United States
Department of
Agriculture

Forest Service

Rocky Mountain
Region

Medicine Bow National Forest

REVISED LAND AND RESOURCE MANAGEMENT PLAN

December 2003

REVISED LAND AND RESOURCE MANAGEMENT PLAN

for the

MEDICINE BOW NATIONAL FOREST

December 2003

Located within Albany, Carbon, Converse, Laramie and Platte Counties, Wyoming

Lead Agency:	U.S. Department of Agriculture Forest Service Rocky Mountain Region
Cooperating Agencies:	State of Wyoming (including Carbon and Converse Counties) Seven Southeastern County Conservations Districts USDI Bureau of Land Management (Wyoming)
Responsible Official:	Rick D. Cables, Regional Forester Rocky Mountain Region
Recommending Official:	Mary Peterson, Forest Supervisor Medicine Bow-Routt National Forests and Thunder Basin National Grassland

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Abstract: This **Revised Land and Resource Management Plan** was prepared according to Department of Agriculture regulations (36 CFR 219) which are based on the on the Forest and Rangeland Renewable Resources Planning Act (RPA), as amended by the National Forest Management Act of 1976 (NFMA). This plan was also developed in accordance with regulations (40 CFR 1500) for implementing the National Environmental Policy Act of 1969 (NEPA).

Because this plan revision is considered a major federal action significantly affecting the environment, a detailed **Final Environmental Impact Statement** (FEIS) has been prepared as required by NEPA and 36 CFR 219. If any provision of this plan or its application to any person or circumstances is found to be invalid, the remainder of the plan and its applicability to other persons or circumstances will not be affected.

Note to readers: The Forest Service believes that reviewers should be given notice of several court rulings related to public participation in the environmental review process. First, reviewers of Draft EISs must structure their response to the proposal to make clear the reviewer's position and contentions [*Vermont Yankee Nuclear Power Corp. v. NRDC,* 435 US 519, 53 (1978)]. In addition, environmental objections that could be raised at the Draft EIS stage but are not raised until after completion of the FEIS may be waived or dismissed by the courts [*City of Angoon v. Hodel,* 803F.2d 1016, 1022 (9th Circuit 1986) and *Wisconsin Heritages, Inc. v. Harris,* 490. Supp. 1334, 1338 (E.D. Wis. 1980)].

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Background

The term "Forest Plan" used in this document refers to forest land and resource management plans in general. The term "1985 Plan" refers to the Medicine Bow National Forest Plan signed in 1985. The term "Revised Plan" refers to this document.

Forest plans are prepared in accordance with the 1976 National Forest Management Act (NFMA), the 1969 National Environmental Policy Act (NEPA), and other laws and regulations. The Medicine Bow National Forest Land and Resource Management Plan (1985 Plan) was issued in October 1985. NFMA regulations state that a forest plan should ordinarily be revised on a 10-year cycle or at least every 15 years (39 CFR 219.10).

The Medicine Bow National Forest has prepared this Revised Plan and accompanying Final Environmental Impact Statement (FEIS). The public had 90 days to comment on the Draft Revised Plan and DEIS. After the comments were evaluated and the necessary changes made, this Revised Plan, FEIS, and Record of Decision (ROD) were prepared and issued. With signature of the ROD, the Revised Plan replaces the 1985 Plan.

Purpose of the Revised Plan

A forest plan provides guidance for all resource management activities on a national forest.

- It establishes forestwide multiple-use goals and objectives (36 CFR 219.11(b)).
- It establishes forestwide standards and guidelines to fulfill the requirements of 16 USC 1604 applying to future activities and resource integration requirements in 36 CFR 219.13 through 219.27.
- It establishes management area direction (management area prescriptions) applying to future activities in a management area (resource integration and minimum specific management requirements) 36 CFR 219.11(c).
- It designates land as suited or not suited for timber production (16 USC 1604(k)) and other resource management activities such as rangeland uses and recreation management (36 CFR 219.14, 219.15, 219.20, and 219.21). In addition, it identifies lands available for oil and gas leasing and the associated leasing stipulations (36 CFR 228.102).
- It establishes monitoring and evaluation requirements (36 CFR 219.11(d)).
- It recommends the establishment of wilderness, wild and scenic rivers, and other special designations to Congress, as appropriate.

Forest plans estimate future management activities, but the actual amount of activities accomplished is determined by annual budgets and site-specific project decisions. Because budgets rarely provide enough money to fully implement a forest plan, scheduled activities and actions must be adjusted to match available funds and Congressional intent of appropriations acts. While budget changes do not require forest plan amendments, the implications of the changes may require the agency to evaluate the need for amendments.

Relationship of the Revised Plan to Other Documents

Alternatives are described and analyzed in the FEIS. The Revised Plan gives the technical direction for implementing the selected alternative (Alternative D FEIS) identified in the ROD.

Management of the Medicine Bow National Forest will meet objectives established in the 1992 Rocky Mountain Regional Guide (USDA Forest Service, 1992). The Regional Guide was withdrawn effective February 1, 2002 (Federal Register, Vol 67, No. 25, February 6, 2002); however, the goals remain appropriate and valid. Additional goals and objectives and strategies are tiered to the USDA Forest Service Government Performance and Results Act Strategic Plan, 2000 Revision.

Integration with Forest Service Directives System

Management direction in the Forest Service Directive System, including the Forest Service Manual (FSM) and Forest Service Handbook (FSH), is part of management direction and is appropriately referenced within the management plan. Management direction also includes applicable laws, regulations and policies, although they might not be restated in the management plan.

Direction for management of National Forest System Lands comes from a variety of levels. National and regional direction includes laws, regulations, and Forest Service Manuals and Handbooks.

National direction such as laws, regulations, and policies must be complied with and all forest activities must comply with this direction.

At the Forest level, direction in the Forest Plan is identified at several levels including:

- **Forest-wide level Management Direction** (Desired Conditions, Goals and Objectives, Standards and Guidelines)
- **Management Area Direction** (Management Area Desired Conditions, Standards and Guidelines)
- **Geographic Area Direction** (Desired Condition, Standards and Guidelines)
- **Project-Level Direction** (Project Decision Documents)

National direction such as laws, regulations, (CFR), and agency policies must be complied with by all forest activities. Forest Plan direction is implemented with the most site-specific direction superceding the more general direction. For example, a management area standard for rotation ages supercedes a Forest-wide standard for rotation ages, and a Management Area standard for seasonal road closures is superceded by Geographic Area direction to maintain a specific road open year-round. For project level direction, any exceptions to Forest Plan direction would first have to be reviewed for possible Forest Plan amendment requirements.

Reader's Guide to the Revised Plan

This document contains the Preface, the Revised Plan, and appendices. Accompanying the Revised Plan is the ROD, FEIS, FEIS appendices, Executive Summary and a map package.

The Preface provides background information, describes how the Revised Plan would be implemented through project decision-making, and discusses forest plan amendment and revision procedures.

The Revised Plan sections describe management direction for the Forest. Chapter 1 includes the goals, objectives, and forestwide standards and guidelines. Chapter 2 contains the management area prescription standards and guidelines. Chapter 3 describes the geographic areas. Chapter 4 discusses monitoring and evaluation.

The appendices contain detailed information, which may be helpful in understanding or implementing the plan:

- Appendix A – National Goals
- Appendix B – Key National and Regional Policies
- Appendix C – Federal and State Statutes, Regulations, and Executive Orders
- Appendix D – Forest Plan Implementation
- Appendix E – Oil and Gas Leasing Stipulations
- Appendix F – Land Ownership Analysis Guide
- Appendix G – Glossary
- Appendix H – Supplemental Tables
- Appendix I – Priority Watersheds and Recreation Streams

The Selected Alternative

The Revised Land and Resource Management plan and Final Environmental Impact Statement are the result of extensive public involvement and analysis. The FEIS identifies the selected Alternative D FEIS chosen by the Regional Forester to guide

future forest management. The Regional Forester has documented the basis of this decision in a Record of Decision (ROD)

Implementation of the Forest Plan

A forest plan provides the framework to guide the day-to-day land and resource management operations of a national forest. Other guidance is summarized in Appendices A, B, and C.

The forest plan is a strategic programmatic document that does not make project level decisions. Those decisions are made after more detailed, site-specific analysis and further public comment. NFMA requires that resource plans and permits, contracts, and other instruments issued for the use and occupancy of National Forest System lands be consistent with the forest plan. The following are some examples of project decisions that require additional detailed environmental analysis:

- Timber harvesting and related activities, such as slash disposal and road construction.
- Grazing allotment management plans.
- Fish or wildlife habitat improvement projects.
- Watershed improvement projects.
- Developed recreation reconstruction projects or trail construction projects

Resource inventories, actions plans, and schedules are not binding decisions and do not require additional environmental analysis at the project level.

Public involvement is a key part of implementing the forest plan. Monitoring and evaluation reports are available annually for public review.

Valid outstanding Rights

The Revised Land and Resource Management Plan was prepared with the understanding by the Forest Service that individuals and entities may have established valid rights, unknown to the Forest Service at this time, to occupy and use National Forest System lands under laws and authorities established by Congress. The courts have established that such valid outstanding rights may be subject to some federal regulation. See Sierra Club v. Hodel, 848 F 2d.1068 (10th Circuit, 1988). This plan recognizes that such valid outstanding rights may exist and the Forest Service will honor such valid outstanding rights when it is subsequently determined that the specific facts surrounding any claim to such rights meet the criteria set forth in any respective statute granting such occupancy and use. Upon discovery of such valid outstanding rights, amendment or modification of the Forest Plan may be necessary.

Resource plans and permits, contracts, cooperative agreements, and other instruments issued for the occupancy and use of National Forest System lands

(hereafter "instruments") must be consistent with the Forest Plan, subject to valid existing rights.

Exception for Wheelchairs

In all management areas in which motorized uses are prohibited, an exception applies for users of motorized wheelchairs. Title V, Section 507© of the Americans with Disabilities Act states that: "A person is permitted to use his/her motorized wheelchair in a non-motorized area, so long as that wheelchair meets the legal definition of being designed solely for use by a mobility-impaired person and suitable for use in an indoor pedestrian area."

Draft Rules and Policies

The 2003 Forest Plan and FEIS do not incorporate draft rules, regulations or policies. The documents have been prepared using scientifically based processes and analysis to best comply with existing laws and agency direction.

If new regulations or policies are developed during the implementation of this Forest Plan, activities on the forest will be modified, if necessary, to comply with these regulations.

Forest Plan Amendment and Revision

Forest Plan Amendment – During plan implementation, evaluation of monitoring results may reveal that the forest plan needs to be changed. Changes are made by amending the plan (36 CFR 219.10(f)).

Forest Plan Revision – The Forest Supervisor is required to review the conditions of the land at least every five years to determine if changes are necessary. If monitoring and evaluation indicate that immediate changes in the forest plan are needed and the changes can't be handled in an amendment, plan revision becomes necessary. The Regional Forester is the official responsible for reviewing and approving forest plan revisions.

Understanding the Medicine Bow National Forest

The Medicine Bow National Forest lies in southeast Wyoming in the north-south trending central Rocky Mountains. The Forest includes approximately 1.1 million acres and is the only national forest in southeast Wyoming.

Physical Environment

The Medicine Bow National Forest includes four units in three distinct mountain ranges. The Medicine Bow portion of the Central Rockies includes the northern extension of the Colorado Front Range, which divides to include the **Laramie Range** on the east (the southern extension is known as the **Sherman Mountains**)

and the **Snowy Range of the Medicine Bow Mountains** on the west. The **Sierra Madre Mountains**, which are the northern part of the Parks Range, occupy the westernmost portion of the Forest.

The Continental Divide bisects the Sierra Madres. The major river drainages flow from the Continental Divide: the Green River Basin flows west into the Colorado River system, and the western Dakota sub-Basin and Platte River Basin flow east.

All of the Medicine Bow National Forest is mountainous. Elevations range from 5,050 feet above sea level in the Laramie Range to 12,013 feet at Medicine Bow Peak in the Snowy Range of the Medicine Bow Mountains.

Biological Environment

Approximately 80% of the Medicine Bow is forested. Lodgepole pine forests are the predominant vegetation type on the Forest. Other vegetation types include spruce-fir, aspen, and Ponderosa pine. Most regeneration on the Forest occurs naturally.

The three distinct mountain ranges of the Medicine Bow National Forest support important and unique wildlife habitat. The only populations of pygmy shrew and brown-capped rosy finch in Wyoming occur on the Forest. The Forest is home to sub-species of pika unique to the Medicine Bow Range and the Sierra Madres. Preble's meadow jumping mouse, a threatened species, is found in the Laramie Range. The Forest is also home to a small but increasing population of river otters, a declining species in Region 2. Colorado cutthroat trout, a sensitive species, is found on the Medicine Bow National Forest. Mule deer and elk are abundant, and there are three herds of bighorn sheep on the Forest. Black bear and mountain lions are also present and are popular trophy species.

Social and Economic Environment

More than half of Wyoming's population lives in the vicinity of the Medicine Bow National Forest. The state capital, Cheyenne (population 50,000) is 50 miles from the Supervisor's Office and 30 miles from the Forest boundary. Populations of other Medicine Bow area communities are: Laramie, 27,000; Casper, 50,000; and Douglas, 5,700. The state's only four-year university, the University of Wyoming, is in Laramie, and most of the population of Colorado's Front Range lives within a few hours of the Medicine Bow. Interstate 80 crosses the Forest; in fact, the Medicine Bow National Forest and its ranges of the Rockies are the first mountains encountered on I-80 by westbound travelers from population centers in the Midwest. Interstate 25 is nearby and is within sight of much of the Laramie Range.

Although several urban centers are within a day's drive of the forest, small, rural communities with Western traditions and a rich heritage characterize this part of Wyoming. The forest has provided a 'way of life' to these communities before, and since its official decree as a National Forest. Trees have provided ties for the railroad, boards for the mills, and jobs for communities. Grazing opportunities have

ensured the maintenance of a ranching lifestyle and open spaces, and past mining activities are evidenced by the number and size of private parcels spread randomly across the landscape. One of the more universal uses of the National Forest, however, is for recreation, which also plays a major role in the lifestyle of nearby residents. Activities such as hunting, snowmobiling, skiing, hiking, and camping all provide social activities as well as contributing to the local economies.

Forest Plan Data Sources

The acreage information presented in the tables, figures and maps in the Revised Plan and FEIS was generated from a variety of sources. Sources include data from oracle databases, data from the SPECTRUM model, and data from ArcInfo Geographic Information Systems (GIS) geospatial datasets. The GIS geospatial datasets incorporate two different depictions of the land net, one based on the Public Land Survey System (PLSS) from the Cartographic Feature Files (CFFs), and one based on PLSS using more current Geographic Coordinate Data Base (GCDB) data. The acreage figures from the various sources do not match exactly. However when added, all acres (regardless of the source) are within one percent of the official land status. For a more detailed, technical explanation of the data sources, please see the following discussion.

Most of the geospatial data residing in GIS is resource data that depicts the location of physical resources on the ground (such as vegetation, soils, roads), or is derived from this physical resource data. These data and their depictions via geospatial datasets do not shift when updates are made to the GCDB data by the addition of data collected by licensed surveyors. However, the depiction of the land net (township/range, sections, forest boundaries, property lines, lease parcels) in a geospatial dataset, or data that incorporates the land net such as a wilderness boundary line that runs along a section, can be affected by updates to the GCDB. The land net itself does not shift, just its depiction in the geospatial dataset. For all of the analyses except Oil and Gas Leasing, the original land net depiction, which was obtained from the CFFs, was used. The acres used in the SPECTRUM model were generated from this data. For the Oil and Gas Leasing analysis only, some GIS geospatial datasets pertaining to the land net were generated using more current GCDB data. This results in a shift of the land net that results in slightly different acreage figures. Since the management area prescriptions were generated based on the original land net, the Oil and Gas Leasing analysis uses a combination of the two. A copy of Alternative D (FEIS) only for the Oil and Gas Leasing analysis has been completely shifted to the more current land net.

The Revised Plan and DEIS may also contain data from the Rocky Mountain Resource Information System (RMRIS) oracle database. This database contains homogeneous site information for a variety of vegetative and land characteristics, such as tree type, habitat structural stage, and acres. It has been in use since the early 1980s. The acres in RMRIS were calculated by hand (planimeter or dot grid) and

mathematically balanced to match the Forest Service land status acres. Because the RMRIS acres were calculated using a different methodology, they are not an exact match for acres calculated in GIS. However total forest acres in all data sources are within one percent of the official land status.

The RMRIS Vegetation Database

The vegetative information in the RMRIS database comes from several sources. Some of the data has been obtained via photo interpretation using 1:24,000 natural color aerial photos, and some of the data has been obtained via on-the-ground surveys. Approximately 60% of the forested acres in the database have on-the-ground surveys, collected over a span of years stretching primarily from the late 1970's through the 1990's, as displayed in the following table:

Table 1. Vegetation Survey data

Decade survey data was collected:	Total NFS Acres
1970s	86,000
1980s	339,000
1990s	84,000

Many of the analyses conducted for the Forest Plan Revision use the following data from the RMRIS database:

- **Cover type:** This field contains a code to indicate the predominant vegetation cover for the stand. Once this data has been obtained either by photo interpretation or on-the-ground surveys, it usually remains valid for long stretches of time, unless major ground disturbing activities (such as fire, insect epidemics or harvesting) occur.
- **Tree size:** This field contains a code for forested sites that indicates how large the trees are in diameter as follows: non-stocked, established seedlings, small (1 to 5 inches in diameter), medium (5 to 9 inches in diameter), large (9 to 16 inches in diameter), or very large (16 inches and larger). This data tends to change frequently when trees are young, and the database is frequently updated to indicate a change between non-stocked and established seedlings. Once trees grow large enough to move into the small, medium, large or very large groups, in takes large amounts of time to move into the next highest group. This data is obtained either by photo interpretation or on-the-ground surveys.
- **Age:** This field contains information obtained from on-the-ground surveys that indicates the date of origin for the stand. Once this data has been obtained it remains valid for very long stretches of time (to calculate age this value is subtracted from the current year), unless major ground disturbing activities (such as fire, insect epidemics or harvesting) occur. Please see also the Final Environmental Impact Statement, Chapter 3, Biological Diversity, Environmental Consequences – Age Classes.

- **Crown cover percent:** This field contains a number that indicates what percent of the area is covered by vegetative canopy or foliage. The total crown cover percent of an area cannot exceed 100. This data is obtained either by photo interpretation or on-the-ground surveys, and it usually remains valid for moderate stretches of time, unless major ground disturbing activities (such as fire, insect epidemics or harvesting) occur.
- **Habitat structural stage:** This field contains a code describing the structural stage of the forest in terms of structural stage, tree size, diameter range and crown cover percent as follows:

Table 2. Habitat structural stage.

Code	Structural Stage	Tree Size Class	Diameter Range	Crown Cover Percent Range
1	Grass-Forb	Non-stocked		0 - 10
2	Shrub-Seedling	Established	Less than 1 inch	11 - 100
3A	Sapling-Pole	Small, medium	Mostly 1 – 9 inches	11 - 40
3B	Sapling-Pole	Small, medium	Mostly 1 – 9 inches	41 - 70
3C	Sapling-Pole	Small, medium	Mostly 1 – 9 inches	71 - 100
4A	Mature	Large, very large	Mostly 9 inches and larger	11 - 40
4B	Mature	Large, very large	Mostly 9 inches and larger	41 - 70
4C	Mature	Large, very large	Mostly 9 inches and larger	71 - 100
5	Old Growth	Large, very large	Varies	Varies

This data tends to change frequently when trees are in habitat structural stage 1 and 2, and the database is frequently updated. Once trees grow large enough to move into the 3, 4 or 5 groups, in takes longer time intervals to move into the next highest group. This data is obtained either by photo interpretation or on-the-ground inventory. Please see also the Final Environmental Impact Statement, Chapter 3, Biological Diversity, Environmental Consequences – Habitat Structural Stages; and Appendix D to the FEIS on Biological Diversity, PNV – Habitat Structural Stages.

The Laramie Peak portion of the forest sustained an extensive mountain pine beetle epidemic that occurred between 1988 and 1994. A field was added to the RMRIS database to indicate the percent of trees kill by this epidemic and data was obtained from 1:24,000 natural color aerial photos. In addition, the crown cover percent field was also updated. A number of large fires have also occurred on the Laramie Peak portion of the forest, primarily in Ponderosa pine. A total of 16,194 acres of Ponderosa Pine (20%of the Ponderosa on Laramie Peak) where affected, however the severity of the impact has not been evaluated.

Changes to GIS Coverages between the DEIS and the FEIS

After the DEIS was completed, GIS coverages were updated to reflect current data where possible. These updates included corrections to the following GIS coverages:

Land Status (surface and sub-surface ownership): A number of land exchanges occurred before the DEIS was published but these exchanges were not included in the GIS coverages used for the DEIS. These land exchanges included both surface and sub-surface ownership (hence total federal minerals and total private minerals have changed). No change to split estate ownership occurred. The land status coverage was updated for the FEIS. Table 3 relects those changes.

Table 3. Land status –Acre changes between DEIS and FEIS.

Land Status	DEIS	FEIS
National Forest Surface Ownership Acres inside the Forest Boundary	1,084,614	1,084,390
Private/State/BLM Surface Ownership Acres inside the Forest Boundary	303,425	303,649
Total Gross Acres	1,388,039	1,388,039

The change in land status is .016 percent of the total forest acres. Since this change is so small, it is statistically insignificant in terms of alternative comparison. If an analysis for a particular subject was modified between the DEIS and FEIS, these new figures will be reflected in the tables. If an analysis was not modified between the DEIS and FEIS, the figures in the tables will not reflect these changes. All figures for Alternative D (FEIS) will reflect these changes.

Existing Vegetation: The updates from the land adjustments were incorporated into the vegetation coverage. See paragraphs above for comments on acreages in tables. The vegetation coverage was not updated to reflect changes due to recent large fires.

Wilderness: One of the previously mentioned land exchanges was inside the Huston Park Wilderness. Therefore that Huston Park WA shows a small increase in acres. Savage Run and Platte River Wilderness also show very small changes in acres due to more accurate mapping.

Reporting Acreages in Tables

Acreage figures are reported in many tables throughout the Revised Forest Plan and accompanying documents. GIS spatial datasets routinely use an acre field with two decimal places. When these acres are totaled by various categories (such as a list of acres by management area), the use of these two decimal places insures accurate totals. These numbers may be rounded to the nearest whole number for display in the documents to reduce clutter and make the tables easier to read. This could result in grand total figures that appear to be several acres different than what you would obtain if the rounded numbers displayed in the tables were added together.