our natural, national heritage." Still another respondent expressed the philosophy of many preservation management respondents that limitations on human uses are a worthwhile sacrifice "in order for the grizzly to survive and continue its protection."

These different views frame the significant number of requests made by the public. Respondents submitted many requests for modification of alternatives regarding grizzly bear management and the proposed management of the Greater Yellowstone Area. These numerous requests relative to specific areas of management, in conjunction with all other concerns raised by the public, reveal how important Yellowstone grizzly bears and the Greater Yellowstone Area are to the public.

5.3 Government consultation

No American Indian reservations are located within the Primary Conservation Area. Several tribes have trust and treaty responsibilities and interests in the Greater Yellowstone Area.

Forest supervisors consulted with the Crow, Nez Perce, Northern Arapaho, Northern Cheyenne, Salish Kootenai, Shoshone, and Shoshone-Bannock tribes to initiate consultation regarding this forest plan amendment. Tribes were given the opportunity to provide input during the scoping period and during development of the Draft and Final Environmental Impact Statements.

5.4 Issues

As a result of the public participation process; review by other federal, state, tribal, and local government agencies; and internal reviews, significant issues were identified and are described in detail in chapter 1 in the Final Environmental Impact Statement. Some issues were used as a basis for developing alternatives. Other issues were used in development of mitigation measures, incorporated into management direction and guidance, or used to analyze effects.

Issue 1—adequate habitat standards

Many respondents requested more restrictive habitat standards or an extension of habitat standards to lands outside the Primary Conservation Area, or both, to provide additional protection for the grizzly bear, including habitat connectivity within the Greater Yellowstone Area. Some respondents requested the elimination of temporary changes in secure habitat, no new developed sites, mandatory phase out of sheep grazing, and establishing road density standards. Some felt logging would degrade habitat for the

bear. Others felt habitat standards should be extended to areas outside the Primary Conservation Area. Others requested fewer restrictions, including omitting the Plateau Bear Management Unit from habitat standards. Many respondents had concerns about 1998 as a baseline for resource management. Although the grizzly bear population achieved all demographic recovery targets by 1998 with this management regime in place, some respondents felt the baseline could be adjusted to allow either more management flexibility or increased protections for the grizzly bear. Some respondents mentioned key roadless areas for maintaining secure habitat.

Issue 2—changes in the Primary Conservation Area boundary

There were concerns about the size of the Primary Conservation Area. Some felt the size of the Primary Conservation Area is adequate because it has allowed the grizzly bear population to achieve all demographic recovery targets. Others felt the Primary Conservation Area is too small as habitats outside the Primary Conservation Area have been occupied by grizzly bears and contributed to the recovery of the grizzly bear. Others felt the Primary Conservation Area should be smaller and the numbers of bears reduced.

Issue 3—recreation opportunities

Many respondents had concerns that the habitat standards would result in reduced motorized recreation opportunities and in closing more roads. Some respondents were concerned about public safety while recreating in grizzly bear habitat. Although not part of the proposed action, concerns about food storage requirements were expressed and some respondents felt that black bear baiting should be restricted in grizzly bear habitat. There were concerns about the effects to special use permitted resorts, ski areas, and lodges if developed sites were limited to 1998 levels. Additionally, some respondents felt information and education could play an important role in how to recreate in bear country.

Issue 4—social and economic effects

Some respondents were concerned with the effects on income, employment, and lifestyle changes related to livestock operations, ranches, people associated with the timber industry, and recreation-related businesses. Some counties have passed resolutions banning the presence of grizzly bears and are concerned about the social and economic well being of their areas. Some expressed that reduced grazing could accelerate the breakup of ranches into subdivisions in the Greater Yellowstone Area if ranching were not economically viable.

Issue 5—vegetation, fuels, and access

Some respondents, including land managers, were concerned the standards would be too restrictive and would affect the ability to manage hazardous fuels; programs such as the Healthy Forests Initiative would be compromised and treatment of fuels in the wildland urban interface could be affected. Managers were concerned the proposed action (Alternative 2) would limit the administrative use of roads and motorized trails and the construction of roads and motorized trails—this potentially influences activities such as timber harvest, wildfire suppression, administrative management activities, and other uses associated with Forest Service roads and motorized trails.

Issue 6—minerals

Some respondents were concerned the habitat standards would limit oil and gas and mining and exploration programs because of limitations on developed sites and secure habitat. Others felt additional restrictions should be imposed on these programs.

Issue 7—food source stability

Some respondents said threats to food sources are not fully understood and must be further studied, suggesting major foods for bears, such as army cutworm moths, spawning cutthroat trout, whitebark pine nuts, and wild ungulate carcasses may not be available in future years because of disease or other threats. Some said fire prevention is a prime factor in the decline of whitebark pine. Some respondents felt that due to the uncertainty of the loss of these major foods, a larger area should be managed for grizzly bears.

Issue 8—connectivity and linkage between the six Greater Yellowstone Area national forests

Some respondents felt the ability for bears to move between important habitats in the Greater Yellowstone Area should be addressed. They suggested the Forest Service should increase efforts to

make the landscape in these linkage areas less lethal for bears through implementation of food storage requirements, elimination of domestic sheep, and habitat maintenance and restoration of degraded areas.

Issue 9—commercial livestock grazing

Some respondents were concerned about how much impact the habitat standards would have on livestock grazing, and in particular, what the effects would be from phasing out sheep grazing. Grizzly bear/livestock conflicts were also a concern, as well as changes in livestock operations.

Part 6 Alternatives considered

6.1 Alternatives considered in detail in the Final Environmental Impact Statement

Alternative 1—no action

Alternative 1 was the no action alternative. National Environmental Policy Act regulations require the Forest Service to identify the no action alternative and use it as a baseline for comparing the environmental consequences of the other alternatives (40 CFR 1502.14(d), and Forest Service Handbook 1909.15 Environmental Policy and Procedures, 14.1).

Under Alternative 1, current forest plans would continue to guide management of grizzly bear habitat in the recovery zone. Further direction in special orders, biological opinions issued by the U.S. Fish and Wildlife Service, cooperative agreements, and Forest Service manual and handbook direction would be followed.

The grizzly bear would retain its protected, threatened status under the Endangered Species Act and all forests would continue to consult with the U.S. Fish and Wildlife Service on all actions authorized, permitted, or carried out by the Forest Service.

Alternative 2—proposed action and preferred alternative in the Draft Environmental Impact Statement

Alternative 2 was presented as the proposed action during the scoping period and the preferred alternative in the Draft Environmental Impact Statement. The purpose of this alternative was to implement the appropriate habitat standards and monitoring protocols as documented in the Conservation Strategy.

This alternative would provide additional programmatic direction in the form of habitat standards and guidelines for management of grizzly bear habitat security, developed sites, nuisance grizzly bear management, and livestock grazing within the Primary Conservation Area. All standards applied only to the Primary Conservation Area.

Standards were based on 1998 human activity levels. By 1998, all demographic recovery criteria were met. The assumption was the levels of habitat security and other habitat conditions in 1998 provided the base environment that led to the recovery of the Yellowstone grizzly bear population.

Alternative 2-Modified—selected alternative

Alternative 2-Modified was developed in response to comments received on the Draft Environmental Impact Statement. A key concern was the lack of direction outside the Primary Conservation Area for grizzly bear habitat management. Alternative 2-Modified is similar to Alternative 2 but adds direction and guidance for management of grizzly bears related to livestock grazing, food storage, food sources, and monitoring of secure habitat, both inside and outside the Primary Conservation Area. Standard 4 of Alternative 2, stating that guidelines and management situations would no longer apply, was dropped because that direction will be described in this decision document.

Alternative 3

Alternative 3 was developed in response to comments suggesting the Forest Service provide more restrictive habitat protection for the grizzly bear inside the Primary Conservation Area. The purpose was to address the potential loss of major bear foods and further reduce the potential for grizzly bear/human conflicts and bear mortality inside the Primary Conservation Area. This alternative maintained the size of

the area where management direction would favor grizzly bears with more restrictive standards. The major differences between Alternatives 2 and 3 are that:

- No permanent or temporary reduction in secure habitat would be allowed and secure habitat would be increased
- Proposed increases in developed sites or capacity of developed sites could not be mitigated and would not be allowed
- Sheep grazing inside the Primary Conservation Area would be eliminated within three years, rather than phased out

Alternative 3 would require additional restrictions to resolve grizzly bear/human conflicts and protect important food sources, restrict off-road travel (except over-the-snow use) to designated routes, eliminate over-the-snow use in grizzly bear denning areas, and not allow new oil and gas leases.

Standards were based on 1998 human activity levels. The secure habitat and developed site standards would apply to each of the Bear Management Unit subunits on National Forest System lands inside the Primary Conservation Area.

Alternative 4—environmentally preferred

This alternative was developed in response to comments suggesting the Forest Service extend grizzly bear habitat protection beyond the Primary Conservation Area. The purpose was to address the potential future loss of major bear foods, increase the probability of habitat connectivity with other ecosystems, improve linkage and connectivity between key habitats within the six Greater Yellowstone Area national forests, and further reduce the potential for grizzly bear/human conflicts and bear mortality throughout the Greater Yellowstone Area.

This alternative increased the size of the area where management direction would favor grizzly bears with the more restrictive standards described for Alternative 3. For Alternative 4, the boundary outside the Primary Conservation Area and the standards and guidelines were developed using information obtained from scoping. Existing evaluations of suitable habitat and linkage areas for grizzly bears within the six Greater Yellowstone Area national forests were used as the basis for delineation of this boundary (Walker and Craighead 1997, Willcox and Ellenberger 2000, Merrill and Mattson 2004).

Standards were based on 1998 human activity levels inside the Primary Conservation Area and 2003 levels in areas outside the Primary Conservation Area. The secure habitat and developed site standards would have applied to each of the Bear Management Unit subunits and analysis areas on National Forest System lands inside this delineated area.

6.2 Alternatives not considered in detail

Alternative 5

Alternative 5 proposed implementation of the appropriate habitat standards and monitoring protocols as documented in the Conservation Strategy (similar to Alternative 2), plus less restrictive habitat direction for areas outside the Primary Conservation Area. These areas were described in the state management plans. The interdisciplinary team initiated detailed study of this alternative until determining it was similar to Alternative 4. Alternative 5 would extend habitat standards outside the Primary Conservation Area to nearly the same area as Alternative 4. Standards would be less restrictive than Alternative 4. A complete analysis was unnecessary because effects would have been within the range of effects for Alternatives 2 and 4.

Alternative 6

This alternative was developed in response to public comments suggesting the Forest Service reduce the area of habitat protection and the amount of restrictions for the grizzly bear. In particular, the Plateau Bear Management Unit would be removed from the Primary Conservation Area. This alternative was not given further detailed study because it did not meet the purpose and need for action, which is to ensure conservation of habitat to support continued recovery of the grizzly bear population in the Greater Yellowstone Area national forests.

During the planning process to revise the Targhee Forest Plan, public comments were received suggesting that the Plateau Bear Management Unit be removed. This suggestion was made based on the perception that the Plateau Bear Management Unit was poor quality habitat and had low grizzly bear use.

During 1993 and 1994, a technical committee appointed by the Yellowstone Ecosystem Subcommittee conducted a study to evaluate habitat capability and grizzly bear use in the Plateau Bear Management Unit. Results and recommendations from that study are summarized in the Final Environmental Impact Statement (section 2.2.2).

Other alternatives

Many public comments included variations on providing additional habitat protection for the grizzly bear through extension of habitat standards beyond the Primary Conservation Area. Some of the reasons were to address the potential future loss of major bear foods and increase the probability of habitat connectivity with other ecosystems. Some comments called for extending habitat standards either to occupied grizzly bear habitat, or to inventoried roadless areas, or to all National Forest System lands in the Greater Yellowstone Area. These alternatives were combined and are represented by Alternative 4.

Another suggestion was termination or removal of existing oil and gas leases as one variation of Alternative 4. The variation was not considered in detail because the Forest Service and Bureau of Land Management have limited opportunities to implement this alternative. For more discussion, see section 2.2.3 in the Final Environmental Impact Statement.

Part 7 Legally required findings

7.1 National Environmental Policy Act

Consideration of long- and short-term effects

The Final Environmental Impact Statement considered current effects to the significant issues and other resources and projected effects from 10 to 25 years.

Unavoidable adverse effects

Decisions made on this forest plan amendment do not represent irreversible or irretrievable commitments of resources. Any proposed disturbance to resources cannot occur without further analyses and decision documents. For a detailed discussion of effects, see chapter 3 of the Final Environmental Impact Statement.

Environmentally preferable alternative(s)

Regulations implementing the National Environmental Policy Act require agencies to specify “the alternative or alternatives which are considered to be environmentally preferable” (40 CFR 1505.2(b)). The environmentally preferable alternative causes the least damage to the biological and physical environments and best protects, preserves, and enhances historical, cultural, and natural resources. Based on the description of the alternatives considered in detail in the Final Environmental Impact Statement and this Record of Decision, we have determined that Alternative 4 best meets the goals of Section 101 of the National Environmental Policy Act and is therefore the environmentally preferable alternative for this proposed federal action.

7.2 National Forest Management Act

We find that this amendment is not significant under the National Forest Management Act regulations, based on our evaluation of the four factors described below. This finding is made pursuant to the 1982 National Forest Management Act regulations as allowed for by the 2005 National Forest Management Act regulations at 36 CFR 219.14(d)(2).

The 1982 National Forest Management Act regulations direct that “based on an analysis of the objectives, guidelines, and other contents of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the plan. If the change resulting

from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a Forest Plan [i.e., conduct a plan revision]. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of National Environmental Policy Act procedures" (36 CFR 219.10(f) (1982). The test we are using to determine significance for the forest plan amendment includes four factors.

Timing

Identify when the change is to take place. Determine whether the change is necessary during or after the plan period (the first decade) or whether the change is to take place after the next scheduled revision of the forest plan.

Figure 7 displays the approval dates for the forest plans for the six forests as well as the proposed completion dates for their revisions. The amendment takes place late in the life of the plans and according to the FSH 1909.12, chapter 5.32, "the later the change, the less likely it is to be significant for the current forest plan." Although this amendment occurs late in the lifespan of the forest plans, these changes are necessary to ensure conservation of habitat to sustain the recovered Yellowstone grizzly bear population.

Location and size

Determine the location and size of the area involved in the change. Define the relationship of the affected area to the overall planning area.

In reviewing the Final Environmental Impact Statement, we concluded that although the six Greater Yellowstone Area national forests (the planning area) include a very large area—approximately 13 million acres—the standards and some guidelines apply only to the Primary Conservation Area, which is 28 percent of the planning area. Other guidelines will apply to areas determined to be socially acceptable and biologically suitable for grizzly bears, which could include an additional 50 percent of the planning area outside the Primary Conservation Area.

Goals, objectives, and outputs

Determine whether the change alters long-term relationships between the levels of goods and services projected by the forest plan. Consider whether an increase in one type of output would trigger an increase or decrease in another. Determine where there is a demand for goods or services not discussed in the forest plan.

Amendment of the plans for grizzly bear habitat conservation as outlined in Alternative 2-Modified will not alter the level of goods and services provided on the six national forests in the Greater Yellowstone Area. We have considered effects on key goods and services that are provided by the Greater Yellowstone Area national forests, including recreation, livestock grazing, timber harvest, fire management, and minerals. We determined the levels of goods and services can continue at present levels and the amendments will not alter long-term relationships between the levels of goods and services projected by the forest plan.

Management prescription

Determine whether the change in a management prescription is only for a specific situation or whether it would apply to future decisions throughout the planning areas. Determine whether the change alters the desired future condition of the land and resources or the anticipated goods and services to be produced.

This action does not change management prescriptions or alter management area boundaries. It does not alter the desired future condition of the land and resources or the anticipated goods and services to be produced.

Figure 7. Land and resource management plans to be amended.

National forest	Forest Service region	Land and resource management plan to be amended	Year plan approved	Year scheduled for plan revision completion[1]
Beaverhead-Deerlodge	Region 1	Beaverhead Forest Plan	1986	2006
Bridger-Teton	Region 4	Bridger-Teton National Forest Land and Resource Management Plan	1990	2007
Caribou-Targhee	Region 4	1997 Revised Forest Plan—Targhee National Forest	1997	2010
Custer	Region 1	Custer National Forest and Grasslands Land and Resource Management Plan (amendment applies only to the Beartooth Ranger District)	1986	2009
Gallatin	Region 1	Gallatin National Forest Plan	1987	2009
Shoshone	Region 2	Shoshone National Forest Land and Resource Management Plan	1986	2007

[1] USDA Forest Service 2005d.

7.3 Endangered Species Act

The Endangered Species Act creates an affirmative obligation ". . . that all federal departments and agencies shall seek to conserve endangered and threatened (and proposed) species" of fish, wildlife, and plants. This obligation is further clarified in a National Interagency Memorandum of Agreement (August 30, 2000) which states our shared mission to ". . . enhance conservation of imperiled species while delivering appropriate goods and services provided by the lands and resources."

Based upon a consultation agreement with the USFWS and in accordance with Forest Service direction for listed species, we completed biological assessments for all listed species. For all listed species, except the grizzly bear and the gray wolf, we determined the preferred alternative would have "no effect" on these species. The determination for the gray wolf was that the preferred alternative was "not likely to jeopardize the continued existence" of the gray wolf. The determination for the grizzly bear was "not likely to adversely effect." Biological assessments were submitted to the USFWS as a courtesy, but are not required for "no effect" determinations. The USFWS provided written review as required by Section 7 of the ESA for the gray wolf and grizzly bear.

7.4 National Historic Preservation Act

This forest plan amendment is a programmatic action and does not authorize site-specific activities. Projects undertaken in response to the direction in the amendment will comply fully with the laws and regulations that ensure protection of cultural resources.

It is our determination that the forest plan amendment complies with the National Historic Preservation Act and other statutes that pertain to the protection of cultural resources.

7.5 Invasive Species (Executive Order 13112)

Executive Order 13112 directs federal agencies not to authorize any activities that would increase the spread of invasive species. The forest plan amendment is a programmatic action and does not authorize site-specific activities.

We have determined the forest plan amendment complies with Executive Order 13112.

7.6 Environmental Justice (Executive Order 12898)

Executive Order 12898 directs federal agencies to identify and address, as appropriate, any disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

We have determined from the analyses disclosed in the Final Environmental Impact Statement that the forest plan amendment complies with Executive Order 12898.

7.7 Prime Farmland, Rangeland, and Forest Land

We have determined from the analyses disclosed in the Final Environmental Impact Statement that prime farmland, rangeland, and forest land will not be affected because the selected alternative is a programmatic action and does not authorize site-specific activities.

7.8 Equal Employment Opportunity, Effects on Minorities, Women

The Final Environmental Impact Statement describes the impacts to social and economic factors in chapter 3. The selected alternative will not have a disproportionate impact on any minority or low-income communities. We have determined the selected alternative will not differentially affect the civil rights on any citizens, including women and minorities.

7.9 Wetlands and Floodplains (Executive Orders 11988 and 11990)

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

7.10 Other policies

The existing body of national direction for managing national forests remains in effect.

Part 8 Administrative review

This decision is subject to review pursuant to 36 CFR 217.3. Any appeals must be postmarked or received by the Appeal Reviewing Officer within 45 days of the date the legal notice is published in the Cody Enterprise, the lead newspaper of record. Courtesy notices will be published in other newspapers, but the publication date in the Cody Enterprise determines the appeal period.

Appeals must be sent to:

Regional Forester
Intermountain Region USFS
324 25th Street
Ogden, UT 84401

Appeals may be hand-delivered to the above address during regular business hours, 8:00 am to 4:30 pm Monday through Friday, excluding holidays; or sent by fax to 801.625.5277; or by email to appeals-intermtn-regional-office@fs.fed.us. Emailed appeals must be submitted in rich text format (.rtf) or Word (.doc) and must include the project name in the subject line.

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

- A statement that the document is a Notice of Appeal filed pursuant to 36 CFR Part 217
- The name, address, and telephone number of the appellant
- Identify the decision to which the objection is being made
- Identify the document in which the decision is contained, by title and subject, date of the decision, and name and title of the Deciding Officer

- Specifically identify the portion(s) of the decision to which objection is made
- The reasons for the appeal, including issues of fact, law, regulation, or policy and, if applicable, specifically how the decision violates law, regulation, or policy
- Identification of the specific change(s) in the decision that the appellant seeks

8.1 Further information and contact person

The Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests Final Environmental Impact Statement, Executive Summary, and this Record of Decision are available on the Web at
http://www.fs.fed.us/r1/wildlife/igbc/Subcommittee/yes/YEamend/gb_internet.htm

For further information regarding the Final Environmental Impact Statement, Record of Decision, or amendment, contact:

Mr. Kim Barber
Shoshone National Forest
808 Meadow Lane Avenue
Cody, WY 82414
Telephone 307.527.6241

8.2 Responsible officials

Bruce Ramsey — 4-18-06
Bruce Ramsey — Date
Forest Supervisor, Beaverhead-Deerlodge National Forest

Kniffy Hamilton — April 18, 2006
Carole 'Kniffy' Hamilton — Date
Forest Supervisor, Bridger-Teton National Forest

Lawrence A Timchak — 4-18-06
Lawrence A. Timchak — Date
Forest Supervisor, Caribou-Targhee National Forest

Nancy T. Curriden — April 18, 2006
Nancy T. Curriden — Date
Forest Supervisor, Custer National Forest

Rebecca Heath — April 18, 2006
Rebecca Heath — Date
Forest Supervisor, Gallatin National Forest

Rebecca Aus — April 18, 2006
Rebecca Aus — Date
Forest Supervisor, Shoshone National Forest

Appendix—Forest plan amendment for grizzly bear habitat conservation

This Forest Plan Amendment for Grizzly Bear Habitat Conservation amends forest plans on the six Greater Yellowstone Area national forests: the Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, Gallatin, and Shoshone National Forests.

This is

- Amendment Number 10 to the 1986 Beaverhead Forest Plan
- Amendment Number 8 to the 1990 Bridger-Teton National Forest Land and Resource Management Plan
- Amendment Number 3 to the 1997 Revised Forest Plan—Targhee National Forest
- Amendment Number 42 to the 1987 Custer National Forest and Grasslands Land and Resource Management Plan
- Amendment Number 27 to the 1987 Gallatin National Forest Plan
- Amendment Number 2006-001 to the 1986 Shoshone National Forest Land and Resource Management Plan

Introduction

The goal, standards, guidelines, and monitoring described in this amendment provide management direction to ensure conservation of grizzly bear habitat to support the recovered Yellowstone grizzly bear population inside and outside the Primary Conservation Area.

The purpose and need for this amendment is to:

- Ensure conservation of grizzly bear habitat to support the recovered Yellowstone grizzly bear population
- Update the management and monitoring of grizzly bear habitat to incorporate recent interagency recommendations and agreements, as described in the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area
- Improve consistency among Greater Yellowstone Area national forests in managing grizzly bear habitat
- Ensure the adequacy of regulatory mechanisms for grizzly bear habitat protection upon delisting as identified in the Grizzly Bear Recovery Plan

The Forest Service, as a signee of the Memorandum of Understanding detailing agency agreements to implement the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area (Conservation Strategy), uses its authorities to maintain and enhance the recovered status of the grizzly bear in the Greater Yellowstone Area. This includes implementing the regulatory mechanisms, interagency cooperation, population and habitat management and monitoring, and other provisions of the Conservation Strategy. The Forest Service is a member of the Yellowstone Grizzly Coordinating Committee and is part of the adaptive management process as identified in the Biology and Monitoring Review section of the Conservation Strategy.

Further direction in special orders, cooperative agreements, and the Forest Service directives system will be followed; regional supplements to Forest Service Manual 2600, chapter 2670, will be approved before the grizzly bear is delisted and will include direction designating the grizzly bear as a sensitive species in Forest Service Regions 1 (Northern Region), 2 (Rocky Mountain Region), and 4 (Intermountain Region).

As forest plans are revised under the 2005 Forest Service planning regulations, the grizzly bear is expected to be designated a species of concern. The Forest Service provided the following statements to the U.S. Fish and Wildlife Service on March 23, 2006:

> After delisting, grizzly bears will be managed as a sensitive species on the six Yellowstone area National Forests under their amended land management plans. Under future revisions of these plans, we expect that grizzly bears will be designated as a “species of concern” (FSH 1909.12.43.22b (5)). This will ensure that components of the revised land management plans will provide the appropriate ecological conditions (i.e., habitats) necessary to continue to provide for a recovered population

(FSM 1921.76c). In this way, the intent of the habitat standards in the Conservation Strategy and the amended land management plans will be perpetuated in future plans as they are revised.

While the management direction in this amendment provides a firm foundation for grizzly bear habitat management, the Forest Service recognizes that habitat management is dynamic and that new information is constantly being developed. The direction in this amendment embraces an adaptive management approach—as conditions change, so will management direction. Future changes, based on monitoring and evaluation, will involve public involvement and collaboration and will incorporate best available science.

How this amendment is organized

This amendment is organized into four parts.

Part 1 describes the grizzly bear habitat conservation goal, standards and Application Rules, guidelines and Application Rules, and monitoring.

Part 2 describes the 1998 baseline values for habitat standards inside the Primary Conservation Area and habitat effectiveness.

Part 3 is the nuisance bear standards from the 2003 Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area.

Part 4 includes the following figures:

- Figure A-1. Criteria and definitions used in this amendment.
- Figure A-2. Map showing Bear Management Units and subunits in the Primary Conservation Area.
- Figure A-3. General Bear Management Unit subunit information inside the Primary Conservation Area.
- Figure A-4. The 1998 baseline values for secure habitat, OMARD >1 mile per square mile and TMARD >2 miles per square mile for 40 Bear Management Unit subunits in the Greater Yellowstone Area. Includes Forest Service, Bureau of Land Management, state, county, and private motorized access routes.
- Figure A-5. The 1998 baseline values for secure habitat, OMARD >1 mile per square mile and TMARD >2 miles per square mile for 40 Bear Management Unit subunits in the Greater Yellowstone Area. Includes only private roads and state and county highways.
- Figure A-6. Acres and national forest/national park overlap when applying the 1 percent rule.
- Figure A-7. The 1998 baseline for numbers of developed sites.
- Figure A-8. Number of mining claims as of 1998.
- Figure A-9. Number of commercial livestock grazing allotments and sheep animal months in 1998.
- Figure A-10. 1998 Cumulative Effects Model habitat effectiveness values by season.

Amendment part 1—Goal, standards, guidelines, and monitoring

Within the Primary Conservation Area, there are 18 Bear Management Units and 40 Bear Management Unit subunits totaling 5,894,000 acres (Figures A-2, A-3, and A-4). The major land management agencies include six national forests and two national parks.

Grizzly bear habitat conservation goal

Manage grizzly bear habitat within the Primary Conservation Area to sustain the recovered Yellowstone grizzly bear population. Outside the Primary Conservation Area in areas identified in state grizzly bear management plans as biologically suitable and socially acceptable for grizzly bear occupancy, accommodate grizzly bear populations to the extent that accommodation is compatible with the goals and objectives of other uses.

Grizzly bear habitat conservation standard for secure habitat

Inside the Primary Conservation Area, maintain the percent of secure habitat in Bear Management Unit subunits at or above 1998 levels. Projects that change secure habitat must follow the Application Rules.

Application Rules for changes in secure habitat

Permanent changes to secure habitat. A project may permanently change secure habitat if secure habitat of equivalent habitat quality (as measured by the Cumulative Effects Model or equivalent technology) is replaced in the same Bear Management Unit subunit. The replacement habitat must be maintained for a minimum of 10 years and be either in place before project implementation or concurrent with project development. Increases in secure habitat may be banked to offset the impacts of future projects of that administrative unit within that subunit.

Temporary changes to secure habitat. Projects can occur with temporary reductions in secure habitat if all the following conditions are met:

- Only one active project per Bear Management Unit subunit can occur at any one time.
- The total acreage of active projects within a given Bear Management Unit does not exceed 1 percent of the acreage in the largest subunit within that Bear Management Unit (Figure A-6). The acreage of a project that counts against the 1 percent limit is the acreage associated with the 500-meter buffer around any gated or open motorized access route or recurring low level helicopter flight line, where the buffer extends into secure habitat.
- To qualify as a temporary project, implementation will last no longer than three years.
- Secure habitat must be restored within one year after completion of the project.
- Project activities should be concentrated in time and space to the extent feasible.

Acceptable activities in secure habitat. Activities that do not require road construction, reconstruction, opening a permanently restricted road, or recurring helicopter flight lines at low elevation do not detract from secure habitat. Examples of such activities include thinning, tree planting, prescribed fire, trail maintenance, and administrative studies/monitoring. Activities should be concentrated in time and space to the extent feasible to minimize disturbance. Effects of such projects will be analyzed in the National Environmental Policy Act process.

- Helicopter use for short-term activities such as prescribed fire ignition/management, periodic administrative flights, fire suppression, search and rescue, and other similar activities do not constitute a project and do not detract from secure habitat.
- Motorized access routes with permanent barriers, decommissioned or obliterated roads, non-motorized trails, winter snow machine trails, and other motorized winter activities do not count against secure habitat.
- Project activities occurring between December 1 and February 28 do not count against secure habitat.
- Minimize effects on grizzly habitat from activities based in statutory rights, such as access to private lands under the Alaska National Interest Lands Conservation Act and the 1872 General Mining Law. Where the mitigated effects exceed the 1998 baseline within the affected subunit, compensate secure habitat to levels at or above the 1998 baseline, in this order: 1) in adjacent subunits, or 2) nearest subunits, or 3) in areas outside the Primary Conservation Area adjacent to the subunit impacted.
- Honor existing oil and gas and other mineral leases. Proposed Applications for Permit to Drill and operating plans within those leases should meet the Application Rules for changes in secure habitat. New leases, Applications for Permit to Drill, and operating plans must meet the secure habitat and developed site standards.

Grizzly bear habitat conservation standard for developed sites

Inside the Primary Conservation Area, maintain the number and capacity of developed sites at or below 1998 levels, with the following exceptions: any proposed increase, expansion, or change of use of developed sites from the 1998 baseline in the Primary Conservation Area (Figure A-7) will be analyzed and potential detrimental and positive impacts on grizzly bears will be documented through biological evaluation or assessment. Projects that change the number or capacity of developed sites must follow the Application Rules.

Application Rules for developed sites

Mitigation of detrimental impacts must occur within the affected subunit and be equivalent to the type and extent of impact. Mitigation measures must be in place before implementation of the project or included as an integral part of the completion of the project.

- New sites must be mitigated within that subunit to offset any increases in human capacity, habitat loss, and increased access to surrounding habitats. Consolidation and/or elimination of dispersed campsites is adequate mitigation for increases in human capacity at developed campgrounds if the new site capacity is equivalent to the dispersed camping eliminated.
- Administrative site expansions are exempt from human capacity mitigation expansion if such developments are necessary for enhancement of management of public lands and other viable alternatives are not available. Temporary construction work camps for highway construction or other major maintenance projects are exempt from human capacity mitigation if other viable alternatives are not available. Food storage facilities and management, including camp monitors, must be in place to ensure food storage compliance. All other factors resulting in potential detrimental impacts to grizzly bears must be mitigated as identified for other developed sites.
- To benefit the grizzly bear, capacity, season of use, and access to surrounding habitats of existing developed sites may be adjusted. The improvements may then be banked to mitigate equivalent impacts of future developed sites within that subunit.
- Minimize effects on grizzly habitat from activities based in statutory rights, such as the 1872 General Mining Law. Where the mitigated effects exceed the 1998 baseline within that subunit, provide mitigation to levels at or below the 1998 baseline in this order: 1) adjacent subunits, or 2) the nearest subunit, or 3) in areas outside the Primary Conservation Area adjacent to the subunit impacted. Mitigation for Mining Law site impacts must follow standard developed site mitigation to offset any increases in human capacity, habitat loss, and increased access to surrounding habitats.
- Honor existing oil and gas and other mineral leases. Proposed Applications for Permit to Drill and operating plans within those leases should meet the developed site standard. New leases, Applications for Permit to Drill, and operating plans must meet the developed site standard.
- Developments on private land are not counted against this standard.

Grizzly bear habitat conservation standard for livestock grazing

Inside the Primary Conservation Area, do not create new active commercial livestock grazing allotments, do not increase permitted sheep animal months from the 1998 baseline (Figure A-9), and phase out existing sheep allotments as opportunities arise with willing permittees.

Application Rule for livestock grazing standard

Allotments include both vacant and active commercial grazing allotments. Reissuance of permits for vacant cattle allotments may result in an increase in the number of permitted cattle, but the number of allotments must remain at or below the 1998 baseline. Allow combining or dividing existing allotments as long as acreage in allotments does not increase. Any such use of vacant cattle allotments resulting in an increase in permitted cattle numbers could be allowed only after an analysis to evaluate impacts on grizzly bears.

Grizzly bear habitat conservation guideline for livestock grazing

Inside the Primary Conservation Area, cattle allotments or portions of cattle allotments with recurring conflicts that cannot be resolved through modification of grazing practices may be retired as opportunities arise with willing permittees. Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, livestock allotments or portions of allotments with recurring conflicts that cannot be resolved through modification of grazing practices may be retired as opportunities arise with willing permittees.

Application Rule for livestock grazing guideline

Permittees with allotments with recurring conflicts will be given the opportunity to place livestock in a vacant allotment outside the Primary Conservation Area where there is less likelihood for conflicts with grizzly bears as these allotments become available.

Grizzly bear habitat conservation standard for nuisance bears

Coordinate with state wildlife management agencies to apply Conservation Strategy nuisance bear standards.

Grizzly bear habitat conservation standard for food storage

Inside the Primary Conservation Area, minimize grizzly bear/human conflicts using food storage, information and education, and other management tools.

Grizzly bear habitat conservation guideline for food storage

Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, emphasize proper sanitation techniques, including food storage orders, and information and education, while working with local governments and other agencies.

Grizzly bear habitat conservation guideline for winter motorized access

Inside the Primary Conservation Area, use localized area restrictions to address conflicts with winter use activities, where conflicts occur during denning or after bear emergence in the spring.

Grizzly bear habitat conservation guideline for food sources

Inside and outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, maintain the productivity, to the extent feasible, of the four key grizzly bear food sources as identified in the Conservation Strategy. Emphasize maintaining and restoring whitebark pine stands inside and outside the Primary Conservation Area.

Grizzly bear habitat conservation monitoring for secure habitat and motorized access

Inside the Primary Conservation Area, monitor, compare to the 1998 baseline, and annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: secure habitat, open motorized access route density (OMARD) greater than one mile per square mile, and total motorized access route density (TMARD) greater than two miles per square mile in each subunit on the national forest. Outside the Primary Conservation Area in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, monitor, and submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: changes in secure habitat by national forest every two years.

Grizzly bear habitat conservation monitoring for developed sites

Inside the Primary Conservation Area, monitor, and annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: changes in the number and capacity of developed sites on the national forest, and compare with the 1998 baseline.

Grizzly bear habitat conservation monitoring for livestock grazing

Inside the Primary Conservation Area, monitor, compare to the 1998 baseline, and annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: the number of commercial livestock grazing allotments on the national forest and the number of permitted domestic sheep animal months. Inside and outside the Primary Conservation Area, monitor and evaluate allotments for recurring conflicts with grizzly bears.

Grizzly bear habitat conservation monitoring for habitat effectiveness

Inside the Primary Conservation Area, monitor, and every five years submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: changes in seasonal habitat effectiveness in each Bear Management Unit and subunit on the national forest through the application of the Cumulative Effects Model or the best available system and compare outputs to the 1998 baseline. Annually review Cumulative Effects Model databases and update as needed. When funding is available, monitor representative non-motorized trails or access points where risk of grizzly bear mortality is highest.

Grizzly bear habitat conservation monitoring for whitebark pine

Monitor whitebark pine occurrence, productivity, and health inside and outside the Primary Conservation Area in cooperation with other agencies. Annually submit for inclusion in the Interagency Grizzly Bear Study Team Annual Report: results of whitebark pine cone production from transects or other appropriate methods, and results of other whitebark pine monitoring.

Amendment part 2—The 1998 baseline

The 1998 baseline values for habitat standards inside the Primary Conservation Area

The 1998 baseline represents an estimate of the habitat standards within the Primary Conservation Area as of 1998. That estimate relied on the best data available of what was known to be on the ground at the time. Baseline data establish a set of information against which future improvements and /or impacts can be assessed. As new information is available, the database will be adjusted and will serve as a tracking system for monitoring improvements and evaluating habitat conditions and the need for mitigation measures in the future. Any feature(s) not included in this 1998 baseline will be reviewed to determine its status in 1998. If the feature was present in 1998, it will be added to the baseline tables or maps, otherwise the feature will be subject to the standards and Application Rules identified in this amendment.

Secure habitat and motorized access route density within the Primary Conservation Area for each Bear Management Unit subunit

Using Geographic Information System databases created by each administrative unit, the percent secure habitat, OMARD greater than one mile per square mile, and TMARD greater than two miles per square mile were estimated as of 1998 for each Bear Management Unit subunit (Figure A-4). OMARD is evaluated for each of two seasons, as access routes may be restricted in one season and not another. TMARD and secure habitat are single values by definition and do not vary by season. The contribution of private roads and state and county highways was also evaluated for each Bear Management Unit subunit (Figure A-5). These values represent a minimum percent for OMARD and TMARD, and a maximum percent for secure habitat even if all motorized access features administered by the Forest Service were obliterated or decommissioned on National Forest System lands. A standardized program (AML) that runs in the ARC/INFO software environment was used to make the calculations. The buffer command in ARC/INFO is used to buffer all relevant motorized access features by 500 meters. The area outside of this buffer is secure habitat. Motorized access route density is calculated using a moving windows process with 30-meter cells and a one-mile square window.

Developed sites on public lands within the Primary Conservation Area

Developed sites include all sites on public land developed or improved for human use or resource development such as campgrounds, trailheads, lodges, administrative sites, service stations, summer homes, restaurants, visitor centers, and permitted resource development sites such as oil and gas exploratory wells, production wells, plans of operation for minerals activities, work camps, etc. Developed sites on public lands are currently inventoried in existing Geographic Information System databases and are an input item to the Cumulative Effects Model. Figure A-7 displays the number of developed sites for each administrative unit by Bear Management Unit subunit as of 1998.

Livestock grazing on public lands within the Primary Conservation Area

There were 100 commercial livestock grazing allotments inside the Primary Conservation Area in 1998 and 23,090 permitted sheep animal months (Figure A-9). Allotments with less than 100 acres inside the Primary Conservation Area were not included. Where several allotments are managed as one, this was counted as a single allotment. Sheep animal months are calculated by multiplying the permitted number of sheep times the months of permitted use. In many cases, actual use by sheep may have been less than the permitted numbers identified for 1998.

Habitat effectiveness

Habitat effectiveness outputs from the Cumulative Effects Model as of 1998 are presented in Figure A-10. Habitat effectiveness is a relative measure of that part of the energy potentially derived from the area that is available to bears given their response to humans. The higher the number the greater the habitat

effectiveness. The high values in the estrus period are associated with cutthroat trout spawning streams, high values in early hyperphagia are a result of moth aggregation sites, and high values in late hyperphagia are primarily due to whitebark pine. Habitat effectiveness is calculated using the ICE9 software, which evaluates information contained in several Geographic Information System and tabular databases. The databases include digital maps of vegetation, ungulate winter ranges, and point, linear and dispersed human activities; coefficient tables that categorize the relative values of vegetation and human activities; and tables that identify the type, intensity, and duration of the human activities.

Amendment part 3—Nuisance bear standards

Nuisance bear standards from the 2003 Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area[10]

The focus and intent of nuisance grizzly bear management inside and outside the Primary Conservation Area are predicated on strategies and actions to prevent grizzly bear/human conflicts. It is recognized that active management aimed at individual nuisance bears will be required in both areas (inside and outside the Primary Conservation Area). Management actions outside the Primary Conservation Area will be implemented according to state management plans in coordination with landowners and land management agencies. These actions will be compatible with grizzly bear population management objectives for each state for the areas outside the Primary Conservation Area.

General criteria

Location, cause of incident, severity of incident, history of bear, health/age/sex of bear, and the demographic characteristics of animals involved will all be considered in any relocation or removal. Removal of nuisance bears will be carefully considered and consistent with mortality limits for the Greater Yellowstone Area as described in the Conservation Strategy. Recognizing that conservation of female bears is essential to maintenance of a grizzly population, removal of nuisance females will be minimized.

Within the Primary Conservation Area

Within the Primary Conservation Area, management of nuisance bears will be addressed according to the following standards:

- Bears displaying food conditioning and/or habituation behaviors may be either relocated or removed based on specific details of the incident. State wildlife agencies, following consultation with other appropriate management authorities, and national parks will make this judgment after considering the cause, location, and severity of the incident or incidents.
- Bears may be relocated as many times as judged prudent by management authorities. No bear may be removed for any offense, other than unnatural aggression, without at least one relocation unless representatives of affected agencies document the reason in writing. All relocations outside the Primary Conservation Area will be governed by state management plans.
- Bears may be preemptively moved when they are in areas where they are likely to come into conflicts with site-specific human activities, but only as a last resort. Such preemptive moves will not count against the bear as nuisance moves.
- Bears preying on lawfully present livestock (cows, domestic sheep, horses, goats, llamas, etc.) on public lands will be managed according to the following criteria:
    - No grizzly bear involved in livestock depredations inside the Primary Conservation Area shall be removed unless it has been relocated at least one time and continues to cause livestock depredations. This does not apply to depredations occurring in sheep allotments inside the Primary Conservation Area in areas that were designated Management Situation 1[11] under the 1986 Interagency Grizzly Bear Guidelines.

[10] This section is included from the March 2003 Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area and is for reference only. The Conservation Strategy is subject to interagency review and updating. Readers should check for the most recent version of the document.
[11] Management Situation 1 areas are described in the Final Environmental Impact Statement.

  - Grizzly bears will not be removed or relocated from sheep allotments on federal land inside the Primary Conservation Area in areas that were designated Management Situation 1 under the 1986 Interagency Grizzly Bear Guidelines.
- Before any removal, except in cases of human safety, management authorities will consult by telephone or in person to judge the adequacy of the reason for removal.
- Bears displaying natural aggression are not to be removed, even if the aggression results in human injury or death, unless it is the judgment of management authorities that the particular circumstances warrant removal.
- Bears displaying unnatural aggression will be removed from the population.
- Decisions will be based on criteria for relocation and removal inside the Primary Conservation Area for management of nuisance bears in the Conservation Strategy and best biological judgment of authorities.
  - Authorized National Park Service authorities will implement removals and relocations within Yellowstone National Park and Grand Teton National Park.
  - Authorized state authorities outside Yellowstone National Park and Grand Teton National Park will implement other removals and relocations.
  - State wildlife agencies, in coordination with the appropriate federal agencies, will predetermine adequate and available sites for relocations. Relocation sites should be agreed upon before the need for relocation occurs. In order to deal with problem bears more efficiently, managers should have full access to relocation sites without having to conduct individual consultation for each relocation.
  - Livestock damage prevention and compensation are addressed in individual state management plans.
- Management of all nuisance bear situations will emphasize removal of the human cause of the conflict, when possible, or management and education actions to limit such conflicts. Relocation and removal of grizzly bears may occur if the above actions are not successful.

Specific criteria for removals

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

Outside of national parks, individual nuisance bears deemed appropriate for removal may be taken by a legal hunter in compliance with rules and regulations promulgated by the appropriate state wildlife agency commission, as long as such taking is in compliance with existing state and federal laws, and as long as mortality limits specified for the Greater Yellowstone Area as described in the Conservation Strategy are not exceeded. This could include licensed hunters or property owners or their agents who have obtained appropriate permits from the state. Licensed hunters will be allowed to possess bear parts for bears that are legally harvested under a state permit.

Monitoring protocol

All nuisance bear control actions, and grizzly bear/human and grizzly bear/livestock conflicts will be summarized annually in the Annual Report of the Interagency Grizzly Bear Study Team. This report will detail the cause and location of each conflict and management action and display an annual spatial distribution of conflicts that can be used by managers to identify where problems occur and to compare trends in locations, sources, land ownership, and types of conflicts.

Amendment part 4—Figures

Figure A-1. Criteria and definitions used in this amendment.

Criteria	Definition
Motorized access routes	Motorized access routes are all routes having motorized use or the potential for motorized use (restricted roads) including motorized trails, highways, and forest roads. Private roads and state and county highways are counted.
Restricted road	A restricted road is a road on which motorized vehicle use is restricted seasonally or yearlong. The road requires effective physical obstruction, generally gated.
Permanently restricted road	A permanently restricted road is a road restricted with a permanent barrier and not a gate. A permanently restricted road is acceptable within secure habitat.
Decommissioned or obliterated or reclaimed road	A decommissioned or obliterated or reclaimed road refers to a route which is managed with the long-term intent for no motorized use, and has been treated in such a manner to no longer function as a road. An effective means to accomplish this is through one or a combination of several means including recontouring to original slope, placement of logging or forest debris, planting of shrubs or trees, etc.
Secure habitat	Secure habitat is more than 500 meters from an open or gated motorized access route or recurring helicopter flight line. Secure habitat must be greater than or equal to 10 acres in size[12]. Large lakes (greater than one square mile) are not included in the calculations.
Project	A project is an activity requiring construction of new roads, reconstructing or opening a permanently restricted road, or recurring helicopter flights at low elevations. Opening a gated road for public or administrative use is not considered a project as the area behind locked, gated roads is not considered secure habitat.
Temporary project	To qualify as a temporary project under the Application Rules, project implementation will last no longer than three years.
Opening a permanently restricted road	Removing permanent barriers such that the road is accessible to motorized vehicles.
Permanent barrier	A permanent barrier refers to such features as earthen berms or ripped road surfaces to create a permanent closure.
Removing motorized routes	To result in an increase in secure habitat, motorized routes must either be decommissioned or restricted with permanent barriers, not gates. Non-motorized use is permissible.
Seasonal periods	Season 1 – March 1 through July 15 Season 2 – July 16 through November 30 Project activities occurring between December 1 and February 28 do not count against secure habitat.
Developed site	A developed site includes but is not limited to sites on public land developed or improved for human use or resource development such as campgrounds, trailheads, improved parking areas, lodges (permitted resorts), administrative sites, service stations, summer homes (permitted recreation residences), restaurants, visitor centers, and permitted resource development sites such as oil and gas exploratory wells, production wells, plans of operation for mining activities, work camps, etc.
Vacant allotments	Vacant allotments are livestock grazing allotments without an active permit, but could be restocked or used periodically by other permittees at the discretion of the land management agency to resolve resource issues or other concerns.
Recurring conflicts	Recurring grizzly bear/human or grizzly bear/livestock conflicts are defined as three or more years of recorded conflicts during the most recent five-year period.

[12] Secure habitat in this amendment does not include areas open to cross country off-highway vehicle (OHV) travel.

Figure A-2. Bear Management Units and subunits inside the Primary Conservation Area.

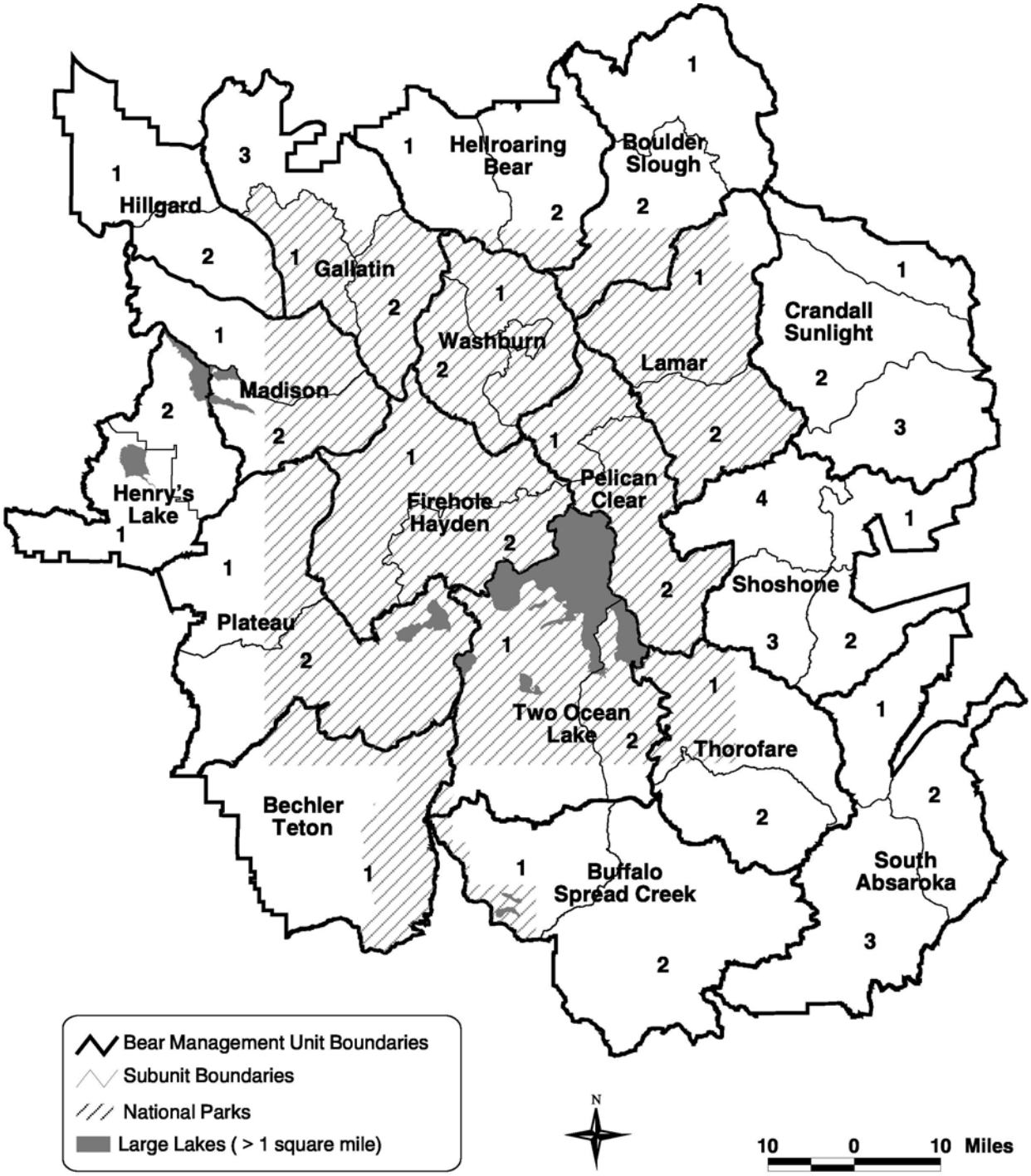


Figure A-3. General Bear Management Unit (BMU) subunit information (thousands of acres) inside the Primary Conservation Area.

Subunit name	BMU #	Acres	Land management agencies
Bechler/Teton	18	341.8	Caribou-Targhee NF, Yellowstone NP, Grand Teton NP
Boulder/Slough #1	4	180.5	Custer NF, Gallatin NF
Boulder/Slough #2	4	148.5	Custer NF, Gallatin NF, Yellowstone NP
Buffalo/Spread Creek #1	17	142.1	Bridger-Teton NF, Grand Teton NP
Buffalo/Spread Creek #2	17	325.1	Bridger-Teton NF
Crandall/Sunlight #1	6	83.2	Gallatin NF, Shoshone NF
Crandall/Sunlight #2	6	202.2	Gallatin NF, Shoshone NF
Crandall/Sunlight #3	6	142.1	Shoshone NF
Firehole/Hayden #1	10	217.0	Yellowstone NP
Firehole/Hayden #2	10	113.3	Yellowstone NP
Gallatin #1	2	81.9	Yellowstone NP
Gallatin #2	2	99.2	Yellowstone NP
Gallatin #3	2	139.5	Gallatin NF
Hellroaring/Bear #1	3	118.4	Gallatin NF, Yellowstone NP
Hellroaring/Bear #2	3	146.6	Gallatin NF, Yellowstone NP
Henrys Lake #1	12	128.6	Caribou-Targhee NF
Henrys Lake #2	12	97.9	Caribou-Targhee NF, Gallatin NF
Hilgard #1	1	128.6	Beaverhead-Deerlodge NF, Gallatin NF
Hilgard #2	1	90.2	Beaverhead-Deerlodge NF, Gallatin NF
Lamar #1	5	192.0	Yellowstone NP
Lamar #2	5	115.8	Yellowstone NP
Madison #1	11	145.3	Beaverhead-Deerlodge NF, Gallatin NF
Madison #2	11	100.5	Gallatin NF
Pelican/Clear #1	8	69.1	Yellowstone NP

Subunit name	BMU #	Acres	Land management agencies
Pelican/Clear #2	8	164.5	Yellowstone NP
Plateau #1	13	183.0	Caribou-Targhee NF, Gallatin NF, Yellowstone NP
Plateau #2	13	268.8	Caribou-Targhee NF, Yellowstone NP
Shoshone #1	7	78.1	Shoshone NF
Shoshone #2	7	84.5	Shoshone NF
Shoshone #3	7	90.2	Shoshone NF
Shoshone #4	7	121.0	Shoshone NF
South Absaroka #1	16	104.3	Shoshone NF
South Absaroka #2	16	122.2	Shoshone NF
South Absaroka #3	16	222.7	Shoshone NF
Thorofare #1	15	175.4	Bridger-Teton NF, Yellowstone NP
Thorofare #2	15	115.2	Bridger-Teton NF, Yellowstone NP
Two Ocean/Lake #1	14	310.4	Bridger-Teton NF, Yellowstone NP
Two Ocean/Lake #2	14	91.5	Bridger-Teton NF, Yellowstone NP
Washburn #1	9	113.9	Yellowstone NP
Washburn #2	9	92.2	Yellowstone NP

Figure A-4. The 1998 baseline values for secure habitat, OMARD >1 mile per square mile, and TMARD >2 miles per square mile for 40 Bear Management Unit (BMU) subunits in the Greater Yellowstone Area. Includes Forest Service, Bureau of Land Management, state, county, and private motorized access routes. Size is shown in thousands of acres[1].

Subunit name	BMU #	OMARD % > 1 mi/sq mi		TMARD % >2 mi/sq mi	% secure habitat	Size
		S1	S2			
Bechler/Teton	18	12.7	12.7	4.7	78.1	341.8
Boulder/Slough #1	4	2.2	2.2	0.1	96.6	180.5
Boulder/Slough #2	4	1.0	1.0	0	97.7	148.5
Buffalo/Spread Creek #1	17	10.1	10.2	4.1	88.3	142.1 (140.8)
Buffalo/Spread Creek #2	17	13.3	14.5	10.4	74.3	325.1
Crandall/Sunlight #1	6	11.9	16.2	4.0	81.1	83.2
Crandall/Sunlight #2	6	13.6	14.6	8.9	82.3	202.2
Crandall/Sunlight #3	6	12.8	16.6	8.2	80.4	142.1
Firehole/Hayden #1	10	6.3	6.3	1.2	88.4	217.0
Firehole/Hayden #2	10	6.3	6.3	0.9	88.4	113.3
Gallatin #1	2	1.6	1.6	0.1	96.3	81.9
Gallatin #2	2	7.8	7.8	3.8	90.2	99.2
Gallatin #3	2	41.5	42.5	16.9	55.3	139.5
Hellroaring/Bear #1	3	20.8	21.5	13.5	77.0	118.4
Hellroaring/Bear #2	3	0.6	0.6	0.2	99.5	146.6
Henrys Lake #1	12	44.7	44.7	25.9	45.4	128.6 (122.2)

Subunit name	BMU #	OMARD % > 1 mi/sq mi		TMARD % >2 mi/sq mi	% secure habitat	Size
		S1	S2			
Henrys Lake #2	12	46.1	46.1	28.1	45.7	97.9 (89.6)
Hilgard #1	1	25.1	25.1	12.5	69.8	128.6
Hilgard #2	1	16.0	16.0	10.3	71.5	90.2
Lamar #1	5	7.0	7.0	3.3	89.4	192.0
Lamar #2	5	0	0	0	100	115.8
Madison #1	11	24.2	24.5	10.2	71.5	145.3
Madison #2	11	31.7	31.7	22.3	66.5	100.5 (95.4)
Pelican/Clear #1	8	1.3	1.3	0.4	97.8	69.1
Pelican/Clear #2	8	3.0	3.0	0.2	94.1	164.5
Plateau #1	13	19.0	19.2	9.8	68.9	183.0
Plateau #2	13	6.1	6.1	2.4	88.7	268.8
Shoshone #1	7	1.5	1.5	0.9	98.5	78.1
Shoshone #2	7	1.1	1.1	0.4	98.8	84.5
Shoshone #3	7	3.4	3.4	1.3	97.0	90.2
Shoshone #4	7	3.9	4.6	2.0	94.9	121.0
South Absaroka #1	16	0.4	0.4	0	99.2	104.3
South Absaroka #2	16	0	0	0	99.9	122.2
South Absaroka #3	16	2.1	2.1	2.3	96.8	222.7

Subunit name	BMU #	OMARD % > 1 mi/sq mi		TMARD % >2 mi/sq mi	% secure habitat	Size
		S1	S2			
Thorofare #1	15	0	0	0	100	175.4
Thorofare #2	15	0	0	0	100	115.2
Two Ocean/Lake #1	14	1.8	1.8	0.1	96.3	310.4 (238.1)
Two Ocean/Lake #2	14	0	0	0	100	91.5 (80.0)
Washburn #1	9	12.4	12.4	2.9	83.0	113.9
Washburn#2	9	3.6	3.6	0.7	92.0	92.2
Mean for PCA/total acres		10.4	10.7	5.3	85.6	5,893.8 (5,782.4)

[1] Lakes >1 mile in size were removed from subunit totals, OMARD, TMARD, and secure habitat calculations. Numbers in parentheses are acres of subunit without these lakes.

Figure A-5. The 1998 baseline values for secure habitat, OMARD >1 mile per square mile, and TMARD >2 miles per square mile for 40 Bear Management Unit (BMU) subunits in the Greater Yellowstone Area. Includes only private roads and state and county highways[2]. Size is shown in thousands of acres[1,2].

Subunit name	BMU #	OMARD % > 1 mi/sq mi		TMARD % >2 mi/sq mi	% secure habitat[2]	Size
		S1	S2			
Bechler/Teton	18	0	0	0	99	341.8
Boulder/Slough #1	4	2	2	0	97	180.5
Boulder/Slough #2	4	0	0	0	100	148.5
Buffalo/Spread Creek #1	17	0	0	0	99	142.1 (140.8)
Buffalo/Spread Creek #2	17	2	2	0	95	325.1
Crandall/Sunlight #1	6	6	6	1	92	83.2
Crandall/Sunlight #2	6	8	8	1	89	202.2
Crandall/Sunlight #3	6	5	5	1	93	142.1
Firehole/Hayden #1	10	0	0	0	100	217.0
Firehole/Hayden #2	10	0	0	0	100	113.3
Gallatin #1	2	0	0	0	99	81.9
Gallatin #2	2	1	1	0	99	99.2
Gallatin #3	2	16	16	8	81	139.5
Hellroaring/Bear #1	3	9	9	4	91	118.4
Hellroaring/Bear #2	3	0	0	0	100	146.6
Henrys Lake #1	12	31	31	16	67	128.6 (122.2)

Subunit name	BMU #	OMARD % > 1 mi/sq mi		TMARD % >2 mi/sq mi	% secure habitat[2]	Size
		S1	S2			
Henrys Lake #2	12	14	14	7	85	97.9 (89.6)
Hilgard #1	1	6	6	2	91	128.6
Hilgard #2	1	2	2	3	92	90.2
Lamar #1	5	2	2	1	97	192.0
Lamar #2	5	0	0	0	100	115.8
Madison #1	11	6	6	3	94	145.3
Madison #2	11	8	8	4	90	100.5 (95.4)
Pelican/Clear #1	8	0	0	0	100	69.1
Pelican/Clear #2	8	0	0	0	100	164.5
Plateau #1	13	2	2	1	95	183.0
Plateau #2	13	0	0	0	99	268.8
Shoshone #1	7	1	1	0	99	78.1
Shoshone #2	7	0	0	0	99	84.5
Shoshone #3	7	1	1	0	98	90.2
Shoshone #4	7	1	1	0	96	121.0
South Absaroka #1	16	0	0	0	99	104.3
South Absaroka #2	16	0	0	0	100	122.2
South Absaroka #3	16	0	0	0	100	222.7

Subunit name	BMU #	OMARD % > 1 mi/sq mi		TMARD % >2 mi/sq mi	% secure habitat[2]	Size
		S1	S2			
Thorofare #1	15	0	0	0	100	175.4
Thorofare #2	15	0	0	0	100	115.2
Two Ocean/Lake #1	14	0	0	0	100	310.4 (238.1)
Two Ocean/Lake #2	14	0	0	0	100	91.5 (80.0)
Washburn #1	9	0	0	0	100	113.9
Washburn#2	9	0	0	0	100	92.2
Mean for PCA/total acres		3	3	1.3	96	5,893.8 (5,782.4)

[1] Lakes >1 square mile in size were removed from subunit totals, OMARD, TMARD, and secure habitat calculations. Numbers in parentheses are acres of subunit without these lakes.
[2] These motorized features are not subject to Forest Service management. The values in this table represent a minimum percent for OMARD and TMARD, and a maximum percent for secure habitat even if all motorized access features administered by the Forest Service were obliterated or decommissioned on public lands.

Figure A-6. Acres (in thousands) and national forest/national park overlap when applying the 1 percent rule[1].

BMU #	Largest BMU subunit	1% rule acres[2]	National forest(s) within the BMU	National parks within the BMU
18	Bechler/Teton #1	3.4	Targhee	Yellowstone, Grand Teton
4	Boulder/Slough #1	1.8	Custer, Gallatin	Yellowstone
17	Buffalo/Spread Creek #2	3.3	Bridger-Teton	Grand Teton
6	Crandall/Sunlight #2	2.0	Gallatin, Shoshone	
10	Firehole/Hayden #1	2.2		Yellowstone
2	Gallatin #3	1.4	Gallatin	Yellowstone
3	Hellroaring/Bear #2	1.5	Gallatin	Yellowstone
12	Henrys Lake #1	1.2	Gallatin, Targhee	
1	Hilgard #1	1.3	Beaverhead, Gallatin	Yellowstone
5	Lamar #1	1.9	Custer, Gallatin	Yellowstone
11	Madison #1	1.5	Gallatin	Yellowstone
8	Pelican/Clear #2	1.6		Yellowstone
13	Plateau #2	2.7	Gallatin, Targhee	Yellowstone
7	Shoshone #4	1.2	Shoshone	
16	South Absaroka #3	2.2	Shoshone	
15	Thorofare #1	1.2	Bridger-Teton	Yellowstone
14	Two Ocean/Lake #1	2.4	Bridger-Teton	Yellowstone, Grand Teton
9	Washburn #1	1.1		Yellowstone
PCA	Total 1% rule acres	34.4		
	Total 1% rule acres—BMUs with national parks only	4.9		
	Total 1% rule acres—BMUs with national forests only	6.6		
	Total 1% rule acres—BMUs with national forests plus national parks	22.9		

[1] The 1 percent rule is based on the size of the largest BMU subunit. When BMU boundaries include more than one national forest and/or national park, administrative units will need to coordinate to ensure the 1 percent rule is not exceeded.
[2] Large lakes not included in 1 percent rule acre calculations.

Figure A-7. The 1998 baseline for numbers of developed sites on public lands within each of the Bear Management Unit subunits in the Greater Yellowstone Area.

Subunit	Administrative units	Permitted summer home complexes[1]	Developed campgrounds[2]	Trailheads	Major developed sites and lodges	Administrative or maintenance sites	Other developed sites[3]	Plans of operation for minerals activities[4]
Bechler/Teton	Targhee NF Yellowstone NP Grand Teton NP	0 0 0	1 0 8	5 2 3	2 0 1	4 2 3	17 2 10	0 0 0
Boulder/Slough #1	Custer NF Gallatin NF	0 0	0 1	1 7	0 0	0 1	0 3	6 2
Boulder/Slough #2	Gallatin NF Yellowstone NP	0 0	0 1	0 3	0 0	2 2	0 1	0 0
Buffalo/Spread Creek #1	Bridger-Teton NF Grand Teton NP	0 0	1 0	1 7	0 2	0 2	1 3	0 0
Buffalo/Spread Creek #2	Bridger-Teton NF	1	4	3	3	4	5	2
Crandall/Sunlight #1	Shoshone NF Gallatin NF	0 0	2 1	5 2	1 0	1 0	5 5	0 0
Crandall/Sunlight #2	Shoshone NF Gallatin NF	0 0	5 1	4 0	1 0	2 0	5 0	1 0
Crandall/Sunlight #3	Shoshone NF Wyoming Game and Fish	0 0	2 2	3 0	0 0	1 1	2 0	0 0
Firehole/Hayden #1	Yellowstone NP	0	1	5	1	6	13	0
Firehole/Hayden #2	Yellowstone NP	0	1	3	1	2	8	0
Gallatin #1	Yellowstone NP	0	0	3	0	1	0	0
Gallatin #2	Yellowstone NP	0	2	5	1	12	1	0
Gallatin #3	Gallatin NF Yellowstone NP	0 0	2 0	10 0	0 0	0 0	7 0	0 0

Subunit	Administrative units	Permitted summer home complexes[1]	Developed campgrounds[2]	Trailheads	Major developed sites and lodges	Administrative or maintenance sites	Other developed sites[3]	Plans of operation for minerals activities[4]
Hellroaring/Bear #1	Gallatin NF Yellowstone NP	0 0	5 0	12 1	1 0	1 0	5 1	8[5] 0
Hellroaring/Bear #2	Gallatin NF Yellowstone NP	0 0	0 0	1 0	0 0	1 2	0 0	0 0
Henrys Lake #1	Targhee NF	2	3	1	0	3	10	1
Henrys Lake #2	Targhee NF Gallatin NF	0 6	0 3	1 4	0 0	1 0	1 2	1 0
Hilgard #1	Beaverhead NF Gallatin NF	0 0	0 0	0 6	0 1	3 2	0 2	0 0
Hilgard #2	Gallatin NF Yellowstone NP	0 0	0 0	4 3	0 0	1 0	1 0	0 0
Lamar #1	Yellowstone NP Gallatin NF Shoshone NF Custer NF	0 0 0 0	1 2 0 0	5 5 0 1	0 0 0 0	3 6 0 0	2 4 0 0	0 6 0 2
Lamar #2	Yellowstone NP	0	0	0	0	4	0	0
Madison #1	Gallatin NF Yellowstone NP	0 0	1 0	11 0	0 0	1 0	9 0	0 0
Madison #2	Gallatin NF Yellowstone NP	8 0	2 0	1 1	1 0	6 2	6 1	0 0
Pelican/Clear #1	Yellowstone NP	0	0	2	0	0	0	0
Pelican/Clear #2	Yellowstone NP	0	1	4	1	4	3	0
Plateau #1	Targhee NF Gallatin NF Yellowstone NP	1 0 0	0 0 0	0 1 0	0 0 0	0 0 1	1 0 0	0 0 0
Plateau #2	Targhee NF Yellowstone NP	0 0	1 0	1 0	0 0	1 4	1 0	0 0
Shoshone #1	Shoshone NF	1	2	0	0	0	6	0

Subunit	Administrative units	Permitted summer home complexes[1]	Developed campgrounds[2]	Trailheads	Major developed sites and lodges	Administrative or maintenance sites	Other developed sites[3]	Plans of operation for minerals activities[4]
Shoshone #2	Shoshone NF	0	0	1	1	0	0	0
Shoshone #3	Shoshone NF	2	0	1	1	0	0	0
Shoshone #4	Shoshone NF	3	3	3	6	0	8	0
South Absaroka #1	Shoshone NF	0	0	0	0	0	0	0
South Absaroka #2	Shoshone NF	0	0	0	0	2	0	0
South Absaroka #3	Shoshone NF	1	3	4	1	1	4	0
Thorofare #1	Bridger-Teton NF Yellowstone NP	0 0	0 0	0 0	0 0	0 4	0 0	0 0
Thorofare #2	Bridger-Teton NF Yellowstone NP	0 0	0 0	0 0	0 0	2 0	0 0	0 0
Two Ocean/Lake #1	Yellowstone NP Bridger-Teton NF Grand Teton NP	0 0 0	2 1 0	3 0 1	1 0 0	3 0 0	2 0 1	0 0 0
Two Ocean/Lake #2	Yellowstone NP Bridger-Teton NF	0 0	0 0	0 0	0 0	2 1	0 0	0 0
Washburn #1	Yellowstone NP	0	2	8	2	7	6	0
Washburn #2	Yellowstone NP	0	1	6	0	1	4	0
Primary Conservation Area	All	25	68	164	29	115	168	29

[1] Single permitted recreation residences are classified as other developed sites in this table.
[2] Four trailheads on the Bridger-Teton National Forest are combined with the associated campgrounds and are considered a single developed site.
[3] Includes community infrastructure sites and other miscellaneous facilities.
[4] Mining claims with plans of operation are considered developed sites for this baseline. Currently, not all sites have active projects.
[5] Includes one mineral materials site with an outside contractor.

Figure A-8. Number of mining claims as of 1998 in Bear Management Unit subunits in the Primary Conservation Area[1].

Subunit	Gallatin NF	Custer NF	Caribou-Targhee NF	Shoshone NF	Bridger-Teton NF
Boulder/Slough #1	8	144	---	---	---
Buffalo/Spread Creek #1	---	---	---	---	14
Buffalo/Spread Creek #2	---	---	---	---	6
Hellroaring/Bear #1	653	---	---	---	---
Henrys Lake #1	---	---	5	---	---
Henrys Lake #2	---	---	3	---	---
Lamar #1	429	42	---	---	---
Shoshone #3	---	---	---	16	---
South Absaroka #2	---	---	---	28	---
South Absaroka #3	---	---	---	6	---
Total	1,090	186	8	50	20

[1] Activities based in statutory rights, such as oil and gas leases and mining claims under the 1872 General Mining Law are also tracked as part of the developed site monitoring effort. Mining claims and or oil and gas leases do not in and of themselves constitute a site development, but have the potential to be developed sometime in the future. There were no oil and gas leases inside the Primary Conservation Area as of 1998, and 1,354 mining claims in ten subunits inside the Primary Conservation Area. It is important to note that one mining claim does not necessarily mean a potential for one operating plan. Claims are often staked around known mineral deposits to protect the original claim, and operating plans can sometimes encompass hundreds of claims. In addition, there are always a number of claims filed that, after detailed exploration, do not prove to have enough mineralization to be economically developed. Claims or claim groups with approved operating plans are included in the developed site baseline (Figure A-7).

Figure A-9. Number of commercial livestock grazing allotments and sheep animal months (AMs) inside the Primary Conservation Area in 1998.

Administrative unit	Cattle allotments		Sheep allotments		Sheep AMs[1]
	Active[2]	Vacant[3]	Active[1]	Vacant[3]	
Beaverhead-Deerlodge NF	2	3	0	0	0
Bridger-Teton NF	9	0	0	0	0
Caribou-Targhee NF	9	1	7	4	14,163
Custer NF	0	0	0	0	0
Gallatin NF	24	9	2	3	3,540
Shoshone NF	24	0	2	0	5,387
Grand Teton NP	1	0	0	0	0
Total in PCA	69	13	11	7	23,090

[1]Since 1998, five of the seven active sheep allotments on the Caribou-Targhee National Forest and the two active sheep allotments on the Shoshone National Forest within the Primary Conservation Area have been closed. As of 2004, there are only four active sheep allotments in side the Primary Conservation Area, totaling 7,130 AMs.
[2] One of the active cattle allotments on the Bridger-Teton National Forest was closed in late 2003.
[3]Vacant allotments are those without an active permit but could used periodically by other permittees at the discretion of the land management agency to resolve resource issues or other concerns.

Figure A-10. 1998 Habitat effectiveness (HE) values by season from the Yellowstone grizzly bear Cumulative Effects Model for each of 40 Greater Yellowstone Area grizzly Bear Management Unit subunits[1].

Subunit	Spring (March 1 - May 15) HE	Estrus (May 16 - July 15) HE	Early hyperphagia (July 16 - August 31) HE	Late hyperphagia (September 1 - November 30) HE
Bechler/Teton#1	116	64	44	274
Boulder/Slough#1	105	105	119	853
Boulder/Slough#2	123	112	111	521
Buffalo/Spread Cr#1	79	86	78	267
Buffalo/Spread Cr#2	58	98	125	863
Crandall/Sunlight#1	53	94	78	800
Crandall/Sunlight#2	52	82	124	329
Crandall/Sunlight#3	53	50	156	208
Firehole/Hayden#1	96	189	162	244
Firehole/Hayden#2	45	843	66	342
Gallatin#1	139	144	198	635
Gallatin#2	104	97	105	585
Gallatin#3	78	69	89	599
Hellroaring/Bear#1	85	74	95	678
Hellroaring/Bear#2	117	99	98	628

Subunit	Spring (March 1 - May 15) HE	Estrus (May 16 - July 15) HE	Early hyperphagia (July 16 - August 31) HE	Late hyperphagia (September 1 - November 30) HE
Henrys Lake#1	41	39	32	178
Henrys Lake#2	41	41	33	225
Hilgard#1	99	68	91	614
Hilgard#2	81	97	132	902
Lamar#1	127	118	136	571
Lamar#2	132	167	180	795
Madison#1	53	115	227	390
Madison#2	41	60	147	63
Pelican/Clear#1	103	324	105	560
Pelican/Clear#2	105	2253	203	997
Plateau#1	26	49	36	109
Plateau#2	75	81	56	442
Shoshone#1	39	50	115	264
Shoshone#2	51	56	1424	387
Shoshone#3	65	57	583	484
Shoshone#4	57	78	327	392

Subunit	Spring (March 1 - May 15) HE	Estrus (May 16 - July 15) HE	Early hyperphagia (July 16 - August 31) HE	Late hyperphagia (September 1 - November 30) HE
South Absaroka#1	55	57	392	399
South Absaroka#2	41	45	339	250
South Absaroka#3	46	73	303	551
Thorofare #1	84	488	298	956
Thorofare #2	79	82	295	583
Two Ocean/Lake#1	115	1300	64	426
Two Ocean/Lake#2	117	2401	107	1079
Washburn#1	121	110	126	404
Washburn#2	99	86	85	272

[1] Weaver et al. 1986, Bevins 1997, Dixon 1997. HE values are based on productivity coefficients depicting an average year (Mattson et al. 2004). The higher the number the greater the HE.

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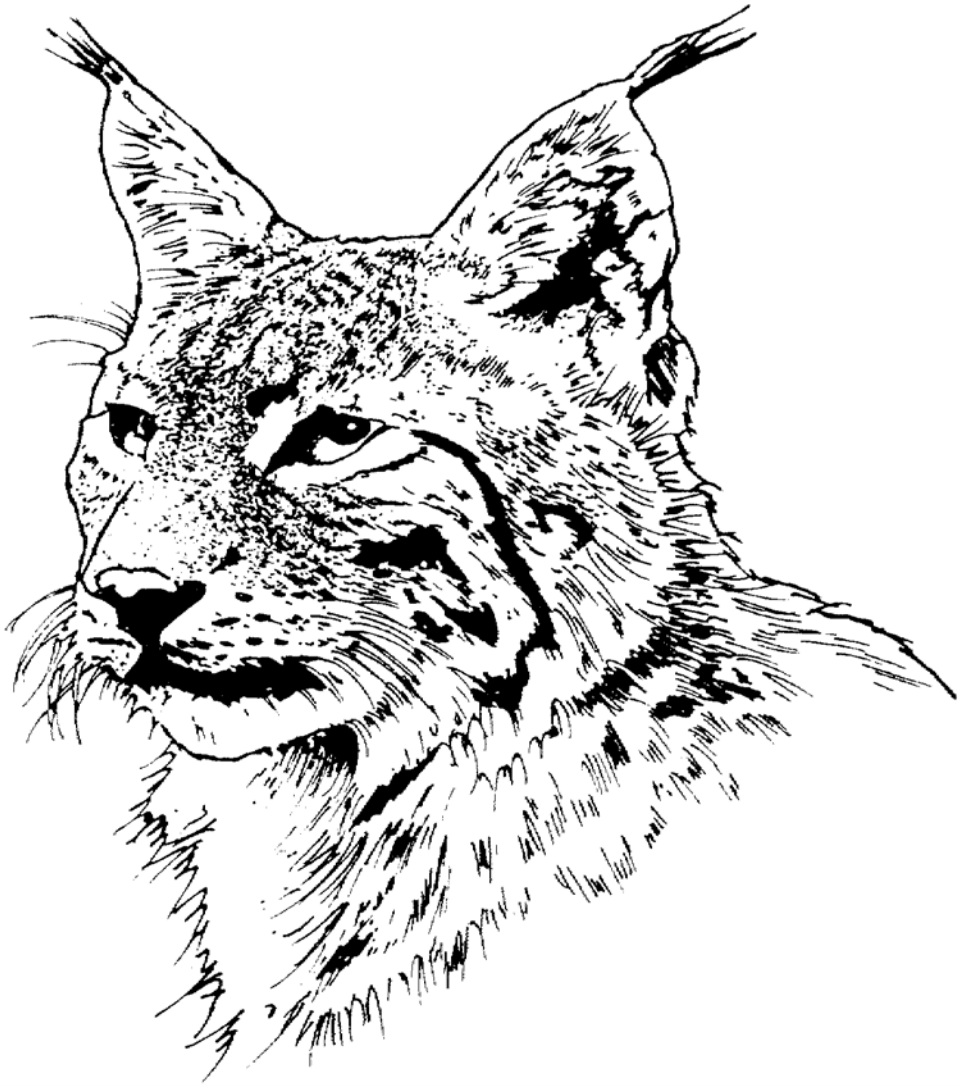
National Forests in Montana, and parts of Idaho, Wyoming, and Utah

March 2007

Northern Rockies Lynx Management Direction Record of Decision



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Record of Decision

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Attachment 1 – Northern Rockies Lynx Management Direction

Summary of the decision

We have selected Alternative F, Scenario 2 as described in the Northern Rockies Lynx Management Direction Final Environmental Impact Statement (FEIS) (pp. 35 to 40), with modifications. We modified Alternative F, Scenario 2 and incorporated the U.S. Fish and Wildlife Service (FWS) Terms and Conditions (USDI FWS 2007), where applicable, into the management direction – see Attachment 1- hereafter called the *selected alternative*. We determined the selected alternative provides direction that contributes to conservation and recovery of Canada lynx in the Northern Rockies ecosystem, meets the Purpose and Need, responds to public concerns, and is consistent with applicable laws and policies. In the FEIS we analyzed six alternatives in detail and two scenarios for Alternative F. Of those, we determined Alternative F Scenario 2 is the best choice. With this decision, we are incorporating the goal, objectives, standards, and guidelines of the selected alternative into the existing plans of all National Forests in the Northern Rockies Lynx Planning Area – see Figure 1-1, FEIS, Vol. 1 Tables 1-1 and 1-2.

The direction applies to mapped lynx habitat on National Forest System land presently **occupied** by Canada lynx, as defined by the *Amended Lynx Conservation Agreement between the Forest Service and the FWS* (USDA FS and USDI FWS 2006). When National Forests are designing management actions in **unoccupied** mapped lynx habitat they should consider the lynx direction, especially the direction regarding linkage habitat. If and when those National Forest System lands become occupied, based upon criteria and evidence described in the Conservation Agreement, the direction shall then be applied to those forests. If a conflict exists between this management direction and an existing plan, the more restrictive direction will apply.

The detailed rationale for our decision, found further in this document, explains how the selected alternative best meets our decision criteria. Those decision criteria are: 1) meeting the Purpose and Need to provide management direction that conserves and promotes the recovery of Canada lynx while preserving the overall multiple use direction in existing plans; 2) responding to the issues; and 3) responding to public concerns.

Background

The FWS listed Canada lynx as a threatened species in March 2000, saying the main threat was "the lack of guidance for conservation of lynx and snowshoe hare habitat in National Forest Land and Resource Plans and BLM Land Use Plans" (USDI FWS 2000a). Following the listing, the Forest Service (FS) signed a Lynx Conservation Agreement with the FWS in 2001 to consider the Lynx Conservation Assessment and Strategy (LCAS) during project analysis, and the FS agreed to not proceed with projects that would be "likely to adversely affect" lynx until the plans were amended. The Conservation Agreement (CA) was renewed in 2005 and added the concept of occupied mapped lynx habitat. In 2006 the CA was amended to define occupied habitat and to

list those National Forests that were occupied. In 2006 it was also extended for 5 years (until 2011), or until all relevant forest plans were revised to provide guidance necessary to conserve lynx (USDA FS and USDI FWS 2000, 2005, 2006a, 2006b). The plan direction in this decision fulfills our agreement to amend the plans. The management direction provided in this decision is based upon the science and recommendations in:

- *Ecology and Conservation of Lynx in the United States* (Ruggiero et al 2000), which summarizes lynx ecology;
- *Lynx Conservation Assessment and Strategy* (LCAS) (Ruediger et al 2000), which recommends conservation measures for activities that could place lynx at risk by altering their habitat or reducing their prey; and
- Numerous publications cited in the FEIS and found listed in the *References* section of this ROD and in the FEIS, pp. 381 to 396.

Purpose of and Need for action

The Purpose and Need is to incorporate management direction in land management plans that conserves and promotes recovery of Canada lynx, by reducing or eliminating adverse effects from land management activities on National Forest System lands, while preserving the overall multiple-use direction in existing plans (FEIS, Vol. p. 1).

Risks to lynx and lynx habitat

The overall goals of the LCAS were to recommend lynx conservation measures, provide a basis for reviewing the adequacy of Forest Service land and resource management plans with regard to lynx conservation, and to facilitate section 7 conferencing and consultation under ESA. The LCAS identified a variety of possible risks to lynx and lynx habitat.

The LCAS identified *risk factors affecting lynx productivity* (pp. 2-2 to 2-15) as:

- Timber management
- Wildland fire management
- Livestock grazing
- Recreational uses
- Forest backcountry roads and trails
- Other human developments

These are the typical types of activities conducted on federal land administered by the FS, and the FS has the authority to manage and regulate them. As such, the management direction analyzed in the Lynx FEIS and incorporated into the forest plans with this Record of Decision (ROD) focus on these types of activities.

The LCAS identified *risk factors affecting mortality* (pp. 2-15 to 2-17) as:

- Trapping
- Shooting
- Predator control
- Highways
- Predation by other species

These factors can directly cause lynx deaths. Trapping of lynx is no longer permitted in the planning area, although incidental trapping of lynx could still occur. Incidental or illegal shooting can also occur, but trapping and hunting is regulated by state agencies. Predator control activities are conducted by USDA Wildlife Services. Since the factors of trapping shooting and predator control are outside the authority of the FS to manage or regulate, this ROD does not include management direction related to them.

Highways (generally high-speed, two lane) are a known source of direct mortality (LCAS, pp. 2-16 to 2-17). Depending on the situation, this risk factor may fall under the authority of the FS. Therefore, it is addressed in the FEIS, and management direction concerning highways is incorporated into the Forest Plans through this ROD.

Other predators may affect lynx. Lynx have a competitive advantage in places where deep, soft snow tends to exclude predators in mid-winter, the time when prey is most limiting. Certain activities, such as certain types of winter recreation, may provide access to other predators (LCAS, pp. 2-6 to 2-15). The FEIS and ROD addresses this concern.

The LCAS identified *risk factors affecting movement* (pp. 2-17 to 2-19) as:

- Highways and associated development
- Private land development

Lynx are known to disperse over wide areas. Highways and the developments associated with them may affect lynx movement (LCAS, p. 2-17). The FS has only limited authority to address highways, and has no authority to manage activities on private land. Based on the limited authority the FS has in this area, only a few guidelines address these risk factors.

After the LCAS was issued the FWS published a Clarification of Findings in the *Federal Register* (FEIS, Vol. 1, Appendix P), commonly referred to as the Remand Notice. In the Remand Notice the FWS states, "We found no evidence that some activities, such as forest roads, pose a threat to lynx. Some of the activities suggested, such as mining and grazing, were not specifically addressed [in the Remand Notice] because we have no information to indicate they pose threats to lynx" (p. 40083). Further on in the Remand Notice they state, "Because no evidence has been provided that packed snowtrails facilitate competition to a level that negatively affects lynx, we do not consider packed snowtrails to be a threat to lynx at this time" (p. 40098). In regards to timber harvest the FWS states, "Timber harvesting can be beneficial, benign, or detrimental to lynx depending on harvest methods, spatial and temporal specifications, and the inherent vegetation potential of the site. Forest practices in lynx habitat that result in or retain a dense understory provide good snowshoe hare habitat that in turn provides good foraging habitat for lynx" (p. 40083). These findings by FWS narrow the focus from the concerns first published in the LCAS (discussed above) about what management direction is needed to maintain or improve Canada lynx habitat. We considered this information in the development of the selected alternative, and in our decision.

Public involvement

We involved the public in the development of the plan direction from the very beginning. In order to determine the scope of the public's interest in developing lynx direction the FS and BLM started with a notice published in the *Federal Register* (Vol. 66, No. 176, pp. 47160 to 47163) on September 11, 2001. Originally, the scoping period was scheduled to end on October 26, 2001, but we extended it to December 10, 2001. The FS and BLM gave people more time to comment, both in response to several requests for extensions, and because of the general disruption stemming from the September 11th terrorist attacks. In December 2006, the BLM elected to not be a cooperating agency in this planning effort and to undertake changes to BLM plans through a separate planning process.

We created an official website at www.fs.fed.us/r1/planning/lynx.html. The website continues to provide information, including the information used to develop the Proposed Action, the DEIS, and FEIS.

During scoping we held numerous open-house meetings to provide a better understanding of the lynx proposal and to gain an understanding of public issues and concerns (FEIS, Vol. 1, p. 18). We mailed out more than 6,000 letters about the proposal and upcoming meetings to a mailing list of people interested in land management issues. By December 17, 2001 we had received 1,890 public responses to the scoping notice. We then evaluated and summarized those responses in a report entitled *Summary of Public Comments* (see the *Scoping* section of the Project Record). Responses received after December 17, 2001, but before the release of the Draft Environmental Impact Statement (DEIS) in January 2004 were also considered. A summary of these comments can also be found in the *Scoping* section of the Project Record. In mid-May 2002 we mailed an eight-page update to the more than 2,000 addresses of those who responded to the scoping notice.

We decided to prepare an EIS because of the level of interest expressed during scoping. On August 15, 2002, we published a Notice of Intent to prepare an Environmental Impact Statement in the *Federal Register* (Vol. 67, No. 158, pp. 53334 to 53335). There were five responses to the Notice of Intent, which we also considered.

On January 16, 2004, a Notice of Availability of the DEIS was published in the *Federal Register* (Vol. 69, No. 11, p. 2619). This notice began a 90-day public comment period. At that time, we sent copies of the DEIS (either paper or CD versions), or the summary of the DEIS to a variety of interested parties (FEIS, Vol. 1 p 19). The documents are also available on the web site: www.fs.fed.us/r1/planning/lynx.html.

We hosted open-house meetings in February and March of 2004 to provide the public with a better understanding of the DEIS and its alternatives. Over 380 people attended the open houses which were held in four states and 25 communities. We accepted public comments on the DEIS either sent through the mail or via E-mail. The public comment period ended on April 15, 2004, with the agency receiving well over 5,000

comments. We used those comments, as well as late comments, to help formulate Alternative F, to help clarify and add to the analysis, to correct errors in the DEIS, and to update the FEIS. We responded to all of the comments on the DEIS in the Response to Comments (FEIS, Vol. 2).

Issues

As a result of the public participation process; review by other federal, state, tribal, and local government agencies; and internal reviews, we identified five primary issues, which are described in detail in the FEIS, Vol. 1, Chapter 2. The issues were used as a basis for developing the management direction in the alternatives, and were used to analyze effects. The issues are:

1. Over-the-snow recreation. The effects of limiting the growth of designated over-the-snow routes on opportunities for over-the-snow recreation.

2. Wildland fire risk. The effects of the management direction on the risks to communities from wildland fire.

3. Winter snowshoe hare habitat in multistoried forests. The effect on lynx of allowing projects in winter snowshoe hare habitat in multistoried forests.

4. Precommercial thinning. The effects of limiting precommercial thinning on restoring tree species and forest structures that are declining.

5. FWS Remand decision. The appropriate level of management direction applied to activities that the FWS remand notice found were not a threat to lynx populations.

Alternatives considered in detail

Alternative A, the No Action Alternative. Analyzing a no-action alternative is a requirement of NEPA at 40 CFR 1508.14(d), and of FS planning procedures. The analysis of the effects of Alternative A in the FEIS considers the effects of the forest plans as they currently exist, including any previous amendments. In this case, "no action" means no amendment to the already existing plans, and no additional specific direction to conserve Canada lynx. While the FS has been following the Conservation Agreements signed with the FWS and has considered the LCAS when evaluating projects, the LCAS measures have not been incorporated as plan direction. A decision to adopt Alternative A would not adopt the measures of the LCAS into the plans, but also would not void the existing Conservation Agreements or the consultation requirements of ESA. A decision to not adopt some of the lynx management direction in any of the action alternatives would have been a decision to select a part of Alternative A.

Alternative B, the Proposed Action. The Proposed Action was developed from conservation measures recommended in the LCAS. (See Appendix A in the FEIS, pp. 401 to 438 for a crosswalk from the LCAS, to the proposal as written in the scoping letter; the Proposed Action, Alternative B, found in the Draft and Final EISs; and

Alternative F in the FEIS.) Alternative B addresses activities on National Forest System lands that can affect lynx and their habitat. The exact language of the goal, objectives, standards, and guidelines for Alternative B and all the other action alternatives can be found in the FEIS (Table 2-1, pp. 41 to 69).

Alternative C. Alternative C was designed to respond to issues of over-the-snow recreation management and foraging habitat in multistoried forests, while providing a level of protection to lynx comparable to Alternative B, the Proposed Action. Alternative C would add direction to the plans similar to the LCAS, but would have fewer restrictions on new over-the-snow trails and more restrictions on management actions in winter snowshoe hare habitat in multistoried forests. The exact language of the goal, objectives, standards, and guidelines for Alternative C and all the other action alternatives can be found in the FEIS (Table 2-1, pp. 41 to 69).

Alternative D. Alternative D was designed to address the issues of managing over-the-snow recreation and multistoried forests, similar to Alternative C. Alternative D also allows some precommercial thinning in winter snowshoe hare habitat, while still contributing to lynx conservation. Alternative D would add direction to the plans similar to the LCAS, but having fewer restrictions on new over-the-snow trails and precommercial thinning, and more restrictions than the LCAS (Alternative B) on management actions in winter snowshoe hare habitat in multistoried forests, but less than Alternative C. The exact language of the goal, objectives, standards, and guidelines for Alternative D and all the other action alternatives can be found in the FEIS (Table 2-1, pp. 41 to 69).

Alternative E, the DEIS preferred alternative. Alternative E addresses the issue of wildland fire risk while contributing to lynx conservation. It also responds to statements made in the Remand Notice (USDI FWS, 2003) that FWS has no information to indicate grazing or snow compaction are threats to lynx at this time. This was done by changing the grazing and human uses standards to guidelines. Alternative E would add direction to the plans similar to the LCAS, but has fewer restrictions on new over-the-snow trails and on fuel reduction projects proposed in a collaborative manner, and more restrictions on management actions in winter snowshoe hare habitat in multistoried forests. The exact language of the goal, objectives, standards, and guidelines for Alternative E and all the other action alternatives can be found in FEIS (Table 2-1, pp. 41 to 69).

Alternative F, the FEIS preferred alternative. Alternative F was developed from public comments on the DEIS and by pulling together parts of the other alternatives. Since it was developed from the other alternatives, the effects of Alternative F is within the scope of the effects of the alternatives analyzed in the DEIS.

Alternative F addresses many comments about problems and concerns with Alternatives E, the DEIS preferred alternative. In particular many people and FWS felt Alternative E would not meet the purpose and need because it did not provide the

regulatory mechanisms to adequately address lynx needs. Alternative F was designed to provide adequate regulatory mechanisms for those risk factors found to be a threat to lynx populations – specifically those factors related to the quantity and quality of lynx habitat as discussed in the FEIS, Vol. 1, section *Management direction considered*.

Alternative F addresses comments about where to apply the management direction. Many comments suggested the management direction should only be applied to occupied habitat. Therefore, Alternative F is evaluated under two scenarios: (1) management direction would be incorporated into all forest plans and would *apply to all mapped lynx habitat*, whether or not occupied; and (2) management direction would be incorporated into all forest plans but would only *apply to occupied habitat.* Under Scenario 2, the direction should be "considered" for unoccupied units, but would not have to be followed until such time as lynx occupy the unit. The Nez Perce, Salmon-Challis, Beaverhead-Deerlodge, Bitterroot, Ashley, and Bighorn NFs, and the disjunct mountain ranges on the Custer, Gallatin, Helena, and Lewis and Clark NFs are unoccupied based on the best scientific information available at this time (USDA FS, USDI FWS 2006a).

Other management direction considered

Comments on the DEIS identified a variety of suggestions for management direction. Some of the suggestions were incorporated into the selected alternative, others were not. The FEIS, Vol. 1 pp. 71-102 provides a thorough discussion of these comments and our considerations. The following section includes discussion of some these comments and how they were considered, but not all of the suggestions considered.

The decision

The management direction in Alternative F, Scenario 2 modified (referred from now on as the *selected alternative,* see - Attachment 1) is amended into all Forest Plans in the planning area. The management direction incorporates the terms and conditions FWS issued in their biological opinion (USDI FWS 2007). This management direction includes a goal, objectives, standards, and guidelines related to all activities (ALL), vegetation management (VEG), grazing management (GRAZ), human uses (HU), and linkage (LINK). *Goals* are general descriptions of desired results; *objectives* are descriptions of desired resource conditions; *standards* are management requirements designed to meet the objectives; and *guidelines* are management actions normally taken to meet objectives. Guidelines provide information and guidance for project and activity decision-making (FEIS, Vol. 1 p. 8). The Forest Service and FWS developed the selected alternative in a collaborative manner (Project File/Coordination/with FWS, and Project File/Alternatives/FEIS alternatives).

The selected alternative provides a balance of meeting the purpose and need, and addressing the five primary issues, including other public comments. Alternative B does not provide the management direction necessary for winter snowshoe hare habitat

in multistoried forests. Alternative C, may be best for lynx, but does not address any other issues. Alternative D addresses the need to restore tree species in decline, but we have determined it may allow too much activity in winter snowshoe hare habitat and result in more extensive adverse effects. Alternative E address wildfire risk to communities, but based on our analysis and comments from FWS and the public, may not provide the necessary direction to contribute to conservation and recovery of lynx.

We determined, through our analysis and with concurrence from FWS, the selected alternative contributes to conservation and recovery of lynx, while allowing some activities to occur in lynx habitat that may have some adverse effects on lynx. We determined it was important and acceptable to restore tree species in decline and address wildland fire risks to communities. This decision allows some possible adverse effects on 6.5 percent of lynx habitat (through a combination of fuels treatment in the wildland urban interface (WUI) and precommercial thinning). However, all vegetative standards remain applicable to 93.5 percent of lynx habitat.

The following describes the risk factors, what the LCAS proposed (Alternative B), issues related to the proposed action, what Alternative E (the DEIS preferred alternative) included, comments we received on the DEIS, consideration of new information, and finally what was incorporated into the selected alternative and why.

Management direction related to vegetation

Lynx require certain habitat elements to persist in a given area. Lynx productivity is highly dependent on the quantity and quality of winter snowshoe hare habitat. Winter snowshoe hare habitat may be found in dense young regenerating forests – where the trees protrude above the snowline and in multistoried forests where limbs of the overstory touch the snowline, in addition to shorter understory trees that provide horizontal cover. Certain activities, such as timber harvest, prescribed burning and wildfires, can affect the amount and distribution of these habitat elements, which can in turn affect lynx productivity. Timber harvest can be beneficial, benign, or detrimental depending on the harvest method, the spatial and temporal occurrence on the landscape and the inherent vegetation potential of the site (FEIS, Vol. 1, Appendix P).

Objectives for vegetation management

Objectives define desired conditions for lynx habitat. The LCAS identified four primary objectives which are reflected in Alternative B as *Objectives VEG O1, VEG O2, VEG O3, and VEG O4*. These objectives essentially remain the same among all alternatives. Objectives VEG O1, VEG O2 and VEG O4 were clarified in the selected alternative based on comments on the DEIS, but their intent is the same as the in LCAS.

Standards and guidelines relating to quantity of winter snowshoe hare habitat

Standard VEG S1. In order to provide a distribution of age classes, the LCAS recommended that an lynx analysis unit (LAU) (an area the size of a female lynx home range) not have more than 30 percent of the lynx habitat in an unsuitable condition, and

if an LAU was at 30 percent then vegetation management projects should not create more. Lynx habitat in an unsuitable condition includes those forests in a stand initiation structural stage that are too short to provide winter snowshoe hare habitat. These conditions are created by stand-replacing wildfires, prescribed burns that remove all of the vegetation, or regeneration timber harvest. This recommendation is reflected in Alternative B *Standard VEG S1*.

Some people felt the 30 percent criterion was too high and others said it was too low based on how fires burn in lynx habitat. In addition, some people felt that constraining the 30 percent criterion to a single LAU was too restrictive, as fires burn across vast areas. Fire is the most common disturbance in lynx habitat. Generally, large stand replacing fires burn every 40 to 200 years and smaller low intensity fires burn in the intervals between stand replacing fires (FEIS, Vol. 1, p. 72 and 213-214). The 30 percent criterion was based on a way to maintain lynx habitat over time (Brittel et al. 1989).

None of the alternatives change the 30 percent criterion. However, Alternatives C, D, and E change the area the standard would be considered from an LAU to a larger landscape. Alternatives C and E apply the standard to an LAU or in a combination of immediately adjacent LAUs; Alternative D applies the standard to a subbasin or isolated mountain range. Some people liked the idea of applying the standard to a larger area, others did not. In their comments on the DEIS FWS recommended the standard be applied to a single LAU in order to maintain a good distribution of lynx habitat at the scale of a lynx home range.

The selected alternative applies the management direction to a single LAU to ensure a variety of structural stages are provided within the home range. In addition, the selected alternative was reworded to clarify what "unsuitable habitat" entails and what types of vegetation projects create this condition.

Standard VEG S2. The LCAS also recommended that timber harvest not change more than 15 percent of lynx habitat to an unsuitable condition (stand initiation structural stage that is too short to provide for winter snowshoe hare habitat) over a decade. The purpose of this standard was to limit the rate of management induced change in lynx habitat (FEIS p. 74). This recommendation is reflected in Alternative B *Standard VEG S2.*

In 2003, the effect timber harvest historically had on creating "unsuitable habitat" on Forest Service lands in Region 1 (Hillis et al. 2003) was analyzed. The analysis was based on hydrologic unit codes (HUC) (similar to the size of a lynx home range). This analysis found only 2.5 percent of the HUCs exceeds the 15 percent criterion. Since this criterion was rarely exceeded in the past, and the amount of regeneration harvest the agency does now has been dramatically reduced over the past decade (Project File/Analysis/Vegetation/FEIS/Data), Standard VEG S2 was changed to Guideline VEG G6 in Alternative C, and dropped as a standard or guideline in Alternatives D and E.

FWS comments on the DEIS said that dropping Standard VEG S2 could allow potentially negative effects to lynx to accumulate. Removal of the standard could result in reducing the amount of lynx habitat over a short period of time. Based on these comments, Standard VEG S2 was included in the selected alternative. In addition, the standard was reworded to clarify that it only applies to timber management practices that regenerate a forest (clearcut, seed tree, shelterwood, group selection).

Guideline VEG G1. The LCAS also recommended creating forage (winter snowshoe hare habitat) where it was lacking. *This is reflected as Guideline VEG G1 in Alternative B*. This guideline is retained in the selected alternative. The wording clarifies that the priority areas for creating forage should be in those forests that are in the stem-exclusion, closed canopy structural stage to enhance habitat conditions for lynx and their prey. Basically it says we should focus regeneration efforts in pure lodgepole stands, with little understory, especially where forage is lacking.

Other related comments. Other comments we received on the DEIS relating to the amount or spatial distribution of winter snowshoe hare habitat were in regards to including a standard to limit type conversion, and limiting the size of clearcuts and other regeneration harvest units (FEIS Vol. 1 p. 75-76 and FEIS Vol. 2 27-27, 56-57, 59-60). Neither of these standards were recommended in the LCAS.

Objectives VEG O1, VEG O2, VEG O3 and VEG O4 describe the desired conditions of lynx habitat and all are consistent with the intent to minimize habitat conversions. Projects and activities should be designed to meet or move towards objectives; therefore a standard for type conversion was not necessary.

Openings created by even-aged harvest are normally 40 acres or less. Creating larger openings requires 60-day public review and Regional Forester approval, with some exceptions (R1 Supplement Forest Service Handbook 2400-2001-2; R2 Supplement 2400-99-2). Koehler (1990) speculated that openings created by regeneration harvest, where the distance-to-cover was greater than 325 feet, might restrict lynx movement and use patterns until the forest re-grows. While it is assumed lynx would prefer to travel where there is forested cover, the literature contains many examples of lynx crossing unforested openings (Roe et al. 2000).

Larger openings can often more closely resemble vegetative patterns similar to natural disturbance events (e.g. fire, windthrow, and insect outbreaks) (FEIS, Vol. 1, Appendix P). A disturbance pattern characterized by a few large blocks may be desirable if large areas of forested habitat are a management goal, or if the predation and competition that occur at the edges between vegetation types is a problem (Ruggiero et al. 2000, p. 431). While it is true lynx may not use large openings initially, once they have re-grown and can provide cover, generally after ten to 30 years, such areas may be important to lynx (FEIS, Vol. 1, Appendix P, p. 40092).

The selected alternative already contains direction to consider natural disturbances and maintain habitat connectivity. Based on this management direction and evaluating the information in the *Ecology and Conservation of Lynx in the United States* (Ruggiero et al. 2000) and the LCAS, we decided that a standard limiting the size of openings was unnecessary to improve lynx conservation.

Standards and guidelines relating to quality of winter snowshoe hare habitat

Snowshoe hare are the primary prey for lynx. Winter snowshoe hare habitat is a limiting factor for lynx persistence. Snowshoe hare habitat consists of forests where young trees or shrubs grow densely. In addition to dense young regenerating forests, multistory forests that have trees whose limbs come down to snow level and have an abundance of trees in the understory, also provide winter snowshoe hare habitat. During winter, hare forage is limited to twigs and stems that protrude above the snow and the hares can reach. The LCAS recommended management direction to address winter snowshoe hare habitat in relation to precommercial thinning. Alternative B, the proposed action, splits the management direction to address actions occurring in winter snowshoe hare habitat in young regenerating forests (Standard VEG S5) and actions occurring in winter snowshoe hare habitat found in multistory forests (Standard VEG S6).

Standard VEG S5. The LCAS recommended no precommercial thinning that reduces winter snowshoe hare habitat in the *stand initiation structural stage*. This is reflected in Alternative B *Standard VEG S5.* Precommercial thinning within 200 feet of administrative sites, dwellings, or outbuildings has been allowed under current practices because it was found to have no effect to lynx due to location near structures.

Some people said this standard should apply to all vegetation management projects, not just precommercial thinning. Precommercial thinning is the primary activity that occurs in young regenerating forests. On occasion, other activities such as fuel treatments or prescribe burning, could occur. Alternatives C and D were expanded to apply to all vegetation management projects. Alternative E, the DEIS preferred alternative, only applied it to precommercial thinning projects.

Only a few comments were received on the DEIS saying the standard should apply to all type of projects. FWS did not comment on the more narrow application of the standard.

Standard VEG S5 in the selected alternative only applies to precommercial thinning because it is the predominate activity in young regenerating forests and it is has been identified as the risk factor for reducing winter snowshoe hare habitat (LCAS, Ruggiero et al. 2000, USDA FS and USDI BLM 2000, USDI FWS 2000a, 2000b, USDI FWS 2003).

As noted earlier in the issues section, some people said precommercial thinning should be allowed to restore tree species in decline or to encourage future large trees. Alternative D addresses this issue by allowing precommercial thinning of planted

western white pine, whitebark pine, aspen, and larch, ponderosa pine, and lodgepole pine in certain situations. Alternative E, the DEIS preferred alternative, only allowed precommercial thinning adjacent to structures, for research or genetic tests, or for fuel treatment projects identified in a collaborative manner.

Several comments on the DEIS said the allowances for precommercial thinning in Alternative D should be incorporated into the final alternative. Several comments said that some allowance for adaptive management should be incorporated and that thinning should be allowed where it could be done to promote or prolong winter snowshoe hare habitat.

FWS comments on the DEIS said thinning adjacent to administrative sites, dwellings, or outbuildings and for research and genetic tests would have little effect on lynx or their habitat. In addition, they said the following thinning activities would have cumulatively little effect upon lynx habitat and, in some cases, advance natural ecological conditions. These include: (1) daylight thinning of planted rust-resistant western white pine where 80 percent of winter snowshoe hare habitat is maintained; (2) thinning within whitebark pine stands; (3) western white pine pruning; and (4) thinning for Christmas trees.

We evaluated the comments and incorporated the following elements into the selected alternative:

- Since Standard VEG S5 is concerned with reduction of winter snowshoe hare habitat, western white pine pruning and thinning for Christmas trees can occur if winter snowshoe hare habitat is not reduced. Generally these activities are done on an individual tree basis and do not change the characteristics of the habitat.
- Precommercial thinning can be done adjacent to administrative sites, dwellings, or outbuildings and for research and genetic tests since these would have benign effects on lynx.
- Precommercial thinning can be done for planted rust-resistant western white pine, whitebark pine, and aspen. Thinning to enhance whitebark pine and aspen would benefit other wildlife species and effects only limited acres in lynx habitat (FEIS, Vol. 1 Lynx section). Daylight thinning will be allowed around individual planted rust-resistant western white pine where 80 percent of the winter snowshoe hare habitat is retained. This may reduce some habitat effectiveness, but since this tree species has declined 95 percent across its range, we determined it was important to allow a limited amount of thinning to retain the species on the landscape.

Under these exceptions, about 64,000 acres could be precommercial thinned in occupied lynx habitat over the next decade – assuming full funding. This is likely to affect less than 2 percent of winter snowshoe hare habitat (FEIS Vol. 1 p. 188, USDI FWS 2007).

We also considered allowing precommercial thinning in vast areas of young regenerating forests where precommercial thinning could be done to prolong winter snowshoe hare habitat. We also considered precommercial thinning in young regenerating forests composed primarily of western larch with more than 10,000 trees

per acre – where larch would be removed to favor other species that provide better winter snowshoe hare habitat. In both these situations the general belief is that these activities may be beneficial to lynx in the long term, but information is not available at this time to support that hypothesis. So, the standard was modified to provide an avenue to consider new information that may in the future prove or disprove these hypotheses. The criterion provided in the selected alternative states:

Based on new information that is peer reviewed and accepted by the regional level of the Forest Service and the state level of 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.

This criterion allows incorporation of new peer reviewed information, but requires agreement by FWS before it may be utilized.

Standard VEG S6. The LCAS recommended no precommercial thinning that reduces *winter snowshoe hare habitat in multistory forests*. This is reflected in Alternative B *Standard VEG S6.* Precommercial thinning within 200 feet of administrative sites, dwellings or outbuildings has been allowed under current practices because it was found to have no effect to lynx due to location near structures. The LCAS did not contain a recommendation related to other management actions.

As noted in Issue #3 some people said the management direction should preclude all activities that reduce winter snowshoe hare habitat in multistory forest. Alternatives C, D, and F would apply the management direction to all vegetation management activities in multistory forests that provide winter snowshoe hare habitat. Each alternative has different allowances for vegetation management. Alternative E, the DEIS preferred alternative, changed the management direction from a standard to Guideline VEG G8. The intent of the guideline was to direct vegetation projects to provide winter snowshoe hare habitat through time.

Multistory forest structures can develop from natural processes, such as insects and diseases and fire, or management actions like timber harvest that create small openings where trees and shrubs can grow.

Comments on the DEIS suggested that management direction for multistory forests should be in the form of a standard. FWS suggested the agencies review the latest information or research on lynx use of forests in multistoried structural stages prior to developing a final preferred alternative.

Recent research in northwest Montana demonstrates that mature multistoried forests provide important winter snowshoe hare habitat and are more important than younger stands (FEIS, Vol. 1, p. 22). In fact, the researchers questioned whether or not the LCAS would provide for lynx viability and recovery if only precommercial thinning were precluded.

Based on this new information we retained Standard VEG S6 in the selected alternative, but we preclude *all* vegetation management activities that reduce winter snowshoe hare habitat in multistory forests, not just precommercial thinning as recommended in the LCAS. We would allow minor reductions in winter snowshoe hare habitat for activities within 200 feet of structures, research or genetic tests, and for incidental removal during salvage harvest (associated with skid trails). Fuel treatment projects within the WUI are also exempt from this standard (see fuel treatment discussion further in this decision). We also allow timber harvest in areas that have the potential to improve winter snowshoe hare habitat but presently have poorly developed understories.

We believe and FWS concurred that protecting winter snowshoe hare habitat in multistoried forests will further retain and promote important lynx habitat components.

Standards and guidelines relating to denning habitat

Woody debris – piles of wind-thrown trees, root wads, or large down trees – provides lynx denning sites. Large woody debris gives kittens an escape route from predators, as well as cover from the elements. During the first few months of life, when kittens are left alone while the mother hunts, denning habitat must be available throughout the home range (Bailey 1974). The LCAS recommended two standards and two guidelines related to denning habitat. These are reflected in Alternative B as *Standards VEG S3 and VEG S4 and Guidelines VEG G2 and VEG G3*.

In Alternative B Standard VEG S3 defers vegetation management projects in places with the potential to develop into denning habitat if an LAU contains less than ten percent denning habitat. Standard VEG S4 limits salvage harvest in some situations. Guideline VEG G2 says when more denning habitat is desired to leave standing trees and coarse woody debris. Guideline VEG G3 says to locate denning habitat where there is a low probability of stand-replacing fire.

<u>Development of alternatives for the DEIS</u>

Some people said that den sites can be found in old regenerating forests and the agency should be allowed the flexibility to create denning habitat in regeneration units, especially since denning habitat should be located in or adjacent to forage. In Maine, 17 den sites were located in a variety of stand types, including 10-20 year old clearcuts adjacent to residual stands (FEIS, Vol. 1, Appendix P).

After reviewing the literature, we determined it was reasonable to have an alternative that allows for flexibility to mitigate or create denning habitat, especially when there is less than 10 percent denning habitat. Alternatives D and E modify Standard VEG S3 to say where there is less than 10 percent denning habitat either: 1) defer management, or 2) move towards 10 percent by leaving standing dead trees or piles of coarse woody debris. This combined the guidance in Alternative B, Guideline VEG G2 with the Standard VEG S3.

Some people said salvage harvest should not be singled out because it is not the only management action that removes denning habitat. Standard VEG S4 limits salvage harvest after a disturbance kills trees in areas five acres or smaller – if there is less than 10 percent denning habitat.

We evaluated whether other management actions, such as prescribed burning, chipping, piling and burning, etc. should be precluded. Salvage harvest is the primary management action that removes denning habitat because it removes dead and down timber; therefore we determined other actions did not need to be constrained. However, we determined that Standard VEG S4 should be a guideline in Alternatives D and E because it provides guidance on how to design projects. The guideline says when there is less than 10 percent denning habitat, then units should consider retaining small areas of dead trees. As noted in Alternatives D and E, Standard VEG S3, units can mitigate when there is less than 10 percent denning habitat. It is possible to create denning habitat or retain pockets, but units should be allowed to evaluate denning needs on a site specific basis.

The intent of Alternatives D and E, is where denning habitat is lacking, units should recognize it, retain large and small patches and/or mitigate, especially if it denning habitat can be created in or near new forage areas. In most areas denning habitat is likely not limiting because it is found in such a variety of stand conditions and ages.

Considerations for alternatives in the FEIS

In comments on the DEIS some people said there was no basis for retaining ten percent denning habitat – they wanted the standard dropped altogether. Others wanted more denning habitat required. Some people asked for an alternative to prohibit harvest in old growth or mature timber to protect denning habitat. Others said that all old growth should be protected by management direction because some administrative units do not meet old growth standards.

Some people said allowing salvage logging in disturbed areas smaller than five acres lacked a scientific basis and that all salvage harvest should be deferred. Most comments on the DEIS said that management direction for denning habitat should be in the form of standards.

In their comments on the DEIS FWS supported Standard VEG S3, including conditions 1 and 2 in Alternative E, but was concerned about changing Standard VEG S4 into Guideline VEG G7. FWS recommended development of a standard that: 1) maintains ten percent denning habitat within an individual LAU; 2) is randomly/evenly distributed across the LAU; and 3) ensures recruitment of future denning habitat.

Based on these comments, we reconsidered the management direction for denning habitat. We held discussions with the researchers, lynx biology team and FWS to further explore denning habitat – where it is found, how to measure it, and how to ensure plans provide the appropriate level of management direction.

Where denning habitat is found: Since 1989 researchers have discovered that lynx denning habitat is found in a variety of structural stages from young regenerating forests to old forests. The integral component of lynx den sites appears to be the amount of downed, woody debris, not the age of the forest stand (Mowat, et al. 2000). Research by Squires (pers. com. Oct. 30, 2006) has found that of 40 den sites in northwest Montana most were located under large logs, but "jack-strawed" small diameter wind thrown trees, root wads, slash piles, and rock piles were also used (FEIS, Vol. 1 p. 172-173). These structural components of lynx den sites can often be found in managed (logged) and unmanaged (e.g. insect damaged, wind-throw) stands.

How to measure denning habitat: Retaining ten percent denning habitat is based on maintaining lynx habitat over time (Brittel et al. 1989). Brittel recommended a balance of conditions – 30 percent forage, 30 percent unsuitable that would grow into forage, 30 percent travel, and ten percent denning.

We evaluated how to measure 10 percent denning based on where the habitat can be found. We evaluated using mature and over-mature forests as a first approximation of denning habitat. Generally mature and over-mature forests contain a component of dead and down trees which lynx use. If these two components were used then all units would show much more than ten percent denning habitat as all forests have at least twenty percent of their forest in mature stand structures (Project file/Analysis/Forests/FEIS/Data). In addition, these stand structures do not account for all the stand conditions where denning habitat can be found because denning habitat can be found in young forests with slash piles, lodgepole forests with insect and disease outbreaks, areas recently burned in wildfires, as well as variety of other forest conditions. Based on these discussions, we decided, with agreement from FWS, that using stand structures as a proxy would show an abundance of denning habitat; therefore the requirement to retain ten percent was found not to be a useful measure.

How to provide for denning habitat:

We considered restricting harvest in mature forests and old growth. The important component for all lynx den sites appears to be the amount of down woody debris present, not the age of the forest (Mowat et al. 2000, Appendix P). Old growth and mature forests can provide denning habitat, but based on review of research a variety of forest structures also provide denning habitat. We considered prohibiting timber harvest in old growth but dismissed this from detailed consideration because denning habitat is found in a variety of forest structures (FEIS, Vol. 1 p. 81).

We considered restricting salvage harvest. Standard VEG S4 in Alternatives B and C limits salvage harvest after a disturbance kills trees in areas five acres or smaller – if there is less than 10 percent denning habitat. The standard was changed to a guideline in Alternatives D and F. The guideline says that when there is less than 10 percent denning habitat, then units should consider retaining small areas of dead trees.

Salvage harvest can remove denning habitat. However, den sites are found in areas with large logs, "jack-strawed" small diameter wind thrown trees, root wads, slash piles, and rock piles. These areas need not be extensive – they are generally small areas that provide sufficient cover for lynx den sites.

We reevaluated whether or not denning habitat is a limiting factor for lynx. Based on discussions with research, we reaffirmed that denning habitat is found in a variety of forest conditions, they are found in small pockets scattered across an area and are generally found across the landscape, and lynx denning sites are not believed to be a limiting factor (J. Squires, pers. com. Oct. 30, 2006). In addition, management actions can create denning habitat by strategically leaving piles of woody debris, or leaving residual trees where denning habitat is lacking.

Therefore, we determined that restricting salvage harvest was not necessary, but that projects should consider the abundance and distribution of denning habitat in their project design and leave den site components (piles of down wood, or standing dead trees) where it is lacking.

We considered management direction in the form of standards vs. guidelines. We determined management direction for denning habitat should be incorporated into one set of management direction. Incorporating all the direction into one standard or guideline reduces the potential for conflicts between directions, focusing on the important components of denning habitat.

We determined a guideline would be best suited for this management direction because denning habitat can be found in a variety of forest structures and in small areas, is not a limiting factor for lynx, and the management direction would provide design features for projects. Therefore we developed Guideline VEG G11 in the selected alternative. The guidance is to: 1) have denning habitat distributed across an LAU (in the form of pockets of large woody debris, either down logs or root wads, or large piles of jack-strawed trees); and 2) if denning habitat is lacking, projects should be designed to retain coarse woody debris – by leaving piles or retaining residual trees that can become denning habitat later.

Objectives VEG O1, VEG O2, VEG O3, and VEG O4 and Standards VEG S1, VEG S2, and VEG S6 also indirectly promote the development and retention of the structure needed for denning habitat through vegetation management that promotes a mosaic of forest conditions across the landscape (USDI FWS 2007). Based on the above, FWS determined that projects were unlikely to reduce denning structure to levels that result in adverse effects to lynx (USDI FWS 2007).

In addition, the Lynx Biology Team (the team responsible for the LCAS) is in the process of updating the LCAS denning habitat recommendations based on this new information about where denning habitat is found and its distribution.

Consideration of fuel treatment projects

Most lynx habitat consists of high-elevation spruce/fir and lodgepole pine forests, but some lynx habitat may be found in mixed conifer forests. Generally, forests in lynx habitat are close to historic conditions, meaning the long fire return interval has not been affected to any large degree by more recent fire suppression as is the case in dryer forests with short fire return intervals. However, some stand conditions are conducive to extreme fire behavior because of insect and disease mortality or the amount of tree limbs that provide ladder fuels. Fuel treatments designed to reduce ladder fuels and/or reduce the potential size (Finney 2001) and severity of wildland fires may be proposed in lynx habitat.

After the 2000 wildfire season, which burned a substantial amount of acreage, the Forest Service began to set goals for wildfire management. Several documents serve to provide a national prioritization system for the selection of hazardous fuel treatments on Federal lands with close coordination among the Federal, State, and other agencies, as well as Tribes and communities. The criteria for prioritizing lands for hazardous fuels treatment generally correspond to: (1) closest proximity to communities at risk in the WUI; (2) strategic areas outside the WUI that prevent wildland fire spread into communities or critical infrastructure; (3) areas outside of WUI that are in Condition Classes 2 or 3; and (4) other considerations (FEIS, Vol. 1 p. 215).

The LCAS did not specifically address fuel treatments. During scoping we identified wildland fire risk as an issue, issue # 2 (FEIS, Vol. 1 p. 21-22). We developed a range of alternatives to address this issue.

In Alternative A, there would be no change in existing plan direction on the treatment of fuels.

Alternative B would allow fuel treatments to go forward if they:

- Meet the 10 percent denning standard (Standard VEG S3 and S4)
- Meet 30 percent unsuitable habitat standard (Standard VEG S1) or 15 percent unsuitable habitat created by timber harvest standard (Standard VEG S2)
- Use methods other than precommercial thinning in winter snowshoe hare habitat (Standards VEG S5 and VEG S6)

Alternatives C and D would not allow any type of fuel reduction project that reduced winter snowshoe hare habitat – except within 200 feet of structures.

Alternative E, the DEIS preferred alternative would not apply the vegetation standards (Standards VEG S1, S3, and S5) to fuel treatments developed in a collaborative manner, as described in the *10-Year Comprehensive Strategy Implementation Plan* (USDA FS 2001). This exception was used because a multi-party Memorandum of Understanding was signed in 2003 by the FS, BLM, and FWS (USDA FS et al. 2003) concerning fuel treatments and collaboration.

Many comments were received on the DEIS regarding fuel treatments. Some people suggested there be no exemptions for fuel treatments. Several groups suggested that only fuel treatments within 500 yards of human residences and other structures be allowed because these areas are generally not appropriate to restore lynx anyway. Others felt the exemptions should only apply to the WUI and that the agencies should define the WUI. Others liked the exemptions as they were written in Alternative E.

FWS cautioned against exempting a broad range and unknown number of actions from plan direction. They felt, as currently worded in Alternative E, the exemption was sufficiently vague that it did not allow an adequate analysis of potential effects upon lynx or lynx habitat and it could result in extensive adverse effects to lynx.

FWS suggested Standard VEG S5 be modified to restrict precommercial thinning to within one mile of structures. They did not believe any exemptions were needed for Standards VEG S1 or S2 since so very few LAUs were near the thresholds identified in these standards. They felt very few proposals would be constrained by the standards. They also questioned why Condition Class 1 forests were not specifically excluded from the exemptions. Condition Class 1 forests include areas where fires have burned as often as they did historically; the risk of loosing key ecosystem components is low; and vegetation composition and structure is intact and functioning. The FWS went on to say they recommended that processes, actions, or types that would be exempt be clearly identified.

We reviewed and discussed the comments with FWS and decided to modify the fuel treatment exemption for the selected alternative. We thoroughly discussed the issue of how to allow for fuel treatments to reduce the hazard to communities – while providing for the conservation and recovery of lynx (Project File/Alternatives/FEIS alternatives).

Based on our discussions we decided none of the vegetation standards will apply to fuel treatment projects within the WUI as defined by the Healthy Forests Restoration Act (HFRA), within a certain limit. We constrained the number of acres that do not meet the standards to 6 percent of lynx habitat within a National Forest, and we added the FWS term and condition that fuel treatment projects can cause no more than 3 adjacent LAUs to not meet standard VEG S1.

In addition we added Guideline VEG G10 which says fuel treatment projects within the WUI should be designed *considering* Standards VEG S1, S2, S5, and S6. The intent in adding this guideline is that although these vegetation standards do not apply to fuel treatment projects within the WUI as defined by HFRA, these projects should still consider the standards in the development of the proposal. In many cases projects can be designed to reduce hazardous fuels while providing for lynx needs. This guideline ensures lynx are considered in the project design – but allows for the flexibility of not meeting the standards in situations where meeting the standards would prevent the project from reducing the hazardous fuels in the WUI.

The following describes some of the considerations in the development of this direction.

Application to Standards VEG S1 and S2: Under Standards VEG S1 and S2 it is likely very few projects would exceed the 30 percent and 15 percent criteria because many fuel treatment projects are not regeneration harvest. If regeneration harvest is applied it is likely to be done to create a fuel break adjacent to communities or to break up the continuity of fuels (Finney 2001). Since part of our direction under the Healthy Forests Initiative is to look for ways to expedite fuel reduction projects we determined that we did not want to have to amend forest plans for the few cases where not meeting the standards may be necessary.

Application to Condition Class 1: Many forests in lynx habitat are in Condition Class 1, meaning these forests have not missed a fire cycle because large, stand-replacing fire only occurs every 100 to 200 years. However, some of these Condition Class 1 forests can still be a threat to communities. An example is lodgepole pine forests which are at the age of being susceptible to mountain pine beetle outbreaks. Regenerating lodgepole pine, adjacent to a community, may be needed to reduce the severity and size of a wildland fire. Fire is a natural process in these ecosystems; but there is a need to balance the natural process with the risk of fire destroying homes; therefore we did not limit the standard to particular condition classes.

What locations should be exempted: We evaluated various options regarding where the standards should be applied and we used a variety of criteria to evaluate which option to carry forward for detailed consideration. The criteria included: 1) is there a defined area; 2) can effects be meaningfully evaluated; 3) would it provide for community protection; and 4) does it meet the purpose and need. (For further detail see FEIS, Vol. 1 pp. 85-86 which summarizes the options and considerations and the Project File/Alternatives/FEIS Alternatives/documents July 29, 2004 through February 24, 2005).

Based on comments, national direction regarding fuel treatments, and the effects on lynx, we decided exempting fuel treatment projects within the WUI, within limits would be a reasonable balance. We decided to use the definition established by Congress in the HFRA as it established a national procedure for determining the extent of the WUI (USDI, USDA FS 2006).

What limit(s) should be applied: We elected to put a limit on the amount of fuel treatment projects that could exceed the vegetation standards, since WUI has not been mapped on all units. We evaluated the WUI based on a mile of where people live (FEIS, Vol. 1 p. 217). A one mile buffer from communities was used because HFRA describes WUI as ½ mile or 1 ½ miles depending on certain features. One mile splits this difference and is easy to approximate. Based on this analysis, we found that about 6 percent of lynx habitat is within 1 mile of communities; therefore we limited the amount of acres that can exceed the standards to 6 percent of each National Forest.

In addition, FWS identified two terms and conditions (TC) to minimize impacts of incidental take of lynx due to fuel treatment projects. TC 1 (6 percent limit) was already incorporated as described above; TC 2 says fuel treatment projects shall not result in

more than three adjacent LAUs exceeding the standard. This TC has been incorporated into the management direction – see Attachment 1.

Summary: Exempting fuel treatment projects within the WUI provided a defined area, as requested by FWS; we could evaluate the effects (FEIS, Vol. 1 Lynx section); it provides for community protection by reducing delay; and meets the purpose and need by constraining the area where adverse effects could occur. In addition we compiled information from each forest's 5 year fuel treatment program to evaluate effects – FEIS, Vol. 1, Lynx section and Appendix M, and USDI FWS 2007. This information was not available for the DEIS. We found that although we would limit adverse effects to 6 percent of lynx habitat, it is more likely only 1.4 percent or less of lynx habitat would have adverse effects. This is because the fuel treatment program of work within the WUI only amounts to 1.4 percent of lynx habitat and many projects can be designed to meet the vegetation standards. Regardless, the vegetation standards would apply to fuel treatments on 94 percent of lynx habitat.

In addition, by addressing the exemption and putting a limit on where adverse effects could occur this allowed us to take a cumulative look at the effects planning area wide vs. amending standards project-by-project.

FWS findings related to the vegetation management direction

The vegetation management direction set forth in the selected alternative conserves the most important components of lynx habitat: a mosaic of early, mature, and late successional staged forests, with high levels of horizontal cover and structure. These components ensure the habitat maintains its inherent capability to support both snowshoe hare prey base and adequate lynx foraging habitat (and denning habitat) during all seasons. These standards are required for all vegetation management actions on at least 93.5 percent of lynx habitat in the planning area. Areas within the WUIs (totaling six percent of lynx habitat) are exempt from these standards; however VEG G10 would apply and at least requires some consideration of the standards in designing fuel reduction treatments. Precommercial thinning, allowed under the exceptions, may affect an additional 0.5 percent of lynx habitat. Where these standards are applied to vegetation management projects, we anticipate few, if any, would have adverse effects on lynx. Collectively, application of these standards for vegetation management is expected to avoid adverse effects on lynx and promote the survival and recovery of lynx populations (USDI FWS 2007).

Management direction related to grazing

Livestock grazing may reduce or eliminate foraging habitat in areas that grow quaking aspen and willow in riparian areas (LCAS). These localized changes in habitat may affect individual lynx; however, no information indicates that grazing poses a threat to overall lynx populations (FEIS, Vol. 1, Appendix P, p. 40083). Appropriate grazing management can rejuvenate and increase forage and browse in key habitats such as riparian areas. Grazing was not mentioned in the original listing decision as a threat to

lynx, nor is it discussed in *the Ecology and Conservation of Lynx in the United States* (Ruggiero et al. 2000). In addition, FWS noted that they have found no research that provides evidence of lynx being adversely affected by grazing within the planning area or elsewhere, or of lynx movements within home ranges being impeded by grazing practices (USDI FWS 2007).

The LCAS recommended four standards for grazing management. These are reflected in Alternative B. *Standards GRAZ S1, GRAZ S2, GRAZ S3, and GRAZ S4* provide management direction for grazing in fire and harvest created openings, aspen stands, riparian areas and willow carrs, and shrub-steppe habitat. Alternatives C and D retain the management direction as standards. Alternative E changes the management direction to Guidelines GRAZ G1, GRAZ G2, GRAZ G3, and GRAZ G4 because neither the Remand Notice nor the *Ecology of Conservation of Lynx in the United States* recognized grazing as a threat to lynx.

Many people commented on Alternative E, the preferred alternative in the DEIS, and said the guidelines should be standards in the final alternative. Others said grazing should not be allowed at all, while two said the grazing guidelines should be retained. The FWS did not comment on the level of grazing management direction in Alternative E. We considered these comments in the FEIS Vol. 1 pp. 86-87, as well as Vol. 2, 75-76.

We decided the management direction for grazing in the selected alternative should be in form of guidelines, Guidelines GRAZ G1 through GRAZ G4 because there is no evidence grazing adversely affects lynx. These guidelines provide project design criteria for managing grazing in fire and harvest created openings, aspen, willow, riparian areas, and shrub-steppe habitats. The guidelines are designed to minimize potential adverse effects and improve habitat conditions. FWS found that with the application of these measures in most cases, there would be no effects or discountable effects to lynx (USDI FWS 2007). In addition, the Lynx Biology Team is in the process of updating the LCAS grazing recommendations.

Management direction related to human uses

Over-the-snow winter recreation

Lynx have very large feet in relation to their body mass, providing them a competitive advantage over other carnivores in deep snow. Various reports and observations have documented coyotes using high elevation, deep snow areas (Buskirk et al. 2000). Coyotes use open areas because the snow is more compacted there, according to research conducted in central Alberta (Todd et al. 1981). In another study in Alberta, coyotes selected hard or shallow snow more often than lynx did (Murray et al. 1994).

The LCAS recommended two objectives and two standards relating to winter dispersed recreation. These are reflected in Alternative B, *Objectives HU O1 and HU O3, and Standards HU S1 and HU S3*. In Alternative B, Standard HU S1 would maintain the existing level of groomed and designated routes. All action alternatives contain

Objectives HU O1 and HU O3 that discourage expanding snow-compacting human activities. Alternatives B, C, and D contain Standard HU S1 that would allow existing over-the-snow areas to continue but not expand into new, un-compacted areas. Alternative E, the DEIS preferred alternative, contains Guideline HU G11 that discourages the expansion of designated over-the-snow routes and play areas into uncompacted areas. All alternatives would allow existing special use permits and agreements to continue.

In comments on the DEIS some people asked that no dispersed over-the-snow use be allowed off groomed or designated trails and areas, saying the no net increase in groomed or designated routes did not go far enough. Others said the management direction should be in the form of a standard, not a guideline.

Some people said standards related to over-the-snow use should be removed. They said there is no evidence to show that coyotes and other predators use packed snow trails to compete with lynx for prey, and the amount of compaction created by snowmobiles is insignificant compared to the compaction created naturally by the weather. They were particularly concerned that if such language was introduced into plans, it could be difficult to change, incrementally restricting the places where snowmobiling is allowed. Others wanted an allowance made to increase use. These comments were considered for management direction – see FEIS Vol. 1 pp. 90-93.

In their comments on the DEIS the FWS agreed it is prudent to maintain the status quo and restrict expansion of over-the-snow routes until more information is available because of the possibility that, over time, unregulated expansion could impair further conservation efforts. They also said current, ongoing research in Montana may shed some information on the effects of snow compaction on lynx. They suggested careful consideration of the most recent information and the reality of possible impairment of options for the future. They suggested considering language that could provide more guidance on conditions where the expansion of over-the-snow routes would be warranted and acceptable.

We reviewed the results of research conducted since the DEIS was released. In northwestern Montana (within the northern lynx core area) Kolbe et al. (in press) concluded there was "little evidence that compacted snowmobile trails increased exploitation competition between coyotes and lynx during winter on our study area." Kolbe et al. (in press) suggested that compacted snow routes did not appear to enhance coyotes' access to lynx and hare habitat, and so would not significantly affect competition for snowshoe hare. They found that coyotes used compacted snow routes for less than 8 percent of travel, suggesting normal winter snow conditions allowed access by coyotes, regardless of the presence or absence of compacted snow routes. Kolbe was able to directly measure relationships between coyotes, compacted snow routes and snowshoe hare in an area that also supports a lynx population (USDI FWS 2007). In this study coyotes primarily scavenged ungulate carrion that were readily

available while snowshoe hare kills comprised only three percent of coyote feeding sites (Kolbe et al. in press).

In the Uinta Mountains of northeastern Utah and three comparative study areas (Bear River range in Utah and Idaho, Targhee NF in Idaho, Bighorn NF in Wyoming) Bunnell (2006) found that the presence of snowmobile trails was a highly significant predictor of coyote activity in deep snow areas.

From track surveys it was determined the vast majority of coyotes (90 percent) stayed within 350 meters of a compacted trail and snow depth and prey density estimates (snowshoe hares and red squirrels) were the most significant variable in determining whether a coyote returned to a snowmobile trail (Bunnell 2006). Of the four study areas recent lynx presence has only been documented on the Targhee NF. Bunnell indicated that "circumstantial evidence" suggested the existence of competition.

To date, research has confirmed lynx and coyote populations coexist, despite dietary overlap and competition for snowshoe hare, the primary prey of lynx, and alternate prey species. In some regions and studies, coyotes were found to use supportive snow conditions more than expected, but none confirm a resulting adverse impact on lynx populations in the area. The best scientific information (Kolbe's study) is from an occupied core area within our planning area. Radio-collared lynx and coyotes were monitored in this study, unlike the Bunnell study. This area is occupied by both lynx and coyotes and the study concludes coyotes did not require compacted snow routes to access winter snowshoe hare habitat.

Based on this information, we reevaluated management direction related to over-the-snow activities. An alternative to prohibit all snow-compacting activities or to limit dispersed use was evaluated, but not considered in detail because current research indicates this level of management direction is unwarranted (USDI FWS 2000a; FEIS, Vol. 1, Appendices O and P).

An alternative to drop all direction limiting snow compaction was not developed in detail because there is evidence competing predators use packed trails, suggesting a potential effect on individual lynx. We decided it was prudent to maintain the status quo and not let over-the-snow routes expand. However, we also decided it was reasonable to retain the direction as a guideline in the selected alternative which can be used in project design. The intent is to follow the management direction in guidelines. However, there may be some cases where expansion of over-the-snow routes would be warranted and acceptable, or where research indicates there would be no harm to lynx. Guidelines are better suited to adaptive management.

There is also no basis to establish any particular threshold of allowable increases. However, the selected alternative allows expanding winter recreation in some places where heavy public use existed in 1998, 1999, or 2000 – see Guideline HU G11.

The FWS concluded the Objectives HU O1 and O3, and Guideline HU G11 would be sufficient to maintain habitat effectiveness for lynx by limiting the expansion of

compacted snow routes and this conclusion would be tested through monitoring required in this decision. The best information available has not indicated compacted snow routes increase competition from other species to levels that adversely affect lynx populations, and under the selected alternative the amount of areas affected by snow compacted routes would not substantially increase (USDI FWS 2007).

Developed recreation

The LCAS identified risk factors associated with ski areas, including *short-term effects* on denning, foraging, and diurnal security habitat and *long-term effects* on movement within and between home ranges (LCAS, p. 2-10). Ski areas may eliminate habitat and pose a threat to movements; but most were constructed before lynx became a conservation issue (Hickenbottom et al. 1999, p. 70). Mitigation measures can be developed at the project level to lessen the effects of existing developments.

The LCAS recommended various objectives, standards, and guidelines in relation to developed recreation, specifically ski areas. These are reflected Alternative B, *Objectives ALL O1, HU O2, HU O3, and HU O4; Standards ALL S1 and HU S2; and Guidelines HU G1, HU G2, HU G3, and HU G10.* Objectives and standards *(LINK O1 and LINK S1)* regarding habitat connectivity also address concerns about developed recreation. These objectives, standards, and guidelines provide management direction about ski area development, expansion, and operations to provide for lynx movement, security, and habitat needs.

The alternatives retain similar management direction as Alternative B, except Alternatives C, D, and E changed Standard HU S2 to Guideline HU G10. Standard HU S2 requires diurnal habitat to be maintained, if needed. There is no evidence that diurnal security habitat is required by, or where it occurs on ski areas is used by lynx (USDI FWS 2007). Since the need to provide diurnal habitat is questionable, we determined it was better suited as a guideline.

In commenting on the DEIS some people said ski areas should be removed or at least prevented from expanding. Others recommended the final preferred alternative retain Standard HU S2. There are 24 existing down hill and cross country ski areas in occupied habitat in the planning area, which affect about 17,500 acres out of the 12.5 million acres of occupied habitat. Eight down hill ski areas are planned for expansion. One new ski area is proposed. Most of the ski areas are located on individual mountain ranges, not several together as in other areas in the west (FEIS, Vol. 1 p. 285). There is no indication these ski areas affect lynx travel because these ski areas are spread across the planning area. There is no information that indicates removal of ski areas is warranted, nor is limiting their expansion, as long as lynx needs are considered. The selected alternative includes standards to provide for lynx habitat connectivity, and includes guidelines to be use in the development of ski area expansion. Many adverse effects of developed recreation will be minimized under the selected alternative (USDI FWS 2007).

Minerals and energy

The LCAS said the main risk factors associated with minerals and energy development is related to the potential for plowed roads to provide access for lynx competitors.

These recommendations are reflected in Alternative B, *Objectives ALL O1, HU O1, and HU O5, Standards ALL S1 and HU S3, and Guidelines HU G4, and HU G5* which provide management direction for mineral and energy development. All except standard HU S3 remain essentially the same in all alternatives. Standard HU S3 says to keep mineral and energy development to designated routes. This standard was changed to Guideline HU G12 in Alternative E and in the selected alternative to be consistent with the application of management direction regarding over-the-snow routes discussed above.

In commenting on the DEIS some people said lease stipulations identifying constraints on developing oil and gas, coal, or geothermal resources should be one of the decisions made as a part of the management direction. This comment is addressed in the FEIS, Vol. 1 p. 94-95. FWS did not comment on the management direction related to minerals and energy development.

Forest roads

Lynx are known to have been killed by vehicle-collisions in Colorado (reintroduced population; paved, high-speed highways), in Minnesota (paved, high-speed highways) and in Maine (high-speed, relatively straight gravel roads on flatter terrain). The best information suggests that the types of roads managed by the Forest Service do not adversely affect lynx (USDI FWS 2007). Lynx mortality from vehicle strikes are unlikely, and to date none have been documented on National Forest System lands within the planning area, given the relatively slow speeds at which vehicles travel on these roads (due to topography and road conditions) and generally low traffic volumes.

Roads may reduce lynx habitat by removing forest cover. Along less-traveled roads where the vegetation provides good hare habitat, sometimes lynx use the roadbeds for travel and foraging (Koehler and Brittell 1990; LCAS, p. 2-12). A recent analysis on the Okanogan NF in Washington showed lynx neither preferred nor avoided forest roads, and the existing road density does not appear to affect lynx habitat selection (McKelvey et al. 2000; USDI FWS 2000a, p. 39).

Although many species of wildlife are disturbed when forest roads are used (Ruediger 1996), preliminary information suggests lynx do not avoid roads (Ruggiero et al. 2000) except at high traffic volumes (Apps 2000). In denning habitat, when roads are used during summer, lynx may be affected if they move their kittens to avoid the disturbance (Ruggiero et al. 2000; LCAS, p. 2-12).

The LCAS recommended several guidelines to address potential impacts of forest roads, including upgrading, cutting and brushing, and public use. These guidelines generally discourage improving access for people or reduce the likelihood people would see lynx near roads. These guidelines are reflected in Alternative B, *Guidelines*

HU G6, HU G7, HU G8, and HU G9. All the alternatives, including the selected alternative retain these guidelines.

In commenting on the DEIS some people said more restrictions on roads were needed to conserve lynx. They wanted new road construction halted, road densities identified and existing roads closed or eliminated, or they wanted the roads guidelines turned into standards. Other people said there should be no road-related standards or guidelines, saying no evidence exists that roads harm lynx. Some people said Guideline HU G9 should be deleted because there are no compelling reasons to close roads. The FEIS, Vol. 1, pp. 95 to 96 describes how these were considered in the development of the management direction. FWS had no comments related to these guidelines.

Based on our review we found no information indicating road building should be banned or that further restrictions were needed. The guidelines adequately address the known risks associated with roads. We determined guidelines were the appropriate level of management direction because guidelines provide information and guidance for project design and decision-making. Some guidance on how to design projects is warranted because roads may affect individual lynx.

Management direction related to linkage areas

Highways and connectivity

Highways impact lynx by fragmenting habitat and impeding movement. As traffic lanes, volumes, speeds, and rights-of-way increase, the effects on lynx are increased. As human demographics change, highways tend to increase in size and traffic density.

The LCAS recommended one objective, two standards, and a guideline directly or indirectly related to highways and connectivity. These are reflected in Alternative B, *Objective ALL O1*, *Standards ALL S1* and *LINK S1,* and *Guideline ALL G1*. Objective ALL O1 and Standard ALL S1 are intended to maintain connectivity. Standard LINK S1 is intended to provide a process for identifying wildlife crossings across highways.

Alternatives C, D, E and the selected alternative have the same objective and standards.

In comments on the DEIS some people said more should be done than just identifying highway crossings. FWS did not comment on management direction related to highways.

The LCAS recommended project standards for highways. It says to "Identify, map and prioritize site-specific locations, using topographic and vegetation features, to determine where highway crossings are needed to reduce highway impacts on lynx and other wildlife". Alternatives B, C, D, E and the selected alternative include Standard LINK S1 which reflects the intent of the LCAS recommendations. In addition, Guideline ALL G1 says "Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways or forest highways across federal land. Methods could include fencing, underpasses or overpasses."

As noted in Chapter 3, Transportation Section, portions of three highways are likely to be reconstructed in linkage areas in the next ten years. State agencies in Wyoming, Idaho, and Montana are incorporating wildlife crossings into their highway design packages (Wyoming Department of Transportation, 2005; Idaho Transportation Department 2004; Montana DOT, FHWA, Confederated Kootenai and Salish Tribes 2006). Therefore no further management direction regarding wildlife crossings in the form of standards was found to be warranted.

Other considerations in linkage areas

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

In addition, it is important to mention the Forest Service is a lead member in the interagency Lynx Steering Committee and the Lynx Biology Team (FEIS, Vol. 1 Chapter 4), and played a key coordination role for the Lynx Science Team. These efforts facilitate relationships with other Federal and non-Federal landowners, including the States and provide a source for non-Federal land management guidance, through products such as the LCAS and Forest Plans. The Steering Committee would also provide a forum to build and sustain cooperative efforts with Canada to maintain lynx connectivity across the international border, if and when the need arises (USDI FWS 2007). The Forest Service also led the interagency effort to identify linkage areas.

Use of standards and guidelines

The selected alternative incorporates standards for those risk factors found to threaten lynx populations. Standards are management requirements used to meet desired conditions. Standards were used in those situations where we wanted to provide sideboards for project activities. Guidelines were used for those risk factors that may have possible adverse affects on individual lynx. Guidelines are management actions normally taken to meet objectives. They provide design criteria to meet lynx objectives. We expect guidelines to be followed in most cases, however based on site-specific conditions there may be reason not to follow a guideline.

FWS found guidelines would be implemented in most cases and adverse effects would not always occur where guidelines are not implemented. Effects would be based on site-specific conditions, with compliance with Section 7 consultation for each project. The FWS does not expect adverse effects as a result of changes of LCAS standards to guidelines to reach levels that impact lynx populations. Changes from standards to guidelines occurred when the best available information indicated the action was not likely to adversely affect lynx, or not likely to adversely affect lynx in most cases (i.e. where no conclusive or reliable information supported the standard in the LCAS).

Application of the standards, and for the most part guidelines, in core and occupied secondary areas substantively reduce the potential for adverse effects on lynx over the existing plans (USDI FWS 2007).

In addition, we will monitor the application of guidelines to see if our assumption they are normally applied is correct. Annually we will review the monitoring results to determine if further consideration is warranted.

Where to apply the decision

The selected alternative is incorporated into all forest plans in the planning area (FEIS, Vol. 1, Table 1-1 p. 5 and Figure 1-1). However, the management direction only applies to occupied lynx habitat. Those National Forests (the Beaverhead-Deerlodge, Bitterroot, Nez Perce in Region 1; the Bighorn in Region 2; and the Ashley, and Salmon-Challis in Region 4), or isolated portions of National Forests (the Custer, Gallatin, Helena and Lewis and Clark in Region 1), that presently are unoccupied by Canada lynx should consider the management direction that is now incorporated into their Forest Plans when developing projects, but are not required to follow the management direction until such time as they are occupied by Canada lynx.

According to the Conservation Agreement (USDA FS, USDI FWS 2006a), an area is considered occupied when: (1) there are at least 2 verified lynx observations or records since 1999 on the national forest, unless they are verified to be transient individuals; or (2) there is evidence of reproduction on the national forest.

This direction is in keeping with the current Conservation Agreement which only applies to projects and activities in occupied habitat. The FWS species lists on those forests and portions of forests that are unoccupied do not show lynx as a species for consideration. However, as noted in the Biological Opinion, the FWS said, and we agree that lynx detection is needed to assess whether further management direction is warranted (USDI FWS 2007). Therefore, we agree to work with the FWS to develop and complete an acceptable protocol to survey currently unoccupied lynx habitat in secondary areas as described in the Biological Opinion, Term and Condition #4.

Incorporation of terms and conditions

On March 16, the FWS issued its Biological Opinion on the Northern Rockies Lynx Management Direction (USDI FWS 2007). In the opinion the FWS concluded that the management direction would overall be beneficial, but that some adverse effects to lynx would still be anticipated. It determined the management direction would not jeopardize the continued existence of lynx. The opinion also provides an incidental take statement which specifies the impact of any incidental taking of lynx. It also provides reasonable and prudent measures that are necessary to minimize the impacts of the take and sets forth terms and conditions which must be complied with in order to implement the reasonable and prudent measures.

The opinion identified three reasonable and prudent measures (RPM) with four associated terms and conditions (TC). We incorporated TC 1 through 3 into the management direction. The TCs are shown in italics in Attachment 1. TC #4 is agreed to as described below.

RPM #1: Minimize harm from fuels management by ensuring the acres impacted are not concentrated in a geographic area or several adjacent LAUs

> Ensure fuels management projects conducted under the exemptions from Standards VEG S1, S2, S5 and S6 in occupied habitat:
>
> > TC 1. do not occur in greater than 6 percent of lynx habitat on any forest; and
> >
> > TC 2. do not result in more than 3 adjacent LAUs not meeting the VEG S1 standard.

TC 1 was already part of the management direction. TC 2 has been added to Standard VEG S1.

RPM #2: Minimize harm from precommercial thinning and vegetation management by ensuring that LAUs either retain sufficient foraging habitat, or do not substantially reduce foraging habitat.

> TC 3. In occupied habitat, precommercial thinning and vegetation management projects allowed per the exceptions listed under VEG S5 and S6, shall not occur in any LAU exceeding VEG S1, except for projection of structures. This requirement has been added to Standards VEG S5 and VEG S6.

RPM #3: On those Forests with currently unoccupied lynx habitat, lynx detection is needed to assess whether further management direction is warranted, including application of the management direction.

> TC 4. Within 18 months of the date of the Biological Opinion, the Forest Service shall work with the Service to develop and complete an acceptable protocol to survey currently unoccupied lynx habitat in secondary areas. We agree to work with the FWS to develop and complete the protocol in unoccupied secondary areas.

The FWS also identified several monitoring and reporting requirements related to the above terms and conditions. We have incorporated these elements in the selected alternative – see Attachment 1, page 9.

Consideration of conservation recommendations

The FWS also identified three conservation recommendations which are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery programs, or to develop information.

Recommendation 1. The FS should ensure to the extent possible, that unoccupied habitat continues to facilitate and allow dispersal of lynx into the future. Therefore the

FWS recommends the management direction regarding linkage areas and connectivity by applied in the unoccupied areas (ALL O1, ALL S1, ALL G1; LINK O1, LINK S1 and LINK G1). The Forest Service already considers and applies this management direction in our current program of work; therefore we have decided to not apply the direction in unoccupied areas until such time the areas are occupied.

Habitat connectivity is considered in the design of permanent developments and vegetation management. Few, if any, vegetation projects affect habitat connectivity. Most, if not all units, have some level of riparian area protection requirements in their existing plans. This direction facilitates movement of lynx through riparian areas.

The greatest risk to impeding connectivity is in relation to roads and highways. The Forest Service already works with the State and Federal Highway agencies and is part of the steering team that produced the document *Eco-logical: An Ecosystem Approach to Developing Infrastructure Projects* (USDOT, 2006), FEIS Transportation Section. Also noted in this section is the highway work planned and projected in all lynx habitat and how the states have incorporated wildlife crossings into the design of those future projects. The FEIS p. 198 evaluated the effects of not applying the management direction to unoccupied areas and discloses that there would be minimal effects, especially to linkage areas because similar management direction or the intent of the direction already exists.

Recommendation 2. The Forest Service should coordinate with the Service to develop, within 18 months a method to monitor the amount and condition of lynx habitat in unoccupied secondary habitat. The Forest Service agrees to this recommendation.

Recommendation 3. The Forest Service should continue to be a leader in lynx conservation and understanding. The Forest Service agrees to this recommendation.

Canada Lynx Recovery Outline

On September 12, 2005 the FWS issued a Recovery Outline for Canada lynx (USDI FWS 2005). The outline is to serve as an interim strategy to guide and encourage recovery efforts until a recovery plan is completed. In the Recovery Outline, FWS categorized lynx habitat as: 1) core areas; 2) secondary areas; and 3) peripheral areas. The areas with the strongest long-term evidence of the persistence of lynx populations within the contiguous United States are defined as "**core areas**." As we discuss below and illustrated on the enclosed map (Figure 1-1), we have two core areas in the analysis area. Core areas have both persistent verified records of lynx occurrence over time and recent evidence of reproduction. According to FWS, focusing lynx conservation efforts on these core areas will ensure the continued persistence of lynx in the contiguous United States by addressing fundamental principles of conservation biology (USDI FWS 2007). The Recovery Outline says "Recovery of lynx will be achieved when conditions have been attained that will allow lynx populations to persist long-term within each of the identified core areas." (USDI FWS 2005).

At this time, the role of areas outside of these core areas in sustaining lynx populations is unclear. The fluctuating nature of lynx population dynamics and the ability of lynx to disperse long distances have resulted in many individual occurrence records outside of core areas, without accompanying evidence of historic or current presence of lynx populations. Areas classified as "**secondary areas**" are those with historical records of lynx presence with no record of reproduction; or areas with historical records and no recent surveys that document the presence of lynx and/or reproduction. We have one area of secondary habitat in the analysis area (Figure 1-1). Much of the secondary habitat is unoccupied. FWS hypothesizes that secondary areas may contribute to lynx persistence by providing habitat to support lynx during dispersal movements or other periods, allowing animals to then return to "core areas."

In "**peripheral areas**" the majority of historical lynx records are sporadic and generally corresponds to periods following cyclic lynx population highs in Canada. There is no evidence of long-term presence or reproduction that might indicate colonization or sustained use of these areas by lynx. However, some of these peripheral areas may provide habitat enabling the successful dispersal of lynx between populations or subpopulations. We have four areas of peripheral habitat in the analysis area (Figure 1-1). At this time, FWS does not have enough information to clearly define the relative importance of secondary or peripheral areas to the persistence of lynx in the contiguous United States (USDI FWS 2005, USDI FWS 2007).

In the Recovery Outline, FWS presented four preliminary recovery objectives. Below, we summarize FWS findings (USDI FWS 2007) of how the selected alternative meets the recovery objectives.

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

FWS concludes the selected alternative fulfills this objective and adequately manages the two core areas within the planning area to support lynx recovery. The selected alternative supports the long-term persistence of lynx populations within the Northwestern Montana/Northeastern Idaho and Greater Yellowstone core areas, which constitutes one third of the core areas nationwide (USDI FWS 2007).

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

FWS concludes the selected alternative contributes to this recovery objective in part.

Lynx have the ability to move great distances, through varied terrain and habitat. Dispersing lynx use a variety of habitats and prey resources compared to lynx attempting to establish a home range and territory (USDI FWS 2007).

Connectivity between the United States and Canada appears intact thus far, as the Northwestern Montana/Northeastern Idaho core area is directly adjacent to Canada

and includes Glacier Park along its northeastern edge. The selected alternative provides and conserves core area lynx habitat directly adjacent to and contiguous with lynx habitat in Canada. Such habitat should accommodate both immigration of lynx from Canada and emigration from core areas to secondary areas or Canada.

The selected alternative applies to all core areas and occupied secondary areas. The direction includes objectives, standards, and guidelines to actively maintain or restore lynx habitat connectivity in and between linkage areas and LAUs (lynx home ranges). Because these measures apply in both core and occupied secondary areas, the selected alternative clearly meets the recovery objective of accommodated long-term connectivity across these broad areas.

The selected alternative is less clear in its effects in unoccupied secondary areas between the Northwestern Montana/Northeastern Idaho and Greater Yellowstone core areas. The management direction will not be applied to these areas until they become occupied. In the meantime existing plan direction will be followed.

Information indicates the likely impact of projected vegetation management on connectivity in this area may not be excessive. Fuel treatment projects in unoccupied habitat would likely occur in no more than two to three percent of all lynx habitat on any forest in secondary areas (FEIS Vol. 1, p. 195, USDI FWS 2007). In unoccupied areas precommercial thinning could occur on about 67,000 acres (about 1 percent) with full funding and 23,000 acres (0.4 percent) or less with projected funding. Timber harvest in unoccupied areas could result in creating stand initiation openings in more than 30 percent of an LAU. However, very few LAUs exceed this amount now and those that were in excess were in that condition due to past wildfires (FEIS, Vol. p. 155). Information regarding projected timber harvest was not available, but based on the past harvest history (Project File/Forests/FEIS/Data) it is unlikely regeneration harvest will occur to the same levels it did historically (1970s and 1980s). Based on this, FWS found vegetation management, under existing plan direction, would not preclude connectivity or opportunistic foraging conditions (USDI FWS 2007).

Development is another factor that may impede lynx movement. Four ski areas, affecting about 3,800 acres occur on National Forest System lands, in unoccupied secondary habitat; two of the four are planning expansions. None of these ski areas impede connectivity of lynx habitat at this time (USDI FWS 2007).

Connectivity for lynx could be more impacted by development such as highway expansions. Under existing plans and national efforts, methods to provide for safe wildlife crossings are currently being researched by all state highway departments and are being incorporated into highway improvements (FEIS, Vol. 1 p. 294-295).

In secondary unoccupied habitat, units should consider the management direction until such time the area becomes occupied. Given the estimates of projected impacts and the best information available regarding lynx dispersal movements, FWS concluded that under existing plan direction, these unoccupied secondary areas would reasonably be

expected to provide adequate connectivity and opportunistic foraging habitat for lynx to allow dispersal (USDI FWS 2007).

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

FWS found the selected alternative contributes to this recovery objective in part.

The recovery outline discusses the relative importance of core and secondary areas to lynx recovery. The selected alternative will fully provide management direction in occupied lynx habitat – both core and secondary. This measure ensures habitat in currently occupied secondary habitat remains available for continued occupancy by lynx.

The forests should consider the management direction in currently unoccupied secondary habitat. As noted in Objective 3, management actions could adversely affect unoccupied secondary lynx habitat. If and when lynx attempt to establish home ranges in secondary areas, individual lynx could be affected. It is also important to note that about 70 percent of unoccupied secondary lynx habitat in the planning area is in roadless or wilderness status where forest management actions are minimal and natural processes predominate.

Occupancy could occur if lynx populations in core areas were to expand, as periodically happens in lynx populations in Canada. However, given the projected impacts described in Objective 3, non-developmental areas, and existing habitat conditions, FWS believes it is reasonable to expect some lynx would occupy these secondary areas despite lack of mandatory direction in plans, but at a lower density than core. Further, if detected, once lynx occupy a previously unoccupied area, the management direction will apply. In the meantime, our vegetation management actions may degrade lynx habitat, but resulting conditions are typically temporary, not permanent. The risks of most vegetation management actions, such as timber harvest, precommercial thinning and other modifications of habitat, are reversible since typically forests regenerate overtime, with or without active restoration. Based on this FWS found lynx habitat on National Forests System lands in secondary areas will likely remain available for recovery of lynx over time (USDI FWS 2007).

The Opinion goes on to say the selected alternative does not fulfill Objective 3 entirely, as it lacks requirements for further or continued monitoring or surveying of unoccupied secondary areas for the amount and condition of lynx habitat and lynx presence, as recommended in the recovery outline.

However, through this decision we agree to work with the FWS to develop and complete a protocol to survey and to develop a method to monitor the amount and condition of lynx habitat in unoccupied secondary habitat. Our agreement to these items will aid in fulfilling Objective 3.

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

FWS found that although plans do not apply for 100 years and thus cannot directly fulfill this objective, the selected alternative will allow lynx populations to persist on lands within core areas in the planning area within the foreseeable future. The selected alternative addresses the threat to the distinct population segment (DPS), inadequate regulatory measures, within core areas in the planning area by limiting, reducing or avoiding major adverse impacts of federal land management on lynx, as well as several other impacts or influences that do not rise to the level of a threat to the DPS. Further, a large portion of lynx habitat within the planning area (67 percent) remains in non-developmental status, where natural processes predominate. Finally, unoccupied lynx habitat within secondary and peripheral lynx areas is likely to retain habitat that provides opportunistic foraging habitat and connectivity adequate for dispersal of lynx, despite the lack of specific direction for lynx habitat management (USDI FWS 2007).

Findings Required by Laws, Regulation, and Policies

National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires analysis of decisions to ensure the anticipated effects on the environment within the analysis area are considered prior to implementation (40 CFR 1502.16). The analysis for the Northern Rockies Lynx Management Direction followed the NEPA guidelines as provided by the Council on Environmental Quality. Alternatives were developed based on the Purpose and Need, the primary issues, public comments, lynx needs as identified by the LCAS, research, and other publications. A total of six alternatives were considered in detail, including the No Action Alternative as required by NEPA (FEIS, pp. 26 to 69 and 107 to 134). Additional management direction was considered but eliminated from detailed study (FEIS, pp. 71 to 106). The range of alternatives is appropriate given the scope of the proposal, the public issues expressed, and the Purpose and Need for action (FEIS, Chapter 1).

Unavoidable adverse effects

The selected alternative does not represent an irreversible or irretrievable commitment of resources. Any disturbance to resources cannot occur without further site-specific analyses, section 7a consultation required under ESA and decision documents. For a detailed discussion of effects of this decision, see Chapter 3 of the FEIS (pp. 135 to 350).

Environmentally preferable alternative(s)

Regulations implementing NEPA require agencies to specify "the alternative or alternatives which are considered to be environmentally preferable" (40 CFR 1505.2(b)). The environmentally preferable alternative causes the least damage to the biological and physical environments and best protects, preserves, and enhances historical,

cultural, and natural resources. Based on the description of the alternatives considered in detail in the FEIS and in this ROD, we determined the selected alternative best meets the goals of Section 101 of the NEPA, and is therefore the environmentally preferable alternative for this proposed federal action.

FWS found timber harvest can be beneficial, benign, or detrimental depending on harvest method, and the spatial and temporal occurrence on the landscape (FEIS, Vol. 1, Appendix P). The vegetation standards in the selected alternative ensure the timber management program is beneficial to lynx. Standard VEG S1 limits the amount of lynx habitat that is in the stand initiation stage to 30 percent of each LAU at any time, ensuring a continuous rotation of all forest stages through time that supply lynx habitat in each LAU (FEIS, Vol. 2, p. 60). Standard VEG S2 allows no more the 15 percent of the lynx habitat to change to the stand initiation stage through timber harvest in a 10-year period. This limits the rate of change within an LAU to ensure sufficient habitat for lynx through time.

Precommercial thinning can impact lynx habitat. Standard VEG S5 precludes precommercial thinning except in certain situations that FWS has determined would have little effect upon lynx or their habitat, but would advance natural ecological conditions (FWS comment letter on the DEIS, pp. 8 and 9). While these exceptions have little effect on lynx (0.5 percent of lynx habitat) they have important positive impacts on other resources and situations such as maintaining aspen, western white pine, and whitebark pine, and fuel reduction near buildings.

Since the LCAS was published it has become clear that multistory mature stands with dense horizontal cover are important to lynx. In the selected alternative, Standard VEG S6 is instrumental in maintaining winter snowshoe hare habitat in multistoried forests which will aid in lynx persistence.

The selected alternative allows for management of fuels in the WUI under Guideline VEG G10, rather than standards. Under VEG G10 fuel reduction projects in the WUI should consider the VEG standards, but may deviate from them, up to a cap of 6 percent of the lynx habitat on each National Forest. Lynx habitat is still considered; however, if the fuel reduction needs are such that any of the four VEG standards cannot be met while at the same time meeting fuel treatment objective, the project may proceed under Guideline VEG G10. Fuel treatment actions in 94 percent of the lynx habitat must follow the VEG standards, while at the same time fuel treatment projects in the WUI can protect other valuable resources.

The selected alternative contains guidelines for the various activities on National Forest System land that may have possible adverse affects on individual lynx. Standards were changed to guidelines when the best available information indicated the action was not likely to adversely affect lynx, or not likely to adversely affect lynx in most cases (i.e. where no conclusive or reliable information supported the standard in the LCAS).

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

National Forest Management Act

Significance determination: The purpose of this proposal is to incorporate management direction into plans for the conservation and recovery of Canada lynx.

In January 2005, the Forest Service removed the November 9, 2000 National Forest System Land and Resource Management Planning Regulations at 36 CFR 219, subpart A and replaced them with newly adopted regulations. The new regulations set forth a process for land management planning, including the process for developing, amending, and revising land management plans (36 CFR 219.1). These regulations also incorporate effective dates and transition periods. Section 219.4(e) says "Plan development, plan amendments or plan revision initiated before the transition period (starting January 5, 2005) may continue to use the provisions of the planning regulations in effect before November 9, 2000" – in this case the 1982 regulations. This proposal was initiated on September 11, 2001, which is before the transition period; therefore it is being completed under the requirements of the 1982 regulations.

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

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

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

1. Actions that do not significantly alter the multiple-use goals and objectives for long-term land and resource management.
2. Adjustments of management area boundaries or management prescriptions resulting from further on-site analysis.
3. Minor changes in standards and guidelines.
4. Opportunities for additional projects or activities.

Examples of significant changes include:

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

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

Under the selected alternative the management direction will only apply to occupied habitat. At this time the Beaverhead-Deerlodge, Bitterroot, Nez Perce, Salmon-Challis, Ashley and Bighorn NFs are unoccupied; therefore these units should consider the management direction but will not have to apply it. Several mountain ranges on the Custer, Gallatin, Helena, and Lewis and Clark NFs are also unoccupied and the management direction will not have to be applied in these areas until lynx occupy the site. However, since the selected alternative could be applied to all units at some point in time, the following analyzes the effects on the planning area as a whole.

Changes in standards and guidelines are minor

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

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

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

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

The selected alternative limits precommercial thinning in winter snowshoe hare habitat in young regenerating forests, with some exceptions – see Standard VEG S5. Precommercial thinning is allowed to restore aspen, whitebark pine and planted rust-

resistant western white pine. Precommercial thinning will also be allowed if new research indicates it will benefit or only have short-term adverse effects to lynx. Precommercial thinning is not allowed in young regenerating lodgepole pine forests, unless new research indicates it is beneficial or benign. Limiting precommercial thinning in lodgepole pine forests could affect growth and yield, and the potential to produce some products in the future, because these forests tend to stop growing if not thinned; however overall cubic foot volume would not be affected.

The Beaverhead-Deerlodge and the Bridger-Teton are the only units that have a majority of their precommercial thinning identified over the next ten years in lynx habitat and in lodgepole pine; therefore they are the only units that could see a reduction to growth and yield (FEIS, Vo1. 1, Appendix K-5). Under current programs, the units only have accomplished a portion of their thinning program (approximately 34 percent) due to budgets, so it is difficult to tease out the effects from the management direction in this proposal from effects of budgets. In addition, Standard VEG S5 allows for consideration of new information. Over the next ten to fifteen years information may become available that indicates some precommercial thinning in lodgepole pine forests may be beneficial to snowshoe hare (see DEIS comment letter #505).

Limiting precommercial thinning is unlikely to affect long-term sustained yield (LTSY), as defined by NFMA and FSH 1909.12, Chapter 60.5, because the cubic foot volume on the site does not substantially change. The volume is spread among more, smaller trees without thinning versus fewer, larger diameter trees with thinning. In addition, some precommercial thinning may be allowed in the future if new information becomes available. Timber outputs have never been at the level of LTSY over the life of these plans, so changes in LTSY are unlikely to lead to changes in outputs, especially if outputs are measured in cubic feet, which is the appropriate measure of LTSY.

In addition, the ASQ should not be affected on any units because the management direction does not preclude timber harvest. Standards VEG S1 and S2 may defer regeneration harvest in some areas, but Guideline VEG G1 encourages projects creating winter snowshoe hare habitat where it is lacking. It is likely there would be no change in overall timber outputs, but there may be changes in what material is harvested and where.

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

There are approximately 38.5 million acres within the 18 National Forests in the planning area. Of this, approximately 18 million acres or 48 percent has been mapped as lynx habitat (see table 3.1). Of the 18 million acres of mapped lynx habitat, approximately 8 million acres are in land allocations that allow for management actions. Therefore the management direction only potentially affects about 20 percent of the planning area. The most noticeable effects are likely to be the location and amount of precommercial thinning. The potential acreage that could be affected is between 11,000 to 15,000 acres per year. This is less than one percent of the planning area. It should be

noted that precommercial thinning is not constrained on an additional 18,000 acres per year outside lynx habitat (FEIS, Vol. 1 p 247-248).

Summary: Considering the three factors, we determined this management direction is not a significant change under NFMA to the 18 forest plans because it imposes minor changes over a limited area of these national forests.

While this amendment is not significant, the planning process necessary for significant amendments is ongoing or will begin soon on most units affected by this decision. In particular interest to the precommercial thinning discussion on the previous page, both the Beaverhead-Deerlodge and Bridger-Teton National Forests are being revised. The Beaverhead-Deerlodge should complete the revision process in 2007. Their DEIS for the Forest Plan recognizes the cumulative contribution the Northern Rockies Lynx Amendment may have on reducing growth and yield (DEIS, page 326). The Bridger-Teton should complete its revision in 2008.

Viability determination: This management direction is being adopted in accordance with the 1982 NFMA regulations for amending land and resource management plans. Plan amendments initiated before January 5, 2005 may proceed using the provisions of these regulations. The transition period to regulations implementing the 2005 planning rule ends on a unit's establishment of an Environmental Management System, or no later than January 7, 2008.

According to the 1982 NFMA regulations, fish and wildlife habitat shall be managed to maintain viable populations of Canada lynx in the planning area (36 CFR 219.19, 2000). For the purpose of this decision, the planning area is the range of lynx encompassed by the national forests subject to this decision. This is based on a biological delineation of the Northern Rockies made in the LCAS.

A viable population is, "one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well-distributed in the planning area." It is not possible to reliably predict future population demographics for lynx, and continued existence of lynx may be dependent on threats that exist outside of the planning area (health of Canadian populations, or linkage across other ownerships).

The national forests subject to this new direction will provide habitat to maintain a viable population of lynx in the Northern Rockies by maintaining the current distribution of occupied lynx habitat, and maintaining or enhancing the quality of that habitat. Based on the best scientific information available, and for the specific reasons provided below, this management direction will provide habitat to support persistence of lynx in the Northern Rockies in the long-term.

The LCAS was used as the basis for developing the selected alternative. The FWS Remand Notice (FEIS, Vol. 1, Appendix P), and other new information and research were also evaluated, and became the basis for updating standards and guidelines based upon the current state of knowledge regarding threats to lynx since the LCAS was compiled.

The greatest threats to lynx persistence and reproduction are from changes in vegetation structures that provide snowshoe hare habitat during summer and winter. Standards were developed under the selected alternative to provide direction for a variety of vegetation management activities that are most likely to affect lynx habitat (fuel treatments, precommercial thinning, timber harvest, etc.). These include standards for connectivity (ALL S1), habitat mapping (LAU S1), regeneration harvesting (VEG S2), precommercial thinning (VEG S5), and management of multistory mature and late successional forests (VEG S6). These standards are equal to or more protective than similar recommendations provided in the LCAS. In the Seeley Lake area of Montana, mature, spruce-fir forests with high horizontal cover are particularly important as winter foraging habitat and are more important than younger stands (Squires pers. com., Oct. 30, 2006) and the LCAS provides no specific management recommendations for these vegetative conditions within lynx habitat.

All of the core and secondary lynx habitat (100%) as defined in the *Recovery Outline* (USDI FWS 2005) that is occupied by lynx as defined in the *Occupied Mapped Lynx Habitat Amendment to the Canada Lynx Conservation Agreement* (USDA FS and USDI FWS 2006a) will be managed to conserve lynx.

The value of secondary habitat is unclear. The *Recovery Outline* (UDSI FWS 2005) states "Compared to core areas, secondary areas have fewer and more sporadic current and historical records of lynx and, as a result, historical abundance has been relatively low. Reproduction has not been documented." There currently is no evidence that suggest that unoccupied secondary habitat is considered necessary for a viable population of lynx. Secondary, unoccupied lynx habitat will have management direction implemented to conserve lynx if and when those administrative units become occupied. These National Forests (Beaverhead-Deerlodge, Bitterroot, Salmon-Challis and Nez Perce) which have secondary, unoccupied lynx habitat account for only about 30 percent of the total acres of core and secondary lynx habitat.

Even though the 6 percent limit (reflected in the vegetation standards) does not currently apply to unoccupied lynx habitat, those unoccupied forests would treat an average of 3.2 percent of lynx habitat within the WUI for fuel reduction over the next ten years (FEIS, Vol. 1, Lynx Section, and Appendix M). This is well below the 6 percent cap provided in the Biological Opinion (USDI FWS 2007). Overall fuel treatments, in and outside the WUI, in lynx habitat, average 5 percent within lynx habitat on these Forests.

In addition, The FWS Biological Opinion (2007) concluded that the proposed action is not likely to jeopardize the continued existence of lynx within the contiguous United States DPS. It also found the selected alternative will allow lynx populations to persist on lands in occupied core and secondary areas within the foreseeable future, and unoccupied secondary and peripheral habitat is likely to retain habitat that provides opportunistic foraging habitat and connectivity adequate for dispersal of lynx, despite the lack of specific direction for lynx management. The opinion goes on to say the

incorporation of the management direction over the large geographic area occupied by lynx within 12 of the 18 National Forests (12,150,000 acres) contributes to the landscape level direction necessary for the survival and recovery of lynx in the northern Rockies ecosystem.

Endangered Species Act

The Endangered Species Act creates an affirmative obligation ". . . that all federal departments and agencies shall seek to conserve endangered and threatened species" of fish, wildlife, and plants. This obligation is further clarified in a National Interagency Memorandum of Agreement (August, 2000) which states our shared mission is to ". . . enhance conservation of imperiled species while delivering appropriate goods and services provided by the lands and resources."

We completed biological assessments (BAs) for all listed species; one for wildlife and fish, and one for plants. For all listed species, except for Canada lynx, we determined the preferred alternative would have "no effect" or would be "not likely to adversely affect" them. The determination for Canada lynx was that, while the management direction in selected alternative would improve lynx conservation, the plans amended by selected alternative would still be "likely to adversely affect" lynx because individuals could be adversely affected as a result of the exemptions and exceptions to the vegetation standards for fuel treatments projects and precommercial thinning. The BAs were submitted to the FWS. The FS consulted with the FWS on the determinations and they concurred with the "no effect" and "not likely to adversely affect" determinations. The FWS provided written review as required by Section 7 of the ESA (USDI FWS 2007).

FWS issued a Biological Opinion on the "likely to adversely affect" determination on lynx (USDI FWS 2007). The opinion acknowledges the beneficial and adverse effects of the selected alternative. The opinion states that given the large number of acres covered by the proposed action, the existing plan language, and the beneficial effects of the management direction in the balance of these acres, the selected alternative is likely to have overall beneficial effects to lynx by addressing the primary threat identified at the time of listing: the inadequacy of existing regulatory mechanisms. Even acknowledging some adverse effects could still occur, primarily due to the allowance for fuel treatment projects and precommercial thinning, the opinion found the selected alternative is not likely to jeopardize the continued existence of Canada lynx. The Opinion identifies incidental take and reasonable and prudent measure, with associated terms and conditions to reduce take. These measures have either been incorporated into the management direction (TC 1, 2, and 3) or agreed to in this decision (TC 4).

Further section 7a consultation will occur on future site-specific projects and activities if they result in adverse affects to lynx. Future consultation will reference back to the BO issued on this decision to ensure the effects of the specific projects are commensurate with the effects anticipated in the opinion issued on this decision (USDI FWS 2007).

Critical habitat

On November 9, 2006, FWS published the final rule for the designation of Canada lynx critical habitat (Federal Register, Vol. 71, No. 217, pp. 66008 to 66061). National Forest System lands were not included in the critical habitat designation. There is no adverse modification to designated critical habitat from implementation of selected alternative.

National Historic Preservation Act

This decision is a programmatic action and does not authorize site-specific activities. Projects undertaken following the management direction will comply fully with the laws and regulations that ensure protection of cultural resources. It is our determination this plan direction complies with the National Historic Preservation Act and other statutes that pertain to the protection of cultural resources.

Clean Air Act

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

Clean Water Act

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

Invasive Species (Executive Order 13112)

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

Environmental Justice (Executive Order 12898)

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

Prime Farmland, Rangeland, and Forest Land

We determined from the analyses disclosed in the FEIS that prime farmland, rangeland, and forest land will not be affected by this decision because the selected alternative is a programmatic action and does not authorize site-specific activities.

Equal Employment Opportunity, Effects on Minorities, Women

The FEIS describes the impacts to social and economic factors in Chapter 3. The selected alternative will not have a disproportionate impact on any minority or low-income communities. We determined the selected alternative will not differentially affect the civil rights of any citizens, including women and minorities.

Wetlands and Floodplains (Executive Orders 11988 and 11990)

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

Other policies

The existing body of national direction for managing National Forest System lands remains in effect.

Implementation and appeal provisions

The management direction will become effective 30 days after publication of the notice of availability of the FEIS in the Federal Register. Requests to stay implementation of the amended plans shall not be granted pursuant to 36 CFR 217.10.

This decision is subject to review pursuant to 36 CFR 217.3 (available at http://www.fs.fed.us/r1/planning/lynx.html). Any appeals must be postmarked or received by the Appeal Reviewing Officer within 45 days of the date the legal notices are published in the The Missoulian, the newspaper of record.

Appeals sent through the US Postal Service must be sent to:

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

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

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

Appeals may be hand-delivered to the above address during regular business hours, 8:00 AM to 4:30 PM Monday through Friday, excluding holidays; or sent by fax to (202) 205-1012; or by email to appeals-chief@fs.fed.us. Emailed appeals must be submitted in rich text format (.rtf) or Word (.doc) and must include the decision name in the subject line. Any notice of appeal must be fully consistent with 36 CFR 217.9 and include at a minimum:

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

Further information and contact person

The Northern Rockies Lynx Management Direction FEIS, the Summary, this ROD and the FWS Biological Opinion, as well as other background documents are available on the Web at http://www.fs.fed.us/r1/planning/lynx.html.

For further information regarding the FEIS, ROD, or the plan direction for Canada lynx contact:

Timothy Bertram, Lynx Coordinator
USDA Forest Service, Northern Region
P.O. Box 7669
Missoula, MT 59807
Telephone: (406) 329-3611

I am the Responsible Official for incorporating the Northern Rockies Lynx Management Direction into the Land and Resource Management Plans for the Bighorn and Shoshone National Forests in the Rocky Mountain Region of the Forest Service.

Rick D. Cables March 21, 2007

Rick D. Cables Date
Regional Forester, Rocky Mountain Region

I am the Responsible Official for incorporating the Northern Rockies Lynx Management Direction into the Land and Resource Management Plans for the Ashley, Bridger-Teton, Targhee, and Salmon-Challis National Forests in the Intermountain Region of the Forest Service.

Jack G. Troyer
Regional Forester, Intermountain Region

March 23, 2007
Date

I am the Responsible Official for incorporating the Northern Rockies Lynx Management Direction into the Land and Resource Management Plans for the Beaverhead-Deerlodge, Bitterroot, Clearwater, Custer, Flathead, Gallatin, Helena, Idaho Panhandle, Kootenai, Lewis & Clark, Lolo, and Nez Perce National Forests in the Northern Region of the Forest Service.

Kathleen A. McAllister — March 23, 2007

Kathleen A. McAllister
Acting Regional Forester, Northern Region

Date

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ATTACHMENT 1

Northern Rockies Lynx Management Direction

The following management direction applies to all National Forest System lands that are known to be **occupied** by Canada lynx. At the time of this decision the following National Forests in the Northern Rockies lynx planning area are known to be occupied: Bridger-Teton, Clearwater, Custer, Flathead, Idaho Panhandle, Kootenai, Lolo, Shoshone, Targhee. Portions of the Custer, Gallatin, Helena, and Lewis & Clark are also occupied.

The following National Forests in the Northern Rockies lynx planning area are **not occupied** by Canada lynx: Ashley, Beaverhead-Deerlodge, Bighorn, Bitterroot, Nez Perce, Salmon-Challis. In addition, isolated mountain ranges on the Custer, Gallatin, Helena and Lewis and Clark are unoccupied – see Figure 1-1. Until such time as these National Forest System lands become occupied they should consider the following management direction, but are not required to follow it.

GOAL[14]

Conserve the Canada lynx.

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

Objective[30] ALL O1

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

Standard[44] ALL S1

New or expanded permanent development[33] and vegetation management[49] projects[36] must maintain[26] habitat connectivity[16] in an LAU[21] and/or linkage area[22].

Guideline[15] ALL G1

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

Standard[44] LAU S1

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

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

Objective[30] VEG O1

Manage vegetation[49] to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.

Objective VEG O2

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

Objective VEG O3

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

Objective VEG O4

Focus vegetation management[49] in areas that have potential to improve winter snowshoe hare habitat[51] but presently have poorly developed understories that lack dense horizontal cover.

Standard[44] VEG S1

Where and to what this applies: Standard VEG S1 applies to all vegetation management[49] projects[36] that regenerate[38] forests, except for fuel treatment[13] projects[36] within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). *In addition, fuel treatment projects may not result in more than three adjacent LAUs exceeding the standard.*

For fuel treatment projects[36] within the WUI[50] see guideline VEG G10.

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

If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects[36].

Standard VEG S2

Where and to what this applies: Standard VEG S2 applies to all timber management[47] projects[36] that regenerate[38] forests, except for fuel treatment[13] projects[36] within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall 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[36] within the WUI[50] see guideline VEG G10.

The standard: Timber management[47] projects[36] shall not regenerate[38] more than 15 percent of lynx habitat on NFS lands within an LAU in a ten-year period.

Standard VEG S5

Where and to what this applies: Standard VEG S5 applies to all precommercial thinning[35] projects[36], except for fuel treatment[13] projects[36] that use precommercial thinning as a tool within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall 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[36] within the WUI[50] see guideline VEG G10.

The Standard: Precommercial thinning projects[36] that reduce snowshoe hare habitat may occur from the stand initiation structural stage[45] 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[39] 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 project[36] is not likely to adversely affect lynx; or
   b. that a project[36] 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-resistant white pine where 80 % of the winter snowshoe hare habitat[51] is retained; or
6. To restore whitebark pine.

Exceptions 2 through 6 shall only be utilized in LAUs where Standard VEG S1 is met.

Standard VEG S6

Where and to what this applies: Standard VEG S6 applies to all vegetation management[49] projects[36] except for fuel treatment[13] projects[36] within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall 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[36] within the WUI[50] see guideline VEG G10.

The Standard: Vegetation management projects[36] 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[39] or genetic tree tests evaluating genetically improved reforestation stock; or
3. For incidental removal during salvage harvest[42] (e.g. removal due to location of skid trails).

Exceptions 2 and 3 shall only be utilized in LAUs where Standard VEG S1 is met.
(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 management[49] projects[36] should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority for treatment should be given to stem-exclusion, closed-canopy structural stage[46] stands to enhance habitat conditions for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat[51] should be near denning habitat[6].

Guideline VEG G4

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

Guideline VEG G5

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

Guideline VEG G10

Fuel treatment projects[36] within the WUI[50] as defined by HFRA[17] should be designed considering Standards VEG S1, S2, S5, and S6 to promote lynx conservation.

Guideline VEG G11

Denning habitat[6] should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees ("jack-strawed" piles). If denning habitat appears to be lacking in the LAU, then projects[36] should be designed to retain some coarse woody debris[4], piles, or residual trees to provide denning habitat[6] in the future.

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

Objective[30] GRAZ O1

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

Guideline[15] GRAZ G1

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

Guideline GRAZ G2

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

Guideline GRAZ G3

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

Guideline GRAZ G4

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

HUMAN USE 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) in occupied habitat, subject to valid existing rights. They do not apply to vegetation management projects or grazing projects directly. They do not apply to linkage areas.

Objective[30] HU O1

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

Objective HU O2

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

Objective HU O3

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

Objective HU O4

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

Objective HU O5

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

Objective HU O6

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

Guideline[15] HU G1

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

Guideline HU G2

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

Guideline HU G3

Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat[23].

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 restores[40] lynx habitat should be developed.

Guideline HU G6

Methods to avoid or reduce effects on lynx should be used in lynx habitat[23] 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 connectivity[16]. New permanent roads and trails should be situated away from forested stringers.

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.

Guideline HU G9

On new roads built for projects[36], public motorized use should be restricted. Effective closures should be provided in road designs. When the project[36] 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 habitat[10], 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 compaction[1], unless designation serves to consolidate use and improve lynx habitat. This may be calculated on an LAU basis, or on a combination of immediately adjacent LAUs.

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

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

Guideline HU G12

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

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

Objective[30] LINK O1

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

Standard[44] LINK S1

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

Guideline[15] LINK G1

NFS lands should be retained in public ownership.

Guideline LINK G2

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

REQUIRED MONITORING

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.

When project decisions are signed report the following:

1. Fuel treatments:
    a. Acres of fuel treatment in lynx habitat by forest and LAU, and whether the treatment is within *or outside* the WUI as defined by HFRA.
    b. Whether or not the fuel treatment met the vegetation standards or guidelines. If standard(s) are not met, report which standard(s) are not met, why they were not met, and how many acres were affected.
    c. Whether or not 2 adjacent LAUs exceed standard VEG S1 (30% in a stand initiation structural stage that is too short to provide winter snowshoe hare habitat), and what event(s) or action(s) caused the standard to be exceeded.
2. *Application of exception in Standard VEG S5*
    a. For areas 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) and whether or not Standard VEG S1 was within the allowance.
3. *Application of exceptions in Standard VEG S6*
    a. *For areas where any of the exemptions 1 through 3 listed in Standard VEG S6 were applied: Report the type of activity, the number of acres, and the location (by unit, and LAU) and whether or not Standard VEG S1 was within the allowance.*
4. *Application of guidelines*
    a. Document the rationale for deviations to guidelines. Summarize what guideline(s) was not followed and why.

Directions in italics were terms and conditions that were incorporated from the FWS Biological Opinion (USDI FWS 2007).

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.

[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 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.

[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*.

[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)

[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.