



United States  
Department of  
Agriculture

Forest  
Service

Rocky Mountain  
Region

July 2012



# Draft Environmental Impact Statement

## Shoshone Land Management Plan Revision

### Summary

**Shoshone National Forest  
Park, Fremont, Sublette, Teton, and Hot Springs Counties, Wyoming**

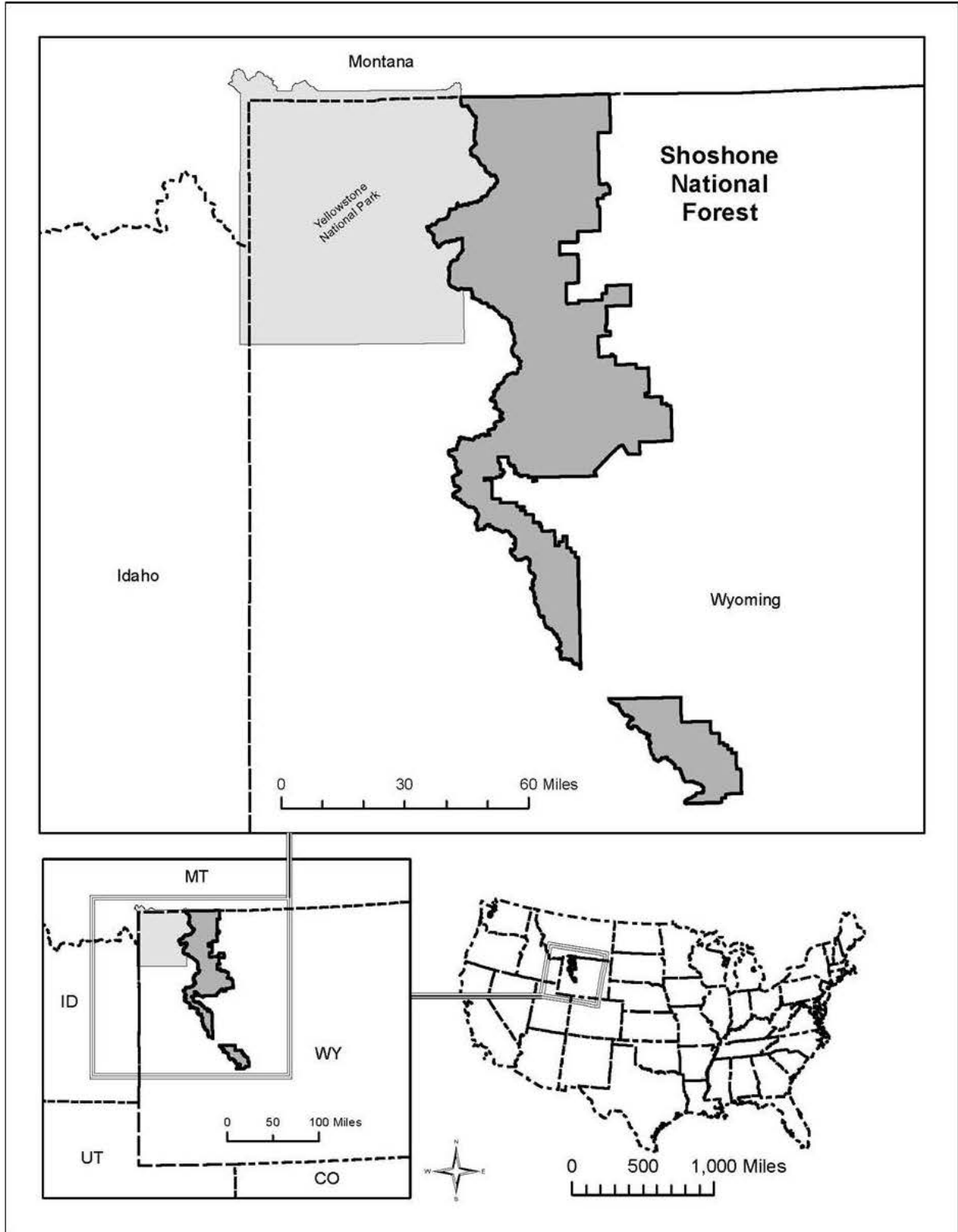


Figure 1. Vicinity map of the Shoshone National Forest

**Shoshone National Forest Land Management Plan Revision  
Draft Environmental Impact Statement  
Park, Fremont, Sublette, Teton, and Hot Springs Counties, Wyoming**

**Lead Agency:** USDA Forest Service

**Cooperating Agencies:** State of Wyoming  
Fremont County Commission  
Hot Springs County Commission  
Park County Commission  
Cody Conservation District  
Dubois-Crowheart Conservation District  
Hot Springs Conservation District  
Lower Wind River Natural Resource District  
Meeteetse Conservation District  
Popo Agie Conservation District  
Teton Conservation District

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**Abstract:** This draft environmental impact statement (DEIS) documents analysis of six alternatives developed for programmatic management of the 2.4 million acres administered by the Shoshone National Forest. The Forest Service has identified Alternative B as the preferred alternative.

It is important that reviewers provide their comments at such times and in such a way that they are useful to the Agency's preparation of the EIS. Therefore, comments should be provided prior to the close of the comment period and should clearly articulate the reviewer's concerns and contentions. The submission of

timely and specific comments can affect a reviewer's ability to participate in subsequent administrative review or judicial review. Comments received in response to this solicitation, including names and addresses of those who comment, will be part of the public record for this proposed action. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide the respondent with standing to participate in subsequent administrative or judicial reviews.

The revision will follow transition language of the current planning regulations published in the Federal Register on April 9, 2012 (36 CFR 219.17(b)(3)), which allow use of the provisions of a previous version of the regulations published in 1982. A copy of the 1982 version is available at <http://www.fs.fed.us/emc/nfma/includes/nfmareg.html>. Only the parts of the 1982 version about preparation or revision of forest plans is applicable. The final plan decision will be subject to the objection process of the April 9, 2012 rule.

The final plan and final environmental impact statement will be published in the summer of 2013. This will be followed by a 60-day objection period. To qualify for "standing," objections must be linked to a prior substantive comment submitted during opportunities for comment on the proposed decision. Objections will be resolved and/or responded to within 90 days following the 60-day objection period. The Record of Decision for the revised plan will not be issued until the reviewing officer has responded to the objections.

**Send Comments to:**

**FOREST PLAN COMMENTS**

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**Date Comments Must Be Received:**

**November 1, 2012**

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## Acronyms

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<b>AIS</b>	Aquatic Invasive Species	<b>NFS</b>	National Forest System
<b>AMP</b>	Allotment Management Plan	<b>NHPA</b>	National Historic Preservation Act
<b>AMS</b>	Analysis of the Management Situation	<b>NOI</b>	Notice of Intent
<b>ASQ</b>	Allowable Sale Quantity	<b>NRLMD</b>	Northern Rockies Lynx Management Direction
<b>ATV</b>	All-Terrain Vehicle	<b>PCA</b>	Primary Conservation Area
<b>AUM</b>	Animal Unit Month	<b>RNAs</b>	Research Natural Areas
<b>BLM</b>	Bureau of Land Management	<b>ROD</b>	Record of Decision
<b>BMU</b>	Bear Management Unit	<b>ROS</b>	Recreation Opportunity Spectrum
<b>Ccf</b>	Hundred Cubic Feet	<b>SIA</b>	Special Interest Area
<b>CER</b>	Comprehensive Evaluation Report	<b>SIO</b>	Scenic Integrity Objective
<b>CFR</b>	Code of Federal Regulations	<b>U.S.C.</b>	United States Code
<b>EDRR</b>	Early Detection Rapid Response	<b>USDA</b>	United States Department of Agriculture
<b>EIS</b>	Environmental Impact Statement	<b>USDI</b>	United States Department of Interior
<b>EPA</b>	Environmental Protection Agency	<b>USFS</b>	United States Forest Service
<b>ESA</b>	Endangered Species Act	<b>USFWS</b>	U.S. Fish & Wildlife Service
<b>FSEIS</b>	Final Supplemental Environmental Impact Statement	<b>WSA</b>	Wilderness Study Area
<b>FSH</b>	Forest Service Handbook	<b>WUI</b>	Wildland-Urban Interface
<b>FSM</b>	Forest Service Manual		
<b>GIS</b>	Geographic Information System		
<b>GYA</b>	Greater Yellowstone Area		
<b>IDT</b>	Interdisciplinary Team		
<b>IRA</b>	Inventoried Roadless Area		
<b>LMP</b>	Land Management Plan		
<b>LTSYC</b>	Long-term Sustained Yield Capacity		
<b>MA</b>	Management Area		
<b>MCF</b>	Thousand Cubic Feet		
<b>MIS</b>	Management Indicator Species		
<b>MMBF</b>	Million Board Feet		
<b>MMCF</b>	Million Cubic Feet		
<b>MOU</b>	Memorandum of Understanding		
<b>MVUM</b>	Motor Vehicle Use Map		
<b>NEPA</b>	National Environmental Policy Act		
<b>NFMA</b>	National Forest Management Act		

**Note regarding acreages and data sources:** The information in the tables, figures and maps in the following document was generated from a variety of sources, including geographical information system (GIS) software, tabular databases, and data from a variety of models used in planning analysis. The acreage figures from the various sources do not match exactly in all cases. However, when added, acres of National Forest System lands (regardless of the source) are within acceptable margins of error.



# Summary

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## Purpose and Need for Action

This action is needed to meet the requirements of the National Forest Management Act (NFMA) (16 U.S.C. 1604) and associated regulations at 36 CFR 219. The revision of the forest plan is based on a need to change.

## Proposed Action

The Forest Service proposes to revise the Shoshone National Forest 1986 Land Management Plan (forest plan) as amended. The area affected by the proposal includes about 2.4 million acres of public land in northwestern Wyoming (see figure 1). The draft forest plan would designate 26 management area themes across the Forest and would guide natural resource management activities on the Shoshone for the next 10 to 15 years. The Plan will contain the following elements:

- Establishment of forest multiple-use goals and objectives, 36 CFR 219.11(b) (1982 regulations);
- Establishment of Forest-wide management requirements (standards and guidelines) to fulfill the requirements of 16 U.S.C. 1604 applying to future activities (resource integration requirements 36 CFR 219.13 to 219.27 (1982 regulations));
- Establishment of management areas and management area direction (management area prescriptions) applying to future activities in that management area (resource integration and minimum specific management requirements) 36 CFR 219.11(c) (1982 regulations);
- Designation of suitable timber land (16 U.S.C. 1604(k) and 36 CFR 219.14 (1982 regulations)) and establishment of an allowable sale quantity (16 U.S.C. 1611 and 36 CFR 219.16 (1982 regulations));
- Nonwilderness allocations or wilderness recommendations where 36 CFR 219.17 (1982 regulations) applies; and
- Establishment of monitoring and evaluation requirements 36 CFR 219.11(d) (1982 regulations).

## Decision Framework

Under the provisions of the 1982 regulations, the Rocky Mountain Regional Forester is the deciding official. Given the purpose and need, the regional forester will review the proposed action, the other alternatives, and the environmental consequences to decide upon a plan based on one of the alternatives or a combination of the alternatives.

The regional forester will make his decision based on the following criteria, utilizing input, information, and analysis provided by the forest supervisor, interdisciplinary team, cooperators, and the public.

- Is the decision the best resolution of the revision topics?
- Does the decision reflect an ability to best maximize net public benefits, consistent with resource integration, management requirements, and legal constraints?
- Is the decision consistent with laws, regulations, and policy?

Prior to the final decision, a predecisional objection process will be available in accordance with 36 CFR 219.32.

## Public Involvement

Public meetings were conducted in 2005 through 2009, when the revision was following previous 2005 and 2008 versions of the planning regulations. This work was halted in June 2009, when a California District Court struck down the 2008 version of the rule, but we used some information from these meetings that is not specific to a version of the rule.

The notice of intent (NOI) to prepare an environmental impact statement was published in the Federal Register on September 24, 2010. The NOI asked for public comment on the proposal through October 25, 2010. A series of public meetings and cooperator meetings were also conducted from February through December of 2011, to clarify and refine the revision topics, and to refine the proposed draft of the revised Shoshone National Forest Land and Resource Management Plan (proposed draft revised Plan). On January 4, 2012, the proposed draft revised Plan was sent out for public comment. See appendix A for more information regarding the public involvement process.

## Revision Topics

Six major plan revision topics are the major issues addressed by the draft Plan. These topics represent areas where resource conditions, technical knowledge, public perception of resource management, or unresolved conflicts concerning alternative uses of available resources have created a potential “need for change.” Needed changes generally are important enough to affect large areas, change the mix of goods and services produced, and involve choices in management direction where there is no public consensus on the best course of action.

We based selection of the topics upon both the need for change from the existing forest plan and the strong public interest in how the revised plan will answer these questions. These topics were the ones identified repeatedly in the public meetings held across the Forest and by the Government Cooperators Work Group from 2005 through 2010, and validated during the scoping period in late 2010.

The six major plan revision topics are:

- Recreation uses and opportunities
- Special areas and designations
- Vegetation management
- Wildlife habitat management
- Oil and gas development
- Commercial livestock grazing

## Alternatives Analyzed in Detail

The revision topics led the agency to develop alternatives to the proposed action including:

**Alternative A (No Action):** Alternative A is the continuation of present management under the existing 1986 Land and Resource Management Plan and its amendments. It meets requirements of the National Environmental Policy Act that a no-action alternative be considered. “No action” means that current management practices based on existing land use plans and other management decision documents would continue.

**Alternative B:** Preliminary proposed action. Alternative B provides a balanced response to the issues raised during revision, continues management that is working, and adjusts, to the extent possible, to be responsive to the issues raised by the public.



**Alternative C:** Alternative C demonstrates the most amount of land allocated for wilderness, with no motorized use in remaining inventoried roadless areas.

**Alternative D:** Alternative D provides back country and non-motorized uses, while maintaining moderate to low levels of commodity production. This alternative also addresses issues raised by the public and conservation groups.

**Alternative E:** Alternative E provides commodity production and motorized use while addressing issues shared by the public, local industry, and motorized user groups.

**Alternative F:** Alternative F demonstrates the highest level of commodity production and motorized use possible within parameters, such as designated wilderness.

Prescriptions are grouped in categories with similar management characteristics (see table 1). Categories range from little human-caused alteration (Category 1) to substantial human-caused alteration (Category 8). Each alternative allocates land to management area prescriptions at various levels. For a more complete discussion of the categories and management area prescriptions, see chapter 2 of the draft forest plan.

**Table 1. Management area prescription categories**

<b>Category</b>	<b>Management area prescriptions</b>
Category 1	Wilderness and non-motorized back country
Category 2	Research and minimal use areas
Category 3	Natural processes predominate
Category 4	Recreation use
Category 5	Forested and grassland ecosystems with a variety of uses
Category 8	Developed areas

Figure 2 displays the management area allocations by category for the alternatives.

Management area (MA) acres only provide partial information on what activities can occur on what lands. Suitability for activities is based upon management area allocation, forest wide standards and guidelines, and other underlying direction for any particular acre. The effects analysis in Chapter 3 is a better source of information for determining the effects of the alternative on any particular activity.

Table 2 provides a comparison of management area allocations by alternative. Alternative A, the no-action alternative is included even though it does not use the same management areas as those in the draft Forest Plan. Alternative A management areas were cross walked to the draft Forest Plan management areas for comparison purposes (see DEIS table 10). See the draft forest plan for a full description of each management area.

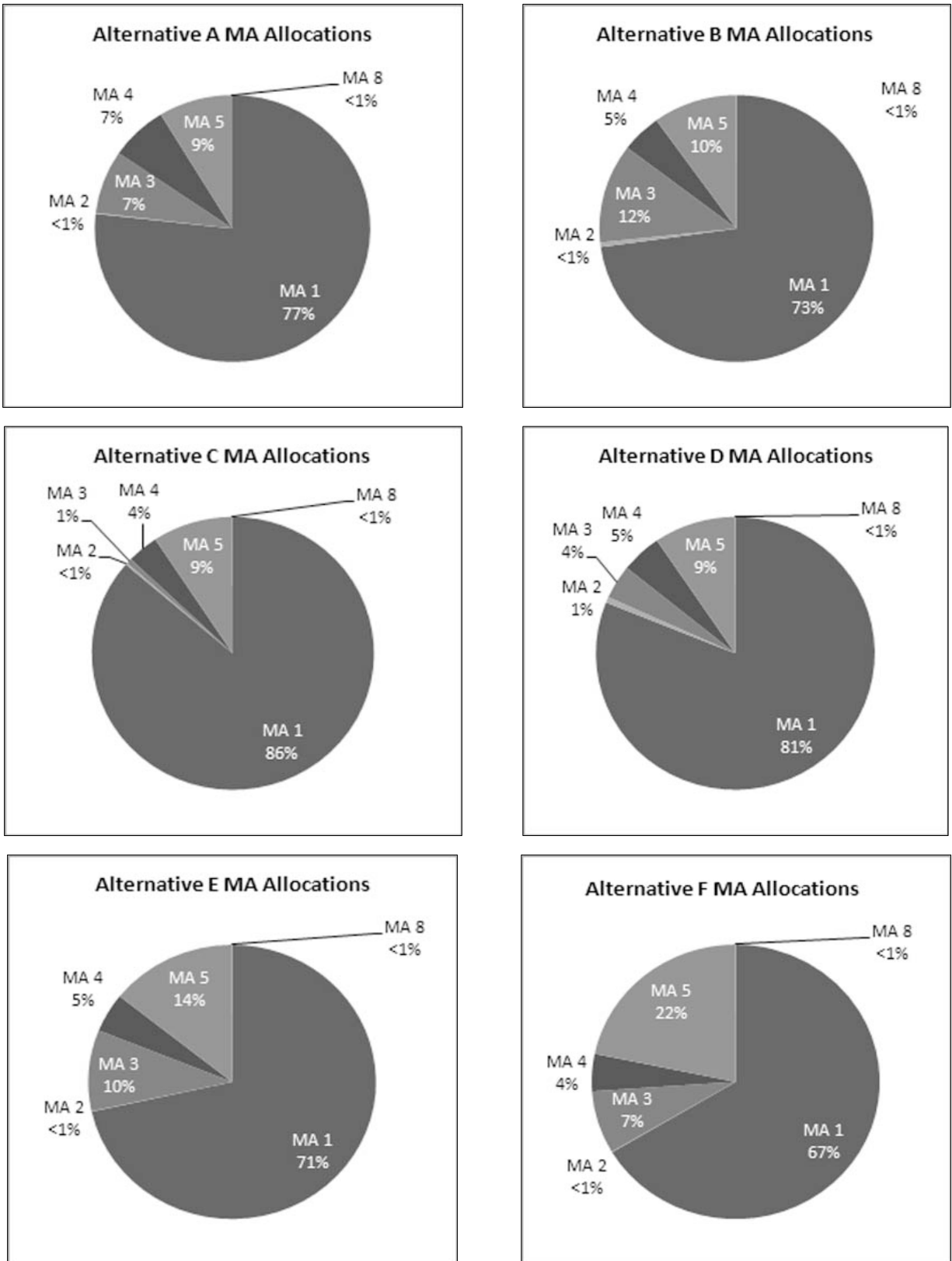


Figure 2. Comparison of management area prescription categories by alternative

**Table 2. Comparison of management allocations (in acres)**

<b>MA</b>	<b>MA Description</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>	<b>Alt F</b>
1.1	Wilderness	1,358,592	1,358,592	1,358,592	1,358,592	1,358,592	1,358,592
1.1A	Glacier Addition	6,563	6,563	6,563	6,563	6,563	6,563
1.2	Recommended Wilderness			584,734	165,587		
1.2A	Recommended High Lakes Wilderness			15,224			
1.2B	Recommended Dunoir Wilderness			28,879	28,879		
1.3	Backcountry Non-Motorized	455,554	358,127	106,890	395,123	327,549	203,587
1.5A	Clarks Fork of Yellowstone Wild River	6,924	6,924	3,350	6,924	6,924	6,924
1.6A	High Lakes Wilderness Study Area	15,224	15,224		15,224	15,224	15,224
1.6B	Dunoir Special Management Unit	28,879	28,879			28,879	28,879
2.2A	Line Creek Research Natural Area	1,278	1,278	186	1,278	1,278	1,278
2.3	Proposed Research Natural Area	1,386	12,127	4,298	15,201		
3.1A	Swamp Lake Botanical Area	581	581	581	581	581	581
3.1B	Proposed Little Popo Agie Moraine Geological Area		1,714	1,714	1,714		
3.1C	Proposed Sawtooth Peatbeds Geological Area		648		648		
3.3A	Back Country Motorized	185,936	64,243	4,948	8,333	90,500	175,296
3.3B	Back Country Winter Motorized		86,413	3,157	75,068	43,485	
3.3C	Back Country Summer Motorized		72,735	4,936	11,500	98,030	4,563
3.5	Back Country Recreation and Restoration		66,427				
4.2	Travel Corridor	164,447	100,883	82,588	100,883	103,422	103,901
4.3	Back Country Access Corridor		13,982	5,120	13,947	8,775	3,349
4.5A	Proposed Kirwin Historical Area	481	481	481	481	481	
5.1	Managed Forests and Rangelands	157,215	173,116	72,298	168,350	253,717	528,146
5.2	Public Water Supply		12,868	6,841	7,953	12,868	
5.4	Managed Big Game Crucial Winter Range	54,972	55,079	145,505	54,057	80,016	
8.2	Ski-based Resort		1,145	1,145	1,145	1,145	1,145

## Environmental Outcomes

Chapter 3 of the draft environmental impact statement presents the affected environment and the analysis of potential outcomes. Following is a summary of the potential impacts, by resource area, predicted to result from implementation of the alternatives.

### *Soil and water*

Most of the watersheds (131 out of 147) on the Shoshone National Forest are in a properly function condition. Sixteen watersheds have some impacts and are functioning at risk. No watersheds on the Shoshone are classified as having impaired function. Properly functioning watersheds will be maintained and watersheds functioning at risk will be improved with application of standards and guidelines that are included in all of the alternatives. There are little to no negative effects to soil and water resources from the alternatives.

### *Vegetation*

Climatic and biological processes will continue to be the dominant influences on vegetation composition and structure on the Shoshone under all alternatives. Wildland fire and insect epidemics are two factors that will have the greatest impacts on vegetation, creating younger age class conditions, and favoring earlier succession species.

Vegetation management activities, including mechanical harvesting and prescribed fire, will impact vegetation composition and structure where activities occur. These activities generally create younger stand conditions and smaller patch sizes.

Most cover types are minimally affected by the alternatives. Alpine, grasslands, Douglas-fir, spruce/fir, and lodgepole pine will continue to fluctuate as they have under the 1986 Forest Plan.

Protection and management of sagebrush are emphasized in all alternatives to maintain this cover type and reduce the risk of it converting to cheatgrass. Alternatives include direction to manage prescribed fire and wildfire to maintain sagebrush cover type. There is little change in actual sagebrush acres across the alternatives.

Aspen restoration is emphasized in all alternatives, resulting in an increase of the aspen cover type. The action alternatives contain objectives for increasing aspen acres that range from 2,000 acres in alternative C to 2,500 acres in the remaining alternatives.

Whitebark pine restoration is emphasized in all alternatives. All action alternatives include an objective for restoring whitebark pine acres, ranging from 500 acres in alternative C to 1,250 acres in alternative F. The whitebark pine objective in alternatives B, D, and E is 750 acres. This is a small percentage of total whitebark pine acres, but begins the process of restoring this species in areas where it has been devastated by white pine blister rust and mountain pine beetle. This modest objective reflects the limited availability of blister rust-resistant planting stock, which will not be more available until near the end of the planning period.

Differences in the vegetation for the alternatives will be influenced most by differences in the acres available for active management. Acres allocated to management areas where management activity will be most frequent range from 312,800 acres in alternative C to 635,400 acres in alternative F (see table 3). Projections for prescribed fire and mechanical vegetation management that will occur in the planning period range from 35,000 acres in alternative C to 39,700 acres in alternative F (see table 3).

### *Sensitive plant species*

The alternatives that allocate lands to research natural area/special interest area management areas provide important areas that contribute to the conservation of sensitive plant species on the Shoshone and within the Greater Yellowstone Area.

Alternatives proposing greater levels of disturbance (fire, timber, grazing, roads, etc.) increase the potential for impacts to sensitive plant populations. The exception is whitebark pine, where disturbance processes may be a beneficial effect and may aid in restoration of this species. The amount of land impacted by various management activities is small compared to total Shoshone National Forest acreage. Alternatives include design criteria to maintain sensitive plant habitat and limit negative effects.

In alternatives A, B, E, and F, lands allocated to research natural areas do not include the sensitive plant habitat in calcareous montane grasslands, rocky slopes, and ridges that occur within the potential Bald Ridge and Pat O'Hara research natural areas. These alternatives may increase the risk of impacts to some sensitive plant species.

For all alternatives, the overall determination for most species is “may adversely impact individuals but not likely to result in a loss of viability in the planning area nor cause a trend toward federal listing.” For whitebark pine, the determination is the same, but some management elements will have a “beneficial impact” for the species across its range.

### *Fish and Wildlife*

All alternatives affect wildlife resources to some degree. The greatest impacts from management activities are associated with timber harvest, roads and trails, and land use authorizations. Alternatives that allow the least ground-disturbing activity and emphasize wilderness and non-motorized back country designations will result in the least risk of impact to fish and wildlife species. In general, alternatives in order of the least impact to the most are C, D, B, A, E, and then F. Impacts to specific species are addressed in the following discussion.

Wolf and grizzly bear conflicts with livestock will continue under all alternatives and would likely increase under alternatives E and F, which increase livestock grazing. The action alternatives increase precommercial thinning in lynx habitat outside the wildland-urban interface up to 2,000 acres during the planning period. Alternative F allows increases in snowmobile use in lynx habitat and in wheeled motorized recreation in the grizzly bear primary conservation area. Both these actions reduce secure habitat for these species and are not consistent with the Northern Rockies Lynx Management Direction and the Grizzly Bear Conservation.

Alternatives E and F eliminate the pack goat closure in core bighorn sheep habitat. That action increases the risk of disease transmission from pack goats to bighorn sheep. Other sensitive species affected by the various alternatives retain their population viability determinations.

Four management indicator species were chosen to be surrogates for habitat conditions affected by activities associated with forest plan implementation. These include ruffed grouse for aspen, Brewer's sparrow for sagebrush communities, red-breasted nuthatch for mature conifer forests and snags, and game trout for aquatic habitat. Potential impacts to these species are similar for all alternatives.

The alternatives have differing effects on elk habitat. Elk secure habitat is affected by the miles of roads and trails that are open to wheeled motorized recreation. Depending upon location, wheeled motorized recreation can decrease habitat security. Alternative C provides the greatest amount of secure elk habitat. The other alternatives have the same amount of secure habitat, which is less than alternative C.

Management of big game winter range is also affected by the alternatives. In most alternatives, big game crucial winter range that is to be actively managed is assigned to MA 5.4. This designation manages for big game on crucial winter range, while providing forest products. Alternative B provides for 54,990 acres of MA 5.4, while alternative F does not designate any MA 5.4 lands (see table 2). Two alternatives assign acres of big game crucial winter to active management areas that do not specifically manage for big game winter range: 26,700 acres in alternative A and 132,300 acres in alternative F.

### **Aquatic habitat and aquatic invasive species**

All alternatives include standards and guidelines to protect and maintain aquatic and riparian resources, although those with the most disturbances would have the potential for greater impacts. The greatest potential impacts to aquatic resources from land management activities are primarily associated with livestock grazing, timber harvest, roads, trails, and motorized use. Water hauling/moving for wildfire suppression activities has the potential to spread aquatic invasive species. Alternatives in order of least to most potential impact to aquatic resources are alternatives C, D, B, A, E, and then F.

### ***Fire and fuels***

Wildfire will continue to be a significant influence on the landscape for the next 10 to 15 years. Estimated acres that could burn as result of wildfire for alternatives A through D are similar at over 180,000 acres. In alternatives E and F, the number of acres allocated to management areas with active management will increase, resulting in increased fire suppression. In these alternatives, acres of wildfire are projected at 175,000 for alternative E and 161,400 for alternative F (see table 3).

### **Hazardous fuels**

All alternatives would contribute to reducing hazardous fuels from vegetation treatments and wildfire. Mechanical and prescribed fire treatments will be targeted specifically in areas where hazardous fuels conditions are a concern. Total hazardous fuel reduction from mechanical and prescribed fire treatments ranges from 35,000 acres in alternative C to 39,700 acre in alternative F (see table 3).

### ***Bark beetles***

All alternatives contain direction to manage stands to reduce impacts from bark beetles in actively managed areas of the forest. Actively managed areas of the forest can reduce stand susceptibility to bark beetles, by reducing stand ages and increasing age class and species diversity. Because of the low number of acres that are managed in any particular time period (timber sales, timber stand improvement, or fuels reduction projects), little change can be achieved at the forest scale. There is little difference in Forest-wide effects among the alternatives, though more individual stands are affected in alternative F, which actively manages the most land, than in alternative C, which actively manages least land.

### ***Invasive plants***

All alternatives include direction that new invasive plant species are treated, and existing populations are contained or eradicated. The effects are similar across all alternatives, though the alternatives that disturb more soil have a greater likelihood of weed introduction and spread, and will have a need for more control.

### ***Commercial livestock grazing***

Alternatives manage for different levels of commercial livestock grazing ranging from 31,400 permitted animal unit months in alternative C to 70,200 in alternative F (see table 3). Acres suitable for commercial livestock grazing range from 216,800 acres in alternative C to 425,400 acres in alternative F (see table 3).

## *Forest products*

Alternatives manage for different levels of timber products ranging from 14,900 hundred cubic feet (Ccf) in alternative C to 30,500 Ccf in alternative F (see table 3). Acres suitable for timber production range from 86,300 acres in alternative C to 251,200 acres in alternative F (see table 3).

## *Oil and gas*

Effects to other resources from oil and gas development depend on the actual discovery and development of a field. The projected development potential for oil and gas on the Shoshone is low to very low. This projection applies even in those acres (255,000) that have high potential for oil and gas resources to occur. Given the low potential for development, there is little difference among the alternatives.

The analysis also considers the potential loss of the opportunity to discover and develop oil and gas resources when NFS lands are withdrawn from development or plan direction states that surface occupancy for oil and gas development is not suitable. The percentage of lands with a high potential for oil and gas occurrence (255,000 acres) that are generally available for oil and gas development with surface development<sup>1</sup> ranges from 99 percent in alternative F to 62 percent in alternative C (see table 3).

## *Recreation*

Approximately 874 miles of National Forest System (System) roads are currently open and would remain open under alternatives A, B, D, E and F. The analysis projects that 110 miles of currently open roads would be closed under alternative C.

Currently, 32 miles of trails are open to wheeled motor vehicle use. The action alternatives project changes in miles of motorized trails ranging from 21 miles in alternative C to 92 miles in alternative F (see table 3).

Under alternative B, over-snow motorized vehicle recreation would continue to be allowed in areas where it is currently occurring under alternative A, except within MA 1.6B (Dunoir Special Management Unit) where use is not allowed. Over-snow motorized use is not allowed within MA 1.6B in any of the action alternatives. In Alternatives B and E, over-snow motorized use is allowed within MA 5.4, where the Wyoming Game and Fish Department (WGFD) staff indicates that current use levels are not negatively impacting wintering big game. In alternatives C and D, all MA 5.4 acres are closed to over-snow vehicle use. Alternative C would have the lowest amount of opportunities for winter motorized use and would prohibit any winter motorized use in all inventoried roadless areas. Alternative C is also the only alternative that would decrease the total miles of trail allowing over-snow vehicle use (approximately a 113-mile reduction). Finally, under alternative F, winter recreation would be allowed in all capable areas assigned as open year-round to motorized activity.

## *Wilderness*

Alternatives C and D propose new wilderness recommendations of 628,800 and 194,500 acres respectively. Alternatives A, B, E, and F do not propose new wilderness recommendations.

## *Research natural areas*

Research natural areas are selected to provide a spectrum of relatively undisturbed areas representing important natural ecosystems and environments, for example, forest, shrubland, grassland, alpine, aquatic,

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<sup>1</sup> Lands where surface occupancy is allowed or that are within 1 mile of lands where surface occupancy is allowed.

and geologic environments. They are also selected to represent areas with special or unique, scientifically important characteristics.

Alternatives C and D establish eight potential research natural areas, which would lead to plant associations and communities on the Shoshone being represented within a designated research natural area, meeting Forest Service research natural area goals. No new research natural areas are proposed under alternatives A and F, resulting in some plant associations and communities on the Shoshone not being represented within a designated research natural area. In alternatives E and B, the potential Bald Ridge and Pat O'Hara research natural areas are not included. Both were recognized as important in the 1986 Forest Plan and contain areas important to biodiversity.

### *Special interest areas*

Special interests areas have outstanding or unique examples of plant and animal communities, geological features, scenic grandeur, or other special attributes that merit special management. These areas are managed to emphasize uses in harmony with the purpose for designation.

Currently, one special interest area is established, Swamp Lake Botanical Area. Three additional special interest areas are proposed: Sawtooth Peatbeds Geological Area, Kirwin Historical Area, and Little Popo Agie Moraine Geological Area.

Overall, potential impacts to special interest area resources would be least under alternatives B, C, and D, with the establishment of the three potential special interest areas. Alternative E would protect one potential special interest area, Kirwin Historical Area. No new special interest areas are proposed under alternatives A and F; their historical and geological features would not be emphasized for their biological, geological, or historical values.

### *Social and economic resources*

The economic differences among the alternatives in many cases are relatively small; the impacts may be considerable to individuals, families, or businesses. In small communities, the loss of a single job may be important, yet negligible across the analysis area on the Shoshone National Forest.

The largest difference among the alternatives and the current situation on the Shoshone is changes to potential timber harvest, with alternatives E and F showing the highest increases in employment related to timber output.

Recreation and tourism outputs from the Shoshone are assumed constant for all alternatives. Types of use may change, with one activity substituting for another, but overall use numbers will be similar.

Livestock grazing on the Shoshone, similar to timber outputs, increases under alternatives E and F. Economic contribution increases within the analysis area as well. In alternative C, outputs and contributions would decline, as fewer acres would be available for livestock grazing. There is some probability that this decline in available forage could affect some ranches' economic viability.

Table 3 summarizes effects by alternative. Information in this table focuses on activities and effects related to the revision topics. Activities and effects displayed for the different alternatives are only projections for the purposes of comparing alternatives. On-the-ground activities and effects associated with implementing forest plan direction would not occur until project-level NEPA analysis is completed.



**Table 3. Summary comparison of alternatives by revision topics**

	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F
<b>Recreation</b>						
Effect of alternative on current over-snow motorized recreation	Continues to allow use on lands where it currently occurs including within Dunoir SMU <sup>1</sup> (1.6B).	Allows use on lands where it currently occurs except use is prohibited in Dunoir SMU.	Lands where use is currently occurring is reduced by 80%	Lands where use is currently occurring is reduced by 33%	Allows use on lands where it currently occurs except use is prohibited in Dunoir SMU.	Allows use on lands where it currently occurs except use is prohibited in Dunoir SMU.
Lands where allocation allows over the snow motorized recreation (% of Forest acres)	887,600 (36%)	480,000 (20%)	103,000 (4%)	323,700 (13%)	525,200 (22%)	825,200 (34%)
Lands where allocation allows motorized summer recreation (% of Forest acres)	570,600 (23%)	570,800 (23%)	322,400 (13%)	350,600 (14%)	656,500 (27%)	823,900 (34%)
Total miles motorized trails	32	55	21	40	62	92
Total miles open roads	880	880	770	880	880	880
Lands where allocation allows mechanized (bicycle use) (% of Forest acres)	1,072,900 (44%)	1,044,000 (43%)	1,044,000 (43%)	1,044,000 (43%)	1,044,000 (43%)	1,044,000 (43%)
Acres where mechanized use is restricted to roads and trails (% of Forest acres)	1,280 (<1%)	31,570 (1%)	606,700 (25%)	200,200 (8%)	17,100 (1%)	17,100 (1%)
<b>Special Areas and Designations</b>						
Acres recommended wilderness	0	0	628,800	194,500	0	0
Number of proposed new research natural areas (acres)	0	6 (63,200ac)	8 (70,600ac)	8 (70,600ac)	3 (35,600ac)	0
Number of proposed new special interest areas (acres)	0	3 (2,840ac)	3 (2,840ac)	3 (2,840ac)	1 (480ac)	0
Number of existing designated wild and scenic river segments	1	1	1	1	1	1
Eligible wild and scenic river segments maintained	0	13	13	13	13	13
<b>Vegetation Management</b>						
Management area acres with frequent vegetation management (MAs 3.5, 4.2, 4.3, 4.5A, 5.1, 5.2, 5.4)	377,100	422,800	312,800	345,700	459,300	635,400

**Table 3. Summary comparison of alternatives by revision topics**

	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F
Acres of hazardous fuels reduction management activity (next 10 years)	36,100	35,800	35,000	35,600	37,400	39,700
Acres of wildfire (next 10 years)	185,200	182,900	184,100	183,700	175,000	161,400
Acres of fire regime condition class maintained or improved	221,300	218,700	219,100	219,300	212,400	201,100
Lands suitable for timber production	86,300	127,000	122,100	124,500	179,700	251,200
Total sale program quantity (Ccf) (annual estimate)	17,000	16,600	14,900	15,900	22,100	30,500
Allowable sale quantity (Ccf) (annual estimate)	19,800	22,800	21,900	22,400	32,800	46,600
Invasive plant treatments (annual acres)	2,000	2,000	1,500	2,000	2,000	3,000
<b>Wildlife Habitat Management</b>						
Permitted domestic sheep and goat and pack goat use related to bighorn sheep habitat (BHS)	No Permitted domestic sheep and a Temporary Closure for pack goats in Core Native BHS Habitat on Clarks Fork, Wapiti, Greybull and Wind River RD. <sup>2</sup>	No domestic goats (including pack goats) in Core Native BHS Habitat Livestock Allotments closed to Domestic sheep grazing in Core Native BHS Habitat.	No domestic goats (including pack goats) on entire SNF. <sup>3</sup> Livestock Allotments closed to Domestic sheep grazing in Core Native BHS Habitat.	No domestic goats (including pack goats) in Core Native BHS Habitat. Livestock Allotments closed to Domestic sheep grazing in Core Native BHS Habitat.	Domestic goats (including pack goats) allowed on entire SNF. Livestock Allotments closed to Domestic sheep grazing in Core Native BHS Habitat.	Domestic goats (including pack goats) allowed on entire SNF. Livestock Allotments closed to Domestic sheep grazing in Core Native BHS Habitat.
<b>Oil and Gas Development</b>						
Percent of acres with high potential for oil and gas occurrence (255,000 acres) generally available with surface development	97%	89%	62%	81%	91%	99%
<b>Commercial livestock grazing</b>						

**Table 3. Summary comparison of alternatives by revision topics**

	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F
Acres suitable for commercial livestock grazing	375,400	375,400	216,800	375,400	375,400	415,400
AUMs permitted	55,900	55,900	31,400	55,900	58,300	61,500
<b>Inventoried Roadless Areas</b>						
Consistency with Roadless Rule	No	Yes	Yes	Yes	No	No
Acres of management areas allocated to inventoried roadless areas where desired conditions are not consistent with roadless rule	87,300	0	0	0	107,400	257,100
<b>Economics</b>						
Recreation: forest visitors (average annual labor income thousands of dollars)	6,467	6,467	6,467	6,467	6,467	6,467
Recreation: commercial (average annual labor income thousands of dollars)	1,893	1,893	1,893	1,900	2,280	2,397
Livestock grazing (average annual labor income thousands of dollars)	1,900	1,900	1,064	1,135	1,185	1,241
Timber harvest (average annual labor income thousands of dollars)	2,487	2,422	2,119	2,324	3,239	4,4463

<sup>1</sup> Special Management Unit<sup>2</sup> Ranger District<sup>3</sup> Shoshone National Forest